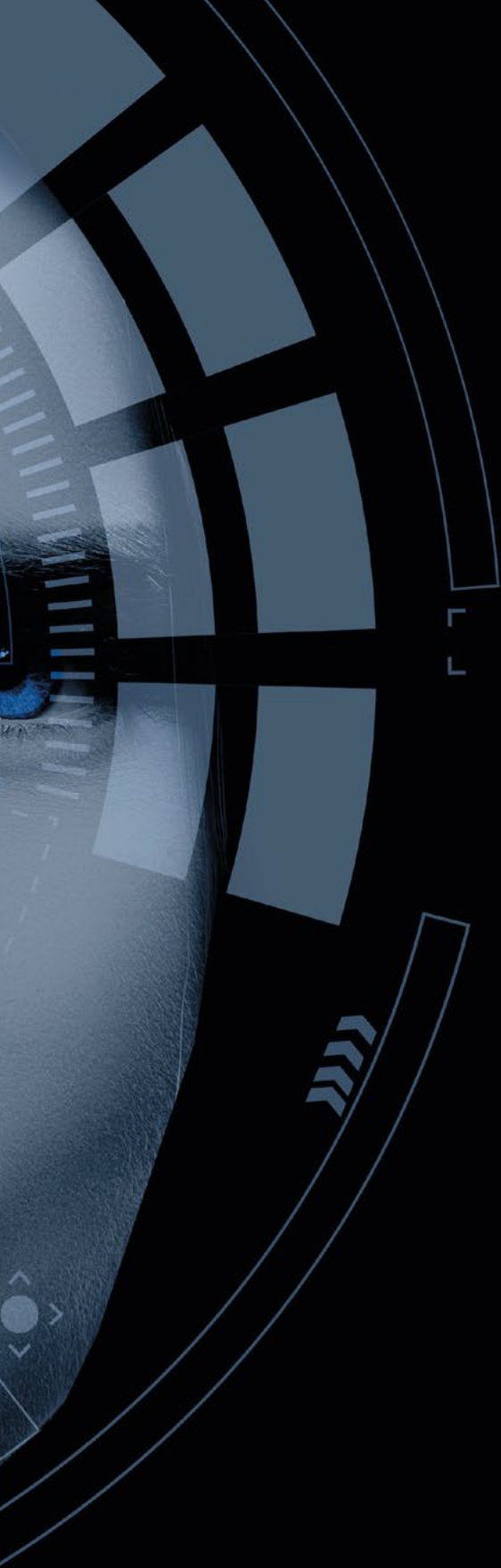


# Connectivity to be trusted.

Annual Report 2020

**Bittium**



# Contents

Bittium in 2020	4
<b>CEO's Review</b>	<b>6</b>
<b>Business and Operating Environment</b>	<b>8</b>
Bittium in Brief	8
Business Model	9
Strategic Guidelines	10
Financial Targets	11
<b>Products and Services</b>	<b>12</b>
Defense & Security	13
Connectivity Solutions	18
Medical Technologies	20
<b>Shares and Shareholders</b>	<b>24</b>
Shares	24
Information to Shareholders	24
Bittium Corporation's Annual General Meeting 2021	26
Corporate Governance Statement Reporting Period Jan. 1–Dec. 31, 2020	29
Sustainability at Bittium in 2020	45
Report by the Board of Directors and Financial Statements 2020	85

# Overview 2020

## Medical Technologies

Bittium offers medical technology for monitoring biosignals in the areas of cardiology, neurophysiology, rehabilitation, sports medicine, and occupational health.

## R&D Services

Bittium offers professional R&D engineering services and technology expertise in the areas of wireless devices, network infrastructure, and IoT solutions.

## Secure Communications & Connectivity

Bittium provides highly secure communications and connectivity solutions for public safety & security, defense, and other professionals' markets.

## Tactical Communications

Bittium specializes in military radio and communication solutions by providing advanced products and services for wireless and wire line tactical communications.



Personnel

**684**

in total

Net Sales  
**78.4**  
MEUR

Products  
**53.1**  
MEUR

Services  
**25.3**  
MEUR

Operating Profit  
**2.1**  
MEUR

Cash and Other Liquid Assets  
**24.7**  
MEUR

Equity Ratio  
**73.1**  
%

Net Gearing  
**-1.9**  
%

Earnings per Share  
**0.06**  
EUR



# CEO's Review

The worldwide Covid-19 pandemic significantly affects the global economy and market situation. Despite the exceptional circumstances caused by the Covid-19 pandemic, we continued on the growth path in 2020 in line with our strategy. Net sales grew 4.2 percent, which was good performance given last year's exceptional circumstances. Our business and projects are long-term in nature, which is why the effects of the pandemic on Bittium's business were visible towards the end of the year, including slowdowns in customer projects and transitions to 2021 and difficulties in acquiring new customers.

In line with our strategy, our goal is to be a major international provider of secure and reliable communication solutions to the defense and government markets, a leading provider of industrial connectivity solutions and R&D services, and a major provider of measurement and remote diagnostics solutions for measuring and analyzing biosignals. In line with the strategy, our long-term financial target is an average annual net sales growth of more than 10 percent and an operating profit level of 10 percent.

We have made significant investments in the future by continuing our product development investments in our own products and solutions. Investments create a good foundation for future growth. The level of R&D investments in relation to net sales started to decline as planned last year, and our goal is to further reduce the amount of investments this year. At the beginning of the year, the focus of investments was on finalizing the development of Bittium Tough SDR™ handheld radios. In the spring, we started volume deliveries of handheld

radios to the customer. In the second half of the year, the focus of product development investments was on the development of the Bittium Tough SDR™ vehicle radios, and the first batches were delivered to the customer for pilot use at the end of the year. Product development will continue before the actual volume deliveries begin.

In line with our strategy, investments in internationalization in the tactical communications market continued in 2020. We delivered tactical communications system products to Austrian Defense Forces, Estonian Defense Forces and other international customers.

We are involved in the iMUGS (integrated Modular Unmanned Ground System) project of the European Defense Industrial Development Program (EDIDP), which is developing new capabilities for European defense forces based on autonomous systems. The next phase of the joint European software-defined radio ESSOR software project was launched and the porting of the ESSOR waveform to tactical Bittium Tough SDR radios for the Finnish Defense Forces began.

In Finland, cooperation regarding the renewal of the Finnish Defense Forces command control and communication system continued, and a new framework agreement for the delivery of tactical communication products during the next four years is currently being prepared.

In the governmental market, the interest in mobile security and secure Bittium Tough Mobile™ 2 phones has clearly increased. Continuous security attacks raise

awareness of the importance of security. We launched a new, even more secure variant of our smartphone: Bittium Tough Mobile™ 2 C is meant for CONFIDENTIAL level authority communication. We broadened our partnership network and started cooperation with Virve Tuotteet ja Palvelut, a long-term operator of sales and maintenance of equipment suitable for Tetra network. We also partnered with the Swedish cryptography technology development company Tutus Data Ab to develop a common secure mobile solution.

We developed further our security software program technology and released a new streams feature for Bittium SafeMove® Mobile VPN security software. It enables the protecting of several applications and their different connections. Encryption and security adapt to the changing needs of different applications, and the special needs of real-time voice and video applications, for example, are taken into account.

The active negotiations with the State of the Mexico about the Mexsat phones to enable a wider use of the Mexsat system continued. Deliveries of mobile satellite phones developed for the Mexican state authorities fell short of target last year. However, the delivery volumes are expected to grow during this year.

In the medical technology market, digitalization continues and the demand for remote diagnostic products and services is growing. We launched an advanced remote monitoring service platform that utilizes wireless data transfer to enhance medical remote diagnostics services. Bittium MedicalSuite™ web-based service platform is mainly aimed at service providers to facili-

tate secure information sharing and workflow management between service providers, clinics and specialists.

We continued to develop our international distribution network and to apply for regulatory approvals for our products in various countries. Bittium BrainStatus™, which measures and monitors the electrical activity of the brain, and Cerenion's C-Trend® analysis software were granted medical device approvals in the European Union. Cooperation with Preventice, a leading US provider of remote monitoring services, continued and in September we entered into an extension agreement for the next four years, under which we will supply the BodyGuardian® MINI devices meant for monitoring cardiac arrhythmias.

Demand for R&D services remained stable. We have developed our R&D service offering to better meet the market needs, including the telecommunications, medical technology, automotive software, and Industrial Internet markets. We continued to develop our operating methods and organization, which has brought more efficiency in our operations.

We will continue to invest in the company's international growth in line with our strategy, both in product development and in the development of our own operations. Currently, the Covid-19 pandemic is affecting the global economy and building order backlog is still challenging. However, we believe that the effects of the pandemic are temporary and in the long run the company has excellent potential for international growth.

I would like to thank our customers and partners for the past year. The year has been exceptional, but with resilience and confident attitude towards future, we have together succeeded in continuing our projects despite the challenging circumstances. I would like to thank our employees, both those who work remote and those who are at the office, for their commitment and hard work to achieve our common goals. I would also like to thank our owners for their perseverance and trust in our company. I believe that 2021 will be better than the previous one, and by working together we can enable our future success.



**Hannu Huttunen**  
CEO



# Business and Operating Environment

## Bittium in Brief

Bittium is a technology company specializing in the development of reliable, secure communications and connectivity solutions, leveraging its over 35-year legacy of expertise in advanced radio communication technologies. Bittium provides innovative products and services, customized solutions based on its product platforms and R&D services. Complementing its communications and connectivity solutions, Bittium offers proven information security solutions for mobile devices and portable computers. Bittium also provides healthcare technology products and services for biosignal measurement in the areas of cardiology, neurology, rehabilitation, and occupational health.

Bittium, formerly known as Elektrobit Corporation, was established in 1985. It changed its name to Bittium after selling its Automotive business and giving up the rights to brand name Elektrobit on July 1, 2015. Bittium is a publicly listed company on Nasdaq Helsinki as BITTI.

Bittium operates in Finland, Germany, the United States, Mexico and Singapore. Bittium headquarters is located in Oulu, and the company's other Finnish offices are in Espoo, Kajaani, Kuopio and Tampere.

At the end of 2020, Bittium had 684 employees, of which the majority were R&D engineers. In 2020, the Company did not undergo any significant changes in relation to its size, structure, operating areas, ownership, distribution of shares, income formation or the maintenance of operations.

Bittium operates globally. With regards to sustainable business, Bittium's products and services comply with the statutory requirements, directives, general standards and frameworks, such as SA 8000 (social responsibility), ISO 14001 (environmental systems), ROHS2 and ROHS3 (hazardous substances), REACH (chemicals regulations), SCIP (informing of substances of concern), WEEE (recyclability of waste elec-

trical and electronic equipment), ETJ+ / ISO 50001 (energy efficiency), EICC (Electronic Industry Citizenship Coalition) and GRI G4 (reporting guideline for sustainable development). As a global enterprise, Bittium also takes the special requirements of its international customers into account.

## Bittium's Purpose

Bittium's purpose is to adapt our deep knowledge to deliver superior technology innovations to enhance connectivity, bring safety and improve health in the society.

## Bittium's Vision

Bittium's vision is to become a global enabler of secure and reliable connectivity for people and things.



# Business Model

## Megatrends and Their Phenomenons

Connectivity as an enabler of digitalization, Internet of Things (IoT) and digitalization, aging population, information security



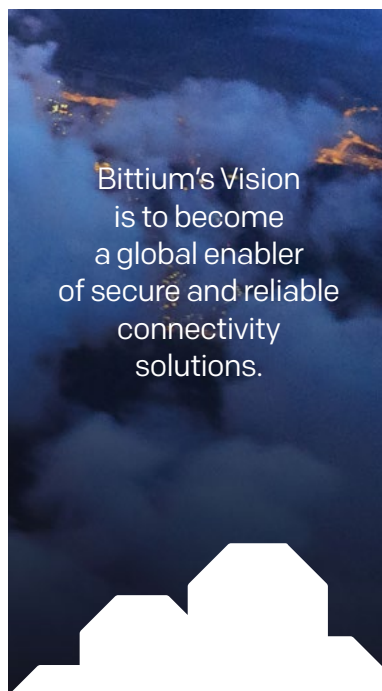
## Customer Groups

Companies of different sizes, OEMs, system integrators, defense and governments, hospitals and hospital districts, other public administration and organizations, research institutes, universities



### Effects on the Customer

- Reliable Finnish partner
- Products and solutions that represent the latest technology
- High product performance and long lifecycle
- Scalable product platforms
- Short customization times and fast market entry of solutions
- Lower costs and risks in customer's own R&D projects



### Effects on Bittium

- Long-term projects and customer relationships build stability
- Service projects enable applying new technologies that strengthen the expertise of both the company and its customers
- Extensive understanding of commercial technologies and the customized communications systems used by authorities
- Integrated expertise in mobile and online technologies
- Good growth opportunities



### Products, Services and Solutions

- Products and services in tactical communications
- Secure phones and the related software and systems
- Information security software
- Design services for wireless communications
- IoT and digitalization services
- Biosignal measuring and monitoring equipment in the areas of cardiology and neurology



### Income Streams

- Products and product platforms, systems and the services related to these
- R&D services
- Maintenance fees
- Licenses



## Enablers

### Key Resources

- Experts
- Own products
- IPR
- Partners
- Strong balance sheet
- Efficient processes
- Quality and environment systems

### Key Focus Areas

- Personnel
- R&D
- Sales and marketing
- Way of working
- Digitalization

### Expertise

- Wireless technologies
- Software
- Mechanics and software solution integrations, testing and verification
- Extensive expertise in systems and specialist areas
- Information security
- Measurement of biosignals
- Way of working

### Channels

- Own sales
- Retailers
- System sales
- Integrators
- Web shop

## Bittium's Mission

is to adapt our deep knowledge to deliver superior technology innovations to enhance connectivity, bring safety and improve health in the society.

## Strategic Guidelines

Bittium aims to be a significant global provider of secure and safe communication solutions in the defense and public safety markets and a leading provider of connectivity solutions and R&D services for different industries, as well as a significant provider of remote measuring and diagnostics solutions for measuring and analyzing bio-signals. Five years ago, Bittium Corporation updated its strategy in order to strengthen its position in the global markets and to speed up the growth. The growth strategy and long-term financial targets announced at that time remain valid.

Bittium has made significant investments in its future by increasing significantly R&D investments in its own products and solutions. These create a good foundation for the future growth. The company will continue to invest in product development and in the development of its operations based on its strategy to enable its international growth.

Bittium continues to search for inorganic growth opportunities in all its product and service areas and is prepared to invest in acquisitions that strengthen the company's growth strategy.

Bittium's business is divided into three product and service areas: Defense & Security, Connectivity Solutions and Medical Technologies.

### Defense & Security

In the Defense & Security product and service area Bittium offers globally leading products and services for its customers in the defense, security and public safety markets aiming at strengthening the national security of sovereign countries. Bittium's competitiveness in these markets is based on trust and reliability, high quality of the products and services, as well as on advanced technology and security know-how developed within the company during the last 35 years.

Bittium's tactical communication products targeted for customers in the defense market offer new kind of performance for their tactical communication networks. The products and systems enable broadband data transfer, better mobility, and compatibility with communication systems. Secure communication solutions, targeted for public safety and security market, are responding to the increasing requirements for the information security. The demand for secure communication solutions in the public safety markets is driven by the increasing use of LTE technology, smartphones and smartphone applications.

### Connectivity Solutions

The development of wireless technologies continues and the digitalization creates a growing need for wireless connections. Bittium offers its customers R&D services and wireless connectivity solutions for the development of new innovative products in secure and evolving wireless environment.

The company's competitiveness in these markets is based on its unique technology and information security expertise, as well as reliability and quality of its products and services. Bittium's special strength is demanding systems.

### Medical Technologies

The medical technology market is undergoing significant developments in patient care, especially outside hospitals. There is an increasing focus on the prevention of diseases and health problems through early diagnosis and the repatriation of patients at an earlier stage in order to reduce hospital and treatment days. These trends create demand for biosignal measurement, digitization of services, wirelessness, and secure connections.

Bittium aims at promoting better health in society by providing products and complete solutions for the healthcare market in biosignals' remote monitoring and diagnostics, based on the company's long experience and deep knowledge of biosignal measurement, wireless communications and security technology.

## Long-term Financial Targets

Bittium aims for an average annual net sales growth of more than 10 percent and an operating result level of 10 percent.



Bittium Tough Mobile™ 2 C

# Products and Services



# Defense & Security

## Tactical and Secure Communication Systems

In the Defense & Security product and service area, Bittium offers globally leading products and services for its customers in the defense, security and public safety markets. Bittium's competitiveness in these markets is based on trust and reliability, high quality products and services, as well as on advanced technology and security know-how developed within the company during more than 35 years.

### **Bittium Tough Mobile™ product family**

At the core of the information security features of the Bittium Tough Mobile smartphones lies their multilayered security structure, which is based on hardened Android™ operating system, unique hardware solutions, and the information security features and software integrated in the source code. The phones are fully designed and manufactured in Finland, and Bittium ensures supervised and secure manufacturing and supply of the smartphones to customers. Bittium Tough Mobile smartphones together with Bittium Secure Suite device management and encryption software product can be certified for secure use of different national government authorities. Bittium Tough Mobile C smartphone together with Bittium Secure Suite back-end system form the first smartphone-based communication solution in the world that has been certified for CONFIDENTIAL security level (NCSC-FI, National Cyber Security Centre Finland). As the smartphones have been designed for use by authorities, they have a significantly longer availability and lifespan and better availability of security updates compared to conventional smartphones.

**Bittium Secure Suite™** is a device management and encryption software product that complements Bittium Tough Mobile smartphone product family with a scalable set of new software services for remote management, remote attestation and securing the network connections of the device. Bittium Tough Mobile smartphone and Bittium Secure Suite form a unique, complete, reliable system for processing and transferring sensitive and classified material and securing critical communication.

**Bittium Specialized Device Platform™** is a versatile device platform leveraging latest mass market mobile device hardware and software technologies. The platform enables companies to roll-out fully customized mobile devices in various form factors (incl. module, smartphone, tablet and smart watch) faster and with lower development risks. The platform has been productized to public safety, security, industrial and smart watch markets. One of the major products based on this platform is the secure Bittium Tough Mobile smartphone.

**Bittium SafeMove® Mobile VPN** software enables the utilization of all IP based applications and networks by securing the connections between the work station and corporate services immediately from startup of the phone. With Bittium SafeMove, for instance, home care workers are allowed to have full access to the same systems and applications they would have on a hospital desktop, enabling safe and real-time access to patient records. The new SafeMove Streams feature enables optimized, durable

and secure connectivity, even when the network connections in use are unreliable and sensitive for interference.

**Bittium SafeMove® Analytics** is an advanced monitoring and reporting module that helps organizations to monitor network connectivity and performance to improve productivity and user experience. The analytics tool continuously gathers connectivity data, such as connectivity status, speed, throughput and bytes transferred, network type and Wi-Fi network information. It is also easy to enhance the tool with positioning information if GPS data is available. In addition, the new security features enable immediate report of possible security deviations in the mobile phones used by the employees. This enables reacting to the cyber threats without any delay, for example by disconnecting device that reported the deviation from the company network for the time of clearance of the situation.

**Bittium Tactical Wireless IP Network™** (TAC WIN) is a Software-Defined Radio based wireless broadband network system intended for military and public safety use. With the system, MANET (mobile ad hoc network) link and connection networks can be formed into one logical IP network quickly, no matter where the location is. Bittium TAC WIN is compatible with existing fixed and wireless network infrastructures. The core of the system is a tactical router that enables users to freely form both wired and wireless broadband data transfer IP connections. Tactical router enables also connections to different types of terminals and other com-

munication systems connecting them into one communication network. In addition to the router, the system comprises of three types of radio heads. Each radio head covers its own frequency band area and can be used for flexible formation of optimized network topologies for different communication needs. All the products of the system are designed for harsh conditions, and, thanks to the system's automated functions, the implementation of the system can be done quickly. Due to the software-based functionality of the Bittium TAC WIN system, it can be easily updated with additional performance cost-efficiently during the whole lifespan of the system.

**The Bittium Tough SDR™** product family of tactical radios consists of Bittium Tough SDR Handheld™, handheld radio for dismounted soldiers, and Bittium Tough SDR Vehicular™, tactical radio for vehicle installations. Bittium Tough SDR products help to produce and share real time situational awareness (location, image, voice, video, and sensor data) to all levels of the organization. The uniquely wide frequency range of the radios brings combat resistance and the use of multiple waveforms, such as Bittium TAC WIN Waveform™, Bittium Narrowband Waveform™ and ESSOR High Data Rate Waveform, improves compatibility and allows for different tasks and levels depending on the situation. Together with the SDR based Bittium TAC WIN system, it is possible to bring broadband data and voice to all mobile troops starting from brigade level and all the way across the battlefield.

**Bittium Tough VoIP™** product family's products enable tactical IP calls and broadband data transfer even in demanding conditions. Products are easily integrated into existing IP infrastructure. The product family consists of a range of tactical IP-based communication

products, including Bittium Tough Comnode device; a distributed VoIP service network for tactical environment, Bittium Tough VoIP Service; Voice over IP client, Bittium Tough VoIP Field Phone; a network extension unit, Bittium Tough VoIP Network Extender; and Bittium Tough VoIP Softphone software product.

**Bittium Tough Comnode™** fulfills the data transfer needs for mobile troops by functioning for example as a VoIP phone (Voice over IP), an IP router (Internet Protocol), and an SHDSL repeater (Symmetrical High-speed Digital Subscriber Line). Additionally, Bittium Tough Comnode also provides SIP (Session Initiation Protocol) server functionalities of the tactical voice network for commercial VoIP terminals and enables using also legacy Combat Net Radios (CNR) as part of the IP-based tactical communication system (Radio over IP, RoIP).

**Bittium Tough VoIP Field Phone™** is a SIP (Session Initiation Protocol) compliant client that provides interoperability with other SIP clients and server implementations available in the market and incorporates functionality that enables introduction of VoIP services in dynamic self-forming networks independent from server.

**Bittium Tough VoIP Network Extender™**'s SHDSL (Symmetric-High-Speed Digital Subscriber Line) connectivity can extend an IP network over long distances using conventional field wire. The Network Extender also features Ethernet and SHDSL connections to external networks and devices.

**Bittium Tough VoIP Service™** is a software product, which can be used to connect both fixed data network users and wireless tactical data network users to the same voice service network. It is a flexible and decen-

tralized solution designed specifically for mobile troops. It can be installed on routing elements of the network, such as the Bittium TAC WIN Tactical Router™, the Bittium Tough Comnode™ device or the Bittium Tough SDR™ radios.

**Bittium Tough VoIP Softphone™** is a VoIP software product designed especially for tactical use. It can be used for VoIP calls, instant messaging, conference calls and screen sharing in the Bittium Tough VoIP Service network either with a PC or smartphone.

**Bittium Tactical Power Pack™** is a versatile accessory for powering tactical communication devices. It has been designed to be used with the Bittium Tough SDR Handheld™ radio and the Bittium Tough Comnode™ device, for example, but can also be easily used with standard tablets and smartphones via USB.

**Bittium Tactical LTE Access Point™** is a stand-alone LTE access solution that enables the creation of multiple parallel wireless LTE areas and seamless connection to an IP network. The Tactical LTE Access Point is fully compatible with the Bittium TAC WIN backbone network. With the solution, different troops can benefit from cost-effective and fast multimedia data transfer and VoIP services with both commercial smartphones and special terminals intended for government use.

Bittium Tactical Power Pack™  
Bittium Tough SDR Vehicular™  
Bittium Tough SDR Handheld™



## Year 2020

Despite the exceptional circumstances caused by the Covid-19 pandemic, the cooperation with the Finnish Defense Forces continued very well. The volume deliveries of the new Bittium Tough SDR handheld radios started in April and, at the end of the year, the first pilot series of Bittium Tough SDR Vehicular™ radios was delivered to the customer. The development of vehicular radios will continue also in 2021. The development work of the radios has taken slightly longer than expected because of their unique frequency range and because they have been designed to operate under extreme conditions.

In February, Bittium received a purchase order from Finnish Defence Forces to continue porting the European ESSOR (European Secure Software-defined Radio) programme's OC1 (Operational Capability 1) wideband waveform to the Bittium Tough SDR radios that will be delivered to the Finnish Defence Forces. A significant European player in the defense industry, Germany, joined the ESSOR programme, which

strengthened ESSOR's position in the market and affected positively the deployment of the ESSOR waveform in the future. The Finnish Defence Forces also ordered Bittium Tough Comnode™ terminals based on a framework agreement covering the years 2018–2022.

Cooperation regarding the renewal of the Finnish Defense Forces command control and communication system continued, and in accordance with the framework agreement for 2018–2020 Bittium delivered the last batch of products of the Bittium Tactical Wireless IP Network™ (TAC WIN) software defined radio system meant for tactical communication. In December, the Finnish Minister of Defense authorized the Finnish Defense Forces to procure products of the Bittium TAC WIN™ system, and a new framework agreement for 2021–2024 is being prepared. The value of the agreement is at the maximum about EUR 30 million.

In November, the Finnish Defense Forces ordered Bittium Tactical Power Pack™ battery units as accessories for portable Bittium Tough Comnode™ devices already in use.

The battery unit was launched in October. The ordered products, with the value of approximately EUR 1.1 million, will be delivered to the Defense Forces during the first half of 2021.

Bittium also announced to be a part of the iMUGS (integrated Modular Unmanned Ground System) project that is operating under the European Defence Industrial Development Programme (EDIDP). The iMUGS project is developing new capabilities for European defense forces based on autonomous systems. In the project, Bittium is responsible for the execution of resilient and networked data transfer, including both tactical communications and data transfer over commercial 4G and 5G cellular networks.

In the governmental market, the interest in the mobile security and secure Bittium Tough Mobile™ 2 phones grew. Continuous security attacks raise awareness of the importance of security. In June, Bittium launched a new, even more secure variant of its smartphone: Bittium Tough Mobile™ 2 C.

The unique new variant is based on the previously launched Bittium Tough Mobile 2 and is meant for CONFIDENTIAL level authority communication. The new smartphone variant is complemented with Bittium Secure Suite™ management software, enabling remote management of devices and applications, as well as encrypted IP-based data transfer.

Bittium and ENENSYS Technologies, a leading provider of media delivery and public safety solutions, announced that evolved Multimedia Broadcast Multicast Solution (eMBMS) with ENENSYS' Middleware, which is intended for public authority LTE networks, can now be deployed in the highly secure Bittium Tough Mobile™ 2 smartphone. With this cooperation, LTE Broadcast features are now enabled in rugged public safety Bittium Tough Mobile 2.

Bittium and Virve Tuotteet ja Palvelut, a long-term operator of sales and maintenance of equipment suitable for Tetra networks, started a cooperation covering the resale of secure Bittium Tough Mobile 2 smartphones complemented with Bittium Secure Suite management software to critical communications organizations in Finland. Through the cooperation, Virve Tuotteet ja Palvelut is able to deliver a complete solution to the end customer, which includes state-of-the-art secure devices and related additional services, such as maintenance and support.

At the end of the year, the company began cooperating with Tutus Data AB, a Swedish expert in certified web encryption solutions. The collaboration will create a high-security mobile solution that combines Tutus' strong security expertise with Bittium's ultra secure Bittium Tough Mobile™ 2 smartphone platform. Designed for a mobile work environment, this solution provides data security, especially as a critical communication tool. Tutus is the main supplier of IT security products approved and certified by the Swedish government in Sweden, and the co-developed solution will be part of Tutus' product offering.

Bittium released a new streams feature for Bittium SafeMove® Mobile VPN security software. It enables optimized, durable and encrypted connection even when the network connections in use are unreliable and sensitive for interference. The strong connection of Bittium SafeMove® Streams technology enables the protecting of several applications and their different connections. Encryption and security adapt to the changing needs of different applications, and the special needs of real-time voice and video applications, for example, are taken into account.

## Market Outlook

### Defense and Public Safety Market

- In the defense sector's tactical communication market, the governments' defense forces and other authorities need networks that troops, who are more and more constantly on the move, can use and transfer growing amounts of data securely. This creates demand for Bittium Tactical Wireless IP Network™ (TAC WIN) broadband network, Bittium Tough SDR™ handheld and vehicle radios and for other Bittium's IP-based (Internet Protocol) tactical communication solutions that fulfill the needs of data transfer of moving troops and individual soldiers. Bittium continues efforts to bring its defense market targeted products and services also to the international defense markets and aims to get new international customers for its tactical communication system in 2021. Due to the long sales cycles driven by purchasing programs of national governments, it will take time to receive purchase orders.
- The financial difficulties caused by the Covid-19 pandemic affect the budgets of public finances, such as states and public authorities, and may require postponing of procurement. This may delay receiving new orders. Especially in the defense and authorities' markets, testing and piloting of products and systems are typical phases before receiving orders of larger entities. Current circumstances may post-

pone the materialization of some orders from their planned schedule. In addition, due to the travelling restrictions, the acceptance tests may need to be rescheduled, which may affect the final product acceptances and thereby the actual product deliveries. The Covid-19 pandemic may also somewhat affect the availability of some components used in the products, which may affect the company's capability to deliver products to its customers.

- The use of LTE technology, smartphones, and applications continue to increase in special verticals such as public safety creating demand for Bittium Tough Mobile™ secure LTE smartphones and other customized special terminals based on Bittium's own product platform. The awareness of mobile security risks is growing and the interest towards secure mobile devices is increasing. The implementation of LTE-based devices in use in the Public Safety markets has been slower than expected because of the delay in the device functionalities required by the authorities and because of the slow progress of the market. The sales of the secure terminal products are expected to develop moderately according to the nature of public safety markets.
- The smartphone sales process often involves testing and piloting systems and equipment, possibly integrating third-party technologies, and possible local regulatory approvals, which are typically long-lasting. Exceptional circumstances caused by the Covid-19 pandemic may have a significant impact on the progress of projects, which slows down the closings of larger transactions.
- Using public network connections in portable devices is increasing also in demanding professional use, for instance in the public sector. This creates requirements for network connections to be easy to use and secure. The products in the Bittium SafeMove® product family enable the ease of use of the devices and security in demanding use. Demand for the Bittium SafeMove® product family has not been affected by the Covid-19 pandemic.





Link	6-4
Distance	1.32km
Cost	5988
Source	12.0.0.6
Source medium	radio
Source ifface	dsun1
Target	12.0.0.4
Target medium	radio
Target ifface	dsun1
Radio Type	RH-1
Frequency	259 MHz
Tx modulation	64QAM2/3
Rx modulation	64QAM2/3
Tx csnr	22.66
Rx csnr	22.66
Tx rssi	-37.76
Rx rssi	-37.76
Tx tput	0.0 kbps
Rx tput	0.0 kbps
Tx drop %	n/a
Calculate link	



## Connectivity Solutions

### R&D Services

In the Connectivity Solutions product and service area Bittium provides professional design services and technology expertise in the areas of wireless devices, network infrastructure, IoT solutions, and software development. Bittium also offers its customers software robot solutions (RPA solutions) based on its own secure platform. Bittium also conducts R&D in the technology areas of Artificial Intelligence (AI) and Cloud Solutions. Bittium has long experience in system design, technology integration, wireless radio and antenna technologies, and power optimized, small form-factor device development. The understanding of industry-specific requirements, strong competence in R&D services, wireless devices, digitalization and information security along with the ISO 13485:2016 quality certificate, covering the devices, and equipment for health care enable Bittium to create solutions which bring clear added value to our customers and partners.

### Year 2020

The development of R&D service offering continued during 2020, especially for the telecommunications, medical technology, automotive and industrial Internet markets. The development of operating methods and organization also continued, which has brought more efficiency in operations. Bittium continued to provide connectivity solutions to its customers with the goal of further increasing the number of R&D service projects and expanding the customer base. Demand for R&D services remained stable in 2020.

As the demand for 5G technology development leveled off, Bittium has continued to invest in new customers and application areas. The company also continued to deliver different kind of connectivity solutions to its customers and aims at growing the amount of product development projects and widening its customer base. As a new application area for product development

services, Bittium joined Rightware's Kanzi partner program and has introduced its own OEM application management and security solutions implemented on the Android Automotive platform. Bittium brings deep Android system experience to the automotive industry, from the hardware level all the way up the software stack.

### Market Outlook

#### Telecommunication and Digitalization

- In the mobile telecommunications, the demand for 5G technology development work has stabilized and the implementation of 5G is accelerating in pace. Investments in developing new features continue and the importance of software development in the 5G network development expands. This creates demand for Bittium's R&D services. There is a wide range of frequencies allocated for the 5G



technology thus creating the need to develop multiple products to cover the market and creating demand for R&D services for development of product variants. Also, the development of new devices utilizing 5G technology increases the demand for Bittium's services.

- As the digitalization evolves, the secure IoT (Internet of Things) has become a significant development area in almost every industry. The increasing need of companies to digitalize their operations, collect data wirelessly, and transfer it to the internet and cloud services generate need for Bittium's services and customized solutions. To this end, the market needs secure devices for both demanding industrial and leisure applications, which collect information from the sensors used by the device and create a reliable wireless connection to the Internet and cloud services. New radio systems customized to IoT are being used all over the world, and the number of digitalized devices increases continuously. Along with the 5G technology being used, there will also be new features

in the IoT that enable i.e. remote control of machines. Therefore, the integration of different systems and technologies play an important role in enabling complete digitalization services. There are several learning systems and devices under development that use different kinds of artificial intelligence (AI) technologies to ease and speed up the processing of large data amounts.

- Changes in the digitalization of the automotive industry and new business models and the automation of automotive operations create need for technological development. Most significant technology trends such as intelligent mobility, self-driving cars, electric cars and connectivity are guiding need for innovative software development. The share of software in cars is increasing in speed and software is becoming a major enabler and a differentiator. The use of Android™ Automotive operating system in the In-Vehicle Infotainment (IVI) systems is strongly entering the market. Several carmakers have announced the launch of cars with Android

Automotive. Bittium's more than a decade of experience with the Android operating system and the Google ecosystem combined with security know-how create good business opportunities for this market.

- Travel restrictions caused by the Covid-19 pandemic have slowed down the sale of product development services. Even though the adaptation to new conditions and operating methods has gone well, the restrictions have somewhat slowed down the progress of the projects and gaining new customers.
- Possible illnesses of own personnel due to the Covid-19 could have a significant impact on Bittium's business, especially with regard to product development services. The company began taking measures to ensure the health and safety of its personnel and to ensure business continuity as soon as the Covid-19 pandemic reached Europe in March 2020. So far, the pandemic has not yet significantly affected the health of Bittium employees.



## Medical Technologies

### Devices and Applications for Biosignal Monitoring

In the Medical Technologies product and service area Bittium offers its customers healthcare technology products and solutions in biosignal measuring in the areas of cardiology, neurology, rehabilitation, occupational health, and sports medicine. Combining healthcare technologies with Bittium's long-term experience and competence in wireless and security technologies gives Bittium good basis to serve its customers in healthcare sector by offering them new kinds of products and services.

**Bittium Faros™** is a versatile waterproof ECG device that is used for early detection of cardiac abnormalities in everyday life. Bittium Faros is ultra-small and lightweight, which enables precise full disclosure ECG measurements for long-term holtering, cardiac event monitoring, mobile cardiac telemetry and assessing autonomic nervous system functions. Bittium Faros outpatient monitoring solutions include several soft-

ware options for cardiac monitoring. The built-in arrhythmia detection algorithms on the Bittium Faros device are used for event recording and cardiac remote monitoring. Bittium's solutions enable the earlier discharge of patients and the ability to react to detected arrhythmias faster.

**Bittium Cardiac Navigator™** is a completely new type of solution for the analysis of clinical Holter ECG recordings. Its user-friendly and informative data presentation and intuitive analysis tools make the software efficient and easy to use when analyzing multiple days of ECG recordings. Bittium Cardiac Navigator is designed for scanning longer measurements efficiently in a shorter time and thus speeding up the final diagnosis.

**Bittium Cardiac Explorer™** offers a quick and flexible way of working with event-based ECG arrhythmia analysis. The biggest benefits of the software are having full

disclosure ECG always available, full access to the events identified by the device, total control on the reporting content and the ability to analyze an unlimited amount of measurement data.

**Bittium HolterPlus™** is a web based remote cardiac monitoring solution, consisting of a Bittium Faros ECG device and Bittium MedicalSuite™ mobile application integrated into a secure smart device. Bittium HolterPlus enables remote monitoring and earlier discharge of the patient and allows the ECG measurement data of the remotely monitored patient to be wirelessly transferred securely from the monitoring device to the Bittium MedicalSuite remote diagnostics service platform. From the platform the ECG recording can be downloaded to a cardiologist for diagnosis and the diagnosis will be uploaded for the treating physician for further patient care.



**Bittium MedicalSuite™** is an advanced remote monitoring service platform that utilizes wireless data transfer. Bittium MedicalSuite is mainly aimed at service providers to facilitate secure information sharing and workflow management between service providers, clinics, and specialists. Bittium MedicalSuite™ platform allows specialists to perform remote consultations regardless of location. The Service is a combination of intelligent analysis, wireless data transfer, reporting, and management modules that you can optimize according to your needs. The easy-to-use web user interface allows dashboard customization for different user groups, which ensures effortless workflow and improves efficiency. Currently the system supports cardiac monitoring services, but the same technology can be applied to any biosignal measurements, such as brain monitoring and home sleep apnea testing services.

**Bittium BrainStatus™** is a wireless compact EEG amplifier, which is used together with a disposable, easy and quick to wear Bittium BrainStatus electrode headband, for example, to diagnose epileptic seizures and brain stroke. Bittium BrainStatus enables quick measurement in field conditions as well as in hospitals, thus making the treatment process of the patient faster. Bittium BrainStatus can be used for wireless real-time remote EEG monitoring or data can be recorded to the device memory.

**Bittium BrainStatus™ with Cerenion C-Trend®** is the world's first practical method for measuring the brain function of intensive care patients. Bittium BrainStatus measures and monitors the electrical activity in the brain, and with the help of Cerenion C-Trend analysis tool, the brain's state is displayed as a straight-forward and simple-to-interpret numeric value by making use of machine learning algorithms and artificial intelligence.

**Bittium NeurOne™** is one of the quickest and most accurate EEG measuring devices in the world designed for clinical and research use. Bittium NeurOne system enables fully synchronized group measuring of up to 30 persons simultaneously for example in different types of psychological studies. The solution is optimized for use with transcranial magnetic stimulators (TMS-EEG), with optional possibility to use it during magnetic resonance imaging procedures (fMRI-EEG).

## Year 2020

Demand for Bittium's medical technology products for remote monitoring and remote diagnostics remained steady. Based on the delivery agreement signed in 2018, during the first half Bittium continued to deliver tailored Body Guardian® MINI ECG measuring devices to the major US remote monitoring provider Preventice as planned. In September, Bittium and Preventice signed an extension to the agreement, under which Bittium will continue to supply BodyGuardian® MINI devices for the years 2021–2024. When fully implemented, the total value of the agreement will be approximately USD 22.9 million.

In May, Bittium BrainStatus™ product family received medical device approval in Europe (directive 93/42/EEC). Bittium BrainStatus product family is a compact wireless EEG measurement system for the brain's real-time electrical activity monitoring. It is designed for emergency, acute and intensive care use. Its ease of use enables high-quality EEG measurements by both paramedics and clinicians quickly and easily. At the end of the year, Cerenion's C-Trend® analysis software, which is integrated in Bittium BrainStatus™ EEG system, was granted medical device approval in the European Union. With Cerenion C-Trend® analysis, the status of the brain is presented as simple and easy-to-interpret numerical values by utilizing advanced machine learning algorithms and artificial intelligence. The aim of the solution is to improve medical care and make the work of nursing staff in the intensive care unit easier and faster.

Bittium launched an advanced remote monitoring service platform that utilizes wireless data transfer to enhance medical remote

diagnostics services. Bittium Medical-Suite™ web-based service platform is mainly aimed at service providers to facilitate secure information sharing and workflow management between service providers, clinics and specialists. Currently the system supports cardiac monitoring services, but the same technology can be applied to any biosignal measurements, such as brain monitoring and home sleep apnea testing services. Data transfer is secured with Bittium SafeMove® VPN software, which uses strong encryption algorithms to guarantee the confidentiality, privacy, and integrity of communications.

In December, Bittium released a new version of its Bittium Cardiac Navigator™ cardiac analysis software. The new software version introduces improvements in, among other things, P-wave detection, which further increases the analytical accuracy of measuring the atrial fibrillation. Cardiac Navigator is used by several customers of Bittium Faros™ ECG devices that measure the electrical activity of the heart.

## Market Outlook

### Medical ECG and EEG Remote Monitoring Markets

- The medical technology market is undergoing significant development in patient care, especially outside hospitals. There is an increasing focus on the prevention of diseases and health problems through early diagnosis and the repatriation of patients at an earlier stage to reduce hospital and treatment days. These actions significantly increase efficiency in health care processes and lower costs.

- A prerequisite for early repatriation is the enabling of accurate and precise follow-up and measurement opportunities in home conditions, which would be enabled through remote monitoring. Remote monitoring and remote diagnostics also enable specialists' diagnoses regardless of time and place. Also evolving artificial intelligence-based algorithms are increasing to support physicians in making diagnoses. Remote monitoring and remote diagnostics make it possible and faster to obtain more accurate diagnoses, which, in turn, speeds up the start of the right kind of treatment. The market change will enable several new providers to join the overall care service chain, without compromising the quality of specialist services in areas such as cardiology and neurophysiology.

- For remote monitoring and remote diagnostics Bittium provides its Bittium Faros™ product family for remote heart monitoring and Bittium BrainStatus™ for measuring the electrical activity of the brain, as well as different kind of software for diagnostics.

- As the Covid-19 pandemic spread the number of non-emergency patients going to treatments and tests to healthcare providers decreased. Several hospitals and medical care facilities have postponed their non-emergency tests and examinations and focused on the treatment of the pandemic patients as well as on actions preventing the virus from spreading. The situation varies from country to country and in some countries the pandemic situation is worse than in others. In the long term, the pandemic will accelerate the use of remote services in hospitals and medical care facilities, and thus creates positive development on the demand of the remote monitoring products and services.

Bittium BrainStatus™  
and Cerenion C-Trend®



# Shares and Shareholders

## Shares

The shares of Bittium Corporation are quoted on the Nasdaq Helsinki. The Company has one series of shares. All shares entitle their holders to dividends of equal value. Each share has one vote. The share does not have a nominal value. The Company's shares have been entered into the Euroclear Finland Ltd.'s book entry system.

At the end of the financial period, the fully paid share capital of the Company entered into the Finnish Trade Register was EUR 12,941,269 and the total number of the shares was 35,693,166.

The accounting par value of the Company's share is EUR 0.10. The Company does not have its own shares in its possession.

## Share Price and Trading in 2020

The closing price of Bittium Corporation's share was EUR 5.79 at the end of 2020; the share reached a high of EUR 7.67 and a low of EUR 3.40. During the year, a total of 20.7 million shares with the value of EUR 117.9 million changed hands on the Nasdaq Helsinki. This is 57.6 percent of the share capital. Bittium Corporation's market capitalization on December 31, 2020, was EUR 206.67 million.

## Dividend and Dividend Policy

Bittium Corporation follows a dividend policy that takes into account the group's net income, financial situation, need for capital and financing growth.

In 2020, Bittium did not pay dividend based on the adopted balance sheet for the financial period of January 1, 2019–December 31, 2019.

The Board of Directors proposes to the Annual General Meeting to be held on April 14, 2021, that no dividend shall be paid based on the adopted balance sheet for the financial period of January 1, 2020–December 31, 2020.

## Trading Codes

Bittium Corporation has been listed on Nasdaq Helsinki since 1998. Bittium Corporation's company code and trading code in the Nasdaq Helsinki INET system is BITTI and the trading code BITTI.

### Trading codes are:

Nasdaq Helsinki Ltd.	BITTI
Reuters	BITTI.HE
Bloomberg	BITTIFH

## Shareholders

At the end of 2020, Bittium Corporation had 21,911 shareholders. The ten largest shareholders owned 28.3 percent of the shares. Private ownership was 73.1 percent. The percentage of foreign and nominee-registered shareholders was 2.8 percent at the end of 2020.

## Shareholding of the Board of Directors and CEO

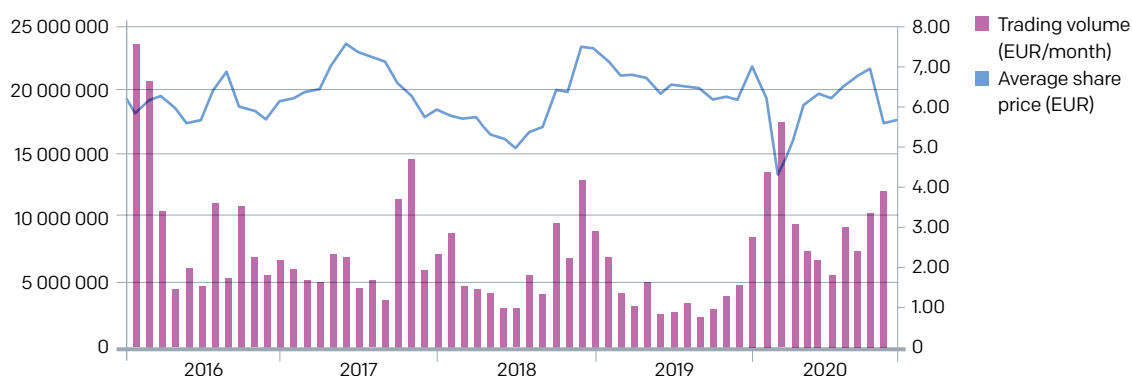
At the end of 2020, the shareholding of the Board of Directors, CEO and the companies controlled by them was 1,707,464 shares, corresponding to 4.8 percent of all shares.

## Information to Shareholders

Press releases, reports, earnings estimates, share price ticker, contact details of analysts and other current investor material are available on the Company's website at [www.bittium.com](http://www.bittium.com). An email-based subscription service for press releases and publications can be found from the Company's website as well.



Trading Volume and Average Share Price 2016–2020



Share Price Development in Nasdaq Helsinki 2016–2020



## Financial Reports in 2021

Bittium Corporation reports its financial development by publishing financial reports every half year. From the reporting periods of January–March and January–September the company publishes Business Reviews with the lighter and narrower structure than those of the financial reports. The reports are published both in Finnish and in English at the company website:

[www.bittium.com/investors](http://www.bittium.com/investors)

### In 2021, the Financial Reports are published as follows:

- Financial Statement Bulletin 2020: February 11, 2021 at 8.00 am (CEST+1)
- Half Year Financial Report January–June 2021: August 6, 2021 at 8.00 am (CEST+1)

### In 2021, the Business Reviews are published as follows:

- Business Review January–March 2021: on April 29, 2021 at 8.00 am (CEST+1)
- Business Review January–September 2021: on October 22, 2020 at 8.00 am (CEST+1)

## Silent Period

Bittium Corporation observes a three week silent period prior to announcing its financial reports. In 2021, the silent periods are as follows:

January 21–February 11, 2021  
 April 8–April 29, 2021  
 July 16–August 6, 2021  
 October 1–October 22, 2021

## Bittium Corporation's Annual General Meeting 2021

Notice is given to the shareholders of Bittium Corporation (the "Company") to participate in the Annual General Meeting to be held on Wednesday April 14, 2021 at 1.00 p.m. (EEST) in the Company's headquarters at Ritaharjuntie 1, 90590 Oulu, Finland. In order to prevent the spread of the Covid-19 pandemic, the Annual General Meeting will be held without shareholders' and their proxy representatives' presence at the meeting venue. Shareholders of the Company and their proxy representatives may participate in the meeting and exercise shareholder rights only through voting in advance as well as by making counterproposals and presenting questions in advance.

The Board of Directors of the Company has resolved on the exceptional procedure for the meeting based on the temporary legislative act (677/2020) to limit the spread of the Covid-19 pandemic approved by the Finnish Parliament on September 15, 2020. The Company has resolved to take actions enabled by the act in order to hold the meeting in a predictable manner, taking into account the health and safety of the Company's shareholders, personnel and other stakeholders.

### Instructions for the Participants:

In order to prevent the spread of the Covid-19 pandemic, the General Meeting will be organized so that the shareholders and their proxies are not allowed to be present at the General Meeting venue. Shareholders and their proxies cannot participate in the General Meeting through real-time telecommunications either. Shareholders and their proxies can participate in the General Meeting and use their shareholder rights only by voting in advance and by submitting counterproposals and asking questions in advance in the manner instructed below.

### 1. Shareholders Registered in the Shareholders' Register

Each shareholder who is registered on the record date of the General Meeting, Wednesday March 31, 2021, in the shareholders' register of the Company kept by Euroclear Finland Ltd. is entitled to participate in the General Meeting. A shareholder, whose shares are registered on his/her Finnish book-entry account, is registered in the Register of Shareholders of the Company. Shareholders cannot participate in the General Meeting by any other means than voting in advance in the manner instructed below as well as by submitting counterproposals and asking questions in advance.

### 2. Registration and Advance Voting

Registration for the General Meeting and advance voting will begin on March 25, 2021 at 10.00 a.m. following the deadline for submitting counterproposals. A shareholder with a Finnish book-entry account, who wishes to participate in the General Meeting, must register for the General Meeting and vote in advance no later than by April 7, 2021 at 4.00 p.m. by which time the registration and votes need to have been received.

When registering, requested information such as the name, personal identification number, address and telephone number of the shareholder as well as requested information on a possible proxy representative, such as the name and personal identification number of the proxy representative, must be provided. The personal data given by the shareholder to Bittium Corporation and Euroclear Finland Oy will be used only in connection with the General Meeting and with the processing of related registrations.

A shareholder, who has a Finnish book-entry account, may register and vote in advance on certain items on the agenda of the General Meeting from 10.00 a.m. on March 25, 2021 until 4.00 p.m. on April 7, 2021 by the following means:

- a) through the website at [www.bittium.com/agm](http://www.bittium.com/agm)

The Finnish personal identity code or business ID and book-entry account number of the shareholder is needed for voting in advance. When a shareholder who is individual logs in to Euroclear Finland Oy's service via the Company's website, he or she is directed to strong electronic identification. For shareholders that are legal persons strong electronic identification is not required. Strong electronic authentication takes place either with a Finnish bank ID or a Finnish mobile certificate.

- b) by mail or email

A shareholder may send the advance voting form available on the Company's website or corresponding information to Euroclear Finland Oy by letter to Euroclear Finland Oy, Yhtiökokous, P.O. Box 1110, FI-00101 Helsinki or by email at [yhtiokokous@euroclear.eu](mailto:yhtiokokous@euroclear.eu). If the shareholder participates in the General Meeting by sending the votes in advance by mail or email to Euroclear Finland Oy, this constitutes registration for the General Meeting, if the shareholder simultaneously provides the information required for registration mentioned above.

Instructions relating to the advance voting may be found on the Company's website [www.bittium.com/agm](http://www.bittium.com/agm). Further information is available by telephone at +358 40 344 3322 from Monday to Friday at 9.00 a.m. to 3.00 p.m.

### 3. Proxy Representatives and Powers of Attorney

A shareholder may participate in the General Meeting and use his/her rights by proxy. The proxy representative of a shareholder may participate in the General Meeting only by voting in advance on behalf of the shareholder in the manner instructed ahead.

A proxy representative shall produce a dated proxy document or otherwise in a reliable manner demonstrate his/her right to represent the shareholder. Should a shareholder participate in the General Meeting by means of several proxy representatives representing the shareholder with shares in different book-entry accounts, the shares by which each proxy representative represents the shareholder shall be identified in connection with the registration for the General Meeting.

Possible proxy documents should be delivered by regular mail to Euroclear Finland Oy, Yhtiökokous, PL 1110, FI-00101 Helsinki, Finland or by e-mail to [yhtiokokous@euroclear.eu](mailto:yhtiokokous@euroclear.eu) before the end of the registration period, by which time the documents must be received by Euroclear Finland Oy.

#### 4. Holders of Nominee Registered Shares

A holder of nominee-registered shares has the right to participate in the General Meeting by virtue of such shares, based on which he/she on the record date of the General Meeting Wednesday March 31, 2021, would be entitled to be registered in the Register of Shareholders of the Company held by Euroclear Finland Oy. The right to participate in the General Meeting requires, in addition, that the shareholder on the basis of such shares has been registered into the temporary shareholders' register held by Euroclear Finland Oy at the latest by Friday April 9, 2021 by 10.00 a.m. As regards nominee-registered shares this constitutes due registration for the General Meeting.

A holder of nominee-registered shares is advised to request without delay necessary instructions regarding the temporary registration in the Register of Shareholders of the Company, the issuing of proxy documents and registration for the General Meeting from his/her custodian bank. The account management organization of the custodian bank shall temporarily register a holder of nominee-registered shares into the Register of Shareholders of the Company at the

latest by the time stated above. In addition, the account management organization of the custodian bank shall arrange advance voting on behalf of a nominee-registered shareholder within the registration period applicable to nominee-registered shares.

#### 5. Other instructions

Shareholders who hold at least one hundredth of all the shares in the Company have a right to make a counterproposal concerning the items on the agenda of the General Meeting to be placed for a vote. Such counterproposals are required to be sent to the Company by email to [yhtiokokous@bittium.com](mailto:yhtiokokous@bittium.com) no later than by March 24, 2021 at 12.00 noon. In connection with making a counterproposal, shareholders are required to provide adequate evidence of shareholding. The counterproposal will be placed for a vote subject to the shareholder having the right to participate in the General Meeting and that the shareholder holds at least one hundredth of all shares in the Company on the record date of the General Meeting. Should the counterproposal not be placed for a vote at the General Meeting, advance votes in favor of the proposal will not be taken into account. The Company will publish possible counterproposals to be put to a vote on the Company's website at [www.bittium.com/agm](http://www.bittium.com/agm) by no later than March 25, 2021.

A shareholder has the right to ask questions referred to in Chapter 5, Section 25 of the Finnish Limited Liability Companies Act with respect to the matters to be considered at the General Meeting. Such questions must be sent by email to [yhtiokokous@bittium.com](mailto:yhtiokokous@bittium.com) no later than March 29, 2021 at 4.00 p.m. Such questions from shareholders, the Company's management's answers to them, and any counterproposals that have not been placed for a vote are available on the Company's website [www.bittium.com/agm](http://www.bittium.com/agm) on April 1, 2021 at the latest. In connection with asking questions and making counterproposals, shareholders are required to provide adequate evidence of shareholding.

Information on the General Meeting required by the Finnish Limited Liability Companies Act and the Securities Markets Act is available on the Company's website at [www.bittium.com/agm](http://www.bittium.com/agm)

On the date of this notice, February 11, 2021, of the General Meeting the total number of shares in Bittium Corporation and votes represented by such shares is 35,693,166. On the date of this notice to the General Meeting the Company does not hold any of its own shares.

Changes in the number of shares held after the record date of the General Meeting shall not have an effect on the right to participate the General Meeting nor on the number of votes held by a shareholder in the General Meeting.

#### Documents of the General Meeting

The proposals for the resolutions on the matters on the agenda of the General Meeting, and the notice, the Company's Remuneration Report and the Annual Report of Bittium Corporation, which includes the Company's Annual Accounts, the Consolidated Annual Accounts, the Annual Report of the Board of Directors and the Auditor's Report are available on the website at [www.bittium.com/agm](http://www.bittium.com/agm) latest on March 19, 2021. The minutes of the General Meeting will be available on the above-mentioned website latest on April 28, 2021.



Bittium Faros™ 360





# Corporate Governance

The governance of Bittium Corporation (hereinafter 'Company') is determined by the Company's Articles of Association, the laws of Finland (such as the Finnish Limited Liability Companies Act and Securities Market Act) and the Company's Corporate Governance Code. The Company follows the Finnish Corporate Governance Code 2020 prepared by the Finnish Securities Market Association and entered into force on January 1, 2020. The Governance Code may be viewed, inter alia, at the Finnish Securities Market Association website at [www.cgfinland.fi](http://www.cgfinland.fi).

This Statement is made separately from the Report by the Board. The Board's Audit Committee and the Company's auditor have reviewed this Statement. The statu-

tory governing bodies of the Company are the Shareholders' meeting, Board of Directors, Chief Executive Officer and the Auditor. The Management Group supports the statutory governing bodies of the Company. The Company's domicile is Oulu.

This Statement is publicly available on the Company's website at [www.bittium.com](http://www.bittium.com).

## The Board of Directors

The Board of Directors is responsible for the Company's governance and proper organization of the operations. The Board of Directors comprises of three to seven (3–7) members and in addition it may have one to three (1–3) deputy members. The Annual

General Meeting shall elect the members of the Board of Directors for a term which expires at the end of the following Annual General Meeting. The number of terms for the members of the Board of Directors is not limited. The Board of Directors selects a Chairman among its members.

The Board conducts an annual evaluation of the independence of its members in accordance with recommendation 10. A member of the Board is required to submit to the Company the information necessary to conduct the evaluation of independence. A Board member is also required to notify the Company of any changes in information relating to independence.

The Annual General Meeting held on June 15, 2020 decided that the Board of Directors shall comprise six (6) members. Ms. Riitta Tiuraniemi, Mr. Seppo Mäkinen, Mr. Juha Putkiranta, Mr. Pekka Kemppainen and Mr. Erkki Veikkolainen were re-elected as members of the Board of Directors for a term of office expiring at the end of the next Annual General Meeting. Further, Mr. Veli-Pekka Paloranta was elected as the new member of the Board of Directors for a corresponding term of office. At its assembly meeting held on June 15, 2020, the Board of Directors has elected Mr. Erkki Veikkolainen Chairman of the Board. Further, the Board has resolved to keep the Audit Committee. Ms. Riitta Tiuraniemi (Chairman of the committee), Juha Putkiranta and Veli-Pekka Paloranta were elected as members of the Audit Committee.

## Description of Activities

The Board of Directors has defined a working order and evaluates its performance annually. The Board of Directors shall implement the decisions of the General Meeting. The Board of Directors supervises the operations and management. The Board of Directors makes decisions on the Company's guiding principles for operation, strategy and budget. The Board of Directors decides on mergers and acquisitions and other strategic alliances as well as significant investments and significant matters regarding organization and finance. The Board of Directors supervises that the control of the Group companies' accounting and financial affairs is duly organized. The Board of Directors appoints the CEO and possible Deputy for him or her as well as approves the Company's organizational structure.

The CEO, CFO and CLO (who acts as secretary of the Board of Directors) attend the meetings of the Board of Directors. Other management attends the meetings when necessary or upon invitation by the Board of Directors. The Chairman of the Board approves the agendas of the meetings of the Board of Directors. The agendas are prepared by the CEO and the CLO.

An annual clock, according to which the regular subjects to be handled are determined, is applied in the Board's work. In addition to the regular subjects of the annual clock, the most important subjects of the Board during the year were adapting to the business challenges posed by the Covid-19 pandemic (SARS-CoV-2) and securing the Company's future growth potential despite these challenges.

The Annual General Meeting decides on the compensation of the members of the Board of Directors and the compensations can be publicly reviewed on the Company's website at [www.bittium.com](http://www.bittium.com).

In 2020 the Board convened 13 times.

The Board members attended to the meetings as follows:

January 1–December 31, 2020	Board	Audit committee
Erkki Veikkolainen	13/13	
Juha Putkiranta	13/13	6/6
Seppo Mäkinen	13/13	
Pekka Kemppainen	13/13	
Riitta Tiuraniemi	13/13	6/6
Veli-Pekka Paloranta	6/8	3/3
Petri Toljamo	1/5	
Seppo Laine (external advisor of the Board)		3/3



## Diversity Principles of the Board of Directors

In the Company, diversity is seen as an essential part of corporate responsibility and as a factor in success, that enables achievement of strategic targets and continuous improvement of customer intimacy.

In planning the composition of the Board of Directors, the requirements of the Company's business operations, the phases of development and the competence requirements of the Board committees are taken into account. In appointing members of the Board the target is to ensure that the Board as a whole supports the development of the Company's current and future business operations. Diversity plays a part in supporting this goal, so the Company aims to reach a situation where the facts supporting diversity are taken into account as significant criteria in planning the composition of the Board of Directors.

Diversity of the Board is considered from different perspectives. From the Company's point of view it is important to have Board members with diverse backgrounds in terms of competence, training, and experience of differing business operations, of varying stages of business development, and of leadership as well as diverse personal characteristics. Experience of international business environments and different cultures in addition to consideration of age and gender will support the diversity of the Board. The objective is that both genders are represented in the Board and the Company aims to maintain a good and balanced distribution of genders.

To fulfill the diversity principles, the diversity principles are taken into account in the process to find and assess member candidates and representatives of both genders are looked for to the process. The status of diversity and progress of the goal mentioned above is monitored in the self-assessment discussions of the Board. A person elected as a Board member of the Company must have the competence required for the position and be able to devote a sufficient

amount of time for the duties required. In forming the composition of the Board long-term needs and successor planning will be taken into account.

According to the Articles of Association, the Board of Directors comprises three to seven (3–7) members and in addition it may have one to three (1–3) deputy members. The composition of the Board and the number of members shall be such that they enable the Board to perform its duties efficiently. The members of the Board are appointed annually at the Company's Annual General Meeting.

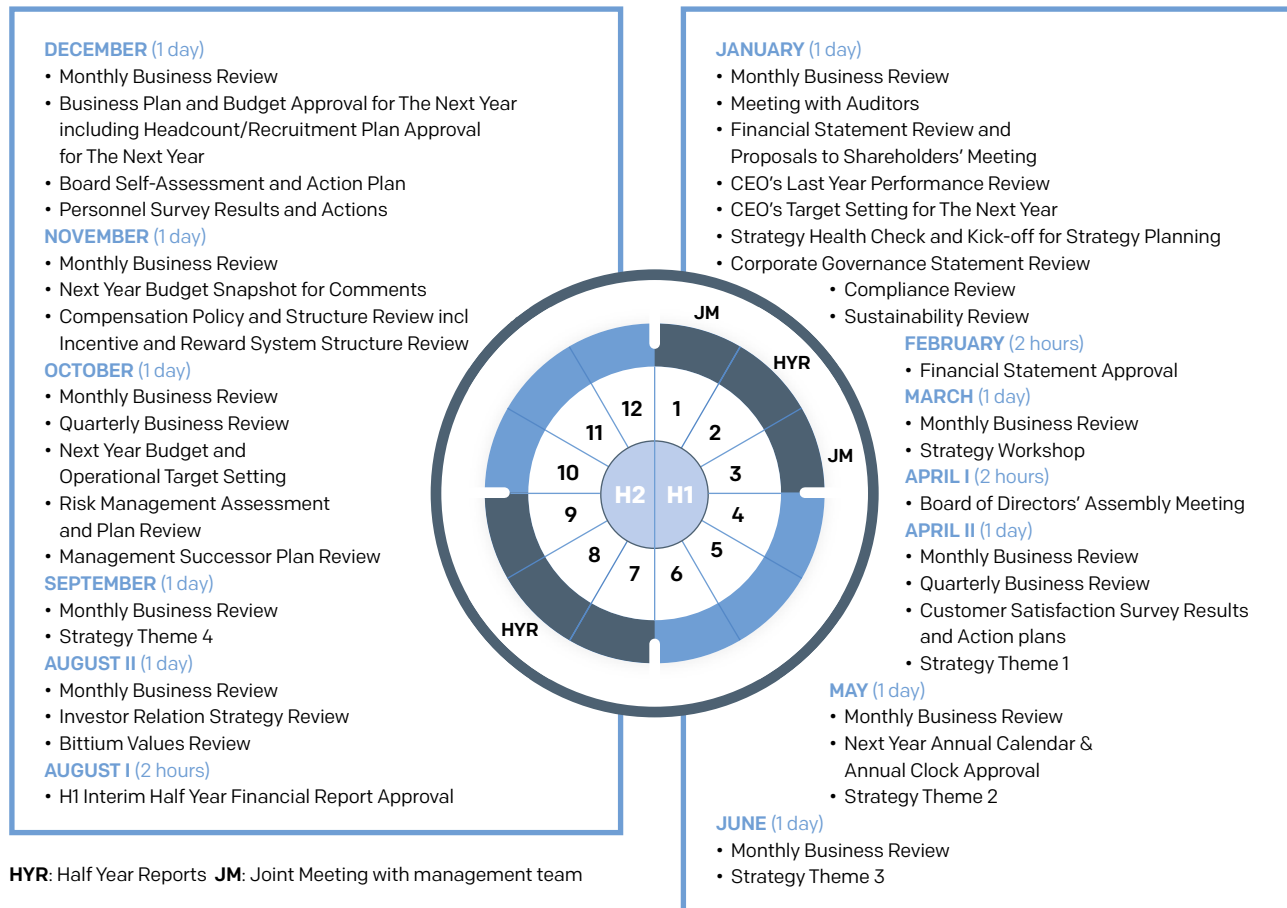
During the financial period of January 1, 2020–December 31, 2020, the Board of Directors has comprised six members. Five of the members have been male and one female. The self-assessment discussions of the Board have concluded that the members of the Board are so different in their special skills, backgrounds and age and gender that the Board as a whole has therefore been able to effectively support the business of the Company and its development.





# Board of Directors' Annual Clock 2020

Key topics covered during the year



# Bittium Corporation

## The Board of Directors



### Erkki Veikkolainen

b. 1952, M.Sc. (EE), eMBA  
Full-time occupation:  
Mevita Invest Oy, CEO

#### Positions of trust:

- Bittium Corporation (prev. Elektrobitt Corporation), Member of the Board 2008–2015, Chairman of the Board 2015–.
- KoskiRent Ltd, Member of the Board 2020–.
- Lumous lighting Ltd, Member of the Board 2019–.
- Elcoflex (Suzhou) Co. Ltd, Member of the Board 2007–.
- Elcoflex Oy, Member of the Board 2015–, Chairman of the Board 2006–2015.
- Maustaja Oy, Member of the Board 2006–.

#### Previous work history:

- Bittium Technologies Ltd (prev. Elektrobitt Technologies Ltd.), Member of the Board 2011–2015.
- Elektrobitt Corporation, Executive Vice President, Contract R&D and Test Business Units 2002–2003.
- Elektrobitt Technologies Ltd., Managing Director 2001–2003.
- Elektrobitt Ltd., Vice President, Business Development 1998–2001.
- Nokia Mobile Phones, various positions 1985–1998, latest Vice President.

#### Holdings Dec. 31, 2020:

Holds 1,659,273 Bittium Corporation shares.

Independent as regards both the Company and its significant shareholders.

### Pekka Kempainen

b. 1954, Lic.Sc. (Tech.)  
Full-time occupation:  
Professional Board Member

#### Positions of trust:

- Bittium Corporation, Member of the Board 2019–.
- Valmet Corporation, Member of the Board 2018–.
- Junttan Ltd, Member of the Board 2018–.
- Nestor Cables, Member of the board, 2020–.

#### Previous work history:

- KONE Corporation, Executive Vice President, Service business 2010–2017.
- KONE Corporation, Executive Vice President & Area Director Asia Pacific, 2004–2010.
- KONE Corporation, Senior Vice President, New Elevator and Escalator Business, 1999–2004.
- KONE Corporation, various positions 1984–1999, last R&D and Technology Director.

#### Holdings Dec. 31, 2020:

Holds 2,150 Bittium Corporation shares.

Independent as regards both the Company and its significant shareholders.

### Seppo Mäkinen

b. 1952, M.Sc. Physical Chemistry  
Full-time occupation: Professional Board Member

#### Positions of trust:

- Bittium Corporation, Member of the Board 2015–.
- AegirBio AB, Member of the Board 2020–.
- Optomed Corporation, Member of the Board 2019–.
- VideoVisit Oy, Member of the Board 2018–.

#### Previous Work History:

- Pathena S.A., partner 2017–2020.
- Neurotar Oy, Member of the Board 2015–2020.
- Valirix Plc, Member of the Board 2013–2017, Advisor 2017–.
- Evondos Oy, Member of the Board 2016–2019.
- GBRA Genomics S.A., Member of the Board 2016–2019.
- MedGroup Oy, Member of the Board 2013–2018.
- Ginolis Oy, Member of the Board 2011–2018, Chairman of the Board 2011–2014.
- Taikon Advisor, Managing Partner 2010–2016.
- Merieux Développement, Regional Partner, Nordics 2010–2016.
- Ventac Partners, Partner 2012–2016.
- Magnasense Technologies Oy, Member of the Board 2011–2015.
- Arcdia International Oy, Member of the Board 2011–2014.
- Balonco, Senior Advisor, owner 2012–2013.
- Mediracer Ltd., Chairman of the Board 2010–2013.
- RSP Systems, Member of the Board 2010–2011.
- Bio Fund Management Oy, Founding/Managing Partner 1997–2010.
- Sitra, Director in Life Science 1987–1997.
- Millipore/ Waters, Sales & Marketing 1983–1987.
- State Institute of Agricultural Chemistry, Chemist 1980–1983.
- Served as a Chairman or Member of the Board in Egalet A/S, SpinX Inc., Chempaq, Profos AG, Ilochip A/S, Exiqon A/S, KSH-Productor Oy, Merlin Diagnostika GmbH, Primex ASA, Rumen Oy, Millimed Inc., BioPorto A/S, Wallac, Kone Instruments, Rados Technologies, MAP Medical Technologies, Pharming NV, Bio-Orbit, Labmaster Oy, Viable Bioproducts, Fluilogic Oy.

#### Holdings Dec. 31, 2020:

Holds 6,076 Bittium Corporation shares.

Independent as regards both the Company and its significant shareholders.



## Juha Putkiranta

b. 1957, M.Sc. Engineering  
Full-time occupation:  
Saafricon Oy, CEO

### Positions of trust:

- Bittium Corporation, Member of the Board 2015– and Chairman of the Audit Committee 2018–2020, Member of the Audit Committee 2020–.
- Variantum Oy, Chairman of the Board 2016–.
- Aspocomp Oyj, Member of the Board 2016–.
- Nordcloud Oy, Member of the Board 2015–.

### Previous work history:

- Saafricon Oy, CEO and owner 2015–.
- Microsoft Corporation, Corporate Vice President, Company Integration, 2014.
- Nokia Oyj, Executive Vice President, Operations, 2013–2014.
- Nokia Oyj, Senior Vice President, Head of Nokia Supply Chain 2008–2012.
- Nokia Oyj, Senior Vice President, Head of Multimedia, Product Marketing and R&D 2006–2007.
- Nokia Oyj, Senior Vice President, Head of Imaging Business Unit 2003–2005.
- Nokia Oyj, Senior Vice President, Head of Cellular Telephones Unit 2000–2003.
- Symbian Ltd, Member of the Board 1998–2001.
- Nokia Oyj, Vice President, Corporate Planning and Business Development 1997–2000.
- Hewlett-Packard Corporation, Director of Marketing Europe and Africa, electronic measurement solutions 1992–1997.
- Siar Oy, consultant 1986–1987.
- Nokia Oyj, various project, sales and marketing management positions, information solutions unit 1979–1986.

### Holdings Dec. 31, 2020:

Holds 16,458 Bittium Corporation shares.

Independent as regards both the Company and its significant shareholders.

## Riitta Tiuraniemi

b. 1962, M.Sc. Electrical Engineering  
Full-time occupation:  
Professional Board Member

### Positions of trust:

- Bittium Corporation, Member of the Board, Member of the Audit Committee 2018–2020, Chairman of the Audit Committee 2020–.
- Finnish Industry Investment Ltd, Member of the Board and Remuneration Committee 2014–.
- Skoggi Ltd, Founder and Chairman of the Board 2019–.
- MPY Telecom PLC, Member of the Board 2020–.
- Celltrum Ltd, Member of the Board 2020–.

### Previous work history:

- HealthOperator Ltd., CEO, Founder and Member of the Board 2014–2019.
- DNA Ltd, CEO 2009–2013.
- DNA Finland Ltd, CEO 2005–2008.
- DNA Networks Ltd, CEO 2004–2005.
- DNA Networks Ltd, CTO, Member of Management Group 1999–2005.
- Omnitele Oy, Department Head, Mobile Communications Consultancy, Member of Management Group 1990–1999.
- Technology Development Centre, TEKES, Finland Senior Technical Adviser, Information Technology 1996–1997.
- Nokia Telecommunications, System Designer, Chief System Designer 1986–1990.

### Holdings Dec. 31, 2020:

Holds 9,121 Bittium Corporation shares.

Independent as regards both the Company and its significant shareholders.

## Veli-Pekka Paloranta

b. 1972, M.Sc. (Econ.)  
Full-time occupation:  
Lehto Group Oyj, Chief Financial Officer

### Positions of trust:

- Bittium Corporation, Member of the Board and Member of the Audit Committee 2020–.

### Previous work history:

- Bittium Corporation (former Elektrobitt Corporation), Chief Financial Officer, 2010–2015.
- Elektrobitt Corporation, Director, Finance, 2008–2010.
- JOT Automation Ltd, Chief Financial Officer, 2007–2008.
- Elektrobitt Group Corporation, Business Controller, 2000–2007.

### Holdings Dec. 31, 2020:

Holds 2,386 Bittium Corporation shares.

Independent as regards both the Company and its significant shareholders.

## The Board Committees

The proper function of the corporate governance of a company requires that Board work is organized as efficiently as possible. For this reason, the Company has established an Audit Committee.

The Directors on the Committee can concentrate on the matters delegated to the Committee more extensively than the entire Board of Directors. The purpose of the Committee is to enhance the efficient preparation of matters within the competence of the Board, increase transparency and ensure the quality and efficiency of the decision-making of the Board.

The Committee assists the Board by preparing matters falling within the competence of the Board. The Board remains responsible for the duties assigned to the Committee. The Committee has no autonomous decision-making power, and thus the Board makes the decisions within its competence collectively.

The Committee shall regularly report on its work to the Board. The reports shall include at least a summary of the matters, addresses and measures taken by the Committee.

The central duties and operating principles of the Audit Committee are described in the next chapter. The Annual General Meeting decides on the compensation of the members of the Board Committee and such compensations can be publicly viewed on the Company's website at [www.bittium.com](http://www.bittium.com).

### Audit Committee

The Audit Committee has the following duties:

- to monitor and assess the reporting process of financial statements;
- to monitor and assess the financing reporting system;
- to supervise the financial reporting process and risk management process;
- to monitor and assess the efficiency of the Company's internal control, internal audit, if applicable, and risk management systems;
- to monitor and assess how agreements and other legal acts between the Company and its related parties meet the requirements of the ordinary course of business and arm's length terms;
- to handle the Company's corporate governance statement and non-financial report;
- to monitor the Company's auditing;
- to monitor and evaluate the independence of the auditor and, in particular, the offering of services other than auditing services by the auditor; and
- to prepare the appointment of the Company's auditor.

The Chairman and the members of the Audit Committee are appointed by the Board of Directors of the Company. At least one member of the audit committee must have expertise in accounting or auditing. The Board of Directors elected in the Annual General Meeting held on June 15, 2020 decided in its assembly meeting held on the same day to elect Ms. Riitta Tiuraniemi (Chairman of the Committee), Mr. Juha Putkiranta and Veli-Pekka Paloranta as members of the Audit Committee. All members of the Committee are independent from immediate interest of both the Company and

its significant shareholders and they have long term experience in business management.

In addition to Committee members, other regular participants to the committee meetings are CEO, CFO and CLO who acts as the Committee's secretary and optionally external auditors. Further, the Committee members may meet the external auditors without the operative management being present in such meetings. In 2020, the Audit Committee convened six (6) times to ordinary meetings. The Committee has evaluated, prepared and reviewed, inter alia, the following subject matters during the financial period of January 1, 2020–December 31, 2020:

- Financial Statements of 2019;
- Business Reviews and Half Year Financial Reports of 2020;
- Annual audit plan for 2020;
- Observations based on auditing during the financial period;
- Starting to prepare the appointment of the Company's auditor;
- Observation by the internal control;
- Cash flow monitoring and evaluation of sufficiency of financing;
- M&A related issues and their effects on the result, balance sheet and financing status of the Group;
- Group legal structure related questions; and
- Impairment testing of the subsidiary shares and goodwill.

During 2021, the Committee's focus areas are:

- To monitor the further development of R&D processes; and
- To monitor the project related to the development of working capital.

## Chief Executive Officer (CEO)

The CEO is in charge of the operative management of the Company in accordance with the Finnish Limited Liability Companies Act, the Articles of Association as well as the instructions and orders given by the Board of Directors. The CEO is responsible for the preparation of the Board meetings and implementation of any decisions made therein. Further, the CEO is responsible for ensuring that the Company's accounting methods comply with the applicable law and that the financial matters are being handled in a reliable manner. The CEO prepares strategy, long-term planning, investments, mergers and acquisitions, financing and makes decisions thereof to the extent that such decisions are not tasks of the Board of the Directors. The CEO is responsible for financial planning, the Company's communications and investor relations.

The Board of Directors defines and approves the essential terms of the service of the CEO, including the CEO's remuneration, in the form of a written agreement. The CEO's service contract is effective until further notice and can be terminated by the Company with twelve (12) and the CEO with six (6) months' written notice.

The pension security of CEO is statutory and he does not have supplementary pension. According to the pension legislation, the lowest limit of the pension age for CEO is 65 years and 3 months at the moment.

### Hannu Huttunen

Chief Executive Officer, 2015–  
b. 1966, M.Sc. (Econ.)

#### Positions of trust:

- Advisory Board of Oulu University 2019–.
- Technology Industries of Finland, Member of the Board 2017–.

#### Previous work history:

- Elektrobit Technologies Ltd., President, Wireless Business Segment 2010–2015.
- Tekniseri Oy, Member of the Board 2012–2016.
- EXFO Inc., Vice President, Wireless Division (previously NetHawk Oyj) 2010.
- NetHawk Oyj, CEO 2003–2010, NetHawk Oy, Executive Vice President 2002–2003.
- Nokia Mobile Phones Oy, Vice President, IP Convergence 2002, Vice President Special Products Business 1998–2002, NMT450 Business unit leader 1995–1998.

#### Holdings Dec. 31, 2020:

Holds 12,000 shares in Bittium Corporation.





## Management Group

The management group supports the CEO in his tasks and consists of the CEO as the chairman, CFO, CLO, Vice President, Communications and Marketing, Directors responsible for product and service areas, Vice President responsible for Engineering and Senior Vice President responsible for Sales.

The management group supports the CEO in operative management, implementation and follow-up of the CEO's competence area, in particular as regards the operative business, the management and development of the business portfolio, asset management and taxation, internal audit, Corporate Governance of the Company, investor and marketing communications and risk management.

### Karoliina Malmi

Vice President, Communications and Marketing, 2015–. b. 1977, M.A. International Business Communications

**Previous work history:**

- Elektrobit Corporation, Corporate Communications Manager, 2015.
- Elektrobit Automotive GmbH, Corporate Communications Manager, 2013–2015.
- Elektrobit Corporation, Corporate Communications Manager, 2009–2013.
- Elektrobit Corporation, Internal Communications, 2006–2008.
- Elektrobit Group Plc, Communications, 2002–2006.
- JOT Automation Group Plc, Investor Relations and Communications, 2001–2002.

**Holdings Dec. 31, 2020:**

Holds 1,600 Bittium Corporation shares.

### Jari-Pekka Innanen

Vice President, Engineering, 2015–. b. 1968, M.Sc. (ME)

**Previous work history:**

- Elektrobit Wireless Communications Ltd., Vice President, Engineering, Wireless Business Segment, 2011–2015.
- Elektrobit, Senior Manager, WS Global Resourcing, 2007–2010.
- Elektrobit, Manager, Head of Global HW, 2006–2007.
- Elektrobit, Manager, Mobile Terminal Solutions, Head of HW Competence areas, 2006.
- Elektrobit, Manager, Mechanical Competence Center, 2003–2005.
- Elektrobit, Project Manager, 1999–2003.
- Elektrobit, Mechanical Designer, 1998–1999.
- Outokumpu Stainless Steel, Supervisor Cold Rolling Mills, 1994–1997.

**Holdings Dec. 31, 2020:**

Holds 6,000 Bittium Corporation shares.



## Kari Jokela

Chief Legal Officer, 2014–.  
b. 1969, LL.M., trained on the bench,  
Mag.lur. (Saarbrücken)

### Previous work history:

- Elektrobit Technologies Ltd., Senior Legal Counsel, 2012–2014.
- Elektrobit Corporation, Senior Legal Counsel, 2010–2012.
- Elektrobit Automotive GmbH, Senior Legal Counsel, 2008–2010.
- Elektrobit Corporation, Senior Legal Counsel, 2008.
- Polar Electro Ltd., Group Legal Counsel, 2000–2007.
- Asianajotoimisto Gilbert, Segall and Young Oy, Attorneys at Law Helsinki, attorney, 1998–2000.

### Holdings Dec. 31, 2020:

Holds 1,100 Bittium Corporation shares.

## Tommi Kangas

Senior Vice President,  
Connectivity Solutions, 2019–.  
b. 1971, Master of Engineering,  
Machine Automation

### Previous work history:

- Bittium, Sales Director, Connectivity Solutions Product and Service Area and Sales, 2015–2019.
- Elektrobit, Senior Account Manager, Wireless Solutions Business Segment, 2010–2014.
- Elektrobit, Key Account and Business Line Manager, Mobile Infra Solutions Business Area, 2009–2010.
- Elektrobit, Business Line Manager, Radio Network Solutions Business Unit, 2006–2008.
- Elektrobit, Project Manager, Radio Network base station project, 2004–2005.
- Elektrobit, Mechanical Chief Designer and Specialist, 2000–2004.
- Elektrobit, Mechanical Designer, 1998–2000.

### Holdings Dec. 31, 2020:

Holds 100 Bittium Corporation shares.

## Pekka Kunnari

Chief Financial Officer, 2015–.  
b. 1967, M.Sc. (Econ.), LL.M.

### Positions of trust:

- Partnera Ltd,  
Member of the Board 2019–2020,  
Chairman of the Board 2020–.

### Previous work history:

- Elektrobit Technologies Ltd., Vice President, Finance, 2011–2015.
- Elektrobit Corporation, Director, Finance, 2005–2011.
- Elektrobit Inc, Group Controller, 2004–2005.
- Elektrobit Group Corporation, Group Controller, 2003–2004.
- Elektrobit Ltd., Business Controller, 2001–2003.
- RPC Rapid Prototyping Center Oy, Finance Manager, 2000–2001.
- Tilintarkastajien Ltd. - Ernst & Young, Auditor, 1998–2000.
- Tuottotieto Ltd., Business Consultant, 1994–1998.

### Holdings Dec. 31, 2020:

Holds 3,000 Bittium Corporation shares.



### Sammy Loitto

Senior Vice President, Sales, 2018–.  
b. 1980, MBA, M. Eng. (Industrial Management)

#### Positions of Trust:

- Evismo AG,  
Member of the Board, 2020–.

#### Previous work history:

- Bittium Corporation, Director, Corporate Business Development, 2017–2018.
- Jolla Oy, Vice President, Sales & Business Development, 2016–2017.
- Gryphon Secure Oy, Vice President, Sales & Business Development, 2015–2016.
- Airbus DS Finland Oy, Senior Vice President, Sales, Solution & Product Management, 2009–2015.
- Telia Finland Oyj, Product Development Manager, 2004–2009.

#### Holdings Dec. 31, 2020:

Holds 200 Bittium Corporation shares.

### Arto Pietilä

Senior Vice President,  
Medical Technologies, 2016–.  
b. 1958, M.Sc. (Applied Electronics)

#### Previous work history:

- Bittium Wireless Ltd, Senior Vice President, Operations, 2015–2016.
- Elektrobit Wireless Communications Ltd., Senior Vice President, Operations, Wireless Business Segment, 2010–2015.
- Elektrobit Wireless Communications Ltd., Senior Vice President, Operations, Wireless Solutions Business Unit, 2008–2010.
- Elektrobit Wireless Communications Ltd., Executive Vice President, Mobile Terminal Solutions Business Unit, 2006–2008.
- Elektrobit Wireless Communications Ltd., Executive Vice President, Contract R&D Business Unit, 2004–2006.
- Elektrobit Technologies Ltd., Managing Director, 2004–2006.
- Elektrobit Ltd., Managing Director, 2002–2004.
- Elektrobit Ltd., Vice President, Contract R&D, 2001–2002.
- Polar Electro Oy, President & CEO, 1999–2001.
- Polar Electro Oy, Executive Vice President, 1996–1999.
- Polar Electro Oy, Technical Director, 1992–1996.
- Polar Electro Oy, Product Development Manager, 1986–1992.
- Polar Electro Oy, SW/HW Design Engineer, 1980–1986.

#### Holdings Dec. 31, 2020:

Holds 80,000 Bittium Corporation shares.

### Jari Sankala

Senior Vice President,  
Defense & Security, 2016–.  
b. 1966, M.Sc. (Electrical Engineering,  
Digital Communications)

#### Previous work history:

- Bittium Corporation,  
Senior Vice President, Sales, 2015–2016.
- Elektrobit Wireless Communications Ltd, Senior Vice President, Sales & Marketing, Wireless Business Segment, 2014–2015.
- Elektrobit Wireless Communications Ltd, Executive Vice President, Defence and Security, 2011–2014.
- NetHawk Group, Executive Vice President of Sales & Marketing, 2005–2011.
- NetHawk Germany, Managing Director, 2001–2005.
- Siemens AG, Sales Director Northern Europe, Mobile Networks, Germany, 1996–2001.

#### Holdings Dec. 31, 2020:

Holds 27,500 Bittium Corporation shares.



## Election and Remuneration of the Auditor

The Company shall have one (1) auditor that has qualified as Certified Public Accountant and if the auditor is not an auditing company as defined by the law, one (1) deputy auditor shall be elected. The term of office of the auditor expires at the end of the following Annual General Meeting.

The General Meeting 2020 re-elected Ernst & Young Oy, authorized public accountant firm, auditor of the company. Ernst & Young Oy has notified that Mr. Jari Karppinen, APA, will act as the responsible auditor. The General Meeting decided that the remuneration to the auditor shall be paid against the auditor's reasonable invoice.

The auditor's fees in 2020 amounted to EUR 102,000 (EUR 114,000 in 2019). Of the aggregate fees, EUR 85,000 was attributable to auditing (EUR 92,000 in 2019), EUR 15,000 to tax advice (EUR 7,000 in 2019) and EUR 2,000 to other services (EUR 15,000 in 2019).

## Main Features of Internal Control and Risk Management Processes Related to Financial Reporting Processes

### Risk Management

The purpose of risk management is to secure positive development of earnings of the Company and the continuation of the business by implementing risk management cost-effectively and systematically throughout the different businesses.

Risk management is part of the Company's strategic and operative planning, daily decision-making process and internal control system. Business objectives, risks and

risk management operations are combined through risk management as one chain of events.

### Main Principles of Organizing Risk Management

Company adheres to the risk management policy approved by the Board.

Risk management contains all actions, which are connected to setting up targets, identification of risks, measurement, review, handling, reporting, follow-up, monitoring and reacting to risks.

#### The Aim of Risk Management of the Company is to:

- systematically and thoroughly identify and assess all major risks, which threaten the achievement of objectives, including risks related to business operations, property, agreements, competence, currencies, financing and strategy;
- optimize business opportunities and secure continuation of business;
- recognize and identify uncertainties and subsequently develop the prediction of risks and measures needed to manage risks;
- take only calculated and assessed risks with respect to e.g. expanding the business, increasing market share and creating new businesses;
- avoid or minimize liability risks;
- ensure the safety of products, solutions and services;
- establish a safe working environment for the employees;
- minimize possibilities for unhealthy occurrences, crimes or misconduct by operating procedures, control and supervision;
- inform interest groups of risks and risk management; and
- be cost-effective in risk management.

#### The Aim of Risk Management is not to:

- exclude all risks at their entirety;
- adopt unnecessary control and management procedures; or
- take bureaucratic processes and procedures into use.

### Main Principles of the Risk Management Process

In connection with the strategy process and annual planning the CEO reviews business risks which could endanger the achievement of strategic or financial targets. Risk assessment reports are produced to support the strategy process. Strategic and operative risks are monitored through monthly reporting by businesses in the Board of the Company. Businesses must produce assessments of risks in their designated areas of responsibilities and provide action plans to manage risks as well as to report on measures taken including the stage and effectiveness of such measures.

### General Description of Internal Control and Operational Procedures

Internal control is a process applied by the Board of Directors, management and all levels of personnel in the Company to ensure that management has reasonable assurance that:

1. operations are effective, efficient and aligned with strategy;
2. financial reporting and management information is reliable, complete and timely made; and
3. the Company is in compliance with applicable laws and regulations as well as the Company's internal policies and ethical values including sustainability.

The first category addresses the basic business objectives, including performance and profitability goals, strategy, implementation of objectives and actions and safeguarding resources. The second category relates to the preparation of reliable published financial statements, including half year financial reports and condensed financial statements and selected financial data derived from such statements, such as earnings releases, reported publicly. The third category deals with complying with those laws and regulations to which the Company is subject to.



## Internal Control Framework of the Company

Bittium's internal control framework consists of:

- the internal control, risk management and corporate governance policies and principles set by the Company's Board of Directors;
- management overseeing the implementation and application of the policies and principles;
- finance function and business controllers monitoring the efficiency and effectiveness of the operations and reliability of the financial and management reporting;
- enterprise risk management process identifying, assessing and mitigating risks threatening the realization of the Company's objectives;
- monitoring possible agreements and other legal acts between the Company and its related parties;
- compliance procedures making sure that all applicable laws, regulations, internal policies and ethical values (including sustainability) are adhered to;
- effective control environment at all organizational levels including control

activities tailored for defined processes and creating group minimum requirements for product and service areas as well as for geographical areas;

- shared ethical values and strong internal control culture among all employees; and
- internal audit assignments reviewing the effectiveness of the internal controls as needed.

## Risks and Controls in Core Business Processes

Risk management procedures are in place for business processes in the form of defined control points:

- relevant process risks are identified;
- common control points/Company's minimum requirement control points are identified;
- common control points are implemented in business processes; and
- additional control points can be determined as needed at business or functional levels.

Control activities are the policies and procedures that help ensure that management directives are carried out. They help ensure

that necessary actions are taken to address risks to achievement of the Company's objectives. Control activities are set throughout the organization, at all levels and in all functions. They include various range of activities including but not limited to approvals, authorizations, verifications, reviews of operating performance, securing of assets and segregation of duties.

## Internal Controls over Financial Reporting

The Company's external financial reporting process, internal control and risk management systems are briefly described in this section. The main focus is on financial accounting and related controls.

### Financial Reporting Organization

The financial management of the Company is responsible for organizing the accounting, money transactions and other daily financial operations of the companies belonging to it as well as organizing the internal reporting that supports the business.

The tasks of the Company's financial administration consist of, inter alia, monthly consolidation of the Group entity, preparation

of quarterly financial reports and consolidated financial statements, management and investment of monetary assets of the Group, management of liabilities, protection against exchange risk, and transfer pricing. The finance function of the Company implements operative supervision under the CFO who reports any supervisory findings to the Audit Committee. The tasks and responsibilities of the accounting function of the parent company and each subsidiary are included in the job descriptions of the teams and employees.

#### Financial Reporting Systems

Consolidated financial statements are prepared by using the chosen consolidation tool. The accounting of the Group's subsidiaries is done by using the local accounting systems from which the actual figures are reported either manually or by automatic transfer to the group consolidation system. The accounting system in use includes general ledger accounting, accounts payables and accounts receivables. Current assets and payroll accounting is organized through various programs or purchased as an outsourced service. Purchase invoices are circulated through electronic invoice processing system. Global forecasts and budgets are prepared by using the forecast and reporting program.

#### Internal Controls

The Company's internal control mechanisms are based on policies, instructions, limited process descriptions, authorization matrix, financial reporting review meetings, and segregation of key accounting duties.

#### Compliance Procedures

Compliance processes are in place at all levels of the organization to ensure that all applicable laws, regulations, internal policies and ethical values, including sustainability, are adhered to. The management and businesses are responsible for following up developments in legislation and regulations in their respective areas and communicating them to the organization. The members of the Management Group are responsible for setting up adequate compliance controls and compliance related training in their units. CLO of the Company

coordinates the appropriateness and compliance of the compliance processes.

### Roles and Responsibilities Regarding Risk Management and Internal Control

The key roles and responsibilities regarding the Company's internal control and risk management are defined as follows:

#### Board of Directors

The Board of Directors is ultimately responsible for the administration and the proper organization of the operations of the Company. According to good corporate governance, the Board also ensures that the Company has duly endorsed the corporate values applied to its operations. The Board approves the internal control, risk management and corporate governance policies. The Board establishes the risk-taking level and risk bearing capacity of the Company and re-evaluates them on a regular basis as part of the strategy and goal setting of the Company. The Board reports to the shareholders of the Company.

#### Audit Committee

Audit Committee is responsible for the following internal control related duties:

- to monitor the reporting process of financial statements;
- to supervise the financial reporting process;
- to monitor the efficiency of the company's internal control, internal audit, if applicable, and risk management systems;
- to review the description of the main features of the internal control and risk management systems pertaining to the financial reporting process, which is included in the company's corporate governance statement; and
- to monitor the statutory audit of the financial statements and consolidated financial statements.

More detailed descriptions how the Audit Committee is fulfilling its monitoring role are defined in the Committee's annual plan. The Audit Committee reports to the Board of Directors of the Company.

#### Chief Executive Officer

CEO is in charge of the day-to-day management of the Company in accordance with the instructions and orders given by the Board. The CEO sets the ground for the internal control environment by providing leadership and direction to senior managers and reviewing the way they are controlling the business. The CEO is in charge of the risk management process of the Company and its continuous development, allocation of resources to the work, review of risk management policies as well as defining the principles of operation and overall process. The CEO reports to the Board on risk management as part of the monthly reporting. The CEO and the Management Group, which operates under the CEO, are responsible for the management of risks endangering the fulfillment of objectives set for the Company.

#### Management Group

The members of the Management Group are responsible for internal control implementation in their responsibility areas. More specific internal control policies and procedures are established within the principles set by the Board and CEO. Additionally, the management of the subgroup and the Group Management are responsible for implementing risk management practices in planning cycle and daily operations, and ensure the adherence of:

- laws;
- regulations;
- internal policies; and
- ethical values

in their designated responsibility areas.

The CFO:

- ensures a setup of adequate control activities for product and service areas in cooperation with the business management;
- follows the adequacy and effectiveness of control activities; and
- ensures that external reporting is correct, timely and in compliance with regulations.

Finance function does not have a separate internal control function. CFO reports any supervisory findings to the Audit Committee.

CLO ensures that the Group's corporate governance practices comply with the law and that legal matters of the Group are handled appropriately, in particular the contractual risks relating to business operations.

#### Internal Audit

The Company has no specific internal audit organization. This is taken into account in the content and scope of the annual audit plan. On the one hand, external auditing focuses on specific areas in turn to be audited, and on the other hand, on separately agreed priority areas.

## Insider Guidelines

The Company adheres to the Insider Guidelines for Listed Companies prepared by Nasdaq Helsinki Ltd (previously NASDAQ OMX Helsinki Ltd, OMX Nordic Exchange Helsinki Ltd and Helsinki Stock Exchange), the Central Chamber of Commerce and the Confederation of Finnish Industries. The Company has complemented the Guidelines by its internal insider guidelines. The insider and trading guidelines approved by the Company include regulations on insiders, publication and postponement of publication of inside information, prohibited use of inside information, insider registers, duty of notification of managers' and their closely associated persons' transactions, and personnel's own trading with the Company's financial instruments. The purpose of the guideline is to explain the content of the guideline published by Nasdaq Helsinki Ltd and other regulations and restrictions relating to the matter, and to unify and coordinate the processing of insider and trading matters within the Company.

The managers of the Company must comply with the EU Market Abuse Regulation's prohibition on dealing in the Company's financial instruments (closed period). In accordance with the Company's Board of Directors' decision, the Company has in addition determined certain time periods during which persons taking part in the preparations of the Company's financial reporting and other persons who have access to information pertaining to the Company's financial status are prohibited to trade the Company's financial instruments. The purpose of the trade restrictions is to control

trading of the Company's financial instruments, and thereby increase trust to the Company and the operation of the securities market. Trading with the Company's financial instruments is completely prohibited for the aforementioned persons for a period of 30 days before the publication of earnings information of the Company. The most common publications are the release of business review and half year report as well as release of the Company's financial statements. The restriction is applicable also to any possible preliminary information regarding the financial statements, and business review and half year report.

Persons included in a project-specific insider register are prohibited from all trading and business transactions until the project has expired or has been publicly announced. If the project falls upon another listed company or may affect the price of the financial instruments of another listed company, the project-specific insiders have no right to trade with such company's financial instruments.

The Company voluntarily maintains on its website a list of the financial instruments owned by the Company's managers or by the institutions operating under the authority of the managers. The list is updated on the last day of each month.

## Related Party Transactions

The purpose of Company's Guidelines on Related Party Transactions is to ensure that any business transactions involving persons belonging to the Company's related parties are made independently and based on market terms. This also applies to business transactions that otherwise may raise suspicions on whether the transaction was made on market terms. The Company assesses and monitors that any related party transactions promote the purpose and interests of the Company and are commercially justified and overall in the best interests of the Company and that any conflicts of interest are duly taken into account when making decisions on related party transactions.

According to the definition in the Limited Liability Companies Act, a related party

transaction is not part of the company's ordinary course of business or is made in deviation from customary commercial terms. This kind of related party transactions are uncustomary in the company's business. In addition to the general monitoring concerning related party transactions, the Company prepares a special report on transactions that are not part of the Company's ordinary course of business or are made in deviation from customary commercial terms.

The Company has defined its related parties according to the IAS 24.9 standard and maintains an up-to-date register of major business transactions between the Company and its related parties, the parties, and the key terms of such transactions. The information about the related parties is collected annually from the persons belonging to the Company's related parties and serving the Company. The Company monitors possible related party transactions as a part of its internal control. Roles and responsibilities regarding internal control are described on the Company's internet site. In addition, the above-mentioned persons are obliged to notify the Company's related party administration of any related party transactions which have come to their knowledge. Such notification must be made without delay after receiving such information. The transactions are considered major if their total amount exceeds € 20,000 during the financial period.

The Company's related party register is not public, and any information entered in it will not be disclosed to third parties, with the exception of any authorities and the auditor entitled to receive such information. Any major transactions to be performed with the Company's management and its related parties shall be approved by the Board of Directors.

The Company discloses the related party transactions relevant to the shareholders at the latest when the transaction is binding on the Company.

The principles of the Guidelines on Related Party Transactions are observed throughout the Bittium Group and in the decision-making concerning all of the Group companies.



# Sustainability Highlights in 2020



**COMPETENCE DEVELOPMENT**

Days of training  
4.2 days /  
employee / year



99.9%

**WASTE RECYCLING RATIO**

46.9

**CUSTOMER SATISFACTION SURVEY**  
NPS

81%

**EMPLOYEE SURVEY RESPONSE RATE**

58

**CUSTOMER PROJECT SATISFACTION SURVEY**  
NPS

↓ 6.1%

**ELECTRICITY CONSUMPTION**

1,130  
kg CO<sub>2</sub>e

**CARBON FOOTPRINT**  
1,130 kg CO<sub>2</sub>e  
/ person / year



**ISO 50001:2018**

**ISO 50001:2018**  
Energy Efficiency  
Management System  
Certificate

**SHARE OF SOLAR POWER**  
As high as 13.8% of the energy requirements of the Oulu office on a monthly basis







# CEO's Sustainability Review

Sustainability is reflected in our operations, products, product life cycles, supply chains and how we create value for the surrounding society through our business. Sustainability is based on Bittium's strategy and values – it is an integral part of our organizational culture. The sustainability program for 2020–2022 emphasizes themes such as well-being and development of our personnel, confidential customer relationships and information security of our products, good corporate citizenship and sustainable business practices, and environmental responsibility. Despite the global Covid-19 pandemic, in 2020, we have been able to advance our responsibility program, but we have not been spared the effects either.

In terms of personnel, 2020 was an exceptional year. In March, a large part of the personnel moved to remote working, and in production we changed the working hours to shift work. During this time, taking care of the well-being of the personnel has changed, and the importance of internal communication, taking care of the personnel and the supervisory work has become even more important. Team spirit, helping others, and engaging with the work community have been strengths that have carried us in an exceptional situation.

Trust is a prerequisite for our business. It is one of our three values, and relates to customer relationships, products, services and way of working. At the end of 2020, we had six certified systems and numerous standards in use and majority of them we have been taken into account in our day-to-day operations. We also demand a responsible approach from our suppliers. In 2020, we have specified the supplier guidelines prepared for our partners, and because of the pandemic, we have been forced to audit our suppliers mainly as self-assessments.

Bittium's corporate responsibility is guided by good governance, we are a reliable local partner and employer, and we constantly monitor how we add value to various stakeholders and the local community. For us, export control is a prerequisite for well-functioning cooperation between authorities and customers. The export control system is part of our management system, and during 2020 we have further developed our internal processes related to export control.

Responsibility for the environment, climate change mitigation and resource-efficient solutions are an important part of our operations and its development. In 2020, we achieved the goals we set for environmen-

tal responsibility. At its best, 13.8 percent of the utilized electricity at the Oulu premises came from solar energy. Our total carbon footprint was 735,490 kg CO<sub>2</sub>e, which means that our carbon footprint decreased by approximately 56.8% year-on-year. The decrease in the carbon footprint was due to, among other things, the significant decrease in the air traveling caused by the Covid-19 pandemic.

We will continue to strengthen and develop our sustainability with a clear mind in goals set to 2021.



**Hannu Huttunen**  
CEO

# Bittium in Brief

## Description of Operations

Bittium specializes in the development of reliable, secure communications and connectivity solutions, drawing on 35 years of expertise in advanced radio communication technologies. Bittium provides its customers with innovative products and services, customized solutions and product development services that are based on its product platforms, as well as proven information security solutions for mobile devices and portable computers. Bittium also provides its customers with health care technology products and services. These use cutting-edge biosignal measurement to provide detailed analyses for cardiology, neurology, rehabilitation, occupational health and sports medicine.

Sustainability is present in Bittium’s operations throughout the life cycle of its products, in procurement chains and in the way the company creates value for the surrounding society.

**In the Defense & Security product and service area,** Bittium offers globally leading products and services for its customers in the defense, security and public safety markets, aiming at strengthening the national security of independent countries.

**In the Connectivity Solutions product and service area,** Bittium provides its customers with R&D services and wireless connectivity solutions for the development of new innovative products in a secure and evolving wireless environment.

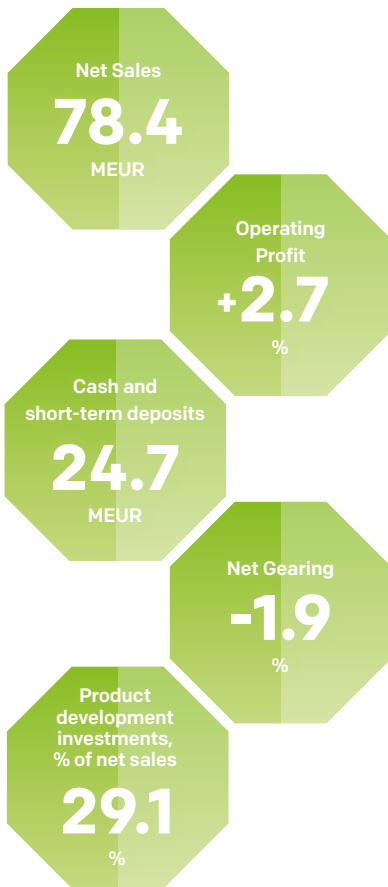
**In the Medical Technologies product and service area,** Bittium aims at promoting better health in society by providing products and complete solutions for the health care market in biosignals remote monitoring and diagnostics. This is based on the company’s long experience and deep knowledge of biosignal measurement, wireless communications and security technology.

## Strategy in a Nutshell

Bittium aims to be a significant global provider of secure and safe communications solutions in the defense and public safety markets and a leading provider of connectivity solutions and R&D services for different industries, as well as a significant provider of remote measuring and diagnostics solutions for measuring and analyzing biosignals.

Bittium’s business is divided into three product and service areas: Defense & Security, Connectivity Solutions and Medical Technologies.

Bittium has made significant investments in the future by considerably increasing R&D investments in in-house products and solutions. These investments provide an excellent foundation for future growth. The company will continue to invest in product development and the development of its operations in accordance with its strategy to enable international growth. Bittium also continues to search for inorganic growth opportunities in all of its product and service areas. The company is prepared to invest in acquisitions that strengthen its growth strategy.





## Our Value Creation Model

### Our Key Resources

#### People

- Almost 700 specialists
- Investments in employee well-being and competence development

#### Customer Relationships

- Wide customer base in the public and private sector

#### R&D and materials

- A corporate culture that supports innovation
- Investments in product development
- IPR management
- Sustainable materials purchasing

#### Profitable and Responsible Business

- Strong balance sheet
- Investments
- Sustainable approach to business
- Comprehensive quality, environment and safety systems
- Sustainable use of natural resources (energy and water)
- Compliance processes

#### Stakeholders

- R&D cooperation
- Cooperation with stakeholders and the authorities
- Trust-based partnerships

### Our Mission

We adapt our deep knowledge to deliver superior technology innovations to enhance connectivity, bring safety and improve health in the society.



Our product and service areas deliver solutions that enable our customers to respond to the changes and opportunities created in the operating environment by new technologies.



## Outputs and Impacts

### Customers, Products and Services

- Customer relationships based on trust
- Long-term partnerships
- Secure products with long life cycles featuring state-of-the-art technology
- Secure communication and connectivity solutions
- Reliable and advanced solutions for remote monitoring in health care
- Minimizing product life cycle impacts
- Quality, productivity and information security

### Society and the Environment

- Taxes, salaries and wages
- Active role in the partner network
- Added value created by R&D
- High-end technology solutions to meet the growing needs of society
- Optimizing energy and water consumption in our operations and in all stages of the life cycle of our products
- Enabling cost savings in health care through technology solutions

### Innovative Experts

- Innovative experts with a high level of well-being
- Continuous competence development
- Meaningful work and a supportive working environment

### Investors

- A profitable and stable investment

## The megatrends affecting the business

A megatrend that has a huge effect on Bittium's operations is **digitalization**, the different manifestations of which create both business threats and business opportunities.

### Rapid technological development as an enabler of digitalization

The rise of embedded software, the management of complex systems, and the rapid development of technology create opportunities to provide added value to Bittium's customers. To maintain competitive edge, Bittium must continue intensifying the in-house technological development.

### The Internet of Things (IoT)

The growing importance of IoT requires the integration of operating processes and secure IoT solutions to achieve efficiency advantages. The tools and approaches used in developing Bittium's operations include robotic process and testing automation as well as data visualization. The company develops challenging IoT solutions with high information security requirements for its customers.

### Digitalization and the ageing population

The ageing of the population and population growth make the digitalization of health care crucial for maintaining the productivity and coverage of services. Remote monitoring, wireless solutions, new home-based care methods as well as faster and more efficient health data analysis are among the technological solutions Bittium has developed for its customers.

### Information security

The progress of digitalization and technologies brings with it an increase in information security threats. Cyber security is one of the most significant threats associated with digitalization. Stricter information security and regulatory requirements are reflected in the operations of the company and its customers. The requirements are also expanding to cover new sectors and applications, and the importance of information security certification is growing. Bittium recognizes these rapidly increasing sector-specific requirements and keeps itself on the leading edge of the industry in responding to them.

# Sustainability Management

## Sustainability Organization and Risk Management

The Board of Directors of Bittium Corporation discusses sustainability issues on the basis of the Management Group's proposals, and the Audit Committee discusses and prepares sustainability-related matters as needed.

The Management Group discusses sustainability issues, monitors the effectiveness of sustainability measures and sets sustainability targets in its twice-yearly management review. The Management Group is also responsible for implementing sustainability plans and actions in day-to-day operations.

In addition, Bittium has a specific sustainability working group that is responsible for

the monitoring of sustainability, the impact assessment and reporting of sustainability measures as well as sustainability risk management and assessment. The working group has six (6) members: CEO; Chief Legal Officer; Vice President, Communications and Marketing; Director, Human Resources; CFO; and Head of Quality, the Environment and Technology Management. The responsibility working group holds quarterly meetings and prepares the sustainability report. The Bittium management and the Board of Directors review the sustainability report annually.

The sustainability report describes the applicable methods that guarantee a sufficient level of diligence. The management of risks related to operations and the operating environment as well as the relevant processes are described in Bittium's Corporate Governance Statement.

## Bittium's Ethical Principles and Code of Conduct

Bittium's ethical principles comprise the following areas of sustainability:

### 1) Anti-corruption

The nature of Bittium's market area and business sector makes corruption one of the main risks related to social responsibility and human rights. Bittium does not condone any forms of bribery or corruption in its operations or those of its partners. Bittium updated its internal and external anti-corruption guidelines in 2017. The employees receive training on the guidelines.

Bittium expects its partners to comply with these guidelines. The company uses a monitoring tool for detecting corruption and other ambiguities in the operations of its partners.

The external and internal stakeholders are provided with a channel for reporting violations of anti-corruption rules. There were no cases of corruption reported to Bittium in 2020.

### 2) Information security and data protection

Bittium's information security and data protection policies specify the methods employed in the classification, storage and disclosure of information.

### 3) Fair business, advertising and competition

Bittium follows the rules on fair business, advertising and competition. The company has access to different methods of securing customer information in accordance with information security procedures.

### Sustainability Management at Bittium



#### 4) Corporate citizenship

The company supports community involvement in order to promote social and economic development.

#### 5) Protection of intellectual property rights

Bittium respects intellectual property rights and applies its IPR strategy and guidelines to all of its operations.

Sustainable procurement is also an essential part of Bittium's sustainable business operations. The principles of sustainable purchasing have been described in greater detail in 'Confidential customer relationships and secure products'.

## Stakeholder Cooperation

Bittium's operations affect many different stakeholders. Understanding their views and expectations is important for the company's operations and success. Open dialogue with the stakeholders helps to develop Bittium's operations, products and solutions as well as a goal-driven approach to finding solutions to social challenges.

Bittium works in cooperation with national as well as international stakeholders. The stakeholders include the employees, customers, different actors and other third parties, partners, the authorities, shareholders and analysts as well as different communities. The company's stakeholder-related activities are guided by Corporate Governance and Code of Conduct.

In 2019, Bittium conducted a stakeholder survey related to the company's sustainability. Based on the survey, four (4) sustainabil-

ity focus areas were selected for the company, of which three (3) focus areas were the same as in previous years. Concerns about climate and the environment were raised in a stakeholder survey, and the theme was raised as the fourth focus area for Bittium's responsibility from 2020 onwards.

In 2020, the Covid-19 pandemic had a significant impact on the cooperation with stakeholders. The travel restrictions and quarantines have prevented face-to-face meetings, and communication over the internet has become the new norm.

#### Personnel

Each year several different staff events are arranged. In these, the employees get the opportunity to ask questions and give feedback. The management's physical presence at these events and the opportunity to ask questions have constituted an important part of communication. In 2020, for reasons attributable to the Covid-19 pandemic, all staff events were held online to safeguard the staff's health and the continuity of business. The situation was made easier by the fact that Bittium is an international player and online meetings have been routine for the company for years. Therefore, arranging online events for the entire staff did not involve much extra effort or costs.

In addition to staff events, the employees can give feedback through the annual anonymous employee survey. Equal treatment and open interaction are important to the employees. They expect interesting and meaningful work and opportunities for professional growth. In addition to the annual employee surveys, the company introduced Pulse surveys in 2020. At first weekly, then monthly arranged surveys focus on the

staff's well-being during the Covid-19 pandemic.

According to a stakeholder survey conducted in 2019, Bittium employees considered the training opportunities important and motivating, although the constant rush in the projects was perceived as a challenge for the training. Finding a balance between these was considered important from the perspective of innovation and development. There has been a constant effort to improve this.

Internal responses also raise concerns about the challenges posed by tight schedules in product development and customer projects. Particular attention has been paid to this when planning the project schedules.

The responses from external stakeholders reflected the impression that people, their well-being and development are well taken care of at Bittium. From an external point of view, taking care of the well-being of the staff was considered important.

#### Customers

Bittium gets constant feedback from its customers, primarily by continuously staying in touch with them and through various annual surveys. The surveys are arranged online. The Scrum and Agile methods and the supporting online systems (as real-time as possible) allow ongoing monitoring and open dialogue. This enables quick reacting to potential problems.

Bittium's customers value competitive and reliable products and services as well as sustainable and real-time approach to the operations. The company's major customers are leading international players in their respective fields. Therefore, the travel

restrictions imposed in 2020 as a result of the Covid-19 pandemic have had some impact on on live customer communication. Many matters that would be normally discussed face to face have been taken care of online. These include, for instance, product and project inspections or approvals.

According to a stakeholder survey conducted in 2019, the responses of external stakeholders strongly reflect the company's success in building and achieving trust with customers. Customer feedback emphasized the company's responsible way of operating and its success.

#### **Suppliers and partners**

When it comes to Bittium's suppliers and other partners, the company has often worked with them in close cooperation for a long time following established rules and ways of working. Constant communication enables open dialogue. The suppliers and partners expect fair and sustainable operations and long-term cooperation. Mutually, Bittium expects the suppliers and partners to work in a sustainable way, and monitors this on a regular basis. The Covid-19 pandemic did not have a material effect on cooperation with our suppliers and partners.

#### **Authorities**

Bittium maintains a regular line of communication with the authorities, for example, with regard to export control and information security issues. The company regularly monitors its compliance with the laws and regulations. Applying them to business operations requires open and ongoing interaction with the authorities. The communication with the authorities has always been mainly virtual. Therefore, the Covid-19 pan-

demic did not have a material effect on cooperation in 2020.

#### **Local cooperation**

As part of sustainable corporate citizenship, Bittium actively collaborates with different communities. The expectations of different communities are met in a variety of ways. Bittium regularly supports educational institutions and schools to introduce young students to working life – and not forgetting the teachers. Thanks to this collaboration, Bittium is also able to recruit new and enthusiastic graduates. The company's support to schools and educational institutions temporarily reduced in 2020 because of the Covid-19 pandemic. The workplace visits and admitting students to practical training were prevented by the restrictions on gatherings and meetings.

Research and development cooperation with companies and research institutions broadens the company's expertise and makes it possible to mutually promote development. This cooperation is mainly carried out online, and the Covid-19 pandemic had no material effect on the progress of cooperation.

In a stakeholder survey conducted in 2019, staff gave mainly positive feedback on the company's local cooperation, but hoped the company would be even more involved in local events and community projects. Efforts are being made to increase activity especially after the Covid-19 pandemic.

#### **Shareholders and investors**

Shareholders, investors and analysts expect Bittium to provide long-term value and act in a sustainable manner. Discus-

sions with them are held at various events and the Annual General Meeting. Because of the Covid-19 pandemic-related travel and gathering restrictions, the Annual General Meeting for 2020 was held online in place of a physical meeting. Similarly, all the other investor and analyst meetings and events were arranged online.

A stakeholder survey conducted in 2019 revealed investors' disappointment with the company's external communication. The company's external communication and participation in virtual investor meetings has been increased where possible.



# Sustainability Program 2020–2022

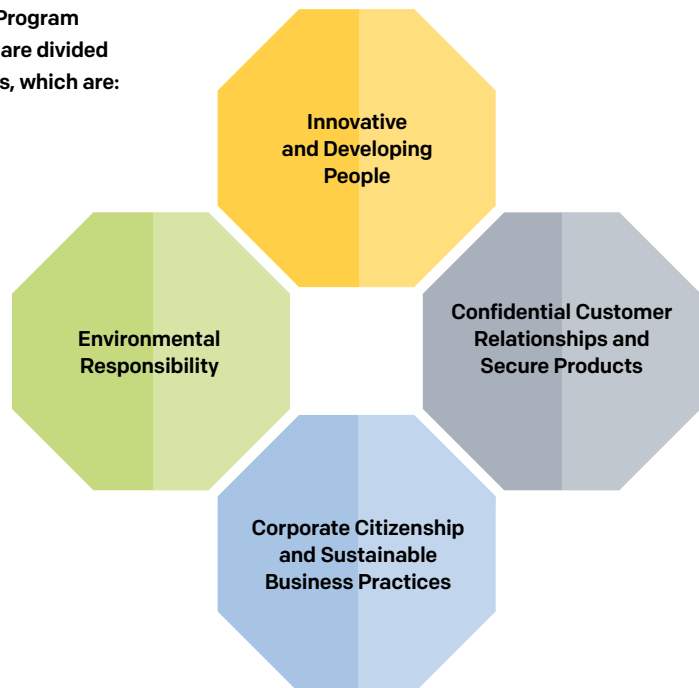
Bittium is a global technology company that aims to adapt its deep knowledge to deliver superior, socially beneficial technical innovations that enhance connectivity, bring safety and promote health care in society. Bittium's sustainability program is based on the company strategy, values, stakeholders' expectations and the megatrends in the operating environment. It is part of the company's organizational culture, its way of acting and creating value for the surrounding society.

Bittium's sustainability program relies on the materiality analysis conducted in 2019, on the basis of which the focus areas of

sustainability were defined. The program is composed of the development targets and actions of the focus areas as well as the related performance indicators. Bittium continuously monitors and improves its sustainability efforts. The achievement of the targets specified in the sustainability program are monitored annually against various performance indicators. Progress with the program and toward the targets is reported annually in Bittium's sustainability report.

The next chapter, "Sustainability at Bittium", describes in more detail the objectives, indicators and development of the focus areas.

**Sustainability Program  
and its targets are divided  
into focus areas, which are:**



# Sustainability at Bittium

## Economic Impact

For Bittium, economic impact means ensuring the long-term profitability of the company's business. This creates added value for various stakeholders and the surrounding society. Profitable operations create economic benefits for shareholders, employees, partners, subcontractors, distributors, customers, municipalities and the state.

Legal compliance is the basic premise of economic responsibility. However, in many respects, Bittium's sustainability and impact exceed the legal requirements.

### Creating Added Value for Stakeholders

With respect to Bittium's economic impact, the local dimension is what matters most. Local added value is generated especially through Bittium's direct and indirect employment impact. On a larger scale, Bittium's impact extends via tax payments, dividends and business impacts into the operating countries around the world.

Bittium is present in Europe, the Americas and Asia. The majority of employees work in Finland, more than half of them in the city of Oulu.

Ensuring added value means securing long-term growth and financial stability, comprehensive risk management and a long-term commitment to the development of society and local communities. In addition to financial risks, risk management must take into consideration other risks related to the valuation of the company, such as reputational risks.

Bittium's business must respond to the changes in the operating environment to maintain profitability and future competitiveness. The technological transformation and the resulting technology solutions create both opportunities and threats for the company — changes that must be taken into account already during the product development stage.

## Tax Footprint

Taxes are part of Bittium's business process, and tax management supports the company's strategy. Bittium is present in five countries and its business profits and the resulting taxes are generated locally.

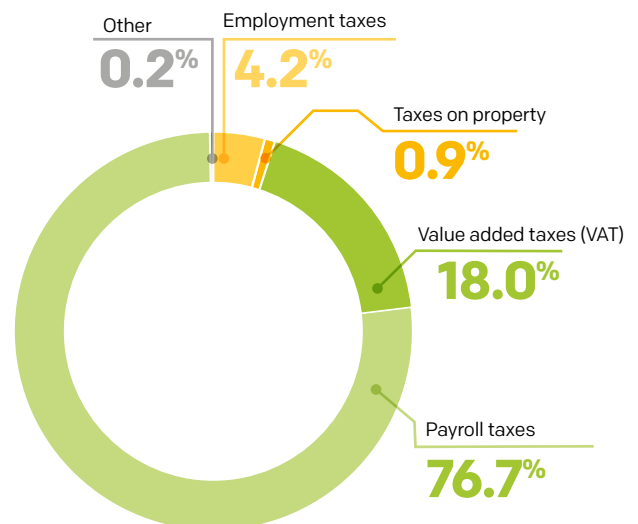
Bittium's tax strategy is to support business decisions and ensure their proper execution also from the perspective of taxes. Tax planning supports business efficiency and productivity, creating added value for shareholders and ensuring regulatory compliance. Bittium's tax planning is not aggressive and it is always based on actual business needs, instead of artificial arrangements.

Bittium's tax strategy aims at making sure that taxes are calculated, reported and paid correctly to the authorities, conforming to the established regulations. Bittium is committed to complying with the laws of our operating countries as well as lower-level regulations, such as the OECD transfer pricing guidelines. Good corporate citizenship is

## Tax Footprint 2020

MEUR

	2020	2019
<b>Taxes collected</b>		
Value added taxes (VAT)	-2.2	-2.9
Payroll taxes	-9.6	-10.1
<b>Total</b>	<b>-11.8</b>	<b>-13.0</b>
<b>Taxes borne</b>		
Employment taxes	-0.5	-0.3
Taxes on property	-0.1	-0.1
<b>Total</b>	<b>-0.7</b>	<b>-0.5</b>
<b>Taxes total</b>	<b>-12.5</b>	<b>-13.5</b>



part of Bittium's values. Accordingly, the quality of tax processes is an important cornerstone of Bittium's tax strategy. The guiding principle is to be open and transparent with the tax authorities in all the countries in which the company is present.

In Finland, Bittium works in close cooperation with the Large Taxpayers' Office of the Finnish Tax Administration.

## R&D Investments

Bittium operates in a sector that creates products and services for the future through continuous development, innovations and cross-sector cooperation. The company plays an important role at the leading edge of technological development, and active cooperation with academic researchers increases understanding of significant new technologies and promotes the digitalization of society. Bittium has a close and long-established cooperation relationship with the University of Oulu.

In 2020, Bittium took part in several national projects financed by Business Finland as investors and research partners. On the broader European stage, the company's cooperation activities included, for instance, ITEA and EIT cooperation projects. The focus areas of these cooperation projects included technologies that are critical for Bittium's future product and service business, such as communications solutions for the public authorities based on LTE and 5G technologies, information security in products and future factories, AI, machine learning and high-quality software development methods.

In 2020, product development investments represented 29.1 percent of net sales (2019: 33.4%, 2018: 34.4%). The investments focused mainly on the development of products related to the tactical communications system targeted to the defense industry; the development of various devices and special terminal products for the authorities, including related security software; and the development of medical technology products.

## Stakeholders and Economic Impact in 2020

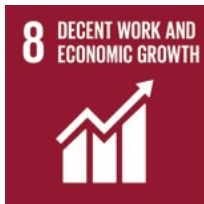


Share Price Average 2019-2020





# Sustainability Focus Areas



Bittium monitors the progress of each focus area using selected indicators in accordance with its sustainability program and continuously develops the operations and performance.

The most important resources of Bittium’s business are highly competent people, a diverse work community free of discrimination, and taking care of employee well-being and competence. Bittium provides its employees with challenging and motivating jobs and undertake to support their development and invest in their well-being.

Bittium is a reliable operator for all of its stakeholders. The company’s stakeholder engagement is guided by good corporate governance as well as ethical principles and Code of Conduct. In customer relationships, sustainability is reflected in the way of working, the quality of products and the trust that characterizes the company’s customer relationships. Trust is the starting point for Bittium’s operations.

Sustainable business practices are a cornerstone of Bittium’s operations. It provides a solid foundation for risk management and represents a core value as well as a competitive advantage. Sustainability helps the company with long-term value creation.

Responsibility for the environment, the mitigation of climate change and resource-efficient solutions are key aspects of Bittium’s operations and their development. By maximizing the service life and recyclability of our products, their total life cycle impact can be influenced. The company also

strives to minimize the environmental impacts of its operations. The company’s performance is monitored through the environmental program.

## Alignment with the UN’s Sustainable Development Goals

Bittium has evaluated the themes associated with the focus areas of its sustainability program with the UN Sustainable Development Goals and identified the goals that its already taken into consideration and promoting its operations. Based on the selected focus areas of sustainability, the following UN SDGs are of particular relevance the company:

- 3** Good health and well-being
- 8** Decent work and economic growth
- 9** Industry, innovation and infrastructure
- 12** Responsible consumption and production
- 16** Peace, justice and strong institutions
- 17** Partnerships for the goals





**FOCUS AREA #1**

# Innovative and Developing People

The year 2020 was very exceptional for the personnel. A major change was seen in March, when approximately 70 percent of the employees started teleworking because of the Covid-19 pandemic. Face-to-face communication was largely replaced by virtual meetings. In addition to project meetings, staff events, coffee meetings and internal product demonstrations were held on-line. Taking care of employees' well-being took different forms, and the importance of managerial work was emphasized.

Goals	Actions	Performance Measures	Examples of Results
Employee well-being and engagement	Creating employee experience and sense of community in exceptional circumstances. Extra support for supervisory managerial work was aligned.	Results and scope of the employee satisfaction survey	The total result (average of all questions ) in employee satisfaction survey improved to 3.83 points on scale 1-5 (3.72 in 2019).  The response rate of the survey rose to 81% (80% in 2019)
Competence development	Increasing and enabling training and taking special competencies into consideration	Time spent on training per employee	4.2 days/employee
Developing the employer image	Increasing awareness of Bittium and communicating the company's strengths	External employer image survey	Execution postponed to 2021.
	Developing the employer image internally	Bittium employee survey (BES)	BES section: Bittium as a company and employer improved and was 3.53 (2019: 3,32) on scale 1-5

Bittium switched to remote working in March 2020. This ensured that the company was able to provide its customers engaged in very critical industries with the products and services they needed, despite the exceptional circumstances. Owing to the nature of the company's business, approximately 25–30 percent of the employees cannot work from home. They include people working in production and laboratories as well as employees whose job requires working in security-classified areas. By assigning 70 percent of the employees to remote work, those remaining in the workplace were protected from being infected with the coronavirus.

Travel and visit bans were issued at an early stage. The company established an internal Covid-19 working group, and an information website for the personnel was launched in March. Remote work instructions were prepared for the staff. The production started working in shifts.

The Pulse survey, conducted monthly, is used as an employee feedback channel to make remote work easier and keep up the spirit. By sharing the results, the company made an effort to enhance the sense of community and share experiences during the exceptional circumstances and, where needed, address any issues that come up.



**THE GLOBAL GOALS**  
For Sustainable Development

Alignment between  
the Focus Area and  
the UN's Sustainable  
Development Goals



**Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.**

**8.7** Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers, and by 2025 end child labor in all its forms.

**8.8** Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.

- We ensure that our subcontractors act in accordance with our Supplier Requirements, which include the observance of human rights in activities that are directly related to our operations. We published the Supplier Requirements on our website.
- We monitor employee well-being in various ways, and our company applies clearly defined practices to support work ability. We maintain up-to-date safety plans as well as an equality plan. Safety issues are taken into account in our orientation training program. The employee benefits provided by our company have been selected to support mental and physical well-being and build a strong sense of community.



**Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.**

**9.5** Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.

- We make significant investments in our R&D activities to support our renewal and maintain an innovative and competitive portfolio of products. In 2020, R&D activities represented 29.1 percent of our net sales (2019: 33.4 percent).
- We create opportunities for our personnel to continuously develop their competence through studying as well as internal and external training. Our diverse and varying tasks enable continuous on-the-job learning and development. We encourage our employees to share their knowledge openly.

## Company Culture and Innovation

Bittium's values are trust, courage and innovation. These values are an integral part of everyday work and the company culture of participation and discussion. The employees evaluate the realization of the values in the annual employee survey. On a scale from 1 to 10, the grades for trust, courage and innovation were 8.06, 7.34 and 7.38, respectively. The company culture is characterized by a flat organization, low level of hierarchy, agility and openness. Bittium's employees share a passion for technology and learning.

Innovation is always present in Bittium's work. The company supports innovation in various ways, including encouraging and diverse company culture, working methods and business premises. Ultimately, the innovative approach is reflected in R&D and work with customers.

In 2020, Bittium continued the initiative launched in 2019 to develop the company's organization and working methods according to the principles of autonomy, agility and a coaching approach to leadership. The selected development areas included meeting routines, orientation training processes, strategy communications and the launch of change agent activities.

The Covid-19 pandemic caused the company to change its meeting practices: since March, meetings have mainly been virtual. As part of the development of the orientation training process, a new tool that works as a platform for the orientation training material and training sessions as well as various eLearning courses, was introduced. A specific eLearning module for strategy communications was prepared. The change agent activities continued, with the change agents participating in the orientation training of new employees.

Aiming for the renewal of the company's organizational model, the Kilta ("Guild") pilot, launched in 2019, was continued. The objec-

tive is to increase the autonomy and influence of the personnel in the different technical competence areas with regard to the organization of their work and the development of their competencies. Two "Guilds" were established in 2020.

## Employee Survey and the Employee Experience

Innovation requires motivated employees with a high level of well-being, good managerial work and a sense of community. The annual Bittium Employee Survey (BES) is an important tool for developing well-being at work and job satisfaction and to enhance the employee experience. The results of the survey are discussed at all levels of the organization, from the Board of Directors and Management Group to individual teams.

In the 2020 employee survey, the response rate rose to 81 percent, compared with 80 percent in the previous year. Measured with the average for all questions, the result improved from the previous year (2020: 3.83, 2019: 3.72).

The sections of the survey, consisting of 50 statements, are as follows:

- My work
- Bittium as a working community
- Bittium as a company and employer
- Managerial work
- Projects.

The results for all of the sections improved, but the strongest improvement from 2019 was seen in the section Bittium as a company and employer. During the exceptional circumstances, the importance of internal communication, caring for the staff and managerial work is strongly emphasized. Team spirit, support for colleagues and commitment to the working community are strengths that help the company to go on even in situations in which the ways of working are suddenly transformed.

**"The strongest improvement was seen in the section Bittium as a company and employer."**

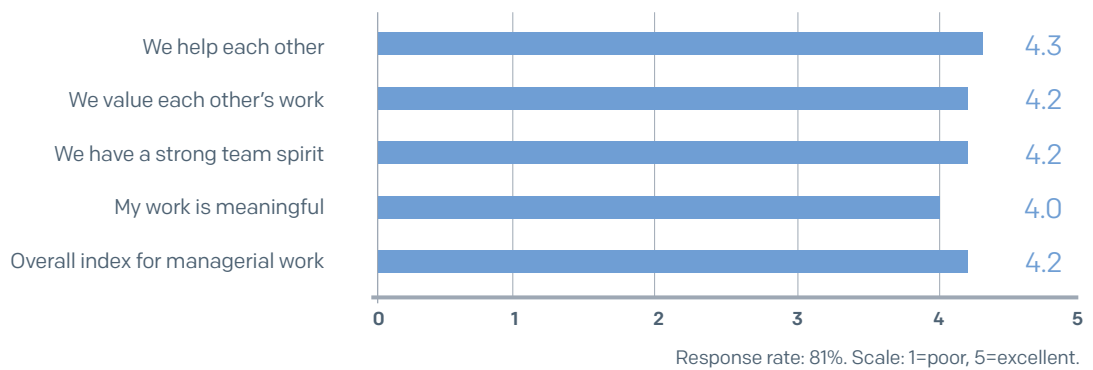
The focus areas for 2020 were the development of project management and process agility as well as the improvement of internal communication. The Covid-19 pandemic has made internal communications a priority, and it's been developed in many ways. In addition to communications associated with the exceptional circumstances, the business' status and the general picture have been communicated more actively than before. According to the feedback from the employees, during the exceptional circumstances internal communication has been successful, and employee satisfaction with communications has improved overall.

The company has worked on project management as a whole, including project management materials, as part of the development of the orientation training process and related tools. However, the implementation of the Leadership section, which focuses on a coaching approach, was postponed. It was rescheduled for 2021 to enable face-to-face implementation. The networking of project managers and team leaders is considered important, so that knowledge, good practices and peer support can be more efficiently distributed across organizational borders. Many measures and surveys have been carried out to make the processes more agile. This work will continue in 2021.

According to BES (Bittium Employee Survey) 2020, it is particularly important to continue improving the processes and renew the organization and working methods as well as promote the meaningfulness and autonomy of work.



## Bittium Employee Survey 2020: highlights related to sustainability



## Competence Development and Performance Reviews

In accordance with the performance review model, the employee and supervisor have an informal quarterly discussion (Quarter Chat). The employees also have the option to agree to have a separate longer conversation, especially with regard to a long-term competence development plan. This actual performance review is held at a time that effectively supports competence development.

A key objective of the switch to more frequent, regular discussions has been to take into consideration individuality, support well-being at work and build trust in the relationships between supervisors and subordinates.

The Covid-19 pandemic has also changed the nature of managerial work. Therefore, the company has paid particular attention to this area. The managerial work has been supported by means such as arranging supervisor meetings every two weeks.

Similar to previous years, promoting the development will be continued of expertise in areas such as software life-cycle process development and management, increased use of efficient operating models, and programming languages. Expertise in new technologies will also be promoted, including software robotics, machine learning and artificial intelligence as well as 5G and wireless communications technologies.

In 2020, partly owing to the Covid-19 pandemic, the competence development of Bittium's staff has focused on the development and reinforcement of internal working methods in areas such as system and testing automation of agile methods. Employees have participated in training and eLearning courses e.g. in modern C++ and embedded software programming and robotics.

The employees are encouraged for self-development and training. In 2020, the average number of training days was 4.2 per employee. This covers both internal and external training, including orientation training and independent study. Internal training may also involve learning at work or sharing of expertise, and external training may involve self-study.

## Well-being and Occupational Safety

At Bittium, the majority of work involves R&D and product (software) development. Therefore, the most significant disability risks include musculoskeletal diseases, coping at work and mental well-being. The risks associated with manufacture and manual work are a relatively small concern. Project-based work is prevalent, and the schedules and workload may vary greatly depending on the situation.

Employee well-being is supported by occupational health care services that are more extensive than required by law, as well as other employee benefits. During the Covid-19 pandemic, the employees have

been informed about occupational health services, such as the digital clinic and remote appointments. Information about ergonomics has also been provided, and the employees have access to the services of an occupational physiotherapist and the Cuckoo Workout application.

Since March 2020, Bittium's Covid-19 working group has met several times a week. It focuses on monitoring the pandemic as well as planning, implementing and communicating the pandemic-related measures. Furthermore, the OHS cooperation between offices was intensified and weekly meetings initiated.

All Bittium offices have appropriate safety plans in place. Some of the employees perform duties in which it is of particular importance to ensure electrical safety.

The Close Call reporting channel enables employees to report potential safety and 'close call' concerns on the company's intranet. In 2020, two observations were reported.

Bittium's HR management and OHS function analyze occupational accidents at regular intervals and whenever particular risks emerge. In 2020, there were three occupational accidents reported at Bittium companies in Finland. Two of the accidents occurred during commutes and one in the workplace. One of the accidents caused a temporary disability.

## Human Rights, Equality and Diversity

Bittium treats all employees and employee candidates equally regardless of their gender, age, ethnic background, political views or other background factors. The company's equality plan is based on the Finnish Act on Equality Between Men and Women. The realization of equality at work is assessed in employee surveys from the perspectives of pay, career development and recruitment.

The extensive annual employee survey enables Bittium to address equality and non-discrimination themes. Therefore, the company doesn't carry out a specific equality survey each year. The previous equality survey was conducted in 2018. Its results are discussed under Employee survey and the employee experience.

From the aspect of managing and developing diversity, it is important to take into account different backgrounds and skills and to put them to good use. Participatory and coaching supervisor work plays an important role in this.

The principles concerning the diversity of the Board of Directors are defined in the Corporate Governance Statement.

The vast majority of Bittium's employees work in countries with progressive human rights legislation. The subcontractors and partners are required to adhere to Bittium's Supplier Requirements, which also discuss the company's approach to human rights questions. Because of the Covid-19 pan-

demia, this year the compliance has been evaluated with the requirements only on the basis of self-assessments. Normally, the company also carries out on-site audits. In 2020, no violations or significant non-conformities related to the use of child labor, forced labor, inappropriate disciplinary action, physical punishment, or health-related discriminatory practices were observed in Bittium's or its subcontractors' operations.

## Enhancing the Employer Image

Skilled, motivated and committed professionals constitute Bittium's most important resource. The company's strengths as an employer include diverse tasks and development opportunities through work on various technologies, products and projects. Bittium employees have a strong team spirit and feel that they are appreciated by their colleagues and the workplace community.

New employees are asked to complete an employer image survey after 4–6 months of employment. The latest survey, carried out in October 2020, was answered by 15 employees. On a scale from 1 to 10, Bittium's grade was 8.6, compared with 7.67 in the previous employer image survey.

Bittium's external employer image is also strengthened by the open-for-all webinars launched in autumn 2020. During the autumn, four webinars were held. Their themes focused on generating added value for the customers in different industries. The webinar series is intended to continue in 2021.

## Active Engagement

Since March, interaction between the employees and teams has been mainly virtual. Normally, the employees' collective spirit and activity is promoted also outside the working hours in the form of various clubs, physical exercise and activities. In 2020, the club activities were mostly on pause, and they were replaced with informal virtual coffee breaks and team contests, for instance. In addition, for the second time, several teams from Bittium participated in the Kilometrikisa cycling challenge. Staff events and parties are an important way of acknowledging employees. However, this year it was not possible to arrange any such get-togethers.

Bittium engages in active cooperation with educational institutions. For the company, the cooperation provides an important recruitment channel for future talents and also an opportunity to portray a career in technology as an attractive and interesting future opportunity. What is it like to work for a technology company can be demonstrated on visits to educational institutions. In 2020, such visits were not possible because of the Covid-19 pandemic. The company has an intention to continue them as soon as it becomes possible again.



## Personnel in 2020

At the end of 2020, Bittium had 684 employees in Finland, the United States, Mexico, Singapore and Germany. 99% of employees are based in Finland. Most of the employees are R&D engineers.

### AVERAGE AGE

**43**

### YEARS AT BITTIUM

**8.7**

### RETIRED

**2**

### WOMEN

**12%**  
total

**11.4%**  
as supervisors

**11.1%**  
in the  
Management  
Group

**16.7%**  
on the Board  
of Directors

**684**  
at the end of  
the year

**673**  
on average

**588**  
engineers

persons



### TRAINING

**86%**  
Master's  
degree/  
Bachelor's  
degree

**2%**  
Licentiate/  
PhD

### DAYS OF TRAINING

**2,877**  
total

**4.2**  
/employee



**FOCUS AREA #2**

# Trust-Based Customer Relationships and Secure Products

Bittium specializes in developing reliable, secure communications and connectivity solutions as well as mobile information security solutions, and in providing health technology products and solutions. Sustainability and responsibility cover the entire life cycle of products, from material choices to maintenance and disposal, including the securing of confidentiality and information security.

Trust is one of the Bittium values and a necessary condition for its business. It is an essential element of customer relationships, products, services and working methods. The continuous improvement of operations, innovative and agile product development, meeting the customer’s wishes and expectations as well as development in cooperation with the customers form the foundation of the company’s sustainable business model and competitive advantage.

Goals	Actions	Performance Measures	Examples of Results
Building deeper trust with customers	Continued development of trust-based and performance-driven operating methods	Customer satisfaction survey NPS (Net Promoter Score)	46.9 (49.3 in 2019)
		Project satisfaction survey NPS (Net Promoter Score)	58 (62 in 2019)
Enhancing the added value of information security	Continuous development of the information security of products and operations.	Auditing and certification of products, business premises and business functions.	Yearly audits and approvals of security certifications.
	Information security management systems.	Amount and grade of cyber security incidents, handled, managed and controlled.	Personnel trained to report possible information security issues.
	Highlighting information security threats and the importance of information security with various stakeholders and participating in information security development projects and forums.		



## THE GLOBAL GOALS

For Sustainable Development

Alignment between  
the Focus Area and  
the UN's Sustainable  
Development Goals



**Ensure healthy lives  
and promote well-being  
for all at all ages.**

**3.4** By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

- Our medical technology products improve the quality of modern health care and are safe to use. Our products emphasize prevention, for example, in the context of serious complications caused by cardiovascular and neurological disorders. Our product portfolio also supports remote diagnostics, which can help health care services to achieve considerable efficiency and savings. Remote service enables diagnosing illnesses also during times when face-to-face contacts should be avoided – such as during the 2020 Covid-19 pandemic.



**Promote sustained, inclusive and  
sustainable economic growth, full  
and productive employment and  
decent work for all.**

**8.7** Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers, and by 2025 end child labor in all its forms.

**8.8** Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.

- We operate sustainably in our purchasing activities. We avoid the use of minerals from conflict zones and counterfeit materials. These issues are covered by our monitoring processes. The requirements related to purchasing as well as procedures related to minerals from conflict zones and counterfeit materials are published on our website.

## Customer Relationships Based on Trust

Taking into account Bittium’s customers’ specific requirements pertaining to the company’s sector and technology constitutes the cornerstone of a trust-based customer relationship. The ongoing project to develop product information management focuses on more detailed specification of the existing practices. In the latter part of 2020, tools relating to the management of product information were introduced.

Bittium’s working methods are characterized by a strong focus on information security and ensuring the confidentiality of the customers’ data. The products are designed to be secure, always taking the customers’ needs into account. Described in more detail under ‘Corporate citizenship and sustainable business practises’, Bittium’s Code of Conduct is also an important element of secure and responsible way of working with the customers and other stakeholders.

## Systems and Standards

Standards define the industry’s common operating methods that make life easier for the authorities as well as the companies in the industry. Standardization also makes it easier to promote global exports.

Certified integrated management systems are an important tool with which efficiency and reliability, transparency and customer satisfaction can be improved. Customers increasingly expect Bittium’s products and working methods to be standardized and certified.

Bittium had six certified systems in use at the end of 2020. All in all, 400 different standards, approximately 100 of them on a daily basis, are observed in the company’s operations. In June 2020, Bittium was awarded ISO 50001:2018 compliance certificate for its energy management system. All of Bittium’s management systems are audited by an external party each year. Bittium

also applies product branch-specific product approval procedures, such as MDSAP (Medical Single Audit Program) in health technology products.

Bittium applies the relevant industry standards in the design of the electrical safety and performance features of its products. Customer-, country- and market-specific requirements are also taken into account in hardware development.

The products are tested, verified and approved as part of the R&D process by both internal and external auditors. For example, in Europe, the products are required to carry the CE label and the related Declaration of Conformity (DoC).

Product development projects are also audited in accordance with the PSSL (Product Safety, Security and Liability) audit procedures as part of Bittium’s End Product Process (EPP) requirements. The company’s employees receive PSSL product liability training.



## Information Security Management System

Ensuring information security constitutes such an integral part of Bittium's business that a specific management system including a management group has been developed for this purpose. Information security objectives and responsibilities as well as the resourcing of operations are defined in the system.

The management system covers information security-related policies, guidelines and templates pursuant to the standards and requirements (ISO 27001, Katakri 2015 and FSC) as well as the requirements set by the customers and law. In practice, they completely cover the information security of the company's operations and also the information security of the physical premises and employees.

As part of the implementation of the management system, employees have been trained to report any information security incidents. The training has resulted in increased reporting, but the inspections have revealed no serious information security incidents.

As a part of the product development processes, the product and life cycle risks are assessed. With respect to the products, the safety and information security of the materials and components as well as compliance with product liability regulations in the target markets are taken into account.

## Sustainable Purchasing

Bittium's products contain a range of electronic and mechanical components. The company ensures the sustainability of its purchasing chain, for instance, in the form of material and component supplier requirements and material assessments. Bittium maintains a database in which it records all the materials and substances contained in components.

Bittium conforms to sustainable business practices and requires the same of its suppliers. The company's partners must comply with Bittium's Code of Conduct as well as the Bittium Supplier Requirements. The Bittium Supplier Quality Manual was updated with details in 2020, and it is available on Bittium's website. The suppliers are always expected to comply with the latest version of the guidelines.

The suppliers are also audited according to pre-defined criteria. Audits are carried out as a self-assessment based on the Bittium Supplier Requirements or as an audit conducted by Bittium. In 2020, owing to the Covid-19 pandemic, audits were mainly carried out as self-assessments.

Employee training is also an important part of ensuring sustainable purchasing. Sustainable purchasing is part of the environmental training package that employees complete independently, using learning materials provided by the company.

### Identifying the origin of minerals

Bittium's products are made using minerals that may also come from countries that violate human rights or cause environmental destruction by mining such minerals. Bittium urges its suppliers to comply with the legislation on conflict minerals and the relevant recommended reporting practices. In this way, it can be ensured that the minerals used in Bittium's products do not originate from conflict or risk zones.

In practice, the legislation requires sustainable purchasing and transparent supply chains with respect to certain minerals, such as tin, tantalum, wolfram and gold from conflict areas. These minerals are typically used in household goods and their electronic components, such as mobile devices and computers.

In 2020, Bittium did not receive any reports on suspicions concerning minerals from conflict areas.

### Avoiding counterfeit materials

Counterfeit materials are any materials whose origin, age, composition, configuration, certification status or other feature is presented falsely and with misleading markings on the material, packaging or container.

Bittium is aware of the risks associated with counterfeit materials, both when purchasing materials as ready-to-use components and when using the previously mentioned raw materials. Bittium is committed to taking the necessary steps to avoid using counterfeit materials in its products. The company has developed a supplier reporting method to avoid the use of counterfeit materials. The procedures address different stages of the purchasing process, starting from the selection of suppliers. The employees are trained to detect counterfeit materials.

No counterfeit materials were found in Bittium's products in 2020.



**FOCUS AREA #3**

# Corporate Citizenship and Sustainable Business Practices

Bittium operates as a responsible corporate citizen within the surrounding society. The company is a reliable local partner and employer. It engages in active and open dialogue with its stakeholders, acts in accordance with its harmonized operating principles, creates added value for its shareholders and seeks working methods and solutions that promote sustainable development.

Goals	Actions	Performance Measures	Examples of Results
Anti-corruption	Internal anti-corruption training	Rate of participation in training	The new mandatory digital self-study module accomplished by 39 new employees.
	Incorporating anti-corruption principles into cooperation agreements	Percentage of agreements	The requirements for cooperation were published on Bittium's website.
	Using an external background evaluation tool to identify corruption or other ambiguities among business partners	Observations of ambiguities or anti-corruption activities, Number of observations per year	No observations during 2020.
Responsible corporate citizenship	Bittium actively involves in the development of local business and supporting schools and educational institutions	Participation in various working groups, supporting non-profit organizations	8 cooperation projects in progress with educational and research institutes in 2020.
		Number of visits to educational institutions	Visits not organized in 2020 due to Covid-19 pandemic.
	The export control system observed on perspective of internal processes' development	Change in the export control application	Functional and transparent export control application process with improved efficiency and scoping of applications.
	Compliance with laws and regulations and their implementation	Monitoring laws and regulations that are of relevance to Bittium	In 2020, dozens of new and updated laws and regulations implemented.
Developing stakeholder cooperation	Further improving Bittium's understanding of stakeholder views and expectations	Developing even more open dialogue between stakeholders	Stakeholder cooperation methods reformed to meet pandemic needs, e.g. by organizing webinars.





## THE GLOBAL GOALS

For Sustainable Development

Alignment between  
the Focus Area and  
the UN's Sustainable  
Development Goals



### Ensure sustainable consumption and production patterns.

**12.6** Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

**12.7** Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

- We set an example by reporting on the planning, implementation and results of our sustainability actions in our annual sustainability report. We take a systematic approach to the development of our sustainability efforts and the reliability of our reporting.
- We cooperate with our customers to ensure that we can take sustainability into consideration in our products and operations to the greatest possible extent, including environmental responsibility.
- We publish more detailed quality, environmental and data security requirements for our partners on our public website.



### Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

**16.5** Substantially reduce corruption and bribery in all their forms.

- We are committed to the prevention of corruption in accordance with our anti-corruption statement and we report corruption incidents as part of our sustainability reporting.



### Strengthen the means of implementation and revitalize the global partnership for sustainable development.

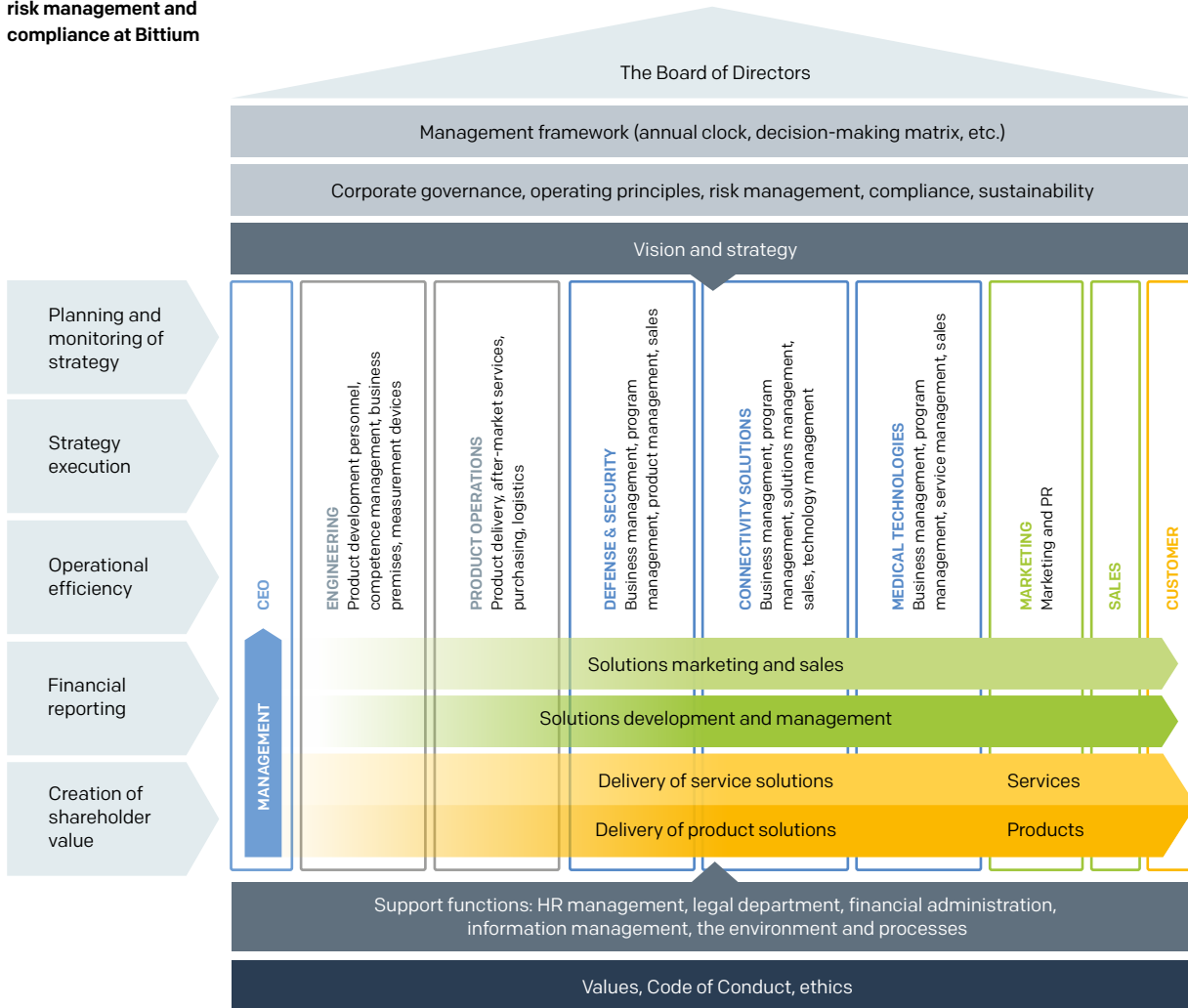
**17.17** Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

- We engage in dialogue with our customers and partners regarding the solutions we develop so that we can produce appropriate and resource-efficient products that benefit our customers and society while reducing waste.



Bittium continuously monitors the impacts of its operations and the added value it creates for different stakeholders. The company's key stakeholders include shareholders, customers, employees, partners and other suppliers as well as the public sector. More information on Bittium's stakeholder cooperation is provided under 'Sustainability management'.

**Corporate governance, risk management and compliance at Bittium**



## Good Corporate Governance Guides Sustainability

The management of Bittium Corporation is governed by the Articles of Association, Finnish law and Bittium’s governance guidelines. Bittium observes the Finnish Corporate Governance Code 2020 published by the Securities Market Association, which entered into force on 1 January 2020. Bittium’s Corporate Governance Statement is available at [www.bittium.com](http://www.bittium.com).

GRC (governance, risk management and compliance) refers to the skills and abilities that enable an organization to meet its targets, address uncertainties and operate with integrity. Bittium’s GRC measures also include the framework for internal control, which begins with the company’s core values and extends all the way to the principles set by the Board of Directors.

## Export Control

With respect to customers, export control constitutes an important part of Bittium’s operations. Effective export control is a precondition for successful cooperation with the authorities as well as the customers. Bittium is one of the first companies to include an export control system as part of its management system. The company monitors closely the changing legislation in different market areas. In 2020, the company’s export control-related internal processes were developed further. For instance, Bittium cooperates with the authorities in prior declarations, which has resulted in smoother processing of the company’s applications.



**FOCUS AREA #4**

# Environmental Responsibility

Bittium’s business is mainly focused on product design, assembly by manufacturers, sales and marketing. These processes only account for a small share of the products’ life cycle impacts. The greatest environmental impact occurs during the last stage of the product life cycle, i.e. recycling. Responsibility for the environment, the mitigation of climate change and resource-efficient solutions are, nevertheless, key aspects of the company’s operations and their development. By optimizing the service life and recyclability of the products, the total impact of their life cycle can be influenced.

Goals	Actions	Performance Measures	Examples of Results
Reducing climate impacts	Continuous improvement of the waste recovery rate	Recovery rate	99.9% (99.9% in 2019)
	Reduce the total carbon footprint per employee	Carbon footprint/employee (CO <sub>2</sub> ekg)	1,130 (1,755 in 2019)
	Maximize the use of renewable energy	Share of solar power at Oulu office	Average of 5.4%, during summer months 13.8%
	Taking the energy profiles (renewable energy) of purchased energy into account	Renewable energy share in Tampere office: 65% Oulu and Espoo offices’ energy provider declared to achieve CO <sub>2</sub> neutrality by year 2035	
	Improving personnel’s environmental awareness	Taking part in trainings, percent of personnel	15.2%



## THE GLOBAL GOALS

For Sustainable Development

Alignment between  
the Focus Area and  
the UN's Sustainable  
Development Goals



**Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.**

**8.4** Improve progressively, through 2030, global resource efficiency in consumption and production and endeavor to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead.

- We recognize the need for resource efficiency and respond by observing various environmental standards in our operations. Ecological design is the starting point of our product development.



**Ensure sustainable consumption and production patterns.**

**12.2** By 2030, achieve the sustainable management and efficient use of natural resources.

**12.5** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

- We pay special attention to the use of renewable energy, our waste recovery rate and the reduction of waste at our operating locations and report them as part of our sustainability reporting.

**Management of environmental responsibility and the environmental program**

In accordance with its environmental policy, Bittium is committed to minimizing the environmental impacts of the production, use and disposal of products. The ISO 14001 standard is applied to Bittium’s environmental management system and the principles of sustainable development in accordance with the standard are observed in the following ways, for instance:

- Monitoring and observing amendments to the laws and regulations concerning environmental protection. This also covers to use of energy-efficient solutions in R&D (ecological design) and premises.
- Minimizing the environmental impacts of the production, use and disposal of products. The development of instructions and practices related to ecological design supports these principles.
- Encouraging suppliers and partners to implement environmental management systems. Observing the principles that limit the use of hazardous substances supports these goals.
- Developing energy efficiency through continuous improvement. Bittium’s energy efficiency is reviewed each year by two reviewers authorized by Finland’s Energy Authority.

The Group regularly monitors the international environmental requirements that govern its products as well as the local regulations derived from these. The requirements also extend to the company’s major suppliers. The provisions of the ROHS directives (I, II and III), the REACH regulation (on hazardous substances) as well as the WEEE (recycling of waste electronic and electrical equipment) directive have been applied in Bittium’s design since 2002.

Companies are under the obligation to report any substances of very high concern (SVHCs) in their products to the SCIP database for information on Substances of Concern In articles as such or in complex objects (Products), maintained by the European Chemicals Agency (ECHA) and in use from the beginning of 2021.

Although the use of halogens is not yet forbidden in electronics, Bittium aims to offer halogen-free products whenever possible. However, it is not always possible to find alternative components that meet the functional requirements. Bittium’s halogen-free statement conforms to the IEC (International Electrochemical Commission) definition of halogen-free materials (IEC 61249-2-21).

**Environmental program achievements in 2020**

The objectives of the environmental program in 2020 included a waste recovery rate of over 95 percent, increased use of renewable energy sources and increased environmental awareness among the personnel. The company achieved all of these objectives. Altogether 104 employees (15.2 percent of staff) took and passed the test related to environmental training.

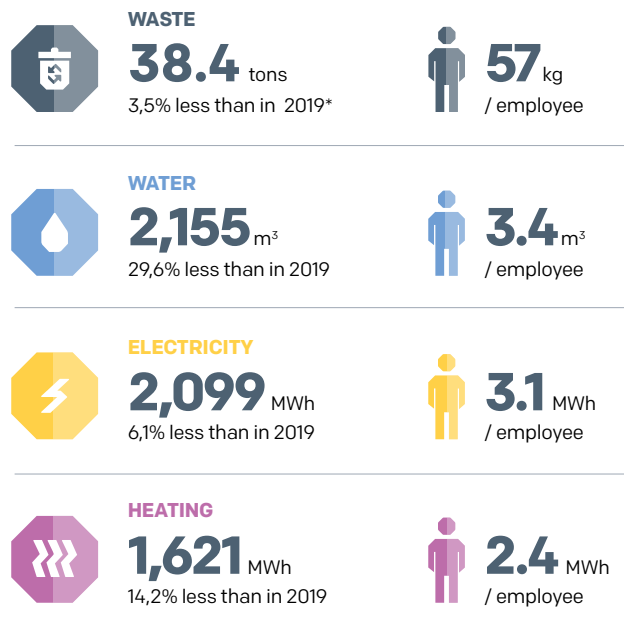
Bittium reached its environmental responsibility objectives in 2020.

- In the Oulu office, up to 13.8 percent (2019: 11.9%, 2018: 12%) of the electricity used was solar power.
- The company’s total carbon footprint was 753,490 kg CO<sub>2</sub>e (2019: 1,153 tons CO<sub>2</sub>e, 1,755 kg CO<sub>2</sub>e/person; 2018: 1,219 tons CO<sub>2</sub>e, 2,865 kg CO<sub>2</sub>e/person). The considerable reduction in air travel, due to the Covid-19 pandemic, contributed to the lower carbon footprint.
- The EES+ energy efficiency system received the ISO 50001:2018 in 2020.

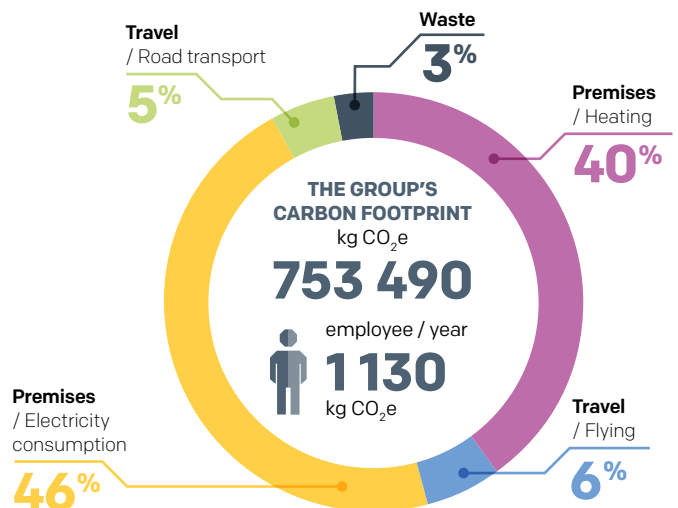
**Environmental responsibility indicators**

Bittium continuously monitors the level of environmental protection. The following were selected as the key environmental responsibility indicators:

Bittium’s environmental responsibility indicators, Offices in Finland



\*Kuopio included



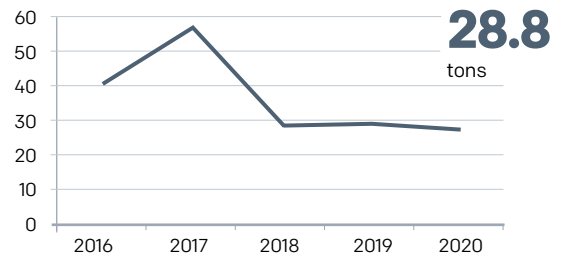
**New projects launched**

As part of the environmental program 2020–2022, a number of new projects were launched:

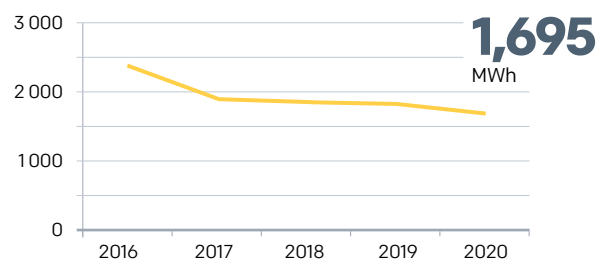
- Management of Bittium’s environmental data, aiming to develop the usability and accessibility of monitored data with respect to traditional and new indicators alike.
- ECO Design, which will expand the existing ECO Design model to cover the effects of software production in the assessment of the environmental impact during a product’s life cycle.
- Environmental awareness at Bittium and an individual’s opportunities to reduce climate change. At a practical level, this project aims to illustrate the opportunities of individual Bittium employees to reduce climate change with their choices in everyday life. This is a participatory project that gathers and, where possible, implements identified practical ecological actions.

**Environmental Responsibility Indicators 2016–2020**  
(Trend), Oulu Office

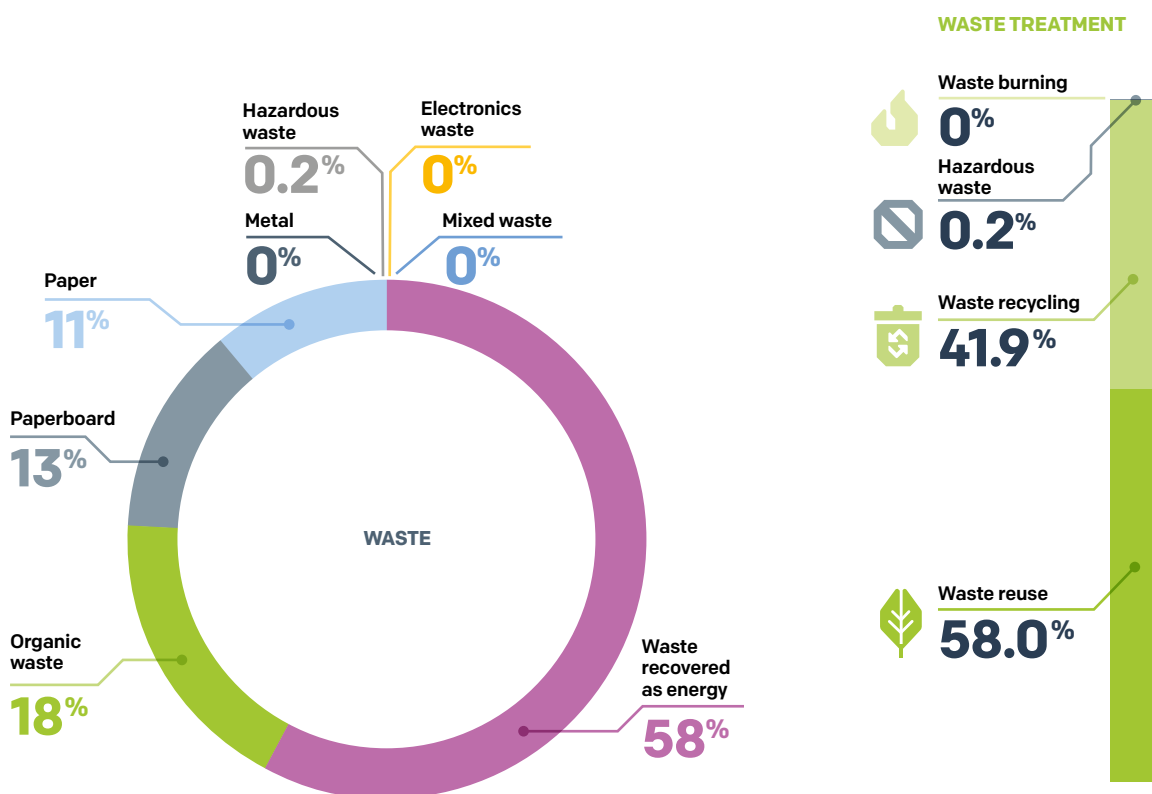
**WASTE VOLUME**



**ELECTRICITY CONSUMPTION**



**Waste Treatment and Recycling in 2020 (Breakdown), Oulu Office**



# Reporting

## Reporting Basics and Principles

### Scope of Reporting

This sustainability report, as a part of the annual report, is the third extensive report on the management and implementation of sustainability at Bittium. In 2020, Bittium has implemented actions on topics related to sustainability according to the sustainability program and developed its sustainability metrics, providing more information on the impacts. The sustainability program is based on the materiality analysis conducted in 2019, which aimed at gaining an understanding of stakeholders' views on previously selected sustainability focus areas. With the materiality analysis, the company updated its responsibility focus areas and created a responsibility program for the years 2020–2022.

In order to enable comparability, Bittium's sustainability report is based on the Global Reporting Initiative (GRI) Standards framework. The table at the end of the report contains references to the relevant elements of the GRI Standards framework. The report covers all four sustainability focus areas and a description of Bittium's financial effectiveness. The financial data is collected from Bittium's financial information systems, and the majority of personnel data is from HR management systems. The reported financial figures are based on Bittium's audited financial statements from 2019 and 2020.

Bittium selected its reporting model on the basis of Bittium's sustainability principles, taking into account the GRI framework and the focus areas of the Company's business: wireless, secure communications in B2B operations. Bittium has customers both in Finland and in other countries. However, the majority of operations and most of the personnel are located in Finland.

The sustainability report is published every year in electronic form in connection with the Group's annual report at [www.bittium.com](http://www.bittium.com) and <https://annualreport.bittium.com>.

### Scope of the Report

The period covered by the sustainability report is the same as the financial period, January 1–December 31, 2020. Environmental data is not reported from offices where the Company only uses a part of the office premises.

The report does not cover all suppliers or service providers. In other respects, the report covers all the operations of Bittium Corporation and its subsidiaries.



## Reporting Principles and Instructions

Financial reports are governed by the International Financial Reporting Standards (IFRS), and governance reports comply with the legislation on listed companies and the Finnish Corporate Governance Code that applies to listed companies. The reported financial data is based on audited financial statements.

## Principles and Practices for External Verification

The 2020 sustainability report follows the core level of the GRI Standards' guidelines. The sustainability report has not been verified by an independent third party. The figures presented in the 'Financial effectiveness' section are based on the Group's audited financial statements.

## Sustainability Contact at Bittium

Karoliina Malmi  
Vice President,  
Communications and Marketing  
karoliina.malmi@bittium.com

## GRI 102 GENERAL DISCLOSURES

G4	Title	Location	Additional info / comments
<b>Organization</b>			
102-1	Name of the organization	Bittium in Brief	Page 8
102-2	Industries, brands, products, and services	Bittium in Brief; Bittium Products and Services	Page 8 Page 12
102-3	Location of headquarters	Bittium in Brief	Page 8
102-4	Location of operations	Bittium in Brief	Page 8
102-5	Ownership and legal form	Corporate Governance	Page 30
102-6	Markets served	Bittium in Brief	Page 8
102-7	Scale of the organization	Bittium in 2020	Page 4
102-8	Information on employees and other workers	Innovative and Developing People	Page 62
102-9	Supply chain	Suppliers and Partners; Sustainable Purchasing	Page 55 Page 71
102-10	Significant changes to the organization and its supply chain	Significant Events during the Reporting Period	Organization; No significant changes; pages 86–87. Supply chain; New partners in 2020: Tutus Data AB in Sweden and Virve Tuotteet ja Palvelut in Finland; page 91
102-11	Precautionary Principle or approach	Corporate Citizenship and Sustainable Business Practices; Corporate Governance	Page 72 Pages 30–31
102-12	External initiatives		None
102-13	Membership of associations		Technology Industries of Finland
<b>Strategy</b>			
102-14	Statement from CEO	CEO's Review	Pages 6–7
102-15	Key impacts, risks, and opportunities	Business and Operating Environment; Main Features of Internal Control and Risk Management Processes Related to Financial Reporting Processes; Report by the Board of Directors	Page 8 Page 41 Page 86

## GRI 102 GENERAL DISCLOSURES

G4	Title	Location	Additional info / comments
<b>Ethics and Integrity</b>			
102-16	Values, principles, standards, and norms of behavior	Corporate Citizenship and Sustainable Business Practices; Value Creation Model	Page 72 Page 52
102-17	Mechanisms for advice and concerns about ethics	Corporate Citizenship and Sustainable Business Practices	Page 52
<b>Governance</b>			
102-18	Governance structure	Corporate Governance	Page 30
102-19	Delegating authority	Corporate Governance; Sustainability Management	Page 30 Page 54
102-20	Executive-level responsibility on economic, environmental, and social topics	Sustainability Management; Sustainability Organization and Risk Management	Page 54
102-21	Consulting stakeholders on economic, environmental, and social topics	Stakeholder Cooperation; Corporate Citizenship and Sustainable Business Practices	Page 55 Page 72
102-22	Composition of the Board	Corporate Governance	Page 30
102-23	Chairman of the Board	Corporate Governance	Page 30
102-24	Election of the Board	Corporate Governance	Page 30
102-31	Review of economic, environmental, and social topics	Sustainability Management	Page 54
102-32	Highest governance body's role in sustainability reporting	Sustainability Management	Page 54
102-35	Remuneration policies	Corporate Governance; Remuneration	Page 30; <a href="http://www.bittium.com/investors/corporate-governance/salary-and-remuneration-report">www.bittium.com/investors/corporate-governance/salary-and-remuneration-report</a>
<b>Stakeholder Engagement</b>			
102-40	List of stakeholder groups	Stakeholder Cooperation	Page 55
102-42	Identifying and selecting stakeholders	Stakeholder Cooperation	Page 55
102-43	Approach to stakeholder engagement	Stakeholder Cooperation	Page 55
102-44	Key topics and concerns raised	Stakeholder Cooperation	Materiality analysis online: <a href="http://www.bittium.com/about-bittium/sustainability">www.bittium.com/about-bittium/sustainability</a> Page 55
<b>Reporting Principles</b>			
102-45	Entities included in the consolidated financial statements	Notes to the Consolidated Financial Statements; 32. Related Party Disclosures	Page 139
102-46	Defining report content and topic Boundaries	Sustainability at Bittium in 2020 Scope of reporting	Page 44 Page 80
102-47	List of material topics	Sustainability at Bittium Focus Areas in Sustainability	Page 58 Page 60
102-48	Restatements of information	GRI Standard Content Index	Page 81 For GRI 403, the GRI Index has been updated in accordance with GRI Standards 2020.
102-49	Changes in reporting	GRI Standard Content Index	Page 81
102-50	Reporting period	Reporting Basics and Principles	Page 80
102-51	Date of most recent report	GRI Standard Content Index	11.3.2020
102-52	Reporting cycle	Reporting	The report is published annually

## GRI 102 GENERAL DISCLOSURES

G4	Title	Location	Additional info / comments
102-53	Contact point for questions regarding the report	Reporting	Karoliina Malmi, Vice President, Communications and Marketing karoliina.malmi@bittium.com Page 81
102-54	Claims of reporting in accordance with the GRI Standards	Reporting Basics and Principles	Page 80
102-55	GRI content index	GRI Standard Content Index	Page 81
102-56	External assurance	Reporting Basics and Principles	Page 80

## GRI 103 MANAGEMENT APPROACH

103-1	Explanation of the material topic and its Boundary	GRI Standard Content Index; Focus Areas in Sustainability	Calculation boundary: Bittium Corporation Page 81 Page 60
103-2	The management approach and its components	Sustainability Management; Focus Areas in Sustainability	Page 54 Page 60
103-3	Evaluation of the management approach	Sustainability Management	Page 54

## TOPICAL CONTENT

## Financial Impacts

201 Economic Performance			
201-1	Direct economic value generated and distributed	Financial influence	Pages 58–59
201-4	Financial assistance received from government	Notes to the Consolidated Financial Statements; 4. Other Operating Income	Page 113
205 Anti-corruption			
205-3	Confirmed incidents of corruption and actions taken	Corporate Citizenship and Sustainable Business Practices	No violations, page 52

## Environmental Impacts

301 Materials			
301-1	Materials used by weight or volume	Environmental Responsibility	Bittium does not use paper, carton, or metals to manufacture its products. Bittium reports material waste and the recycling rate associated with the use of materials at its operating locations. Page 76
302 Energy			
302-1	Energy consumption within the organization	Environmental Responsibility	Page 78
302-4	Reduction of energy consumption	Environmental Responsibility	Pages 76–78
303 Water			
303-1	Water withdrawal by source	Environmental Responsibility; Environmental Responsibility Indicators	Total and per-capita water consumption figures are reported for Bittium's operating locations. No water is used in the manufacture of products. Page 78
305 Emissions			
305-1	Direct (Scope 1) GHG emissions	Environmental Responsibility	Reported carbon footprint. Pages 76–78
306 Effluents and Waste			
306-2	Waste by type and disposal method	Environmental Responsibility	Pages 76–79
307 Non-compliance with Environmental Laws and Regulations			
307-1	Environmental compliance	Environmental Responsibility	Database of applicable environmental laws and regulations

## Social Impacts

G4	Title	Location	Additional info / comments
<b>403 Occupational Health and Safety</b>			
403-1	Occupational health and safety management system	Innovative and Developing People; Well-being and Occupational Safety	Page 65
403-2	Hazard identification, risk assessment, and incident investigation	Innovative and Developing People; Well-being and Occupational Safety	Bittium continuously develops its occupational safety processes and risk management. More information pertaining to subcontractors is provided in Bittium's Supplier Manual: <a href="http://www.bittium.com/about-bittium/suppliers/supplier-manual">www.bittium.com/about-bittium/suppliers/supplier-manual</a> Page 65 Page 71
403-3	Occupational health services	Innovative and Developing People; Well-being and Occupational Safety	Occupational health services beyond the scope of the statutory requirements cover 99% of the personnel. The provision of occupational health services as part of compliance with the Act on Contractor's Liability is part of Bittium's subcontracting process. Page 65
403-4	Worker participation, consultation, and communication on occupational health and safety	Innovative and Developing People; Well-being and Occupational Safety	Page 65
403-5	Worker training on occupational health and safety	Innovative and Developing People; Well-being and Occupational Safety	All Bittium operating locations have appropriate safety plans in place, and safety issues are addressed in Bittium's orientation training program. Occupational health information is regularly communicated to the personnel. Subcontractors are responsible for the occupational health and occupational safety training of their employees in accordance with their respective principles. Bittium provides orientation training to subcontractors who work on Bittium's premises. Subcontractors who work on the premises of Bittium's customers receive orientation training from the customer in question. In other respects, subcontractors are responsible for training their employees. Page 65
403-6	Promotion of worker health	Innovative and Developing People; Well-being and Occupational Safety	Page 65
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Trust-based Customer Relationships and Secure Products; Sustainable Purchasing Innovative and Developing People; Statement of Non-financial Information	More information pertaining to subcontractors is provided in Bittium's Supplier Manual: <a href="http://www.bittium.com/about-bittium/suppliers/supplier-manual">www.bittium.com/about-bittium/suppliers/supplier-manual</a> Page 71 Page 63 Page 96
403-8	Workers covered by an occupational health and safety management system	Innovative and Developing People; Well-being and Occupational Safety	Bittium Employees. Page 65
403-9	Work-related injuries	Innovative and Developing People; Well-being and Occupational Safety	In 2020, there were two near misses and three occupational accidents reported at Bittium companies in Finland. Two of these incidents occurred during commutes and one in the workplace. One of the accidents caused a temporary disability. Page 65
403-10	Work-related ill health	Innovative and Developing People; Well-being and Occupational Safety	The sickness-related absence rate was 2.3% in 2020 (calculated from the occupational health service provider's data, day/employee vs. theoretical regular working hours). Bittium does not have access to this data with regard to workers from staffing services. Page 65
<b>404 Training and Education</b>			
404-1	Average hours of training per year per employee	Innovative and Developing People	Reported hours of training per employee Page 62
404-2	Programs for upgrading employee skills and transition assistance programs	Innovative and Developing People	Pages 62–65
<b>405 Diversity and Equal Opportunity</b>			
405-1	Diversity of governance bodies and employees	Diversity Principles of the Board of Directors; Innovative and Developing People	Page 32 Page 66
<b>419 Socioeconomic Compliance</b>			
419-1	Non-compliance with laws and regulations in the social and economic area	Sustainable Purchasing, Statement of Non-financial Information	No violations • Anti-corruption, p. 96 • Conflict minerals, p. 96 • Counterfeit materials, p. 71



# Report by the Board of Directors 2020

Unless otherwise mentioned, the figures in brackets refer to the corresponding period in the previous year.

## Year 2020 in Short

### Net Sales Grew in 2020

Bittium's net sales in January–December 2020 grew by 4.2 percent year-on-year to EUR 78.4 million (EUR 75.2 million).

The share of the product-based net sales increased to 67.8 percent and was EUR 53.1 million (EUR 49.4 million). The share of Medical Technologies products was EUR 17.4 million and that of the tactical and secure communication products and systems EUR 35.7 million.

The share of the services-based net sales was EUR 25.3 million (EUR 25.9 million) representing 32.2 percent of the net sales.

Operating profit in January–December 2020 was EUR 2.1 million (EUR 6.3 million).

## Significant Events during the Reporting Period

### On February 13, 2020

Bittium published its Financial Statement Bulletin 2019.

### On February 13, 2020

Bittium gave a notice to the Annual General Meeting 2019 of Bittium Corporation.

### On March 2, 2020

The Board of Directors of Bittium Corporation decided on the establishment of a new share-based long-term incentive scheme for the Company's management. It comprises a Performance Share Plan. The objectives of the Performance Share Plan are to align the interests of Bittium's management with those of the Company's shareholders, to promote shareholder value creation in the long term, to commit the management to achieving Bittium's strategic targets, and the retention of Bittium's management.

### On March 11, 2020

Bittium Corporation's Annual Report, Sustainability Report, Corporate Governance Statement, and Salary and Remuneration Report from 2019, and Remuneration Policy 2020 were published.

### On March 18, 2020

Bittium cancelled the Annual General Meeting from Wednesday, April 1st, 2020 and postponed it to a later date.

### On March 30, 2020

Bittium published its Business Review from January–March 2020.

**On May 14, 2020**

Bittium gave a notice to the General Meeting of Bittium Corporation.

**On June 15, 2020**

The decisions of the Annual General Meeting of Bittium Corporation were announced.

**On August 6, 2020**

The Half-Year Financial Report January–June 2020 was published.

**On September 10, 2020**

Bittium Biosignals Ltd, a subsidiary of Bittium Corporation and Preventice Technologies Ltd signed a continuance for the agreement concerning the delivery of ECG measuring devices.

**On October 30, 2020**

Business Review from January–September 2020 was published.

**On November 27, 2020**

Bittium Corporation lowered its financial guidance for the year 2020.

**On November 27, 2020**

The Board of Directors of Bittium Corporation decided that no dividend from the year 2019 will be paid.

**On November 27, 2020**

Bittium Corporation confirmed its strategy and long-term financial targets.

**On December 15, 2020**

Financial calendar for 2021 was published.

**On December 22, 2020**

Bittium Corporation announced that the Finnish Defense Forces plans to purchase Bittium TAC WIN™ software defined radio system products.

## Financial Performance in January–December 2020

<b>CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME, MEUR</b>	<b>2020 12 months</b>	<b>2019 12 months</b>
Net sales	78.4	75.2
Operating profit / loss	2.1	6.3
Financial income and expenses	-0.4	-0.4
Result before tax	1.6	5.9
<b>Result for the period</b>	<b>2.2</b>	<b>7.6</b>
<b>Total comprehensive income for the period</b>	<b>1.9</b>	<b>7.7</b>
Result for the period attributable to:		
Equity holders of the parent	2.2	7.6
Total comprehensive income for the period attributable to:		
Equity holders of the parent	1.9	7.7
Earnings per share from continuing operations, EUR	0.061	0.214

- Cash flow from operating activities was EUR 6.9 million (EUR 9.6 million).
- Net cash flow during the period was EUR -10.5 million, including the most significant item as EUR 13.6 million R&D investments into own products (EUR 4.3 million, including the most significant items as withdrawal of a EUR 20.0 million bank loan, EUR 15.6 million R&D investments into own products, and the EUR 5.4 million dividend payment).
- Equity ratio was 73.1 percent (73.4 percent).
- Net gearing was -1.9 percent (-11.2 percent).

## Half Year Figures

<b>GROUP'S NET SALES AND OPERATING RESULT, MEUR</b>	<b>2H/20</b>	<b>1H/20</b>	<b>2H/19</b>	<b>1H/19</b>
Net sales	35.8	42.5	42.2	33.1
Operating profit (loss)	-0.8	2.9	4.7	1.7
Result before taxes	-0.9	2.5	4.4	1.5
Result for the period	-0.4	2.5	6.1	1.5

<b>DISTRIBUTION OF NET SALES BY PRODUCT AND SERVICES, MEUR AND %</b>	<b>2H/20</b>	<b>1H/20</b>	<b>2H/19</b>	<b>1H/19</b>
Product based net sales	23.0	30.1	30.8	18.6
	64.3%	70.7%	73.1%	56.1%
Services based net sales	12.8	12.5	11.4	14.5
	35.7%	29.3%	27.1%	43.9%

<b>DISTRIBUTION OF NET SALES BY MARKET AREAS, MEUR AND %</b>	<b>2H/20</b>	<b>1H/20</b>	<b>2H/19</b>	<b>1H/19</b>
Asia	0.2	0.2	0.1	0.2
	0.5%	0.4%	0.3%	0.5%
Americas	6.4	7.1	12.7	5.8
	17.8%	16.7%	30.2%	17.5%
Europe	29.3	35.2	29.3	27.1
	81.7%	82.8%	69.6%	82.0%

## Quarterly Figures

<b>GROUP'S NET SALES AND OPERATING RESULT, MEUR</b>	<b>4Q/20</b>	<b>3Q/20</b>	<b>2Q/20</b>	<b>1Q/20</b>	<b>4Q/19</b>
Net sales	21.8	14.0	25.3	17.3	26.9
Operating profit (loss)	0.3	-1.0	2.7	0.2	4.1
Result before taxes	0.2	-1.0	2.7	-0.2	3.9
Result for the period	0.7	-1.0	2.7	-0.2	5.6

<b>DISTRIBUTION OF NET SALES BY PRODUCT AND SERVICES, MEUR AND %</b>	<b>4Q/20</b>	<b>3Q/20</b>	<b>2Q/20</b>	<b>1Q/20</b>	<b>4Q/19</b>
Product based net sales	14.5	8.5	18.4	11.7	20.1
	66.5%	60.9%	73.0%	67.4%	74.5%
Services based net sales	7.3	5.5	6.8	5.6	6.8
	33.5%	39.1%	27.0%	32.6%	25.5%

<b>DISTRIBUTION OF NET SALES BY MARKET AREAS, MEUR AND %</b>	<b>4Q/20</b>	<b>3Q/20</b>	<b>2Q/20</b>	<b>1Q/20</b>	<b>4Q/19</b>
Asia	0.1	0.1	0.1	0.1	0.1
	0.5%	0.5%	0.4%	0.4%	0.3%
Americas	2.9	3.5	2.2	4.9	5.0
	13.3%	24.8%	8.8%	28.3%	18.7%
Europe	18.8	10.5	22.9	12.3	21.8
	86.2%	74.7%	90.8%	71.3%	81.0%



## Research and Development

Bittium continued to make significant investments to develop its own products and product platforms. In January–December 2020 the investments were EUR 22.8 million, representing 29.1 percent of the net sales.

The investments focused mainly on developing the tactical communication system and its products for defense industry, different kind of special terminal products for authorities and their related security software, as well as on developing medical technology products. The capitalized R&D investments are related to the investments in developing the software defined radio based tactical radios, Bittium Tough SRD™ product family, further development of tactical networks, secure smartphones and software, as well as to the investments in developing medical technology products.

<b>R&amp;D INVESTMENTS, MEUR</b>	<b>2020</b> <b>12 months</b>	<b>2019</b> <b>12 months</b>
<b>Total R&amp;D investments</b>	<b>22.8</b>	<b>25.1</b>
Capitalized R&D investments	-13.6	-15.6
Depreciations and impairment of R&D investments	6.1	3.1
Cost impact on income statement	15.4	12.6
<b>R&amp;D investments, % of net sales</b>	<b>29.1%</b>	<b>33.4%</b>

<b>CAPITALIZED R&amp;D INVESTMENTS IN BALANCE SHEET, MEUR</b>	<b>2020</b> <b>12 months</b>	<b>2019</b> <b>12 months</b>
Balance sheet value in the beginning of the period	39.1	26.6
Additions during the period	13.6	15.6
Acquisitions of the business		
Depreciations and impairment of R&D investments	-6.1	-3.1
Balance sheet value at the end of the period	46.6	39.1

## Statement of Financial Position and Financing

The figures presented in the statement of financial position of December 31, 2020, are compared with the statement of the financial position of December 31, 2019 (MEUR).

	Dec. 31, 2020	Dec. 31, 2019
Non-current assets	86.4	80.5
Current assets	71.7	73.8
<b>Total assets</b>	<b>158.0</b>	<b>154.2</b>
Share capital	12.9	12.9
Other capital	101.3	99.4
Total equity	114.2	112.3
Non-current liabilities	21.9	22.1
Current liabilities	21.8	19.9
<b>Total equity and liabilities</b>	<b>158.0</b>	<b>154.2</b>

	Jan.–Dec. 2020	Jan.–Dec. 2019
<b>CASH FLOW OF THE REVIEW PERIOD</b>		
+ profit of the period +/- adjustment of accrual basis items	14.1	14.3
+/- change in net working capital	-6.8	-4.2
- interest, taxes and dividends	-0.5	-0.4
= net cash from operating activities	6.9	9.6
- net cash from investing activities	-15.9	-18.6
- net cash from financing activities	-1.5	13.2
= net change in cash and cash equivalents	-10.5	4.3

The amount of gross investments in the period under review was EUR 17.4 million. Net investments for the review period totaled to EUR 17.0 million. The total amount of depreciation during the period under review was EUR 11.4 million. The amount of interest-bearing debt, including finance lease liabilities, was EUR 22.5 million at the end of the reporting period (EUR 22.6 million). Bittium's equity ratio at the end of the period was 73.1 percent (73.4 percent).

The Group's liquidity remained good despite the uncertainty caused by the Covid-19 pandemic. Securing cash flow has not required any special adjustment measures and no significant changes have been identified in the credit risks of trade receivables.

Cash and other liquid assets at the end of the reporting period were EUR 24.7 million (EUR 35.2 million). Net cash flow during the period was EUR -10.5 million. The net cash flow resulted from EUR 13.6 million investments made into own product development as the most significant item (EUR 4.3 million including as the most significant items the withdrawal of a EUR 20.0 million bank loan, EUR 15.6 million investments made into own product development and the EUR 5.4 million dividend payment).

Bittium has a EUR 20.0 million senior loan and a EUR 10.0 million committed overdraft credit facility agreement with Nordea Bank Finland Plc. Maturity date for the senior loan is May 24, 2024 and the credit limit agree-

ment is valid until May 24, 2024. Bittium has EUR 10.0 million committed overdraft credit facility agreement with OP Corporate Bank Plc valid until May 24, 2022. At the end of the review period, no limits from these facilities were in use.

Bittium follows a hedging strategy that has an objective to ensure the business margins in changing market circumstances by minimizing the influence of exchange rates. According to the hedging strategy principles, the net position in the currency is hedged when it exceeds the euro limit defined in the hedging strategy. The net position is determined based on accounts receivable, accounts payable, order book, and budgeted net currency cash flow.

## Business Development in January–December 2020

In 2020, the exceptional circumstances caused by the Covid-19 pandemic had a significant impact on the global market situation. At the end of the year, the effects began to be seen more widely in Bittium's business as well. Completion of some projects delayed and some of them were moved entirely to 2021. Acquisition of new projects and customers was clearly slower than normally.

Despite the exceptional circumstances the cooperation with the Finnish Defense Forces continued very well. The volume deliveries of the new Bittium Tough SDR handheld radios started in April and, at the end of the year, the first pilot series of Bittium Tough SDR Vehicular™ radios was delivered to the customer. The development of vehicular radios will continue also in 2021. The development work of the radios has taken slightly longer than expected because of their unique frequency range and because they have been designed to operate under extreme conditions.

In February, Bittium received a purchase order from Finnish Defence Forces to continue porting the European ESSOR (European Secure Software-defined Radio) programme's OC1 (Operational Capability 1) wideband waveform to the Bittium Tough SDR radios that will be delivered to the Finnish Defence Forces. A significant European player in the defense industry, Germany, joined the ESSOR programme, which strengthened ESSOR's position in the market and affected positively the deployment of the ESSOR waveform in the future. The Finnish Defence Forces also ordered tactical communication products of the software defined Bittium Tactical Wireless IP Network™ (TAC WIN) system and Bittium Tough Comnode™ terminals.

Cooperation regarding the renewal of the Finnish Defense Forces command control and communication system continued, and in accordance with the framework agree-

ment for 2018–2020, and the last batch of products of the Bittium Tactical Wireless IP Network™ (TAC WIN) software defined radio system meant for tactical communication was delivered. In December, the Finnish Minister of Defense authorized the Finnish Defense Forces to procure products of the Bittium TAC WIN™ system, and a new framework agreement for 2021–2024 is being prepared. The value of the agreement is at the maximum about EUR 30 million.

In November, the Finnish Defense Forces ordered Bittium Tactical Power Pack™ battery units as accessories for portable Bittium Tough Comnode™ devices already in use. The battery unit was launched in October. The ordered products, with the value of approximately EUR 1.1 million, will be delivered to the Defense Forces during the first half of 2021.

Bittium also announced to be a part of the iMUGS (integrated Modular Unmanned Ground System) project that is operating under the European Defence Industrial Development Programme (EDIDP). The iMUGS project is developing new capabilities for European defense forces based on autonomous systems. In the project, Bittium is responsible for the execution of resilient and networked data transfer, including both tactical communications and data transfer over commercial 4G and 5G cellular networks.

In the governmental market, the interest in the mobile security and secure Bittium Tough Mobile™ 2 phones grew. Continuous security attacks raise awareness of the importance of security. In June, Bittium launched a new, even more secure variant of its smartphone: Bittium Tough Mobile™ 2 C. The unique new variant is based on the previously launched Bittium Tough Mobile 2 and is meant for CONFIDENTIAL level authority communication. The new smartphone variant is complemented with Bittium Secure Suite™ management software, enabling remote management of devices and applications, as well as encrypted IP-based data transfer.

Bittium and ENENSYS Technologies, a leading provider of media delivery and public safety solutions, announced that evolved Multimedia Broadcast Multicast Solution (eMBMS) with ENENSYS' Middleware, which is intended for public authority LTE networks, can now be deployed in the highly secure Bittium Tough Mobile™ 2 smartphone. With this cooperation, LTE Broadcast features are now enabled in rugged public safety Bittium Tough Mobile 2.

Bittium and Virve Tuotteet ja Palvelut, a long-term operator of sales and maintenance of equipment suitable for Tetra networks, started a cooperation covering the resale of secure Bittium Tough Mobile 2 smartphones complemented with Bittium Secure Suite management software to critical communications organizations in Finland. Through the cooperation, Virve Tuotteet ja Palvelut is able to deliver to the end customer a complete solution, that includes state-of-the-art secure devices and related additional services, such as maintenance and support.

At the end of the year, the company began cooperating with Tutus Data AB, a Swedish expert in certified web encryption solutions. The collaboration will create a high-security mobile solution that combines Tutus' strong security expertise with Bittium's ultra secure Bittium Tough Mobile™ 2 smartphone platform. Designed for a mobile work environment, this solution provides data security, especially as a critical communication tool. Tutus is the main supplier of IT security products approved and certified by the Swedish government in Sweden, and the co-developed solution will be part of Tutus' product offering.

Bittium released a new streams feature for Bittium SafeMove® Mobile VPN security software. It enables optimized, durable and encrypted connection even when the network connections in use are unreliable and sensitive for interference. The strong connection of Bittium SafeMove® Streams technology enables the protecting of several applications and their different connections. Encryption and security adapt to the changing needs of different applications,

and the special needs of real-time voice and video applications, for example, are taken into account.

The active negotiations with the State of the Mexico about the Mexsat phones to enable a wider use of the Mexsat system continued. The prevailing exceptional circumstances due to the Covid-19 pandemic in the Middle America have significantly slowed down the progress of the negotiations. Deliveries of mobile satellite phones developed for the Mexican state authorities fell short of target last year. However, the delivery volumes are expected to grow in 2021.

Demand for Bittium's medical technology products for remote monitoring and remote diagnostics remained steady. Based on the delivery agreement signed in 2018, Bittium continued to deliver tailored Body Guardian® MINI ECG measuring devices to the major US remote monitoring provider Preventice as planned. In September, Bittium and Preventice signed an extension to the agreement, under which Bittium will continue to supply BodyGuardian® MINI devices for the years 2021–2024. When fully implemented, the total value of the agreement will be approximately USD 22.9 million.

In May, Bittium BrainStatus™ product family received medical device approval in Europe (directive 93/42/EEC). Bittium BrainStatus product family is a compact wireless EEG measurement system for the brain's real-time electrical activity monitoring. It is designed for emergency, acute and intensive care use. Its ease of use enables high-quality EEG measurements by both paramedics and clinicians quickly and easily. At the end of the year Cerenion's C-Trend® analysis software, which is integrated in Bittium BrainStatus™ EEG system, was granted medical device approval in the European Union. With Cerenion C-Trend® analysis, the status of the brain is presented as simple and easy-to-interpret numerical values by utilizing advanced machine learning algorithms and artificial intelligence. The aim of the solution is to improve medical care and make the work of

nursing staff in the intensive care unit easier and faster.

Bittium launched an advanced remote monitoring service platform that utilizes wireless data transfer to enhance medical remote diagnostics services. Bittium MedicalSuite™ web-based service platform is mainly aimed at service providers to facilitate secure information sharing and workflow management between service providers, clinics and specialists. Currently the system supports cardiac monitoring services, but the same technology can be applied to any biosignal measurements, such as brain monitoring and home sleep apnea testing services. Data transfer is secured with Bittium SafeMove® VPN software, which uses strong encryption algorithms to guarantee the confidentiality, privacy, and integrity of communications.

In December, Bittium released a new version of its Bittium Cardiac Navigator™ cardiac analysis software. The new software version introduces improvements in, among other things, P-wave detection, which further increases the analytical accuracy of measuring the atrial fibrillation. Cardiac Navigator is used by several customers of Bittium Faros™ ECG devices that measure the electrical activity of the heart.

Demand for R&D services remained stable. The development of R&D service offering continued, especially for the telecommunications, medical technology, automotive and industrial Internet markets. The development of operating methods and organization also continued, which has brought more efficiency in operations. Bittium continued to provide connectivity solutions to its customers with the goal of further increasing the number of R&D service projects and expanding the customer base.

As the demand for 5G technology development leveled off, Bittium has continued to invest in new customers and application areas. The company also continued to deliver different kind of connectivity solutions to its customers and aims at growing the amount of product development projects

and widening its customer base. As a new application area for product development services, Bittium joined Rightware's Kanzi partner program and has introduced its own OEM application management and security solutions implemented on the Android Automotive platform. Bittium brings deep Android system experience to the automotive industry, from the hardware level all the way up the software stack.

## Significant Events after the Reporting Period

There were no significant events after the reporting period.

## Outlook for 2021

The world-wide new Covid-19 pandemic (SARS-CoV-2) significantly affects the global economy and market situation. The prevailing uncertainties in the markets cause weak visibility to the market situation.

Bittium expects the net sales in 2021 to grow from the previous year (EUR 78.4 million in 2020) and the operating result to improve from the previous year (EUR 2.1 million in 2020).

More information about Bittium's market outlook is presented in this report in the section "Market outlook".

More information about other uncertainties regarding the outlook is presented in this report in the section "Risks and uncertainties" and on the company's website at [www.bittium.com](http://www.bittium.com).

## Market Outlook and the Implications of the Covid-19 Pandemic to Bittium

Bittium's customers operate in various industries, each of them having their own industry specific factors driving the demand. A common factor creating demand among the whole customer base is the growing need for higher quality and secure data transfer. Due to the technology competences accrued over time and the long history in developing mobile communication solutions, Bittium is in a good position to offer customized solutions to its customers. Over thirty years of experience and extensive competence in measuring of biosignals also act as a basis for medical technology solutions.

In 2020, the global Covid-19 pandemic significantly affected the global economy and market situation. The general delay in the business development and significant increase of risks and uncertainties caused by the pandemic weakens the visibility into the market situation. Bittium's business sales cycles are long by their nature, but the effects of the pandemic have begun to be seen also in Bittium's business, such as slowdown of existing projects and the transition of new projects. In addition, the restrictions due to the pandemic will slow down new customer acquisition.

The factors affecting the demand for Bittium's products and services and the effects of the Covid-19 pandemic on them are described below:

### Defense and Public Safety Market

- In the defense sector's tactical communication market, the governments' defense forces and other authorities need networks that troops, who are more and more constantly on the move, can use and transfer growing amounts of data securely. This creates demand for Bittium Tactical Wireless IP Network™ (TAC WIN) broadband network, Bittium Tough SDR™ handheld and vehicle radios and for

other Bittium's IP-based (Internet Protocol) tactical communication solutions that fulfill the needs of data transfer of moving troops and individual soldiers. Bittium continues efforts to bring its defense market targeted products and services also to the international defense markets and aims to get new international customers for its tactical communication system in 2021. Due to the long sales cycles driven by purchasing programs of national governments, it will take time to receive purchase orders.

- The financial difficulties caused by the Covid-19 pandemic affect the budgets of public finances, such as states and public authorities, and may require postponing of procurement. This may delay receiving new orders. Especially in the defense and authorities' market's testing and piloting of products and systems are typical phases before receiving orders of larger entities. Current circumstances may postpone the materialization of some orders from their planned schedule. In addition, due to the travelling restrictions, the acceptance tests may need to be rescheduled, which may affect the final product acceptances and thereby the actual product deliveries. The Covid-19 pandemic may also somewhat affect the availability of some components used in the products, which may affect the company's capability to deliver products to its customers.
- The use of LTE technology, smartphones, and applications continue to increase in special verticals such as public safety creating demand for Bittium Tough Mobile™ secure LTE smartphone and other customized special terminals based on Bittium's own product platform. The awareness of mobile security risks is growing and the interest towards secure mobile devices is increasing. The implementation of LTE-based devices in use in the Public Safety markets has been slower than expected because of the delay in the device functionalities required by the authorities and because of the slow progress of the market. The sales of the secure terminal products are expected to develop moderately according to the nature of public safety markets.

- The smartphone sales process often involves testing and piloting systems and equipment, possibly integrating third-party technologies, and possible local regulatory approvals, which are typically long-lasting. Exceptional circumstances caused by the Covid-19 pandemic may have a significant impact on the progress of projects, which slows down the closings of larger transactions.
- Using public network connections in portable devices is increasing also in demanding professional use, for instance in the public sector. This creates requirements for network connections to be easy to use and secure. The products in the Bittium SafeMove® product family enable the ease of use of the devices and security in demanding use. Demand for the Bittium SafeMove® product family has not been affected by the Covid-19 pandemic.

### Telecommunication and Digitalization

- In the mobile telecommunications, the demand for 5G technology development work has stabilized and the implementation of 5G is accelerating in pace. Investments in developing new features continue and the importance of software development in the 5G network development expands. This creates demand for Bittium's R&D services. There is a wide range of frequencies allocated for the 5G technology thus creating the need to develop multiple products to cover the market and creating demand for R&D services for development of product variants. Also, the development of new devices utilizing 5G technology increases the demand for Bittium's services.
- As the digitalization evolves, the secure IoT (Internet of Things) has become a significant development area in almost every industry. The increasing need of companies to digitalize their operations, collect data wirelessly, and transfer it to the internet and cloud services generate need for Bittium's services and customized solutions. To this end, the market needs secure devices for both demanding industrial and leisure applications, which collect information from the sensors used by the device and create a reliable wireless con-

nection to the Internet and cloud services. New radio systems customized to IoT are being used all over the world, and the number of digitalized devices increases continuously. Along with the 5G technology being used, there will also be new features in the IoT that enable i.e. remote control of machines. Therefore, the integration of different systems and technologies play an important role in enabling complete digitalization services. There are several learning systems and devices under development that use different kinds of artificial intelligence (AI) technologies to ease and speed up the processing of large data amounts.

- Changes in the digitalization of the automotive industry and new business models and the automation of automotive operations create need for technological development. Most significant technology trends such as intelligent mobility, self-driving cars, electric cars and connectivity are guiding need for innovative software development. The share of software in cars is increasing in speed and software is becoming a major enabler and a differentiator. The use of Android™ Automotive operating system in the In-Vehicle Infotainment (IVI) systems is strongly entering the market. Several carmakers have announced the launch of cars with Android Automotive. Bittium's more than a decade of experience with the Android operating system and the Google ecosystem combined with security know-how create good business opportunities for this market.
- Travel restrictions caused by the Covid-19 pandemic have slowed down the sale of product development services. Even though the adaptation to new conditions and operating methods has gone well, the restrictions have somewhat slowed down the progress of the projects and gaining new customers.
- Possible illnesses of own personnel due to the Covid-19 pandemic could have a significant impact on Bittium's business, especially with regard to product development services. The company began taking measures to ensure the health and safety of its personnel and to ensure business continuity as soon as the Covid-19 pandemic

reached Europe in March 2020. So far, the pandemic has not yet significantly affected the health of Bittium employees.

#### Medical ECG and EEG

##### Remote Monitoring Market

- The medical technology market is undergoing significant development in patient care, especially outside hospitals. There is an increasing focus on the prevention of diseases and health problems through early diagnosis and the repatriation of patients at an earlier stage in order to reduce hospital and treatment days. These actions significantly increase efficiency in health care processes and lower costs.
- A prerequisite for early repatriation is the enabling of accurate and precise follow-up and measurement opportunities in home conditions which would be enabled through remote monitoring. Remote monitoring and remote diagnostics also enable specialist's diagnoses regardless of time and place. Also evolving artificial intelligence-based algorithms are increasing to support physicians in making diagnoses. Remote monitoring and remote diagnostics make it possible and faster to obtain more accurate diagnoses, which, in turn, speeds up the start of the right kind of treatment. The market change will enable several new providers to join the overall care service chain, without compromising the quality of specialist services in areas such as cardiology and neurophysiology.
- For remote monitoring and remote diagnostics Bittium provides its Bittium Faros™ product family for remote heart monitoring and Bittium BrainStatus™ for measuring the electrical activity of the brain, as well as different kind of software for diagnostics.
- As the Covid-19 pandemic spread the number of non-emergency patients going to treatments and tests to healthcare providers decreased. Several hospitals and medical care facilities have postponed their non-emergency tests and examinations and focused on the treatment of the pandemic patients as well as on actions preventing the virus from spreading. The situation varies from country to country and in some countries the pandemic sit-

uation is worse than in others. In a long term the pandemic will accelerate the use of remote services in hospitals and medical care facilities, and thus creates positive development on the demand of the remote monitoring products and services.

## Risks and Uncertainties

Bittium has identified several business, market and finance related risk factors and uncertainties that can affect the level of sales and profits.

The Covid-19 pandemic has caused fast changes in the company's operating environment. The company management has been actively following and anticipating the development of the pandemic and taken measures to prevent and remedy the impacts of the pandemic. It is impossible to estimate the length of the situation or its impacts on business operations and financial results.

#### Market Risks

The global economic uncertainty may affect the demand for Bittium's services, solutions, and products and provide pressure on e.g. pricing. In the short term, such uncertainty may affect, in particular, the utilization and chargeability levels and average hourly prices of R&D services. Growing political uncertainty may also affect the demand for Bittium's services, solutions, and products and the price competitiveness in the different geographical areas. Bittium is also increasingly exposed to legal, economic, political, and regulatory risks related to the countries in which its suppliers and other cooperation partners are located. Such risks may result in delays in deliveries or that there will be no orders in the forecast quantities, currency losses, elevated costs, or litigations and related costs. In particular, these aforementioned risks apply to Bittium currently in Mexico, where exceptional circumstances due to the Covid-19 pandemic have significantly slowed the progress of negotiations, and it is not yet known how the pandemic may affect the Mexican state budget.

As Bittium's customer base includes, among others, companies operating in the field of telecommunication, defense and other authorities, as well as companies delivering products to them, and companies operating in the healthcare sector, the company is exposed to market changes in these industries.

A significant part of Bittium's net sales accumulates from selling products and R&D services to defense and other authorities, as well as companies delivering products to them. Deviation in anticipated business development with such customer concentrations may translate as a significant deviation in Bittium's outlook, both in terms of net sales and operating result, during the ongoing financial period and thereafter.

Bittium seeks to expand its customer base on a longer term and reduce dependence on individual companies and hence the company would thereby be mainly affected by the general business climate in the industries of the companies belonging to Bittium's customer base instead of the development of individual customer relationships. The more specific market outlook has been presented in this report in the 'Market outlook' section.

#### **Business Related Risks**

Bittium's operative business risks are mainly related to following items: uncertainties and short visibility on customers' product program decisions, their make or buy decisions and on the other hand, their decisions to continue, downsize or terminate current product programs, execution and management of large customer projects, ramping up and down project resources, availability of personnel in labor markets, accessibility on commercially acceptable terms and on the other hand, successful utilization of the most important technologies and components, competitive situation and potential delays in the markets, timely closing of customer and supplier contracts with reasonable commercial terms, delays in R&D projects, realization of expected return on capitalized R&D investments, obsolescence of inventories and technology risks in

product development causing higher than planned R&D costs, and risks related to the ramp-up of product manufacturing. Revenues expected to come from either existing or new products and customers include normal timing risks. Bittium has certain significant customer projects and deviation in their expected continuation could also result significant deviations in the company's outlook. In addition, there are typical industry warranty and liability risks involved in selling Bittium's services, solutions and products.

Bittium's product delivery business model faces such risks as high dependency on actual product volumes, timing risks and potential delays in the markets. The above-mentioned risks may manifest themselves as lower amounts of products delivered or higher costs of production, and ultimately, as lower profit. Bringing Bittium's products to international defense and other authorities' markets may take longer than anticipated because the projects are typically long, and the purchasing programs are prepared in the lead of national governments and within the available financing. Once a supplier has been selected, product deliveries are typically executed over several years.

Some of Bittium's businesses operate in industries that are heavily reliant on patent protection and therefore face risks related to management of intellectual property rights, on the one hand related to accessibility on commercially acceptable terms of certain technologies in the Bittium's products and services, and on the other hand related to an ability to protect technologies that Bittium develops or licenses from others from claims that third parties' intellectual property rights are infringed. Additionally, parties outside of the industries operate actively to protect and commercialize their patents and therefore in their part increase the risks related to the management of intellectual property rights. At worst, claims that third parties' intellectual property rights are infringed, could lead to substantial liabilities for damages. In addition, the progress of the customer projects and delivery capability may also be affected by potential challeng-

es in global accessibility of key technologies and components on commercially acceptable terms, as well as by the acceptance of the necessary export licenses. The company changed its name to Bittium Corporation as of July 1, 2015 and started using the new trademark. The registration and the use of the new trademark can include customary risks involved in taking in use a new trademark.

#### **Financing Risks**

Global economic uncertainty may lead to payment delays, increase the risk for credit losses and weaken the availability and terms of financing. To fund its operations, Bittium relies mainly on income from its operative business and may from time to time seek additional financing from selected financial institutions. Bittium has EUR 20.0 million senior loan and EUR 10.0 million committed overdraft credit facility agreement with Nordea Bank Plc. Maturity date for the senior loan is May 24, 2024 and the credit limit agreement is valid until May 24, 2024. Bittium has EUR 10.0 million committed overdraft credit facility agreement with OP Corporate Bank Plc valid until May 24, 2022.

These agreements include customary covenants related to, among other things, equity ratio, transferring property, and pledging. There is no assurance that additional financing will not be needed in case of investments, networking capital needs or clearly weaker than expected development of Bittium's businesses. Customer dependency in some parts of Bittium's business may translate as an accumulation of risk with respect to outstanding receivables and ultimately with respect to credit losses.

## Statement of Non-Financial Information

Bittium is an international technology company specializing in the development of reliable and secure communication and connectivity solutions. The company offers high information security mobile solutions to the defense industry and public administration and healthcare operators, among others. The company is committed to responsible and sustainable business through its sustainability program. The sustainability program is based on the company's strategy, values, stakeholder expectations and megatrends in the operating environment, which include digitalization and aging of the population, as well as information security.

Sustainability is part of Bittium's organizational culture and way of work. The company identifies and manages risks related to sustainability as part of the company's risk management, which emphasizes the role of the company's management group and the Board of Directors in implementing measures in day-to-day operations.

### Key Operating Principles

Bittium's operations are guided by good corporate governance, ethical principles, and codes of conduct. Bittium monitors the achievement of the targets set for the sustainability focus areas set in the Sustainability Program for 2020–2022 with various indicators. Bittium's sustainability focus areas are personnel development, confidential customer relationships and information security products, corporate citizenship and responsible business practices, and environmental responsibility. The priorities of the program are reflected in relation to the UN Sustainable Development Goals.

Bittium's partners are expected to comply with Bittium's Code of Conduct, Supplier Guidelines and Bittium Supplier Manual and Bittium Supplier Requirements, which include, for example, Bittium's policies and supplier selection and quality control requirements. Bittium reviews the principles of responsible operations of suppliers and partners and audits them in accordance with defined criteria.

Export control is an important part of the company's operations and a prerequisite for cooperation between authorities and customers. The company has always followed the instructions and rules of export control when operating in areas such as the defense and information security industries, and closely monitors changing legislation in various market areas. During 2020, the company has further developed internal processes related to export control, for example in cooperation with authorities.

### Environmental Topics

Responsibility for the environment, climate change mitigation and resource-efficient solutions are an important part of Bittium's operations and development. Bittium's business mainly focuses on product design, assembly and sale of products of manufactured by partners, and marketing, which accounts for a small portion of the environmental impact of product life cycles. The biggest environmental impacts are caused by product recycling. The overall life cycle impacts of a product are affected by optimizing the life span and recyclability of the products.

The company's (group's) scope 1 CO<sub>2</sub> emissions in 2020 were 104.5 tCO<sub>2</sub> (travelling and waste) and scope 2 emissions 649 tCO<sub>2</sub> (heating and electricity). The share of renewable energy in Bittium group's operations was 17 percent in 2020 (17%).

As part of the 2020–2022 environmental program, Bittium develops environmental data management, which aims to improve the usability and availability of monitored data for both traditional indicators and new monitoring targets. In addition, Bittium aims to improve the climate awareness of its employees by providing information on the effects of everyday choices on mitigating climate change.

### Social Responsibility and Corporate Citizenship

Bittium's equality plan is based on the Equality and Gender Equality Act. The Company does not allow discrimination or unequal treatment based on gender, age, origin, religion or belief, opinion, sexual ori-

entation, disability, or any other personal reason. The implementation of equality is examined, for example, through personnel surveys and surveys from the perspective of pay, career development and recruitment. In addition to the annual personnel surveys, in 2020, the company introduced the bi-weekly Pulssi survey, which inspects personnel's resilience during the Covid-19 pandemic.

The most typical work ability risks in the industry are musculoskeletal disorders, as well as coping at work and mental well-being. Bittium invests in good occupational ergonomics and occupational health care services that support the well-being of its employees, as well as other employee benefits. In 2020, three accidents at work were reported in Bittium's Finnish companies.

Bittium is an active player in its local community. The company cooperates with local educational institutions in the form of educational visits. Due to the Covid-19 pandemic in 2020, it has not been possible to organize student visits.

### Respect for Human Rights and the Fight against Corruption and Bribery

In all its business activities, Bittium respects human rights, avoids violating the human rights of others, and intervenes in the potential negative human rights impacts of its activities in accordance with the UN Guiding Principles on Business and Human Rights. At Bittium, monitoring the implementation of human rights is mainly related to the activities of subcontractors and suppliers. Bittium takes care of the responsibility of the company's supply chain with regards to, among other things, supplier requirements and material reports related to materials and components. Staff training is part of ensuring responsible sourcing. During 2020, no doubts were reported to Bittium regarding minerals in conflict areas.

Due to Bittium's market and business areas, corruption is one of the key risks related to social responsibility. Bittium does not accept any form of bribery or corruption in its own activities or in the activities of its part-



ners. The company has internal and external guidelines for preventing anti-corruption activities, and staff receives training related to the guidelines. The company has a monitoring tool in place to identify corruption or other ambiguities in its partners, and the company has a channel for its stakeholders to report breaches of anti-corruption rules anonymously. In 2020, the company didn't become aware of any suspicions of corruption.

## Personnel

The Bittium group employed an average of 673 people in January–December 2020. At the end of December 2020, the company had 684 employees (655 employees at the end of 2019).

## Incentive Systems

### Employee Profit-Sharing Plan

In 2020, Bittium had an employee profit-sharing plan that applies to all employees, excluding those covered by other short-term bonus plans. According to the 2020 profit-sharing plan, a separately defined part of Bittium's operating profit will be distributed to employees as a profit-sharing bonus in proportion to salaries. The goal of the system is to enable the company's success to be shared with employees and to engage employees.

### Variable Pay

The variable pay is paid based on the achievement of goals. In 2020, earning period for the variable pay was the calendar year. The targets are determined separately for each earning period. The setting of targets and the review of their achievement is decided on a one-over-one basis. The criteria for the short-term merit pay are the financial and strategic targets of the Company. In 2020, operating result formed the financial targets. In addition, part of the targets may be other Company objectives or personal targets. Personal targets vary between duties.

### Management Share-Based Incentive Plan

The management of Bittium group share-based long-term incentive scheme which comprises a Performance Share Plan ("PSP"). The objectives of the Performance Share Plan are to align the interests of Bittium's management with those of the Company's shareholders, to promote shareholder value creation in the long term, to commit the management to achieving Bittium's strategic targets and the retention of Bittium's management. The Performance Share Plan consists of three annually commencing three-year performance share plans, PSP 2020–2022, PSP 2021–2023 and PSP 2022–2024, each with a one-year performance period, which is followed by the payment of the share reward and a two-year transfer restriction period. The commencement of the following two plans, PSP 2021–2023 and PSP 2022–2024, is, however, subject to a separate Board decision. Further information can be found at the company's website at the address [www.bittium.com](http://www.bittium.com).

## Authorizations of the Board of Directors at the End of the Reporting Period

### Authorizing the Board of Directors to Decide on the Repurchase of the Company's own Shares

The General Meeting held on June 6, 2020, authorized the Board of Directors to decide on the repurchase of the Company's own shares as follows:

The amount of own shares to be repurchased shall not exceed 3,500,000 shares, which corresponds to approximately 9.81 percent of all of the shares in the company. Only the unrestricted equity of the company can be used to repurchase own shares on the basis of the authorization. Own shares can be repurchased at a price formed in public trading on the date of the repurchase or otherwise at a price formed on the market.

The Board of Directors decides how own shares will be repurchased. Own shares can be repurchased using, inter alia, derivatives. Own shares can be repurchased otherwise than in proportion to the shareholdings of the shareholders (directed repurchase).

The authorization cancels the authorization given by the General Meeting on April 10, 2019, to decide on the repurchase of the company's own shares.

The authorization is effective until June 30, 2021.

### Authorizing the Board of Directors to Decide on the Issuance of Shares as well as the Issuance of Special Rights Entitling to Shares

The General Meeting held on June 15, 2020, authorized the Board of Directors to decide on the issuance of shares and special rights entitling to shares referred to in Chapter 10 Section 1 of the Companies Act as follows:

The amount of shares to be issued shall not exceed 3,500,000 shares, which corresponds to approximately 9.81 percent of all of the shares in the company. The Board of Directors decides on all the conditions of the issuance of shares and of special rights entitling to shares. The authorization concerns both the issuance of new shares as well as the transfer of treasury shares. The issuance of shares and of special rights entitling to shares may be carried out in deviation from the shareholders' pre-emptive rights (directed issue).

The authorization cancels the authorization given by the General Meeting on April 10, 2019, to decide on the issuance of shares as well as the issuance of special rights entitling to shares referred to in Chapter 10 Section 1 of the Companies Act.

The authorization is effective until June 30, 2021.

## Shares and Shareholders

The shares of Bittium Corporation are quoted on Nasdaq Helsinki. The Company has one series of shares. All shares entitle their holders to dividends of equal value. Each share has one vote. The share does not have a nominal value. The Company's shares have been entered into the Euroclear Finland Ltd's book-entry securities system.

At the end of the financial period, the fully paid share capital of the Company entered into the Finnish Trade Register was EUR 12,941,269.00 and the total number of the shares was 35,693,166. The accounting par value of the Company's share is EUR 0.10. The Company does not have its own shares in its possession.

Shareholding and control related information is presented in section 36 of the notes to the Financial Statement.

## Flagging Notifications

There were no changes in the ownership during the period under review that would have caused flagging notifications which are obligations for disclosure in accordance with Chapter 2, section 9 of the Securities Market Act.

## Notifications of Managers' Transactions

March 23, 2020:

Name of the person subject to the notification requirement: Hannu Huttunen, CEO. Notification type: initial notification. Nature of transaction: Purchase. Transaction date: March 19, 2020. Aggregated transactions: volume 2,000 shares, volume weighted average price: EUR 3.61250.

March 23, 2020:

Name of the person subject to the notification requirement: Erkki Veikkolainen, Member of the Board. Notification type: initial notification. Nature of transaction: Purchase. Transaction date: March 19, 2020. Aggregated transactions (XHEL): volume 69,650 shares, volume weighted average price: EUR 3.67315. Aggregated transactions (XPOS): volume 1,925 shares, volume weighted average price: EUR 3.62500. Aggregated transactions (TRQM): volume 1,030 shares, volume weighted average price: EUR 3.72250. Aggregated transactions (XUBS): volume 1 105, volume weighted average price: EUR 3.62500.

March 23, 2020:

Name of the person subject to the notification requirement: Riitta Tiuraniemi, Member of the Board. Notification type: initial notification. Nature of transaction: Purchase. Transaction date: March 19, 2020. Aggregated transactions: volume 5,534 shares, volume weighted average price: EUR 3.60960.

March 23, 2020:

Name of the person subject to the notification requirement: Erkki Veikkolainen, Member of the Board. Notification type: initial notification. Nature of transaction: Purchase. Transaction date: March 20, 2020. Aggregated transactions (XHEL): volume 50,420 shares, volume weighted average price: EUR 4.18526. Aggregated transactions (XPOS): volume 3,840 shares, volume weighted average price: EUR 4.18810.

May 27, 2020:

Name of the person subject to the notification requirement: Riitta Tiuraniemi, Member of the Board. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: May 25, 2020. Aggregated transactions: volume 764 shares, volume weighted average price: EUR 5.94000.

May 27, 2020:

Name of the person subject to the notification requirement: Erkki Veikkolainen, Member of the Board. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: May 25, 2020. Aggregated transactions: volume 1, 338 shares, volume weighted average price: EUR 5.94000.

June 29, 2020:

Name of the person subject to the notification requirement: Veli-Pekka Paloranta, Member of the Board. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: June 26, 2020. Aggregated transactions: volume 1,386 shares, volume weighted average price: EUR 6.41000.

June 29, 2020:

Name of the person subject to the notification requirement: Riitta Tiuraniemi, Member of the Board. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: June 26, 2020. Aggregated transactions: volume 1,386 shares, volume weighted average price: EUR 6.41000.

June 29, 2020:

Name of the person subject to the notification requirement: Pekka Kempainen, Member of the Board. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: June 26, 2020. Aggregated transactions: volume 1,386 shares, volume weighted average price: EUR 6.41000.

June 29, 2020:

Name of the person subject to the notification requirement: Juha Putkiranta, Member of the Board. Notification type: initial noti-

fication. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: June 26, 2020. Aggregated transactions: volume 1,386 shares, volume weighted average price: EUR 6.41000.

June 29, 2020:

Name of the person subject to the notification requirement: Seppo Mäkinen, Member of the Board. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: June 26, 2020. Aggregated transactions: volume 1,386 shares, volume weighted average price: EUR 6.41000.

June 29, 2020:

Name of the person subject to the notification requirement: Erkki Veikkolainen, Member of the Board. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: June 26, 2020. Aggregated transactions: volume 2,426 shares, volume weighted average price: EUR 6.41000.

August 12, 2020:

Name of the person subject to the notification requirement: Erkki Veikkolainen, Member of the Board. Notification type: initial notification. Nature of transaction: Purchase. Transaction date: August 7, 2020. Aggregated transactions (XHEL): volume 17,271 shares, volume weighted average price: EUR 6.50940. Aggregated transactions (CHIX): volume 512 shares, volume weighted average price: EUR 6.53156. Aggregated transactions (BATE): volume 343 shares, volume weighted average price: EUR 6.54219. Aggregated transactions (DHEL): volume 1 874 shares, volume weighted average price: EUR 6.49480.

September 17, 2020:

Name of the person subject to the notification requirement: Jari-Pekka Innanen, other senior manager. Notification type: initial notification. Nature of transaction: Disposal. Transaction date: September 15, 2020. Aggregated transactions (BATE): volume 15 shares, volume weighted average price: EUR 7.05000. Transaction date: September 16, 2020. Aggregated transactions (XHEL): volume 985 shares, volume weighted average price: EUR 7.13000.

## The Board, Board Committees and the Auditor

The Annual General Meeting held on June 15, 2020 decided that the Board of Directors shall comprise six (6) members. Ms. Riitta Tiuraniemi, Mr. Seppo Mäkinen, Mr. Juha Putkiranta, Mr. Pekka Kempainen and Mr. Erkki Veikkolainen were re-elected as members of the Board of Directors for a term of office expiring at the end of the next Annual General Meeting. Further, Mr. Veli-Pekka Paloranta was elected as the new member of the Board of Directors for a corresponding term of office.

At its assembly meeting held on June 15, 2020, the Board of Directors has elected Mr. Erkki Veikkolainen as the Chairman of the Board. Further, the Board has resolved to keep the Audit Committee. Ms. Riitta Tiuraniemi (Chairman of the committee), Mr. Juha Putkiranta and Mr. Veli-Pekka Paloranta were elected as members of the Audit Committee.

Ernst & Young Oy, authorized public accountants, was re-elected auditor of the Company for a term of office ending at the end of the next Annual General Meeting. Ernst & Young Oy has notified that Mr. Jari Karppinen, authorized public accountant, will act as responsible auditor.

## Corporate Governance Statement

The Board of Directors has issued the corporate governance statement separate from this report.

## Dividend from 2019

The Annual General Meeting held on June 15, 2020, decided, in accordance with the proposal of the Board of Directors, that no dividend be distributed by the General Meeting and to authorize the Board of Directors to decide at a later stage and in its discretion on dividend distribution not exceeding the aggregate maximum amount of EUR 3.6 million in one or several instalments, which corresponds to approximately EUR 0.10 per share with the current number of shares. The authorization is effective until the beginning of the next Annual General Meeting, however, no longer than until June 30, 2021.

On November 27, 2020, under the authorization of the Annual General Meeting held on June 15, 2020, the Board of Directors of Bittium Corporation decided, that no dividend based on the distributable assets of the adopted balance sheet for the financial period of January 1, 2019–December 31, 2019 shall be paid. This decision strengthened the company's ability to invest in line with its strategy to enable future growth.

# Consolidated Statement of Comprehensive Income

Continuing operations, 1000 EUR	Notes	Jan. 1– Dec. 31, 2020	Jan. 1– Dec. 31, 2019
<b>NET SALES</b>	1, 3	<b>78,385</b>	<b>75,216</b>
Other operating income	4	852	923
Change in work in progress and finished goods			
Work performed by the undertaking for its own purpose and capitalized		342	170
Raw materials		-21,189	-17,148
Personnel expenses	7	-32,484	-31,531
Depreciation	6	-11,400	-7,999
Other operating expenses	5	-12,459	-13,447
Share of results of the associated companies	15	33	143
<b>OPERATING PROFIT</b>		<b>2,079</b>	<b>6,326</b>
Financial income and expenses	9	-434	-415
<b>PROFIT BEFORE TAX</b>		<b>1,644</b>	<b>5,912</b>
Income tax	10	537	1,733
<b>PROFIT FOR THE YEAR FROM CONTINUING OPERATIONS</b>		<b>2,181</b>	<b>7,644</b>
Profit for the year from discontinued operations	2		
<b>PROFIT FOR THE YEAR</b>		<b>2,181</b>	<b>7,644</b>
<b>Other comprehensive income:</b>			
Items that will not be reclassified to statement of income			
Re-measurement gains (losses) on defined benefit plans			
Income tax effect			
Items that may be reclassified subsequently to the statement of income			
Exchange differences on translating foreign operations		-237	29
<b>TOTAL COMPREHENSIVE INCOME FOR THE YEAR</b>		<b>1,944</b>	<b>7,673</b>
<b>Profit for the year attributable to</b>			
Equity holders of the parent		2,181	7,644
<b>Total</b>		<b>2,181</b>	<b>7,644</b>
<b>Total comprehensive income for the year attributable to</b>			
Equity holders of the parent		1,944	7,673
<b>Total</b>		<b>1,944</b>	<b>7,673</b>
<b>Earnings per share for profit attributable to the shareholders of the parent company</b>	11		
<b>Earnings per share from continuing operations, EUR</b>			
Basic earnings per share		0.061	0.214
Diluted earnings per share		0.061	0.214
<b>Earnings per share from discontinued operations, EUR</b>			
Basic earnings per share			
Diluted earnings per share			
<b>Earnings per share from continuing and discontinued operations, EUR</b>			
Basic earnings per share		0.061	0.214
Diluted earnings per share		0.061	0.214
Average number of shares, 1000 pcs		35,693	35,693
Average number of shares, diluted, 1000 pcs		35,693	35,693

# Consolidated Statement of Financial Position

1000 EUR	Notes	Dec. 31, 2020	Dec. 31, 2019
<b>Non-current assets</b>			
Property, plant and equipment	12	22,810	24,238
Goodwill	13	5,807	5,825
Intangible assets	13	48,953	41,803
Investments in associated companies	15	1,507	1,661
Other financial assets	16	112	112
Non-current receivables	19	1,207	1,353
Deferred tax assets	17	5,961	5,473
<b>Total</b>		<b>86,358</b>	<b>80,465</b>
<b>Current assets</b>			
Inventories	18	20,939	18,219
Trade and other receivables	19	26,080	20,412
Financial assets at fair value through profit or loss	20	5,689	5,675
Cash and short-term deposits	21	18,968	29,479
<b>Total</b>		<b>71,676</b>	<b>73,785</b>
<b>Total assets</b>		<b>158,033</b>	<b>154,250</b>
<b>Equity and liabilities</b>			
Equity attributable to equity holders of the parent	22		
Share capital		12,941	12,941
Translation differences		874	1,112
Invested non-restricted equity fund		25,953	25,953
Retained earnings		74,478	72,321
<b>Total</b>		<b>114,247</b>	<b>112,327</b>
Non-controlling interests			
<b>Total equity</b>		<b>114,247</b>	<b>112,327</b>
<b>Non-current liabilities</b>			
Deferred tax liabilities	17	273	337
Interest-bearing loans and borrowings (non-current)	25	21,391	21,351
Other non-current liabilities, non-interest bearing	27	281	374
<b>Total</b>		<b>21,945</b>	<b>22,062</b>
<b>Current liabilities</b>			
Trade and other payables	27	18,131	16,859
Provisions	24	2,580	1,754
Interest-bearing loans and borrowings (current)	25	1,130	1,247
<b>Total</b>		<b>21,841</b>	<b>19,861</b>
<b>Total liabilities</b>		<b>43,786</b>	<b>41,922</b>
<b>Total equity and liabilities</b>		<b>158,033</b>	<b>154,250</b>

# Consolidated Statement of Cash Flows

1000 EUR	Notes	Jan. 1– Dec. 31, 2020	Jan. 1– Dec. 31, 2019
<b>Cash flow from operating activities</b>			
<b>Profit for the year from continuing operations</b>		<b>2,181</b>	<b>7,644</b>
<b>Profit for the year from discontinued operations</b>			
Adjustments			
Effects of non-cash business activities	29	12,056	8,003
Finance costs	9	579	765
Finance income	9	-144	-350
Income tax	10	-537	-1,733
Change in net working capital			
Change in short-term receivables	19	-5,503	870
Change in inventories	18	-2,395	-3,545
Change in interest-free short-term liabilities	27	1,139	-1,572
Interest paid on operating activities		-579	-741
Interest and dividend received from operating activities		144	350
Income taxes paid		-38	-43
<b>Net cash from operating activities</b>		<b>6,903</b>	<b>9,649</b>
<b>Cash flow from investing activities</b>			
Purchase of property, plant and equipment	12	-1,388	-2,277
Purchase of intangible assets	13	-14,537	-16,141
Sale of property, plant and equipment	12		8
Sale of intangible assets	13		15
Purchase of investments/associated companies	15	0	-182
<b>Net cash from investing activities</b>		<b>-15,925</b>	<b>-18,578</b>
<b>Cash flows from financing activities</b>			
Proceeds from borrowings	25		20,000
Payment of finance lease liabilities	25, 26	-1,475	-1,444
Dividend paid and capital repayment			-5,354
<b>Net cash from financing activities</b>		<b>-1,475</b>	<b>13,202</b>
<b>Net change in cash and cash equivalents</b>	21	<b>-10,497</b>	<b>4,273</b>
Cash and cash equivalents at 1 January		35,154	30,881
Change in fair value of investments			
<b>Cash and cash equivalents at the end of the year</b>		<b>24,657</b>	<b>35,154</b>

Cash and cash equivalents include liquid and low risk financing securities.

# Consolidated Statement of Changes in Equity

## Equity attributable to equity holders of the parent

1000 EUR	Share capital	Invested non- restricted equity fund	Translation difference	Retained earnings	Non- controlling interests	Total
<b>Shareholders' equity Jan. 1, 2020</b>	12,941	25,953	1,112	72,321	0	112,327
<b>Comprehensive income for the period</b>						
Profit for the period				2,181		2,181
Exchange differences on translating foreign operations			-237			-237
<b>Total comprehensive income for the period</b>	0	0	-237	2,181	0	1,944
<b>Transactions between the shareholders</b>						
Share-related compensation				40		40
<b>Other changes</b>				-64		-64
<b>Shareholders' equity Dec. 31, 2020</b>	12,941	25,953	874	74,478	0	114,247
<b>Shareholders' equity Jan. 1, 2019</b>	12,941	25,953	1,083	70,058	0	110,035
<b>Comprehensive income for the period</b>						
Profit for the period				7,644		7,644
Exchange differences on translating foreign operations			29			29
<b>Total comprehensive income for the period</b>	0	0	29	7,644	0	7,673
<b>Transactions between the shareholders</b>						
Dividend distribution				-5,354		-5,354
<b>Other changes</b>				-27		-27
<b>Shareholders' equity Dec. 31, 2019</b>	12,941	25,953	1,112	72,321	0	112,327

# Notes to the Consolidated Financial Statements

## Corporate Information

The company's field of activities is the development, production and selling of software, equipment and other products for the automotive and electronics industry, the production of R&D services and other services as well as other industrial operations. The company may administer product and other rights and conduct research and development operations, hold and trade securities and real-estate, and conduct other investment activities.

The parent company of the Group is Bittium Corporation, which is a Finnish public company. The parent company is domiciled in Oulu and its registered address is Ritaharjuntie 1, 90590 Oulu.

## Accounting Principles for the Consolidated Accounts

### Basis of Preparation

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as well as the SIC and IFRIC interpretations in force at December 31, 2020. The financial statements are presented in thousands of euro. The consolidated financial statements have been prepared on a historical cost basis unless otherwise indicated.

## Consolidation Principles

The consolidated financial statements of Bittium include the financial statements of the parent company Bittium Corporation and its subsidiaries.

## Subsidiaries

The consolidated financial statements include Bittium Corporation and its subsidiaries financial statements. Subsidiaries are companies in which the Bittium Corporation has a controlling interest. A controlling interest arises when the Group holds more than half of the voting rights or it otherwise has the power to govern the financial and operating policies of the entity. The existence of potential voting rights is taken into account in assessing the conditions under which control arises whenever instruments conferring potential voting rights can be exercised at the review date.

## Associated Companies

An associated company is a company in which the Group has a significant influence. A significant influence exists, when the Group has a right to participate in the decision making in regards of financing or operative business of the associated company but has no sole or common control of such decisions. In the consolidated financial statements the investments in the associated companies are accounted for using the equity method according to the IFRS 11 Joint Arrangements standard. The investment in associated companies is recorded using the acquisition price, adjusted for the Groups' share of changes in the associated companies' equity after the date of acquisition. If the Groups' share of associated companies' losses exceeds the carrying amount of the investment, the investment in the associated company in the balance sheet shall be written off. The losses exceeding the carrying amount are consolidated only if the Group has a binding obligation of covering the associated companies' liabilities. Investments in the associated companies include the goodwill emerging upon the acquisition. The unre-

alized profits or losses between the Group and the associated companies are eliminated according to the share of Groups' ownership.

The Groups' share of results in the associated companies is recorded as an item above the operating result if the result arises from the operative business. The Groups' share of associated companies' other comprehensive income is recorded in the other items of comprehensive income in the consolidated statement of profit and loss.

The carrying value of investments in the associated companies is tested by comparing the carrying amount and the recoverable amount of the associated companies. An impairment loss is recognized if the carrying amount of the investment in associated companies exceeds the recoverable amount. An impairment loss is recognized in the income statement.

## Elimination of Intra-Group Transactions

Intra-Group share ownership has been eliminated by means of the purchase method. Acquired subsidiaries are included in the consolidated financial statements from the time when the Group has obtained control, and divested subsidiaries up to the time when control ceases. The excess of the acquisition cost of the subsidiary shares over fair value of the net assets acquired is allocated partly to the identifiable assets and liabilities. Any excess is recorded as goodwill. Business combinations that occurred before the implementation of IFRS, in 2004, the carrying amount of the goodwill has been treated according to the Finnish GAAP in accordance with the exemption under IFRS 1. According to IFRS



goodwill is not amortized but tested annually for impairment.

Intra-Group transactions, receivables, liabilities and margins are eliminated in preparation of the consolidated financial statements.

## Foreign Currency Transactions

Figures relating to the financial statements of Group entities are measured in the currency that is the currency of each entity's main operating environment ("functional currency"). The consolidated financial statements are presented in euros, which is the functional currency of the Group's parent company.

Transactions denominated in foreign currency are recorded in euros using the exchange rate on the date of the transaction. Monetary items denominated in foreign currency are translated to euros using the European Central Bank exchange rates at the balance sheet date. Gains and losses arising from transactions denominated in foreign currency and the translation of monetary items are recorded in the income statement.

Income statements and cash flows of subsidiaries, whose functional and reporting currency is not the euro, are translated into euros at the average exchange rates during the financial period. Their balance sheets are translated at the exchange rates prevailing at the balance sheet date. Translating the profit for the period using different rates in the income statement and the balance sheet leads to a translation difference that is recorded in equity. The translation differences arising from the elimination of the cost of foreign subsidiaries are recorded in equity. When a subsidiary is sold, the cumulative translation differences are entered in the income statement as part of the capital gain or loss.

Cumulative exchange differences arising from the translation of internal long term loans, which are in actual terms net investments in foreign operations, are taken directly to a separate component of equity.

The goodwill arising from the acquisition of foreign operations as well as fair value adjustments made to the carrying amounts of the assets and liabilities of said foreign operations in connection with an acquisition are treated as the assets and liabilities of said foreign operations and translated to euros using the exchange rates at the balance sheet date.

## Property, Plant and Equipment

Property, plant and equipment are measured at historical cost less depreciation and impairment losses. Assets of acquired companies are stated at their fair values at the date of acquisition.

Assets are depreciated using the straight-line or reducing balance method over their useful life.

The residual value of assets and their useful life are reviewed periodically in connection with each set of financial statements and the interim report and, if necessary, they are adjusted to reflect changes that have occurred in the expectations for the asset's useful life. Ordinary repair and maintenance costs are charged to the income statement during the financial year in which they incurred. Gains and losses on sales and disposals are determined by comparing the received proceeds with the carrying amount and are included in operating profit.

## Intangible Assets

### Goodwill

After January 1st, 2004 the cost of goodwill is the excess of the cost of the business combination over the acquirer's interest in the net fair value of the identifiable assets. The goodwill arising from the busi-

ness combinations prior to this represents the amount recorded under previous GAAP, which has been used as the deemed cost. The classification and accounting treatment of these business combinations has not been adjusted when the Group's opening IFRS balance sheet has been prepared.

Goodwill is tested annually or, if necessary, more frequently to determine any impairment. For this purpose, goodwill has been allocated to cash-generating units. The recoverable amount of a cash generating unit is compared to its carrying amount and an impairment loss is recognized if the carrying amount of the assets exceeds the recoverable amount. An impairment loss is recognized in the income statement.

### Research and Development Expenditure

Research expenditures are recorded as an expense as they are incurred. Expenditure on development activities is capitalized if they meet the criteria defined in IAS 38 Intangible Asset. Capitalized development expenses include mainly materials, supplies and direct labor costs. They are amortized on a systematic basis over their expected useful lives.

Capitalized development expenses are reviewed for potential impairment regularly by comparing the carrying amount to their recoverable amount. Significant changes in the technological environment are taken into account. If the carrying amount of the development expenses is greater than the recoverable amount, an impairment loss is recognized immediately.

### Other Intangible Assets

Patents, trademarks, licenses and other intangible assets having a finite useful life are entered in the balance sheet and the amortized expense is recorded in the income statement over their useful life. If indications on possible impairment exist, the recoverable amount is determined and an impairment loss is recognized if necessary. Intangible assets with an indefinite useful

life are not amortized but tested annually or, if necessary, more frequently to determine any impairment.

## Inventories

Inventories are stated at the lower of initial cost or net realizable value. Net realizable value is the estimated selling price in the normal course of business less the estimated costs of sale. The value of raw material inventory is determined using a weighted average cost formula. The initial cost of finished and semi-finished products comprises of raw material, direct labor and other direct expenses as well an appropriate share of fixed and variable production overheads, based on the normal capacity of the production facilities.

## Borrowing Costs

Borrowing costs are recognized in the income statement as they accrue according to the IFRS standards.

## Government Grants

Government grants are recognized when there is reasonable assurance that Group will comply with the conditions attaching to them and the grant will be received. Government grants received from public corporations are presented as other income in the income statement.

## Leases

According to the IFRS 16 Leases standard, in principle all lease contracts of the Group are recognized as assets and liabilities in Group's Balance Sheet. When the Group is a lessee, lease liabilities are recognized at the present value of the future lease payments at the contact date which the leased asset is available for use by the group. Lease payments are discounted by using lessee's incremental borrowing rate. Corresponding asset to the lease liability is recognized on

the historical cost basis. According to the historical cost basis model, depreciation and amortization costs are deducted from the initially recognized right-of-use asset. When adjustments to lease payments take effect, the lease liability is reassessed and adjusted against the right-of-use asset.

The Group determines the lease term as a period when a lease contract cannot be terminated. In determining the lease term, all facts and circumstances are considered that create an economic incentive to exercise an extension option, or not exercise a termination option. The Group adjusts the lease term if the period when a lease contract cannot be terminated changes. Payments associated with short-term leases and all leases of low-value assets may be recognized on a straight-line or other systematic basis as an expense in profit or loss.

The right-of-use assets are presented within the same line item as the corresponding underlying assets would be presented if they were owned. Lease liabilities are included in interest-bearing liabilities.

## Impairment of Assets

At each balance sheet date (including interim reports) the Group estimates whether there is any indication that an asset may be impaired. If any such indication exists, the recoverable amount of the asset is estimated. The recoverable amount is estimated annually regardless of any indication of impairment to the following assets: investments, goodwill, intangible assets with an indefinite useful life and for intangible assets which are not yet ready for use. The recoverable amount is based on the future discounted net cash flows, which are equivalent with the expected cash flows generated by the asset.

An impairment loss is recognized whenever the carrying amount of an asset exceeds its recoverable value. The loss is booked to the

income statement. A previously recognized impairment loss is reversed only if there has been a change in the estimates used to determine the recoverable amount. However, the reversal must not cause that the adjusted value is higher than the carrying amount that would have been determined if no impairment loss had been recognized in prior years. Impairment losses recognized for goodwill will under no circumstances be reversed.

## Employee Benefits

### Pension Liabilities

Group companies in different countries have pension plans in accordance with local conditions and practices. The plans are classified as either defined contribution plans or defined benefit plans.

In Finland, the Group has organized pension coverage for its staff through independent pension insurance companies. The Finnish system under the Employees' Pensions Act and the disability portion are treated as a defined contribution plan. The contributions to defined contribution plans are charged to the income statement in the year to which they relate. After this the Group has no other obligations for additional payment. Also the pension arrangements of the foreign subsidiaries are classified as defined contribution plans.

### Share-Based Payment

The Group has applied IFRS 2 Share-Based Payment standard. The Group has incentive plans in which part of the remuneration for the Board of Directors is paid in shares of Bittium. The managing directors of the Group also have an incentive plan in which the fair value of equity-settled share-based payments granted is recognized as an employee expense with a corresponding increase in equity. The fair value of cash-settled share-based payments is valued at each reporting period closing date and the changes in fair value of liability are recog-

nized as expense when incurred. The fair value is measured at grant date and spread over the vesting period during which the employees become unconditionally entitled to the awards. Share-based incentives are measured at fair value at the time they are granted and entered as an expense in the income statement when right is granted.

## Provisions

A provision is recognized when the Group has a legal or constructive obligation as a result of a past event, it is probable that a payment obligation will be realized or cause a financial loss and the amount of the obligation can be estimated reliably. Provisions can arise from restructuring plans, onerous contracts, warranty repairs and allowances and from environmental, litigation or tax risks.

The amount recognized as a provision is the best estimate of the expenditure required to settle the present obligation at the balance sheet date. If the time value of money is material, provisions will be discounted.

If a reimbursement can be obtained from a third party for part of the obligation, the reimbursement is treated as a separate asset when it is virtually certain that the reimbursement will be received.

## Taxes

Tax expense in the Group's income statement comprises the current tax and change in deferred taxes of each group company. Current tax is calculated based on the taxable income using the tax rate that is enacted in each country at the balance sheet date.

Deferred tax liability is calculated on the temporary differences between the carrying amounts and the amounts used for taxation purposes. Deferred tax assets are recognized for deductible temporary differences and tax losses to the extent that it

is probable that taxable profit will be available against which tax credits and deductible temporary differences can be utilized. In calculating deferred tax liabilities and assets, the tax base which is in force at the time of preparing the financial statements or which has been enacted by the balance sheet date for the following period, has been applied.

## Revenue Recognition

Bittium identifies and reviews the customer contracts and the revenue recognition principles for the different contract elements using the five step method presented in IFRS 15. According to Bittium principles, the signed contracts and purchase orders are customer contracts in accordance with IFRS 15. Frame contracts and Letters of intent can be classified as customer contracts only when the conditions of the contract are otherwise fully in accordance with the IFRS 15.

Bittium has recognized following IFRS 15 contract elements: product and license sales, sales of R&D services, maintenance and support services of products and extended warranties of the products. Bittium has listed prices for the products and their maintenance and support services as well as for their extended warranties. If the contract does not define a single price of a contract element, the price can be estimated using the market price method or using a cost base method. The prices for the sales of services are defined in each service contract. Bittium has not activated any costs of gaining a contract nor has it allocated them for the projects or products as part of the revenue to be recognized. These additional costs have been minor and the possible assets borne as a result would have a depreciable lifetime of less than one year.

The revenue of the services is recognized as the service has been performed. In this case, the contract element is delivered over

time. Revenue from long-term construction contracts is recognized based on the stage of completion when the outcome of the project can be reliably measured. The stage of completion is measured by using the cost-to-cost method under which the percentage of completion is defined as the ratio of costs incurred to total estimated costs.

This requires an accurate forecasting of future sales and costs during the lifetime of the contract. The forecasts are a basis for the revenue recognized and they contain the latest estimates of the contract sales, costs, and the risks related to the contract. The forecasts are also subject to remarkable changes due to possible changes in contract scope, cost estimate changes and change in customers' plans as well as other factors affecting the forecast.

The revenue of product sales is recognized when the significant risks and rewards normally connected with ownership, have been transferred to the buyer. Neither the Group retains a continuing managerial involvement to the degree usually associated with ownership, nor effective control of these goods. In this case, the contract element is transferred in a point in time. Sales are presented net of indirect sales taxes and discounts.

In case Bittium receives prepayments from customers, the income related to them is recognized according to abovementioned principles. For the product warranties Bittium makes warranty provisions that are reversed over time during the warranty periods. The extended warranties paid separately are accrued as income over time during the warranty period.

The following matrix states the different aspects of estimating and classifying the revenue recognition of different contract elements:

Type of Contract	Contract Element	The Principle for Revenue Recognition and Possible Estimates
Sales of services	Customer contract, fixed price	Percentage of completion defined as the ratio of costs incurred to total estimated costs.
Sales of services	Customer contract based on time, price per hours	Revenue based on the work performed, recognition based on regular invoicing.
Product/licence sales	Product, off the shelf	The revenue based on product delivery as the customer has achieved the control of the goods delivered.
Product/licence sales	Product, customized	The revenue based on product delivery as the customer has achieved the control of the goods delivered. The customization work is accrued over time according to the percentage of completion or based on the time as mentioned above in the sales of services.
Product/licence sales	Product + maintenance	The revenue based on product delivery as the customer has achieved the control of the goods delivered. Maintenance accrued over the maintenance period.
Product/licence sales	Product support services	Over time, based on the work done.
Other contracts	Rental agreements	During the rental period, according to the rental agreement.

## Assets Held for Sale and Discontinued Operations

The Group classifies a non-current asset or disposal as held for sale if its carrying amount will be recovered principally through a sale transaction rather than through continuing use. Non-current assets and asset items related to discontinued operations, which are classified as held for sale, are measured at the lower of their carrying amount and fair value less costs to sell. Depreciation and amortization on these asset items is discontinued at the time of classification.

## Financial Assets, Financial Liabilities and Derivative Contracts

The hedge accounting according to the IFRS 9 Financial Instruments standard has not been applied for the financial statement period or for the comparative period.

As presented in IFRS 9, Bittium has three classes of financial assets and liabilities: those measured at amortized cost, financial assets and liabilities at fair value through other comprehensive income and financial assets, and liabilities at fair value through statement of income. The classification is made based on the business models and based on the analysis of cash flows. The financial assets and liabilities are classified as they are initially recorded. After this no reclassifications are made unless the business model of asset management changes. At the financial statement date Bittium had a marginal amount of financial assets other than those measured at amortized cost.

As an exception to this, the cash and short-term deposits include a low risk short-term investment portfolio that is assessed at fair value through statement of income.

The financial assets are written off when:

- The agreement based right for the cash flows of the financial asset is terminated or;
- The group has either transferred all the relevant risks and rewards related to the financial assets or it has transferred their control outside the group.

## The Impairment of Financial Assets

IFRS 9 has a small effect on assessment of group financial assets. Based on the simplified approach allowed by IFRS 9 standard the group assesses and writes off the amount of expected credit losses from accounts receivables. There are no significant financing components contained into Bittiums' accounts receivables.

For assessing the expected credit losses, Bittium applies a provision matrix that is based on historical realized loss rates adjusted by forward looking estimates of lifetime of accounts receivables. All the components of the provision matrix are updated for each reporting date. The expected credit losses are presented in the group of provisions in the balance sheet. The changes in the expected credit losses are presented in the profit and loss statement.

## Cash and Short-Term Deposits

Cash comprises cash on hand, bank deposits and other highly liquid investments with low risk. Assets classified as cash and short-term deposits have a maximum maturity of three months from the date of acquisition. Cash and bank deposits are measured at amortized cost, the short-term investment portfolio is assessed at fair value through statement of income.

## Financial Liabilities

Financial liabilities include trade and other payables, loans and other financial liabilities. All financial liabilities are measured at amortized cost. The loans are initially recognized at fair value. Transaction costs are entered in the profit and loss. Subsequently the loans are measured at the amortized cost by using the effective interest rate.

Financial liabilities are not reclassified after the initial recognition. Non-current financial liabilities are due after one year whereas the current financial liabilities are due within one year.

Financial liabilities are disposed as the liability related to the contract is declared void, cancelled or due. As the terms of the financial liability are substantially changed or when a new contract with the existing creditor is made, the change is entered as disposal of the old liability and as an entry of a new liability. The changes in the balance sheet values are entered through profit and loss.

## Significant Accounting Estimates and Judgments

The preparation of financial statements requires management to make estimates and assumptions about the future that affects the reported amounts. Used estimates and assumptions are based on prior experience and presumptions, which reflect the circumstances and expectations prevailing at the time of the preparation of the financial statements. Materiality and judgment in assessing the effect of uncertainties and the application of accounting principles have been observed in the preparation of the financial statements.

The management has exercised judgment during the financial year in applying e.g. in assessing the future cost forecasts in the percentage of completion projects, assessing the value of intangible assets in business acquisitions and also when assessing the future prospects of Group companies in conjunction with standards IAS 12 Income Taxes and IAS 36 Impairment of Assets. Based on the management judgment, the majority of the capitalized R&D investments are depreciated over their expected useful lives. Part of the capitalized R&D investments is depreciated based on production amounts of the goods.

Financial statements may include non-recurring income or expenses that are not related to normal operative business or that occur only infrequently. Such items are, among others, sales profits or losses, substantial changes in asset values, like impairment or reversal of impairment, substantial restructuring costs or other substantial items that are considered as non-recurring by the management. Substantiality of the item is based on the item's euro amount and the relative share of total value of the asset.

## The Application of New and Revised IFRS Regulations

The consolidated financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) effective at the end of the period. The new, revised or amended IFRS regulations did not have significant impact on the consolidated financial statements during the period. The other forthcoming revisions or amendments of the standards are not expected to have significant impact on the consolidated financial statements.

# Notes to the Consolidated Financial Statements

## 1. OPERATING SEGMENTS

Bittium has one reporting business segment, the Wireless business, that includes three product and service areas supporting each other. These areas are as follows: Defence & Security, Connectivity Solutions and Medical Technologies.

Wireless business is focused on creating reliable and secure communication and connectivity solutions, as well as on developing healthcare techno-

logy solutions for biosignal measuring. For its customers Bittium offers innovative products and solutions based on its product platforms, and R&D services. Bittium also offers high quality information security solutions for mobile devices and portable computers. For customers in biosignal measuring in the areas of cardiology, neurology, rehabilitation, occupational health and sports medicine, Bittium offers healthcare technology products and services.

The highest operative decision-making body of the company is the Board of Directors of Bittium which is responsible for allocating resources to and evaluating the results of Bittium's operating segment. Income statement and balance sheet information of the Wireless business are equivalent to corresponding information of the Bittium group.

## Wireless

### Geographical areas

Bittium operates in three geographical areas which are Europe, Americas and Asia. In presenting the geographical information, the revenue is based on the geographical location of customers. Geographical assets are based on the geographical location of the assets.

### Geographical areas

Jan. 1–Dec. 31, 2020

1000 EUR	Finland	Other Europe	Americas	Asia	Eliminations	Group total
<b>Net sales</b>						
Sales to external customers	38,315	26,209	13,499	362		78,385
Non-current assets	80,163		233			80,396
<b>Total non-current assets *)</b>	<b>78,956</b>		<b>233</b>			<b>79,190</b>
*) does not include deferred tax assets						
<b>Capital expenditure</b>						
Tangible assets	-1,321		-107			-1,428
Intangible assets	7,151					7,151
Investments	-154					-154
Goodwill			-18			-18
Non-current receivables	-146					-146

### Geographical areas

Jan. 1–Dec. 31, 2019

1000 EUR	Finland	Other Europe	Americas	Asia	Eliminations	Group total
<b>Net sales</b>						
Sales to external customers	41,389	15,039	18,501	288		75,216
Non-current assets	74,632		359			74,991
<b>Total non-current assets *)</b>	<b>74,632</b>		<b>359</b>			<b>74,991</b>
*) does not include deferred tax assets						
<b>Capital expenditure</b>						
Tangible assets	733		56			790
Intangible assets	12,113					12,113
Investments	181					181
Goodwill			3			3
Non-current receivables	-225					-225

### Information of primary customers

Group's revenues from the 10 largest customers in period Jan. 1–Dec. 31, 2020 were EUR 64.2 million (EUR 65.0 million in 2019) representing 82.0 per cent of the net sales (86.4 per cent in 2019).

# Notes to the Consolidated Financial Statements

## 2. DISCONTINUED OPERATIONS

In 2020, or in the comparative period 2019, the Group did not have discontinued operations to be reported according to the IFRS standards.

## 3. NET SALES

1000 EUR	2020	2019
Services	25,261	25,849
Products	53,124	49,368
Other		
<b>Total</b>	<b>78,385</b>	<b>75,216</b>

The services include the project sales with fixed prices and with hourly rates.

The product sales includes all the sales affected by products:

the sales of products, the product maintenance, extended warranties and licence sales.

### Construction contracts

The contract revenue is recognized in the income statement in proportion to the stage of completion of the contract. The stage of completion is defined as the ratio of costs incurred to total estimated costs. The turnover of construction contracts is, depending on the contract elements, recognized over time or at point in time. The principles of revenue recognition based on IFRS 15 are presented in detail in the accounting principles of the consolidated financial statements.

Income recognized from construction contracts	11,246	11,638
Net sales other	67,138	63,578
<b>Total</b>	<b>78,385</b>	<b>75,216</b>
Income recognized over time based on the stage of completion of long-term construction contracts	11,246	11,638
Revenue recognized from long-term construction contracts in progress amounted to	7,364	9,943
Advances received from long-term construction contracts recognized in the balance sheet amounted to	661	246
Receivables recognized from long-term construction contracts amounted to	2,539	2,505

The net sales by geographical areas is presented in the Note 1.



**4. OTHER OPERATING INCOME**

<b>1000 EUR</b>	<b>2020</b>	<b>2019</b>
Government grants	792	816
Other income	59	106
<b>Total</b>	<b>852</b>	<b>923</b>

**5. OTHER OPERATING EXPENSES**

External services	1,792	2,077
Voluntary staff expenses	794	1,027
Premises expenses	870	863
Travel expenses	381	1,426
IT expenses	3,001	2,989
Other expenses	5,622	5,065
<b>Total</b>	<b>12,459</b>	<b>13,447</b>
Expense relating to short-term leases under IFRS 16	100	15
<b>Auditor's charges</b>		
<b>Ernst &amp; Young</b>		
Auditing	65	66
Tax advice	12	
Other services	2	15
<b>Total</b>	<b>79</b>	<b>81</b>
<b>Others</b>		
Auditing	20	26
Tax advice	3	7
Other services		
<b>Total</b>	<b>23</b>	<b>33</b>

# Notes to the Consolidated Financial Statements

1000 EUR	2020	2019
<b>6. DEPRECIATIONS AND IMPAIRMENTS</b>		
<b>Depreciations</b>		
Intangible assets		
Capitalized development expenditure	6,145	3,117
Intangible rights	442	456
Customer relations and technology	234	253
Other intangible assets	352	187
Tangible assets		
Buildings and constructions	829	879
Machinery and equipment	3,398	3,107
<b>Total</b>	<b>11,400</b>	<b>7,999</b>
<b>Depreciation on property, plant and equipment acquired by leases</b>		
Buildings and constructions	434	440
Machinery and equipment	1,028	980
<b>7. EMPLOYEE BENEFIT EXPENSES AND NUMBER OF PERSONNEL</b>		
<b>Number of personnel</b>		
Average number of personnel during the fiscal period		
Continuing operations	673	665
<b>Personnel expenses 1000 EUR</b>		
Personnel expenses		
Managing Director	274	322
Board of Directors *	214	169
Other salaries and wages	25,674	24,283
<b>Total</b>	<b>26,163</b>	<b>24,774</b>
Pension expenses, defined contribution plans	5,150	5,776
Other personnel expenses	1,171	981
<b>Total</b>	<b>32,484</b>	<b>31,531</b>

\*Including the share-based incentives. Further information in the Note 32.

1000 EUR	2020	2019
<b>8. RESEARCH AND DEVELOPMENT EXPENSES</b>		
The research and development expenses total	22,821	25,112
Capitalized to the balance sheet	-13,579	-15,641
Recognition as an asset	6,145	3,135
<b>The expensed research and development expenses recognized in the income statement amounted to</b>	<b>15,388</b>	<b>12,606</b>
<b>9. FINANCIAL EXPENSES (NET)</b>		
Interest expenses	-321	-225
Interest income	0	0
Dividend income	0	0
Exchange gains and losses	-35	-126
Change of financial assets and liabilities at fair value through profit or loss	3	275
Other financial expenses	-223	-414
Other financial income	141	75
<b>Total</b>	<b>-434</b>	<b>-415</b>
Interest expenses on lease liabilities under IFRS 16	25	38
<b>10. INCOME TAXES</b>		
Income taxes, current year	-3	-118
Other taxes	-12	-24
Income taxes, previous years	-16	-13
Deferred taxes	573	1,888
<b>Total</b>	<b>542</b>	<b>1,733</b>
A reconciliation between the effective tax rate and domestic tax rate (20.0 percent) of the Group:		
<b>Profit before taxes</b>	<b>1,644</b>	<b>5,912</b>
Tax at the domestic tax rate	-665	-1,250
Effect of tax rates of foreign subsidiaries	-2	-5
Taxes for prior years	-16	-13
Tax free income	214	202
Non-deductible expenses	-605	-206
Utilization of deferred tax assets from previous years	971	1,220
Reassessment of deferred tax assets	651	1,888
The deferred tax assets from tax losses	-	-79
Others	-12	-24
<b>Income taxes in the consolidated income statement</b>	<b>537</b>	<b>1,733</b>

# Notes to the Consolidated Financial Statements

	2020	2019
<b>11. EARNINGS PER SHARE</b>		
<b>Basic</b>		
Basic earnings per share amounts are calculated by dividing net profit for the year attributable to ordinary equity holders of the parent by the weighted average number of ordinary shares outstanding during the year.		
Profit attributable to the equity holders of the parent, continuing operations (1,000 EUR)	2,181	7,644
Profit attributable to the equity holders of the parent, discontinued operations (1,000 EUR)	0	0
Profit attributable to the equity holders of the parent, continuing and discontinued operations (1,000 EUR)	2,181	7,644
Weighted average number of ordinary shares during the financial year (1,000 PCS)	35,693	35,693
<b>Basic earnings per share, continuing operations, EUR</b>	<b>0.061</b>	<b>0.214</b>
<b>Basic earnings per share, discontinued operations, EUR</b>	<b>0.000</b>	<b>0.000</b>
<b>Basic earnings per share, continuing and discontinued operations, EUR</b>	<b>0.061</b>	<b>0.214</b>
<b>Diluted</b>		
Diluted earnings per share is calculated by dividing the net profit attributable to ordinary equity holders of the parent by the weighted average number of ordinary shares outstanding during the year plus the weighted average number of ordinary shares that would be issued on the conversion of all the dilutive potential ordinary shares into ordinary shares. The Group had no share-based payment schemes which would have a diluting effect on the number of shares.		
Profit attributable to the equity holders of the parent, continuing operations (1,000 EUR)	2,181	7,644
Profit attributable to the equity holders of the parent, discontinued operations (1,000 EUR)	0	0
Profit attributable to the equity holders of the parent, continuing and discontinued operations (1,000 EUR)	2,181	7,644
Weighted average number of ordinary shares during the financial year (1,000 PCS)	35,693	35,693
Effect of dilution (1,000 PCS)		
Weighted average number of ordinary shares during the financial year (1,000 PCS)	35,693	35,693
<b>Diluted earnings per share, continuing operations, EUR</b>	<b>0.061</b>	<b>0.214</b>
<b>Diluted earnings per share, discontinued operations, EUR</b>	<b>0.000</b>	<b>0.000</b>
<b>Diluted earnings per share, continuing and discontinued operations, EUR</b>	<b>0.061</b>	<b>0.214</b>

## 12. PROPERTY, PLANT AND EQUIPMENT

The Group has not revalued property, plant and equipment, hence the Group has not recognized any impairment losses directly to equity or recorded any reversals of those.

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>Land and water</b>		
Acquisition cost Jan. 1	1,091	1,091
Additions during the period		
<b>Acquisition cost at the end of the period</b>	<b>1,091</b>	<b>1,091</b>
<b>Carrying amount at the end of the period</b>	<b>1,091</b>	<b>1,091</b>
<b>Buildings and constructsures</b>		
Acquisition cost Jan. 1	19,081	17,445
Translation differences	-30	5
Additions during the period	385	1,631
Disposals during the period		
Acquisition of business unit		
Transfer to assets		
<b>Acquisition cost at the end of the period</b>	<b>19,436</b>	<b>19,081</b>
Accumulated depreciations Jan. 1	-4,265	-3,317
Translation differences	16	0
Depreciation for the period	-845	-855
Depreciations on disposals		-27
<b>Carrying amount at the end of the period</b>	<b>14,342</b>	<b>14,881</b>
No revaluations or capitalizations of interest costs have been done.		
<b>Machinery and equipment</b>		
Acquisition cost Jan. 1	57,744	54,603
Translation differences	12	-1
Additions during the period	2,442	3,180
Acquisition of business unit		
Disposals during the period		-39
Transfer to assets		
<b>Acquisition cost at the end of the period</b>	<b>60,197</b>	<b>57,744</b>
Accumulated depreciations Jan. 1	-49,503	-46,462
Translation differences	-17	3
Depreciation for the period	-3,388	-3,119
Depreciations on disposals		11
<b>Carrying amount at the end of the period</b>	<b>7,289</b>	<b>8,178</b>
<b>Other tangible assets</b>		
Acquisition cost Jan. 1	88	88
Additions during the period		
Disposals during the period		
<b>Acquisition cost at the end of the period</b>	<b>88</b>	<b>88</b>
Translation differences		
Accumulated depreciations Jan. 1		
Depreciation for the period		
<b>Carrying amount at the end of the period</b>	<b>88</b>	<b>88</b>

# Notes to the Consolidated Financial Statements

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>Property, plant and equipment total</b>		
Acquisition cost Jan. 1	78,003	73,227
Translation differences	-18	4
Additions during the period	2,827	4,811
Acquisition of business unit	0	0
Disposals during the period	0	-39
Transfer to assets	0	0
<b>Acquisition cost at the end of the period</b>	<b>80,812</b>	<b>78,003</b>
Accumulated depreciations Jan. 1	-53,767	-49,779
Translation differences	-2	3
Depreciation for the period	-4,233	-3,973
Depreciations on disposals	0	-16
<b>Carrying amount at the end of the period</b>	<b>22,810</b>	<b>24,238</b>
<b>Leases</b>		
The Group had the following amounts of property, plant and equipment acquired by finance leases:		
<b>Machinery and equipment</b>		
Acquisition cost	9,856	8,814
Accumulated depreciations	-8,322	-7,294
Carrying amount at the end of the period	1,533	1,520
<b>Buildings and constructsures</b>		
Acquisition cost	1,826	1,487
Accumulated depreciations	-868	-441
Carrying amount at the end of the period	958	1,046

Additions of property, plant and equipment include assets acquired by leases of EUR 1.4 million in Jan. 1–Dec. 31, 2020 (EUR 2.5 million in 2019).

## 13. INTANGIBLE ASSETS

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>Capitalized development expenses</b>		
Acquisition cost Jan. 1	47,366	31,724
Additions during the period	13,579	15,641
Acquisition of business unit		
<b>Acquisition cost at the end of the period</b>	<b>60,945</b>	<b>47,366</b>
Accumulated depreciations Jan. 1	-8,239	-5,122
Depreciation for the period	-6,145	-3,117
<b>Carrying amount at the end of the period</b>	<b>46,560</b>	<b>39,127</b>
<b>Intangible rights</b>		
Acquisition cost Jan. 1	5,107	4,888
Additions during the period	206	225
Disposals during the period		-7
Acquisition of business unit		
Transfer to assets		
<b>Acquisition cost at the end of the period</b>	<b>5,313</b>	<b>5,107</b>
Accumulated depreciations Jan. 1	-3,893	-3,437
Depreciation for the period	-442	-456
<b>Carrying amount at the end of the period</b>	<b>978</b>	<b>1,213</b>
<b>Customer relations and technology</b>		
Acquisition cost Jan. 1	1,780	1,780
Acquisition of business unit		
<b>Acquisition cost at the end of the period</b>	<b>1,780</b>	<b>1,780</b>
Accumulated depreciations Jan. 1	-888	-635
Depreciation for the period	-234	-253
<b>Carrying amount at the end of the period</b>	<b>659</b>	<b>892</b>

# Notes to the Consolidated Financial Statements

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>Other intangible assets</b>		
Acquisition cost Jan. 1	4,317	4,050
Translation differences	-9	2
Additions during the period	546	265
Transfer to assets		
<b>Acquisition cost at the end of the period</b>	<b>4,855</b>	<b>4,317</b>
Accumulated depreciations Jan. 1	-3,747	-3,558
Translation differences	9	-2
Depreciation for the period	-360	-187
<b>Carrying amount at the end of the period</b>	<b>757</b>	<b>570</b>
<b>Intangible assets total</b>		
Acquisition cost Jan. 1	58,570	42,443
Translation differences	-9	2
Additions during the period	14,332	16,131
Acquisition of business unit	0	0
Disposals during the period	0	-7
Transfer to assets	0	0
<b>Acquisition cost at the end of the period</b>	<b>72,893</b>	<b>58,570</b>
Accumulated depreciations Jan. 1	-16,767	-12,752
Translation differences	9	-2
Depreciation for the period	-7,181	-4,013
<b>Carrying amount at the end of the period</b>	<b>48,953</b>	<b>41,803</b>
<b>Goodwill</b>		
Acquisition cost Jan. 1	5,825	5,822
Translation differences	-18	3
Additions during the period		
Disposals during the period		
<b>Carrying amount at the end of the period</b>	<b>5,807</b>	<b>5,825</b>



### Impairment Test

The cash flow forecasts employed in impairment test calculations are based on the budgets for 2021 and the Long Range Plans (LRP) for 2022–2023, and management estimations for 2024–2025. Cash flows beyond five-year period are calculated by using the terminal value method. Future cash flows are exposed to the risks that are discussed in section 'Risks and uncertainties' in the Report by the Board of Directors.

The used discount rate in impairment testing is Weighted Average Cost of Capital (WACC) before tax defined for Bittium. WACC defines average costs of equity and debt by noticing the risks belonging to the each component. The components of WACC are risk-free interest rate, market risk premium, beta, cost of debt, corporate in-

come tax rate and target capital structure. WACC calculated according to these parameters amounted to 9.8% (9.8% in 2019).

In 2020 business did not reach the forecasted cash flow. This was mainly because of increase in working capital, greater than expected additions in capitalized development expenses, slower than expected growth and profitability in the business. The growth in business was delayed due to Covid-19 pandemic that started during the fiscal year. That results with lower expectations of future operating cash flow.

The impairment test is done when needed, but at least once a year. Impairment tests made in December 2020 did not indicate need for impairment bookings. Recovers-

able amounts exceed significantly the book value of goodwill and other assets. The terminal value represents 71% of business value. The growth in business was slower than expected due to Covid-19 pandemic, which move focus of forecasted net present value based cash flow from the near future to further in the future.

Sensitivity analysis was also carried out during the impairment test. Cash flow forecast was either decreased by 20% or the discount factor was increased by 5%. It was noticed that cash flows are relatively sensitive to increase in discount factor. However, there are no expectations for impairment losses in the future.

# Notes to the Consolidated Financial Statements

## 14. ACQUISITIONS

### Acquisitions in 2020

In 2020 or in the comparative period 2019 the Group did not have acquisitions to be reported according to the IFRS standards.

## 15. SHARES IN ASSOCIATED COMPANIES

Bittium Group owns 25% of Coronaria Analyysipalvelut Oy shares in the end of 2020. Through this joint ownership Bittium and Coronaria aim at gaining synergies from Bittium's device and system development and the interfaces formed by Coronaria's clinical medicine and services. Coronaria Analyysipalvelut Oy has been consolidated using the equity method using the information that was available for the Bittium financial statements. The domicile of the company is Oulu.

Bittium Group owns 25% of evismo AG shares in the end of 2020. Evismo AG provides medical remote diagnostics services in Switzerland. Evismo AG has been consolidated using the equity method using the information that was available for the Bittium financial statements. The domicile of the company is Zurich.

1000 EUR	2020	2019
<b>Shares in associated companies</b>		
Coronaria Analyysipalvelut Oy	1,241	1,347
evismo AG	244	292
Other associated companies	22	22
<b>Assets total</b>	<b>1,507</b>	<b>1,661</b>
Coronaria Analyysipalvelut Oy		
Current assets	1,525	1,237
Non-current assets	1,216	1,358
Non-current liabilities	127	153
Turnover	5,315	5,846
Net profit	663	1,203
evismo AG		
Current assets	75	93
Non-current assets	79	80
Non-current liabilities	43	24
Turnover	230	115
Net profit	-189	-247
<b>Shares in associated companies</b>		
Acquisition cost Jan. 1	1,661	1,480
Translation differences	0	-1
Additions during the period	99	372
Disposals during the period	-253	-190
<b>Carrying amount at the end of the period</b>	<b>1,507</b>	<b>1,661</b>

# Notes to the Consolidated Financial Statements

## 16. OTHER FINANCIAL ASSETS

1000 EUR	2020	2019
At 1 January	112	112
Additions		
Disposals		
<b>At the closing date</b>	<b>112</b>	<b>112</b>

## 17. DEFERRED TAX LIABILITIES AND ASSETS

1000 EUR	Jan. 1, 2020	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2020
<b>Deferred tax assets</b>				
Unutilized losses in taxation	526			526
Other items	4,947	488		5,435
<b>Total</b>	<b>5,473</b>	<b>488</b>	<b>0</b>	<b>5,961</b>

On December 31, 2020, the Group had 72.8 million euros tax losses and non-depreciated depreciations of which it had nonbooked deferred tax receivables in full amount due to the uncertainty of the future profits, their timing, taxation or location. The amount of these nonbooked deferred tax receivables is approximately 14.6 million euros. The aging of these tax losses begins from year 2021.

1000 EUR	Jan. 1, 2020	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2020
<b>Deferred tax liabilities</b>				
Customer and technology assets	337	-64	0	273
<b>Total</b>	<b>337</b>	<b>-64</b>	<b>0</b>	<b>273</b>

1000 EUR	Jan. 1, 2019	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2019
<b>Deferred tax assets</b>				
Unutilized losses in taxation	523	3		526
Other items	3,224	1,723		4,947
<b>Total</b>	<b>3,747</b>	<b>1,726</b>	<b>0</b>	<b>5,473</b>

On December 31, 2019, the Group had 79.7 million euros tax losses and non-depreciated depreciations of which it had nonbooked deferred tax receivables in full amount due to the uncertainty of the future profits, their timing, taxation or location. The amount of these nonbooked deferred tax receivables is approximately 15.9 million euros. The aging of these tax losses begins from year 2020.

1000 EUR	Jan. 1, 2019	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2019
<b>Deferred tax liabilities</b>				
Customer and technology assets	405	-68	0	337
<b>Total</b>	<b>405</b>	<b>-68</b>	<b>0</b>	<b>337</b>

# Notes to the Consolidated Financial Statements

## 18. INVENTORIES

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
Raw materials and supplies	13,419	11,210
Work in progress	4,785	4,760
Finished products	2,065	1,575
Other inventories	669	674
<b>Total</b>	<b>20,939</b>	<b>18,219</b>

## 19. TRADE AND OTHER RECEIVABLES (CURRENT)

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
Non-current receivables	1,207	1,353
<b>Non-current receivables total</b>	<b>1,207</b>	<b>1,353</b>
Current receivables:		
Trade receivables	20,486	15,397
Receivables from construction contracts	2,540	2,505
Prepaid expenses and accrued income	2,047	1,639
Other receivables	1,008	872
<b>Current receivables total</b>	<b>26,080</b>	<b>20,412</b>

Receivables are valued at nominal value or probable current value, whichever is lower.

During the financial year group has booked impairment losses from accounts receivable EUR 0.0 million (EUR 0.0 million 2019).

Age distribution of accounts receivable		
Current	18,417	14,877
Aged Overdue Amounts		
0-3 months	1,529	132
4-6 months	19	23
7-12 months	218	14
> 12 months	302	351
<b>Total</b>	<b>20,486</b>	<b>15,397</b>

**20. FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT OR LOSS**

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>Interest rate funds</b>		
Balance sheet value on Jan. 1	5,675	21,576
Disposals		-16,012
Changes in fair value	14	112
<b>Balance sheet value at the end of the period</b>	<b>5,689</b>	<b>5,675</b>
<b>Financial assets at fair value through profit or loss total</b>		
Balance sheet value on Jan. 1	5,675	21,576
Disposals		-16,012
Changes in fair value	14	112
<b>Balance sheet value at the end of the period</b>	<b>5,689</b>	<b>5,675</b>
<b>21. CASH AND SHORT-TERM DEPOSITS</b>		
Cash and short-term deposits	18,968	29,479
<b>Total</b>	<b>18,968</b>	<b>29,479</b>
<b>Cash and cash equivalents at consolidated cash flow statement consist of:</b>		
Interest rate funds	5,689	5,675
Cash and short-term deposits	18,968	29,479
<b>Total</b>	<b>24,657</b>	<b>35,154</b>

Fair value of cash and cash equivalents does not significantly differ from the carrying amount.

# Notes to the Consolidated Financial Statements

## 22. ISSUED CAPITAL AND RESERVES

	Shares 1000 PCS	Share premium 1000 EUR	Premium fund 1000 EUR	Invested non- restricted equity fund 1000 EUR	Total 1000 EUR
On December 31, 2019	35,693	12,941	0	25,953	38,894
On December 31, 2020	35,693	12,941	0	25,953	38,894

### Shares and the Share Capital

The shares of Bittium Corporation are listed on the NASDAQ OMX Helsinki Ltd. The Corporation has one series of shares. All the shares entitle their holders to dividends of equal value. Each share has one vote. The share does not have a nominal value. The company's shares have been entered into the Finnish Central Securities Depository Ltd's book-entry securities system.

At the end of the financial period, the fully paid share capital of the company entered into the Finnish Trade Register was EUR 12,941,269.00 and the total number of the shares was 35,693,166. The accounting per value of the company's share is EUR 0.10. The company is not in the possession of its own shares.

### Translation Differences

The translation reserve comprises all foreign exchange differences arising from the transition of the financial statements of foreign subsidiaries.

### Dividends

The Board of Directors proposes that the Annual General Meeting resolve not to pay dividends based on the adopted balance sheet for the financial period of January 1, 2020–December 31, 2020.



### 23. SHARE-BASED PAYMENT PLANS

During the financial year 2020 the group has paid part of total remuneration of the Board of Directors of Bittium Plc by the shares of Bittium. The shares were acquired from the stock exchange. The main terms of the remuneration arrangement are presented in the table below.

#### Share-based Remuneration of the Board of Directors

Form of the reward	Shares
Grant date	May 25, 2020
Total amount of the executed shares	4,776
Share price at the grant date, EUR	5.94
Total expenses of the reward, EUR million	0.028
Vesting conditions	Ownership of the shares was transferred to the recipients at once but the recipients have agreed the lock-up undertaking until the membership in the board have ceased.
Execution	In shares

Form of the reward	Shares
Grant date	June 26, 2020
Total amount of the executed shares	9,356
Share price at the grant date, EUR	6.41
Total expenses of the reward, EUR million	0.060
Vesting conditions	Ownership of the shares was transferred to the recipients at once but the recipients have agreed the lock-up undertaking until the membership in the board have ceased.
Execution	In shares

#### Share-based Remuneration of the Management

The new Share-Based Incentive Scheme for the Management of Bittium Corporation has started.

The Performance Share Plan (PSP) consists of three annually commencing three-year performance share plans, PSP 2020–2022, PSP 2021–2023 and PSP 2022–2024, each with a one-year performance period, which is followed by the payment of the share reward and a two-year transfer restriction period. The commencement of the following two plans, PSP 2021–2023 and PSP 2022–2024, is, however, subject to a separate Board decision. The performance measures based on which the potential share reward under PSP 2020–2022 will be paid are the revenue growth and cash flow before financial items of Bittium. A precondition for the payment of the share reward is, in addition, that the employment relationship of the participant with Bittium continues at the time the reward is paid. The potential reward will be paid in shares of Bittium.

Form of the reward	Shares
Grant date	March 2, 2020
Total amount of the shares at the most	110,000
Share price at the grant date, EUR	5.63
Total expenses of the reward at the most, EUR million	0.60
Execution	In shares

During the financial year 2019 the group did not have share-based payments.

# Notes to the Consolidated Financial Statements

## 24. PROVISIONS

1000 EUR	Guarantee provisions	Expected credit losses	Others	Total
December 31, 2019	1,604	151	0	1,754
Increase in provisions	1,220	51		1,271
Utilized provisions	-267			-267
Reversal of utilized provisions	-178			-178
<b>Dec. 31, 2020</b>	<b>2,379</b>	<b>202</b>	<b>0</b>	<b>2,580</b>
Current provisions	2,379	202	0	2,580
<b>Total</b>	<b>2,379</b>	<b>202</b>	<b>0</b>	<b>2,580</b>

## 25. FINANCIAL LIABILITIES

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>Non-current loans</b>		
Non-current loans from financial institutions	20,000	20,000
Finance lease liabilities	1,391	1,351
<b>Total</b>	<b>21,391</b>	<b>21,351</b>
<b>Current loans</b>		
Lease liabilities	1,130	1,247
<b>Total</b>	<b>1,130</b>	<b>1,247</b>
Repayment schedule of long-term loans:		
2021		747
2022	761	398
2023	296	108
2024	20,171	15
Later	164	20,083
<b>Total</b>	<b>21,391</b>	<b>21,351</b>

The interest-bearing non-current loans are distributed by currency as follows:

<b>1000 EUR</b>	<b>Dec. 31, 2020</b>	<b>Dec. 31, 2019</b>
EUR	21,391	21,315
MXN		36
<b>Total</b>	<b>21,391</b>	<b>21,351</b>

The interest-bearing current loans are distributed by currency as follows:

<b>1000 EUR</b>	<b>Dec. 31, 2020</b>	<b>Dec. 31, 2019</b>
EUR	1,098	1,191
MXN	32	57
<b>Total</b>	<b>1,130</b>	<b>1,247</b>

Maturities of the finance lease liabilities:

<b>1000 EUR</b>	<b>Dec. 31, 2020</b>	<b>Dec. 31, 2019</b>
Lease liabilities - Minimum lease payments		
Within one year	1,176	1,300
After one year but no more than five years	1,350	1,304
After five years	104	108
Lease liabilities - Present value of minimum lease payments	2,521	2,598
Within one year	1,130	1,247
After one year but no more than five years	1,311	1,267
After five years	81	83
Future finance charges	108	114
<b>Total amount of finance lease liabilities</b>	<b>2,630</b>	<b>2,711</b>

# Notes to the Consolidated Financial Statements

## 26. CHANGES IN LIABILITIES ARISING FROM FINANCING ACTIVITIES

1000 EUR	Jan. 1, 2020	Cash flows	New leases	Dec 31, 2020
Lease and financing contracts	22,598	-1,475	1,399	22,521
<b>Total</b>	<b>22,598</b>	<b>-1,475</b>	<b>1,399</b>	<b>22,521</b>

## 27. TRADE AND OTHER PAYABLES

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>Non-current liabilities</b>		
<b>Other non-current liabilities, non-interest bearing</b>		
Non-current advances received		
Other non-current liabilities, non-interest bearing	281	374
<b>Total</b>	<b>281</b>	<b>374</b>
<b>Current liabilities</b>		
<b>Trade and other payables</b>		
Trade liabilities	6,028	4,747
Accrued liabilities, deferred income	8,434	8,674
Other liabilities	3,669	3,438
<b>Total</b>	<b>18,131</b>	<b>16,859</b>
Material of accrued expenses and deferred income consists of personnel expenses and other accruals.		
Fair value of the other liabilities than derivatives doesn't significantly differ from the initial carrying value, because the impact on discounting is not significant when the maturities of the loans are taken into account.		
<b>Financial liabilities at fair value through profit or loss</b>		
Liabilities based on derivatives		
Balance sheet value on Jan. 1		
Changes in fair value		
<b>Balance sheet value at the end of the period</b>	<b>0</b>	<b>0</b>

## 28. FINANCIAL RISK MANAGEMENT

Under its normal business activities, Bittium Corporation is exposed to several financial risks. The primary financial risks are foreign exchange rate risk, interest rate risk, investment risk and default risk. The goal of the Group's financial risk management function is to reduce adverse effects of price fluctuations and other uncertainties on earnings, balance sheet and cash flows as well as to ensure sufficient liquidity. In its risk management, the Group uses financial instruments such as forward exchange agreements and interest rate swaps. External professional portfolio managers are employed for investing activities.

The Group's general risk management principles are approved by the Board of Directors. The responsibility for their implementation lies with the group finance department together with operational units. The group finance department identifies and assesses risks and obtains relevant financial instruments for hedging them in close co-operation with the operative units. Management evaluates risk concentrations from the viewpoint of business activities, taking into consideration shared factors between underlying variables such as those arising from changes in economic conditions or other variables. Operations and funding programs executed in the financial markets are mainly concentrated into the parent company. Subsidiaries are mainly funded through intra-company loans and group account overdraft credit limits.

The Group's financial risks are divided into market, default and liquidity risk.

### Market risks

Market risks are caused by changes in foreign exchange rates, interest rates and the price of securities. Fluctuations in these may have an impact on the Group's income statement, cash flow or balance sheet.

#### Foreign exchange rate risk

The Group operates globally and is exposed to transaction risk from foreign exchange positions as well as to risks due to the translation of investments in different currencies to the functional currency of the parent company. The most relevant currencies for the Group are the Euro and the US dollar. Foreign exchange rate risk is caused by commercial activities, monetary items on the balance sheet and net investments in foreign subsidiaries. A business unit's functional currency or generally used currencies (EUR, USD) are used as invoicing currency. Additional information on functional currency and foreign currency conversion is available in the accounting principles section of the consolidated financial statements.

The Group follows a currency strategy that aims at securing the margin of business activities in changing market conditions by minimizing the effect of fluctuations in

foreign exchange rates. According to the principles of the currency strategy, surely considered and the most probable net cash flow in a particular currency is hedged as net position. The cash flow is defined based on the net position of the trade receivables, trade payables, order intake and forecasted net currency cash flow. According to the currency strategy, the degree of hedging can vary from approximately 50% to 100% of the forecasted net position when net position exceeds EUR 1 million. The Group could also apply hedge accounting as defined in the IFRS 9 standard. Hedge accounting was not applied during 2020. At the end of the financial period, the counter value of the hedged net position was EUR 0.6 million. During the financial year, the amount of the hedged position has been changing between EUR 0.6–1.5 million.

The Group has hedged the transaction risk related to its income statement and the translation risk related to equity on the balance sheet or economic risk has not hedged. Foreign currencies denominated equities of foreign subsidiaries on December 31, 2020 was EUR 2.6 million (EUR 2.8 million in 2019) from which dollar denominated equities of foreign subsidiaries was EUR 2.3 million (EUR 1.9 million in 2019).

## Notes to the Consolidated Financial Statements

On the closing date, the Group had the following foreign exchange derivative contract nominal amounts outstanding (the nominal amounts do not represent the amounts exchanged by the parties):

1000 EUR	2020	2019
Forward contracts		
Market value	17	26
Nominal value	600	1,500

Dollar denominated assets and liabilities translated to euros using the closing date's value:

1000 EUR	2020	2019
Long-term assets	0	0
Long-term liabilities	0	0
Current assets	4,590	4,007
Current liabilities	2,275	2,064

The table below describes the 10% appreciation or depreciation of the Euro against the US dollar, other variables remaining constant. The sensitivity analysis is based on foreign currency denominated assets and liabilities as of the closing date. The change in dollar denominated trade receivables and debt would primarily have been due to fluctuations in the foreign exchange rate.

1000 EUR	Changes in income statement before tax		Changes in equity before tax	
	2020	2019	2020	2019
EUR appreciates	-200	-200	-200	-200
EUR depreciates	300	200	300	200

### Interest Rate Risk

Part of the Group's debt is tied to fixed interest rates.

At the closing date, the Group had the following fixed interest rate debts outstanding:

1000 EUR	2020	2019
Fixed interest rate debts	2,521	2,598

The table below describes the interest rate risk of debts should there have been a  $\pm 1\%$  change in interest rates of short term reference interest rate debts, other variables remaining constant. The figures presented indicate the change in yearly interest expense calculated using the average amount of debt during the financial period.

1000 EUR	Changes in income statement before tax		Changes in equity before tax	
	2020	2019	2020	2019
Loan stock January, 1	22,600	1,500		
Loan stock December, 31	22,500	22,600		
Average loan stock	22,600	12,100		
Change in interest	+/- 200	+/- 100	+/- 200	+/- 100

### Market Risk of Investment Activities

The Group's interest investments result in interest rate exposure, but their effect is not considered significant. The Group's revenue and operative cash flows are mainly independent of market rate fluctuations.

The Group invests in low-risk interest rate funds and therefore it has not been exposed to security price risk of fluctuations in the stock markets. According to the Group's principles, investments related to cash management are made in liq-

uid and low-risk money market or bond instruments and thus have not been hedged using derivatives.

The table below describes the distribution of investments in securities at the closing date.

	2020	2019
Stock shares	0.0%	0.0%
Bonds	69.3%	61.5%
Money market investments	30.7%	38.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

The combined value of the above instruments during the financial period has ranged from approximately EUR 5.5 to EUR 5.7 million. At closing date their value was approximately EUR 5.7 million. This risk concentration has been managed by investing in well spread and low-risk money market funds.

## Notes to the Consolidated Financial Statements

The table below describes the price risk of the investments if they had exhibited a  $\pm 1\%$  change in a market rate of interest, other variables remaining constant. Financial assets that are recognized at market value in the income statement affect net income. Changes in the value of for-sale financial assets affect equity. In the calculations it is presumed that the Group's investments change with the interest rate level in question. The sensitivity analysis describes the total market risk of investment activity because all investments are in the interest rate instruments.

1000 EUR	Changes in income statement before tax		Changes in equity before tax	
	2020	2019	2020	2019
Interest investments	+/- 0	+/- 0	+/- 0	+/- 0

### Default risk

Group's credit risks are mainly related to accounts receivable, cash, financial investments and derivatives used in hedging. In its deposit, financial investment and hedging activities Bittium operates only with well-known partners who have good credit rating.

About 85% of the Group's trade receivables are from ten customers. The other trade receivables are distributed among a wide customer base and across several geographical areas. Credit risk is mitigated for example by documentary credits or bank guarantees when needed. Default risk concentration is mainly assessed as a single customer's share of total trade receivables but also according to the receivable's date of maturity.

Bittium's significant default risk concentration is EUR 0.5 million which represents approximately 2.6% of the total accounts receivable.

During the past financial year the amount of recognized credit losses was approximately EUR 0.0 million (EUR 0.0 million in 2019). The amount of loans granted to affiliated companies were EUR 0.0 million at

the end of 2020 (EUR 0.0 million in 2019). Group did not have capital loans granted outside of the Group at the end of 2020 (EUR 0.0 million in 2019).

The amount of the Group's counterparty default risk is consistent with the book value of financial assets at the closing date. For the maturity distribution of trade receivables, see Note 19.

### Liquidity risk

The Group and business segments strive to continuously evaluate and monitor the amount of liquid funds needed for business operations and loan repayments. The Group strives to guarantee the availability and flexibility of financing by its strong financial position and liquid investments. Bittium has EUR 20.0 million senior loan and EUR 10.0 million committed overdraft credit facility agreement with Nordea Bank Finland Plc. Maturity date for the senior loan is May 24, 2024, and the credit limit agreement is valid until May 24, 2024. Bittium has EUR 10.0 million committed overdraft credit facility agreement with OP Corporate Bank Plc valid until May 24, 2022. These agreements include customary covenants related to, among other things, equity ratio,

interest bearing debt to EBITDA, and transferring property and pledging. These credit facilities were in use EUR 0.0 million at the end of the reporting period. For the maturity distribution of the Group's debt, see Note 25.

### Capital structure management

The Group strives to optimize its capital structure and thus support business activities by ensuring normal operating conditions under all circumstances. An optimal capital structure also ensures that the cost of capital is minimized.

The capital structure is affected by dividend policy and share issuance. The Group can alter and adjust dividends paid to shareholders as well as share repurchases. The Group can also alter and adjust the amount of shares issued, or make decisions on the sale of assets.

The management has continuously monitored the development of the Group's net gearing and solvency ratio. The Group's interest-bearing net debt at the end of 2020 was EUR -2.1 million (EUR -12.6 million in 2019) and net gearing was -1.9% (-11.2% in 2019). The Group's solvency ratio at the end of 2020 was 73.1% (73.4% in 2019).



## Fair Values of Financial Assets and Liabilities

This section presents the Group's fair valuing principles for all financial instruments. The table below presents book values for each item in detail. Their fair values are not considered to materially differ from the book values presented in the consolidated balance sheets.

1000 EUR	Note	Book value 2020	Fair value 2020	Book value 2019	Fair value 2019
<b>Financial assets</b>					
Other financial assets	16	112	112	112	112
Deferred tax assets	17	5,961	5,961	5,473	5,473
Non-current receivables	19	1,207	1,207	1,353	1,353
Trade receivables and other receivables	19	26,080	26,080	20,412	20,412
<b>Financial assets at fair value through profit or loss</b>					
Cash and cash equivalents	21	18,968	18,968	29,479	29,479
Currency forwards	20	17	17	26	26
<b>Financial liabilities</b>					
Bank loans	25	20,000	20,000	20,000	20,000
Finance lease liabilities	25	2,521	2,521	2,598	2,598
Trade payables and other debts	17, 24, 26	21,798	21,798	19,325	19,325
Currency forwards	27	0	0	0	0

### Investments in Shares and Funds and Other Investments

For-sale financial assets consist mainly of money market investments that fair values are based on the quotes of the closing day (IFRS 7 fair value hierarchy level 1; quoted prices (unadjusted) in active markets for identical assets or liabilities).

#### Derivatives

The fair values of forward contracts are defined based on publicly quoted currency and interest rate information and using commonly accepted valuation methods (IFRS 7 fair value hierarchy level 2; instru-

ments whose fair value is observable either directly (i.e. as prices) or indirectly (i.e. derived from prices)). These calculations have been carried out by an outside professional party.

#### Bank Loans

Book values are considered to closely approximate fair values.

#### Finance Lease Liabilities

Book values are considered to closely approximate fair values.

#### Trade Receivables and Other Receivables

The original book value of receivables is considered to equal their fair values, since the effect of discounting is non-significant considering the maturities of the receivables.

#### Trade Payables and Other Debts

The original book value of payables and other debts is considered to equal their fair values, since the effect of discounting is non-significant considering the maturities of the receivables.

# Notes to the Consolidated Financial Statements

## 29. ADJUSTMENTS TO NET CASH FROM OPERATING ACTIVITIES

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
Business transactions without payments		
Depreciations	11,400	7,999
Share of profits in associated companies	-33	-143
Other adjustments	690	147
<b>Total</b>	<b>12,056</b>	<b>8,003</b>

## 30. OPERATING LEASE AGREEMENTS

### The Group as Lessee

The total of future minimum lease payments under non-cancellable operating leases for each of the following periods:

1000 EUR	Dec. 31, 2019	Dec. 31, 2018
Not later than one year	54	6
Later than one year and not later than five years		
After five years		

The Group owns its facilities in Oulu and Kuopio. The facilities in other locations are rented. In average the maturities of the lease agreements are from 1 month to 5 years and normally they include an option to extend the rental period from originally agreed end date. IFRS 16 Leases standard has come into force on January 1st, 2019. According to the standard, in principle all lease contracts of the Group are recognized as assets and liabilities in Group's Balance Sheet.

**31. SECURITIES AND CONTINGENT LIABILITIES**

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
Against own liabilities		
Floating charges		
Guarantee limits	117	108
Other contractual liabilities		
Falling due in the next year	2,281	1,921
Falling due after one year	1,175	847
Mortgages are pledged for liabilities totaled		
Other liabilities (guarantees issued)		
Material purchase commitments	11,483	16,020

**32. RELATED PARTY DISCLOSURES**

The Group has the following structure:

	Country of incorporation	Owned by Parent %	Owned by Group %
<b>Parent</b>			
Bittium Oyj	Finland		
<b>Subsidiaries</b>			
Bittium Technologies Oy	Finland	100.00	100.00
Bittium Wireless Oy	Finland	0.00	100.00
Bittium Safemove Oy	Finland	0.00	100.00
Bittium Biosignals Oy	Finland	0.00	100.00
Bittium Medanalytics Oy	Finland	0.00	100.00
Kiinteistöosakeyhtiö Oulun Ritaharjuntie 1	Finland	0.00	100.00
Bittium Germany GmbH	Germany	0.00	100.00
Bittium Mexico S.A. de C.V.	Mexico	0.00	100.00
Bittium USA, Inc.	USA	0.00	100.00
Bittium Singapore Pte. Ltd.	Singapore	0.00	100.00

Information on the associated companies is presented in the Note 15.

**Related party transactions and balances:**

1000 EUR		2020	2019
Associated companies			
	Net sales	493	489
	Receivables	1,458	1,692
	Debts	300	350

# Notes to the Consolidated Financial Statements

1000 EUR	2020	2019
<b>Employee benefits for key management</b>		
Salaries and remuneration		
Managing director of the parent		
Hannu Huttunen 1.1.–31.12.2019, 1.1.–31.12.2020	241	322
<b>Total</b>	<b>241</b>	<b>322</b>
Remuneration of the members of the board of the parent, the financial committee and the managing directors of the business segments		
Erkki Veikkolainen 1.1.–31.12.2019, 1.1.–31.12.2020	31	43
Riitta Tiuraniemi 11.4.–31.12.2019, 1.1.–31.12.2020	20	28
Pekka Kempainen 10.4.–31.12.2019, 1.1.–31.12.2020	18	21
Petri Toljamo 11.4.–31.12.2019, 1.1.–15.6.2020	6	24
Juha Putkiranta 1.1.–31.12.2019, 1.1.–31.12.2020	22	27
Seppo Mäkinen 1.1.–31.12.2019, 1.1.–31.12.2020	20	23
Veli-Pekka Paloranta 15.6.2020–31.12.2020	10	
Tero Ojanperä 1.1.–10.4.2019		4
<b>Total</b>	<b>126</b>	<b>169</b>
<b>Share-based incentives</b>		
Board of Directors	88	0
<b>Total</b>	<b>88</b>	<b>0</b>
There have not been any business transactions or open balances between the related parties.		
<b>Members of the group executive board</b>	<b>1,064</b>	<b>1,047</b>

## Loans and guarantees to related party

There are no loans or guarantees granted between the related parties.

### 33. SIGNIFICANT EVENTS DURING THE FINANCIAL PERIOD 2020

#### On February 13, 2020

Bittium published its Financial Statement Bulletin 2019.

#### On February 13, 2020

Bittium gave a notice to the Annual General Meeting 2019 of Bittium Corporation.

#### On March 2, 2020

The Board of Directors of Bittium Corporation decided on the establishment of a new share-based long-term incentive scheme for the Company's management. It comprises a Performance Share Plan. The objectives of the Performance Share Plan are to align the interests of Bittium's management with those of the Company's shareholders and to promote shareholder value creation in the long term, to commit the management to achieving Bittium's strategic targets, and the retention of Bittium's management.

#### On March 11, 2020

Bittium Corporation's Annual Report, Sustainability Report, Corporate Governance Statement, Salary and Remuneration Report from 2019, and Remuneration Policy 2020 were published.

#### On March 18, 2020

Bittium cancelled the Annual General Meeting from Wednesday, April 1, 2020 and postponed it to a later date.

#### On March 30, 2020

Bittium published its Business Review from January–March 2020.

#### On May 14, 2020

Bittium gave a notice to the General Meeting of Bittium Corporation.

#### On June 15, 2020

The decisions of the Annual General Meeting of Bittium Corporation were announced.

#### On August 6, 2020

The Half-Year Financial Report January–June 2020 was published.

#### On September 10, 2020

Bittium Biosignals Ltd, a subsidiary of Bittium Corporation, and Preventice Technologies Ltd signed a continuance for the agreement concerning the delivery of ECG measuring devices.

#### On October 30, 2020

Business Review from January–September 2020 was published.

#### On November 27, 2020

Bittium Corporation lowered its financial guidance for the year 2020.

#### On November 27, 2020

The Board of Directors of Bittium Corporation decided that no dividend from the year 2019 will be paid.

#### On November 27, 2020

Bittium Corporation confirmed its strategy and long-term financial targets.

#### On December 15, 2020

Financial calendar for 2021 was published.

#### On December 22, 2020

Bittium Corporation announced that the Finnish Defense Forces plans to purchase Bittium TAC WIN™ software defined radio system products.

# Notes to the Consolidated Financial Statements

## 34. SIGNIFICANT EVENTS AFTER THE REPORTING PERIOD

There were no significant events after the reporting period.

## 35. KEY RATIOS

	IFRS 2020	IFRS 2019	IFRS 2018	IFRS 2017	IFRS 2016
<b>INCOME STATEMENT, MEUR</b>					
Net sales, MEUR	78.4	75.2	62.8	51.6	64.2
Net sales change, %	4.2	19.7	21.7	-19.6	13.0
Operating profit/loss, MEUR	2.1	6.3	2.8	-6.2	2.5
% of net sales	2.7	8.4	4.5	-12.0	4.0
Profit/loss for continuing operations before taxes, MEUR	1.6	5.9	2.7	-5.8	3.1
% of net sales	2.1	7.9	4.3	-11.3	4.9
Profit for the year from continuing operations, MEUR	2.2	7.6	4.0	-4.8	3.5
% of net sales	2.8	10.2	6.4	-9.2	5.5
Profit after tax for the year from discontinued operations, MEUR				1.7	0.0
% of net sales	0.0	0.0	0.0	3.2	0.0
Profit for the year attributable to equity holders of the parent, MEUR	2.2	7.6	4.0	-3.1	3.5
% of net sales	2.8	10.2	6.4	-6.0	5.5
<b>BALANCE SHEET, MEUR</b>					
Non-current assets	86.4	80.5	65.9	46.7	30.3
Inventories	20.9	18.2	14.6	10.6	4.1
Current assets	50.7	55.6	51.9	81.1	118.9
Shareholders' equity	114.2	112.3	110.0	116.7	130.6
Non-current liabilities	21.9	22.1	1.9	1.5	3.1
Current liabilities	21.8	19.9	20.5	20.2	19.6
Balance sheet total	158.0	154.2	132.4	138.4	153.3

	IFRS 2020	IFRS 2019	IFRS 2018	IFRS 2017	IFRS 2016
<b>PROFITABILITY AND OTHER KEY FIGURES</b>					
Return on equity % (ROE)	1.9	6.9	3.6	-3.9	2.6
Return on investment % (ROI)	1.6	5.0	3.7	-4.5	2.6
Interest-bearing net liabilities, (MEUR)	-2.1	-12.6	-29.4	-61.7	-91.8
Net gearing, %	-1.9	-11.2	-26.7	-52.9	-70.3
Equity ratio, %	73.1	73.4	84.7	85.6	87.0
Gross investments, (MEUR)	17.4	21.3	21.2	20.1	18.5
Gross investments, % of net sales	22.2	28.3	33.8	38.8	28.8
R&D costs, (MEUR)	22.8	25.1	21.6	15.0	6.9
R&D costs, % of net sales	29.1	33.4	34.4	29.1	10.8
Average personnel during the period, parent and subsidiaries	673	665	660	614	569
<b>STOCK-RELATED FINANCIAL RATIOS</b>					
Earnings per share from continuing operations, EUR					
Basic earnings per share	0.061	0.214	0.113	-0.133	0.098
Diluted earnings per share	0.061	0.214	0.113	-0.133	0.098
Earnings per share from discontinued operations, EUR					
Basic earnings per share				0.046	0.000
Diluted earnings per share				0.046	0.000
Earnings per share from continuing and discontinued operations, EUR					
Basic earnings per share	0.061	0.214	0.113	-0.087	0.098
Diluted earnings per share	0.061	0.214	0.113	-0.087	0.098
Equity per share, EUR	3.20	3.15	3.08	3.27	3.66
Dividend per share EUR *)			0.15	0.3	0.3
Dividend per earnings, %			133.0	-344.6	305.3
P/E ratio	94.8	30.4	67.5	-64.9	57.7
Effective dividend yield, %			2.0	5.3	5.3
Market values of shares (EUR)					
Highest	7.67	8.03	8.10	7.88	7.40
Lowest	3.40	5.91	4.71	5.55	5.15
Average	5.74	6.70	5.98	6.55	6.05
At the end of period	5.79	6.50	7.61	5.65	5.67
Market value of the stock, (MEUR)	206.7	232.0	271.6	201.7	202.4
Trading value of shares					
MEUR	117.9	51.5	75.4	83.1	126.4
1000 PCS	20,557	7,689	12,608	12,684	20,888
Related to average number of shares %	57.6	21.5	35.3	35.5	58.6
Adjusted number of the shares					
at the end of the period (1000 PCS)	35,693	35,693	35,693	35,693	35,693
Adjusted number of the shares average for the period (1000 PCS)	35,693	35,693	35,693	35,693	35,670
Adjusted number of the shares average for the period diluted with stock options (1000 PCS)	35,693	35,693	35,693	35,693	35,670

\*) Proposal of the Board of Directors for 2020.

# Notes to the Consolidated Financial Statements

## CALCULATION OF KEY RATIOS

<b>Return on equity % (ROE)</b>	=	$\frac{\text{Profit for the year} \times 100}{\text{Total equity (average for the accounting period)}}$
<b>Return on investment % (ROI)</b>	=	$\frac{\text{Profit before tax} + \text{interest and other financial expenses} \times 100}{\text{Balance sheet total} - \text{interest-free liabilities (average for the accounting period)}}$
<b>Net gearing, %</b>	=	$\frac{\text{Interest-bearing liabilities} - \text{cash and cash equivalents} \times 100}{\text{Total equity}}$
<b>Equity ratio, %</b>	=	$\frac{\text{Total equity} \times 100}{\text{Balance sheet total} - \text{advances received}}$
<b>Earnings per share</b>	=	$\frac{\text{Profit attributable to equity holders of the parent}}{\text{Share issue adjusted number of the shares average for the period}}$
<b>Equity per share</b>	=	$\frac{\text{Equity attributable to equity holders of the parent}}{\text{Share issue adjusted number of the shares at the end of the period}}$
<b>Dividend per share</b>	=	$\frac{\text{Dividend for the period (Board's proposal) per share}}{\text{Adjustment coefficient of post-fiscal share issues}}$
<b>Dividend per earnings, %</b>	=	$\frac{\text{Dividend per share} \times 100}{\text{Earnings per share}}$
<b>P/E ratio</b>	=	$\frac{\text{Share issue adjusted share price at the end of the period}}{\text{Earnings per share}}$
<b>Effective dividend yield, %</b>	=	$\frac{\text{Dividend per share} \times 100}{\text{Share issue adjusted share price at the end of the period}}$



### 36. SHAREHOLDINGS AND SHARES

#### Breakdown of Shares by Shareholding, December 31, 2020

Number of shares	Number of shareholders	Percentage of shareholders	Number of shares	Percentage of shares and votes
1 - 100	9,998	43.6	466,782	1.3
101 - 500	7,395	32.3	1,951,955	5.5
501 - 1000	2,360	10.3	1,853,306	5.2
1001 - 5000	2,379	10.4	5,418,142	15.2
5001 - 10000	391	1.7	2,847,605	8.0
10001 - 50000	323	1.4	6,343,959	17.8
50001 - 100000	32	0.1	2,198,373	6.2
100001 - 500000	26	0.1	5,994,407	16.8
500001 - 999999999999	7	0.0	8,618,637	24.1
<b>Total</b>	<b>22,911</b>	<b>100.0</b>	<b>35,693,166</b>	<b>100.0</b>
Nominee-registered	9		1,002,014	2.8

#### Breakdown of Shareholders by Shareholder Type, December 31, 2020

Shareholders by shareholder type	Number of shareholders	Percentage of shareholders	Number of shares	Percentage of shares and votes
Non-financial corporations	545	2.4	3,288,399	9.2%
Financial sector and insurance corporations	24	0.1	2,046,598	5.7%
General government	5	0.0	3,162,817	8.9%
Non-profit institutions	26	0.1	112,474	0.3%
Households	22,241	97.1	26,100,295	73.1%
Foreign owners	60	0.3	70,014	0.2%
Nominee-registered shares	10	0.0	912,569	2.6%
<b>Total</b>	<b>22,911</b>	<b>100.0</b>	<b>35,693,166</b>	<b>100.0%</b>

# Notes to the Consolidated Financial Statements

## Major Shareholders, December 31, 2020

	Number of shares	Percentage of shares and votes
<b>Number of shares total</b>	<b>35,693,166</b>	<b>100.0</b>
1. Veikkolainen Erkki, Chairman of the Board	1,659,273	4.6
2. Ponato Oy	1,501,300	4.2
3. Hulkko Juha	1,419,370	4.0
4. Varma Mutual Pension Insurance Company	1,365,934	3.8
5. Ilmarinen Mutual Pension Insurance Company	1,296,529	3.6
6. Nordea Bank AB (PUBL), Finnish Branch	718,231	2.0
7. Hildén Kai	658,000	1.8
8. Special Investment Company Taaleri Mikro Markka Share	500,000	1.4
9. ELO Mutual Pension Insurance Company	500,000	1.4
10. OP-Suomi Mikroyhtiöt special investment company	500,000	1.4
<b>Total</b>	<b>10,118,637</b>	<b>28.3</b>
Others (incl. nominee-registered shares)	25,574,529	71.7

## The Board and CEO

Veikkolainen Erkki, Chairman of the Board	1,659,273	4.6
Kemppainen Pekka, Member of the Board	2,150	0.0
Mäkinen Seppo, Member of the Board	6,076	0.0
Putkiranta Juha, Member of the Board	16,458	0.0
Tiuraniemi Riitta, Member of the Board	9,121	0.0
Paloranta Veli-Pekka, Member of the Board	2,386	0.0
Toljamo Petri, Member of the Board	0	0.0
Huttunen Hannu, CEO	12,000	0.0
<b>Total</b>	<b>1,707,464</b>	<b>4.8</b>

# Income Statement, Parent

1000 EUR	Notes	2020	2019
<b>NET SALES</b>	1, 2	<b>894</b>	<b>811</b>
Other operating income	3	0	0
Personnel expenses	4	-1,293	-1,232
Depreciation and reduction in value	5	-13	-12
Other operating expenses	6	-767	-709
<b>OPERATING PROFIT</b>		<b>-1,178</b>	<b>-1,141</b>
Financial income and expenses	7	1,398	1,101
<b>PROFIT (LOSS) BEFORE APPROPRIATIONS AND TAXES</b>		<b>221</b>	<b>-40</b>
<b>Appropriations</b>	8	<b>2,000</b>	<b>4,800</b>
<b>PROFIT (LOSS) BEFORE APPROPRIATIONS AND TAXES</b>		<b>2,221</b>	<b>4,760</b>
<b>NET PROFIT FOR THE FINANCIAL YEAR</b>		<b>2,221</b>	<b>4,760</b>

## Balance Sheet, Parent

1000 EUR	Notes	Dec. 31, 2020	Dec. 31, 2019
<b>ASSETS</b>			
Non-current assets			
Intangible assets	9	93	92
Tangible assets	10	71	72
Investments	11	39,750	39,750
Non-current assets total		39,914	39,913
Current assets			
Receivables			
Current receivables	12	92,939	81,425
Receivables total		92,939	81,425
Financing securities	13	5,689	5,675
Cash and bank deposits		16,243	26,973
Current assets total		114,871	114,073
<b>TOTAL ASSETS</b>		<b>154,785</b>	<b>153,986</b>
<b>SHAREHOLDERS' EQUITY AND LIABILITIES</b>			
Shareholders' equity			
Share capital	14	12,941	12,941
Invested non-restricted equity fund		25,953	25,953
Retained earnings		90,806	86,046
Net profit/loss for the year		2,221	4,760
Shareholders' equity total		131,921	129,700
Provisions			
Provisions, non-current	15		
Provisions, current			
Liabilities			
Non-current liabilities	16	20,000	20,000
Current liabilities		2,864	4,286
Liabilities total		22,864	24,286
<b>SHAREHOLDERS' EQUITY AND LIABILITIES TOTAL</b>		<b>154,785</b>	<b>153,986</b>

# Cash Flow, Parent

1000 EUR	2020	2019
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>		
Profit (loss) before taxes +/-	2,221	4,760
Adjustments		
Depreciation according to plan +	13	12
Effects of non-cash business activities	-2,136	-4,993
Financial income and expenses +/-	-1,398	-1,101
Cash flow before change in net working capital	-1,300	-1,323
Change in net working capital		
Change in interest-free short-term receivables	94	-3
Change in interest-free short-term payables	-109	-49
Cash flow before financing activities	-1,316	-1,375
Interest paid -	-568	-654
Dividends received +	0	0
Interest received +	1,966	1,755
<b>Net cash from operating activities</b>	<b>82</b>	<b>-273</b>
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>		
Purchase of tangible and intangible assets -	-14	-32
<b>Net cash used in investing activities</b>	<b>-14</b>	<b>-32</b>
<b>CASH FLOW FROM FINANCIAL ACTIVITIES</b>		
Change in interest-free short-term financial receivables in Group	-20,674	6,952
Change in interest-free short-term financial payables in Group	-1,210	2,281
Received Group contributions	11,100	540
Dividend paid and capital repayment	0	-5,354
<b>Net cash used in financial activities</b>	<b>-10,784</b>	<b>4,419</b>
<b>NET CHANGE IN CASH AND CASH EQUIVALENTS</b>	<b>-10,716</b>	<b>4,114</b>
Cash and cash equivalents at beginning of period	32,648	28,534
Cash and cash equivalents at end of period	21,932	32,648
Change in cash and cash equivalents in balance sheet	-10,716	4,114

Cash and cash equivalents include liquid and low risk financing securities.

# Accounting Principles for the Preparation of Financial Statements, Parent

The financial statements have been prepared in accordance with the Finnish Accounting Act.

## Valuation Principles

### Valuation of Non-current Assets

Non-current assets are capitalized in the balance sheet at the original acquisition cost deducted by accumulated depreciation. Depreciations according to the plan is calculated either using the straight-line method or the reducing balance method, taking into consideration of the useful life of assets. The depreciation periods are:

Intangible assets	3–10 years
Tangible assets	3–5 years

### Valuation of Financial Securities

Financial securities are valued at fair value. The fair value of forward exchange are defined based on forward exchange prices on balance sheet date and option contracts are defined based on market prices on balance sheet date.

### Pensions

The Company has organized pension coverage for its personnel through independent pension insurance companies. The pension insurance expenditures are included into personnel expenses.

### Leasing Agreements

Leasing agreements and fixed-term rental agreements are reported as contingent liabilities off the balance sheet.

### Income Tax

Taxes of the financial year have been reported in the income statement as income taxes. Deferred tax or liabilities or receivables has not been recorded on the financial statement.

### Foreign Currency Items

The transactions in the income statement have been converted into euro using the exchange rate of the transaction date. Receivables and payables denominated in foreign currency have been converted into Euro by using the exchange rate of the European Central Bank at the balance sheet date.

### Net Sales

Sales of goods is recorded when goods have been handed over to the customer or the services have been rendered. Sales are shown net of indirect sales taxes and discounts.

# Notes to the Financial Statements of the Parent Company

1000 EUR	2020	2019
<b>1. NET SALES BY SEGMENTS</b>		
Other functions	894	812
<b>Total</b>	<b>894</b>	<b>812</b>
<b>2. NET SALES BY MARKET AREAS</b>		
Europe	809	706
Americas	85	106
Asia		
<b>Total</b>	<b>894</b>	<b>812</b>
<b>3. OTHER OPERATING INCOME</b>		
Other operating income	0	0
<b>Total</b>	<b>0</b>	<b>0</b>
<b>4. NUMBER OF PERSONNEL AND PERSONNEL EXPENSES</b>		
Average number of personnel during the period		
Other functions	8	8
<b>Total</b>	<b>8</b>	<b>8</b>
Number of personnel at the end of the year		
	8	8
Personnel expenses *		
Management salaries	241	322
Board of Directors	214	169
Other salaries and wages	678	577
<b>Total</b>	<b>1,133</b>	<b>1,068</b>
Pension expenses	140	153
Other social expenses	20	12
<b>Total</b>	<b>1,293</b>	<b>1,232</b>
* The Board of Directors salaries include the share-based compensation.		
<b>5. DEPRECIATION AND REDUCTION IN VALUE</b>		
Intangible rights	13	10
Other capitalized long-term expenditures	0	1
Machinery and equipment	0	1
<b>Total</b>	<b>13</b>	<b>12</b>

# Notes to the Financial Statements of the Parent Company

1000 EUR	2020	2019
<b>6. OTHER OPERATING CHARGES</b>		
IT equipment and SW expenses	78	89
Premises expenses	17	16
Administrative services	263	274
Travel expenses	21	74
Voluntary staff expenses	13	32
Other business expenses	376	224
<b>Total</b>	<b>767</b>	<b>709</b>
Auditor's charges		
Auditing	23	23
Tax advice	2	0
Other services	0	1
<b>Total</b>	<b>25</b>	<b>24</b>
<b>7. FINANCIAL INCOME AND EXPENSES</b>		
Income from investments		
From others	143	319
<b>Total</b>	<b>143</b>	<b>319</b>
Other interest and financial income		
From Group companies	1,717	1,404
From others	107	32
<b>Total</b>	<b>1,824</b>	<b>1,436</b>
Other interest and financial expenses		
To Group companies	0	4
To others	569	650
<b>Total</b>	<b>569</b>	<b>654</b>
Reduction in value of investment	0	0
<b>Net financial income and expenses</b>	<b>1,398</b>	<b>1,101</b>
Net financial income and expenses including exchange gains and losses	-24	0
<b>8. APPROPRIATIONS</b>		
Received Group contributions	2,000	4,800



1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>9. INTANGIBLE ASSETS</b>		
<b>Intangible rights</b>		
Acquisition cost Jan. 1	320	288
Investments during the period	14	32
Disposals during the period		
<b>Acquisition cost at the end of the period</b>	<b>334</b>	<b>320</b>
Accumulated depreciations Jan. 1	-228	-218
Depreciation for the period	-13	-10
<b>Book value at the end of the period</b>	<b>93</b>	<b>92</b>
<b>Other capitalized long-term expenditures</b>		
Acquisition cost Jan. 1	6	6
Investments during the period		
<b>Acquisition cost at the end of the period</b>	<b>6</b>	<b>6</b>
Accumulated depreciations Jan. 1	-6	-5
Depreciation for the period		-1
<b>Book value at the end of the period</b>		
<b>Intangible assets total</b>		
Acquisition cost Jan. 1	326	295
Investments during the period	14	32
<b>Acquisition cost at the end of the period</b>	<b>340</b>	<b>326</b>
Accumulated depreciations Jan. 1	-235	-223
Depreciation for the period	-13	-11
<b>Book value at the end of the period</b>	<b>93</b>	<b>92</b>

# Notes to the Financial Statements of the Parent Company

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>10. TANGIBLE ASSETS</b>		
<b>Machinery and equipment</b>		
Acquisition cost Jan. 1	6	5
Investments during the period		1
Disposals during the period		
<b>Acquisition cost at the end of the period</b>	<b>6</b>	<b>6</b>
Accumulated depreciations Jan. 1	-5	-5
Depreciation for the period	0	-1
<b>Book value at the end of the period</b>	<b>0</b>	<b>0</b>
<b>Other tangible assets</b>		
Acquisition cost Jan. 1	71	71
<b>Acquisition cost Dec. 31</b>	<b>71</b>	<b>71</b>
<b>Book value at the end of the period</b>	<b>71</b>	<b>71</b>
<b>Tangible assets total</b>		
Acquisition cost Jan. 1	77	76
Investments during the period		1
<b>Acquisition cost at the end of the period</b>	<b>77</b>	<b>77</b>
Accumulated depreciations Jan. 1	-5	-5
Depreciation for the period	0	-1
<b>Book value at the end of the period</b>	<b>71</b>	<b>72</b>
<b>11. INVESTMENTS</b>		
<b>Investments in subsidiaries</b>		
Acquisition cost Jan. 1	39,749	39,749
<b>Book value at the end of the period</b>	<b>39,749</b>	<b>39,749</b>
<b>Investments in other shares</b>		
Acquisition cost Jan. 1	1	1
<b>Book value at the end of the period</b>	<b>1</b>	<b>1</b>
<b>Investments total</b>		
Acquisition cost Jan. 1	39,750	39,750
<b>Book value at the end of the period</b>	<b>39,750</b>	<b>39,750</b>

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>12. CURRENT RECEIVABLES</b>		
Accounts receivable		
From Group companies	27	71
<b>Total</b>	<b>27</b>	<b>71</b>
Other receivables		
From Group companies	90,845	70,170
From others	15	48
<b>Total</b>	<b>90,860</b>	<b>70,219</b>
Prepaid expenses and accrued income		
From Group companies	2,000	11,100
From others	51	33
<b>Total</b>	<b>2,051</b>	<b>11,134</b>
<b>Current receivables total</b>	<b>92,939</b>	<b>81,424</b>
<b>13. FINANCING SECURITIES</b>		
Cash and cash equivalents include liquid and low risk financing securities.		
Financial assets at fair value through profit or loss	5,689	5,675
<b>14. SHAREHOLDERS' EQUITY</b>		
Share capital at the beginning of the period	12,941	12,941
<b>Share capital at the end of the period</b>	<b>12,941</b>	<b>12,941</b>
Invested unrestricted equity fund at the beginning of the period	25,953	25,953
Share issue		
<b>Invested unrestricted equity fund at the end of the period</b>	<b>25,953</b>	<b>25,953</b>
Retained earnings at the beginning of the period	90,806	91,400
Dividend distribution	0	-5,354
Net profit for the period	2,221	4,760
<b>Retained earnings at the end of the period</b>	<b>93,026</b>	<b>90,806</b>
Distributable earnings at the end of the period	118,980	116,759
<b>Shareholders' equity total</b>	<b>131,921</b>	<b>129,700</b>

# Notes to the Financial Statements of the Parent Company

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>15. PROVISIONS</b>		
Provisions		
Provisions, current		
<b>Total</b>		
<b>16. LIABILITIES</b>		
<b>Current liabilities</b>		
Accounts payable		
To Group companies	0	159
To others	77	40
<b>Total</b>	<b>77</b>	<b>200</b>
Other short-term liabilities		
To Group companies	2,450	3,660
To others	35	79
<b>Total</b>	<b>2,485</b>	<b>3,739</b>
Accrued expenses and deferred income		
To others	303	347
<b>Total</b>	<b>303</b>	<b>347</b>
<b>Current liabilities total</b>	<b>2,864</b>	<b>4,286</b>

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>17. SECURITIES AND CONTINGENT LIABILITIES</b>		
On behalf of Group companies		
Guarantee limits	117	115
of which guarantees in use total		
Leasing liabilities		
Falling due in the next year	1,133	1,155
Falling due after one year	1,318	1,275
Rental liabilities		
Falling due in the next year	8	9
Contractual liabilities		
Falling due in the next year	32	62
Falling due in 1–5 years		

1000 EUR	Dec. 31, 2020	Dec. 31, 2019
<b>18. NOMINAL VALUE OF CURRENCY DERIVATES</b>		
Foreign exchange forwards		
Market value	17	26
Nominal value	600	1,500

	Owned by Parent, %	Owned by Group, %	Book value 1000 EUR
<b>19. SHARES AND HOLDINGS</b>			
Subsidiaries			
Bittium Technologies Oy	100,00	100,00	39,749
Other holdings by Parent			
Partnera Oy			1

## Proposal by the Board of Directors on the Use of the Profit Shown on the Balance Sheet and the Payment of the Dividend

According to the parent company's balance sheet at December 31, 2020, the distributable assets of the parent company are EUR 118 979 681.46 of which the profit of the financial year is EUR 2 220 655.48. The Board of Directors proposes that the Annual General Meeting to be held on April 14, 2021, resolve that no dividend shall be paid based on the adopted balance sheet for the financial period of January 1, 2020–December 31, 2020.

Bittium Corporation follows a dividend policy that takes into account the Corporation's net income, financial status, need for capital and financing of growth.

In Oulu, February 10, 2021



Erkki Veikkolainen  
Chairman of the Board



Seppo Mäkinen  
Member of the Board



Pekka Kemppainen  
Member of the Board



Juha Putkiranta  
Member of the Board



Riitta Tiuraniemi  
Member of the Board



Veli-Pekka Paloranta  
Member of the Board



Hannu Huttunen  
CEO

## Auditor's Note

Auditor's Report has been issued today.

In Oulu February 11, 2021

Ernst & Young Oy  
Authorized Public Accountant Firm



Jari Karppinen, Authorized Public Accountant

# Auditor's Report

(Translation of the Finnish original)

## To the Annual General Meeting of Bittium Oyj

### Report on the Audit of Financial Statements

#### Opinion

We have audited the financial statements of Bittium Oyj (business identity code 1004129-5) for the year ended 31 December, 2020. The financial statements comprise the consolidated balance sheet, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including a summary of significant accounting policies, as well as the parent company's balance sheet, income statement, statement of cash flows and notes.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position as well as its financial performance and its cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU.
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Our opinion is consistent with the additional report submitted to the Audit Committee.

#### Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the *Auditor's Responsibilities for the Audit of Financial Statements* section of our report.

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

In our best knowledge and understanding, the non-audit services that we have provided to the parent company and group companies are in compliance with laws and regulations applicable in Finland regarding these services, and we have not provided any prohibited non-audit services referred to in Article 5(1) of regulation (EU) 537/2014. The non-audit services that we have provided have been disclosed in note 5 to the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the financial statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying financial statements.

We have also addressed the risk of management override of internal controls. This includes consideration of whether there was evidence of management bias that represented a risk of material misstatement due to fraud.

**KEY AUDIT MATTER****Revenue Recognition**

*We refer to the Group's accounting policies and to the note 3*

Fixed price contracts in long-term construction contracts are part of the Group's business practice. These projects constitute a significant portion of the consolidated net sales. In the financial statements 2020 the revenue recognized from these projects was 11.2 million euro, which is 14 percentage of the total net sales. The group applies the percentage of completion method for recognizing revenue from long-term construction contracts, which involves the use of significant management estimates. E.g. the following estimates include significant management judgement for each project: stage of completion, total contract costs and the project margin. During the performance phase, the financial outcome of a project is based on the estimates made by the management and will come more accurate when the project advances.

In the group net sales is a key performance indicator, which might generate an incentive to prematurely recognition of revenue. Revenue recognition was determined to be a key audit matter and a significant risk of material misstatement referred to in EU Regulation No 537/2014, point (c) of Article 10(2), because of the risk related to correct timing of revenue.

**HOW OUR AUDIT ADDRESSED THE KEY AUDIT MATTER**

Our audit procedures in which risk of material misstatement on revenue recognition has been taken into account included, among other:

- assessment of the accounting principles of the group on revenue recognition and comparing them with the applied accounting standards;
- examination of the nature of revenue, stage of completion and financial contract terms behind the revenue recognized in the long-term projects;
- tests of revenue recognition, which included testing of the calculations and the estimates used in the revenue recognition;
- analytical procedures on revenue and
- assessment of disclosures in respect of revenue.

## Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the group's ability to contin-

ue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or cease operations, or there is no realistic alternative but to do so.

## Auditor's Responsibilities for the Audit of Financial Statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they

could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.



- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements re-

garding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

## Other Reporting Requirements

### Information on Our Audit Engagement

We were first appointed as auditors by the Annual General Meeting on April 12, 2002, and our appointment represents a total period of uninterrupted engagement of 19 years.

### Other Information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises information included in the report of the Board of Directors and in the Annual Report, but does not include the financial statements and our report thereon. We obtained the report of the Board of Directors prior to the date of the auditor's report, and the Annual Report is expected to be made available to us after the date of the auditor's report.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Oulu, February 11, 2021

Ernst & Young Oy  
Authorized Public Accountant Firm



Jari Karppinen  
Authorized Public Accountant





# Bittium

Connectivity to be trusted.  
[www.bittium.com](http://www.bittium.com)

Bittium / Ritaharjuntie 1, FI-90590 Oulu, Finland / t. +358 40 344 2000 / [www.bittium.com](http://www.bittium.com)

Copyright 2021 Bittium. All rights reserved. The information contained herein is subject to change without notice. Bittium retains ownership of and all other rights to the material expressed in this document. Any reproduction of the content of this document without prior written permission from Bittium is prohibited.