Report by the Board of Directors and Financial Statements 2018

Bittium

Contents

Report by the Board of Directors 2018

Year 2018 in Brief

Net Sales and Operating Result of 2018 Improved as Targeted

Bittium's net sales in January-December 2018 grew by 21.7 percent year-on-year to EUR 62.8 million (EUR 51.6 million, in 2017). The share of the product-based net sales increased significantly to 49.0 percent and was EUR 30.8 million (EUR 16.3 million, in 2017), which resulted mainly from the product deliveries of the tactical communication system, deliveries of products for measuring and monitoring biosignals, and product deliveries of Bittium Tough Mobile smartphones and Mexsat phones and their related security software.

The share of the services-based net sales decreased to 51.0 percent and was EUR 32.1 million (EUR 34.9 million, in 2017). The decrease in the services business net sales was caused by the typical variation of timing of R&D projects' beginning and ending, as well as the company's own significant large R&D projects that tie experts into internal product development.

Operating profit was EUR 2.8 million (operating loss of EUR -6.2 million, in 2017).

Significant Events during the Reporting Period

February 13, 2018 – Bittium Biosignals Ltd, a subsidiary of Bittium Corporation, and a major US remote monitoring provider, concluded a three-year supply agreement under which Bittium will supply the Bittium Faros 360 and customized Bittium Faros 360 cardiac ECG signal measuring and monitoring devices. In addition, Bittium will supply disposable electrodes for attaching Bittium Faros ECG devices.

When materialized in full, the total value of the agreement was USD 21 million (approximately EUR 17.1 million based on an exchange rate of February 12, 2018) with revenues recognized gradually during the years 2018, 2019, 2020 and 2021 depending on the progress of the product deliveries, with estimated emphasis on 2019 and 2020. This agreement did not change the Company's long term financial outlook (published in the Half Year Financial Report January–June 2017 on August 8, 2018).

April 13, 2018 – Bittium Wireless Ltd, a subsidiary of Bittium Corporation received a purchase order from the Finnish Defence Forces for products included in the Software Defined Radio based Bittium Tactical Wireless IP Network (TAC WIN) system, which is meant for tactical communications. The value of the purchase order was EUR 14.3 million (excl. VAT). The purchase order did not change Bittium's financial outlook for the year 2018 (published in the Financial Statement Bulletin 2017 on February 22, 2018). The purchase order is based on the framework agreement signed by Bittium and the Finnish Defence Forces on August 9, 2017, according to which the Finnish Defence Forces will order products included in the Software Defined Radio based Bittium TAC WIN system during the years 2018–2020. According to the framework agreement, Finnish Defence Forces will issue separate purchase orders for the products each year. The products ordered now will be delivered to the Finnish Defence Forces during the year 2018. If materialized in full, the total value of the framework agreement is EUR 30 million (excl. VAT). Bittium announced the Frame Agreement on August 9, 2017.

September 11, 2018 – Mr. Sammy Loitto (MBA and Master of Engineering in Industrial Management) was appointed as Senior Vice President, Sales in Bittium Corporation as of October 1, 2018. Previously he has been responsible for sales and business development activities at Bittium. Prior to that, he has worked in several sales and management positions at Jolla, Gryphon Secure and Airbus. Mr. Loitto reports to Mr. Hannu Huttunen, CEO of Bittium Corporation. As of October 1, 2018 Bittium management group consists of following persons: Mr. Hannu Huttunen, CEO (chairman); Mr. Pekka Kunnari, CFO; Mr. Kari Jokela, CLO; Ms. Karoliina Fyrstén, Director, Corporate Communications and Marketing, Mr. Sammy Loitto, Senior Vice President Sales, and heads of product and service areas: Mr. Jari Sankala, Senior Vice President, Defense and Security; Mr. Klaus Mäntysaari, Senior Vice President, Connectivity Solutions; and Mr. Arto Pietilä, Senior Vice President, Medical Technologies; and Mr. Jari-Pekka Innanen, Vice President, Engineering.

October 3, 2018 – The Finnish Minister of Defence Jussi Niinistö has authorized the Finnish Defence Forces Logistics Command to enter into a framework agreement with Bittium Wireless Ltd on the purchase of Bittium Tough Comnode terminals and related accessories. The framework agreement was signed on November 11, 2018. It covers the years 2018-2020 and the maximum value of the purchase authorization for the framework agreement is EUR 8.3 million (excl. VAT). Based on the framework agreement, the Finnish Defence Forces will issue separate purchase orders in several batches during the validity of the framework agreement. The framework agreement did not change Bittium's financial outlook for the year 2018. Bittium Tough Comnode will fulfill the data transfer needs of the Finnish Defence Forces' 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). The terminals will be used by all three military branches.

November 23, 2018 – Bittium announced that its cooperation partner, Austrian information technology company Kapsch BusinessCom AG was informed by the Austrian defense administration (Bundesministerium für Landesverteidigung BMVL) that it should be selected as the provider of the new IP-based tactical communication system for the Austrian Armed Forces in case no appeals by the losing parties of the competitive bidding will be filed during the next 10-days appeal period. This is a typical process in such public competitive bidding. Bittium's products for tactical communications are a significant part of Kapsch BusinessCom's winning bid, including the Software Defined Radio based Bittium Tactical Wireless IP Network (TAC WIN) system, which will be the core of the new communication system, as well as Bittium Tough Comnode and Bittium Tough VoIP products. On December 4, 2018 Bittium announced to have been informed that the 10-days appeal period has expired and no appeals have been filed. The signing of the contract was scheduled to December 2018. If materialized, Bittium's share of the total value of the winning bid will be around EUR 30 million (excl. VAT). The product deliveries are expected to take place during the years 2019-2021 and the majority of the net sales is estimated to realize during the years 2020 and 2021. This did not change Bittium's financial outlook for the year 2018.

December 11, 2018 – The Finnish Minister of Defence Jussi Niinistö authorized the Finnish Defence Forces Logistics Command to enter into an Agreement with Bittium Wireless Ltd on the purchase of Bittium Tough SDR handheld and vehicle radios, and their related accessories. The Agreement was signed on December 12, 2018. The value of the Purchase Agreement is approximately EUR 10.5 million (excl. VAT) at the maximum. The new software-defined-radio based tactical radios will be used at the first phase by the Army and the delivery will be completed at the latest by the end of the year 2020. This purchase agreement did not change Bittium Corporation's financial outlook for the year 2018. The Purchase Agreement is based on the Letter of Intent for purchase of new tactical radios, signed by Bittium and Finnish Defence Forces on August 8, 2017. The Purchase Agreement is a natural continuum to the Letter of Intent. Bittium issued a stock exchange release on the Letter of Intent on August 8, 2017.

The purchase agreement includes terms for optional additional purchase, according to which, the Finnish Defence Forces have an option to purchase additional tactical radios and their related accessories, training and system management for the use of Army, Air Force and Navy, based on the prices agreed in the Purchase Agreement. If these optional additional purchase amounts would materialize in full, the total value of the purchase would be approximately EUR 207 million (excl. VAT) at the maximum. As agreed in the Letter of Intent, the Finnish Defence Forces aim at making these additional purchases during the next ten years. The materialization of the purchase is affected by the yearly state budget allocations for the administrative of the Ministry of Defence. There will be separate purchase orders for these optional additional purchases.

Financial Performance in January–December 2018

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME, MEUR	2018 12 months	2017 12 months
Net sales	62.8	51.6
Operating profit / loss	2.8	-6.2
Financial income and expenses	-0.1	0.4
Result before tax	2.7	-5.8
Result for the period from continuing operations	4.0	-4.8
Result for the period from discontinuing operations	0.0	1.7
Result for the period	**4.0**	**-3.1**
Total comprehensive income for the period	**4.1**	**-3.2**
Result for the period attributable to:		
Equity holders of the parent	4.0	-3.1
Total comprehensive income for the period attributable to:		
Equity holders of the parent	4.1	-3.2
Earnings per share from continuing operations, EUR	0.113	-0.133

- Cash flow from operating activities was EUR -0.5 million (EUR -0.0 million, in 2017).
- Net cash flow during the period was EUR -32.0 million. As the most significant item the net cash flow includes EUR 15.1 million investments made into own product development and the EUR 10.7 million dividend payment (EUR -32.0 million, in 2017, including EUR 5.8 million investments in own R&D and EUR 10.7 million dividend payment as well as investments into the new premises in Oulu, as the most significant item).
- Equity ratio was 84.7 percent (85.6 percent, December 31, 2017).
- Net gearing was -26.7 percent (-52.9 percent, December 31, 2017).

Half Year Figures

GROUP'S NET SALES AND OPERATING RESULT, MEUR	2H/18	1H/18	2H/17	1H/17
Net sales	34.5	28.3	24.5	27.1
Operating profit (loss)	3.7	-0.8	-3.4	-2.8
Result before taxes	3.5	-0.8	-3.4	-2.4
Result for the period	4.8	-0.8	-2.4	-2.4

DISTRIBUTION OF NET SALES BY PRODUCT AND SERVICES, MEUR AND %	2H/18	1H/18	2H/17	1H/17
Product based net sales	19.0	11.8	9.1	7.2
	54.9%	41.8%	37.2%	26.5%
Services based net sales	15.6	16.5	15.2	19.7
	45.1%	58.2%	62.0%	72.7%
Other net sales			0.2	0.2
			0.8%	0.7%

DISTRIBUTION OF NET SALES BY MARKET AREAS, MEUR AND %	2H/18	1H/18	2H/17	1H/17
Asia	0.4	0.5	1.0	0.3
	1.1%	1.7%	4.2%	1.1%
Americas	5.0	3.0	1.4	4.5
	14.6%	10.6%	5.8%	16.4%
Europe	29.1	24.8	22.0	22.4
	84.3%	87.7%	90.0%	82.5%

Research and Development

Bittium continued significant investments in its own products and product platforms. In January–December 2018 the investments were 34.4 percent of net sales.

The investments focused mainly on expanding the tactical communication product portfolio targeted to defense industry and on the development of different terminal products and their related software targeted for Mobile Security and Public Safety markets. In 2017, Bittium started to develop new software-defined radio based Bittium Tough SDR product family that includes tactical Bittium Tough SDR handheld and Bittium Tough SDR vehicle radios. In addition, Bittium continued to develop secure smartphones and the related security software. The investments were also continued into the further development of the products intended for measuring and monitoring of biosignals.

A significant part of the capitalized R&D investments is related to developing tactical communication handheld and vehicle radios and investments related to the further development of the secure smartphones and the related security software, as well as from the investments related to the further development of products intended for biosignal measuring and monitoring.

The depreciation plan of the capitalized R&D investments has been updated starting from November 2017 onwards. The depreciations are now made based on time. Previously part of the investments was depreciated based on the forecasted production amounts of the capitalized R&D asset. The update improves the allocation of the depreciations for the periods under review. The update of the depreciation plan has no effect on the evaluation of comparative periods.

R&D INVESTMENTS, MEUR	**2018 12 months**	**2017 12 months**
Total R&D investments	21.6	15.0
Capitalized R&D investments	-15.1	-5.8
Depreciations and impairment of R&D investments	0.4	0.3
Cost impact on income statement	6.9	9.6
R&D investments, % of net sales	34.4%	29.1%

CAPITALIZED R&D INVESTMENTS IN BALANCE SHEET, MEUR	**2018 12 months**	**2017 12 months**
Balance sheet value in the beginning of the period	11.9	6.4
Additions during the period	15.1	5.8
Acquisitions of the business		
Depreciations and impairment of R&D investments	-0.4	-0.3
Balance sheet value at the end of the period	26.6	11.9

Statement of Financial Position and Financing

The figures presented in the statement of financial position of December 31, 2018, are compared with the statement of the financial position of December 31, 2017 (MEUR).

	Dec. 31, 2018	Dec. 31, 2017
Non-current assets	65.9	46.7
Current assets	66.5	91.6
Total assets	132.4	138.4
Share capital	12.9	12.9
Other capital	97.1	103.7
Total equity	110.0	116.7
Non-current liabilities	1.9	1.5
Current liabilities	20.5	20.2
Total equity and liabilities	132.4	138.4

CASH FLOW OF THE REVIEW PERIOD	Jan.–Dec. 2018	Jan.–Dec. 2017
+ profit of the period +/- adjustment of accrual basis items	7.9	-2.4
+/- change in net working capital	-8.4	2.0
- interest, taxes and dividends	0.0	0.3
= net cash from operating activities	-0.5	-0.0
- net cash from investing activities	-19.8	-18.5
- net cash from financing activities	-11.7	-13.4
= net change in cash and cash equivalents	-32.0	-32.0

Net cash from operating activities in 2017 includes operative cash flows from both continuing and discontinuing operations.

The amount of gross investments in the period under review was EUR 21.2 million. Net investments for the review period totaled to EUR 21.2 million. The total amount of depreciation during the period under review was EUR 4.6 million. The amount of interest-bearing debt, including finance lease liabilities, was at the end of the reporting period EUR 1.5 million (EUR 1.2 million on December 31, 2017). Bittium's equity ratio at the end of the period was 84.7 percent (85.6 percent on December 31, 2017).

Cash and other liquid assets at the end of the reporting period were EUR 30.9 million (EUR 62.9 million on December 31, 2017). Net cash flow during the period was EUR -32.0 million. The net cash flow resulted as the most significant items from the EUR 15.1 million investments made into own product development and the EUR 10.7 million dividend payment (EUR -32.0 million, in 2017, including EUR 5.8 million investments made into own product development, EUR 10.7 million dividend payment and investments in the new premises in Oulu as the most significant items).

Bittium has a total of EUR 30.0 million committed credit facility agreements. In December 2018, Bittium renewed one EUR 10.0 million credit facility agreement so that the amount of the credit limit was raised to EUR 20.0 million. This new credit facility agreement is valid until December 31, 2021. The other EUR 10.0 million credit facility agreement, signed in 2017, is valid until December 31, 2019. At the end of the review period, EUR 0.0 million of 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 on the basis of accounts receivable, accounts payable, order book and budgeted net currency cash flow.

Business Development in January–December 2018

January 18, 2018 – Bittium announced to have received the first orders from Mexican government authorities for mobile devices developed for a satellite communication system. The mobile devices have been developed in a product development project that started in the year 2015. The product development phase has been successfully concluded and the devices are now in volume production. The total value of the first orders was approximately EUR 2.0 million and the devices were delivered to the customers by the end of the first quarter of 2018. The mobile devices are manufactured in Finland.

Bittium also announced to have opened a branch office in Mexico to enable high quality customer support for the local customers, and to contribute to sales and marketing in Mexico and other Latin American countries. Mr. Fernando Castillo was appointed as the General Manager of the branch office in Mexico. Mr. Castillo has a long experience in the Mexican authorities market.

February 13, 2018 – Bittium Biosignals Ltd, a subsidiary of Bittium Corporation, and a major US remote monitoring provider, concluded a three-year supply agreement under which Bittium will supply the Bittium Faros 360 and customized Bittium Faros 360 cardiac ECG signal measuring and monitoring devices. In addition, Bittium will supply disposable electrodes for attaching Bittium Faros ECG devices. When materialized in full, the total value of the agreement is USD 21 million (approximately EUR 17,1 million based on an exchange rate of February 12, 2018) with revenues recognized gradually during the years 2018, 2019, 2020 and 2021 depending on the progress of the product deliveries, with estimated emphasis on 2019 and 2020. This agreement did not change the Company's long term financial outlook.

March 9, 2018 – Bittium Cardiac Navigator meant for the analysis of clinical Holter ECG recordings received medical device approval in Europe. The approval allows cardiologists to use the Bittium Cardiac Navigator software solution for official analysis of Holter ECG recordings collected with Bittium Faros ECG monitoring devices. The user-friendly and informative ECG data presentation and intuitive analysis tools of Bittium Cardiac Navigator software solutions make the software efficient and easy to use when analyzing multiple days of ECG recordings. Based on recordings, the software provides information about the electrical cardiac activity of the heart, typical of Holter ECG analysis, and in particular, about arrhythmia and other exceptional events. Bittium Cardiac Navigator is designed for scanning longer measurements efficiently in a shorter time and thus speeding up the final diagnosis.

March 16, 2018 – Bittium launched new innovative Bittium Tough Mobile HybridX extension, that gives Bittium Tough Mobile a new user interface and functionalities that are very useful in demanding Public Safety use. Bittium Tough Mobile HybridX extension combines the secure Bittium Tough Mobile smartphone with a functional HybridX accessory. The HybridX accessory is integrated to the Bittium Tough Mobile and is connected to a PMR (Private Mobile Radio) device, such as TETRA or P25.

March 28, 2018 – Bittium Medanalytics Oy, a subsidiary of Bittium Corporation, and RemoteA Oy signed a business purchase agreement according to which Bittium Medanalytics Oy purchases RemoteA's medical remote diagnostic service platform and the product rights of the related medical measurement devices and their interfaces. With the business transaction Bittium's offering expanded from measuring and monitoring the electrical activity of the heart and brain to measuring and monitoring sleep apnea. In addition, a third party blood pressure measurement device has been connected to the service platform, and in the future, it is possible to connect also other measurement devices to the system. Biosignal information collected from the patients via the remote diagnostics service platform enables the transfer of information over the internet and it serves as a platform for patient measurement data and specialists' diagnosis. The business transaction had no significant impact on Bittium Corporation's financial outlook for 2018. The parties agreed that the value of the transaction will not be published.

April 13, 2018 – Bittium announced to have received a purchase order from the Finnish Defence Forces for products included in the Software Defined Radio based Bittium Tactical Wireless IP Network (TAC WIN) system, which is meant for tactical communications. The value of the purchase order is EUR 14.3 million (excl. VAT). The purchase order did not change Bittium's financial outlook for the year 2018. The purchase order is based on the framework agreement signed by Bittium and the Finnish Defence Forces on August 9, 2017, according to which the Finnish Defence Forces will order products included in the Software Defined Radio based Bittium TAC WIN system during the years 2018–2020. According to the framework agreement, Finnish Defence Forces will issue separate purchase orders for the products each year. The products ordered now will be delivered to the Finnish Defence Forces during the year 2018. If materialized in full, the total value of the framework agreement is EUR 30 million (excl. VAT). Bittium issued a stock exchange release about the framework agreement on August 9, 2017.

April 23–27, 2018 – Bittium's secure Bittium Tough Mobile smartphone was part of the Locked Shields 2018 cyber defense exercise organized by the NATO Cooperative Cyber Defence Centre of Excellence (CCDCOE), held in Tallinn, Estonia. It was the world's largest and most complex international live-fire cyber defense exercise where more than 1 000 experts from 30 nations participated in total. The annual exercise is a unique opportunity for national representatives of cyber defense to practice protection of national information technology systems and critical infrastructure under the intense pressure of a severe cyber attack.

May 14–17, 2018 – Bittium showcased the ThingSpace LTE CAT-M1 IoT Reference Hardware Design, which was developed with Verizon, at IoT World 2018 exhibition, held in Santa Clara Convention Center, California, the United States of America. The IoT Reference Hardware Design was designed to allow an OEM the building blocks to get up and running quickly on the Verizon network and ThingSpace platform. Bittium provides open source hardware design documents and offers design services to Verizon's ThingSpace development partners. Bittium's IoT Design Service offerings vary from technology consultation to commercial wireless designs.

May 15, 2018 – Bittium received a purchase order from the Finnish Defence Forces for the maintenance and further development of systems and related products meant for tactical communications. The order refers to the Software Defined Radio based Bittium Tactical Wireless IP Network (TAC WIN) system, the Bittium Tough VoIP system for tactical IP calls and data transfer, as well as the products related to the systems, which are used by the Finnish Defence Forces. The purchase order applies to the year 2018 and includes the technical support of the systems and the equipment, software support, upkeep of the system support, management of the system support, and development of new features. The value of the purchase order was EUR 2.3 million (excl. VAT). The purchase order did not change Bittium's financial outlook for the year 2018.

May 30, 2018 – Bittium Corporation's subsidiary, Bittium BioSignals Ltd and Cerenion Oy announced a collaboration project on bringing advanced brain monitoring into the array of vital signs monitoring available to intensive care staff. The collaboration aims on providing a comprehensive solution for brain electrical activity monitoring for intensive care patients, by combining Bittium BrainStatus a wireless EEG-monitoring device meant for real-time brain electrical activity to Cerenion's innovative C-Trend index that interprets EEG signal to a simple score facilitate and accelerate the work of nursing staff.

Recently European CE medical approved wireless Bittium BrainStatus EEG amplifier and electrode headband enable high quality and fast EEG signal measurement. Through the use of Cerenion C-Trend technology this signal data is turned into a simple score that reveals the status of the patient's brain at the bed-side and without requiring any changes to the care of the patient. The first line of C-Trend-enabled Bittium BrainStatus devices are expected to become available in 2019.

June 11–15, 2018 – Bittium launched the new Bittium Tough VoIP Softphone software product at the Eurosatory defense exhibition in Paris, France. The new Bittium Tough VoIP Softphone software product is a VoIP client (Voice over Internet Protocol) that can be used for VoIP calls, instant messaging, conference calls and screen sharing in the tactical Bittium Tough VoIP Service network either with a PC or smartphone. Especially useful for tactical use are also the Push-To-Talk (PTT) feature as well as the remote control and sending instant messages to existing third party Combat Net Radios (CNR) through Bittium Tough VoIP Service network and Bittium Tough Comnode terminal or Bittium TAC WIN system's router (Radio over IP, RoIP).

July 12, 2018 – Bittium expanded its medical technology offering to Switzerland by investing in a Swiss remote diagnostics service company. Bittium and evismo will jointly provide customers with full-scale remote diagnostics service that at this stage includes remote diagnostics service platform, monitoring the electrical activity of the heart, wireless measurement data transfer, and analysis and diagnostics of measurements. The investment was carried out by subscribing new shares in evismo AG, the subscription is carried out in two phases. After the share subscription on July 11th, Bittium's holding of evismo was 17.4 percent and, subject to certain commercial terms by March 31, 2019, Bittium's holding will be 25 percent. The investment did not change Bittium's financial outlook for the year 2018.

August 9, 2018 – Bittium expanded its operations in Central Europe by opening a new office in Munich, Germany. Bittium's local presence in Germany enables high quality customer support for the local customers, and helps in developing and supporting Bittium's international sales network.

August 23, 2018 – Bittium launched new waterproof Bittium Faros ECG device and Bittium FastFix patch electrode for ECG measurement at ESC Congress 2018 on August 25–29 in Munich, Germany. The new waterproof Bittium Faros 180 and Bittium Faros 360 ECG devices together with the Bittium FastFix patch electrodes make the patient's life easier during long-term (3–30 days) ECG recordings. Bittium Faros ECG device together with the Bittium FastFix patch electrode is meant for wireless ECG measurement. The chest-attachable patch electrode can be used for 3 to 7 days at a time, after which measurement can be continued by replacing the patch electrode with a new one. ECG recordings with the waterproof Bittium Faros ECG devices and Bittium FastFix patch electrodes enable the monitored person to be active, do sports and shower without having to remove the device and thus stop the recording.

September 27, 2018 – Bittium announced that it will supply its tactical Bittium Tough SDR Vehicular radios together with the ESSOR High Data Rate Waveform (ESSOR HDR WF) to the pilot vehicles of the Spanish Army's VCR 8x8 vehicle programme (Vehículo de Combate sobre Ruedas). In the scope of the VCR 8x8 programme the Spanish Army will acquire new combat vehicles and related data transfer systems to replace their current, long-lived combat vehicles. Bittium Tough SDR Vehicular radios will be delivered to the temporary joint venture UTE 8x8 (Unión Temporal de Empresas) formed by the Spanish companies GDELS Santa Bárbara Sistemas, Indra and SAPA. After the pilot phase, the programme will continue with another phase during which a separate procurement decision will be made for the supply of vehicular radios to the combat vehicles that will be deployed by the Spanish Army. Participation in the pilot phase of the programme does not automatically guarantee participation in the following phase of the programme.

November 5, 2018 – Bittium Wireless Ltd, a subsidiary of Bittium Corporation, and Finnish Defence Forces signed a framework agreement on Bittium Tough Comnode terminals and related accessories. The framework agreement covers the years 2018–2022. The maximum value of the framework agreement is EUR 8.3 million (excl. VAT). The Finnish Defence Forces will issue separate purchase orders in several batches during the validity of the framework agreement. The framework agreement did not change Bittium's financial outlook for the year 2018. Bittium announced on October 3, 2018 that the Finnish Minister of Defence Jussi Niinistö had authorized the Finnish Defence Forces Logistics Command to enter into a framework agreement with Bittium Wireless Ltd on the purchase of Bittium Tough Comnode terminals and related accessories.

November 23, 2018 – Bittium announced that its cooperation partner, Austrian information technology company Kapsch BusinessCom AG, was informed by the Austrian defense administration (Bundesministerium für Landesverteidigung, BMLV) today that it should be selected as the provider of the new IP-based tactical communication system for the Austrian Armed Forces, in case no appeals by the losing parties of the competitive bidding will be filed during the next 10-days appeal period. This is a typical process in such public competitive bidding. Bittium's products for tactical communications are a significant part of Kapsch BusinessCom's bid, including the Software Defined Radio based Bittium Tactical Wireless IP Network (TAC WIN) system, which will be the core of the new communication system, as well as Bittium Tough Comnode and Bittium Tough VoIP products. On December 4, 2018 Bittium was informed that the 10-day appeal period has expired and no appeals have been made. The signing of the contract was scheduled to December 2018. Bittium's share of the total value is around EUR 30 million (excl. VAT). The product deliveries are expected to take place during the years 2019–2021 and the majority of the net sales is estimated to realize during the years 2020 and 2021. This did not change Bittium's financial outlook for the year 2018.

December 10, 2018 – The new waterproof Bittium Faros ECG devices, Bittium Cardiac Navigator and Bittium Cardiac Explorer analysis software received FDA 510(k) medical device clearances in United States. The FDA 510(k) clearance received by the Bittium Faros ECG device includes the built-in algorithms for detection of arrhythmias. The algorithms can be used to automatically identify sequences in the heart measurement data that include atrial fibrillation, tachycardia, bradycardia, and pauses in the operation of the heart. The received FDA 510(k) clearance also allows the use of Bittium Faros ECG measuring devices for pediatric ECG measurements. The received clearance allows the use of Bittium Faros either in long-term ECG recording or in remote wireless cardiac monitoring. The received FDA 510(k) clearance allows cardiologists to use the Bittium Cardiac Navigator and Bittium Cardiac Explorer software solutions for official analysis of ECG recordings collected with the Bittium Faros ECG monitoring devices.

December 13, 2018 – Bittium Wireless Ltd, a subsidiary of Bittium Corporation and Finnish Defence Forces Logistics Command signed an agreement on the purchase of Bittium Tough SDR handheld and vehicle radios, and their related accessories. The value of the purchase agreement is approximately EUR 10.5 million (excl. VAT) at the maximum. The new software-defined-radio based tactical radios will be used at the first phase by the Army and the delivery will be completed at the latest by the end of the year 2020. This purchase agreement did not change Bittium Corporation's financial outlook for the year 2018.

The Purchase Agreement is based on the Letter of Intent for purchase of new tactical radios, signed by Bittium and Finnish Defence Forces on August 8, 2017. The Purchase Agreement signed today is a natural continuum to the Letter of Intent. Bittium issued a stock exchange release on the Letter of Intent on August 8, 2017. The Finnish Minister of Defence Jussi Niinistö authorized the Finnish Defence Forces Logistics Command to enter into an Agreement with Bittium Wireless Ltd on December 11, 2018. The purchase agreement includes terms for optional additional purchase, according to which, the Finnish Defence Forces have an option to purchase additional tactical radios and their related accessories, training and system management for the use of Army, Air Force and Navy, based on the prices agreed in the Purchase Agreement. If these optional additional purchase amounts would materialize in full, the total value of the purchase would be approximately EUR 207 million (excl. VAT) at the maximum. As agreed in the Letter of Intent, the Finnish Defence Forces aim at making these additional purchases during the next ten years. The materialization of the purchase is affected by the yearly state budget allocations for the administrative of the Ministry of Defence. There will be separate purchase orders for these optional additional purchases.

During 2018, Bittium showcased its products and services at several exhibitions around the world.

Significant Events after the Reporting Period

February 14, 2019 – Bittium Wireless Ltd, a subsidiary of Bittium Corporation, received a purchase order from the Finnish Defence Forces for products included in the Software Defined Radio based Bittium Tactical Wireless IP Network (TAC WIN) system and Bittium Tough Comnode terminals, which are meant for tactical communications. The total value of the purchase order is EUR 11.5 million (excl. VAT) of which the share of the Bittium TAC WIN system's products is EUR 9.9 million and the share of the Bittium Tough Comnode terminals is EUR 1.6 million.

The share of the purchase order including Bittium TAC WIN system's products is based on the framework agreement signed by Bittium and the Finnish Defence Forces on August 9, 2017. According to the framework agreement, the Finnish Defence Forces will order products included in the Software Defined Radio based Bittium TAC WIN system during the years 2018–2020. If materialized in full, the total value of the framework agreement is EUR 30 million (excl. VAT). Finnish Defence Forces will issue separate purchase orders for the products each year. The products ordered now will be delivered to the Finnish Defence Forces during the year 2019.

The share of the purchase order including Bittium Tough Comnode terminals is based on the framework agreement signed by Bittium and the Finnish Defence Forces on November 5, 2018. According to the framework agreement, the Finnish Defence Forces will order Bittium Tough Comnode terminals and related accessories during the years 2018–2022. If materialized in full, the total value of the framework agreement is EUR 8.3 million (excl. VAT). Finnish Defence Forces will issue separate purchase orders in several batches during the validity of the framework agreement. The products ordered now will be delivered to the Finnish Defence Forces during the year 2019.

Outlook for 2019

The amount of wireless broadband data transfer applications is expanding and diversifying. Also the amount of data transfer and the need for secure data transfer are growing. These all create demand for Bittium's leading edge technology products and solutions.

The digitalization of healthcare and remote care are becoming more common, enhancing the healthcare services and creating demand for Bittium's medical technology products and solutions. In order to enable strong international growth in a long term, Bittium invests significantly in developing its own products and solutions and aims at growing its net sales based on its products and product platforms.

Bittium expects that the net sales in 2019 will grow from previous year (EUR 62.8 million in 2018) and the operating profit to be better than in the previous year (2.8 million in 2018). Due to the product deliveries focusing on the second half of the year, the accumulation of the operating result is expected during the second half of the year, as in the previous year. In addition, the level of operating result in 2019 will be impacted by the investments in own products and product platforms started in 2017.

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

More information about other uncertainties regarding the outlook is presented in this Financial Statement Bulletin in the section "Risks and uncertainties" and on the company's internet pages at **www.bittium.com**.

Market Outlook

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 long history in developing mobile communication solutions, Bittium is in a good position to offer customized solutions for its customers. Over thirty years of experience and extensive competence in measuring of biosignals also act as a basis for medical technology solutions.

The following factors are expected to create demand for Bittium's products and services in 2019 and beyond:

- In the mobile telecommunications, development of 5G technology has decreased significantly and the implementation 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 many industries. 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. For this there is a need for secure connected devices for consumers' free-time applications and demanding industrial usage that collect information through their sensors and connect the de-

vices securely to the internet and cloud services. New IoT radio systems are being used all over the world and the amount of digitalized devices continuously increases. The devices have new further developed features that generate demand for R&D services. Along with the 5G technology is 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 the complete digitalization service. To ease and speed up the processing of large data amounts there are different kinds of learning systems and devices under development that use different kinds of artificial intelligence (AI) technologies.

- 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. Also the interest towards LTE-SAT-hybrid devices with terrestrial and satellite connections has grown to further improve the functionality of authorities' critical connections. The implementation of LTE-based devices in Public Safety markets has been slower than expected due to the delay of the device functionalities required by the authorities and due to the slow progress of the market. The sale of the secure terminal products is expected to develop moderately according to the nature of public safety markets.
- Using public network connections in portable devices is increasing also in demanding professional use, such as 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.
- 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 for transferring growing amounts of data securely. This creates demand for Bittium Tactical Wireless IP Network (TAC WIN) broadband network and for other Bittium's IP-based (Internet Protocol) tactical communications solutions, as well as for Bittium's new tactical communication handheld and vehicle radios that fulfill the needs of data transfer of moving troops or individual soldiers. Bittium continues its 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 2019. Due to the long sales cycles driven by purchasing programs of national governments, it takes time to receive significant purchase orders.
- The heart and brain failures are among the most frequent causes of serious complications and recognizing those symptoms early on, based on information gathered by measuring, enables the start of the effective treatment in time. Also the prevention of diseases and health problems are being increasingly invested in. In the healthcare technology market there is ongoing a significant change in the patient care both inside the hospitals as well as in homecare. The repatriation of patients is being pursued earlier than before which may enable significant cost savings in the healthcare. A perquisite for early repatriation is the enabling of accurate and precise follow-up and measurement in home conditions through remote monitoring. For this purpose Bittium offers its Bittium Faros product family for remote heart monitoring and Bittium BrainStatus for measuring the electrical activity of the brain. One of the growing application areas in the wireless and remote systems is healthcare technology that enables implementing these changes for its part. Remote monitoring and remote diagnostics together with wireless and remote-controllable systems bring effectiveness to the healthcare performance and cut costs as the diagnosis from specialists are available regardless of time and place. This enables also new service providers to enter the chain of medical treatment services offering wider availability of medicine, without bargaining the quality of specialists i.e. cardiologists and neurologists.

Risks and Uncertainties

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

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, currency losses, elevated costs, or litigations and related costs.

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, 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 Financial Statement Bulletin 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 result also 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 in order 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 be also affected by potential challenges 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. Currently Bittium has a committed overdraft credit facility agreement of EUR 30.0 million. From these agreements intended for general financing purposes, EUR 20.0 million are valid until December 31, 2021 and EUR 10.0 million until December 31, 2019.

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.

Environmental Factors

Bittium´s business operations focus mostly on the design, assembly provided by the manufacturing partners and marketing of products. This represents only a minor part of the environmental impacts over the entire life cycle of the products. Products of the Company have only minor general environmental impacts.

Bittium Corporation renewed its global environmental management system certification according to ISO 14001.2015 standard in June 2016. Company is monitoring globally the environmental requirements for products and derived national regulations to the extent that they are related to the company operations. Bittium has also observed and applied the requirements of the ROHS (use of hazardous substances) and WEEE (recycling of electrical and electronic equipment) directives in design since 2002. In addition, Company has monitoring impacts of forthcoming REACH III directives.

The applied environmental standards and regulations in company operations have been consolidated as uniform Bittium substance list, applicable also to Bittium´s significant suppliers. The biannually updated substance list includes, in addition to the compliance of ROHS (I, III and III) and REACH directives, the substance requirements applicable in different market areas against which identification of materials is made if needed. Further, materials declaration list observes certain customer specific requirements. Company has further updated the requirements mainly on a biannual basis and applied the proper environmental requirements to the products or solutions, in which Bittium has partial or total responsibility depending on the application scope. The imposed requirements will be observed in business operations on a country-specific basis.

During 2018 Bittium's EES+-based energy efficiency system was certified to cover also ISO 50001 energy efficiency standard requirements. During 2019 company aims to renew its energy efficiency system certification according to ISO 50001.2018 standard. Bittium has also official energy efficiency review responsible person in its service authorized by Finnish Energy Office.

Bittium has further developed company environmental reporting, based on which the 2018 environmental objectives have been followed. Company has observed the sustainability reporting requirements and published the environmental information as part of its sustainability report. The energy efficiency of Bittium's Oulu facilities has been clearly improved due to new site opened in October 2017. As an example of the energy efficiency actions the energy powered by solar cells was reaching over thirteen percent of the whole energy consumption during the best times. In the other Bittium facilities no major changes was observed during 2018.

Personnel

The Bittium group employed an average of 660 people in between January and December 2018. At the end of December 2018, the company had 674 employees (619 employees at the end of 2017). A significant part of Bittium's personnel are R&D engineers.

Changes in the Company's Management

September 9, 2018 – Mr. Sammy Loitto (MBA and Master of Engineering in Industrial Management) was appointed as Senior Vice President, Sales in Bittium Corporation as of October 1, 2018. Previously he has been responsible for sales and business development activities at Bittium. Prior to that, he has worked in several sales and management positions at Jolla, Gryphon Secure and Airbus. Mr. Loitto reports to Mr. Hannu Huttunen, CEO of Bittium Corporation.

As of October 1, 2018 Bittium management group consists of following persons: Mr. Hannu Huttunen, CEO (chairman); Mr. Pekka Kunnari, CFO; Mr. Kari Jokela, CLO; Ms. Karoliina Fyrstén, Director, Corporate Communications and Marketing, Mr. Sammy Loitto, Senior Vice President Sales, and heads of product and service areas: Mr. Jari Sankala, Senior Vice President, Defense and Security; Mr. Klaus Mäntysaari, Senior Vice President, Connectivity Solutions; Mr. Arto Pietilä, Senior Vice President, Medical Technologies; and Mr. Jari-Pekka Innanen, Vice President, Engineering.

Incentive Systems

Variable Pay System

Variable pay is paid based on the achievement of the set targets. In 2018, 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 2018, gross margin and cash flow formed the financial targets. In addition, part of the targets may be other Company objectives or personal targets. Personal targets vary between duties.

Directed Share Issue without Consideration (2016)

Based on the authorization granted by Bittium Corporation´s Annual General Meeting of Shareholders held on April 15, 2015, the Board of Directors of Bittium Corporation decided on March 22, 2016 on a directed share issue without consideration as reward payments to the key persons of the Company and its subsidiaries. In the share issue, 37,500 new shares were issued without consideration to the key persons entitled to the share bonus. The share bonus was issued to 8 key persons of the Company defined by the Board of Directors, with the condition that they must be employed by Bittium Corporation or its subsidiaries at the time of payment of the share bonus. The shares issued in the directed share issue without consideration are subject to restrictions on the right of disposal until December 31, 2018. However, the Board of Directors may grant permission to dispose or use the shares prior to the given date. The shares were registered to the trade register and on the book-entry accounts of the recipients on March 24, 2016, and became subjects to trading on the trading list of Nasdaq Helsinki on March 29, 2016. The CEO received 10,000 shares of Bittium Corporation, and the rest of the members of the Management Group received in total 27,500 shares of Bittium Corporation.

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 April 11, 2018 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 canceled the authorization given by the General Meeting on April 12, 2017 to decide on the repurchase of the company's own shares. The authorization is effective until June 30, 2019.

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 April 11, 2018 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 7,000,000 shares, which corresponds to approximately 19.61 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 canceled the authorization given by the General Meeting on April 12, 2017 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, 2019.

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

November 30, 2018: Name of the person subject to the notification requirement: Erkki Veikkolainen, chairman of the Board of Directors. Notification type: initial notification. Nature of transaction: receipt of a share-based incentive. Transaction date: November 28, 2018. Aggregated transactions: volume 2,514 shares, volume weighted average price: EUR 6.68000.

November 30, 2018: Name of the person subject to the notification requirement: Petri Toljamo, member of the Board of Directors. Notification type: initial notification. Nature of transaction: receipt of a share-based incentive. Transaction date: November 28, 2018. Aggregated transactions: volume 1,437 shares, volume weighted average price: EUR 6.68000.

November 30, 2018: Name of the person subject to the notification requirement: Riitta Tiuraniemi, member of the Board of Directors. Notification type: initial notification. Nature of transaction: receipt of a share-based incentive. Transaction date: November 28, 2018. Aggregated transactions: volume 1,437 shares, volume weighted average price: EUR 6.68000.

November 30, 2018: Name of the person subject to the notification requirement: Juha Putkiranta, member of the Board of Directors. Notification type: initial notification. Nature of transaction: receipt of a share-based incentive. Transaction date: November 28, 2018. Aggregated transactions: volume 1,437 shares, volume weighted average price: EUR 6.68000.

November 30, 2018: Name of the person subject to the notification requirement: Tero Ojanperä, member of the Board of Directors. Notification type: initial notification. Nature of transaction: receipt of a share-based incentive. Transaction date: November 28, 2018. Aggregated transactions: volume 1,437 shares, volume weighted average price: EUR 6.68000.

November 30, 2018: Name of the person subject to the notification requirement: Seppo Mäkinen, member of the Board of Directors. Notification type: initial notification. Nature of transaction: receipt of a share-based incentive. Transaction date: November 28, 2018. Aggregated transactions: volume 1,437 shares, volume weighted average price: EUR 6.68000.

The Board of Directors, Board Committees and the Auditor

The Annual General Meeting held on April 11, 2018, decided that the Board of Directors shall comprise six (6) members. Mr. Seppo Mäkinen, Mr. Juha Putkiranta, Mr. Tero Ojanperä 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. Petri Toljamo and Ms. Riitta Tiuraniemi were elected as new members of the Board of Directors for a corresponding term of office.

At its assembly meeting held on April 11, 2018, the Board of Directors elected Mr. Erkki Veikkolainen Chairman of the Board. Further, the Board resolved to keep the Audit Committee. Juha Putkiranta (Chairman of the Committee) and Riitta Tiuraniemi were elected as members of the Audit Committee and authorized public accountant Seppo Laine was invited to the Audit Committee as external advisor of the Board of Directors.

The Annual General Meeting held on April 11, 2018 re-elected Ernst & Young Oy, authorized public accountants as auditor of the Company for a term of office ending at the end of the next Annual General Meeting. Ernst & Young Oy notified that Mr. Juhani Rönkkö, authorized public accountant, will act as responsible auditor. It was decided that the remuneration to the auditor shall be paid against the auditor's reasonable invoice.

Corporate Governance Statement

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

Dividend from 2017

The Annual General Meeting held on April 11, 2018 decided in accordance with the proposal of the Board of Directors to pay EUR 0.30 per share as dividend based on the adopted balance sheet for the financial period January 1, 2017–December 31, 2017. The dividend was paid to the shareholders who are registered as shareholders in the Company's register of shareholders as maintained by Euroclear Finland Ltd on the dividend record date Friday, April 13, 2018. The dividend was paid on Friday, April 20, 2018.

Consolidated Statement of Comprehensive Income

Continuing operations, 1000 EUR	Notes	Jan. 1– Dec. 31, 2018	Jan. 1– Dec. 31, 2017
NET SALES	1, 3	**62,840**	**51,637**
Other operating income	4	1,263	2,109
Change in work in progress and finished goods			
Work performed by the undertaking for its own purpose and capitalized		337	681
Raw materials		-10,214	-5,940
Personnel expenses	7	-29,717	-33,044
Depreciation	6	-4,646	-3,902
Other operating expenses	5	-17,124	-17,784
Share of results of the associated companies	15	105	39
OPERATING PROFIT		**2,845**	**-6,203**
Financial income and expenses	9	-136	378
PROFIT BEFORE TAX		**2,709**	**-5,825**
Income tax	10	1,315	1,065
PROFIT FOR THE YEAR FROM CONTINUING OPERATIONS		**4,024**	**-4,760**
Profit for the year from discontinued operations	2		1,653
PROFIT FOR THE YEAR		**4,024**	**-3,108**
Other comprehensive income:			
Items that may be reclassified subsequently to the statement of income			
Exchange differences on translating foreign operations		46	-122
TOTAL COMPREHENSIVE INCOME FOR THE YEAR		**4,070**	**-3,229**
Profit for the year attributable to			
Equity holders of the parent		4,024	-3,108
Total		**4,024**	**-3,108**
Total comprehensive income for the year attributable to			
Equity holders of the parent		4,070	-3,229
Total		**4,070**	**-3,229**
Earnings per share for profit attributable to the shareholders of the parent company:	11		
Earnings per share from continuing operations, EUR			
Basic earnings per share		0.113	-0.133
Diluted earnings per share		0.113	-0.133
Earnings per share from discontinued operations, EUR			
Basic earnings per share			0.046
Diluted earnings per share			0.046
Earnings per share from continuing and discontinued operations, EUR			
Basic earnings per share		0.113	-0.087
Diluted earnings per share		0.113	-0.087
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, 2018	Dec. 31, 2017
Non-current assets			
Property, plant and equipment	12	23,448	21,946
Goodwill	13	5,821	5,820
Intangible assets	13	29,691	14,951
Investments in associated companies	15	1,480	1,242
Other financial assets	16	112	112
Non-current receivables	18	1,578	210
Deferred tax assets	17	3,747	2,463
Total		**65,877**	**46,744**
Current assets			
Inventories	18	14,585	10,574
Trade and other receivables	19	21,061	18,151
Financial assets at fair value through profit or loss	20	21,576	56,401
Cash and short-term deposits	21	9,305	6,518
Total		**66,527**	**91,644**
Total assets		**132,404**	**138,387**
Equity and liabilities			
Equity attributable to equity holders of the parent	22		
Share capital		12,941	12,941
Translation differences		1,083	1,030
Invested non-restricted equity fund		25,953	25,953
Retained earnings		70,058	76,753
Total		**110,035**	**116,678**
Total equity		**110,035**	**116,678**
Non-current liabilities			
Deferred tax liabilities	17	405	377
Interest-bearing loans and borrowings (non-current)	25	769	484
Other non-current liabilities, non-interest bearing	26	685	678
Total		**1,859**	**1,540**
Current liabilities			
Trade and other payables	26	18,121	18,302
Provisions	24	1,643	1,143
Interest-bearing loans and borrowings (current)	25	747	725
Total		**20,510**	**20,170**
Total liabilities		**22,369**	**21,710**
Total equity and liabilities		**132,404**	**138,387**

Consolidated Statement of Cash Flows

1000 EUR	Notes	Jan. 1– Dec. 31, 2018	Jan. 1– Dec. 31, 2017
Cash flow from operating activities			
Profit for the year from continuing operations		**4,024**	**-4,760**
Profit for the year from discontinued operations			**1,653**
Adjustments			
Effects of non-cash business activities	28	5,018	2,189
Finance costs	9	1,412	448
Finance income	9	-1,276	-826
Income tax	10	-1,315	-1,065
Change in net working capital			
Change in short-term receivables	19	-4,284	5,598
Change in inventories	18	-3,909	-6,363
Change in interest-free short-term liabilities	26	-175	2,773
Interest paid on operating activities		-1,412	-451
Interest and dividend received from operating activities		1,276	825
Income taxes paid		92	-67
Net cash from operating activities		**-548**	**-45**
Cash flow from investing activities			
Acquisition of business unit, net cash acquired	14		
Purchase of property, plant and equipment	12	-3,697	-11,408
Purchase of intangible assets	13	-15,958	-6,677
Sale of property, plant and equipment	12		116
Sale of intangible assets	13	31	149
Purchase of investments/associated companies	15	-208	-728
Net cash from investing activities		**-19,832**	**-18,549**
Cash flows from financing activities			
Share option plans exercised	23		
Repayment of borrowing	25	-5	-1,692
Payment of finance lease liabilities	25	-944	-1,010
Dividend paid and capital repayment		-10,708	-10,708
Net cash from financing activities		**-11,657**	**-13,410**
Net change in cash and cash equivalents	21	**-32,038**	**-32,004**
Cash and cash equivalents at 1 January		62,919	94,922
Change in fair value of investments			
Cash and cash equivalents at the end of the year		**30,881**	**62,919**

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

Consolidated Statement of Changes in Equity

1000 EUR	Equity attributable to equity holders of the parent					
	Share capital	Invested non-restricted equity fund	Translation difference	Retained earnings	Non-controlling interests	Total
Shareholders' equity Jan. 1, 2018	**12,941**	**25,953**	**1,036**	**70,747**	**0**	**116,678**
Comprehensive income for the period						
Profit for the period				4,024		4,024
Exchange differences on translating foreign operations			46			46
Total comprehensive income for the period	**0**	**0**	**46**	**4,024**	**0**	**4,070**
Transactions between the shareholders						
Dividend distribution				-10,708		-10,708
Other changes				**-5**		**-5**
Shareholders' equity Dec. 31, 2018	**12,941**	**25,953**	**1,083**	**70,058**	**0**	**110,035**
Shareholders' equity Jan. 1, 2017	**12,941**	**25,953**	**1,158**	**90,562**	**0**	**130,615**
Comprehensive income for the period						
Profit for the period				-3,108		-3,108
Exchange differences on translating foreign operations			-122			-122
Total comprehensive income for the period	**0**	**0**	**-122**	**-3,108**	**0**	**-3,229**
Transactions between the shareholders						
Dividend distribution				-10,708		-10,708
Other changes						**0**
Shareholders' equity Dec. 31, 2017	**12,941**	**25,953**	**1,036**	**76,747**	**0**	**116,678**

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, 2018. 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 unrealized 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 business 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.

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

When the Group is a lessee, all lease contracts of property, plant and equipment, in which the Group has substantially all the risks and rewards of ownership, are classified as finance leases. A finance lease agreement is recognized in the balance sheet at an amount equal at the inception of the lease to the fair value of the leased property or, if lower, at the present value of the minimum lease payments. An asset obtained on a finance lease is depreciated over the useful life of the asset or, if shorter, the lease term. Lease obligations are included in interest-bearing liabilities.

Lease agreements in which the risks and benefits attached to ownership remain with the lessor are classified as operating leases. Lease payments under an operating lease are recognized as an expense in the income statement on a straight line basis over the lease term.

Impairment of Assets

At each balance sheet date 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 an incentive plans in which part of the remuneration for the Board of Directors is paid in shares of Bittium. 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

IFRS 15 standard came in force on January 1st, 2018. Bittium identified and reviewed the customer contracts and the revenue recognition principles for the different contract elements using the five step method presented in IFRS 15. During the process of reviewing the customer contracts Bittium stated that majority of the revenue recognition principles were already in line with the IFRS 15. Therefore the new standard did not have a material effect on the financial statements of the year 2018.

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.

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 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 percentace 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.

In case Bittium receives prepayments from customers, the income related to them is recognized according to above mentioned 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.

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

IFRS 9: Financial Instruments standard has come into force on 1st of January 2018. The new standard did not have significant impact on the classification of the financial assets or liabilities in Bittium. 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 had 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 Bittium's 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 Application of IFRS 15: Revenue from Contracts with Customers Standard
IFRS 15: Revenue from Contracts with Customers, came into force on 1st of January 2018. Bittium adopted the standard using the modified retrospective approach. The standard did not have effect on the opening balance of year 2018.

The Application of IFRS 9: Financial Instruments Standard
IFRS 9: Financial Instruments standard has come into force on 1st of January 2018. It replaces the former IAS 39 Financial Instruments: Recognition and Measurement standard. The objective of the new standard is to clarify the classification and assessment of the financial assets and liabilities and to create a new model for impairment and for the hedge accounting. In Bittium the new standard did not have significant impact on the classification of the financial assets or liabilities, nor to the assessments or processes of managing the currency risks. The model for impairment leads to earlier recognition of impairment losses but its effect on Bittium financial reporting has not been material. The new standard has specifying impact on the notes to the financial reporting with respect to financial instruments.

The Preparations for Application of IFRS 16: Leases Standard
The impacts of the IFRS 16: Leases standard, coming into force in 2019 have been analyzed during the year 2018. According to the standard, basically all the Group lease agreements are presented in the assets and liabilities in the balance sheet. The adoption of the standard will increase the value of assets and liabilities in the consolidated opening balance sheet by EUR 1.5 million on January 1, 2019. Bittium will adopt the standard using the retrospective approach. The retrospective effect of adopting the new standard will not be restated for the comparative periods.

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 technology 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, 2018

1000 EUR	Finland	Other Europe	Americas	Asia	Eliminations	Group total
Net sales						
Sales to external customers	48,637	5,311	8,041	851		62,840
Non-current assets	60,250		303			60,553
Total non-current assets *)						**60,553**
*) does not include deferred tax assets						
Capital expenditure						
Tangible assets	1,509		-7			1,503
Intangible assets	14,742					14,742
Investments	27	210				237
Goodwill	-8		9			1

Geographical areas
Jan. 1–Dec. 31, 2017

1000 EUR	Finland	Other Europe	Americas	Asia	Eliminations	Group total
Net sales						
Sales to external customers	39,060	5,361	5,888	1,328		51,637
Non-current assets	43,770	2	299			44,071
Total non-current assets *)						**44,071**
*) does not include deferred tax assets						
Capital expenditure						
Tangible assets	9,252		103			9,355
Intangible assets	5,673					5,673
Investments	1,220	2				1,223
Goodwill	-890		-27			-917

Information of primary customers

Group’s revenues from the 10 largest customers in period Jan. 1–Dec. 31 2018 were EUR 51.9 million (EUR 41.1 million in 2017) representing 82.6 percent of the net sales (79.6 percent in 2017).

Notes to the Consolidated Financial Statements

2. DISCONTINUED OPERATIONS

1000 EUR	2018	2017
Other operating income	0	1,653
Profit for the year from discontinued operations	**0**	**1,653**

The other operating income 2017 includes the reversal of provisions related to the sale of Automotive-segment (2015) as well as VAT returns related to sale of shares which have been returned due to changes in legal interpretation.

Cash received	221	432
Cash flow impact	**221**	**432**

3. NET SALES

1000 EUR	2018	2017
Services	32,068	34,919
Products	30,772	16,314
Other		403
Total	**62,840**	**51,637**

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, extendes 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	12,293	13,472
Net sales other	50,547	38,165
Total	**62,840**	**51,637**
Income recognized over time based on the stage of completion of long-term construction contracts	12,293	13,472
Revenue recognized from long-term construction contracts in progress amounted to	5,511	8,443
Advances received from long-term construction contracts recognized in the balance sheet amounted to	100	475
Receivables recognized from long-term construction contracts amounted to	1,909	1,289

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

4. OTHER OPERATING INCOME

1000 EUR	2018	2017
Government grants	1 193	1 944
Other income	69	165
Total	**1 263**	**2 109**

5. OTHER OPERATING EXPENSES

External services	2,779	4,313
Voluntary staff expenses	984	1,045
Premises expenses	1,386	2,886
Travel expenses	1,318	1,163
IT expenses	3,080	2,625
Other expenses	7,572	5,752
Total	**17,120**	**17,784**
Auditor's charges		
Ernst & Young		
Auditing	66	68
Tax advice	9	17
Other services	5	11
Total	**81**	**96**
Others		
Auditing	24	25
Tax advice	7	12
Other services	1	
Total	**31**	**37**

Notes to the Consolidated Financial Statements

1000 EUR	2018	2017
6. DEPRECIATIONS AND IMPAIRMENTS		
Depreciations		
Intangible assets		
Capitalized development expenditure	371	339
Intangible rights	432	604
Customer relations and technology	221	241
Other intangible assets	169	75
Tangible assets		
Buildings and constructions	439	379
Machinery and equipment	3,022	2,263
Total	**4,654**	**3,902**
7. EMPLOYEE BENEFIT EXPENSES AND NUMBER OF PERSONNEL		
Number of personnel		
Average number of personnel during the fiscal period		
Continuing operations	660	614
Personnel expenses 1000 EUR		
Personnel expenses		
Managing Director's salaries	333	214
Board of Directors *	169	165
Other salaries and wages	22,305	25,861
Total	**22,808**	**26,239**
Pension expenses, defined contribution plans	5,781	5,528
Other personnel expenses	1,128	1,276
Total	**29,717**	**33,044**

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

1000 EUR	2018	2017
8. RESEARCH AND DEVELOPMENT EXPENSES		
The research and development expenses total	21,596	15,045
Capitalized to the balance sheet	-15,105	-5,766
Depreciations	371	339
The expensed research and development expenses recognized in the income statement amounted to	6,862	9,618
9. FINANCIAL EXPENSES (NET)		
Interest expenses	-98	-87
Interest income	2	2
Dividend income	0	1
Exchange gains and losses	-120	47
Change of financial assets and liabilities at fair value through profit or loss	1,257	394
Other financial expenses	-1,193	-408
Other financial income	17	428
Total	**-136**	**378**
10. INCOME TAXES		
Income taxes, current year	-58	
Other taxes		
Income taxes, previous years	-2	-7
Deferred taxes	1,376	1,072
Total	**1,315**	**1,065**
A reconciliation between the effective tax rate and domestic tax rate (20.0 percent) of the Group:		
Profit before taxes	**2,709**	**-5,825**
Tax at the domestic tax rate	-544	1,177
Effect of tax rates of foreign subsidiaries	-1	6
Taxes for prior years	-2	-7
Tax free income	50	268
Non-deductible expenses	-2,088	-2,267
Utilization of deferred tax assets from previous years	2,622	1,112
Reassessment of deferred tax assets	1,374	1,072
The deferred tax assets from tax losses	-96	-297
Others		
Income taxes in the consolidated income statement	**1,315**	**1,065**

Notes to the Consolidated Financial Statements

1000 EUR	2018	2017
11. EARNINGS PER SHARE		
Basic		
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	4,024	-4,760
Profit attributable to the equity holders of the parent, discontinued operations	0	1,653
Profit attributable to the equity holders of the parent, continuing and discontinued operations	4,024	-3,108
Weighted average number of ordinary shares during the financial year (1000 PCS)	35,693	35,693
Basic earnings per share, continuing operations, €	**0.113**	**-0.133**
Basic earnings per share, discontinued operations, €	**0.000**	**0.046**
Basic earnings per share, continuing and discontinued operations, €	**0.113**	**-0.087**
Diluted		
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	4,024	-4,760
Profit attributable to the equity holders of the parent, discontinued operations	0	1,653
Profit attributable to the equity holders of the parent, continuing and discontinued operations	4,024	-3,108
Weighted average number of ordinary shares during the financial year (1000 PCS)	35,693	35,693
Effect of dilution (1000 PCS)		
Weighted average number of ordinary shares during the financial year (1000 PCS)	35,693	35,693
Diluted earnings per share, continuing operations, EUR	**0.113**	**-0.133**
Diluted earnings per share, discontinued operations, EUR	**0.000**	**0.046**
Diluted earnings per share, continuing and discontinued operations, EUR	**0.113**	**-0.087**

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, 2018	Dec. 31, 2017
Land and water		
Acquisition cost Jan. 1	1,091	1,091
Additions during the period		
Acquisition cost at the end of the period	1,091	1,091
Carrying amount at the end of the period	1,091	1,091
Buildings and constructures		
Acquisition cost Jan. 1	17,284	10,145
Translation differences	3	
Additions during the period	159	7,193
Disposals during the period		-55
Acquisition cost at the end of the period	17,445	17,284
Accumulated depreciations Jan. 1	-2,878	-2,551
Translation differences	0	0
Depreciation for the period	-439	-379
Depreciations on disposals		51
Carrying amount at the end of the period	14,128	14,406

No revaluations or capitalizations of interest costs have been done.

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
Machinery and equipment		
Acquisition cost Jan. 1	49,813	44,921
Translation differences	-9	34
Additions during the period	4,800	5,003
Acquisition of business unit		
Disposals during the period		-144
Acquisition cost at the end of the period	54,603	49,814
Accumulated depreciations Jan. 1	-43,452	-41,105
Translation differences	11	-34
Depreciation for the period	-3,022	-2,347
Depreciations on disposals		32
Carrying amount at the end of the period	8,141	6,361
Other tangible assets		
Acquisition cost Jan. 1	88	88
Acquisition cost at the end of the period	88	88
Carrying amount at the end of the period	88	88

Notes to the Consolidated Financial Statements

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
Property, plant and equipment total		
Acquisition cost Jan. 1	68,097	56,066
Translation differences	-6	34
Additions during the period	5,008	12,196
Acquisition of business unit	0	0
Disposals during the period	0	-199
Transfer to assets	0	0
Acquisition cost at the end of the period	73,099	68,097
Accumulated depreciations Jan. 1	-46,201	-43,476
Translation differences	11	-34
Depreciation for the period	-3,461	-2,726
Depreciations on disposals	0	84
Carrying amount at the end of the period	23,448	21,946
Finance leases		
The Group had the following amounts of property, plant and equipment acquired by finance leases:		
Machinery and equipment		
Acquisition cost	7,807	6,551
Accumulated depreciations	-6,317	-5,376
Carrying amount at the end of the period	1,490	1,175

Additions of property, plant and equipment include assets acquired by finance leases of EUR 0.9 million in 1.1.–31.12.2018 (EUR 0.8 million in 2017).

13. INTANGIBLE ASSETS

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
Capitalized development expenses		
Acquisition cost Jan. 1	16,619	10,855
Additions during the period	15,105	5,764
Acquisition cost at the end of the period	31,724	16,619
Accumulated depreciations Jan. 1	-4,751	-4,412
Depreciation for the period	-371	-339
Carrying amount at the end of the period	26,602	11,868
Intangible rights		
Acquisition cost Jan. 1	4,244	3,889
Additions during the period	649	388
Disposals during the period	-5	
Transfer to assets		-33
Acquisition cost at the end of the period	4,888	4,244
Accumulated depreciations Jan. 1	-3,005	-2,652
Depreciation for the period	-432	-352
Carrying amount at the end of the period	1,452	1,239
Customer relations and technology		
Acquisition cost Jan. 1	1,688	1,688
Acquisition of business unit	92	
Acquisition cost at the end of the period	1,780	1,688
Accumulated depreciations Jan. 1	-414	-173
Depreciation for the period	-221	-241
Carrying amount at the end of the period	1,145	1,274

Notes to the Consolidated Financial Statements

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
Other intangible assets		
Acquisition cost Jan. 1	3,955	3,406
Translation differences	5	-13
Additions during the period	91	528
Transfer to assets		33
Acquisition cost at the end of the period	4,050	3,955
Accumulated depreciations Jan. 1	-3,385	-3,323
Translation differences	-5	13
Depreciation for the period	-169	-75
Carrying amount at the end of the period	492	570
Intangible assets total		
Acquisition cost Jan. 1	26,506	19,838
Translation differences	5	-13
Additions during the period	15,845	6,680
Acquisition of business unit	92	0
Disposals during the period	-5	0
Transfer to assets	0	0
Acquisition cost at the end of the period	42,443	26,506
Accumulated depreciations Jan. 1	-11,555	-10,560
Translation differences	-5	13
Depreciation for the period	-1,193	-1,008
Carrying amount at the end of the period	29,691	14,951
Goodwill		
Acquisition cost Jan. 1	5,820	6,737
Translation differences	9	-27
Disposals during the period	-8	-890
Carrying amount at the end of the period	5,821	5,820

Impairment Test

The cash flow forecasts employed in impairment test calculations are based on the budgets for 2019 and the Long Range Plans (LRP) for 2020–2021 approved by management for the strategical period and management estimations for 2022–2023. 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 income tax rate and target capital structure. WACC calculated according to these parameters amounted to 9.8 percent (9.8 percent in 2017).

In 2018, Wireless business did not reach the cash flow forecasted in the impairment test calculation in 2017. This was mainly because of slower than expected growth in the product business and increase in working capital. There were no fundamental changes in the business environment that would make an impact to the cash flow expectations compared to the previous financial year.

The impairment test is done when needed, but at least once a year. Impairment tests made in December 2018 did not indicate need for impairment bookings. Recoverable amounts exceed significantly the book value of goodwill and other assets. The terminal value represents 79 percent of business value. Product business grew slower than expected and also investments to the development of a new products move focus of forecasted net present value based cash flows 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 percentage units. 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 2018

In 2018, or in the comparative period 2017, the Group did not have acquisitions to be reported according to the IFRS standards.

15. SHARES IN ASSOCIATED COMPANIES

On June 16, 2017 Bittium Medanalytics Oy, part of Bittium group, and Coronaria Hoitoketju's subsidiary Coronaria Analyysipalvelut Oy, signed agreements according to which Bittium Medanalytics Oy sells its remote diagnostic service business to Coronaria Asiakaspalvelut Oy. According to the agreement Bittium supplies its web-based service kardiolog.fi used in monitoring cardiac abnormalities to Coronaria's use. Kardiolog.fi service is used by more than 70 Finnish health centers and private medical centers.

Further, Bittium Technologies Ltd, part of Bittium group, acquired 25 percent of the shares in Coronaria Analyysipalvelut Oy. 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 and Bittium group has 25 percent of the shares of the company in the end of 2018.

1000 EUR	2018	2017
Shares in associated companies		
Coronaria Analyysipalvelut Oy	1,271	1,220
Other associated companies	209	22
Assets total	**1,480**	**1,242**
Coronaria Analyysipalvelut Oy		
Current assets	1,597	1,050
Non-current assets	1,385	1,188
Non-current liabilites	217	63
Turnover	5,003	4,364
Net profit	936	834
Reconciliation of financial information of the associated company to asset value of the group		
Net assets of associated company	1,092	457
Share % of ownership	25%	25%
Share of net assets	273	114
Goodwill	839	839
Other intangible assets	224	289
Other items	-65	-22
Carrying value of the associated company	1,271	1,220

Notes to the Consolidated Financial Statements

16. OTHER FINANCIAL ASSETS

1000 EUR	2018	2017
At 1 January	112	132
Disposals		-20
At the closing date	**112**	**112**

17. DEFERRED TAX LIABILITIES AND ASSETS

1000 EUR	Jan. 1, 2018	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2018
Deferred tax assets				
Unutilized losses in taxation	523	0		523
Other items	1,940	1,284		3,224
Total	**2,463**	**1,284**	**0**	**3,747**

On December 31, 2018 the Group had 79.8 million euros tax losses and non-depreciated depreciations of which it had not booked deferred tax receivables in full amount due to the uncertainty of the future profits, their timing, taxation or location. The amount of these non-booked deferred tax receivables is approximately 16.0 million euros. The aging of these tax losses begins from year 2019.

1000 EUR	Jan. 1, 2018	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2018
Deferred tax liabilities				
Customer and technology assets	377	-57	85	405
Total	**377**	**-57**	**85**	**405**

1000 EUR	Jan. 1, 2017	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2017
Deferred tax assets				
Unutilized losses in taxation	360	162		523
Other items	1,156	784		1,940
Total	**1,516**	**947**	**0**	**2,463**

On December 31, 2017 the Group had 78.0 million euros tax losses and non-depreciated depreciations of which it had not booked deferred tax receivables due to the uncertainty of the future profits, their timing, taxation or location. The amount of these non booked deferred tax receivables is approximately 15.6 million euros. The aging of these tax losses begins from year 2018.

1000 EUR	Jan. 1, 2017	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2017
Deferred tax liabilities				
Customer and technology assets	461	-83		377
Total	**461**	**-83**	**0**	**377**

Notes to the Consolidated Financial Statements

18. INVENTORIES

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
Raw materials and supplies	8,635	5,797
Work in progress	4,188	3,193
Finished products	1,132	742
Other inventories	631	843
Total	**14,585**	**10,574**

19. TRADE AND OTHER RECEIVABLES (CURRENT)

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
Non-current receivables	1,578	210
Non-current receivables total	**1,578**	**210**
Current receivables:		
Trade receivables	16,125	13,891
Receivables from construction contracts	1,909	1,289
Prepaid expenses and accrued income	2,213	2,285
Other receivables	814	684
Current receivables total	**21,061**	**18,151**

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 0.1 million (EUR 0.0 million 2017)

Age distribution of accounts receivable		
Current	11,894	10,012
Aged Overdue Amounts		
0-3 months	3,454	2,897
4-6 months	291	297
7-12 months	485	667
> 12 months	1	18
Total	**16,125**	**13,891**

20. FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT OR LOSS

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
Interest rate funds		
Balance sheet value on Jan. 1	56,401	66,935
Disposals	-34,952	-11,000
Changes in fair value	127	466
Balance sheet value at the end of the period	**21,576**	**56,401**
Financial assets at fair value through profit or loss total		
Balance sheet value on Jan. 1	56,401	66,935
Disposals	-34,952	-11,000
Changes in fair value	127	466
Balance sheet value at the end of the period	**21,576**	**56,401**

21. CASH AND SHORT-TERM DEPOSITS

Cash and short-term deposits	9,305	6,518
Total	**9,305**	**6,518**
Cash and cash equivalents at consolidated cash flow statement consist of:		
Interest rate funds	21,576	56,401
Cash and short-term deposits	9,305	6,518
Total	**30,881**	**62,919**

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, 2017	35,693	12,941	0	25,953	38,894
On December 31, 2018	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 exhange differences arising from the transition of the financial statements of foreign subsidiaries.

Dividends

The Board of Directors proposes that the Annual General Meeting resolve to pay EUR 0.15 of dividend per share based on the adopted balance sheet for the financial period of January 1, 2018–December 31, 2018.

23. SHARE-BASED PAYMENT PLANS

During the financial year 2018 the Group has paid 40 percent 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 arrangment are presented in the table below.

Share-based remuneration of the Board of Directors

Form of the reward	Shares
Grant date	Nov. 28, 2018
Total amount of the executed shares	9,699
Share price at the grant date, EUR	6.68
Total expenses of the reward, EUR million	0.1
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

During the financial year 2017 the Group has paid 40 percent 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 5, 2017
Total amount of the executed shares	10,125
Share price at the grant date, EUR	6.39
Total expenses of the reward, EUR million	0.1
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

24. PROVISIONS

1000 EUR	Guarantee provisions	Expected credit losses	Others	Total
December 31, 2017	1,077	0	66	1,143
Increase in provisions	402	158		559
Utilized provisions			-59	-59
Reversal of untilized provisions				0
Dec. 31, 2018	**1,479**	**158**	**6**	**1,643**
Current provisions	1,479	158	6	1,643
Total	**1,479**	**158**	**6**	**1,643**

Notes to the Consolidated Financial Statements

25. FINANCIAL LIABILITIES

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
Non-current loans		
Finance lease liabilities	769	484
Total	**769**	**484**
Current loans		
Finance lease liabilities	747	720
Repayments of non-current bank loans		5
Total	**747**	**725**
Repayment schedule of long-term loans:		
2019		363
2020	467	104
2021	171	14
2022	109	3
Later	23	
Total	**769**	**484**

The interest-bearing non-current loans are distributed by currency as follows:

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
EUR	769	484
Total	**769**	**484**

The interest-bearing current loans are distributed by currency as follows:

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
EUR	747	725
Total	**747**	**725**

Maturities of the finance lease liabilities:

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
Finance lease liabilities - minimum lease payments		1,236
Within one year	780	743
After one year but no more than five years	793	493
After five years	0	0
Finance lease liabilities - Present value of minimum lease payments	1,516	1,204
Within one year	747	720
After one year but no more than five years	769	484
After five years	0	0
Future finance charges	58	32
Total amount of finance lease liabilities	1,573	1,236

Notes to the Consolidated Financial Statements

26. CHANGES IN LIABILITIES ARISING FROM FINANCING ACTIVITIES

1000 EUR	Jan. 1, 2018	Cash flows	New leases	Dec 31, 2018
Obligations under finance leases and hire purchase contracts	1,204	-944	1,256	1,516
Total	**1,204**	**-944**	**1,256**	**1,516**

27. TRADE AND OTHER PAYABLES

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
Non-current liabilities		
Other non-current liabilities, non-interest bearing		
Non-current advances received	155	190
Other non-current liabilities, non-interest bearing	530	488
Total	**685**	**678**
Current liabilities		
Trade and other payables		
Trade liabilities	5,707	9,162
Accrued liabilities, deferred income	7,450	6,023
Other liabilities	4,964	3,116
Total	**18,121**	**18,302**

Material of accrued expenses and deferred income consist 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 taking into account the maturities of the loans.

Financial liabilities at fair value through profit or loss		
Liabilities based on derivates		
Balance sheet value on Jan. 1		6
Changes in fair value		-6
Balance sheet value at the end of the period	**0**	**0**

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 risks.

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 percent 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 2018. At the end of the financial period the counter value of the hedged net position was EUR 0.0 million. During the financial year the amount of the hedged position has been changing between EUR 0.0–2.5 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, 2018 was EUR 2.2 million (EUR 2.0 million in 2017) from which dollar denominated equities of foreign subsidiaries was EUR 1.2 million (EUR 1.0 million in 2017).

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	2018	2017
Forward contracts		
Market value	0	0
Nominal value	0	0

Dollar denominated assets and liabilities translated to euros using the closing date's value:

1000 EUR	2018	2017
Long-term assets	0	0
Long-term liabilities	0	0
Current assets	4,004	1,809
Current liabilities	2,789	848

The table below describes the 10 percent 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.

	Changes in income statement before tax		Changes in equity before tax	
1000 EUR	2018	2017	2018	2017
EUR appreciates	-100	-100	-100	-100
EUR depreciates	100	100	100	100

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	2018	2017
Fixed interest rate debts	1,516	1,209

The table below describes the interest rate risk of debts should there have been a ±1 percent 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.

	Changes in income statement before tax		Changes in equity before tax	
1000 EUR	2018	2017	2018	2017
Loan stock January, 1	1,200	3,200		
Loan stock December, 31	1,500	1,200		
Average loan stock	1,400	2,200		
Change in interest	+/- 0	+/- 0	+/- 0	+/- 0

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 liquid 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.

	2018	2017
Stock shares	0.0%	0.0%
Bonds	66.9%	64.1%
Money market investments	33.1%	35.9%
Total	**100.0%**	**100.0%**

Notes to the Consolidated Financial Statements

The combined value of the above instruments during the financial period has ranged from approximately EUR 21.6 to EUR 56.4 million. At closing date their value was approximately EUR 21.6 million. This risk concentration has been managed by investing in well-spread and low-risk money market funds.

The table below describes the price risk of the investments if they had exhibited a ±1 percent 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.

	Changes in income statement before tax		Changes in equity before tax	
1000 EUR	**2018**	**2017**	**2018**	**2017**
Interest investments	+/- 100	+/- 400	+/- 100	+/- 400

Default Risk
Group's credit risks are mainly related to accounts receivable, cash, financial investments and derivatives used in hedging. In it's deposit, financial investment and hedging activities Bittium operates only with well-known partners who have good credit rating.

About 87 percent 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 3.1 percent of the total accounts receivable.

During the past financial year the amount of recognized credit losses was approximately EUR 0.1 million (EUR 0.0 million in 2017). The amount of loans granted to affiliated companies were EUR 0.0 million at the end of 2018 (EUR 0.1 million in 2017). Group did not have capital loans granted outside of the Group at the end of 2018 (EUR 0.0 million in 2017).

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. The Group has also EUR 20.0 million credit facility agreement with Nordea Bank Plc. and EUR 10.0 million credit facility agreement with OP Corporate Bank Plc. From these agreements, intended for general financing purposes, EUR 10.0 million are valid until December 31, 2019 and EUR 20.0 million until December 31, 2021. The agreements include conventional covenants that are, among others, related to equity ratio, interest bearing debt to EBITDA, and transfer and pledge of the assets. 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 2018 was EUR -29.4 million (EUR -61.7 million in 2017) and net gearing was -26.7 percent (-52.9 percent in 2017). The Group's solvency ratio at the end of 2018 was 84.7 percent (85.6 percent in 2017).

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 2018	Fair value 2018	Book value 2017	Fair value 2017
Financial assets					
Other financial assets	16	112	112	112	112
Deferred tax assets	17	3,747	3,747	2,463	2,463
Non-current receivables	19	1,578	1,578	210	210
Trade receivables and other receivables	19	21,061	21,061	18,151	18,151
Financial assets at fair value through profit or loss	20	21,576	21,576	56,401	56,401
Cash and cash equivalents	21	9,305	9,305	6,518	6,518
Currency forwards	20	0	0	0	0
Financial liabilities					
Bank loans	25			5	5
Finance lease liabilities	25	1,516	1,516	1,204	1,204
Trade payables and other debts	17,24,26	20,854	20,854	20,500	20,500
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; instruments 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, 2018	Dec. 31, 2017
Business transactions without payments		
Depreciations	4,646	3,902
Share of profits in associated companies	-105	-39
Other adjustments	477	-1,673
Total	**5,018**	**2,189**

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, 2018	Dec. 31, 2017
Not later than one year	554	516
Later than one year and not later than five years	748	914
After five years	128	63

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.

The Group as Lessor

The Group has leased the excess office and production facilities with lease agreements valid until further notice. These agreements have been released at the end of year 2017.

31. SECURITIES AND CONTINGENT LIABILITIES

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
Against own liabilities		
Floating charges	1,000	1,000
Guarantee limits at the maximum	135	1,201
Other contractual liabilities		
Falling due in the next year	2,414	1,884
Falling due after one year	2,132	995
Mortgages are pledged for liabilities totaled		
Other liabilities (guarantees issued)	135	1,201
Material purchase commitments	12,605	9,882

32. RELATED PARTY DISCLOSURES

The Group has the following structure:	Country of incorporation	Owned by Parent %	Owned by Group %
Parent			
Bittium Oyj	Finland		
Subsidiaries			
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 i.G.	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 Technology (Beijing) Co. Ltd.	China	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		2018	2017
Associated companies			
	Net sales	319	172
	Receivables	2,101	336
	Debts	413	475

Notes to the Consolidated Financial Statements

1000 EUR	2018	2017
Employee benefits for key management		
Salaries and remuneration		
Managing director of the parent		
Hannu Huttunen 1.1.–31.12.2017, 1.1.–31.12.2018	333	214
Total	**333**	**214**
Remuneration of the members of the board of the parent		
and the financial committee		
Staffan Simberg 1.1.–31.12.2017, 1.1.–31.12.2018	5	18
Erkki Veikkolainen 1.1.–31.12.2017, 1.1.–31.12.2018	25	25
Kirsi Komi 1.1.–31.12.2017, 1.1.–11.4.2018	5	17
Riitta Tiuraniemi 11.4.–31.12.2018	12	
Petri Toljamo 11.4.–31.12.2018	10	
Juha Putkiranta 1.1.–31.12.2017, 1.1.–31.12.2018	17	14
Seppo Mäkinen 1.1.–31.12.2017, 1.1.–31.12.2018	14	14
Tero Ojanperä 1.4.–31.12.2017, 1.1.–31.12.2018	14	10
Total	**103**	**99**
Share-based incentives		
Board of Directors	66	66
Total	**66**	**66**
Members of the group executive board	**1,038**	**804**

There have not been any business transactions or open balances between the related parties.

Loans and guarantees to related party
There are no loans or guarantees granted between the related parties.

33. SIGNIFICANT EVENTS DURING THE REPORTING PERIOD

February 13, 2018 – Bittium Biosignals Ltd, a subsidiary of Bittium Corporation, and a major US remote monitoring provider, concluded a three-year supply agreement under which Bittium will supply the Bittium Faros 360 and customized Bittium Faros 360 cardiac ECG signal measuring and monitoring devices. In addition, Bittium will supply disposable electrodes for attaching Bittium Faros ECG devices.

When materialized in full, the total value of the agreement was USD 21 million (approximately EUR 17.1 million based on an exchange rate of February 12, 2018) with revenues recognized gradually during the years 2018, 2019, 2020 and 2021 depending on the progress of the product deliveries, with estimated emphasis on 2019 and 2020. This agreement did not change the Company's long term financial outlook (published in the Half Year Financial Report January–June 2017 on August 8, 2018).

April 13, 2018 – Bittium Wireless Ltd, a subsidiary of Bittium Corporation received a purchase order from the Finnish Defence Forces for products included in the Software Defined Radio based Bittium Tactical Wireless IP Network (TAC WIN) system, which is meant for tactical communications. The value of the purchase order was EUR 14.3 million (excl. VAT). The purchase order did not change Bittium's financial outlook for the year 2018 (published in the Financial Statement Bulletin 2017 on February 22, 2018).

The purchase order is based on the framework agreement signed by Bittium and the Finnish Defence Forces on August 9, 2017, according to which the Finnish Defence Forces will order products included in the Software Defined Radio based Bittium TAC WIN system during the years 2018–2020. According to the framework agreement, Finnish Defence Forces will issue separate purchase orders for the products each year. The products ordered now will be delivered to the Finnish Defence Forces during the year 2018. If materialized in full, the total value of the framework agreement is EUR 30 million (excl. VAT). Bittium announced the Frame Agreement on August 8, 2018.

September 11, 2018 – Mr. Sammy Loitto (MBA and Master of Engineering in Industrial Management) was appointed as Senior Vice President, Sales in Bittium Corporation as of October 1, 2018. Previously he has been responsible for sales and business development activities at Bittium. Prior to that, he has worked in several sales and management positions at Jolla, Gryphon Secure and Airbus. Mr. Loitto reports to Mr. Hannu Huttunen, CEO of Bittium Corporation. As of October 1, 2018 Bittium management group consists of following persons: Mr. Hannu Huttunen, CEO (chairman); Mr. Pekka Kunnari, CFO; Mr. Kari Jokela, CLO; Ms. Karoliina Fyrstén, Director, Corporate Communications and Marketing, Mr. Sammy Loitto, Senior Vice President Sales, and heads of product and service areas: Mr. Jari Sankala, Senior Vice President, Defense and Security; Mr. Klaus Mäntysaari, Senior Vice President, Connectivity Solutions; and Mr. Arto Pietilä, Senior Vice President, Medical Technologies; and Mr. Jari-Pekka Innanen, Vice President, Engineering.

October 3, 2018 – the Finnish Minister of Defence Jussi Niinistö has authorized the Finnish Defence Forces Logistics Command to enter into a framework agreement with Bittium Wireless Ltd on the purchase of Bittium Tough Comnode terminals and related accessories. The framework agreement was signed on November 11, 2018. It covers the years 2018–2020 and the maximum value of the purchase authorization for the framework agreement is EUR 8.3 million (excl. VAT). Based on the framework agreement, the Finnish Defence Forces will issue separate purchase orders in several batches during the validity of the framework agreement. The framework agreement did not change Bittium's financial outlook for the year 2018. Bittium Tough Comnode will fulfill the data transfer needs of the Finnish Defence Forces' 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). The terminals will be used by all three military branches.

November 23, 2018 – Bittium announced that its cooperation partner, Austrian information technology company Kapsch BusinessCom AG was informed by the Austrian defense administration (Bundesministerium für Landesverteidigung BMVL) that it should be selected as the provider of the new IP-based tactical communication system for the Austrian Armed Forces in case no appeals by the losing parties of the competitive bidding will be filed during the next 10-days appeal period. This is a typical process in such public competitive bidding. Bittium's products for tactical communications are a significant part of Kapsch BusinessCom's winning bid, including the Software Defined Radio based Bittium Tactical Wireless IP Network (TAC WIN) system, which will be the core of the new communication system, as well as Bittium Tough Comnode and Bittium Tough VoIP products. On December 4, 2018 Bittium announced to have been informed that the 10-days appeal period has expired and no appeals have been filed. The signing of the contract was scheduled to December 2018. If materialized, Bittium's share of the total value of the winning bid will be around EUR 30 million (excl. VAT). The product deliveries are expected to take place during the years 2019-2021 and the majority of the net sales is estimated to realize during the years 2020 and 2021. This did not change Bittium's financial outlook for the year 2018.

December 11, 2018 – The Finnish Minister of Defence Jussi Niinistö authorized the Finnish Defence Forces Logistics Command to enter into an Agreement with Bittium Wireless Ltd on the purchase of Bittium Tough SDR handheld and vehicle radios, and their related accessories. The Agreement was signed on December 12, 2018. The value of the Purchase Agreement is approximately EUR 10.5 million (excl. VAT) at the maximum. The new software-defined-radio based tactical radios will be used at the first phase by the Army and the delivery will be completed at the latest by the end of the year 2020. This purchase agreement did not change Bittium Corporation's financial outlook for the year 2018. The Purchase Agreement is based on the Letter of Intent for purchase of new tactical radios, signed by Bittium and Finnish Defence Forces on August 8, 2017. The Purchase Agreement is a natural continuum to the Letter of Intent. Bittium issued a stock exchange release on the Letter of Intent on August 8, 2017.

The purchase agreement includes terms for optional additional purchase, according to which, the Finnish Defence Forces have an option to purchase additional tactical radios and their related accessories, training and system management for the use of Army, Air Force and Navy, based on the prices agreed in the Purchase Agreement. If these optional additional purchase amounts would materialize in full, the total value of the purchase would be approximately EUR 207 million (excl. VAT) at the maximum. As agreed in the Letter of Intent, the Finnish Defence Forces aim at making these additional purchases during the next ten years. The materialization of the purchase is affected by the yearly state budget allocations for the administrative of the Ministry of Defence. There will be separate purchase orders for these optional additional purchases.

Notes to the Consolidated Financial Statements

34. SIGNIFICANT EVENTS AFTER THE REPORTING PERIOD

February 14, 2019 – Bittium Wireless Ltd, a subsidiary of Bittium Corporation, received a purchase order from the Finnish Defence Forces for products included in the Software Defined Radio based Bittium Tactical Wireless IP Network (TAC WIN) system and Bittium Tough Comnode terminals, which are meant for tactical communications. The total value of the purchase order is EUR 11.5 million (excl. VAT) of which the share of the Bittium TAC WIN system's products is EUR 9.9 million and the share of the Bittium Tough Comnode terminals is EUR 1.6 million.

The share of the purchase order including Bittium TAC WIN system's products is based on the framework agreement signed by Bittium and the Finnish Defence Forces on August 9, 2017. According to the framework agreement, the Finnish Defence Forces will order products included in the Software Defined Radio based Bittium TAC WIN system during the years 2018–2020. If materialized in full, the total value of the framework agreement is EUR 30 million (excl. VAT). Finnish Defence Forces will issue separate purchase orders for the products each year. The products ordered now will be delivered to the Finnish Defence Forces during the year 2019.

The share of the purchase order including Bittium Tough Comnode terminals is based on the framework agreement signed by Bittium and the Finnish Defence Forces on November 5, 2018. According to the framework agreement, the Finnish Defence Forces will order Bittium Tough Comnode terminals and related accessories during the years 2018–2022. If materialized in full, the total value of the framework agreement is EUR 8.3 million (excl. VAT). Finnish Defence Forces will issue separate purchase orders in several batches during the validity of the framework agreement. The products ordered now will be delivered to the Finnish Defence Forces during the year 2019.

35. KEY RATIOS

	IFRS 2018	IFRS 2017	IFRS 2016	IFRS 2015	IFRS 2014
INCOME STATEMENT, MEUR					
Net sales, MEUR *)	62.8	51.6	64.2	56.8	52.7
Net sales change, %	21.7	-19.6	13.0	7.8	
Operating profit/loss, MEUR *)	2.8	-6.2	2.5	2.3	0.8
% of net sales	4.5	-12.0	4.0	4.1	1.5
Profit/loss for continuing operations before taxes, MEUR	2.7	-5.8	3.1	2.1	0.6
% of net sales	4.3	-11.3	4.9	3.7	1.2
Profit for the year from continuing operations, MEUR	4.0	-4.8	3.5	2.3	1.3
% of net sales	6.4	-9.2	5.5	4.1	2.4
Profit after tax for the year from discontinued operations, MEUR	0.0	1.7	0.0	539.0	11.2
% of net sales	0.0	3.2	0.0	948.7	21.3
Profit for the year attributable to equity holders of the parent, MEUR	4.0	-3.1	3.5	541.3	12.5
% of net sales	6.4	-6.0	5.5	952.8	23.7
BALANCE SHEET, MEUR					
Non-current assets	65.9	46.7	30.3	14.4	48.8
Inventories	14.6	10.6	4.1	2.2	2.2
Current assets	51.9	81.1	118.9	142.8	115.8
Shareholders' equity	110.0	116.7	130.6	137.6	93.4
Non-current liabilities	1.9	1.5	3.1	2.0	7.6
Current liabilities	20.5	20.2	19.6	19.8	65.8
Balance sheet total	132.4	138.4	153.3	159.4	166.8

	IFRS 2018	IFRS 2017	IFRS 2016	IFRS 2015	IFRS 2014
PROFITABILITY AND OTHER KEY FIGURES					
Return on equity % (ROE) **)	3.6	-3.9	2.6	2.0	
Return on investment % (ROI) **)	3.7	-4.5	2.6	2.5	
Interest-bearing net liabilities, (MEUR)	-29.4	-61.7	-91.8	-121.4	-35.0
Net gearing, %	-26.7	-52.9	-70.3	-88.2	-37.4
Equity ratio, %	84.7	85.6	87.0	90.5	62.3
Gross investments, (MEUR) *)	21.2	20.1	18.5	7.4	4.5
Gross investments, % of net sales	33.8	38.8	28.8	13.1	8.5
R&D costs, (MEUR) *)	21.6	15.0	6.9	7.3	6.9
R&D costs, % of net sales	34.4	29.1	10.8	12.9	13.0
Average personnel during the period, parent and subsidiaries *)	660	614	569	511	486
STOCK-RELATED FINANCIAL RATIOS					
Earnings per share from continuing operations, EUR					
Basic earnings per share	0.113	-0.133	0.098	0.020	0.010
Diluted earnings per share	0.113	-0.133	0.098	0.020	0.010
Earnings per share from discontinued operations, EUR					
Basic earnings per share		0.046	0.000	4.687	0.086
Diluted earnings per share		0.046	0.000	4.685	0.085
Earnings per share from continuing and discontinued operations, EUR					
Basic earnings per share	0.113	-0.087	0.098	4.708	0.096
Diluted earnings per share	0.113	-0.087	0.098	4.706	0.095
Equity per share, EUR	3.08	3.27	3.66	3.86	0.71
Dividend per share EUR ***)	0.15	0.3	0.3	0.3	0.04
Dividend per earnings, %	132.7	-344.6	305.3	6.4	42.7
P/E ratio	53.0	-64.9	57.7	344.3	35.9
Effective dividend yield, %	2.5	5.3	5.3	4.3	1.2
Market values of shares (EUR)					
Highest	8.10	7.88	7.40	7.80	3.83
Lowest	4.71	5.55	5.15	3.27	2.30
Average	5.98	6.55	6.05	4.92	2.85
At the end of period	7.61	5.65	5.67	7.01	3.36
Market value of the stock, (MEUR)	271.6	201.7	202.4	249.6	441.8
Trading value of shares					
MEUR	75.4	83.1	126.4	837.1	188.0
1000 PCS	12,608	12,684	20,888	169,993	66,019
Related to average number of shares %	35.3	35.5	58.6	147.8	50.4
Adjusted number of the shares at the end of the period (1000 PCS)	35,693	35,693	35,693	35,600	131,493
Adjusted number of the shares average for the period (1000 PCS)	35,693	35,693	35,670	114,983	130,975
Adjusted number of the shares average for the period diluted with stock options (1000 PCS)	35,693	35,693	35,670	115,037	131,663

*) Continuing operations. Excluding Automotive business income statements from periods Jan. 1–July 1 2015 and 2014.

**) comparable key figures for 2014 N/A.

***) Proposal of the BoD for 2018.

Notes to the Consolidated Financial Statements

CALCULATION OF KEY RATIOS

Return on equity % (ROE)

$$= \frac{\text{Profit for the year x 100}}{\text{Total equity (average for the accounting period)}}$$

Return on investment % (ROI)

$$= \frac{\text{Profit before tax + interest and other financial expenses x 100}}{\text{Balance sheet total - interest-free liabilities (average for the accounting period)}}$$

Net gearing, %

$$= \frac{\text{Interest-bearing liabilities - cash and cash equivalents x 100}}{\text{Total equity}}$$

Equity ratio, %

$$= \frac{\text{Total equity x 100}}{\text{Balance sheet total - advances received}}$$

Earnings per share

$$= \frac{\text{Profit attributable to equity holders of the parent}}{\text{Share issue adjusted number of the shares average for the period}}$$

Equity per share

$$= \frac{\text{Equity attributable to equity holders of the parent}}{\text{Share issue adjusted number of the shares at the end of the period}}$$

Dividend per share

$$= \frac{\text{Dividend for the period (Board's proposal) per share}}{\text{Adjustment coefficient of post-fiscal share issues}}$$

Dividend per earnings, %

$$= \frac{\text{Dividend per share x 100}}{\text{Earnings per share}}$$

P/E ratio

$$= \frac{\text{Share issue adjusted share price at the end of the period}}{\text{Earnings per share}}$$

Effective dividend yield, %

$$= \frac{\text{Dividend per share x 100}}{\text{Share issue adjusted share price at the end of the period}}$$

36. SHAREHOLDINGS AND SHARES

Breakdown of Shares by Shareholding, December 31, 2018

Number of shares	Number of shareholders	Percentage of shareholders	Number of shares	Percentage of shares and votes
1 - 100	9,408	42.8	443,579	1.2
101 - 500	7,009	31.8	1,854,824	5.2
501 - 1000	2,283	10.4	1,787,427	5.0
1001 - 5000	2,485	11.3	5,659,491	15.9
5001 - 10000	416	1.9	3,035,921	8.5
10001 - 50000	345	1.6	7,018,772	19.7
50001 - 100000	34	0.2	2,367,238	6.6
100001 - 500000	20	0.1	4,754,675	13.3
500001 - 999999999999	7	0.0	8,771,239	24.6
Total	**22,007**	**100.0**	**35,693,166**	**100.0**
Nominee-registered	10		1,370,086	3.8

Breakdown of Shareholders by Shareholder Type, December 31, 2018

Shareholders by shareholder type	Number of shareholders	Percentage of shareholders	Number of shares	Percentage of shares and votes
Corporations	497	2.3	3,009,602	8.4%
Financial sector	10	0.0	851,553	2.4%
Public sector	5	0.0	3,162,817	8.9%
Non-profit organizations	30	0.1	200,124	0.6%
Households	21,375	97.1	26,997,249	75.6%
Foreign owners	80	0.4	101,735	0.3%
Nominee-registered shares	10	0.0	1,370,086	3.8%
Total	**22,007**	**100.0**	**35,693,166**	**100.0%**

Notes to the Consolidated Financial Statements

Largest Shareholders, December 31, 2018

	Number of shares	Percentage of shares and votes
Number of shares total	**35,693,166**	**100.0**
1. Veikkolainen Erkki, Chairman of the Board	1,507,539	4.2
2. Hulkko Juha	1,506,870	4.2
3. Ponato Oy	1,501,300	4.2
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 ABP	935,067	2.6
7. Hilden Kai	658,000	1.8
8. Elo Mutual Pension Insurance	500,000	1.4
9. Fondita Nordic Micro Cap Placeringsfund	465,000	1.3
10. Hirvilammi Hannu Esa	394,821	1.1
Total	**10,131,060**	**28.4**
Others (incl. nominee-registered shares)	25,562,106	71.6
The Board and CEO		
Veikkolainen Erkki, Chairman of the Board	1,507,539	4.2
Mäkinen Seppo, Member of the Board	4,308	0.0
Ojanperä Tero, Member of the Board	2,937	0.0
Putkiranta Juha, Member of the Board	14,308	0.0
Tiuraniemi Riitta, Member of the Board	1,437	0.0
Toljamo Petri, Member of the Board	1,437	0.0
Huttunen Hannu, CEO	10,000	0.0
Total	**1,541,966**	**4.3**

Income Statement, Parent

1000 EUR	Notes	2018	2017
NET SALES	1, 2	**704**	**764**
Other operating income	3	0	1,379
Personnel expenses	4	-1,157	-926
Depreciation and reduction in value	5	-11	-9
Other operating expenses	6	-745	-910
OPERATING PROFIT		**-1,208**	**297**
Financial income and expenses	7	1,129	813
PROFIT (LOSS) BEFORE APPROPRIATIONS AND TAXES		**-79**	**1,110**
APPROPRIATIONS	8	**6,300**	**540**
PROFIT (LOSS) BEFORE APPROPRIATIONS AND TAXES		**6,221**	**1,650**
NET PROFIT FOR THE FINANCIAL YEAR		**6,221**	**1,650**

Balance Sheet, Parent

1000 EUR	Notes	Dec. 31, 2018	Dec. 31, 2017
ASSETS			
Non-current assets			
Intangible assets	9	71	68
Tangible assets	10	72	73
Investments	11	39,750	39,750
Non-current assets total		39,893	39,890
Current assets			
Receivables			
Current receivables	12	63,842	37,430
Receivables total		63,842	37,430
Financing securities	13	21,576	56,401
Cash and bank deposits		6,958	3,643
Current assets total		92,376	97,474
TOTAL ASSETS		**132,268**	**137,364**
SHAREHOLDERS’ EQUITY AND LIABILITIES			
Shareholders’ equity	14		
Share capital		12,941	12,941
Invested non-restricted equity fund		25,953	25,953
Retained earnings		85,179	94,237
Net profit/loss for the year		6,221	1,650
Shareholders' equity total		130,294	134,782
Provisions	15		
Provisions, non-current			
Provisions, current			37
Liabilities	16		
Current liabilities		1,974	2,546
Liabilities total		1,974	2,546
SHAREHOLDERS' EQUITY AND LIABILITIES TOTAL		**132,268**	**137,364**

Cash Flow, Parent

1000 EUR	2018	2017
CASH FLOW FROM OPERATING ACTIVITIES		
Profit (loss) before taxes +/-	6,221	1,650
Adjustments:		
Depreciation according to plan +	11	9
Effects of non-cash business activities	-6,507	-1,559
Financial income and expenses +/-	-1,129	-813
Cash flow before change in net working capital	-1,404	-713
Change in net working capital		
Change in interest-free short-term receivables	-13	-189
Change in interest-free short-term payables	-28	241
Cash flow before financing activities	-1,446	-661
Interest paid -	-1,331	-864
Dividends received +	0	1
Interest received +	2,459	1,677
Net cash from operating activities	**-317**	**152**
CASH FLOW FROM INVESTING ACTIVITIES		
Purchase of tangible and intangible assets -	-13	-30
Net cash used in investing activities	**-13**	**-30**
CASH FLOW FROM FINANCIAL ACTIVITIES		
Change in interest-free short-term financial receivables in Group	-21,019	-21,550
Change in interest-free short-term financial payables in Group	7	410
Received Group contributions	540	4,000
Dividend paid and capital repayment	-10,708	-10,708
Net cash used in financial activities	**-31,180**	**-27,848**
NET CHANGE IN CASH AND CASH EQUIVALENTS	**-31,510**	**-27,725**
Cash and cash equivalents at beginning of period	60,044	87,769
Cash and cash equivalents at end of period	28,534	60,044
Change in cash and cash equivalents in balance sheet	-31,510	-27,725

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

Accounting Principles for the Preparation of Financial Statements

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	2018	2017
1. NET SALES BY SEGMENTS		
Other functions	704	764
Total	**704**	**764**
2. NET SALES BY MARKET AREAS		
Europe	671	751
America	33	13
Asia		0
Total	**704**	**764**
3. OTHER OPERATING INCOME		
Other operating income	0	1,379
Total	**0**	**1,379**

The other operating income in 2107 includes the reversal of provisions related to the sale of Automotive segment as well as VAT returns related to sale of shares which have been returned due to changes in legal interpretation.

1000 EUR	2018	2017
4. NUMBER OF PERSONNEL AND PERSONNEL EXPENSES		
Average number of personnel during the period		
Other functions	7	7
Total	**7**	**7**
Number of personnel at the end of the year	7	7
Personnel expenses *		
Management salaries	333	214
Board of Directors	169	165
Other salaries and wages	531	398
Total	**1,034**	**776**
Pension expenses	113	136
Other social expenses	11	14
Total	**1,157**	**926**

* The Board of Directors salaries include the share-based compensation.

1000 EUR	2018	2017
5. DEPRECIATION AND REDUCTION IN VALUE		
Intangible rights	8	6
Other capitalized long-term expenditures	2	2
Machinery and equipment	1	1
Total	**11**	**9**

Notes to the Financial Statements of the Parent Company

1000 EUR	2018	2017
6. OTHER OPERATING CHARGES		
IT equipment and SW expenses	84	82
Premises expenses	15	41
Administrative services	265	488
Travel expenses	63	62
Voluntary staff expenses	21	29
Other business expenses	297	208
Total	**745**	**910**
Auditor's charges		
Auditing	23	21
Tax advice	9	7
Other services	5	6
Total	**37**	**33**
7. FINANCIAL INCOME AND EXPENSES		
Income of investments		
From others	1,269	811
Total	**1,269**	**811**
Other interest and financial income		
From Group companies	1,084	432
From others	106	428
Total	**1,190**	**861**
Other interest and financial expenses		
To Group companies	2	1
To others	1,329	857
Total	**1,331**	**858**
Reduction in value of investment	0	0
Net financial income and expenses	1,129	813
Net financial income and expenses including exchange gains and losses	0	3
8. APPROPRIATIONS		
Received Group contributions	6,300	540

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
9. INTANGIBLE ASSETS		
Intangible rights		
Acquisition cost Jan. 1	275	246
Investments during the period	13	29
Acquisition cost at the end of the period	288	275
Accumulated depreciations Jan. 1	-211	-204
Depreciation for the period	-8	-6
Book value at the end of the period	70	64
Other capitalized long-term expenditures		
Acquisition cost Jan. 1	6	6
Investments during the period		
Acquisition cost at the end of the period	6	6
Accumulated depreciations Jan. 1	-3	-1
Depreciation for the period	-2	-2
Book value at the end of the period	1	4
Intangible assets total		
Acquisition cost Jan. 1	281	253
Investments during the period	13	29
Acquisition cost at the end of the period	295	281
Accumulated depreciations Jan. 1	-213	-205
Depreciation for the period	-10	-8
Book value at the end of the period	71	68

Notes to the Financial Statements of the Parent Company

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
10. TANGIBLE ASSETS		
Machinery and equipment		
Acquisition cost Jan. 1	5	4
Investments during the period		1
Acquisition cost at the end of the period	5	5
Accumulated depreciations Jan. 1	-4	-3
Depreciation for the period	-1	-1
Book value at the end of the period	1	2
Other tangible assets		
Acquisition cost Jan. 1	71	71
Acquisition cost Dec. 31	71	71
Book value at the end of the period	71	71
Tangible assets total		
Acquisition cost Jan. 1	76	75
Investments during the period		1
Acquisition cost at the end of the period	76	76
Accumulated depreciations Jan. 1	-4	-3
Depreciation for the period	-1	-1
Book value at the end of the period	72	73
11. INVESTMENTS		
Investments in subsidiaries		
Acquisition cost Jan. 1	39,749	39,749
Book value at the end of the period	39,749	39,749
Investments in other shares		
Acquisition cost Jan. 1	1	1
Book value at the end of the period	1	1
Investments total		
Acquisition cost Jan. 1	39,750	39,750
Book value at the end of the period	39,750	39,750

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
12. CURRENT RECEIVABLES		
Accounts receivable		
From Group companies	23	92
Total	**23**	**92**
Other receivables		
From Group companies	57,458	36,439
From others	46	133
Total	**57,504**	**36,572**
Prepaid expenses and accrued income		
From Group companies	6,300	540
From others	14	226
Total	**6,314**	**766**
Current receivables total	**63,842**	**37,430**
13. FINANCING SECURITIES		
Cash and cash equivalents include liquid and low risk financing securities		
Financial assets at fair value through profit or loss	21,576	56,401
14. SHAREHOLDERS' EQUITY		
Share capital at the beginning of the period	12,941	12,941
Share capital at the end of the period	**12,941**	**12,941**
Invested unrestricted equity fund at the beginning of the period	25,953	25,953
Share issue		
Invested unrestricted equity fund at the end of the period	**25,953**	**25,953**
Retained earnings at the beginning of the period	95,887	104,945
Dividend distribution	-10,708	-10,708
Net profit for the period	6,221	1,650
Retained earnings at the end of the period	**91,400**	**95,887**
Distributable earnings at the end of the period	117,353	121,840
Shareholders' equity total	**130,294**	**134,782**

Notes to the Financial Statements of the Parent Company

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
15. PROVISIONS		
Provisions		
Provisions, current		37
Total		**37**
16. LIABILITIES		
Current liabilities		
Accounts payable		
To Group companies	128	482
To others	93	110
Total	**221**	**593**
Other short-term liabilities		
To Group companies	1,379	1,816
To others	68	29
Total	**1,447**	**1,845**
Accrued expenses and deferred income		
To others	306	108
Total	**306**	**108**
Current liabilities total	**1,974**	**2,546**

1000 EUR	Dec. 31, 2018	Dec. 31, 2017
17. SECURITIES AND CONTINGENT LIABILITIES		
On behalf of Group companies		
Guarantee limits	86	1,155
of which guarantees in use total	86	1,155
Leasing liabilities		
Falling due in the next year	1,107	1,053
Falling due after one year	1,244	909
Rental liabilities		
Falling due in the next year	6	5
Contractual liabilities		
Falling due in the next year	73	42
Falling due in 1-5 years	0	0

	Owned by Parent, %	Owned by Group, %	Book value 1000 EUR
18. SHARES AND HOLDINGS			
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, 2018, the distributable assets of the parent company are EUR 117,353,042.28 of which the profit of the financial year is EUR 6,220,716.85. The Board of Directors proposes that the Annual General Meeting to be held on April 10, 2019 resolve to pay EUR 0.05 per share as dividend based on the adopted balance sheet for the financial period of January 1, 2018–December 31, 2018, representing approximately half of the result of the financial period, and in addition, EUR 0.10 per share as additional dividend, totaling altogether to EUR 0.15 per share.

The dividend will be paid to the shareholders who are registered as shareholders in the company's register of shareholders as maintained by Euroclear Finland Ltd. on the dividend record date, April 12, 2019. The Board of Directors proposes that the dividend be paid on April 23, 2019.

Bittium Corporation follows a dividend policy that takes into account the Corporation's net income, financial situation, need for capital and financing of growth. There have not been any substantial changes in the company's financial position after the financial year. Company has good liquidity and according to the Board of Directors, the proposed distribution of profits does not danger the company's solvency.

In Oulu, February 20, 2019

Erkki Veikkolainen
Chairman of the Board

Seppo Mäkinen
Member of the Board

Tero Ojanperä
Member of the Board

Juha Putkiranta
Member of the Board

Riitta Tiuraniemi
Member of the Board

Petri Toljamo
Member of the Board

Hannu Huttunen
CEO

Auditor's Note

Auditor's Report has been issued today.

In Oulu, February 20, 2019

Ernst & Young Oy
Authorized Public Accountant Firm

Juhani Rönkkö, Authorized Public Accountant

Auditor's Report

(Translation of the Finnish original)

To the Annual General Meeting of Bittium Corporation

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, 2018. 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 *Auditors 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.

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 fi-

KEY AUDIT MATTER	HOW OUR AUDIT ADDRESSED THE 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 partion of the consolidated net sales. In the financial statements 2018 the revenue recognized from these projects was 12.3 million euro, which is 20 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.	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 • tests of the notes of revenue recognized.

nancial 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 continue 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 materialmisstatement 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 east significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a materialuncertainty 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 mod-

ify 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 regarding 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 17 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, we conclude that there is a material misstatement in the information included in the report of the Board of Directors, we are required to report this fact. We have nothing to report in this regard.

Oulu, February 20, 2019
Ernst & Young Oy
Authorized Public Accountant Firm

Juhani Rönkkö
Authorized Public Accountant

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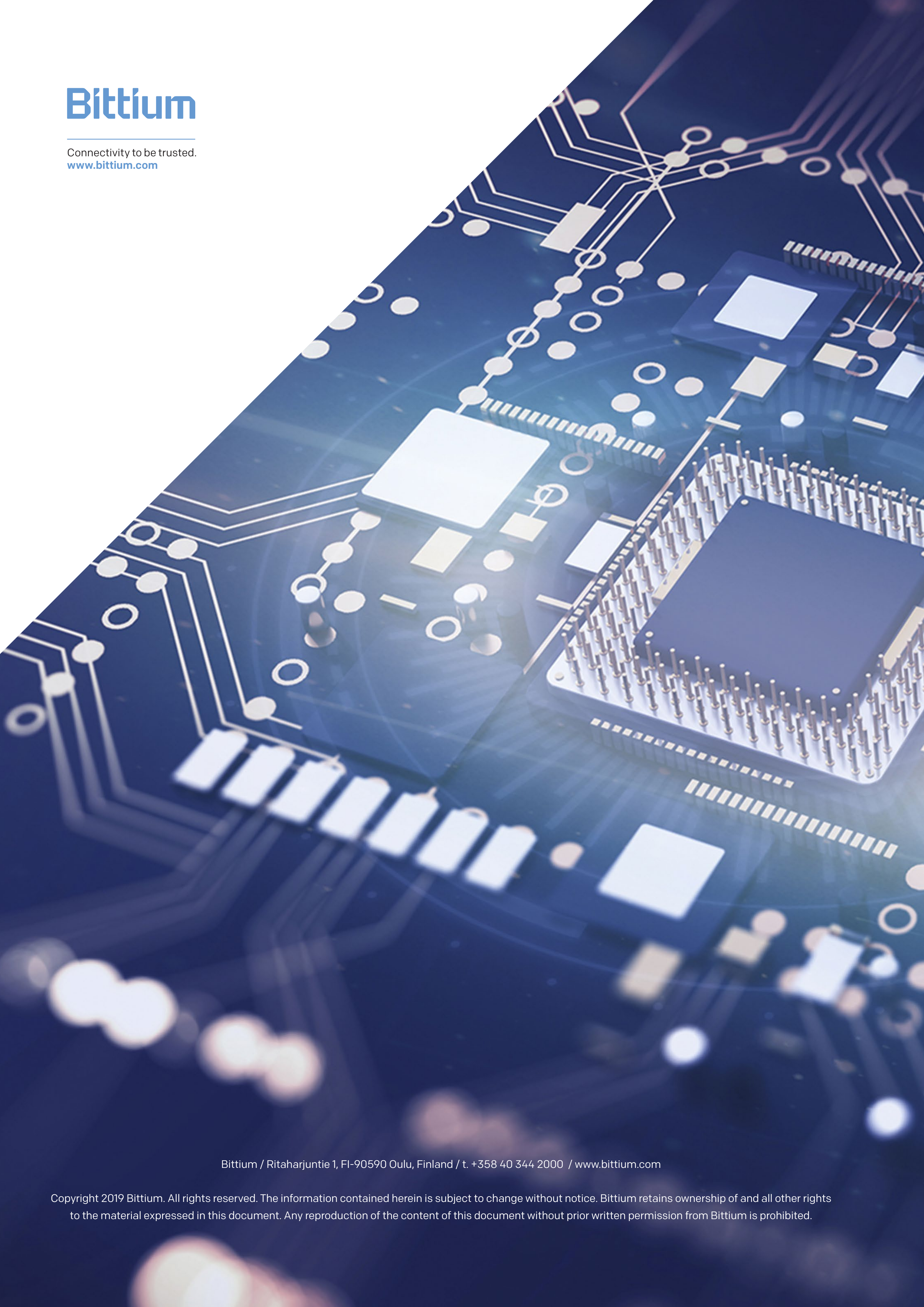

Bittium / Ritaharjuntie 1, FI-90590 Oulu, Finland / t. +358 40 344 2000 / www.bittium.com