Business Finland Veturi Program

Seamless and Secure Connectivity

Bittium

Mission for Seamless and Secure Connectivity

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Seamless and cyber secure connectivity and communications is enabled by 2030s in end-to-end vertical domains by creating trustworthy, secure and resilient E2E connectivity architectures and products until lifecycle services.

Secure Encryption technology evolutions & adaptations

Highly cyber secure communications in the future networks
(E2E implementations)

End to End Vertical Secure Connectivity Solutions
(Device-Edge-Cloud)

Scaled sensor fusion applications
(Medical grade solutions)

Significant development models improvement
(e.g. RegOps, Device-Edge-Cloud, Medical & other industries)

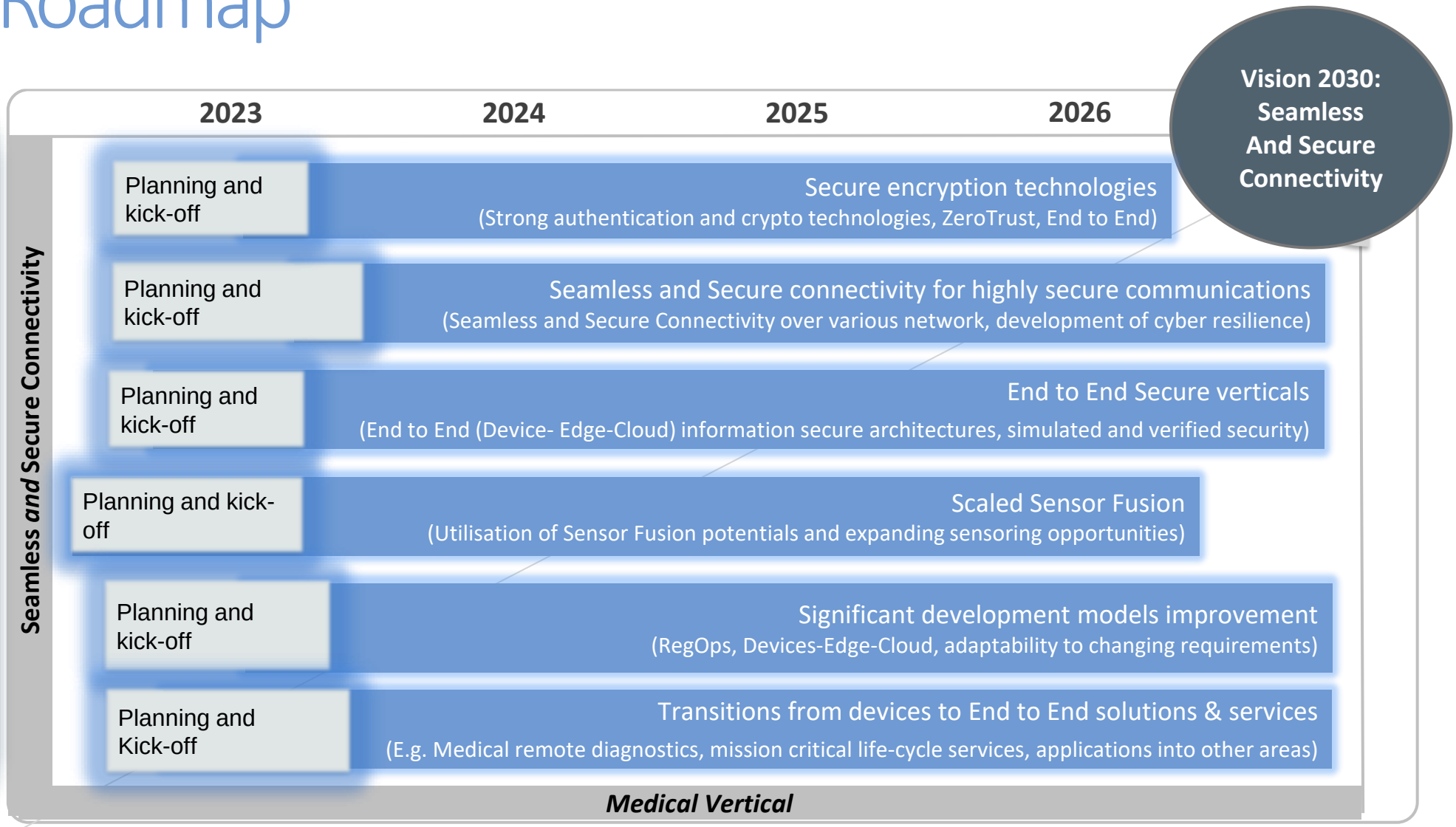
Transitions from devices to E2E services
(Remote diagnostics, also other potential mission critical life-cycle services)

Targets and Roadmap

Targets

1. To develop applicable 5G and beyond End – to End digital infrastructures, systems and processes to achieve *interoperable*, *seamless* and *secure connectivity* and as a result cyber resilience for information security attacks
2. To advance *creation of medical end-to-end diagnostics* (life-cycle) *solutions* with help of software intensive and machine learning / artificial intelligence technologies and significant improvement of development models.

- Application into other mission critical areas (life-cycle solutions)



Examples of Ecosystem and Co-innovation research topics

Seamless and Secure Connectivity

Secure Encryption Technologies

- *Roadmap for future end-to-end secure encryption technology utilization in addition to traditional tech.*
- *Crypto technologies and their combinations*
- *Quantum safe technologies (e.g. PQC)*
- *Various security and encryption methodology & technology combinations (e.g. Zero Trust)*
- *Study NIST, ECSO and EU Cybersecurity Act best practices as well as modelling pros and cons with the help of use cases as well as potential pilots.*

Secure and Seamless connectivity for highly secure communications

- *Seamless and secure communications over various public-private networks (5G and beyond)*
- *E2E security architectures and special features (e.g. from HW up to software and application layers)*
- *Development of strong authentication and crypto technologies*
- *Security simulations by using e.g. digital twins*

End to End Secure verticals

- *Various information security approaches in E2E networks and applicable information security methods*
- *Security concepts especially in end-to-end contexts (Device-Edge-Cloud)*
- *Development of cyber resilience*
- *Development of detection methods for anomality and vulnerability observations in various interfaces*
- *Application of EU, NIST and e.g. EU cyber security act in various contexts*

Scaled sensor fusion

- *Sensor and data fusion applications in medical and potentially other industries (E.g. in medical context heart, brain and sleep measurements)*
- *Measurement data handling methods, algorithms and models*
- *Improvement of the quality of the measurement data*
- *Potential fast feedback systems for sensor fusion (sensor data / edge calculation / applications)*
- *ML/AI algoritms for sensor information handling*

Significant development models improvement

- *Processes / operating models with traceable tool chains and innovations e.g. RegOps lifecycle models (SW, Machine Learning, AI information security and XOPs combinations)*
- *Combination of information security as essential part of these processes*
- *Automated documentation and tracebility methods e.g. notifying forthcoming Digital Product Pass requirements*

Transition from devices into End to End solutions & services

- *Secure Device/Edge/Cloud utilization*
- *Efficient methods for device monitoring and analysis, and e.g standardisation of Edge computing application in Medical context*
- *Scalability and of the solutions (E2E)*
- *Lifecycle services and potential adaptations for other mission critical areas*

Medical Vertical

Contact us.

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