

Brussels, 20 January 2021

Providing a roadmap for core components and subsystem technologies for Beyond-5G and 6G networks

COREnect today announced the finalization and submission of the first series of public deliverables. More specifically, the following deliverables have been successfully completed:

- Deliverable D2.1: Initial Vision and requirement report
- Deliverable D3.1: 1st Report on the Activities of Expert Groups
- Deliverable D4.1: Initial report on community building and outreach strategy

All those deliverables are available for download on the COREnect web site at <https://www.corenect.eu/publications>.

Professor Gerhard Fettweis, Project Manager of COREnect, declared that “this milestone is a major move for COREnect on its mission to identify the missing building elements and create a coherent and realistic roadmap of hardware enabling technologies for Europe to achieve digital autonomy and sovereignty in Beyond-5G and 6G networks”.

“The work has clearly identified main challenges for European industry related to the role of microelectronics in ICT. These include the value chain composition, capabilities in complex SOC design, as well as necessary research and education. We now have a good foundation to detail a strategy and actions to address these.” says Fredrik Tillman, leader of deliverable 2.1.

Deliverable 3.1 is the first outcome of the work involving 3 pan-European Expert Groups, in the areas of Computing, Communications and Peripheral Technologies, with more than 80 leading experts coming from both the microelectronics and telecommunications communities. They provide their insights and vision on how to identify core components that will strengthen and preserve Europe’s leading position in the telecommunications’ sector in the next 10 years.

Leader of deliverable 3.1, Yaning Zou states “As captured in D3.1, the 3 Expert Groups have made very good progress in its first 3 months of operation, which includes the definition of working scopes and the initial identification of research areas and design considerations. These initial



results will serve as an important milestone for the development of initial COREnect industry roadmap that is about to be published in June-July 2021.”

Both deliverables D2.1 and D3.1 took into account the outcomes of the 1st COREnect workshop, that was organised on November 26, 2020, in co-location with the EF ECS conference (<https://www.corenect.eu/news/efecs-2020-corenect-workshop>).

That workshop gathered over 130 participants and touched on some significant topics such as: Should Europe develop its own CMOS manufacturing capability? How should it position itself with regards to open network architectures? How to seize opportunities in low power authentication, security, and performance? Beyond microelectronics, can Europe build on its optical capabilities for data transport?

To tackle such an important and complex topic, the COREnect project is planning on ways to reach out to a wider audience and receive feedback. More specifically, a public consultation will be launched on the results and conclusions of D2.1. COREnect will welcome feedback from technical experts and strategists. Moreover, COREnect will also activate a process for recruiting additional experts to participate in its three Expert Groups. Participation from female experts and representatives from SMEs will be particularly looked upon. These actions will be communicated in early February, so stay tuned to our news (<https://www.corenect.eu/news>)

To learn more about COREnect and our recently published results and activities click [here](#) and subscribe to receive the latest news. You may also follow us on [Twitter](#) and on [LinkedIn](#).

About COREnect: The “COREnect” (European Core Technologies for future connectivity systems and components) is operating in the frame of the 5G PPP, Horizon 2020 Research & Innovation Programme. The project started its activities on the 1st of July 2020. During its planned 2-years journey of this Coordination and Support Action project, European industry and R&D leaders from both the microelectronics and telecommunications sectors will jointly develop a high-level strategic roadmap of core technologies for future connectivity systems and components, targeting the next generation telecommunications networks and services.

About Technische Universität Dresden/Barkhausen Institut

The Technische Universität Dresden (TUD) is the project coordinator and one of the largest “Technische Universitäten” in Germany. It is also one of the leading and most dynamic universities in Germany. As a full-curriculum university with 18 faculties in five schools it offers a broad variety of 121 disciplines and covers a wide research spectrum. Its focuses Health Sciences, Biomedicine & Bioengineering, Information Technology & Microelectronics, Smart Materials & Structures, Energy, Mobility & Environment as well as Culture & Societal Change are considered exemplary in Germany and throughout Europe. In the area of mobile communications, TUD is a global research leader and has been continuously working on pioneer research and contributing to the development and





evolutions of mobile networks in the past 20 years. It founded 5G++Lab Germany in 2014 that enjoys international reputations and an extensive research and industry network around the world.

The Barkhausen Institut was founded in 2017 in Dresden, Saxony. It brings together researchers from a variety of backgrounds from all over the world. Barkhausen Institut targets to develop break-through technology with the aim of increasing the dependability of IoT systems (Internet of Things), that includes ensuring availability, integrity and confidentiality. Doing so, it create a foundation of a trustworthy IoT which is one basis of a future "digital democracy". Therefore, besides such scientific research, science communication plays an important role in everyday's work of the Barkhausen Institut.

More at: <https://tu-dresden.de/> ; <https://www.vodafone-chair.org/> ; <https://www.barkhauseninstitut.org/>
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About 5G IA

The 5G Public Private Partnership (5G PPP) is the 5G collaborative research program that is organized as part of the European Commission's Horizon 2020 program – The European Union Program for Research and Innovation. It is aimed at fostering industry-driven research, monitored by business-related, technological performance and societal KPIs. The 5G PPP will deliver solutions, architectures, technologies and standards for ubiquitous next-generation communication infrastructure over the coming decade.

In the 5G PPP, the 5G Infrastructure Association (5G IA) represents the private side and the European Commission the public side. The 5G IA is committed to the advancement of 5G in Europe and to building global consensus on 5G. To this aim, the Association brings together a global industry community of telecoms & digital actors, such as operators, manufacturers, research institutes, universities, verticals and SMEs. The 5G IA carries out a wide range of activities in strategic areas including standardization, frequency spectrum, R&D projects, technology skills, collaboration with key vertical industry sectors, notably for the development of trials, and international cooperation.

More at: <https://5g-ia.eu>
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About III-V Lab / Nokia

III-V Lab is an industrial research laboratory created in 2004 by Nokia and Thales and was extended to CEA Leti in 2010. III-V Lab in CORENECT project represents its mother company Nokia.

About Nokia

We create the technology to connect the world. Only Nokia offers a comprehensive portfolio of network equipment, software, services and licensing opportunities across the globe. With our commitment to innovation, driven by the award-winning Nokia Bell Labs, we are a leader in the development and deployment of 5G networks.

Our communications service provider customers support more than 6.4 billion subscriptions with our radio networks, and our enterprise customers have deployed over 1,300 industrial networks worldwide. Adhering to the highest ethical standards, we transform how people live, work and communicate.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 956830



Nokia Bell Labs is the world-renowned industrial research arm of Nokia. Over its more than 90-year history, Bell Labs has invented many of the foundational technologies that underpin information and communications networks and all digital devices and systems. This research has resulted in 9 Nobel Prizes, three Turing Awards, three Japan Prizes, a plethora of National Medals of Science and Engineering, as well as three Emmys, two Grammys and an Oscar for technical innovations.

More at: www.bell-labs.com , www.nokia.com

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About AENEAS

AENEAS is an Industry Association, established in 2006. The purpose of the association is to promote Research, Development and Innovation (RD&I) in order to strengthen the competitiveness of European industry across the complete Electronics Components and Systems (ECS) value chain. AENEAS provides unparalleled networking opportunities, policy influence & supported access to funding to all types of RD&I participants in the field of micro and nanoelectronics enabled components and systems, and its applications. Member of ECSEL JU, AENEAS is also operating the EUREKA funded programme PENTA, and has a long track record in operating CATRENE programme with 51 labelled projects.

More at: <https://aeneas-office.org>

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About AUSTRALO

AUSTRALO is a marketing company to thrive in the Lab-to-Market leap. Our mission is to funnel the transformation potential of cutting-edge Research & Innovation into its real-life application, creating, communicating, delivering, and exchanging value streams among target groups. We work with communities, thought leaders, researchers, and entrepreneurs to draw leads, advocating for a trustworthy, fair and sustainable data-driven economy. Our value proposition:

Open Networks. We broaden the synergies and influence of your community. AUSTRALO generates leads with target groups in academia, industry, SMEs, entrepreneurship and social ecosystems, identifying and creating relationships with key global players.

Marketing Communication. Gain an outstanding visibility and market position, making your innovation attractive to a critical mass. AUSTRALO holds broad experience leading and implementing marketing promotional strategies to increase awareness and engagement.

Go-to-Market. We empower new business ideas to thrive, increasing competitiveness, market assessment and capacity to access customers. We capture the business potential of Research & Innovation ideas, providing the tools and strategies to transfer it into exploitable assets.

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About Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 400,000 associates worldwide (as of December 31, 2019). The company generated sales of 77.7 billion euros in 2019. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life."

More at: www.bosch.com , www.iot.bosch.com , www.bosch-press.com

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About CEA-Leti

Leti, a technology research institute at CEA, is a global leader in miniaturization technologies enabling smart, energy-efficient and secure solutions for industry. Founded in 1967, Leti pioneers micro- & nanotechnologies, tailoring differentiating applicative solutions for global companies, SMEs and startups. Leti tackles critical challenges in healthcare, energy and digital migration. From sensors to data processing and computing solutions, CEA-Leti's multidisciplinary teams deliver solid expertise, leveraging world-class pre-industrialization facilities. With a staff of more than 1,900, a portfolio of 2,700 patents, 10,000 sq meters of cleanroom space and a clear IP policy, the institute is based in Grenoble, France, and has offices in Silicon Valley and Tokyo. CEA-Leti has launched 65+ startups and is a member of the Carnot Institutes network.

More at: www.leti-cea.com

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About Ericsson AB

Ericsson is a global leader in delivering ICT solutions. In fact, 40% of the world's mobile traffic is carried over Ericsson networks. Ericsson has customers in over 180 countries and comprehensive industry solutions ranging from cloud services and mobile broadband to network design and optimization. Our services, software and infrastructure - especially in mobility, broadband, and the cloud - are enabling the communications industry and other sectors to do better business, increase efficiency, improve user experience and capture new opportunities. Ericsson has one of the industry's strongest patent portfolios with a total count of over 42,000. R&D is at the heart of our business and approximately 24,000 employees are dedicated to our R&D activities.

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About imec

Imec is a world-leading research and innovation hub in nanoelectronics and digital technologies. The combination of our widely acclaimed leadership in microchip technology and profound software and ICT expertise is what makes us unique. By leveraging our world-class infrastructure and local and global ecosystem of partners across a multitude of industries, we create groundbreaking innovation in application domains such as healthcare, smart cities and mobility, logistics and manufacturing, energy and education.

As a trusted partner for companies, start-ups and universities we bring together more than 4,000 brilliant minds from almost 100 nationalities. Imec is headquartered in Leuven, Belgium and has distributed R&D groups at a number of Flemish universities, in the Netherlands, Taiwan, USA, and offices in China, India and Japan. In 2019, imec's revenue (P&L) totaled 640 million euro.

Imec is a registered trademark for the activities of IMEC International (a legal entity set up under Belgian law as a "stichting van openbaar nut"), imec Belgium (IMEC vzw supported by the Government of Flanders), imec the Netherlands (Stichting IMEC Nederland, part of Holst Centre and OnePlanet, supported by the Dutch Government), imec Taiwan (IMEC Taiwan Co.), imec China (IMEC Microelectronics (Shanghai) Co. Ltd.), imec India (Imec India Private Limited) and imec Florida (IMEC USA nanoelectronics design center).

More at: www.imec-int.com

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About Infineon Technologies AG

Infineon is a world leader in semiconductors. Combining entrepreneurial success with responsible action, at Infineon we make the world easier, safer, and greener. Barely visible, semiconductors have become an indispensable part of our daily lives. Thus, our semiconductors enable smart mobility, efficient energy management, and the secure capture and transfer of data. In the 2019 fiscal year (ending 30 September), the Company reported sales of €8.0 billion with about 41,400 employees worldwide. Infineon is listed on the Frankfurt Stock Exchange (ticker symbol: IFX) and in the USA on the over-the-counter market OTCQX International Premier (ticker symbol: IFNNY). With worldwide operation at 37 R&D and 17 manufacturing locations, Infineon is playing a key role in shaping a better future – with microelectronics that link the real and the digital world.

Infineon designs, develops, manufactures, and markets a broad range of semiconductors and system solutions. The focus of its activities is on automotive electronics, industrial electronics, communication and information technologies, and hardware-based security. The product range comprises standard components, customer-specific solutions for devices and systems, as well as specific components for digital, analog, and mixed-signal applications. Over 60 percent of Infineon's revenue is generated by power semiconductors, almost 20 percent by embedded control products (microcontrollers for automotive, industrial as well as security applications), and the remainder by radio-frequency components and sensors.

More at: www.infineon.com, www.infineon.com/press

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About NXP Semiconductors Netherlands BV

NXP Semiconductors N.V. (NASDAQ: NXPI) enables secure connections for a smarter world, advancing solutions that make lives easier, better, and safer. As the world leader in secure connectivity solutions for embedded applications, NXP is driving innovation in the automotive, industrial & IoT, mobile, and communication infrastructure markets. Built on more than 60 years of combined experience and expertise, the company has approximately 29,000 employees in more than 30 countries and posted revenue of \$8.88 billion in 2019.

More at: www.nxp.com

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About STMicroelectronics

ST is a global semiconductor leader delivering intelligent and energy-efficient products and solutions that power the electronics at the heart of everyday life. ST's products are found everywhere today, and together with our customers, we are enabling smarter driving and smarter factories, cities and homes, along with the next generation of mobile and Internet of Things devices.

By getting more from technology to get more from life, ST stands for life.augmented.

In 2019, the Company's net revenues were \$9.56 billion, serving more than 100,000 customers worldwide.

More at: www.st.com



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