Achieving a High-Level Strategic Roadmap of Core Technologies for Future Connectivity Systems and Components

The COREnect consortium (European Core Technologies for future connectivity systems and components) **announces the release of the final 'COREnect Industry Roadmap'.** Developed between 2020 and 2022, with the participation of 100+ technical experts from 50+ organisations across Europe, the COREnect strategic R&I roadmap provides detailed insights on **strategic actions required to achieve European leadership in microelectronics and connectivity within the next 10 years**, towards the development of 6G, supporting Europe's twin transition towards a green and digital future.

The COREnect roadmap is composed of three documents. Deliverable 3.6 'Final COREnect Industry Roadmap' is the main document, describing the proposed roadmap and providing a summary of all recommendations. Deliverables 3.7 'Core Technologies Development Recommendations and Guidelines' and 2.2 'Consolidated vision and requirement report' are accompanying documents to the roadmap. D3.7 provides a synthesis of the industry roadmap and a list of recommendations, guidelines and action proposals, while D2.2 focuses on the investments required to build stronger European sovereignty in microelectronics and connectivity.

*"6G provides a huge chance for Europe's society and economy, if we implement the right strategy along the economic value chain. This starts at the foundation: Semiconductors. The COREnect roadmap provides information on where we stand and on key areas to address - now", says **Gerhard P. Fettweis, Vodafone Chair Professor, COREnect Project Coordinator, TU Dresden.***

"In COREnect, we have defined the strategic R&I roadmap for future European connectivity systems and components. This roadmap has been drafted together with the relevant stakeholders across different

domains and communities from industry, research, academia, associations and policy makers. We gathered our roadmap inputs around three key strategic focus areas and four market segments to maximize the social and business impact potential. The strategic focus areas "compute and store", "connect and communicate", and "sense and power" were assessed on the "connectivity infrastructure", "consumer grade connectivity", "industrial grade connectivity", and "automotive connectivity" market segments. We present SWOT analyses and strategic actions for Europe to focus on strengthening its semiconductor manufacturing equipment, its position in the EDA solution market and fabless actors, safeguarding its needed skills and expertise, enhancing its contribution in standardization, and maintaining its support to strategic infrastructure programmes.", says **Björn Debaillie, Program Manager Collaborative R&D at imec.**

The COREnect roadmap and the two accompanying documents may be found **here**.

About COREnect

The COREnect consortium involves prominent European industrial and academia players from the telecommunications sector (Ericsson, III-V Lab / Nokia, and Technische Universität Dresden/ Barkhausen Institut), from the microelectronics sector (Infineon, NXP, STMicroelectronics, imec and CEA), industrial associations representing the Smart Networks and Services and Key Digital Technologies communities (5G IA and AENEAS), a leading industry player in one of the vertical markets for 5G (Bosch), and one of the major promoters of the European SME ICT community (AUSTRALO).

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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. 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 an international reputation 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), which includes ensuring availability, integrity, and confidentiality.

More at: https://tu-dresden.de ; https://www.vodafone-chair.org/ ; https://www.barkhauseninstitut.org/
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About 6G Smart Networks and Services Industry Association (6G- IA)

The 6G-IA is the voice of European Industry and Research for next generation networks and services. Its primary objective is to contribute to Europe's leadership on 5G, 5G evolution and SNS/6G research.

The 6G-IA represents the private side in both the 5G Public Private Partnership (5G-PPP) and the Smart Networks and Services Joint Undertaking (SNS JU). In the 5G-PPP and SNS JU, the European Commission represents the public side.

The 6G-IA brings together a global industry community of telecoms & digital actors, such as operators, manufacturers, research institutes, universities, verticals, SMEs and ICT associations.

The 6G-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.

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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 the CORENECT project represents its mother company Nokia.
At Nokia, we create technology that helps the world act together.

As a trusted partner for critical networks, we are committed to innovation and technology leadership across mobile, fixed and cloud networks. We create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Adhering to the highest standards of integrity and security, we help build the capabilities needed for a more productive, sustainable and inclusive world

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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. Partner in ECSEL JU and the new KDT JU, AENEAS is also operating the EUREKA funded Clusters Xecs, PENTA and EURIPIDES.

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About AUSTRALO

AUSTRALO is a marketing company to thrive in the Lab-to-Market leap:

Open Networks. Generating leads with target groups in academia, industry, SMEs, entrepreneurship and social ecosystems, identifying and creating relationships with key global players.

Marketing Communication. Holding 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. AUSTRALO captures the business potential of Research & Innovation ideas, providing the tools and strategies to transfer them into exploitable assets.

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About Bosch

The Bosch Group is a leading global supplier of technology and services. 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.

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. 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. 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.

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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.

Their 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.

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About imec

Imec is a world-leading research and innovation center in nanoelectronics and digital technologies. Imec leverages its state-of-the-art R&D infrastructure and its team of more than 5,000 employees and top researchers, for R&D in advanced semiconductor and system scaling, silicon photonics, artificial intelligence, beyond 5G communications and sensing technologies, and in application domains such as health and life sciences, mobility, industry 4.0, agrofood, smart cities, sustainable energy, education,etc.

Imec unites world-industry leaders across the semiconductor value chain, Flanders-based and international tech, pharma, medical and ICT companies, start-ups, and academia and knowledge centers. It is headquartered in Leuven (Belgium), and has research sites across Belgium, in the Netherlands, and the USA, and offices in China, India, Taiwan and Japan. In 2020, imec's revenue (P&L) totaled 680 million euro.

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About Infineon Technologies AG
Infineon is a world leader in semiconductors. Barely visible, semiconductors have become an indispensable part of our daily lives. Thus, Infineon´s semiconductors enable smart mobility, efficient energy management, and the secure capture and transfer of data. 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.

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About NXP Semiconductors Netherlands BV
NXP Semiconductors N.V. 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 $8.61 billion in 2020.

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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 works with its customers and partners to design and build products, solutions and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world.

ST's technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and 5G technology.

More at: www.st.com