



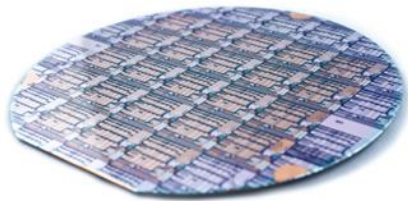
## Intelligent GaN power modules to save energy and CO<sub>2</sub> in transport and industry

*A project within the EUREKA PENTA programme*

Paris, 17 July 2020 – A EUREKA PENTA project, GaNext, will have a major impact on global efforts to save energy and cut CO<sub>2</sub> emissions by creating highly efficient, compact and reliable GaN power modules for power systems. Today, every electronic or electrical device contains at least one power system – for instance, to convert mains AC electricity to DC current to drive a motor. From laptops to industrial machines, power systems are everywhere. The partners in GaNext aim to deliver a technology breakthrough by developing a next generation of intelligent ‘power modules’ (electronic components in power systems) based on a semiconductor called gallium nitride (GaN). These will significantly increase energy efficiency over existing modules most of which are based on silicon.

As a result, the GaNext project will strongly support worldwide moves towards energy efficiency and electrification. Suited to a wide range of applications, especially in transport and industry, the new modules will provide ways to meet stringent energy efficiency regulations. They will also be crucial for electric vehicles and charging infrastructures, which countries such as Norway and the UK are promoting through ambitious legislation.

GaN technology is not new, but GaNext is working to unlock its full potential by bringing together the expertise of companies, large and small, from across the entire power module technology chain.

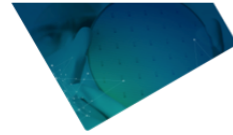


Current GaN transistors can operate at much higher switching frequency with lower losses and lower on-resistance than state-of-the-art silicon devices. In other words, they can deliver higher performance with lower energy usage. But they cause interference with other components in the power system and can be unreliable. By eliminating these obstacles, GaNext will enable modules with increased energy efficiency that will be easy to build into power systems.

As electrification advances worldwide, demand for such solutions is high. The GaN power-devices market is growing at a CAGR of 91% and is expected to reach US\$ 500 million by 2022, with power supplies for electric vehicles and photovoltaic inverters sharing 60% of this market. Thus, the GaNext project will both make an important contribution to a low-carbon future and offer major commercial opportunities for European industry.



PRESS RELEASE



### About the PENTA programme

PENTA is a EUREKA cluster whose purpose is to catalyse research, development and innovation in areas of micro and nanoelectronics enabled systems and applications - where there is shared national and industrial interest. Based on the Electronic Components & Systems (ECS) Strategic Research Agenda (SRA) key areas and essential capabilities, PENTA programme contributes to the development of electronic solutions with the opportunity for rapid competitive exploitation and a strong impact on European societal challenges. The PENTA project team is supporting SMEs, large corporations, research organisations and universities by facilitating access to funding, fostering collaborative work and creating consortia.

PENTA is operated by AENEAS.

More on PENTA: <http://www.penta-eureka.eu>

More on AENEAS: <https://aeneas-office.org>

### About GaNext Project

## **GaNext**

GaNext is a RD&I project consortium involving 13 partners from 3 countries, Germany, Netherlands, and United Kingdom. The project partners are: Cambridge GaN Devices Ltd (project leader), adviCo microelectronics GmbH, BESI Netherlands B.V., CSA Catapult, Eindhoven University of Technology, Fraunhofer IMS, Infineon Technologies AG, Lyra Electronics Ltd, MACCON Elektroniksysteme GmbH, Neways Technologies B.V., SUMIDA Components & Modules GmbH, Signify B.V., TU Dortmund University.