



GaNonCMOS project Kick-off-meeting – Brussels-Belgium, 24 January 2017

Over the next 15 years, the total energy consumption is projected to increase by 25- 35 % due to the elevation of a few billion people from poverty into the middle class, and the increasing world economic output. For instance, the explosion of digital content such as e-commerce, social media and big data is making data centres one of the fastest-growing consumers of electricity in developed countries. Energy efficiency is one of the most important components of any strategy to deliver affordable and reliable energy systems. Power electronics is the key technology to control the flow of electrical energy between source and load for a wide variety of applications from the GWs in energy transmission lines to the mWs in mobile phones. Wide band gap semiconductors such as GaN use their capability to operate at higher voltages, temperatures, and switching frequencies with greater efficiencies compared to their silicon counterparts, thereby allowing for higher energy efficiency. Therefore the development of novel low cost and reliable GaN-based materials, processes and systems are needed to enable significant energy reduction in a wide range of energy intensive applications.

In this context the GaNonCMOS project was launched on 1st January 2017 with 4 years duration.

The GaNonCMOS project aims to bring GaN power electronic materials, devices and systems to the next level of maturity by providing the most densely integrated materials to date. This development will drive a new generation of densely integrated power electronics and pave the way towards low cost, highly reliable systems for energy intensive applications. This will be realized by integrating GaN power switches with CMOS drivers densely together using different integration schemes from the package level up to the chip level including wafer bonding between GaN on Si(111) and CMOS on Si (100) wafers.

The GaNonCMOS consortium is composed of 11 recognised key actors on the topics of materials, processing, components and systems for power electronics. GaNonCMOS is coordinated by Prof. Jean-Pierre Locquet from the Katholieke Universiteit Leuven (KUL). The kick-off meeting of GaNonCMOS was held in Brussels (Belgium) on 24 January 2017. During this meeting, the partners discussed the technical content, tasks to be accomplished during the next six months and administrative and financial issues.



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