Consiglio Nazionale delle Ricerche

CNR-Istituto di **Elettronica** e di **Ingegneria** dell'**Informazione** e delle **Telecomunicazioni**

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Dr.-Ing. Antonio Molfese

(STMicroelectronics)

Advancing Innovation through Smart Power Technology R&D

The realm of Smart Power technologies stands at the forefront of modern electrical engineering, merging the prowess of power electronics with intelligent control systems. In this field, Bipolar-CMOS-DMOS (BCD) integration stands out as a cornerstone of innovation, blending the strengths of three distinct fabrication processes to create versatile and efficient power management devices. Research and Development (R&D) in BCD technology is pivotal to addressing the ever-increasing demand for smarter, smaller, and more energy-efficient electronic components.

The continuous push for innovation in Smart Power technology involves enhancing performance parameters such as power density, thermal management, and reliability. R&D teams work tirelessly to refine process technologies, develop new materials, and create design methodologies that lead to breakthroughs in device architecture. Such innovations not only improve existing products but also unlock new market opportunities and applications.

Moreover, Smart Power technology R&D is instrumental in meeting the challenges of sustainable development. By enabling more efficient power conversion and reducing energy wastage, BCD devices contribute to a greener electronics industry. The integration of Smart Power technology into renewable energy solutions exemplifies the commitment to environmental stewardship within the semiconductor sector.

In conclusion, Smart Power technology R&D is a driving force behind the evolution of the semiconductor industry, fostering innovation that leads to high-performance, cost-effective, and environmentally conscious electronic solutions.

Registration form

Teams Webinar • 6 June 2024 – 17:30

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