

Future generation mobile terminals

IMEC, Europe's leading independent nanoelectronics and nanotechnology research institute, has announced that Samsung Electronics Co. LTD., the world's leading information and communications technologies (ICT) company, has become the first long-term strategic partner within IMEC's M4 (Multi-Mode Multi-Media) research program, which focuses on the mobile terminal for the future ubiquitous network era. Under this agreement, Samsung and IMEC intend to develop key technologies for its future portable communication products.

Future generation mobile terminals will start to incorporate ubiquitous network functionality, by efficiently dealing with a multitude of communication modes and various multimedia applications. Further down the road, these terminals will also need adaptive behavior to intelligently manage the computational resources that will be distributed and shared across the enviroing systems. IMEC's M4 integrated research platform aims to resolve the fundamental technological issues for future mobile terminals, allowing the true ubiquitous network environment to become a reality.

Complexity, cost, power consumption, high throughput at low latency, and flexibility are the five primary hurdles in developing a mobile terminal. To overcome these hurdles, IMEC and Samsung have outlined a number of domains of innovation, which are targeted by the M4 technology programs.

M4 strategic program partners join the full frame of technology programs and closely collaborate with IMEC's cross-disciplinary team of more than 100 researchers. The M4 roadmap is fine-tuned with the strategic partners, ensuring that research targets are strongly tuned to industrial applications, which is a major advantage for the strategic partners. In addition, the integrated approach guarantees the compatibility of the different technology solutions, and enables efficient transfer of the research results into industrial applications.

In addition to Samsung's strategic partnership with IMEC, IMEC also has a running relationship with several technology partners including Freescale, Infineon and Xilinx, collaborating within one of the M4 technology programs. The highest level of collaboration is at the M4 program level, followed by collaboration on technology level (collaboration on one or more of the subordinate technologies of M4). Both the strategic and the technology partners gain benefits from IMEC's business model, which allows companies to reduce research costs and risks while sharing intellectual property. By working cross-industry with a wide range of partners within the M4 program context, IMEC will ensure creation and continuity of a challenging M4 program research roadmap to address the key challenges within the mobile multimedia area.

"We believe IMEC's outstanding research capability would match Samsung's need well. Through this strategic partnership, both Samsung and IMEC can achieve mutual benefit in preparing for the future," said Dr. Joonki Kim, Head of Digital Research Center of Samsung Advanced Institute of Technology.

"We are very pleased that our successful relationship with Samsung, which started in 2003 with Samsung joining our core sub-45nm CMOS research platform, has now resulted in this M4 strategic partnership," said Prof. Gilbert Declerck, President and CEO of IMEC. "Such long-term collaborations with industry leaders prove the industrial relevance of our research programs."

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