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CEA-Leti claims ultra-low variability in FDSOI devices at 22-nm

[Anne-Francoise Pele](#)

[EE Times Europe](#)

01/08/2009 1:29 PM



PARIS — CEA-Leti applied research center in microelectronics claimed it has achieved a record for device matching characteristics with an AVt of about 1mV.µm, below those obtained in bulk silicon technologies, while still maintaining Ion and Ioff characteristics.

The threshold voltage variation of less than 40mV across wafer, CEA-Leti specified, is also reported for 25-nm gate length Fully Depleted SOI (FDSOI) devices using undoped channel and high-k and metal gates technology.

According to CEA-Leti, the results show that the undoped channel FDSOI device with high-k/metal gate stack is a valid alternative to reduce variability issues at 22-nm and below.



CEA-Leti said it has worked closely with STMicroelectronics NV (Geneva, Switzerland) and Soitec SA (Bernin, France) within the framework of the Medea+ Decisif (Device and circuit performance boosted through silicon material fabrication) project.

The Decisif project aims to integrate performance boosters in fully and partially depleted SOI technologies for low power and high performance applications, to validate their impact by fabricating complex 45-nm node demonstrators directly comparable with bulk Si and to develop design kits and SOI-adapted circuit design for the evaluation by application designers.

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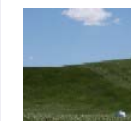
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Venture capital is losing patience with the fabless

Just as Europe was starting to see a hang of entrepreneurial risk, a handful of promising chip startups that had dried up. It is the IPOs that give the venture companies the big home runs.



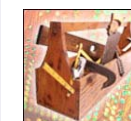
Watch for the advent of Green Electronics

The electronics design community is meeting the challenges for more environmentally friendly devices and systems. This was one of the messages from the SAME Forum held in Sophia Antipolis, France.



ZigBee, la norme de communication sans fil basse consommation

Les systèmes de transmission classiques sont progressivement remplacés par des solutions sans fil, qui permettent de se débarrasser des câbles et d'afficher des coûts d'installation moins élevés. C'est le cas des réseaux de capteurs et de contrôle, pour lesquels les coûts d'installation et de modification de réseaux existants sont essentiels.



Une méthodologie pour augmenter la prédictibilité de la consommation

La basse consommation est désormais le premier rang parmi les nouvelles tendances.