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Start-up forum: making a big entrance

Are debuts still in fashion? You bet! This year's SAME Forum was a true debutante's ball - presenting young and eligible start-ups to the well-heeled and powerful multinationals.

Today's modern miss wouldn't take too kindly to the suggestion that she's having a debut simply because she wants to attract suitors. But, in the right context, debuts are designed as a great way to show off your wares and catch the attention of an eligible suitor. Where better to have it than the Cote d'Azur, a centre of excellence for microelectronics.

SAME (Sophia Antipolis forum on MicroElectronics), in partnership with the French Riviera Chamber of Commerce and with the support of local and regional institutions, provides a venue for discussions and technical knowledge sharing with the opportunity to meet high-tech companies displaying and demonstrating microelectronic related products. Although small, with 47 stands in all, the organising committee listed a record 1085 visitors this year.

In the context of the European project, TEEE-Inn (The European Extended Enterprise for Innovation), five European incubators - Sophia Antipolis, Cambridge, Marseille, Compiegne and Newcastle - joined forces to identify and prepare new start-ups to attend the event.

Who are these debs? And what do they have to offer?

InSeal
First up on the podium was InSeal, a company from Marseille which has developed a software platform for the contactless smartcard and intelligent hand-held secure device market.

InSeal says its true asset is its open and secure operating system (os) that is available to license, as modules, or packaged into cards, labels, key-fobs and so on. Called JayCos, it provides a secure multi-application framework that supports applet downloading and protected execution in user phase. The os comes with easy-to-use tools and application development kit, called InKit, that allow customers to develop applications in C and download them onto the card.

CEO Fabien Franceschini hopes InSeal will bring a true momentum in the market for microcontroller based contactless smartcard dominated by a handful of very big suppliers. He believes this technology will allow the firm to break down the technological and economical barriers and enable other card manufacturers and system integrators to compete at a top-notch technical and commercial level.

InfiniScale
The second young start-up was an eda company from Grenoble called InfiniScale.

It already boasts Discera, STMicroelectronics and iRoC Technologies as customers.

The InfiniScale platform provides an original solution to analogue systems modelling synthesis and optimisation needs using a new approach based on an efficient and unique combination of mathematical and artificial intelligence techniques. Comprising three tools - TechModeler, TechSynthesizer and TechAnalyzer - the platform is dedicated to analogue systems paying particular attention to design for manufacture (dfm), design for yield (dfy) and transactions on technology computer aided design (tcad) issues.

Each of these tools are designed to be completely autonomous, but can just as well be integrated into virtually all the design environments available on the eda market.

Secure Machines
Next up was the Secure Machines. Co-founders Gilles Perrotey, ceo

and chairman, and Philippe Bressy, cto have defined a business model that licenses security solutions for the embedded microcontroller market.

Perrotey believes that security is the new challenge for the 2bn embedded chips in today's market. This is convincing given that the likes of Microsoft's Xbox has tip-top security that prohibits copied games being played on it. But with a bit of know-how and for a matter of a few dollars, he revealed that these security measures can be cracked quite easily.

Software security only is not enough as it can be erased or passed. Microcontroller manufacturers need to provide secure hardware mechanisms to os designers, he insisted.

With this in mind, Secure Machines offers secure kernels managing access controls to internal peripherals and memories thanks to hardware secure controllers (hsc).

One of the key applications of the technology is delivering boot loaders and firmware in flash memory, protected by the technology which is un-removable yet securely updateable by a correct sign package. This gives design engineers the security of rom code with the flexibility of flash memory.

According to Perrotey, the technology uses a synchronisation method rather than encryption and decryption. He describes this synchronisation method as being very simple but very robust.

Northern Digital
Back in the days of yore, do you remember using log tables? Well, Newcastle University spin-out Northern Digital has re-written the rules of microprocessor design using logarithms. Led by Dr Nick Coleman and using research carried out over the last 10 years, the firm is using logarithms to perform basic arithmetic functions - add, subtract, multiply, divide - in half the time taken for the existing floating point method.

When you compare the number of clock cycles needed for each arithmetic function using floating point and logarithm methods, the number of clock cycles required for basic arithmetic functions are quite similar. The big difference is for divide and square root functions, where for the logarithm method the clocked cycles used are minimal. This enables these functions to be done in parallel thus gaining more speed.

Though most designers are more familiar with floating point when programming in C, close comparison can be made between a 32-bit fp and a 32-bit (logarithmic number system) lns format. Therefore, in Coleman's opinion, it's only a difference in representing the program.

If this whets your appetite, microprocessors based on this technique are now available for demonstration along with its associated software development system.

Insight SiP
The last start-up to present on this panel was Insight SiP. Founding members Chris Barratt (cto) and Michel Beghin (coo) have literally just formed the fledgling company, which aims to provide highly integrated custom solutions for wireless comms (wlan, UWB, ISM) and high speed electronics using a system in package (SiP) approach.

"In reality, the size difference between a SiP and SoC is insignificant," said Barratt, "when you bear in mind the cost and return on investment (roi)."

According to the firm, it has already achieved design success with National Semiconductor's LMX9814 Bluetooth module. The firm's next design, reveals Barratt, is for a fabless company for a wlan application.

So there it is; a brief review of five start-ups at their debutantes' ball. In the coming months, I'm sure we'll hear more of their blossoming relationships.

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