

# Crolles2 Alliance Partners Pool Research Efforts in Advanced CMOS Wafer Probing and Assembly

January 31 2005

---

*The STMicroelectronics, Philips and Freescale Crolles2 Alliance adds 300-mm test and packaging development to industry's largest joint R&D effort*

The Crolles2 Alliance partners Freescale Semiconductor, Philips and STMicroelectronics have extended the scope of their joint semiconductor R&D activities to include R&D related to wafer testing and packaging, in addition to the original development of sub 100-nm CMOS process technologies.

“The combined expertise of Freescale, STMicroelectronics and Philips will provide the Crolles2 Alliance with an industry-leading packaging and test foundation. This agreement will enable future generations of semiconductor technologies supporting applications in the automotive, consumer, industrial, networking and wireless markets,” said the Alliance members in a joint statement from René Penning de Vries, senior vice president and chief technology officer, Philips Semiconductors; Claudine Simson, chief technology officer, Freescale Semiconductor; and Laurent Bosson, corporate vice-president, Front-End Technology and Manufacturing, STMicroelectronics.

This agreement reflects the special needs of wafer testing and packaging for devices produced on 300-mm wafers in 90-nm, 65-nm CMOS and beyond. It will look at all aspects of post-fabrication wafer processing

including probing, grinding, sawing, die attach, wire-bonding, flip chip and package molding techniques as well as optimization of bond-pad stack design.

The expanded relationship builds on two years of successful collaboration in the semiconductor industry's largest R&D alliance. By combining efforts, alliance members have achieved several milestones in 90-nm production and 65-nm process development.

The partners will establish a new research laboratory in Grenoble (France) staffed by about 20 scientists and technicians drawn from the three companies. The partners now have more than 1000 employees working on front-end process development in Crolles, near Grenoble.

The lab will focus on bond-pad stack design and the assessment of low-stress probing, sawing and assembly processes including laser cutting and low-stress molding materials. It will also investigate requirements specification for the next generation of assembly and test equipment. The new Crolles2 Alliance assembly and test R&D team will also work closely with key equipment suppliers.

All three companies now have experience in the production and handling of 300-mm wafers produced on the Alliance's 90-nm CMOS production line in Crolles (France). This new expansion of the Alliance for extended R&D in assembly and test will help the Alliance partners remain in-line with the ITRS roadmap for process introduction and at the leading edge of assembly and test technology. Ultimately, it will help to ensure timely high-volume delivery of devices fabricated in these new processes to their customers.

## **About the Crolles2 Alliance**

Under a five-year agreement extending through to December 2007, the

Crolles2 Alliance brings together STMicroelectronics, Philips and Freescale Semiconductor, Inc., in an alliance of unprecedented scope in the microelectronics sector. Their joint Crolles2 center will focus on specific technologies at the forefront of semiconductor R&D: baseline CMOS processing, embedded memories (static, dynamic and magnetic RAM), Silicon-On-Insulator, analog CMOS, advanced process modules, advanced copper interconnect, low-power designs and RF capabilities. Starting at 90-nm, the alliance will continue on and develop CMOS processes at 65-nm, 45-nm and, ultimately, the 32-nm node. The Alliance has already demonstrated successful cooperation between the partners with the early availability of the industry's first 90-nm CMOS design platform and cell libraries for system-on-chip solutions.

Citation: Crolles2 Alliance Partners Pool Research Efforts in Advanced CMOS Wafer Probing and Assembly (2005, January 31) retrieved 12 May 2024 from <https://phys.org/news/2005-01-crolles2-alliance-partners-pool-efforts.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.