



PRESS RELEASE

X-FAB Expands Foundry Offering for Silicon-based Microfluidics

Enhanced process capabilities enable faster time-to-market of Smart Integrated Systems

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X-FAB Silicon Foundries SE, in order to address heightening demands, has taken steps to simplify the integration of microfluidic elements with CMOS and SOI dies. Part of its extensive MEMS-oriented technology offering, the company is now able to provide a large variety of process capabilities for silicon-based microfluidic systems. Combined with a highly standardized foundry approach, this will help to remove barriers to market entry and shorten development cycles.

To outline the full scope of its microfluidics capabilities, X-FAB will be hosting an informative webinar on the 27th and 28th May. Click [here](#) to register.

X-FAB has already established itself as the leading semiconductor foundry with regard to the integration of [silicon-based microfluidics](#), making \$25 million worth of investment in this area over the course of the last 5 years. In that time, the company has undertaken numerous projects for medical and industrial clients. These include applications such as lab-on-a-chip, DNA sequencing and synthesis, cancer diagnostics, etc. Through these projects, its engineering team has gained unmatched proficiency in areas like noble metal processing, high aspect-ratio deep reactive ion-etching (DRIE) and the deposition of both organic and inorganic materials. The team has also become highly adept at tailoring the interfaces needed to connect CMOS dies and their accompanying microfluidics elements, so the exact application requirements can be met.

Using all this expertise as a foundation, the company has extended its process capabilities to now include:

- Noble metal electrode arrays
- Inorganic layers for surface passivation and protection
- Deep silicon trenches and cavities
- Bonded silicon or glass lid wafers
- Polymeric fluidic structures

The company is continuously expanding its portfolio of standard process blocks covering these capabilities. Rather than beginning complex microsystem design projects from scratch, it will be possible to re-use existing process IP, and thereby get a head-start. This will help to accelerate product development cycles, as well as facilitating the scale up to volume production. Among the multitude of new opportunities envisaged are development of MEMS solutions for drug administering, flow metering and pollution monitoring.



“We are seeing a growing number of requests to implement silicon-based microfluidics. As a consequence, our engineering team is striving to bring two worlds together; so that medical OEMs' deep understanding of physiology and fluid analysis can be combined with X-FAB's knowledge of high-volume semiconductor manufacturing technologies,” states Volker Herbig, VP of X-FAB's MEMS business unit. “We are excited to help our medical customers in developing their smart integrated microfluidic systems via the multitude of new process capabilities we can now offer.”

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About X-FAB

X-FAB is the leading analog/mixed-signal and MEMS foundry group manufacturing silicon wafers for automotive, industrial, consumer, medical and other applications. Its customers worldwide benefit from the highest quality standards, manufacturing excellence and innovative solutions by using X-FAB's modular CMOS and SOI processes in geometries ranging from 1.0 to 0.13 μm , and its special SiC and MEMS long-lifetime processes. X-FAB's analog-digital integrated circuits (mixed-signal ICs), sensors and micro-electro-mechanical systems (MEMS) are manufactured at six production facilities in Germany, France, Malaysia and the U.S. X-FAB employs about 3,800 people worldwide. www.xfab.com

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Acronyms

CMOS	Complementary Metal Oxide Semiconductor
IC	Integrated Circuit
IP	Intellectual Property
MEMS	Micro-Electro-Mechanical System
SOI	Silicon-on-Insulator