



**A goal is a dream
with a deadline**

(Napoleon Hill)

CEO's Note

Dear Readers,

epc is moving forward very fast, even if we are quite silent, at least sometimes. This newsletter, however, provides you with our huge achievements in the last couple of months. Clean room 2 building construction is almost finished and the tools have been delivered, our Chinese design office is fully operational and serves all necessary

chip design competences like analog design, digital design, layout and, a fully equipped lab for hardware evaluation, etc. This newsletter gives just a little insight into our activities. If you want to see more, visit us in Sargans or at the electronica fair in Munich 13-16 November. You are very welcome.

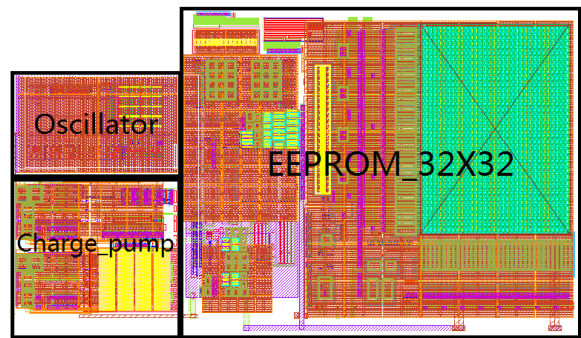
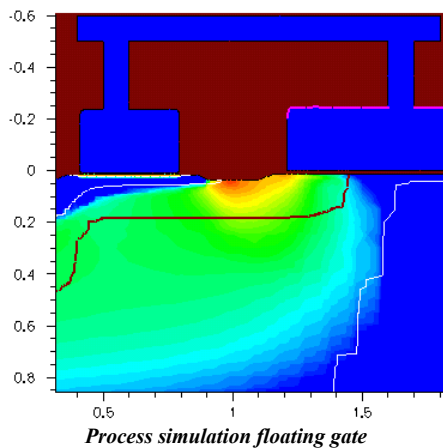
Beat De Coi

New EEPROM development

In a joint effort by the design and technology group in Switzerland and China, we designed an EEPROM in our OHC15L technology, ready to be used by our design teams and our customers.

In many applications, chips need to be configured within the customer's application. For products such as epc902 which is used in elevator applications, the user for example wants to identify on which floor the chip is installed. This requires each chip to store a unique identifier that can be

heart of the EEPROM, there is a special transistor



Floorplan epc EEPROM

that allows to permanently store the information as charge on a polysilicon plate (called floating gate). With the help of process simulation software, our technology team managed to reduce the size of this special transistor by 70% compared to the formerly used 3rd party IP. The picture to the left visualizes such a process simulation.

read out by the elevator control system.

Another field of use is trimming of the chips. Our devices perform to the highest standards. This performance can be further improved if process variations are trimmed out. The trim information needs to be stored somewhere. Our answer to these requirements is our in-house developed EEPROM IP with 1024 bits of memory.

Our efforts to optimize the size of the EEPROM allow us to reduce the required space on the silicon, which in turn reduces cost of the chip. At the

In order to program a value into the EEPROM (i.e. to add/remove charge to/from the polysilicon plate) a high voltage of about 13V is necessary. Most competitor technologies do not have such a high voltage readily available within their power management part. Our design team in Shanghai enhanced the EEPROM IP with a charge pump design combined with the dedicated control logic and oscillator, which pumps up any standard 5V supply to the 13V. EEPROM, charge pump and oscillator together occupy an area of just 0.135 μ m. In the future, EEPROMs with larger memory can be derived from this reference design with greatly reduced efforts.

Clean Room 2 – Move in of Main Bodies

The construction of our Clean Room 2 is progressing with large steps. End of September, we completed an important step: The main bodies were installed. These tools form the core of our new backside processing line. They include:

- Medium current implanter Varian E500HP
- PE-CVD System ASM Eagle 10
- Wet etch tool SEZ Spin Etch SP203

These tools are HEAVY!



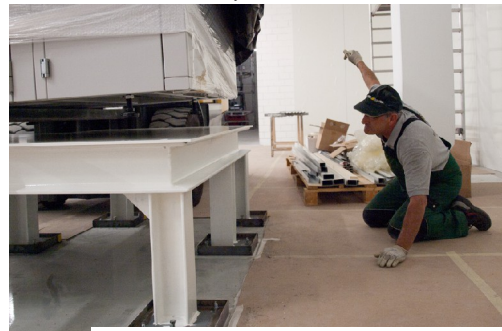
Underground, the forklift takes over.

Our team did a tremendous job and the delicate move-in of those heavy devices was completed without any problems. Enjoy the picture gallery!

Approaching the platform.



Easy now



DONE!

epc at the Electronica 2012

Save the date! ESPROS Photonics will be exhibitor at the:



25th International Trade Fair
for Electronic Components, Systems and Applications
Munich, November 13 – 16, 2012

For the first time, we will present our new 3D Time of Flight (TOF) imager products, the epc600 TOF Range Finder and the epc610 TOF Imager. Visit us in Hall A3 at our booth 531 and learn more about this new technology.

+++ interesting job opportunities on www.espros.ch +++