

MPI Halbleiterlabor



Project review 2007

News from Siemens



MPE

Max-Planck Institut
für extraterrestrische Physik



WHI

Max-Planck Institut für Physik
(Werner-Heisenberg-Institut)

PNSensor

PNSensor GmbH

HALBLEITERLABOR



~ 56 people developing, designing, producing & testing Silicon detectors

Substantial increase: in 2005 we were ~ 44 !

800 m² clean room for production and tests

HIGHLIGHTS 2006/2007



Apart from R&D.....

2005:

More people: more room: 100 m² extra office space for HLL
(50 m² for HLL, 50 m² for PNSensor)

2007:

Even more people: more room: 200 m² extra office space for HLL
(170 m² for PNSensor, return >50 m² to HLL)

Contract signed (after long delay)

New office plan (sorry for the inconvenience.....)

Good bye Infineon



➤ End of April: last wafer left Infineon fab in Neu Pelach

Ion implantation -> Done elsewhere (Infineon Villach, IBS)

Chemical analysis: looking for another service.

Media Supply: DI water switched to other (smaller) unit in building 10
Prices go up!

Laundry Service: want to stay with old supplier (Kalb, Landshut). Keep same price. Need to contract this. Formally a tender is required, but we believe they are still most attractive (others ~ 2 times more expensive)

Hazardous Chemicals: central stock closed
we can order directly from the supplier of our choice (not anymore obliged to order via Infineon!)
Central delivery and distribution

Media Supply



- ◆ **N₂: shutdown of onsite liquifier (when?)**
- ◆ **Delivery of liquid N₂ by Linde (same specs)**
- ◆ **For us: no changes expected**

- ◆ **DI-water: Switch over to purifier in building 10 (October 2007)**
- ◆ **Slight changes of specification**
- ◆ **Don't expect problems, our own purifier should buffer this**
- ◆ **-> still tests necessary**

Changes due to the Infineon shutdown:

item	change	old price(Euro)	new price(Euro)
power:	-42%	61.5/MWh	~75/MWh
heating	-18%	60.0/MWh	~62/MWh
water	-80%	1.48/m³	~1.55/m³
DI water	-72%	3.72/m³	~4.3/m³
Neutralisation	-80%	4.77/m³	~4.5/m³
N₂	-78%	0.126/m³	~0.175/m³

Expect additional costs of 31kEuro/year (+12%)

DI water quality



	present spec	new specs (Purifier in Build 10)
Temperature	21-25 C	21-25 C
Pressure	6.0-8.0 bar	6.0-9.0 bar
Resistivity	>17.9MOhmcm	>17.5MOhmc
TOC	<14 ppb	<50 ppb
O2	<150 ppb	< 100 ppb
Particles	<1000 P/l (>0.1 μm)	<200 P/l (>0.5 μm)
Na	< 500 ppt	< 2 ppb
Ca	no spec (<100 ppt)	< 1ppb
Mg	no spec (<100 ppt)	< 1 ppb
SiO2	<5 ppb	< 5 ppb
Fe	no spec (<100 ppt)	< 500 ppt

Hazardous Materials



31.3.07-30.6.07 Still possible to order via Infineon Regensburg

30.6.07 Central storage will be closed

1.7.07 Users must order directly from supplier

Central delivery point

Distribution to user from there (Kinetics)

-> take care of safety data sheets

-> order well in advance! Especially items we got via Infineon



➤ This service will cost us ~ 1100 Euro/month

Nichtraucherschutz



Siemens Neuperlach: No smoking in our premises!

There will be special locations (in the tunnel and outside) for smokers



This is not for free: additional 3.4 C/m²/Month cleaning costs

