“Leading Edge Foundry Technology for next generation Smart Systems”

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GLOBALFOUNDRIES
Semiconductors make products competitive

Sector market size, 2013, USD

Data processing ($ 455 billion)

Wired communications ($ 99 billion)

Mobile communications ($ 223 billion)

Medical electronics ($ 173 billion)

Automotive electronics ($ 100 billion)

Industrial electronics ($ 318 billion)

Semiconductor ($ 304 billion *)

(* Estimate for 2013, WSTS)
New Applications will require even more Silicon

- Advanced Medical
- Wearable Electronics
- Internet of Things
- Autonomous Driving
- Autonomous Intelligent Systems
SCALE is driving investments into the Foundry-Model

Yesterday
- Former AMD Fab
- 45nm Microprocessors
- one product – one technology
- one end-market (Computing)

Today
- 45nm to 28nm components
- many products & technologies
- many customers & end-markets

Tomorrow
- further diversification of the technology portfolio, further market segments (e.g. industrial/automotive)

GLOBALFOUNDRIES – some Data
- > 50,000m² clean-room space
- Capacity goal 80,000 Wafer/Month
- 1 Million Wafers per Year
- about 3,700 employees (about 1/3 with higher degree)
- Investments since 1996: > 10 B$
System Expertise and Integration will be Key

Today:
System built by components, board, connectors, Software

Tomorrow:
System on a chip (SOC), Chip-on-chip-Assembly, low-power, few Software, high Hardware
New Supply Chains will transform the entire Industrial Ecosystem

**Industrial Partitions will change dramatically**
- Power-footprint will drive many development decisions
- Hardware will gain importance
- System-design cannot rely on software – hardware design is a must (Power)
- Production Networks will become stronger

**Access to semiconductors will determine product capability**
- System houses to enter design-space
- Manufacturing Networks will form to secure the supply-chain

**Industrial Products to be determined by Microelectronics**
- TESLA-car (smartphone on wheels),
- Google car (connected to compute-cluster)
- New System Architectures (cf. Airbus-Electronics, safety&redundancy)
Microelectronics: Much more than more than Moore

- More Moore is now driven by the Low-Power Agenda
- Smart System Integration will harness the integration-task
- Europe is attractive for manufacturing of semiconductors
- Further growth of the semiconductor industry expected
- Semiconductors – critical to the future of the German industry
Thank you