Infineon

IFX Day 2004

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Automotive & Industrial

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Never stop thinking.

Disclaimer

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AI business is focused on automotive and power

AI core competencies

Automotive

- Complete product coverage: Sensors, microcontrollers, power ICs
- Over 25 years of experience in automotive electronics

Power

- Broad spectrum of power semiconductor technologies for all kinds of voltages
- Technology leadership enabling system miniaturization and high-efficiency performance

Automotive and Power

- Global presence based on strong customer relationships
- Profound application know-how
- Innovative semiconductors, dedicated to automotive requirements

Standard components

Revenue growth: 11.4% y-o-y*

EBIT margin improved to 13.4% from 11.4% y-o-y*

* Incl. Discretes

Leading positions by increasing market shares in both segments

Infineon Automotive 2003
No. 2 World No. 1 Europe No. 3 US

		2003	2002
1.	Freescale	12.9%	13.4%
2.	**Infineon (2)**	**8.7%**	**8.2%**
3.	STM	7.6%	6.6%
4.	Renesas	7.0%	n.a.
5.	Bosch	6.4%	5.2%
6.	Toshiba	6.1%	6.2%
7.	NEC	6.0%	6.1%
8.	Philips	5.7%	5.9%

- **Market: USD 13.128 bn**
- **5Y CAGR: 7-8%**

Source: Strategy Analytics, 2004

Infineon Power 2003*
No. 1 World No. 1 EU No. 4 US

		2003	2002
1.	**Infineon (4)**	**8.1%**	**6.6%**
2.	IR	8.0%	7.6%
3.	STM	7.9%	6.3%
4.	Fairchild	7.4%	6.7%
5.	Toshiba	7.2%	8.6%
6.	Vishay	6.1%	6.3%
7.	Renesas	5.0%	n.a.
8.	Fuji	5.0%	4.0%

- **Market: USD 9.358 bn**
- **5Y CAGR: 10%**

Source: IMS, 2004

* Discrete power

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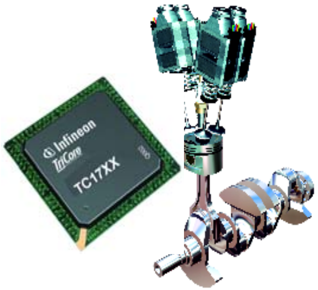
Broad product portfolio for complete coverage of applications

Defining automotive intelligence



Applications:
- Powertrain
- Safety management
- Body & convenience
- Infotainment

Products:
- Sensors
- Microcontrollers
- Power devices
- Wireless chipsets
- Silicon discretes

Converting and controlling Power

Applications:
- AC/DC conversion
- DC/DC conversion
- Consumer drives
- General-purpose drives
- Tuners

Products:
- Sensors
- Microcontrollers
- Thyristors / diodes
- Discrete power
- IGBT modules and bipolar modules
- Power ICs
- Tuner ICs
- Silicon discretes

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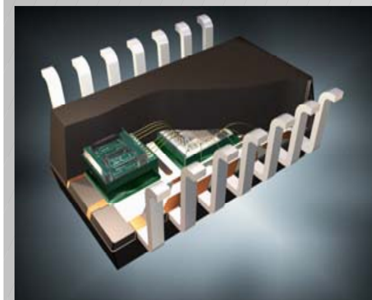
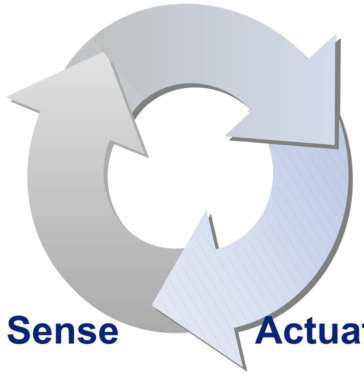
Complete product/application portfolio: Automotive Electronics

Silicon sensors

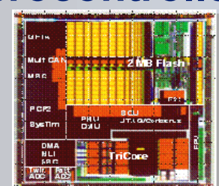


New applications:

- Successful ramp-up of SensoNor TPMS module
- RKE/TPMS/passive entry receiver
- New transmission sensor with integrated vibration suppression
- Programmable, very accurate linear Hall sensor for throttle control and e-gas



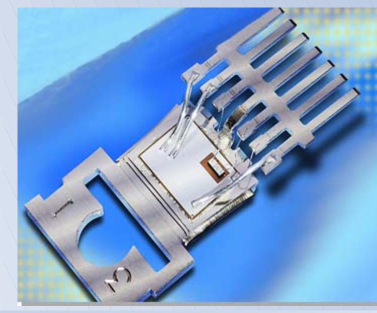
Microcontrollers



Expanded portfolio:

- New 8-bit μC family
- Volume ramp-up 16-bit μC eFlash, outstanding quality
- Ramp-up TriCore family
- New 32-bit ind. μC family

Power semicond.



Continuation of system integration (power + control):

- New chipsets for EPS and body computer
- Successful ramp-up of SMART5 technology
- New automotive power MOSFET trench technology

Complete product/application portfolio Industrial/Power: Focussing on Drives & Power Management

Eupec (Drives)	DP (Discrete & Power Management)

Eupec (Drives)

- **Extension to lower power applications (consumer drives)**
  - New IGBT trench technologies for power modules (consumer drive and traction)
- **Complete portfolio for power control**
  - New driver IC and board to expand system solution offering for general-purpose drives

DP (Discrete & Power Management)

- **Expand portfolio for system solutions and into new markets**
  - New driver ICs to complete DC/DC system solution for desktops
  - New DC/DC product family in new Super SO8 package to enter notebook market
- **Continued success story for CoolMOS**
  - New family CoolMOS CFD and CoolMOS 650V AC/DC for high-end PCs and server (higher reliability and less loss)
  - New CoolSet family (3rd generation) for AC/DC consumer application

Increased regional focus by significant regional revenue increase

No. 1 - Power semiconductors with 8.1% market share
No. 2 - Automotive semiconductors with 8.7% market share
No. 2 - RF discretes, transistors / RF diodes with 16% market share

+11%*

- No. 3 in Automotive (6.6% MS)
- No. 4 in Power (9.6% MS)

* corresponds to a growth of 25% in USD currency

+29%

- No. 8 in Automotive (2.1% MS)

+6%

- No. 1 in Power (19% MS)
- No. 1 in Automotive (15% MS)
- No. 2 in Silicon Discretes (16% MS)

APAC **+23%**

- No. 1 with OptiMOS in motherboards (approx. 30%)
- No. 3 in automotive semiconductors (approx. 6%)

Note: All numbers based on 2003
Source IMS Research 2004, Strategy Analytics 2004

+X% AI EUR revenue growth FY03 – FY04 by region

Business highlights FY03/04

Automotive

- Major breakthrough in NAFTA
  - Powertrain with 32-bit TriCore, power ASICs and sensors
  - Safety (airbag, rollover protection)
- Successful integration SensoNor
- Major design wins for TPMS
- Licensing Bosch GMR technology
- Major design-wins with 16-bit µC in Electric Power Steering (EPS)
- Engagement in standardization
  - Premium member AUTOSAR
  - Joined FlexRay consortium

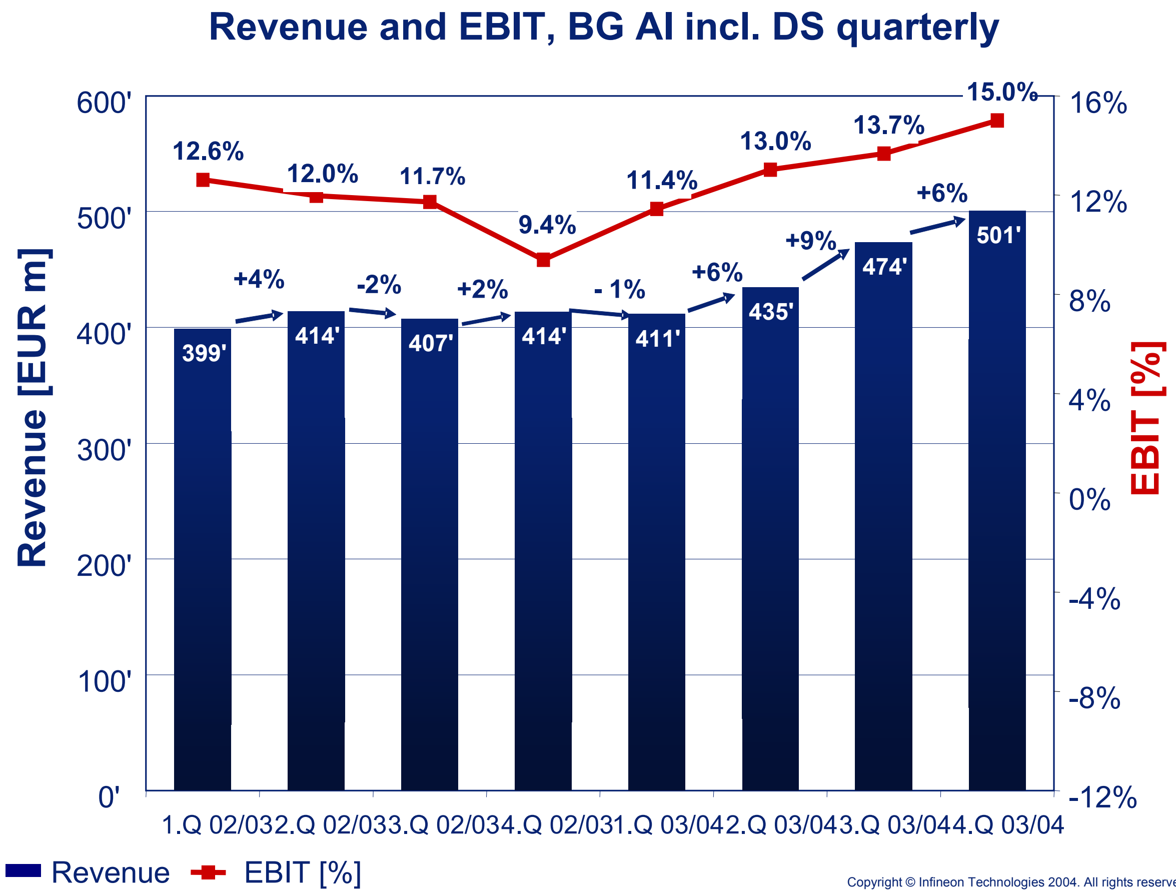
Industrial

- No. 1 in Power Semiconductor (IMS)
- Ensured >30% market share in motherboard by major design wins with OptiMOS2
- Entry into new markets with 30V OptiMOS in Super SO8 (notebook)
- New LightMOS technology (lamp ballast)
- Launch of DC/DC system solution
- Launch of drives system solution
- New TriCore based industrial controller
- TriCore honored as best Low-Power Embedded Processor
- Best Supplier Award from ASUSTEK

Fabrication

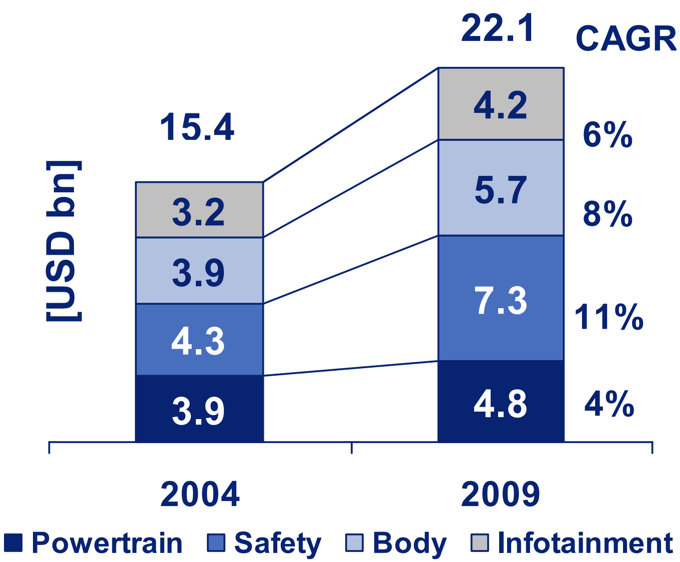
- Responsibility for Power Wafer Fabrication Cluster now with AI
- Integration of Silicon Discretes ⇨ Standard components now concentrated in AI
- Silicon foundry contract with ASML

2003/04 – Another record fiscal year again



The same procedure as every year: No change in the 5-year outlook for Automotive ...

Automotive semiconductor market CAGR 8%



Key trends

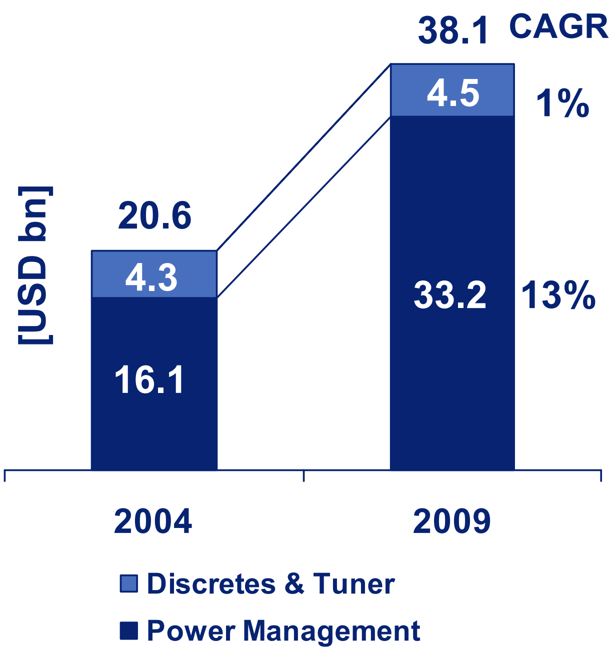
- **Tighter regulations:**
  - Environment Protection (EU5, OBD2, BIN5, LEV2)
  - Safety: TPMS, Rollover, ESP
- **More Innovation:**
  - Energy management
  - Drive-by-wire
  - Replace Hydraulics/Mechanics
  - New features
- **More standardization**:
  - Busses (CAN, LIN, FlexRay)
  - AUTOSAR (software)
- **New system architecture:**
  - Fewer but more complex ECUs
  - Decentralized smart actuators
  - Smart sensor nodes
- **Higher Quality:**
  - 0 defects
  - Key differentiator

... promising future stable growth

Source: Strategy Analytics, 2004

Power market driven by demand for maximum efficiency …

Power, discretes & tuner market CAGR 13%



Key trends

- **DC/DC**
  - Cost / Ampere, Footprint / Ampere
  - Solution business in PC motherboard and notebook
  - Shift of R&D for power supplies to China/Taiwan
- **AC/DC**
  - Miniaturization of power supply
  - Higher switching frequencies
- **Drives**
  - Further demand for energy savings
- **Consumer drive/DC/AC**
  - Increasing inverter share
  - Solution for lamp ballast
- **Silicon Discretes**
  - Integration into ICs or modules
- **Tuner**
  - Digital broadcasting systems & convergence with cellular systems

… enabled by high integrated solutions

Source: iSuppli 2004, WSTS 2004, InStat 2004, Infineon

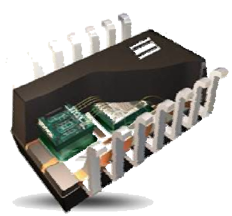
System-in-Package (SiP) solutions for automotive

Tire Pressure Monitoring (TPMS)

- 535* fatality accidents (US) due to wrong tire pressure ⇨ Monitoring
- Incipient legislation-driven US market*) for new cars:

  50% of cars from Sept. '05
  90% of cars from Sept. '06
  100% of cars from Sept. '07

⇨ **IFX SiP solution (sensor, micro and wireless data transmission).** Well-proven series production of a highly integrated chip-set solution.



Embedded Power

- Increasing decentralization and networking in the car
- Smart actuators, diagnosis and distributed power management
- More mechatronic modules
- Cost optimization on system level

⇨ **Reducing overall system cost by embedding power chip and microcontroller in SiP**

Highly integrated products for cost-sensitive applications

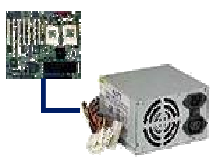
* NHTSA

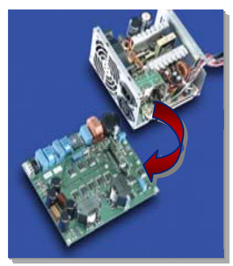
Electronic system solutions for industrial applications

AC/DC, DC/DC solutions for PC and notebook

- Computer standby consumption in US equals 4 nuclear power plants
- DC/DC conversion: Usual 20% losses
- AC/DC conversion: Usual 30% losses
- Yearly saving in energy cost in US can be as much as USD 0.9 bn*

⇨ **Highly efficient AC/DC, DC/DC converter solutions**

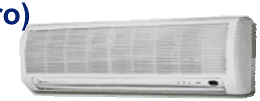




Consumer Drives

- Higher energy efficiency and convenience for air conditioning
- Lower water/energy consumption, shorter run times of washing machines
- Lower energy consumption and quieter operation of refrigerators

⇨ **Power module for variable-speed drives (power + micro)**



Leveraging know how from different product units

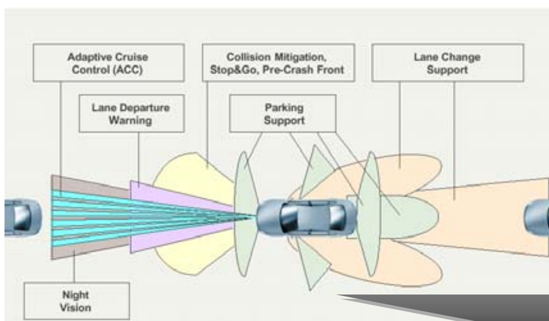
* www.eren.doe.gov/femp/procurement

Early entry into promising emerging market segments

Driver Assistant Systems

- > 53%* of accidents due to lane/road departure, inattentive & drowsiness
- From active safety to pro-active safety, ‘cocoon around the car’, eSafety initiative
- Radar & imaging sensors: ACC, LDW, blindspot, pre-crash, parking aid

⇨ **IFX solution for radar sensor part based on unique SiGe technology**



Digital Tuner

- Digital TV market to reach USD 70 bn in 2008** major growth in DVB-H, starting 2007
- 80% of current phone users want TV, 60% are willing to pay for it***
- IFX today has 70% market share in tuner for fast growing digital terrestrial (DVB-T)
- DVB-H is based on DVB-T, optimized for low power and higher robustness

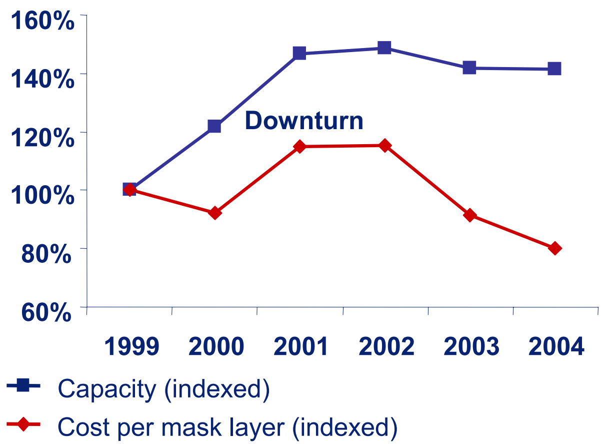
⇨ **Leveraging tuner know-how from analog/digital and current market position**

Leveraging advanced technologies and know-how for future profitable growth

* NHTSA ** IDC, June 2004 *** Smart Research, Sept. 2004

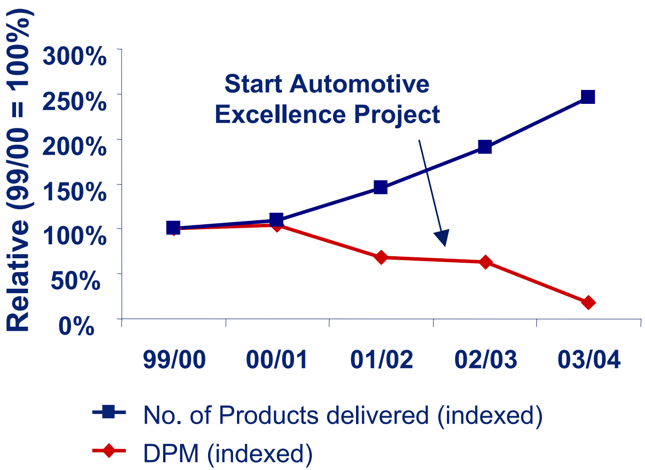
Sufficient capacity, best-in class quality, competitive cost structure

Power Wafer Fab Cluster



- Further **capacity build-up** and ensured **competitive cost position**
  - 6" to 8" transfer, (today 60% already on 8")
  - Future capacity expansion in APAC
- **Increased flexibility** through
  - Increased silicon foundry usage
  - Increased usage of temporary workers
  - Switching from location- to function-based set-up = 3 locations but 1 virtual fab

Quality



- Project target: **Zero Defects**
- **Achievements** after 1.5 years:
  - Fewer complaints and re-occurrent failures
  - 54% of products with 0 ppm
  - 94% of products < 1 ppm
  - Improved customer ratings/audit results
  - Increased organizational quality awareness

Never stop thinking.