

# TEMIC

Semiconductors



**Company  
Presentation**

**World Wide  
Sales**

**Discrete  
Division**

**Integrated Circuits  
Division**

**TEMIC**  
Semiconductors

# Company Presentation



**Home**

**Headquarters**

**Revenue by Product Line**

**Quality Roadmap**

**Parent Company**

**Products Portfolio**

**Revenue by Segment**

**Quality Definition**

**TEMIC Structure**

**Manufacturing: Fabs**

**Revenue by Region**

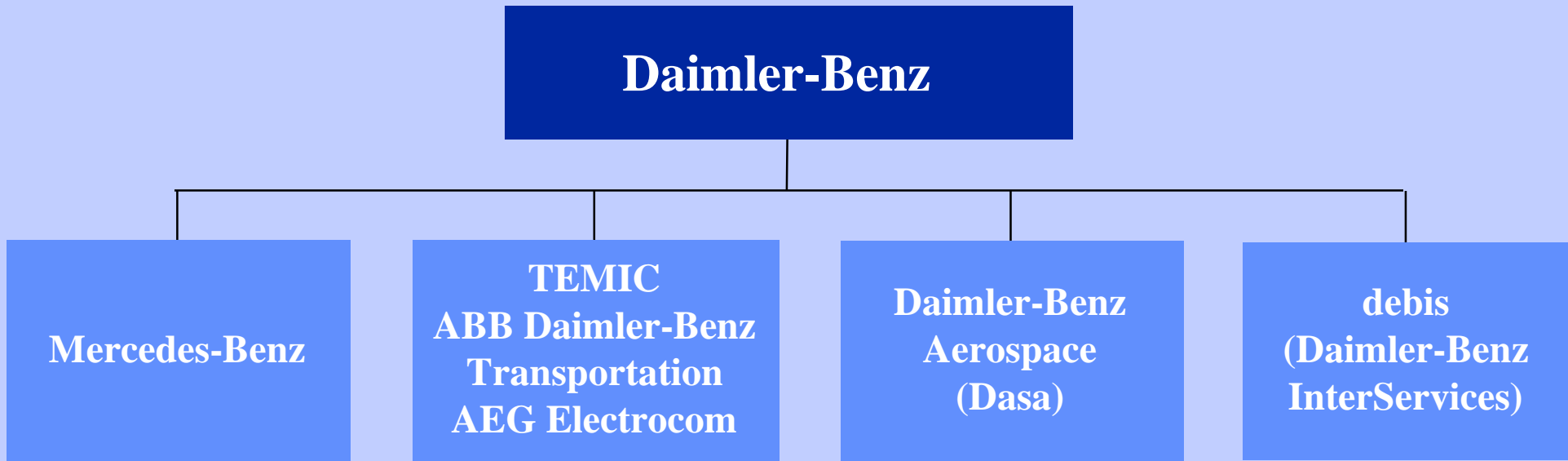
**Mission Statement**

**TEMIC Semiconductors  
Structure**

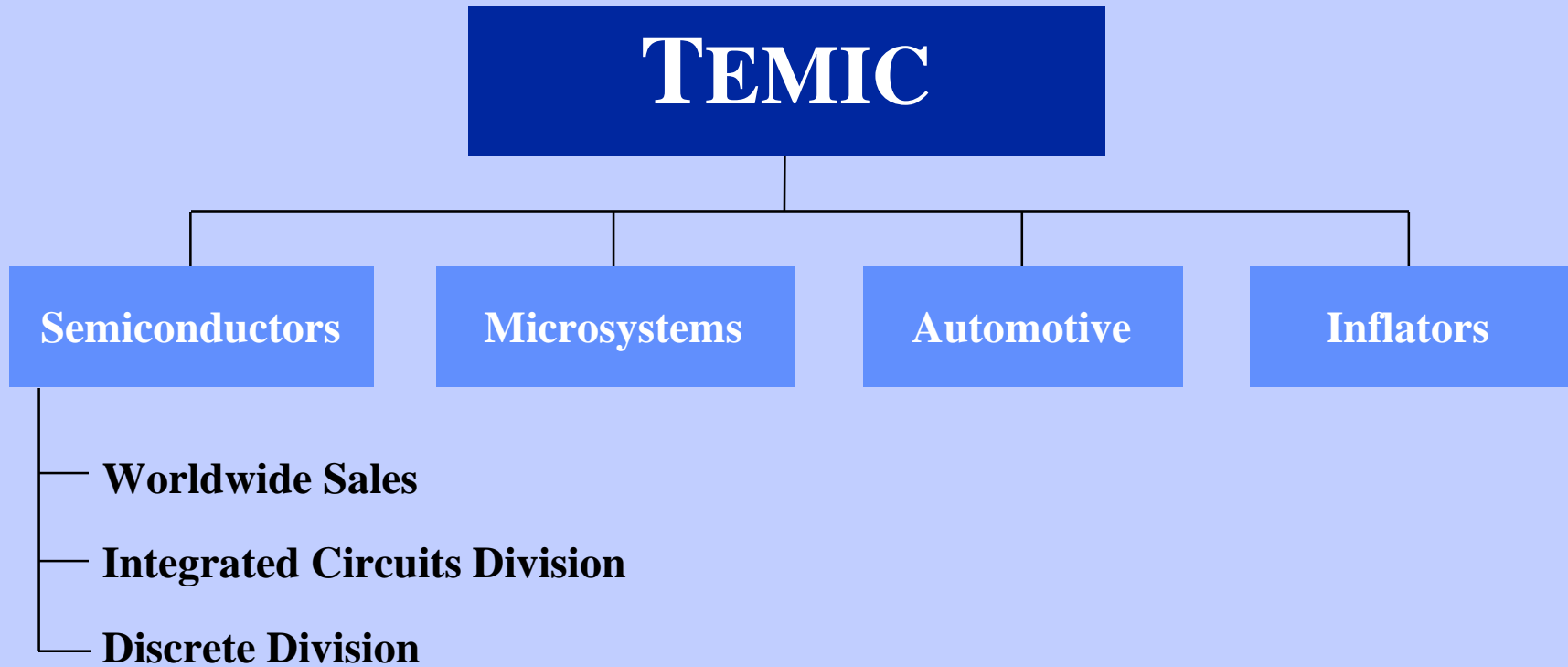
**Manufacturing: Backend**

**Quality Policy**

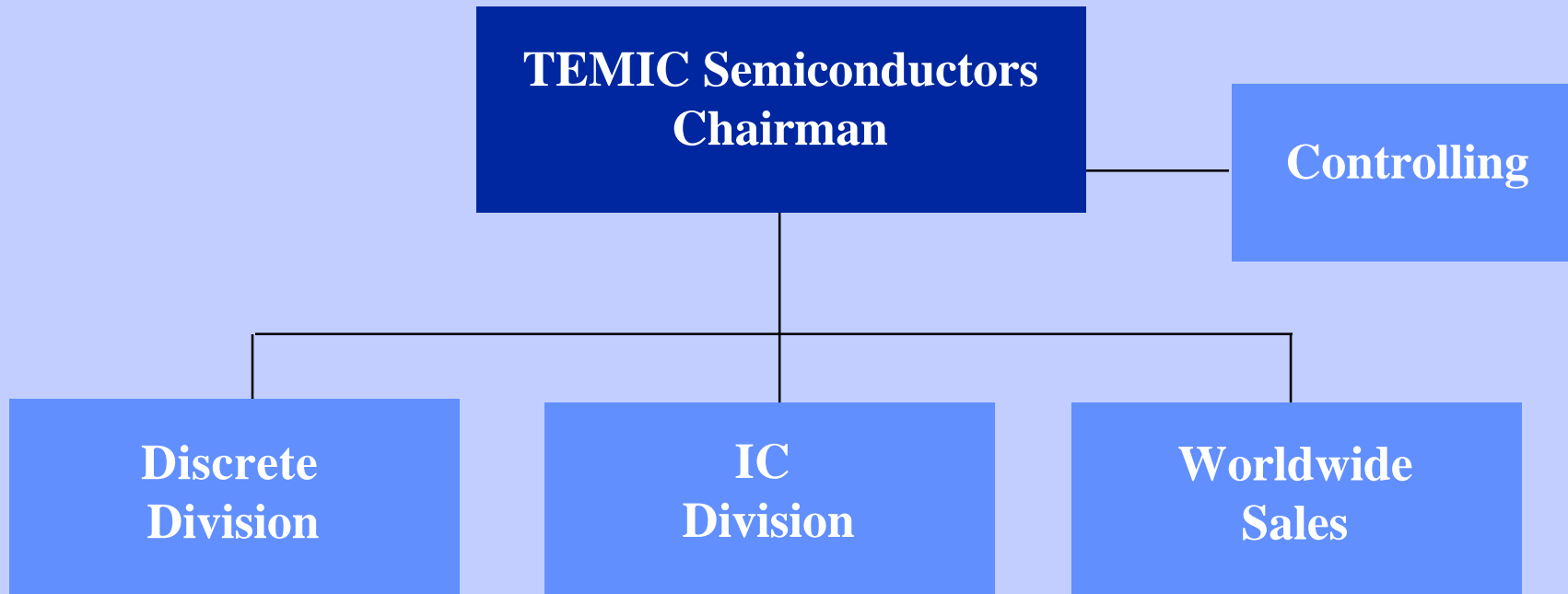
## Parent Company



## TEMIC Structure



# TEMIC Semiconductors Structure



## Headquarters



## Product Portfolio

### Discretes

- **Power MOS Devices**
- **Optoelectronic Components**
- **Diodes & Bipolar Transistors**
- **Signal Processing Components**
- **IrDA Modules**

### Integrated Circuits

- **Automotive ICs**
- **Communication ICs**
- **Microcontrollers**
- **Power ICs**
- **ASICs**

## Manufacturing Facilities - Fabs

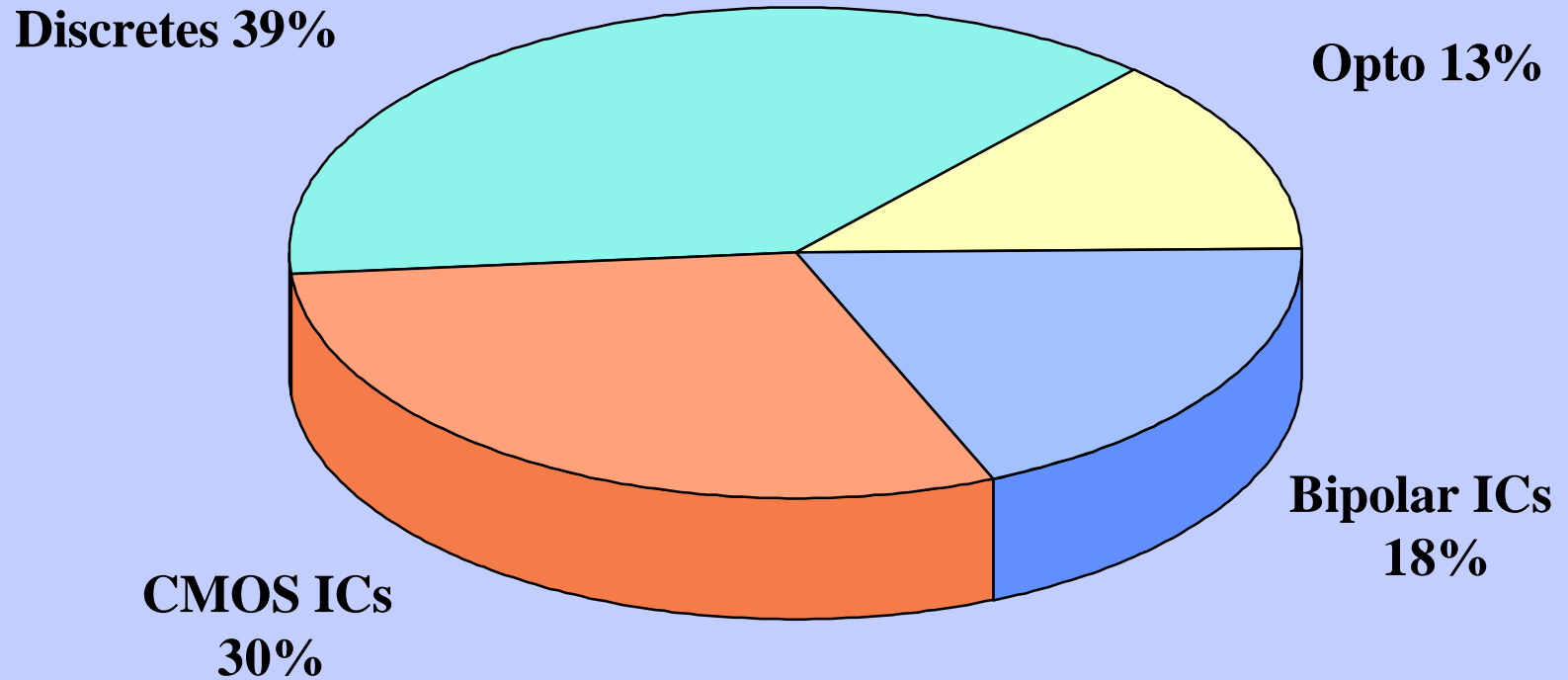




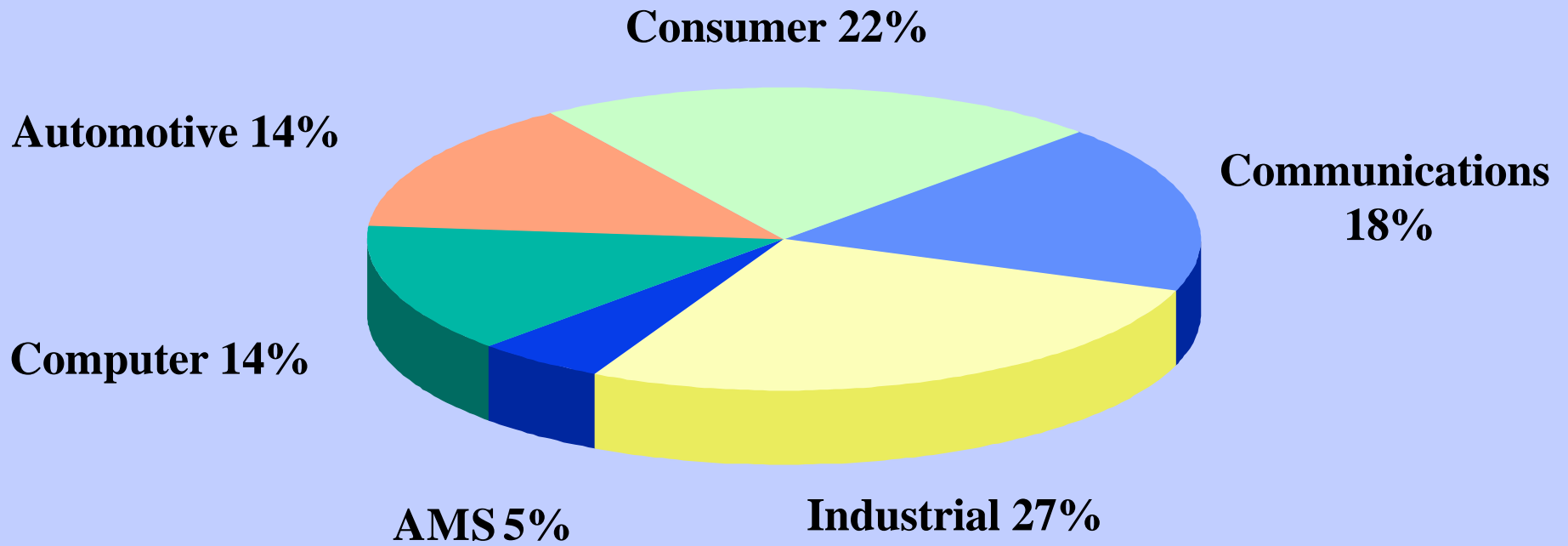
## Manufacturing Facilities - Backend



## Revenue by Product Line

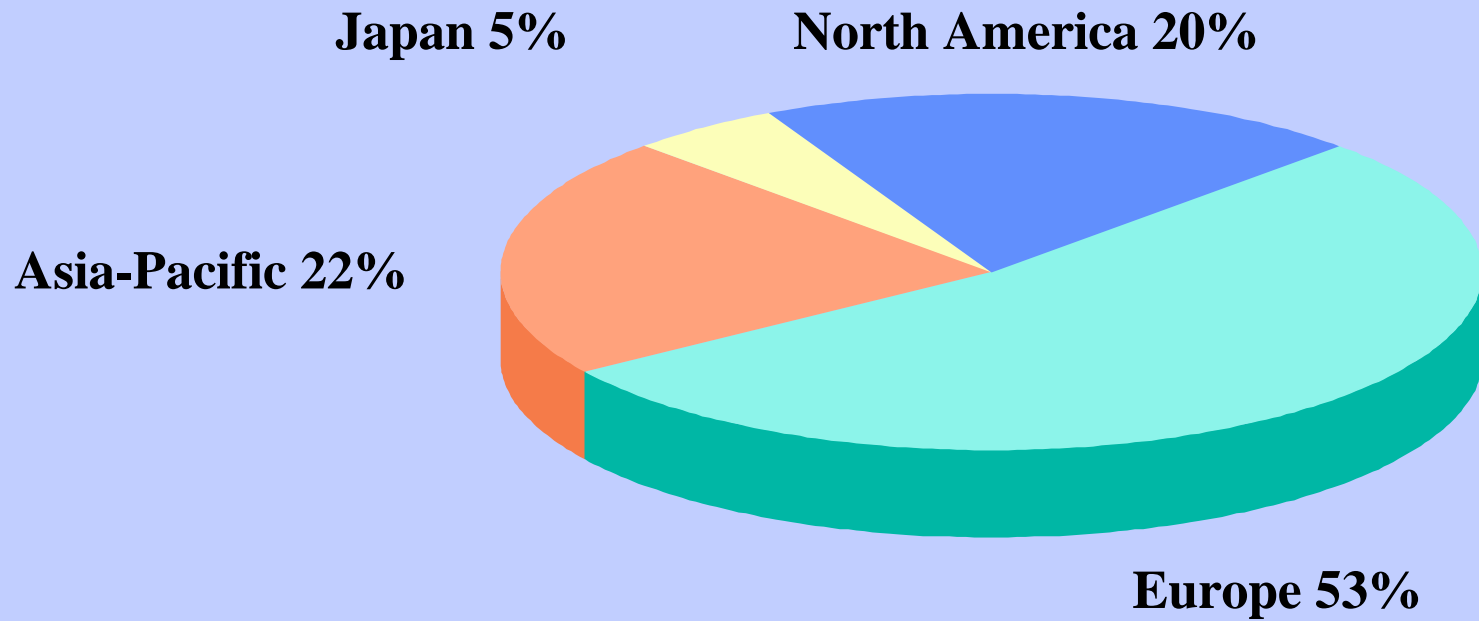


## Revenue by Market Segment



Distribution Revenue 38% included

## Revenue by Region



## Quality Policy

Our goal is to achieve total customer satisfaction  
through everything we do.

Therefore, the quality of our products and services is  
our number one priority.

Quality comes first!

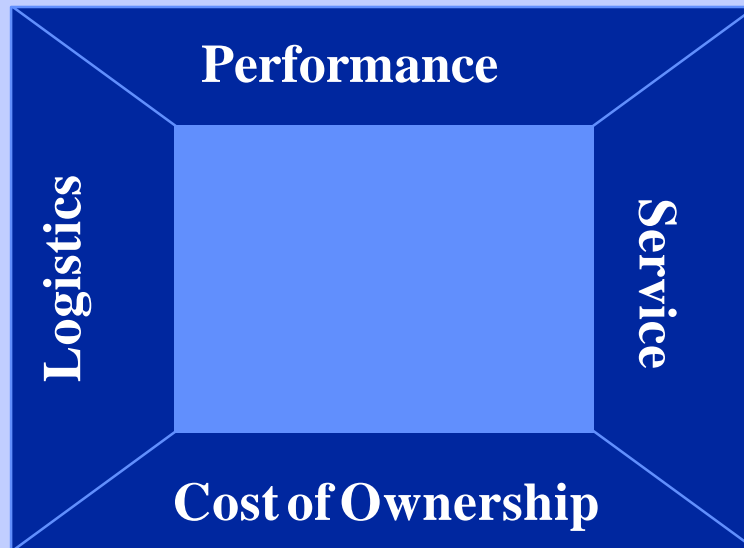
All of us at TEMIC Semiconductors are part of  
the process of continuous improvement.

# Quality Road Map



# Quality Definition

- Average outgoing quality
- Early failure rate
- Latent failure rate



- Lead time
- On-time delivery
- Buffer stocks
- Consignment stocks
- Drop shipment
- Just-in-time
- Ship-to-line

- Quality documentation
- Responsiveness
- Flexibility
- Corrective action cycle time
- Early warning
- Change notification
- Order status

- Price
- Appraisal cost
- Failure cost

## Mission Statement

To satisfy our customers by meeting their service, quality, and product performance expectations, achieving this success as judged by our customers' growing appreciation and value for TEMIC's

- systems-level applications know-how
- product and manufacturing technologies
- skills, attitude and commitment to excellence of our people



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## Worldwide Sales



[Organization](#)

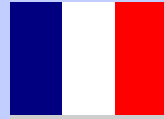
[Sales Offices](#)

[Home](#)

## Organization

- 20 direct sales offices in 15 countries all over the world
- Close to the customer through local dedicated Sales Engineers, Field Application Engineers, order entry and customer service
- Worldwide network of distributors and representatives

## Sales Offices



Headquarters  
Paris



North America



Europe



Asia-Pacific



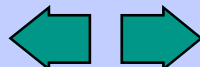
Japan

- Eastern  
Basking Ridge (NJ)
- Central  
Troy (MI)
- Western  
Santa Clara (CA)
- South America  
Mexico

- Central  
Heilbronn (FRG)
- Northern  
Stockholm (S)  
Bracknell (UK)
- Southern  
Paris (F)  
Milan (I)  
Madrid (ESP)

- Northern  
Hong Kong  
Taipei (Taiwan)  
Seoul (Korea)  
Shanghai (China)
- Southern  
Singapore  
Bangalore (India)

- Tokyo



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# Discrete Components Division



[Core Competences](#)

[Key Products](#)

[Guiding Objectives](#)

[Home](#)

[Revenue by Product Line](#)

[Revenue by Segment](#)

[Revenue by Region](#)

# Centers of Core Competence - Operations



## Vöcklabruck Austria

- Diode & Bipolar Discrete Headquarters
- Hungary/Europe Operation Management



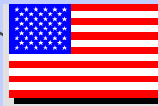
## Kaohsiung Taiwan

- Power Package Development
- China Subcontractor Management
- Wafer Foundry



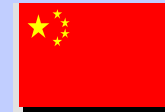
## Heilbronn Germany

- Opto Headquarters
- Bipolar/Opto Fab Operations
- ISIT Fab "Roof" Management



## Santa Clara California, USA

- TEMIC Discrete Headquarters
- Power MOS Headquarters
- IrDA Headquarters
- Power Fab Operations
- Dense Cell MOSFET Development
- Advanced Surface-Mount Technology



## Shanghai China

- Simconix
- TEMIC Opto & Diode Operations



## Singapore

- Signal Processing Headquarters
- Financial Consolidation for Asia/Pacific
- Procurement Headquarters for Asia/Pacific



## Manila Philippines

- Analog Switches, Hi-Rel, and Discretes Operations
- Philippines/Thailand Subcontractor Management

## Key Products

### Power MOS Devices

- **LITTLE FOOT Power MOSFETs**
- **Application-Specific Standard MOSFETs**

### IrDA Modules

### Optoelectronic Components

- **Infrared Emitters**
- **Photo Detectors, Opto Sensors**
- **Opto Couplers, Opto Switches**
- **Remote Control Detector Modules**
- **Visible LEDs, Displays**

### Signal Processing

- **Analog Switches/Multiplexers**
- **JFETs and DMOS FETs**

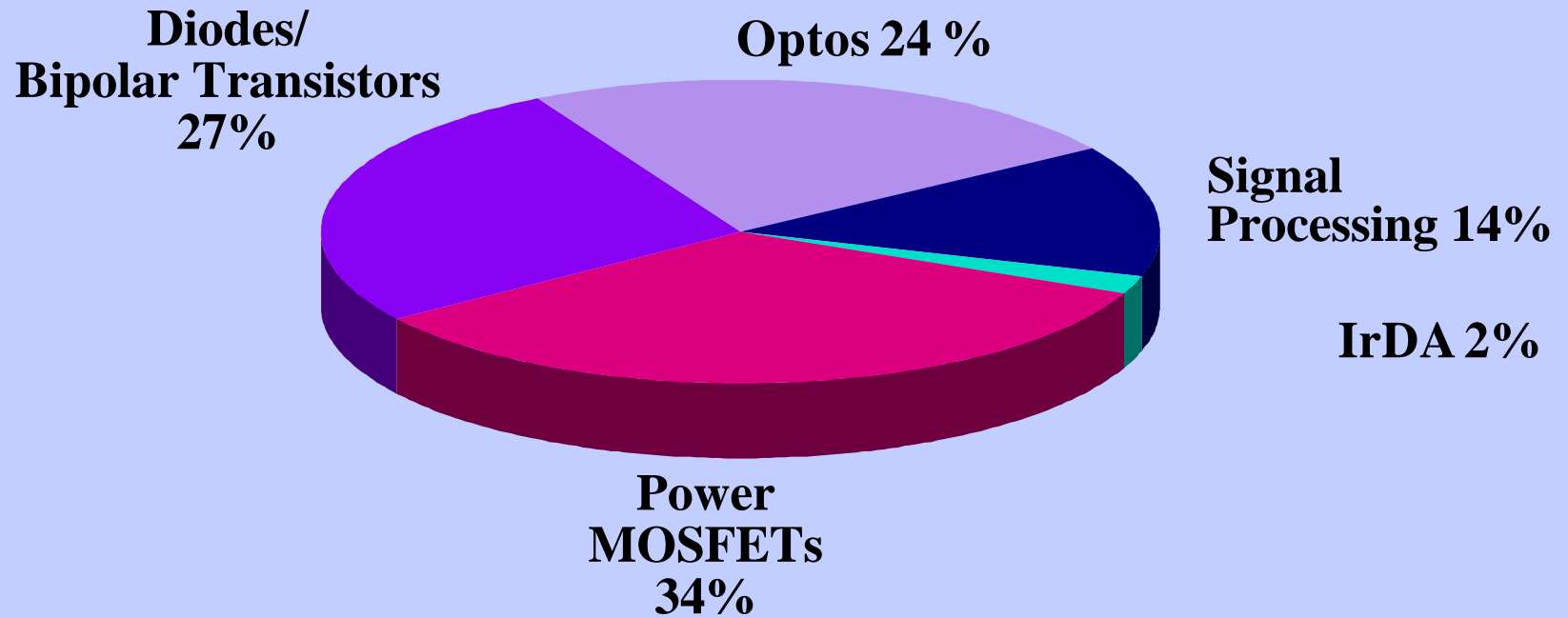
### Bipolar Transistors

- **MOS and Bipolar RF Transistors**
- **MOSMIC RF Solutions**
- **Bipolar High-Voltage Switches**

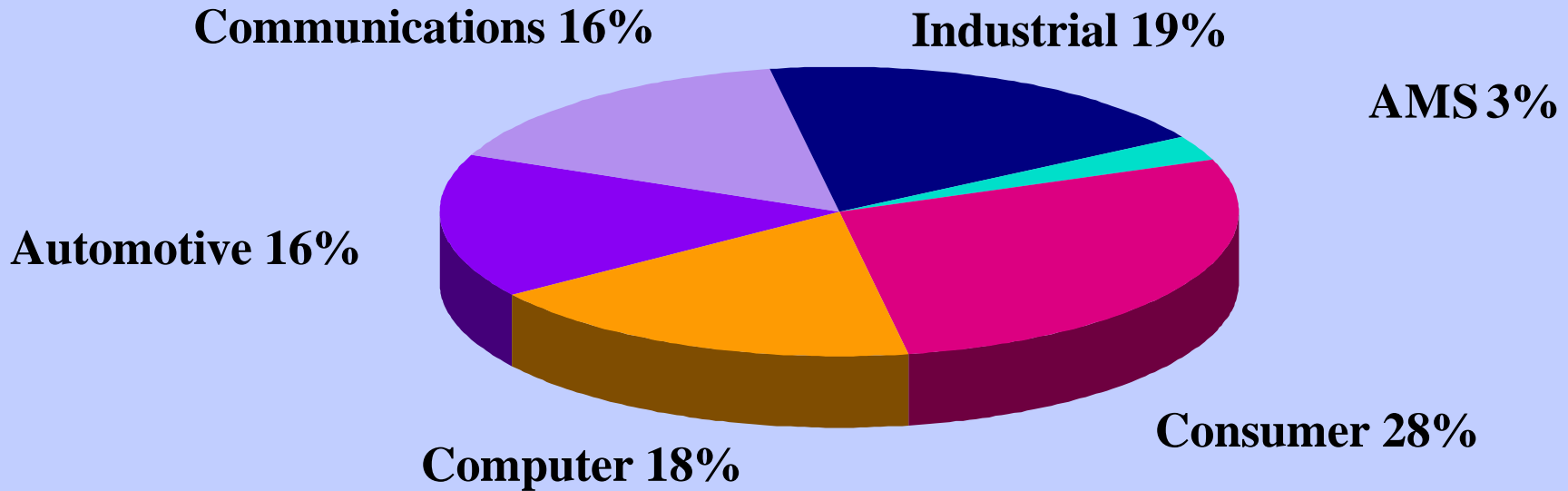
### Diodes

- **Small-Signal Diodes**
- **Zener Diodes**
- **Rectifiers**

## Revenue by Product Line

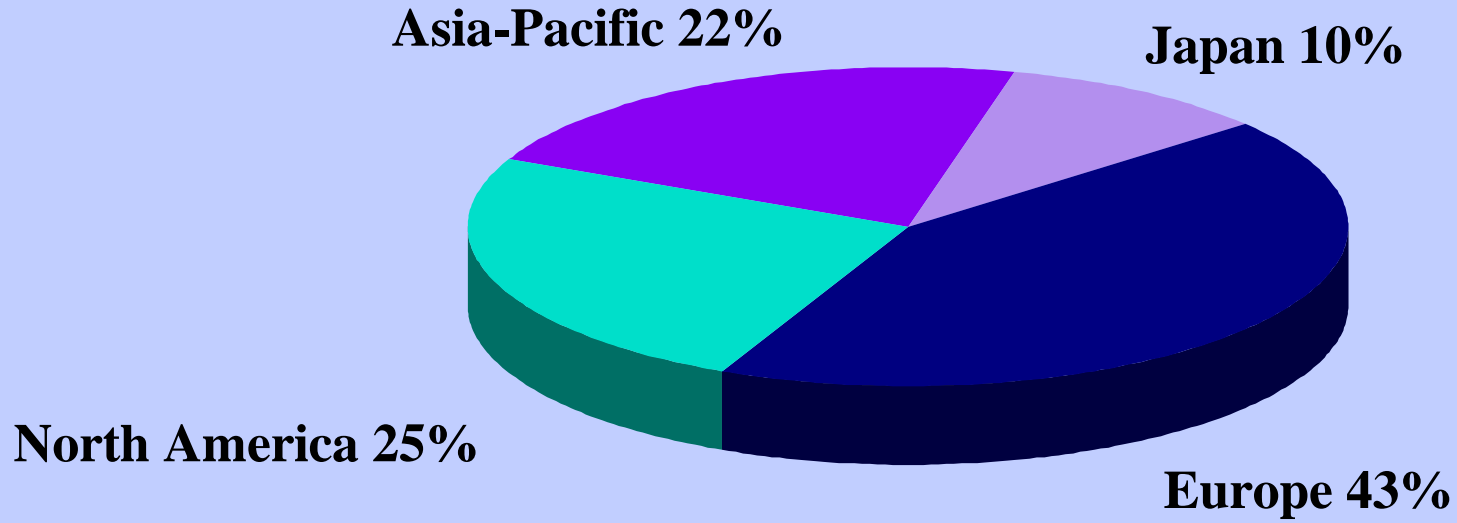


## Revenue by Market Segment



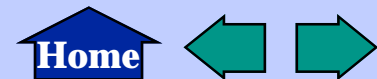


## Revenue by Region



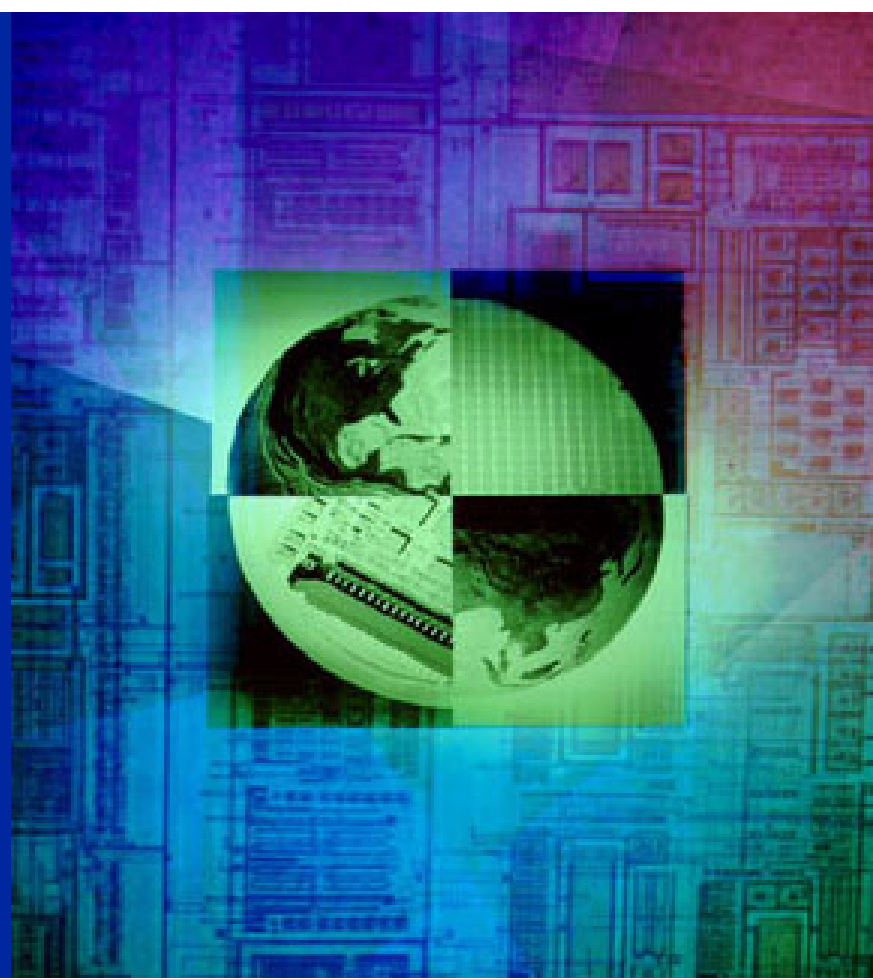
## Guiding Objectives 1996 - 2000

- Grow division revenue to > \$1 billion by the year 2000
- Achieve 15% annual growth in productivity measured by revenue per employee and overall manufacturing cost no greater than 50% of revenue.
- Allocate investment resources to serve the TEMIC strategic market segments (automotive, computer, communications, and broadcast media)
- Achieve a balanced geographical representation of our revenue
- Achieve best-in-class status in MOSFET, MOSMIC, Schottky, photo module, IrDA, and surface-mount packaging technologies
- Support and resource IC product development which is strategically important for key customers in selected applications
- Establish a global manufacturing presence with cost-competitive facilities and production lines and a highly trained, quality conscious work force
- Continuously improve and measure the levels of satisfaction of our customers, employees, business partners, shareholders, and community



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# Integrated Circuits Division



[Core Competences](#)

[Key Products by  
Core Competence](#)

[Key Products](#)

[Technology Roadmap](#)

[Revenue by Product Line](#)

[Revenue by Region](#)

[Guiding Objectives](#)

[Home](#)

## Core Competences



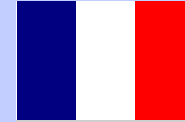
Swindon

Business Center  
ASICs



Heilbronn

Business Center  
Automotive



Nantes

Business Center  
Microcontrollers



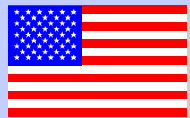
Heilbronn

IC Division  
Headquarters



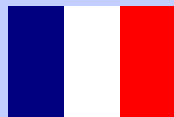
Heilbronn

Business Center  
Communication



Santa Clara

Business Center  
Power ICs



Manufacturing, HR,  
Quality, Services, C, ...



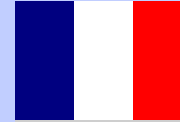
# Key Product by Core Competence



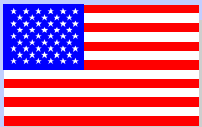
## Automotive



## ASICs



## Microcontrollers



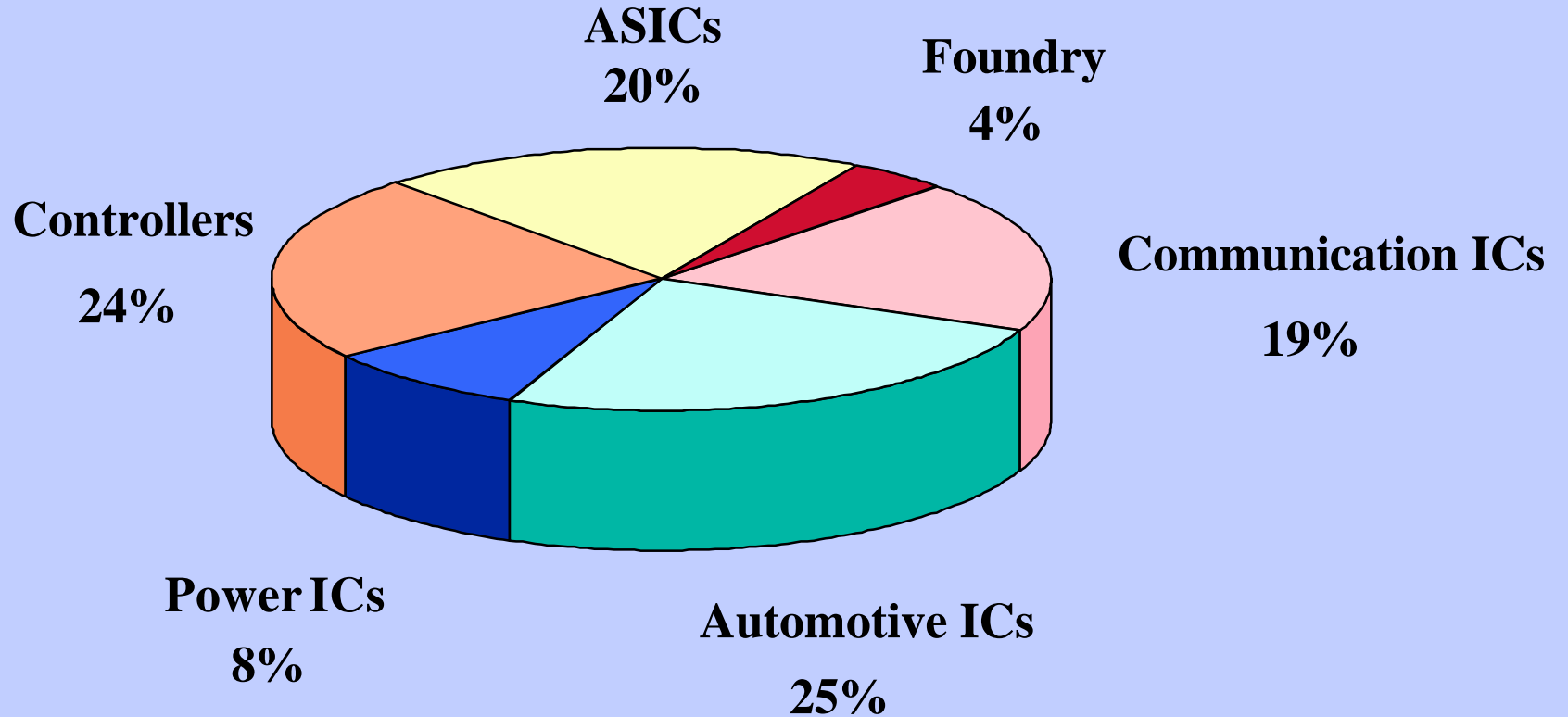
## Power ICs



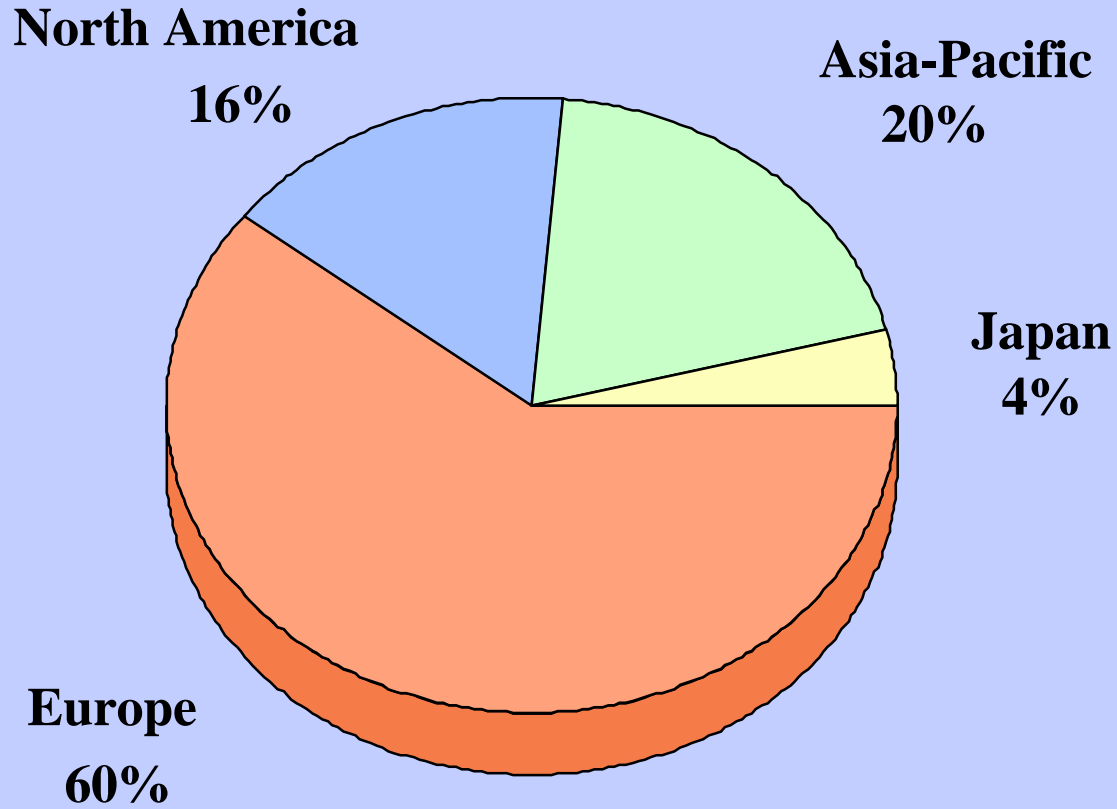
## Communication



## Revenue by Product Line



## Sales by Region

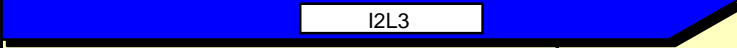

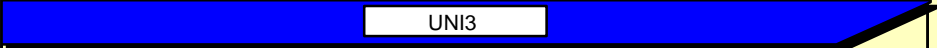
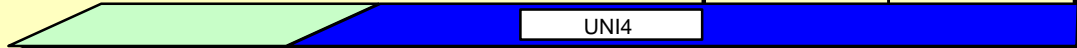
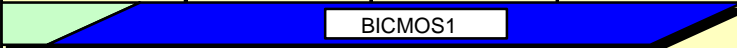

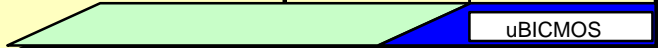
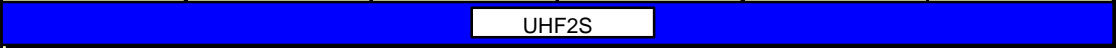




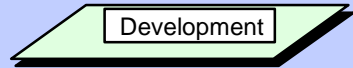
## Key Products

- **RF-Frontends**
- **DAB Chipset**
- **Identification Transponder (IDIC)**
- **Rugged Silicon**
- **ABS/Airbag**
- **4, 8 and 32 bit Microcontrollers**
- **DC/DC Conversion**
- **HDD Controller**
- **Mixed Signal ASICs**

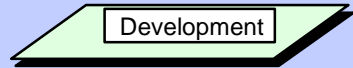
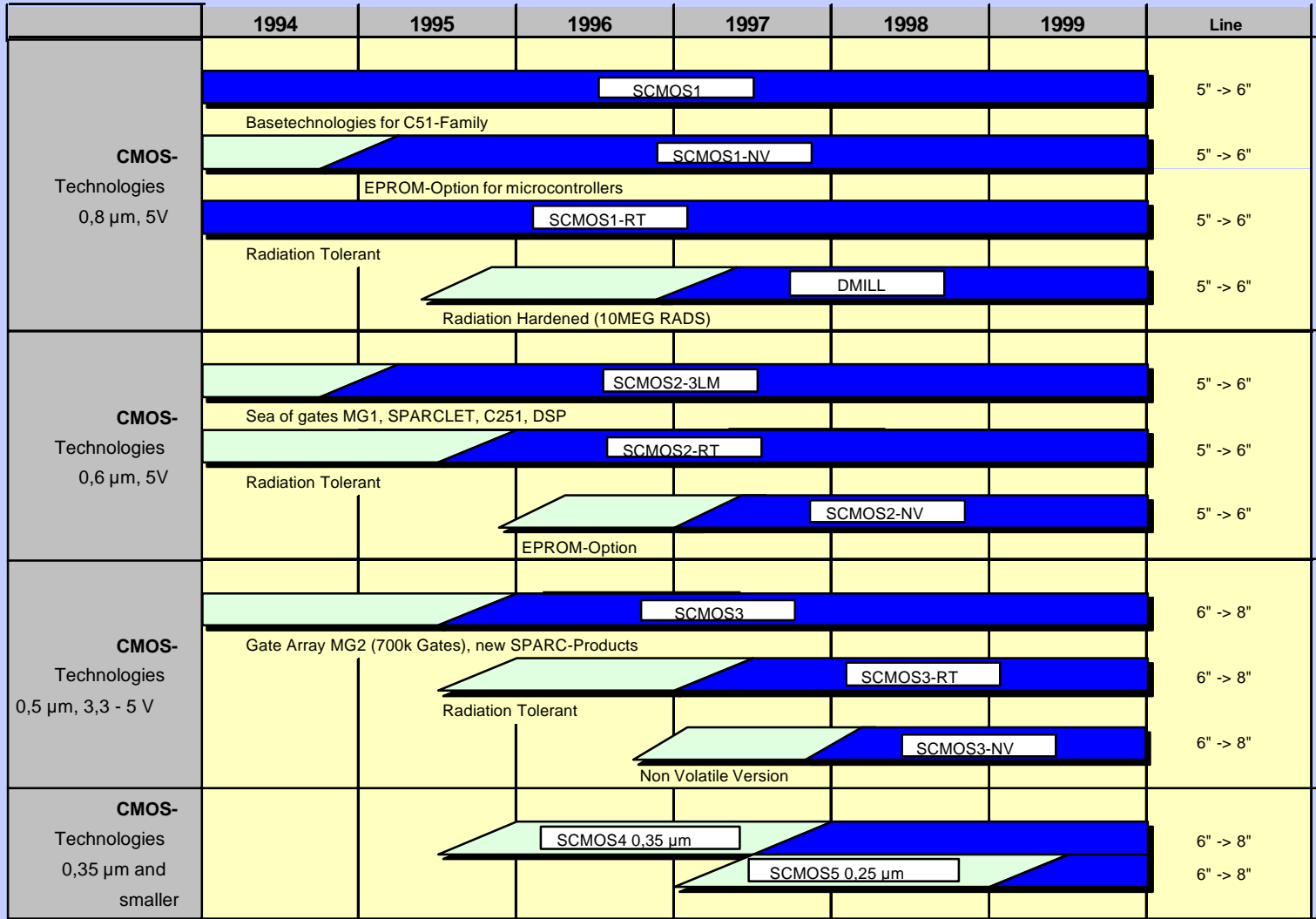


# Technology Roadmap (1/2)

	1994	1995	1996	1997	1998	1999	Line	
<b>Standard technologies, bipolar</b>	 I2L3						4"	
	Automotive, industry, 30 V, 300 MHz, 4 μ							
	 I2L4						4"	
	Automotive, industry, 30 V, 300 MHz, 4 μ, shrinked version							
<b>Universal technologies, bipolar</b>	 UNI3						4" -> 6"	
	General purpose applications up to 12V, 800 MHz, 2,5μ							
	 UNI4						6"	
	General purpose applications up to 12 V, 3 GHz, 1,5 μ							
<b>BICMOS technologies, bipolar/CMOS, for System-Integration</b>	 BICMOS1						4" & 5" (ZMD)	
	Consumer & telecom, 12/5 V, 2,5 GHz, 2,5 μ							
	 BICMOS2						5" (ZMD)	
	Consumer & telecom, 12/5 V, 6 GHz, 1,2 μ							
	 uBICMOS						6" (planned)	
	Telecom & computer, 5/3 V, 25 GHz, 0,6 μ							
<b>UHF technologies, bipolar, for RF-applications</b>	 UHF2S						4" -> 6"	
	Video-/Audio, 3 (30) V, 6 GHz, 2,5 μ, low cost							
	 UHF5S						4" -> 6"	
	Video, telecom, computer, 3 (30) V, 20 GHz, 0,75 μ							
	 UHF-SiGe						4" -> 6"	
	Mobile communication, 5 V, 40 GHz, 0,8 μ, low noise, GaAs-alternative							



# Technology Roadmap (2/2)



## Guiding Objectives

- **Concentrate on core competences**
- **Leadership through customer partnership**
- **Think global, act local**
- **Do only a few things... but do them efficiently**