

# Infineon news

15 October 2015



# Infineon plus International Rectifier: A Powerful Combination

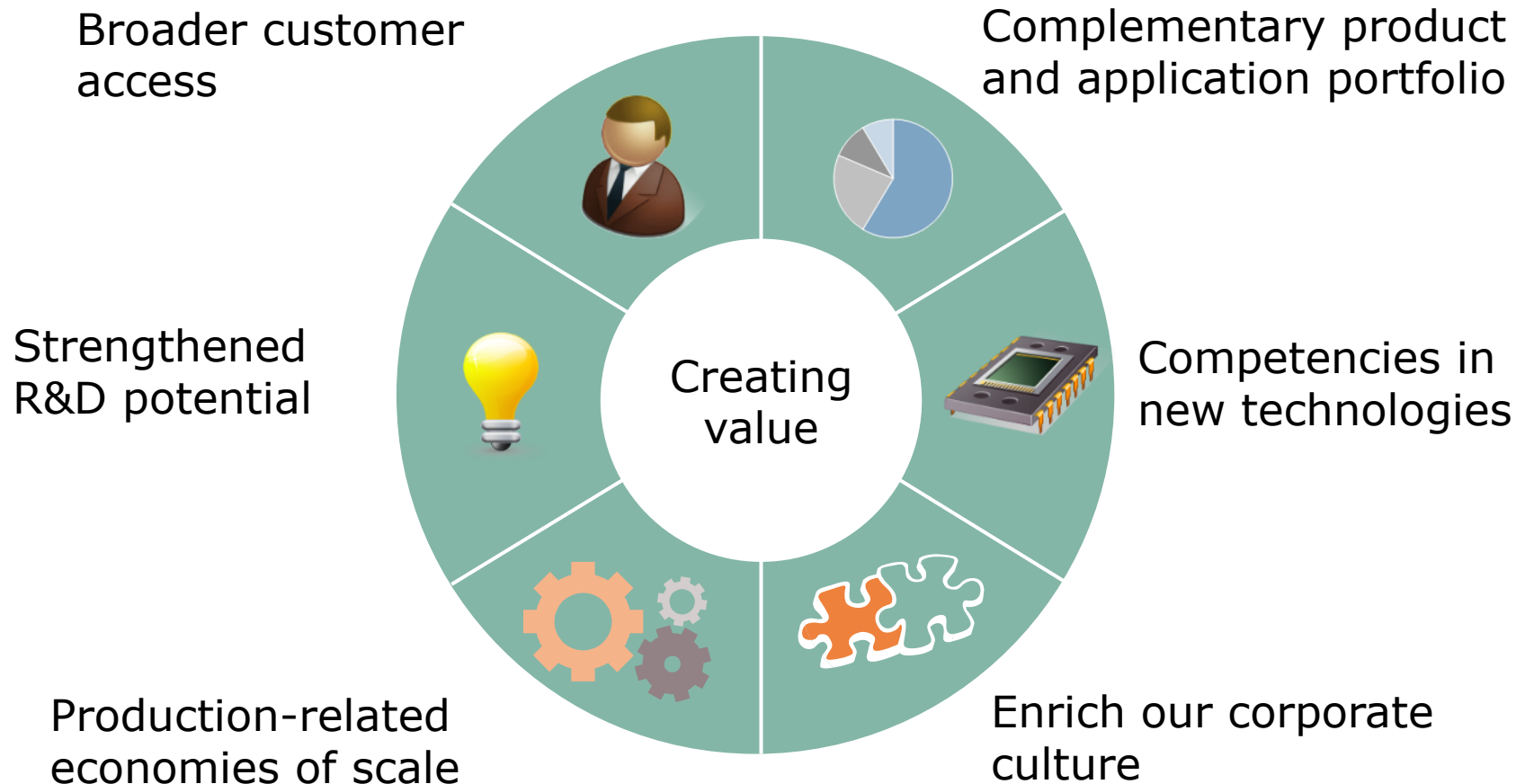


## A Powerful Combination

- › As of **January 2015**, International Rectifier is an Infineon Technologies company
- › Combined **pro-forma revenue of ~€5,150m\*** (~\$6,950m) in Infineon 2014 fiscal year
- › About **35,000 employees worldwide\*** (as of June 2015)
- › Strong technology portfolio with more than **22,800 patents and patent applications** (as of September 2014)
- › **33 R&D locations; 20 manufacturing locations**

\*non-audited figures

# The integration of International Rectifier brings significant benefits



# Infineon enables eco-friendly, connected and safe mobility



## Applications

Efficient powertrain, electric and hybrid vehicles, charger station for electric vehicles, car safety, chassis and comfort electronics, authentication, mobile security, traction

Infineon enables efficient generation,  
transmission and conversion of electrical energy



## Applications

Energy transmission and conversion, renewable energy generation, home appliances, power supplies, LED lighting systems, mobile devices, power supplies, industrial drives, industrial vehicles



# Infineon enables security in the connected world



## Applications

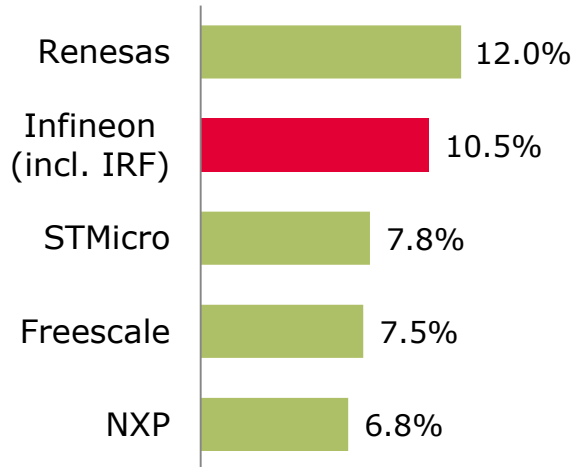
Internet of Things (incl. Industry 4.0), mobile security, embedded security, trusted computing, machine to machine, (mobile) payment, SIM applications, transport ticketing, government identification

# Top positions in all major product categories



## Automotive semiconductors

total market in 2014:  
\$27.5bn

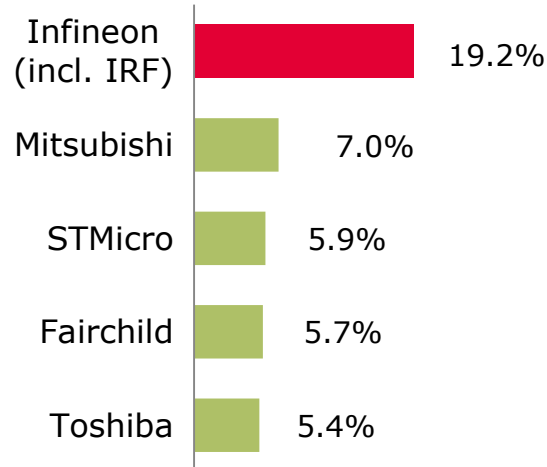


Automotive semiconductors incl. semiconductor sensors.

Source: Strategy Analytics, April 2015

## Power semiconductors

total market in 2014:  
\$16.2bn

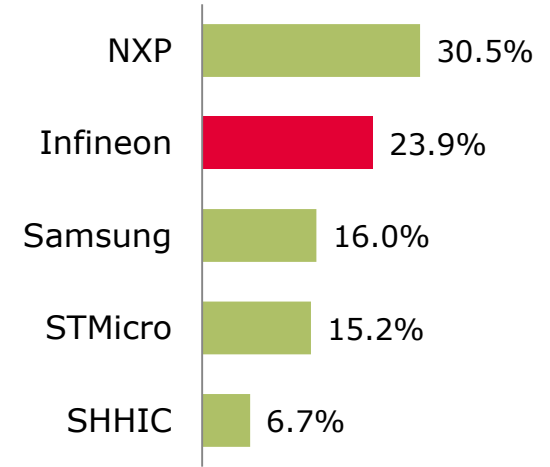


Discrete power semiconductors and power modules.

Source: IHS Inc., September 2015

## Smart card Ics

total market in 2014:  
\$2.63bn



Microcontroller-based smart card ICs.

Source: IHS Inc., July 2015

# Leadership in system understanding will foster future growth and profitability



## Competitive advantages

System leader in  
Automotive

#1 and technology  
leader in Power

Leader in Security  
Solutions

## Average-cycle financial targets

Revenue Growth:  
**~8%**

Segment Result Margin:  
**~15%**

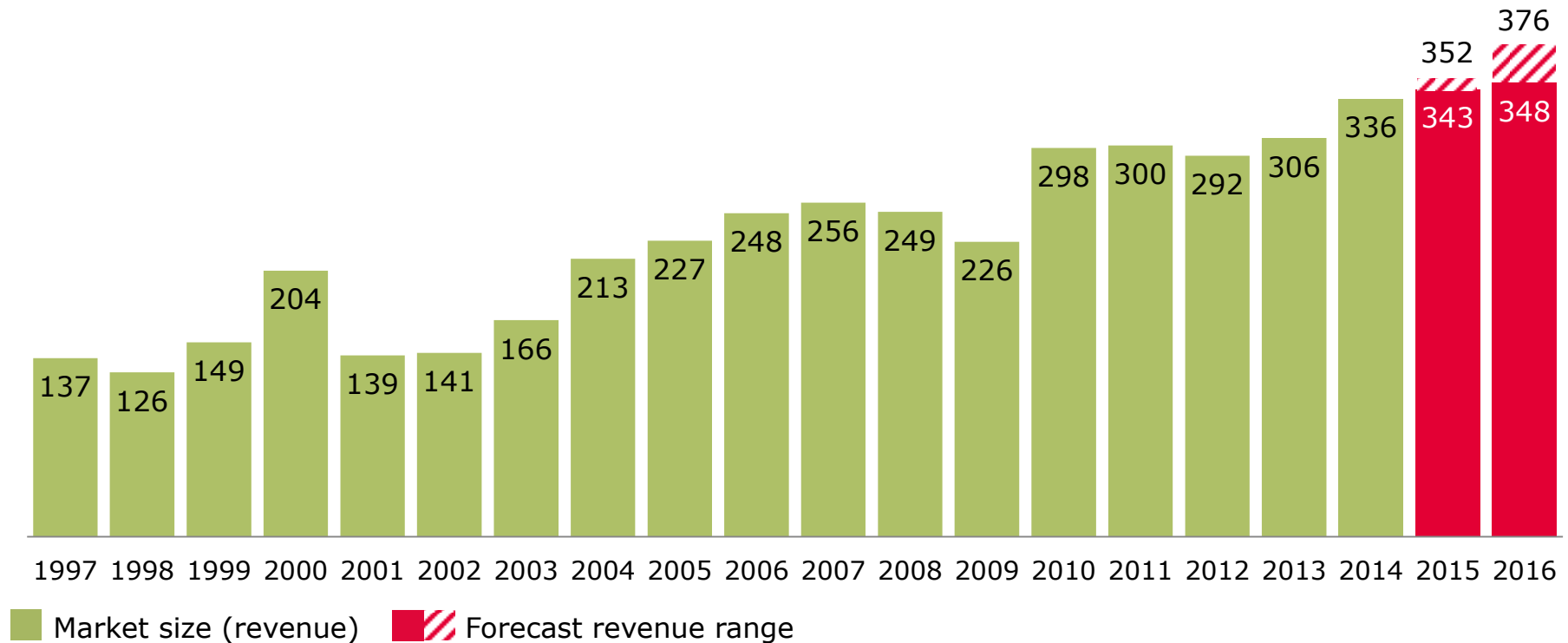
Investment-to-Sales:  
**~13%**



# Positive growth outlook for global semiconductor market



## Global semiconductor market in billion \$



Source: WSTS for historical data. Forecast: Ø of WSTS, IHS, Gartner, IC Insights; last update 27 July, 2015

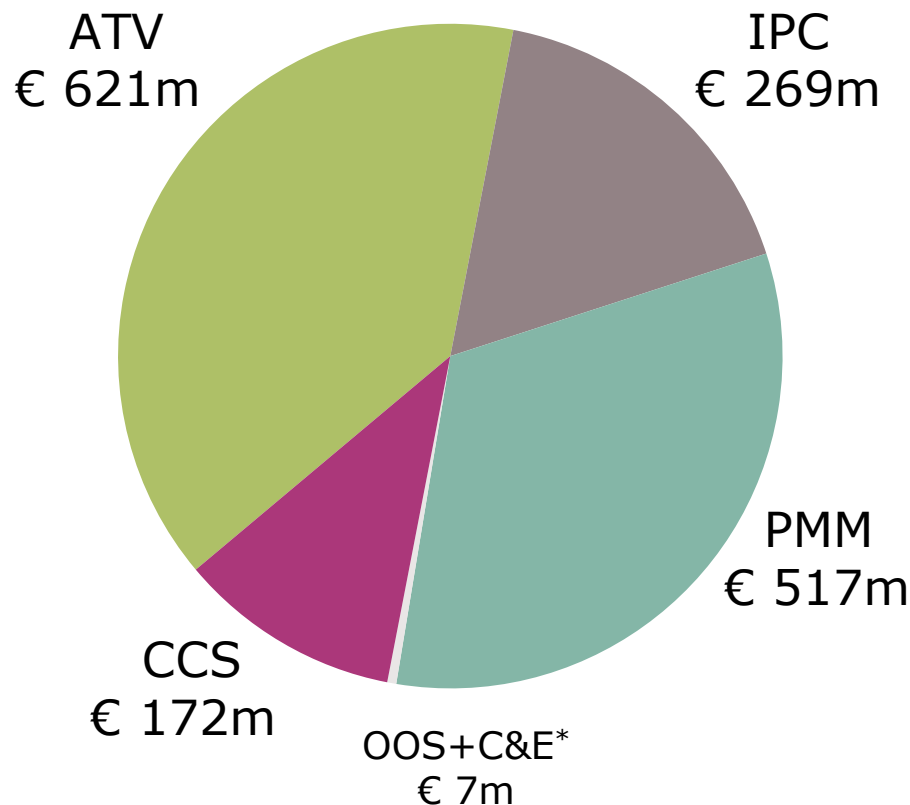
# Revenue split by segment

**Q3 FY 2015 Revenue: € 1,586m**

## Automotive



## Chip Card & Security



## Industrial Power Control

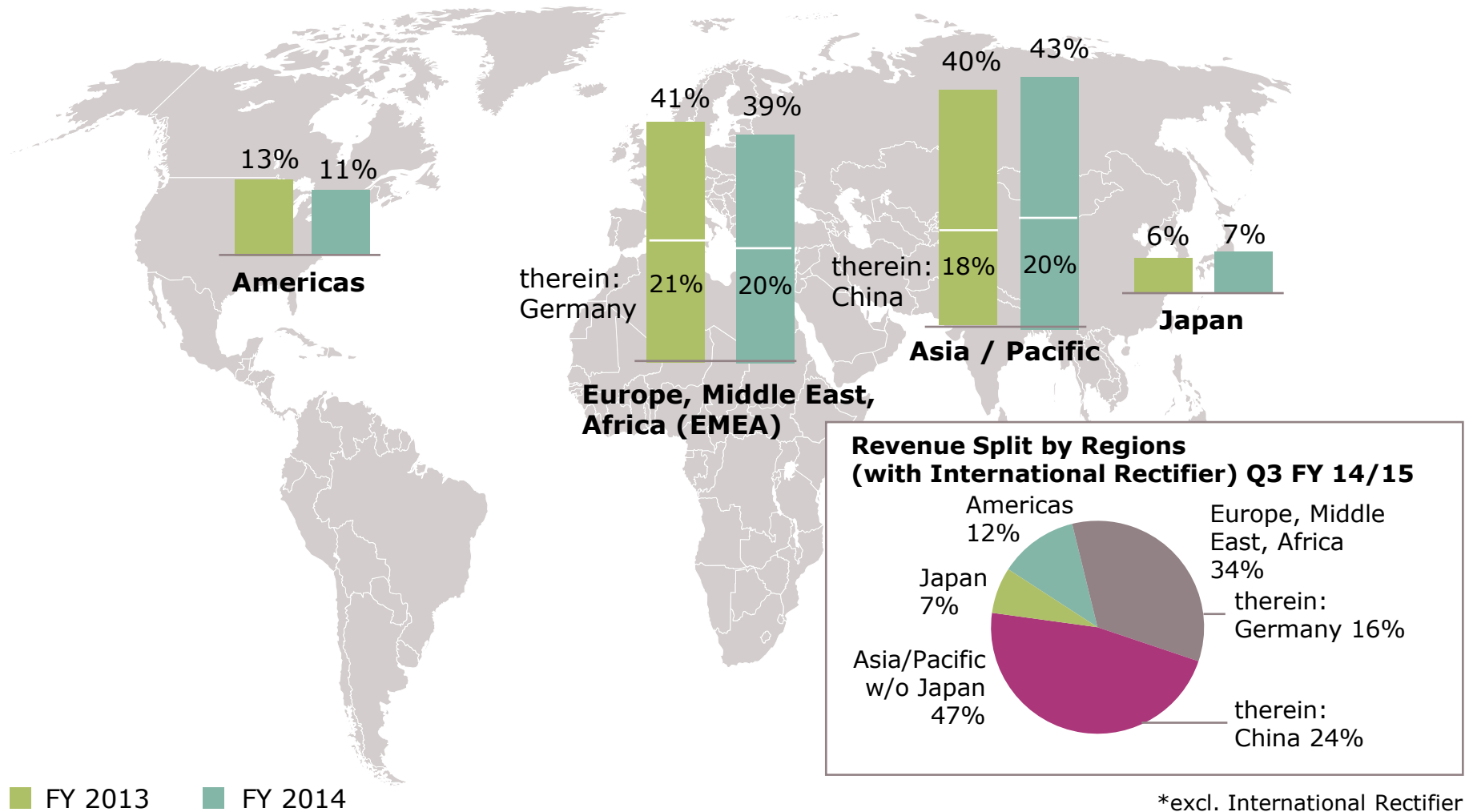


## Power Management & Multimarket



\*Other Operating Segments; Corporate & Eliminations

# Revenue split by regions FY 2013\* and FY 2014\*



\*excl. International Rectifier

# Market-oriented business structure

## Segments

## Applications

Automotive



Chassis and comfort electronics; Electric and hybrid vehicles; Powertrain; Safety; Security

Industrial  
Power  
Control



Charger station for electric vehicles; Energy transmission and conversion; Home appliances; Industrial drives; Industrial vehicles; Renewable energy generation; Traction; Uninterruptable power supplies

Power  
Management  
& Multimarket



Cellular network infrastructure; Light management and LED lighting systems; Renewable energy generation; ; Mobile devices; Power supplies; DC/DC Power management; High Reliability Applications

Chip Card &  
Security



Internet of Things, mobile security, embedded security, trusted computing, machine to machine, (mobile) payment, SIM applications, transport ticketing, government identification

Customers

# Product range



## Automotive (ATV)

- › Microcontrollers 32-bit for Powertrain, Safety and ADAS
- › Software development platform DAVE™
- › Sensors: pressure, magnetic, radar
- › Power: MOSFETs, IGBTs, smart power ICs: voltage regulators, bridges, driver ICs, CAN / LIN / FlexRay™ transceiver\*, DC-DC converters, power system ICs, system-on-chip, embedded power ICs
- › Hybrid & Electric Vehicle: IGBT HybridPACK™, HybridPACK™ Double Sided Cooling (DSC) modules, gate driver ICs



## Industrial Power Control (IPC)

- › IGBT module solutions incl. IGBT stacks
- › IGBT modules (high-power, medium-power and low-power)
- › Discrete IGBTs
- › Bare die business
- › Driver ICs



## Power Management & Multimarket (PMM)

- › Discrete high- and low-voltage power transistors
- › Driver ICs
- › Control ICs
- › RF power transistors
- › Small-signal components
- › CMOS RF switches for antenna modules
- › Antenna tuning ICs
- › MEMS and ASICs for silicon microphones
- › Customized chips (ASICs)



## Chip Card & Security (CCS)

- › Smart card (contactless and contact-based) and embedded security ICs
- › Extensive packaging and service portfolio
- › Innovative solutions from basic security RFID and memories to high-end security controllers
- › Leading technologies, e.g. SOLID FLASH™, Integrity Guard, VHBR, boosted NFC, Coil on Module

\*FlexRay is a trademark licensed by FlexRay Consortium GbR



# Semiconductor technology portfolio

## Technology portfolio fits needs of logic and power applications

### Power/Analog incl. Green Robust

**Analog Bipolar:** DOPL, Ax, BIPEP, B4CD, HED  
**Analog BiCMOS:** B6CA, B6CA-CT, B7CA, SPT170  
 HV-CMOS-SOI, Levelshift(SOI,JI)  
**Smart Power:** 1200-130nm BIP/CMOS/DMOS  
 SPTx (Automotive, EDP) (BCD)  
**Smart:** CMOS/DMOS, SMARTx, MSMARTx,  
 SSMARTx, Opto-TRIAC, SPS

**DMOS:** 12-500V Planar and Trench  
 MOSFET (OptiMOS™, StrongIRFET™,  
 HEXFET™)  
**HV-DMOS:** Superjunction MOSFET  
 (CoolMOS™)  
**IGBT:** Planar & Trench 500-6500V,  
 rev. cond., fast recov. diodes  
**SiC/GaN:** Diode, JFET / power switches

*adopted for automotive, industrial and for high reliability requirements*

### MEMS/Sensors

**Magnetic:** BxCAS, C9FLRN\_GMR  
**Opto:** OP-DI, OP-TR, OP-C9N,  $\mu$ -modules  
 C11TOF

**Pressure:** BxCSP, TIREPx  
**Silicon-Microphones:** DSOUND

### CMOS

**Digital CMOS:** 800nm – 65nm Technology Nodes (Platform <180nm incl. RF, AMS)  
**Analog/Mixed Signal:** 500nm – 180nm Technology Nodes (CxNA)  
**eNVM:** EEPROM: IMEMR, C9FL, OTP: C5OP (Automotive)  
**eFlash/EEPROM:** 250nm – 65nm CxFL (Chip Card), CxFLA, CxFLN (Automotive)  
**HV-CMOS:** 130nm, C11HV

### RF/Bipolar

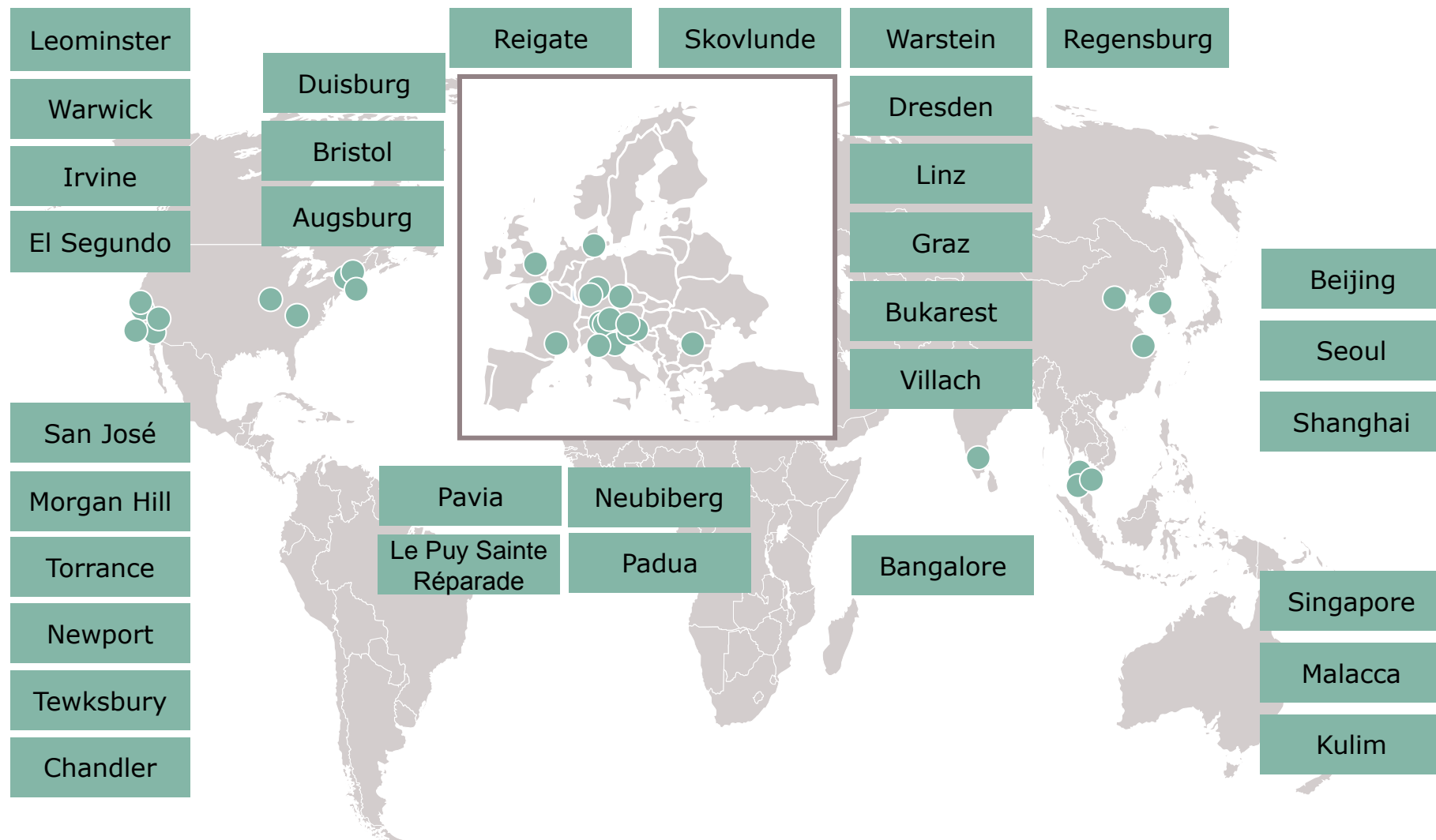
**RF BiCMOS:** 25GHz – 100GHz: B6HFC, B9COPT, B10C  
**Bipolar IC:** 2GHz...200GHz RF-Bipolar: BxHF  
**HiPAC:** Al/Cu Integrated Passives  
 P7Mxx, P7Dxx, P8Mxx

**SiGe:** B7/B9HFM, B7HF\_SLC, B7HF200  
**RF Switches:** C7NP, C11NP

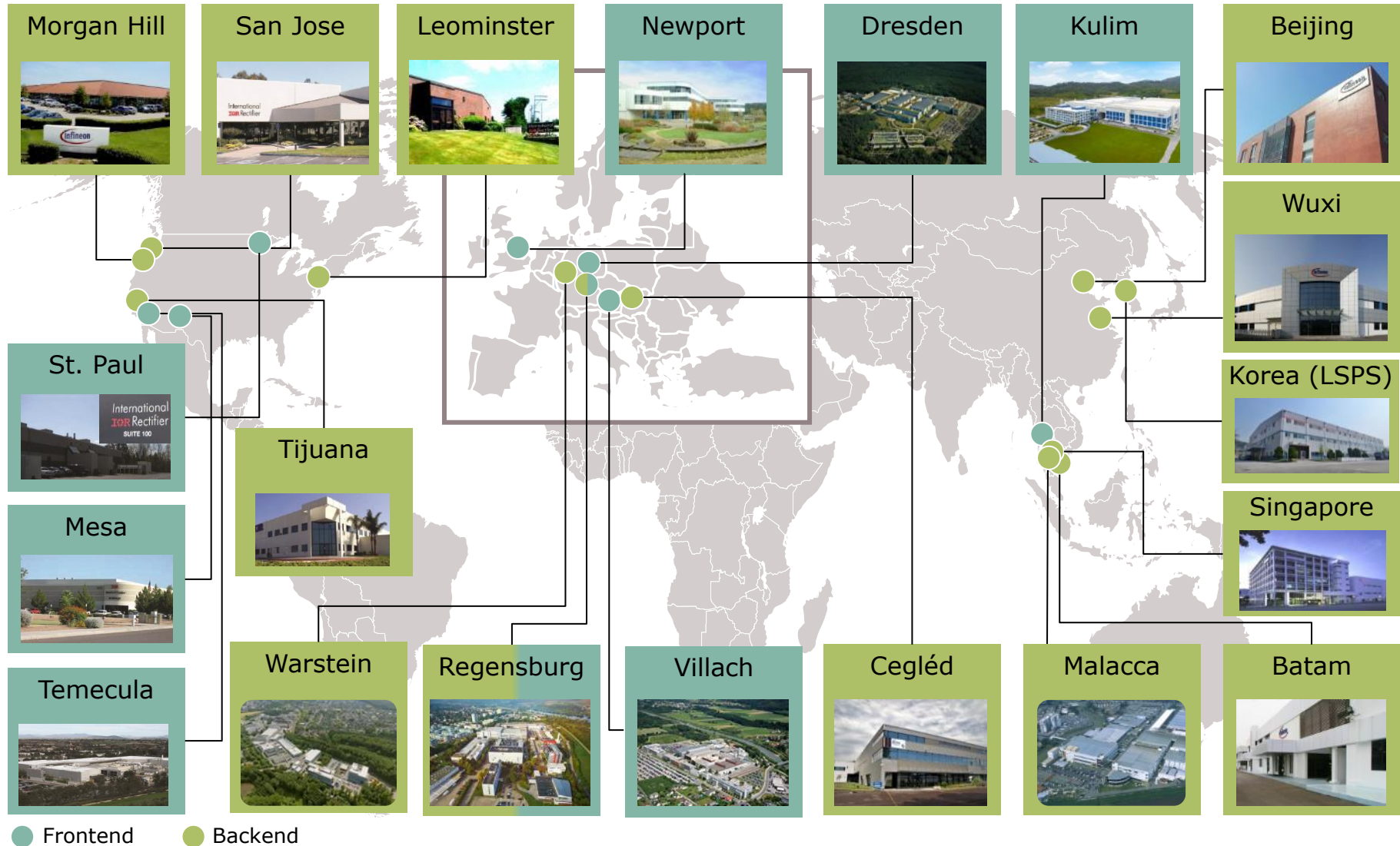
**Bipolar/Discretes/MMIC:**  
**RF-Transistors** NF-TR; BxHF(D/M)  
**Power Amplifier:** LDMOS, LDxM, LDxIC, LD9AB  
**Diodes:** NF-DI, Tuner: DxT, Schottky: DxS

**SiGe:** B7HFD/M, B7HF\_SD  
**RFMOS:** HFM  
**PIN:** DxP

# Our global R&D network



# Worldwide manufacturing sites frontend and backend



# Let's get connected



CUSTOMERS

PRESS



INVESTORS

CAREERS



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