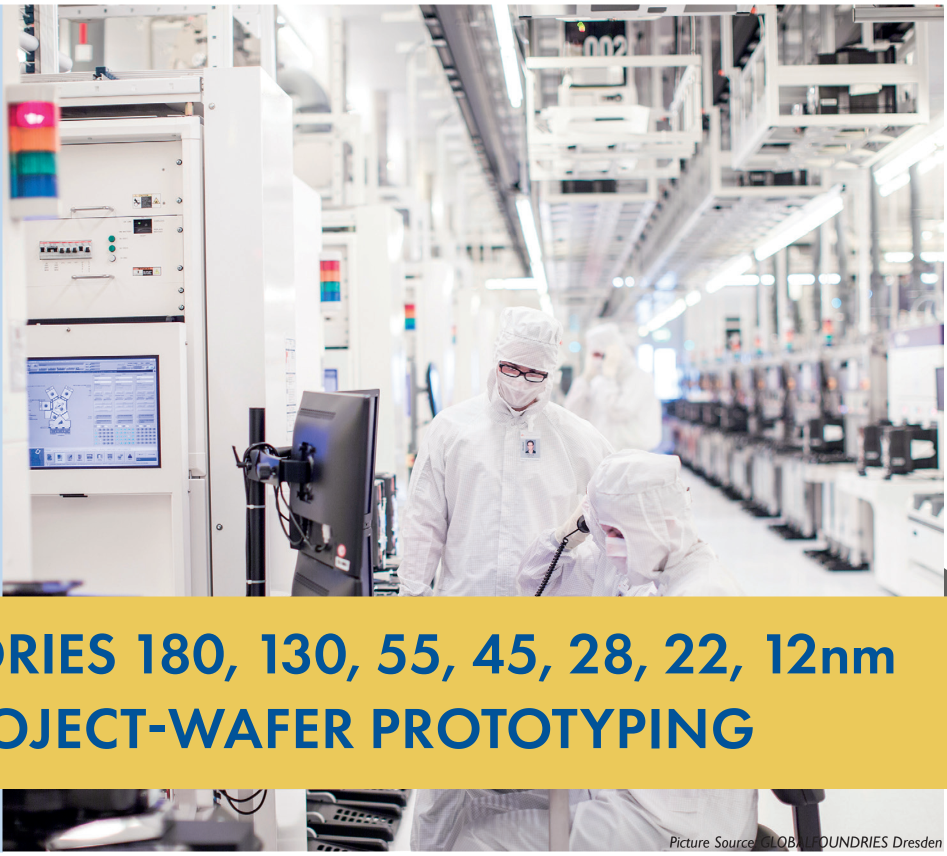
Picture Source: GLOBALFOUNDRIES Dresden

GLOBALFOUNDRIES 180, 130, 55, 45, 28, 22, 12nm MULTI-PROJECT-WAFER PROTOTYPING

Through Europractice, users from universities, research institutes, and their spinouts can access Multi-Project-Wafer (MPW) fabrication services of GlobalFoundries.

Why Europractice?

- Affordable and easy access to Prototyping, Design Tools, and Training for universities, research institutes, and their spinouts.
- MPW runs for multiple technologies, including ASICs, Photonics, TFT, and more.
- Advanced packaging and system integration support.

Why GlobalFoundries?

- The world's leading specialty foundry with the flexibility to meet the dynamic needs of clients.
- Broad range of platforms and features, such as RF CMOS, FDSOI, RFSOI, SiGe, FinFET, SiPhotonics.
- Technology nodes ranging from 180nm down to 12nm.
- 22nm and 28nm nodes fabricated in Dresden, Germany.

Technology Highlights

GF 180 nm MCU - Open Source

GF 180 nm MCU technology offers affordable open-source access. The PDK includes low-, mid-, and high-voltage devices with I/O and primitive cell libraries. Application includes general purpose MCU, RFIC and PMIC, IoT sensors and motor drivers.

GF 130BCDlite-GEN2

The GF 130BCDLite process is tailored for cost-effective mobile/consumer applications: DC-DC, AC-DC, PMIC, Wireless and Quick Charging.

GF SiGe 8XP

GF's SiGe 8XP 130nm technology offers low noise, high linearity, gain, breakdown and operating voltages, with simplified impedance matching and strong thermal stability. Its advanced SiGe HBTs deliver excellent low-current, high-frequency performance even at high junction temperatures.

GF 55BCDlite

Industry's first 55BCDLite technology (300mm, Cu BEOL), built on top of 55LPx platform. It delivers optimal performance for mobile audio amplifiers and smart phone power solutions enabled by its industry leading lowest RdsOn versus BVdss breakdown voltage.

GF 45SPCLO-Silicon Photonics

GF 45SPCLO is a 45nm SOI CMOS platform for ASIC and custom logic, combining RF, digital, and Si-photonics. It delivers high energy efficiency, fast modulation, and more data per watt—ideal for LiDAR, IoT, cloud, networking, and AI.

GF 45RFSOI

45RFSOI takes advantage of a 45nm partially-depleted SOI server-class technology base that has been extensively evaluated for use in mmWave applications and in high volume production at multiple GF fabs since 2008. Today, this baseline process has RF-centric enablement, topped with device and technology additions, including thick copper and dielectric back-end-ofline (BEOL) features which enable 45RFSOI to handle the demanding performance requirements of 5G solutions.

GF 45RFE

GlobalFoundries' 45RFE is a 45nm generation SOI CMOS technology that supports ASIC designs, SRAM, and custom logic designs. It is a ground up mmWave technology based on GF 45RFSOI that incorporates key RF devices, such as RVT and ADNFET. 45RFE is significantly beneficial for front-end circuits (PA, LNA, Switch).

GF 22FDX

GF 22FDX employs 22nm Fully-Depleted Silicon-On-Insulator (FD-SOI) technology that delivers outstanding performance at extremely low power with the ability to operate at 0.4V ultra-low power and at 1pA per micron for ultra-low standby leakage. It has Integrated RF and mmWave devices for 5G architectural innovation and reduced system cost.

GF 12LP+

The 12nm GlobalFoundries 12LP+ FinFET process technology platform is ideal for high-performance, power-efficient SoCs in demanding, high-volume applications. 3D FinFET transistor technology provides best-in-class performance and power with significant cost advantages from 12nm area scaling. The 12LP+ technology can provide up to 20% higher device performance and 36% lower total power compared to the 12LP technology.

Technology Details

130BCDlite-Gen2	8XP	55LBCDlite	45RFSOI
Core Voltage: 1.5V/5V/30V I/O Voltage: 1.5V/5V/30V Metal layers: 4 - 8 2 core device Vt's Iso- and low Rds(on) N/PLDMOS (10V-40V) HRES, Zener diode, MIM, MOM capacitors, eFlash	Core Voltage: 1.2V/2.5V Metal layers: 5 - 8 HBT ft/fmax (GHz): 250/340 High Breakdown: 3.2V BVceo @ 78GHz fT µ/mmWave passive elements Inductors and Tx lines	Core Voltage: 0.9V/1.2V I/O Voltage: 1.8V/2.5V/3.3V High Voltage: 5V/12V/20V/30V Metal layers: 6 – 7 SRAM/ROM Compilers, 5V EDMOS, LDMOS, Hybrid EDMOS, MIM CAP and Inductor options	Core Voltage: 0.9V/1V Metal layers: 7 – 8 3 core device Vt's (HVt, SVt, Vt) High ft/fmax (290/410 GHz) FET stacking for higher PA Pout and PAE High and low density MIM Caps

45RFE	45SPCLO	22FDX	12LP+
Core Voltage: 1V I/O Voltage: 2.5V Metal layers: 8 RF/Analog FETs, Low Leakage Digital FETs, PA ADFETs MIMCAPs, HVVNCAP, DECAP SGNCAP, eFuse, ESD, Didoes Inductors, Resistors	Core Voltage: 0.9V/1V Metal layers: 8 Cu and 1 Al Single wire and coupled wire CPW, eFuse VNCAP,inductors C-band (1550nm) coherent transceivers modules O-band (1310nm) direct detect transceivers	Core Voltage: 0.4V - 0.8V I/O Voltage: 1.2V/1.5V/1.8V/3.3V Metal layers: 7 – 10 4 core device Vt's 34x Ultra Thick Top metal Reference flow for back-gate biasing Integrated RF/mmWave devices with high ft/fmax	Core Voltage: 0.8V I/O Voltage: 1.2V/1.35V/1.5V/1.8V Metal layers: 8-13 Dual STI, DDB, SDB, Single Fin Logic VNCAP, Standard MIM, Adv MIM, Inductors, Precision MOL Resistor, eFuse

www.europractice.com

Would you like to discover more?

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