



**Delivering pervasive
semiconductors for
humankind**

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**Delivering a
new era of more**



 **more**
 **innovation**



 **more**
 **impact**

GF at a glance

\$3B*

1H 2021 revenue

>200

customers
in 2020

~2M

2020 wafer
shipments
(300mm eq.)

~10,000

patents

Five

manufacturing
sites across
three continents

~15,000

employees

\$32B*

design wins
since 2018

~80%

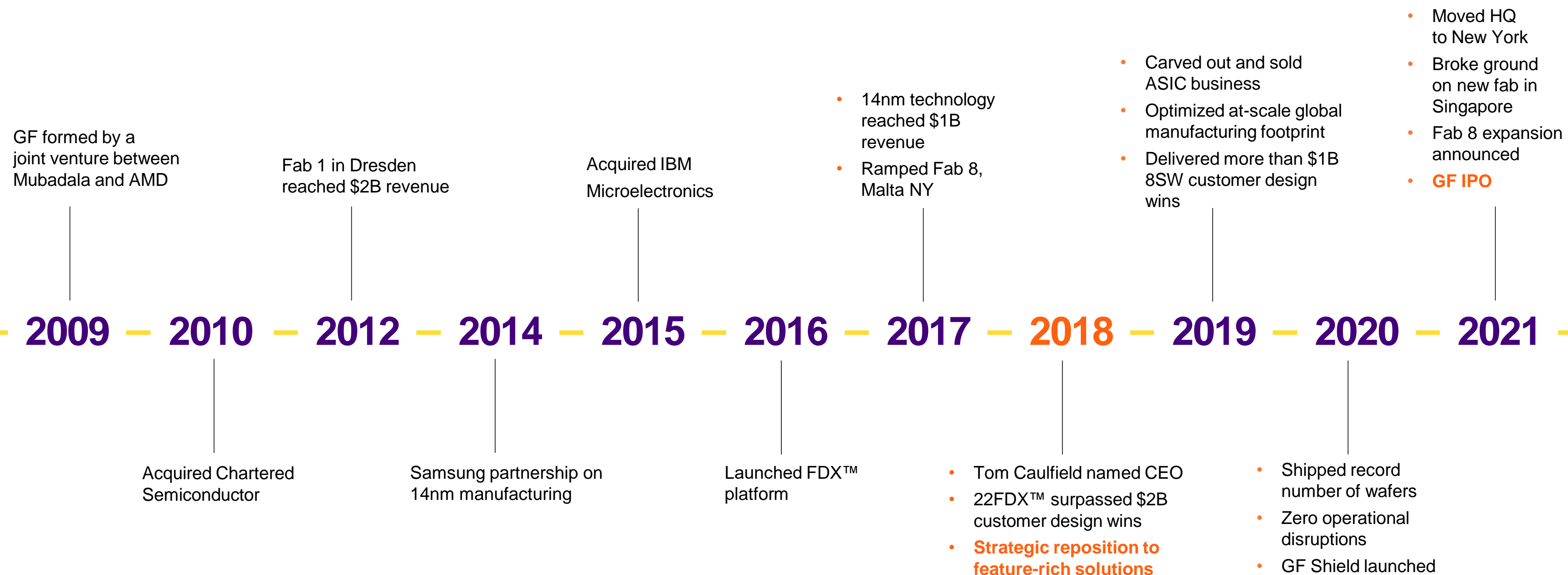
of 2020 design wins for
single-source business

>85%

smartphones on the market
today with GF RF inside

Note: *Results are unaudited

The making of a global semiconductor manufacturer





Our Mission

We innovate and partner with our customers to deliver technology solutions for humanity.

We manufacture semiconductors around the globe.

Our Vision

We are changing the industry that is changing the world.

Our Values

Create

- Innovate beyond what is possible today
- Differentiate our technology to enable customer success
- Have a passion for problem-solving
- Create value for our customers and for our shareholders

Embrace

- Diversity is a competitive advantage
 - The best ideas comes from being inclusive
 - Act with a shared sense of purpose
 - Respect everyone
-

Partner

- Collaborate across all borders & boundaries
- Strive for win-win outcomes
- Build trust as the basis of every relationship

Deliver

- Our customers can count on us to deliver on our commitment
- Work effectively, efficiently and decisively
- Focus on outcomes and are accountable for results
- Celebrate and reward success
- Nothing matters without safety

All with unyielding integrity

GFShield: a foundation of trust



Beneficial geopolitical landscape

During times of increasing international trade conflicts, GF benefits from the resilience of global scale of operations in stable low-risk geographies (United States, Germany and Singapore)

Pedigree of secure at-scale manufacturing

1. Only pure-play foundry in The United States Department of Defense Trusted Foundry Program
2. ISO 15408 Certification to manufacture Common Criteria Secure Products
3. ISO 27001 Certification for Information Security Management

Intellectual Property (IP) protection

With an industry-leading track record protecting GF IP and customers' IP

**In a world of escalating threats and risks in the technology sector,
our foundation of trust offers a strong competitive edge**

Commitment to ESG



Environmental

Journey to Zero Carbon: 25% Greenhouse Gas (GHG) emissions reduction by 2030

>36K annualized metric tons of Carbon equivalent savings achieved in 2019 / 2020

>415K annualized cubic meters wafer savings achieved in 2019 / 2020

Social

13 total GF Awards in 2019, 2020 and 2021 for exceptional performance in CSR and EHS

200 / 200: Perfect scores in 2020-2021 Responsible Business Alliance audits

World Class: GF TRIR 2020 safety rate (0.13) lowest in our history

GF named one of “**America’s Safest Companies**” in 2020*

Governance

4 independent Board directors

Independent audit, risk, and compliance committee

Experienced global compliance function

Enterprise **risk management framework**

Conflict-free supply chain for 3TG: gold, tantalum, tungsten and tin



Markets and



Solutions

Foundries are essential to global GDP

Market Size (2020)

\$80.6T

Global GDP

\$2T

Electronics

1,000s of companies



Microsoft



BOSCH



JUNIPER NETWORKS

\$466B

Semiconductors

+7.9%
CAGR growth
(19-25)

100s of companies



intel



TEXAS INSTRUMENTS

SONY



AMD



QUALCOMM

MEDIATEK

\$74B

Foundry¹

+10.1%
CAGR growth
(19-25)¹

Only 5 at scale²



GlobalFoundries™

SMIC



UMC

Source: Derived from Gartner data. Gartner Forecast, Semiconductor Foundry Revenue Supply and Demand Worldwide 2Q21 Update, July 2021

Notes:

(1) Excluding memory.

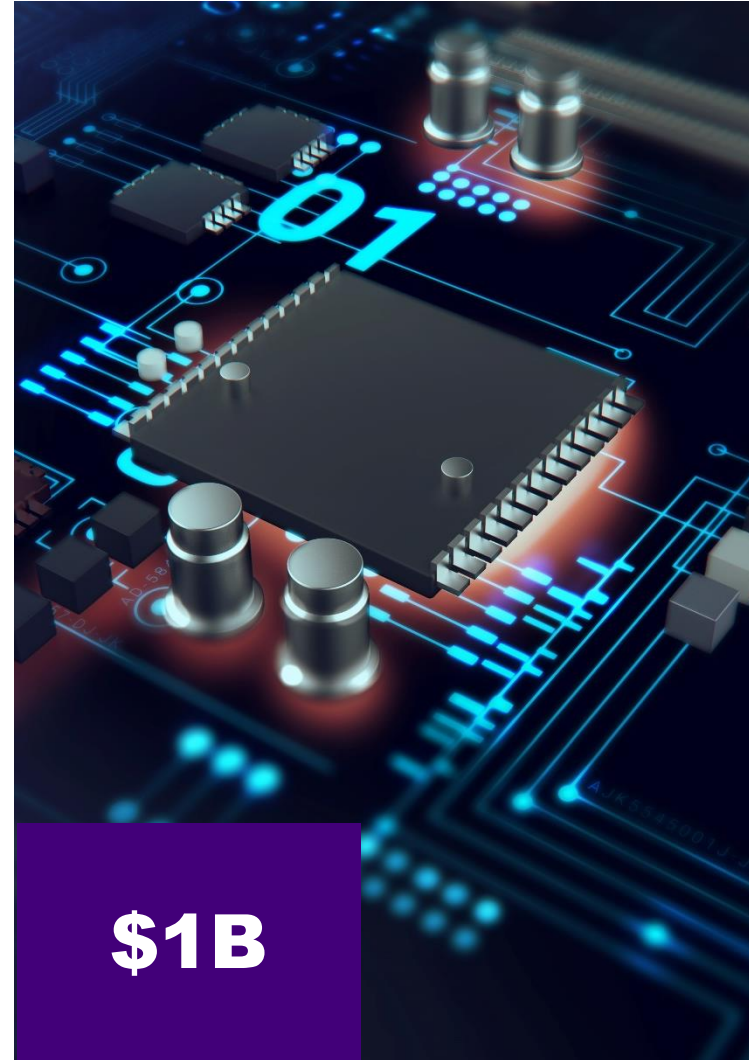
(2) Excludes smaller foundry players, defined as those with less than \$2Bn of foundry revenue

Focused on growth markets



\$22B

**Smart Mobile
Devices**



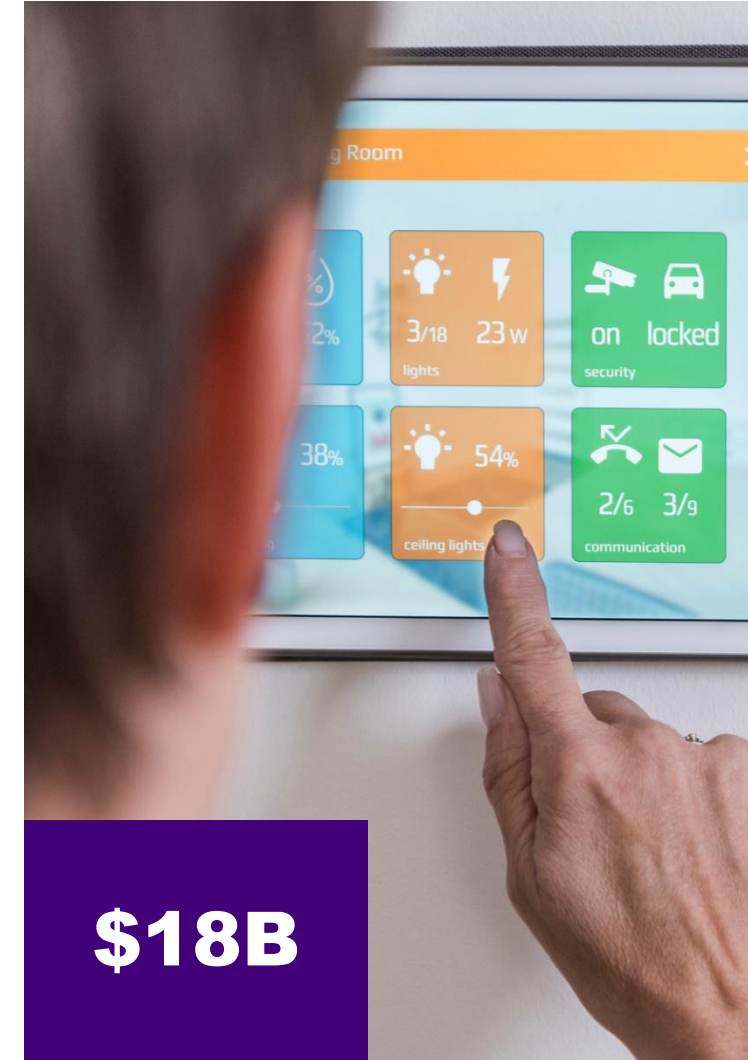
\$1B

**Personal
Computing**



\$9B

**Communications
Infrastructure &
Datacenter**



\$18B

**Home and
Industrial IoT**



\$4B

Automotive

\$54B

total foundry SAM

Smart Mobile Devices

4G LTE/5G: RF FE Sub-6GHz

RF SOI

Higher Data Rate
Power Efficiency

5G: RF FE mmWave

FDX™

Expanded Range
Power Efficiency

4G LTE/5G: Transceiver

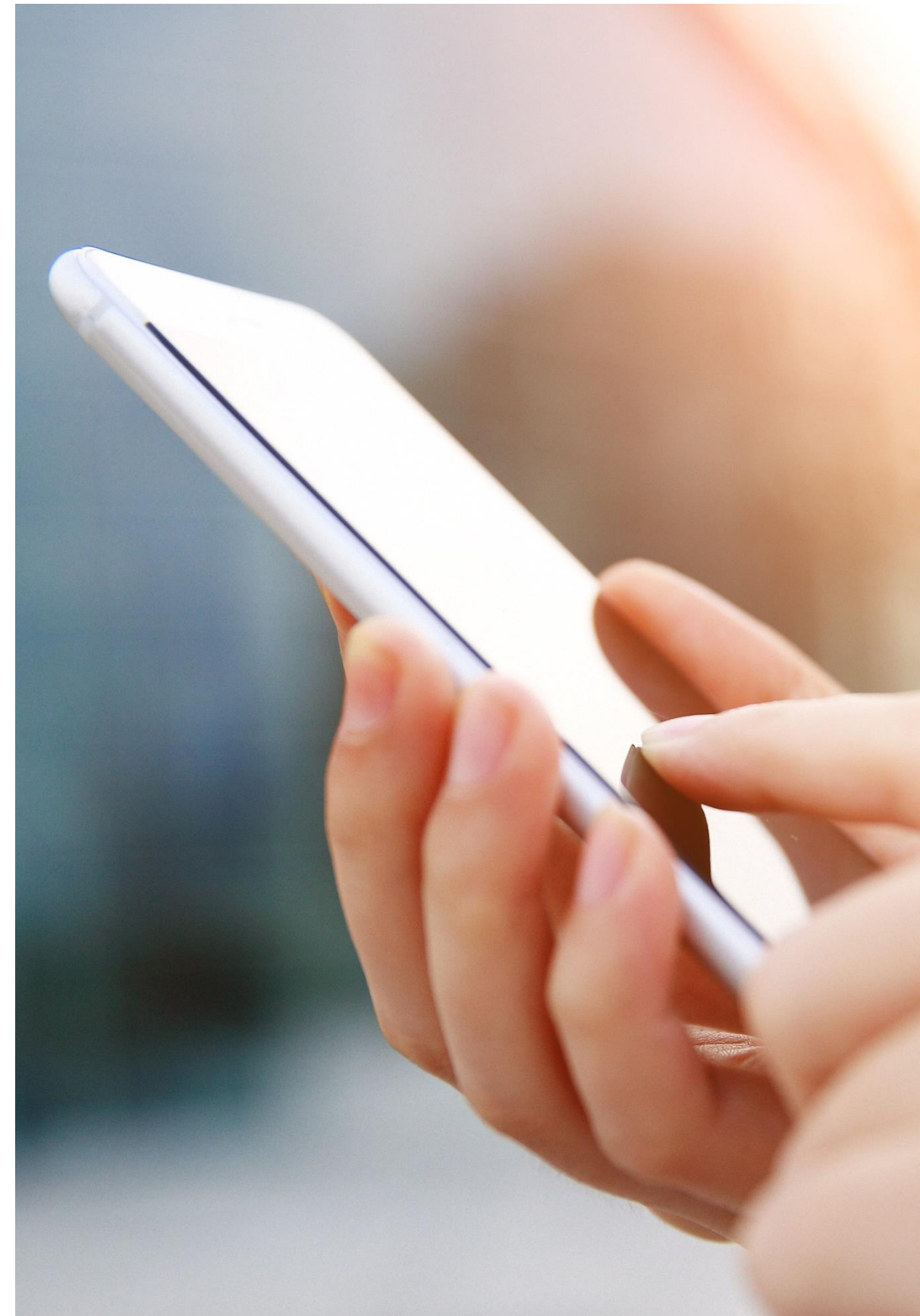
FinFET

Higher Data Rate
Power Efficiency

Wi-Fi: Wi-Fi 6/6E

FinFET

Higher Data Rate
Power Efficiency



Camera: Optical Imaging

Feature-Rich CMOS

Sensor Fusion
Power Efficiency

Smart Audio

Feature-Rich CMOS (BCD, eNVM)

Audio Quality
Haptic Response

Secure Payment: NFC

Feature-Rich CMOS (eNVM)

Integration of NFC+ Secure Element
Secure Manufacturing

Touch Screen: Display

Feature-Rich CMOS

Functional Integration
Power Efficiency

Power Management: RF, Audio

Feature-Rich CMOS (BCDLite®), FDX™

Increased Efficiency
Smaller Form Factor

**GF has 75% of Silicon area in
top premier smartphones in RF
FE, Audio & NFC**

Personal Computing

Display: Display Driver & Touch Controller

Feature-Rich CMOS
Sensor Fusion
Power Efficiency

Wi-Fi Connection: Wi-Fi

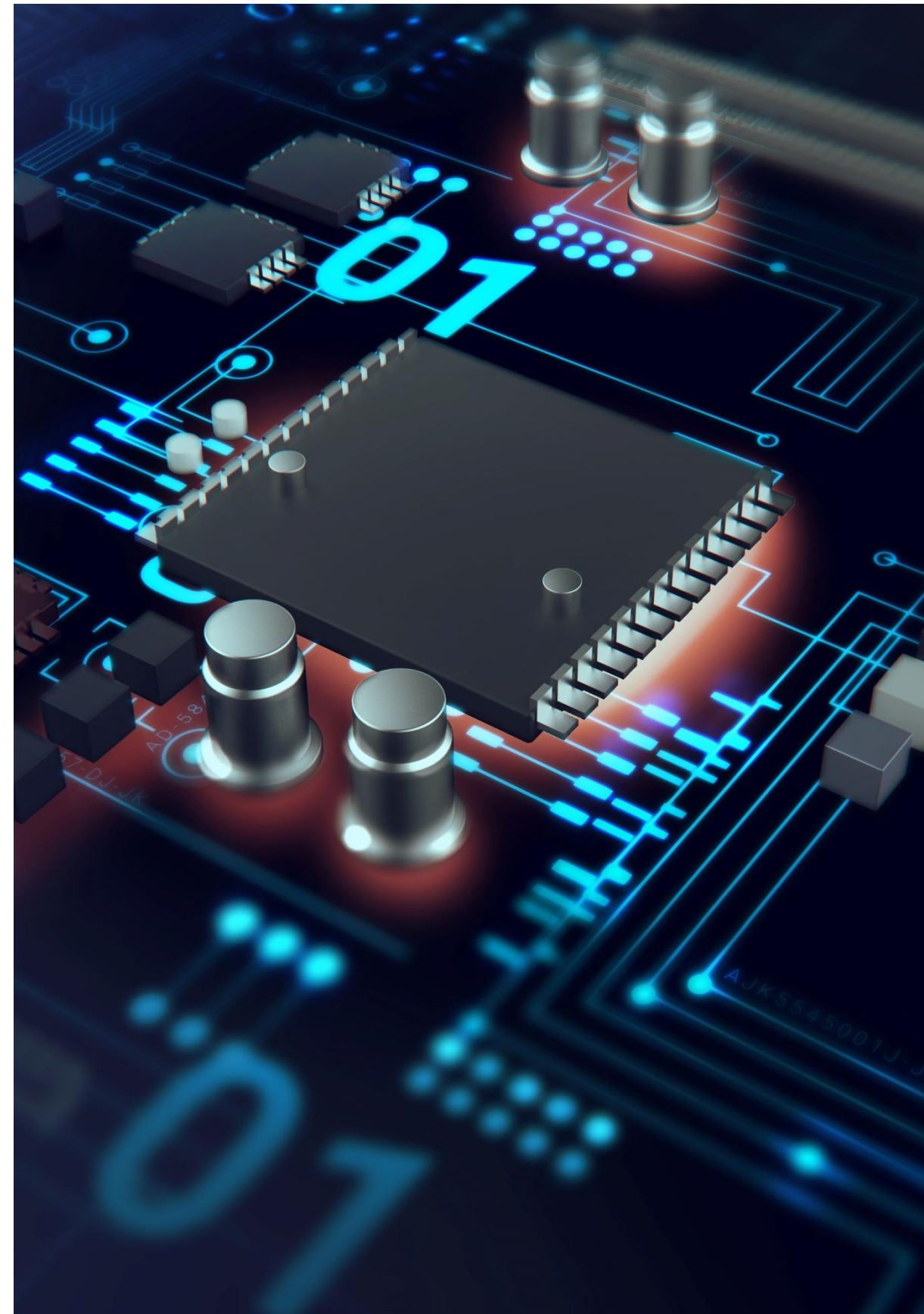
FinFET
High Transfer Rate
Power Efficiency

Processing and control: IOD

FinFET
High Transfer Rate
Power Efficiency

USB Connection: ReDriver

SiGe BiCMOS



Power Features: Power

Feature-Rich CMOS
(BCD, eNVM)
Power Efficiency
Power Management

Speaker: Audio

Feature-Rich CMOS (BCD)
Power Efficiency
Power Management

Main Processing: CPU

FinFET
High Transfer Rate
Power Efficiency

Communications Infrastructure & Datacenter

5G Infrastructure: RF FEM mmWave

RF SOI, SiGe, 22FDX®

RF mmWave
Power efficiency

5G Infrastructure: Network processor / Switch

FinFET, Feature-Rich CMOS
Performance analog/mixed signal

Data communications: Redriver

SiGe

Signal loss compensation
Data reliability & integrity

4G LTE/5G Infrastructure: RF FEM Sub-6GHz

RF SOI, SiGe

RF features
Power Efficiency



Connectivity: Optical networking

Silicon Photonics

Data throughput >4x Cu
Cu replacement for inter and intra DC
connectivity

Chiplets/2.5D/3D: IOD/PCH

FinFET

Performance analog/mixed signal
High DT capacitance -> efficient 2.5D
integration

Novel compute: AI/Photonics/Quantum

FinFET, Silicon Photonics

System integration: electronics & photonics
Highest performance/power efficiency

Power delivery

Feature-rich CMOS (BCDLite®)

High Voltage
High efficiency

Home and Industrial IoT

Smart Camera: Image Sensing

FDX™

Edge Intelligence
Low Power Connectivity

Smart Features: SoC

Feature-Rich CMOS

High Transfer Rate
Power Efficiency
Edge Intelligence

Smart Control: WL MCU

FDX™

Power
Wireless (BLE, Wi-Fi, 15.4)

Smart Features: MCU

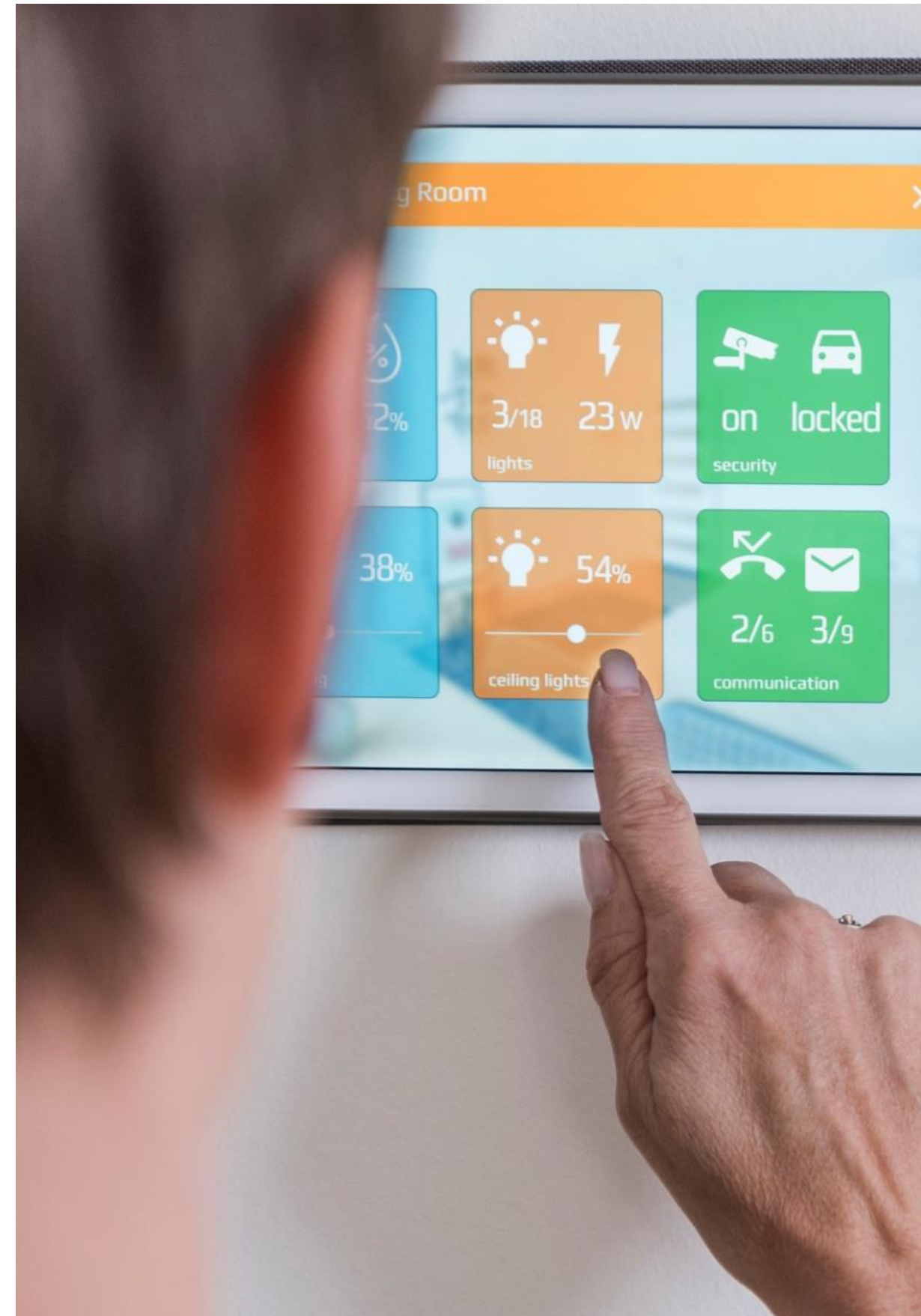
Feature-Rich CMOS (BCD)

Power Management

Secure Transactions/ Interactions: NFC

Feature-Rich CMOS (eNVM)

Power Efficiency



Smart Speaker: Audio

Feature-Rich CMOS (BCD, eNVM)

Power Efficiency
Power Management

Wi-Fi Connection: Wi-Fi

FDX™

Edge Intelligence
Low Power Connectivity

Touch Screen: Display

Feature-Rich CMOS

Sensor Fusion
Power Efficiency

Medical IoT: Medical Sensing

FDX™

Edge Intelligence
Low Power Connectivity

Automotive

5G Connection: RF FEM mmWave

FDX™

RF mmWave
Low Power Connectivity

Vehicle Power: DC-DC, BMS, Charger

Feature-Rich CMOS (BCD, eNVM)

High Voltage
Precision
Power Efficiency
Power Management

Vehicle Network: Zone/Domain/Fusion Controllers

FDX™, FINFET

Power Efficiency
High Performance
High Temperature

Comfort/Customization/ Keyless Entry: MCU, NFC, BLE, UWB

Feature-Rich CMOS (eNVM)

Power Efficiency
Edge Intelligence



ADAS: Radar

FDX™

RF mmWave
Power Efficiency
Edge Intelligence

Touch Screen: Display

Feature-Rich CMOS

Sensor Fusion
Power Efficiency

ADAS: LiDAR

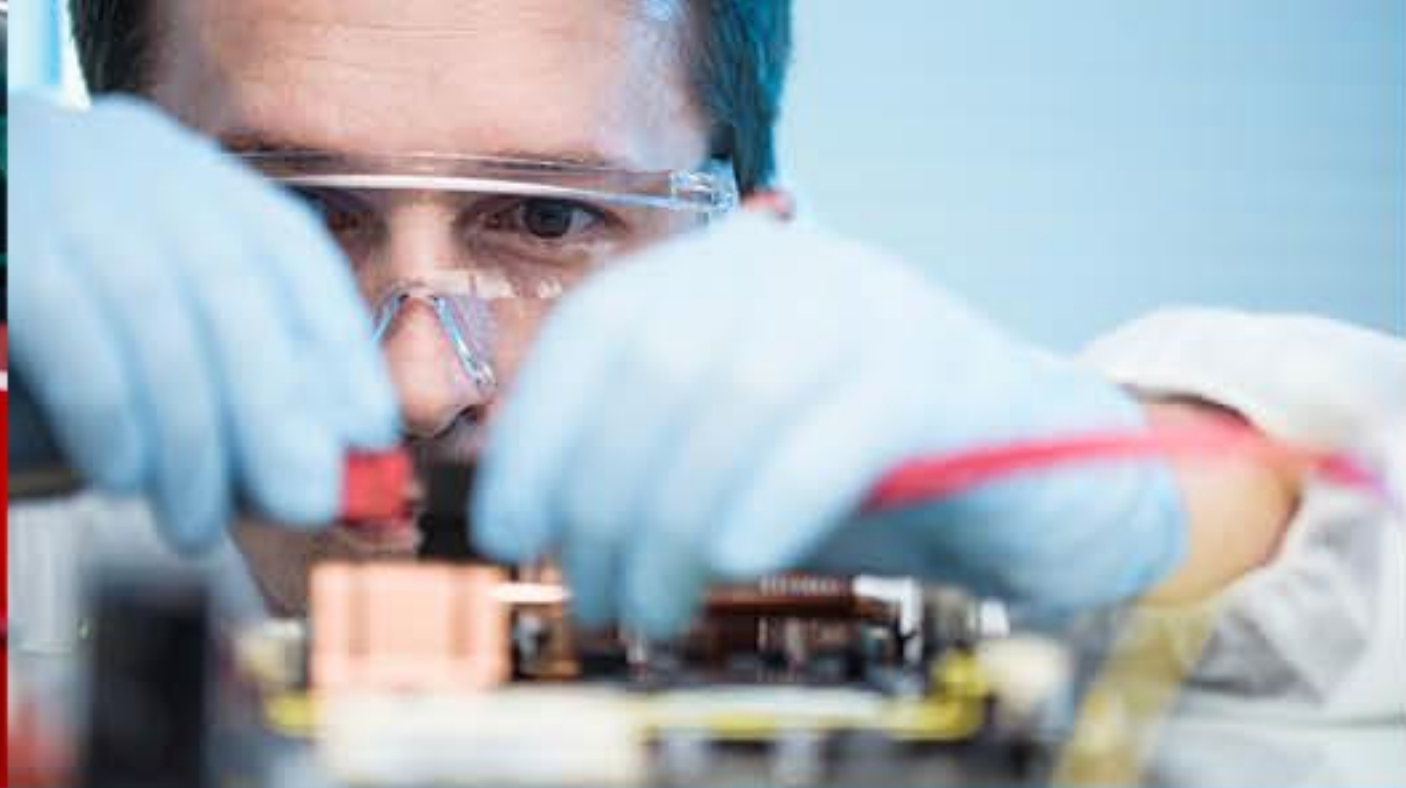
Silicon Photonics

High Transfer Rate
Power Efficiency
Edge Intelligence

User Experience: IVI, Cluster

Feature-Rich CMOS (BCD)

Power Efficiency
Power Management





Global



Footprint

Global manufacturing footprint

Burlington, VT, USA Fab 9

Wafer size: 200mm
Capacity: 620 kwpa
Technology: RF SOI, SiGe



East Fishkill³, NY, USA Fab 10

Wafer size: 300mm
Capacity: 150 kwpa
Technology: HP CMOS,
RF SOI, SiPh



Malta, NY, USA Fab 8

Wafer size: 300mm
Capacity: 570 kwpa¹
Technology: FinFET, NVM,
RF SOI, SiPh



Dresden, Germany Fab 1

Wafer size: 300mm
Capacity: 850 kwpa
Technology: FDX™,
NVM, HV, BCDLite®



Singapore² Fab 7 / GIGA+ / New Fab 2023

Wafer size: 300 & 200mm
Capacity: 720 & 720 kwpa
Technology: BCD/BCDLite®,
HV, NVM, DDI, RF SOI,
LP SiGe



Notes:

(1) Kwpa is defined as at-four-walls thousand wafers per annum.

(2) Includes 450 kwpa planned capacity increase at new fab.

(3) We plan to transition our facility in East Fishkill to ON Semiconductor by the end of 2022.

Manufacturing at a glance



99%

line yield up
to 15 years reliability

>31M

hours worked in 2020 at better
than safety benchmarks

Zero

stock outs impacting customer
commitments

800 NPIs

per year, ramped in 6-
9 months to HVM

99%

on time delivery



Singapore \$4B modular expansion underway

Broke ground Q2'21

450kwpa serving Auto, Mobile, IoT

Secured government grants partnership

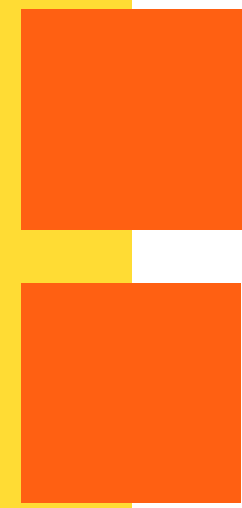
Malta modular capacity expansion planning underway

Expansion announced in July 2021

Strong government partnerships

Engineering and feasibility studies underway





Technology Development and Enablement

Technology Development



~1400

Technologists in dedicated research teams

>30K

Wafers per year dedicated to development

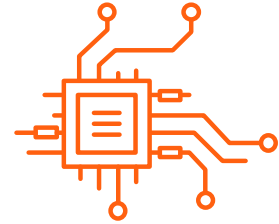
>50

Universities, government partners and other research institutes partnered in collaborative efforts

>150

Differentiated programs built on 25+ world class platforms

Differentiated technology platforms



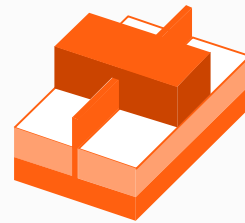
Feature-Rich CMOS

Complementary
Metal-Oxide
Semiconductor

**Mixed-Technologies
for Power
Management,
High-Voltage,
Embedded Memory**

>3 billion high-end audio
amp units (BCDLite)
shipped

>150K DDIC wafers
shipped



FinFET

Fin Field-Effect
Transistor

**High Performance,
Power Efficient
“Systems-on-a-Chip”**

Scarce capacity – GF
one of three foundries
and adding unique
features



FDX™

Fully-Depleted
SOI

**Enabling New High-
Performance, Low-
Power Applications**

Supports two of top
three 5G mmWave FEM
design companies



RF SOI

RF
Silicon-on-Insulator

**Low Power/Low
Noise/Low
Latency/High
Frequencies**

1st fully qualified high-
volume RF SOI Foundry
solution on 300mm
wafers



SiGe

Silicon
Germanium

**Power Amplifier and
Very High Frequency
Applications**

Highest fmax SiGe
BiCMOS foundry
process in volume
production at 400GHz
with roadmap to 1THz



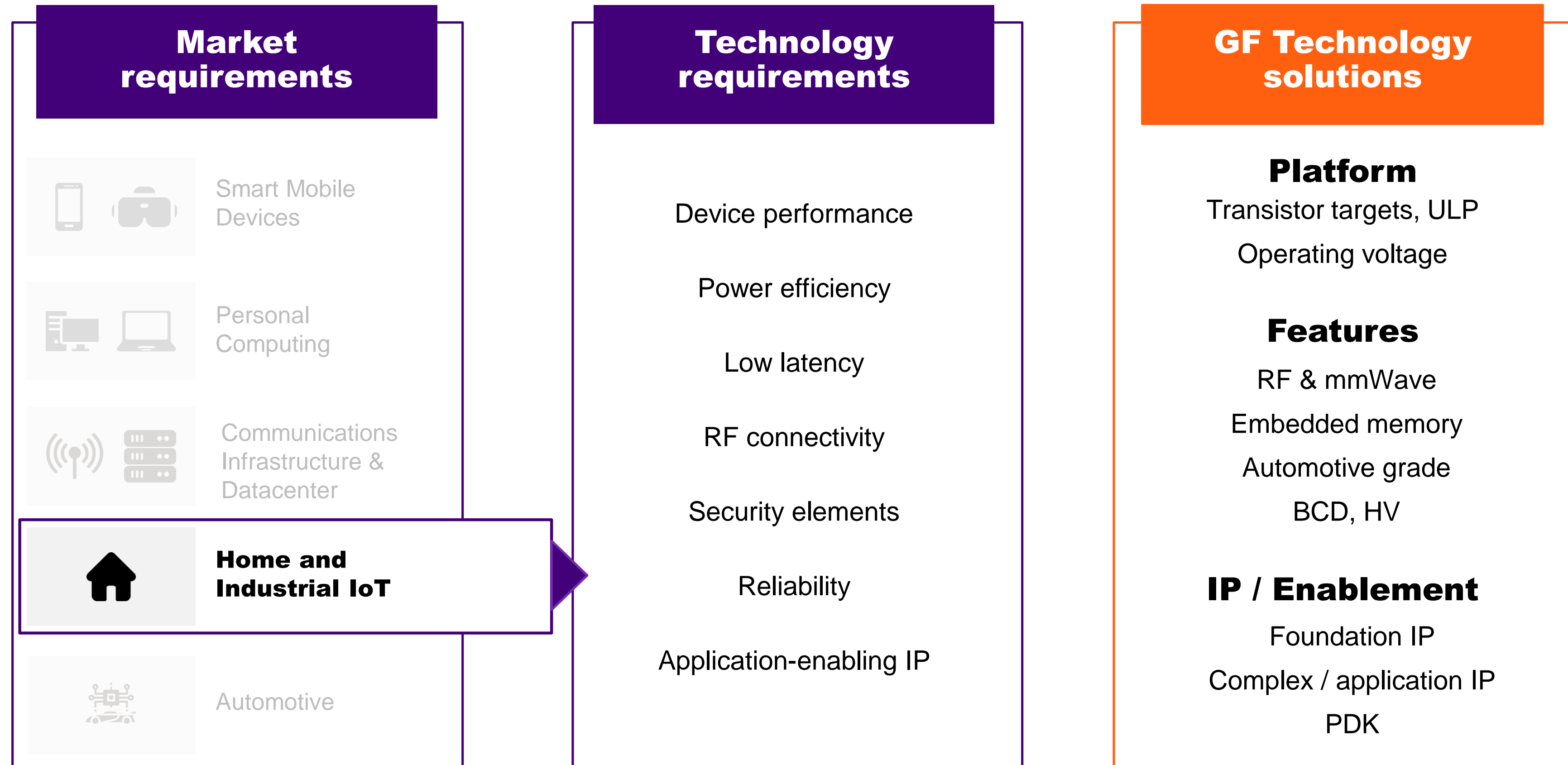
SiPh

Silicon
Photonics

**Higher Data Rates with
Greater Power
Efficiency**

5-10x better power
efficiency than long
range electrical
interconnect

How we innovate: market-centric approach to technology solutions



Design Enablement



>50

Ecosystem partners spanning IP, EDA, OSAT and design services

>4000

Total IP titles across all nodes

>950

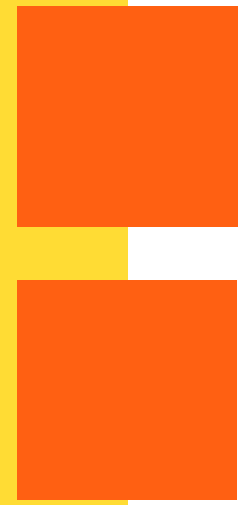
IP titles currently in active development across 26 process nodes and 34 IP partners

>200

Customers enabled by ecosystem partner IP in the last 5 years

>1500

Customer designs enabled by ecosystem partners in the last 5 years



Our People

Our Global Team



~15,000
employees

90
nationalities in
13 countries

>1000
new college graduates hired
2018 – present

~25%
female workforce

~10,500
employees working in
STEM fields

~75%
employees with university
degrees (PhD, masters,
bachelors)

~80%
engineers, technicians
and operators



Investing in our team and communities

1.4M

hours invested in training our employees in 2020

>3100

GlobalGives employee members

\$2.2M

donated in 2020, includes employee donations with corporate funding

>2500

Employee resource group members worldwide

- GlobalWomen
- BRAG (Black Resource Affinity Group)
- GlobalFamilies
- VRG (Veterans Resource Group)
- Early Career and Tenure Resource Group
- Unidos, Hispanic/Latinx Resource Group
- ASIA (Asian Society for Inclusion and Awareness), AAPI Resource Group
- Pride@GF, LGBTQ+ Resource Group

GF senior leadership team



Thomas Caulfield
CEO

Sales & Business Development



Juan Cordovez
SVP Global Sales



Americo Lemos
SVP Asia Business Dev. &
China Country President

Strategic Business Units



Dr. Bami Bastani
SVP & GM, Mobile &
Wireless Infrastructure



Amir Faintuch
SVP & GM, Computing &
Wired Infrastructure



Mike Hogan
SVP & GM, Auto, Industrial
& Multi-market

Technology & Solutions



Gregg Bartlett
SVP Global Technology,
Engineering & Quality



Mike Cadigan
SVP Customer Design
Enablement

Manufacturing & Operations



KC Ang
SVP Global Fab
Operations



Tom Weber
SVP Global Operations Support
& Supply Chain

Corporate



Saam Azar
SVP & Chief Legal Officer



Will Billings
VP & Chief Accounting Officer



Laurie Kelly
VP & Chief Communications Officer



Sukhi Nagesh
VP Corporate Development &
Investor Relations



David Reeder
SVP & Chief Financial Officer



Emily Reilly
SVP & Chief Human
Resources Officer

GF board of directors



Ahmed Yahia Al Idrissi
Chairman of the Board



Thomas Caulfield



Tim Breen



Ahmed Saeed Al Calily



Glenda Dorchak
Independent



Martin L. Edelman



David Kerko
Independent



Jack Lazar
Independent



Elissa Murphy
Independent



Carlos Obeid

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