



xfab

Investor Day 2025

Ready for what's next



xfab

Powering the future

Jörg Doblaski, CTO X-FAB Group

Powering the future

Our technologies enable the electrification of everything.

Megatrends

- > Electrification of everything



Key market drivers

- > Electrification of mobility
- > Renewable energy
- > Artificial Intelligence



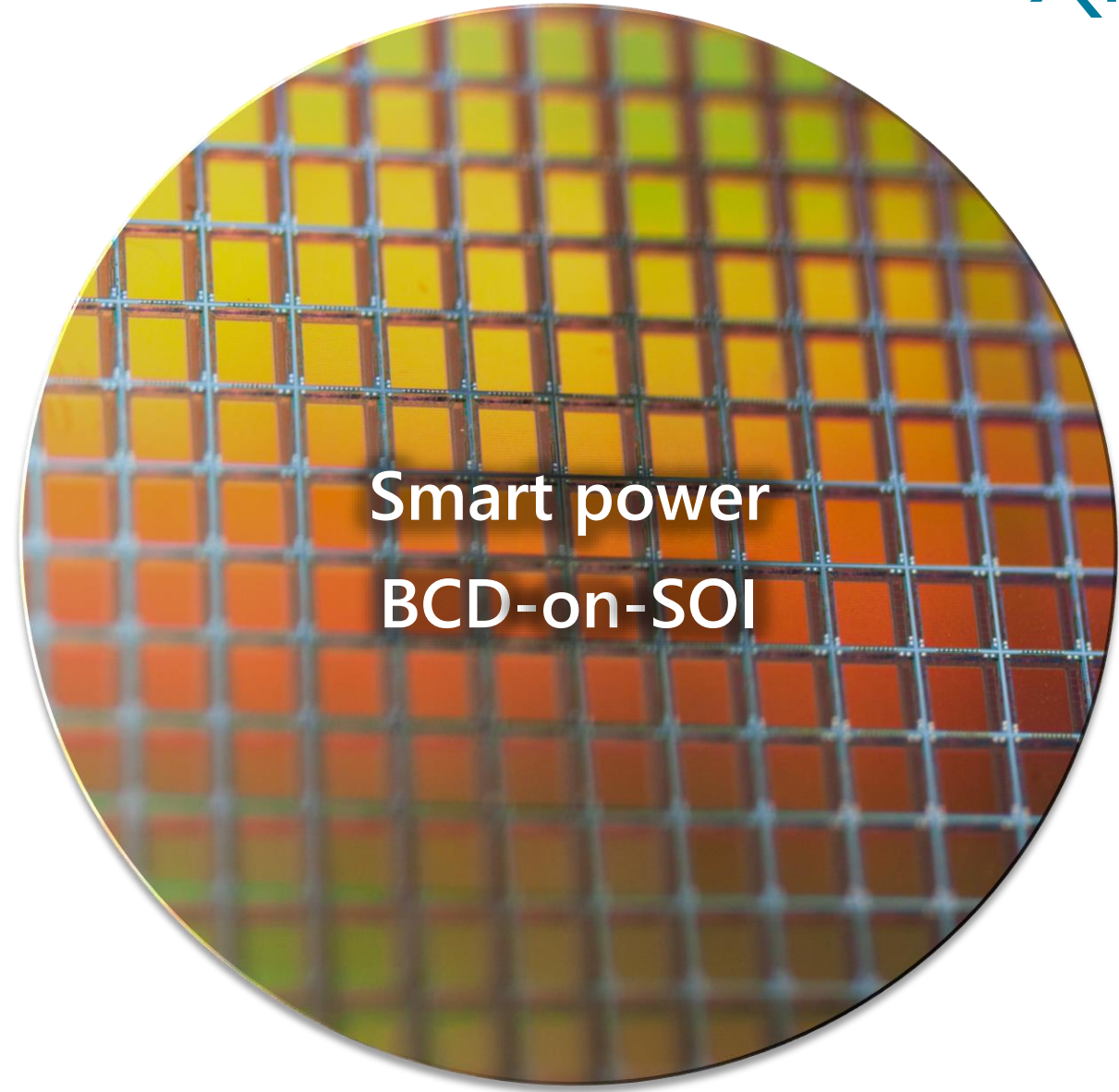
X-FAB's technology

- > Smart power
BCD-on-SOI
- > Efficient high power with SiC & GaN

Powering the future

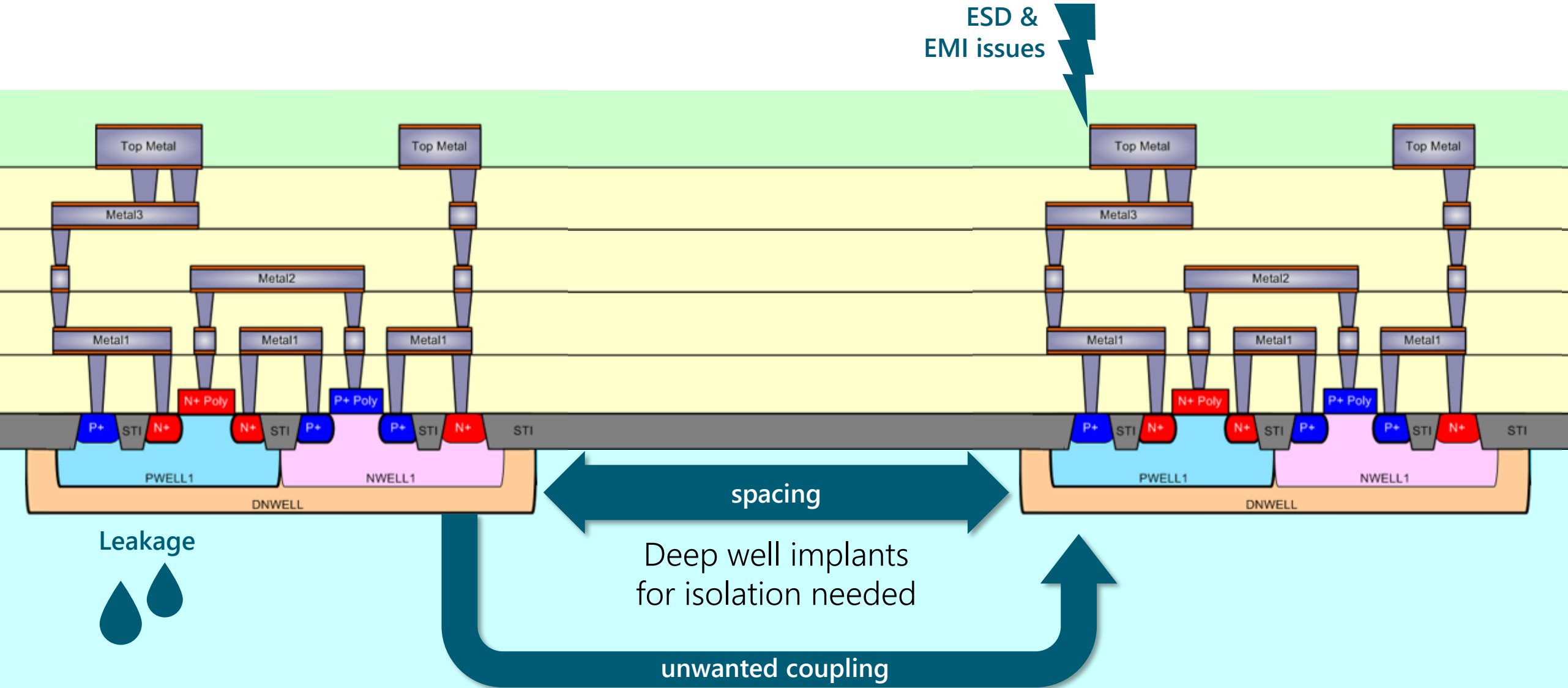
Foundry leadership in BCD-on-SOI

- Ideal solution for automotive, industrial, and medical applications
- Ease of design due to built-in process robustness
- Fulfills most challenging reliability requirements
- Smaller product footprint and better performance compared to bulk CMOS



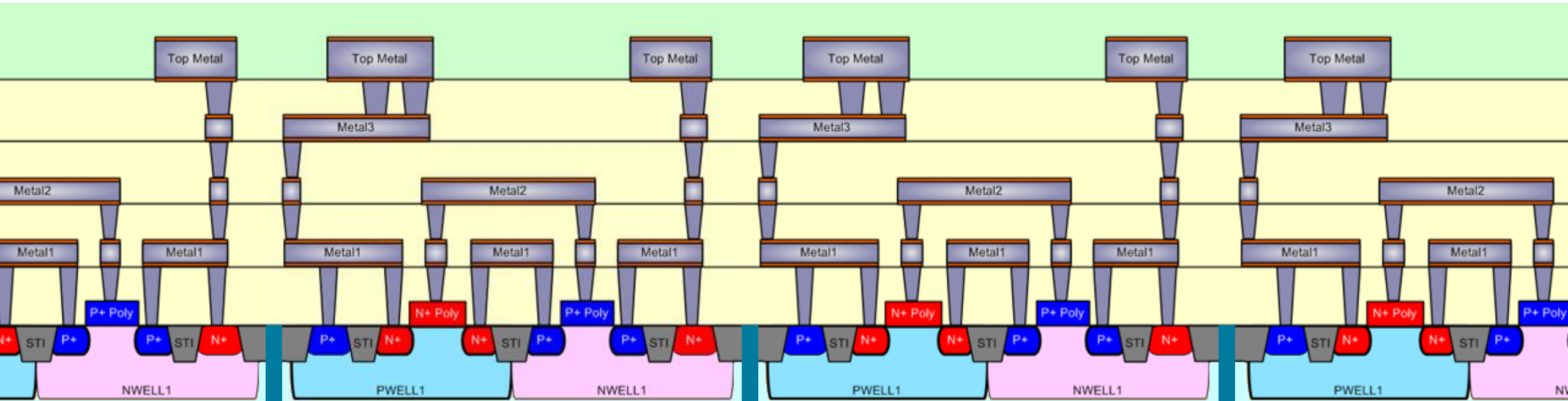
**Smart power
BCD-on-SOI**

Bulk CMOS vs. BCD-on-SOI



Bulk CMOS vs. BCD-on-SOI

BCD-on-SOI



Less spacing = smaller chips

Lowest leakage



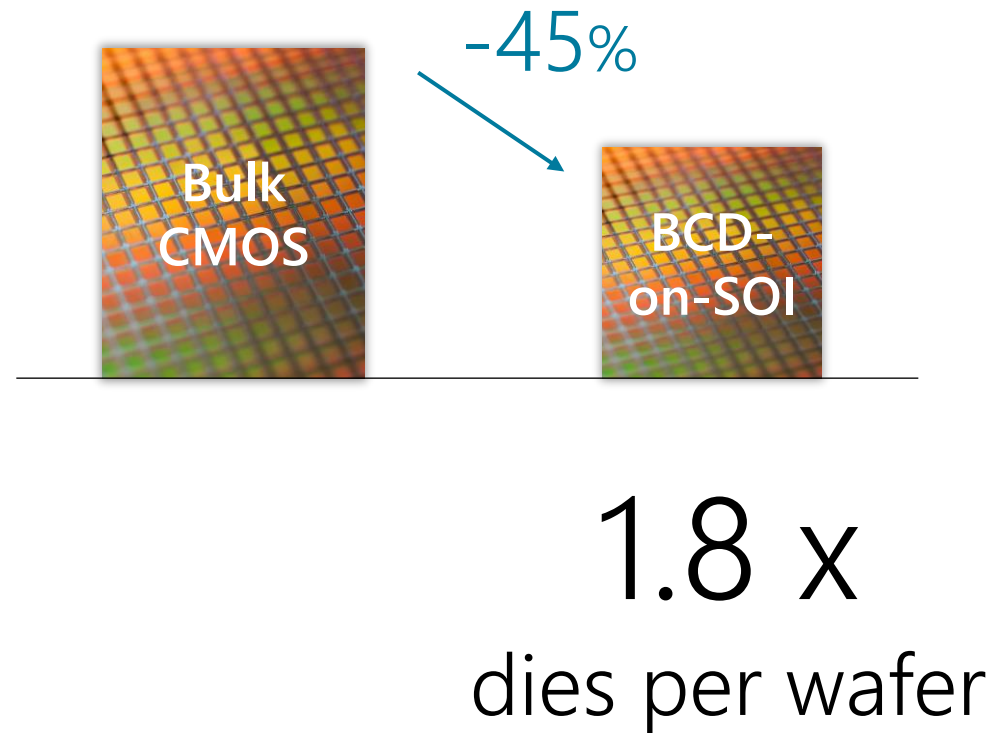
No unwanted coupling

Robust ESD & EMI

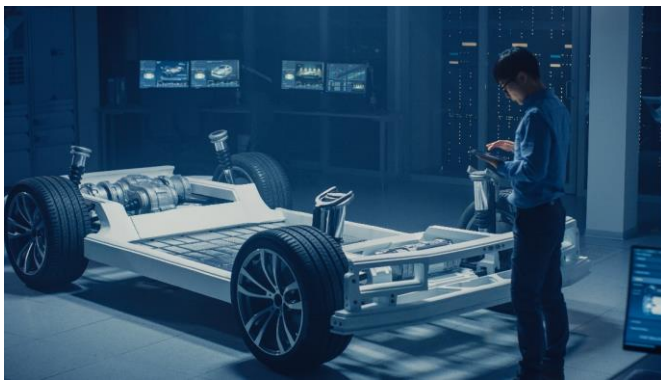
Die size shrink potential



- Smart motor drivers
- Smart LED driver
- Battery management systems



Applications enabled by BCD-on-SOI



- > Smart motor drivers
- > Smart LED driver
- > Battery management systems



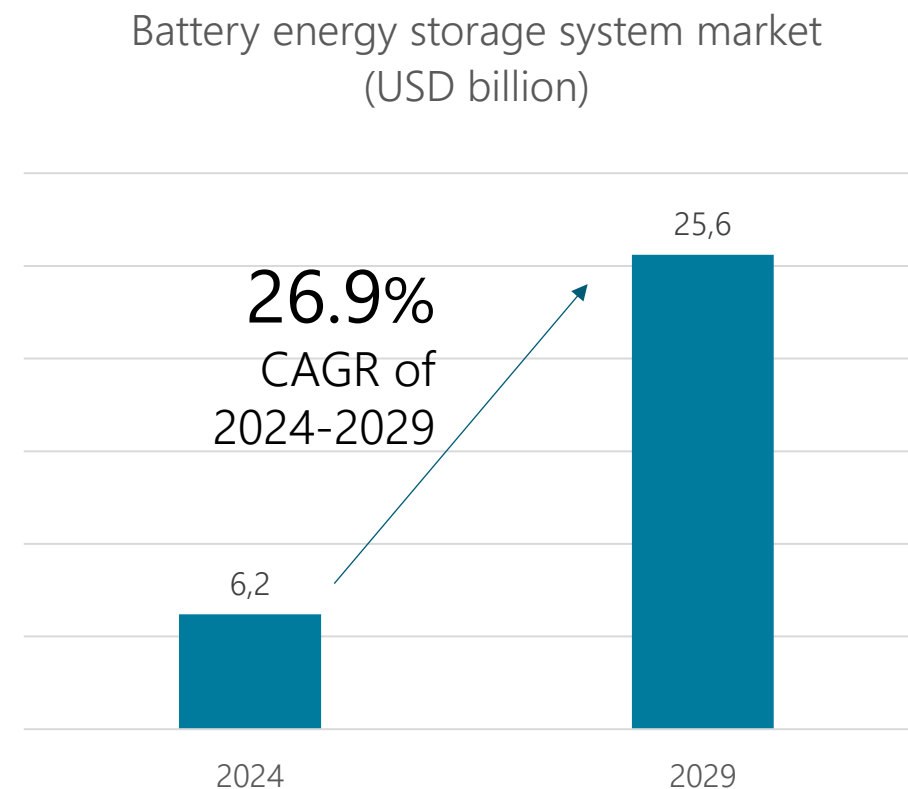
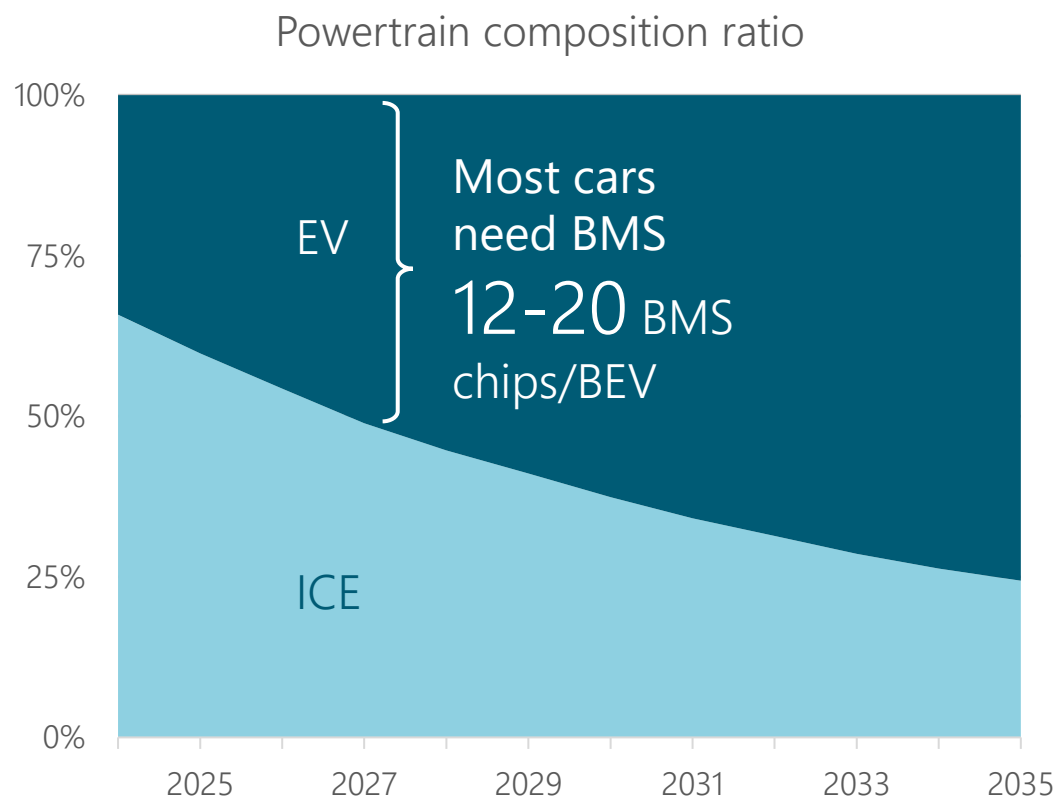
- > Hearing aids
- > Cochlear implants
- > Pacemaker
- > MEMS speakers
- > Medical ultrasound



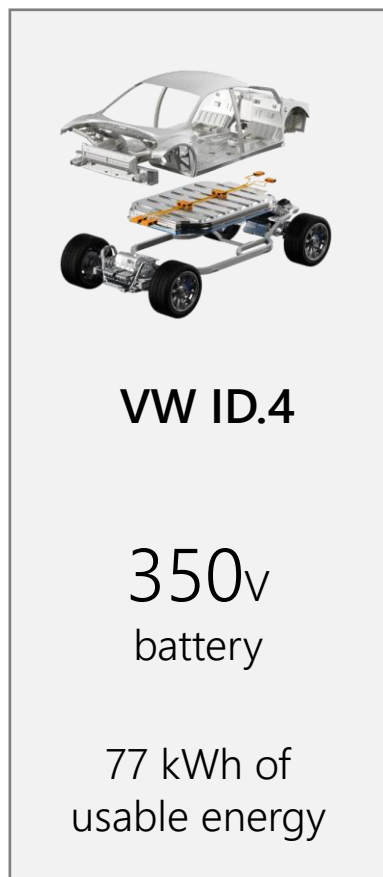
- > Gate driver
- > Power conversion
- > Industrial test equipment
- > Industrial inkjet printer

Battery Management System (BMS)

EV penetration and battery energy storage drive the growth of BMS ICs



No EV or battery storage without BMS ICs



cell

1 lithium ion
3.65V

module

24 cells
per module

pack

12 modules
per pack

1 BMS per
module

12 BMS per
car

Main functions:

- > **Battery protection:**
to prevent operation outside its safe operating area
- > **Battery optimization:**
cell balancing to improve battery life and capacity

No EV or battery storage without BMS ICs

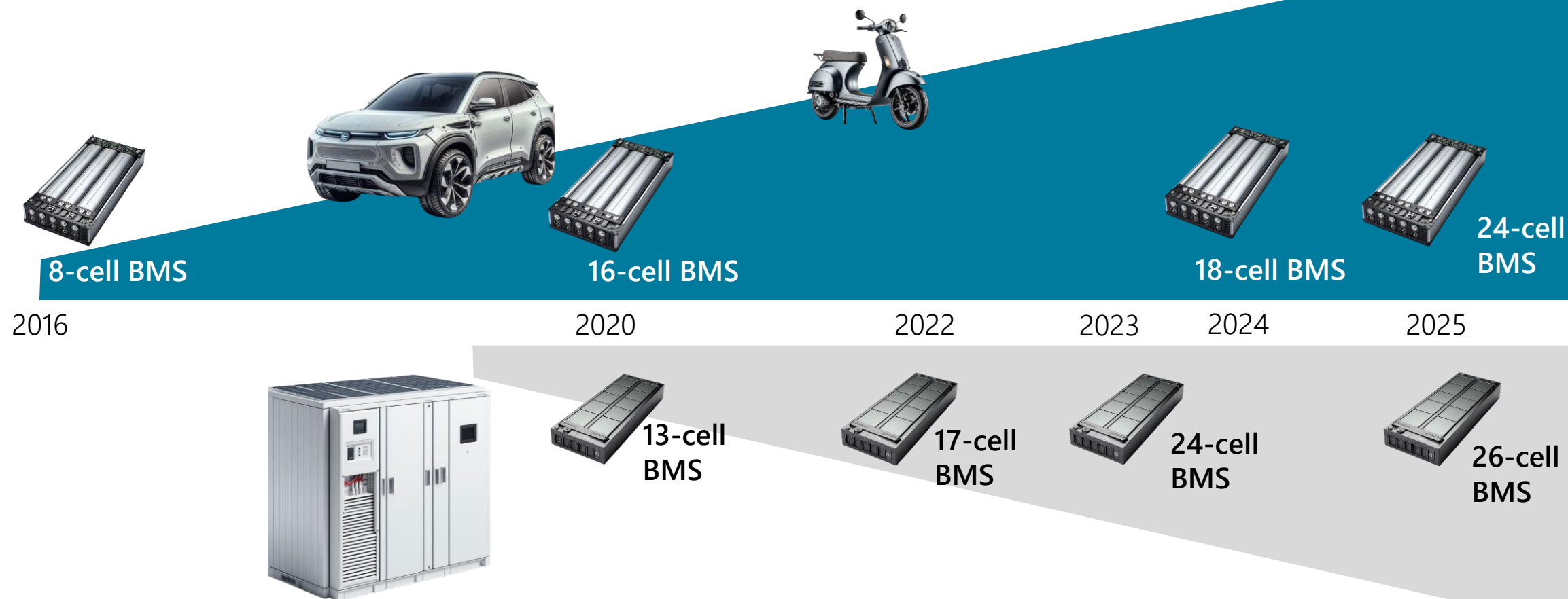


600 MWh

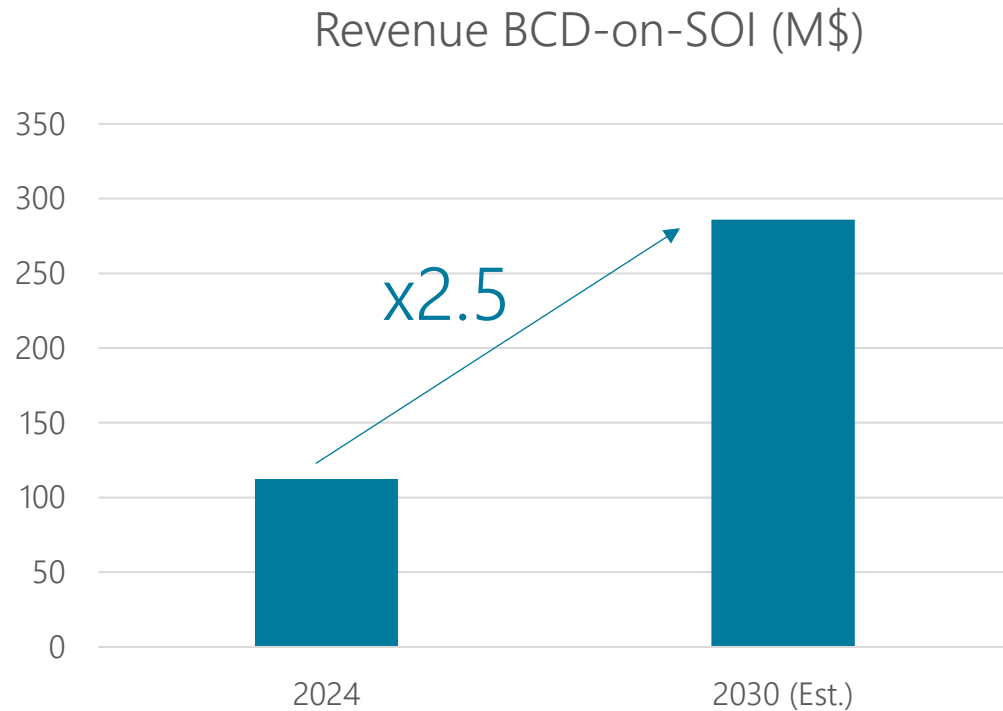
Blackhillock battery storage

We support the leaders in BMS ICs

About 10% market share for BMS in 2024, serving major EV car makers



BCD-on-SOI revenues drive growth



- First BCD-on-SOI prototypes in 2012
- Fast adoption across automotive, industrial, and medical applications
- 14% of 2024 revenue
- Major growth driver for future volume

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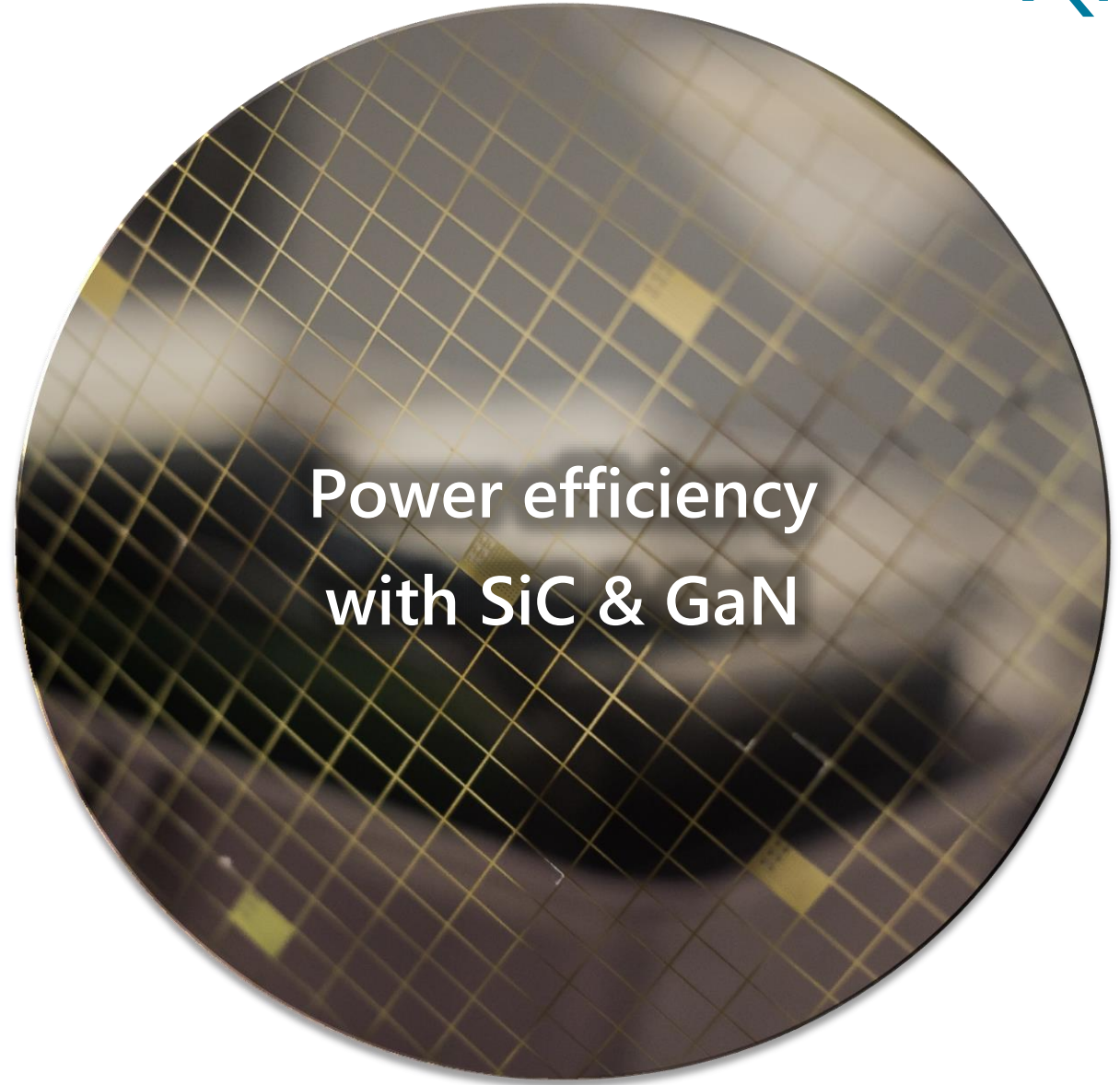
X-FAB's technology

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- > Efficient high power with SiC & GaN

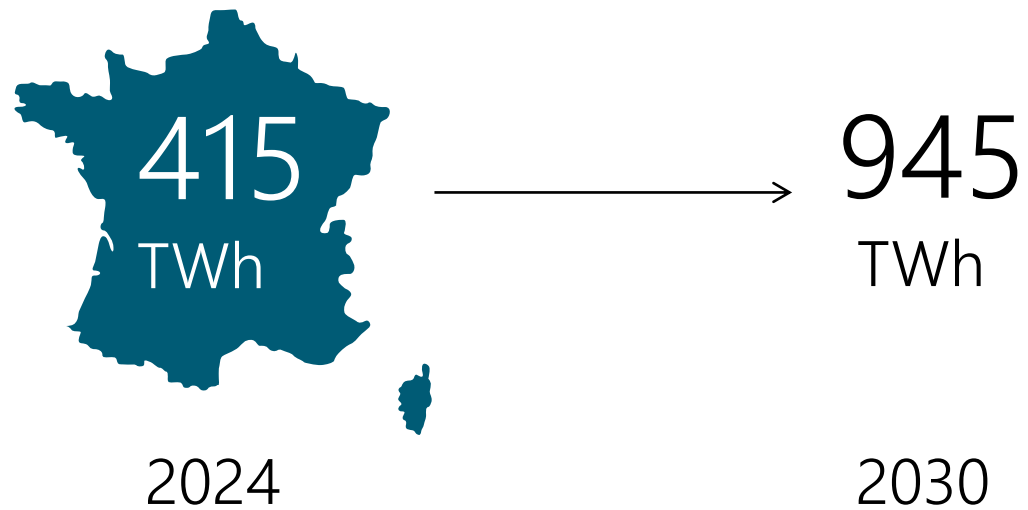
Powering the future

Leading foundry in SiC and GaN

- Foundry leadership in SiC and GaN
- Higher power, lower losses, better efficiency by SiC and GaN adoption
- Unique co-creation foundry model enabling short time-to-market
- Ideal solutions for electric vehicles, infrastructure, and data center requirements



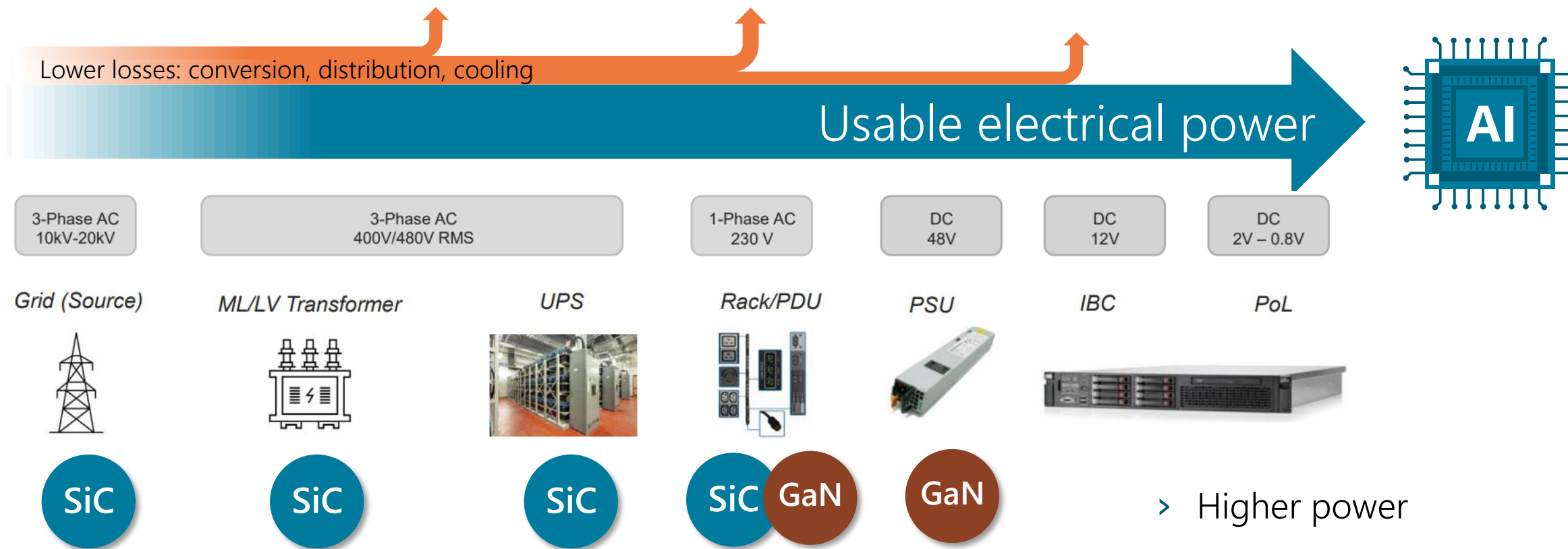
Datacenter power demand



A fast **transition to renewables** and innovation in **power efficiency** are required!

How to get to sustainable datacenters?

SiC and GaN enable more efficient power devices with better performance

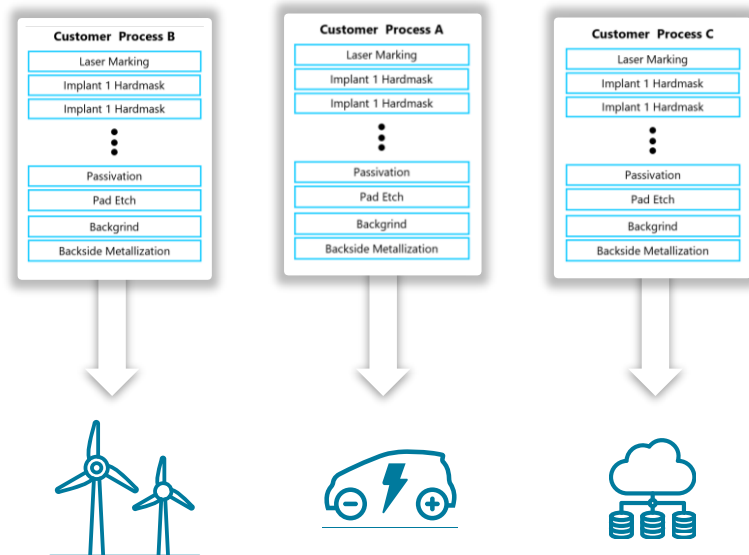


> Key parameter to reduce losses: On-Resistance (R_{on})

- > Higher power
- > Faster switching
- > Smaller form factors

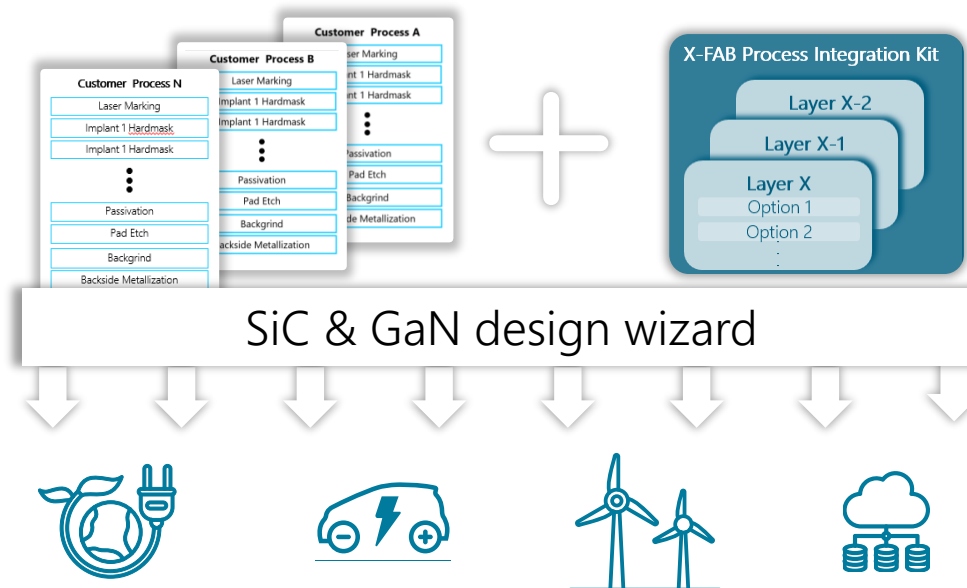
Co-creation for SiC & GaN

Contract manufacturing



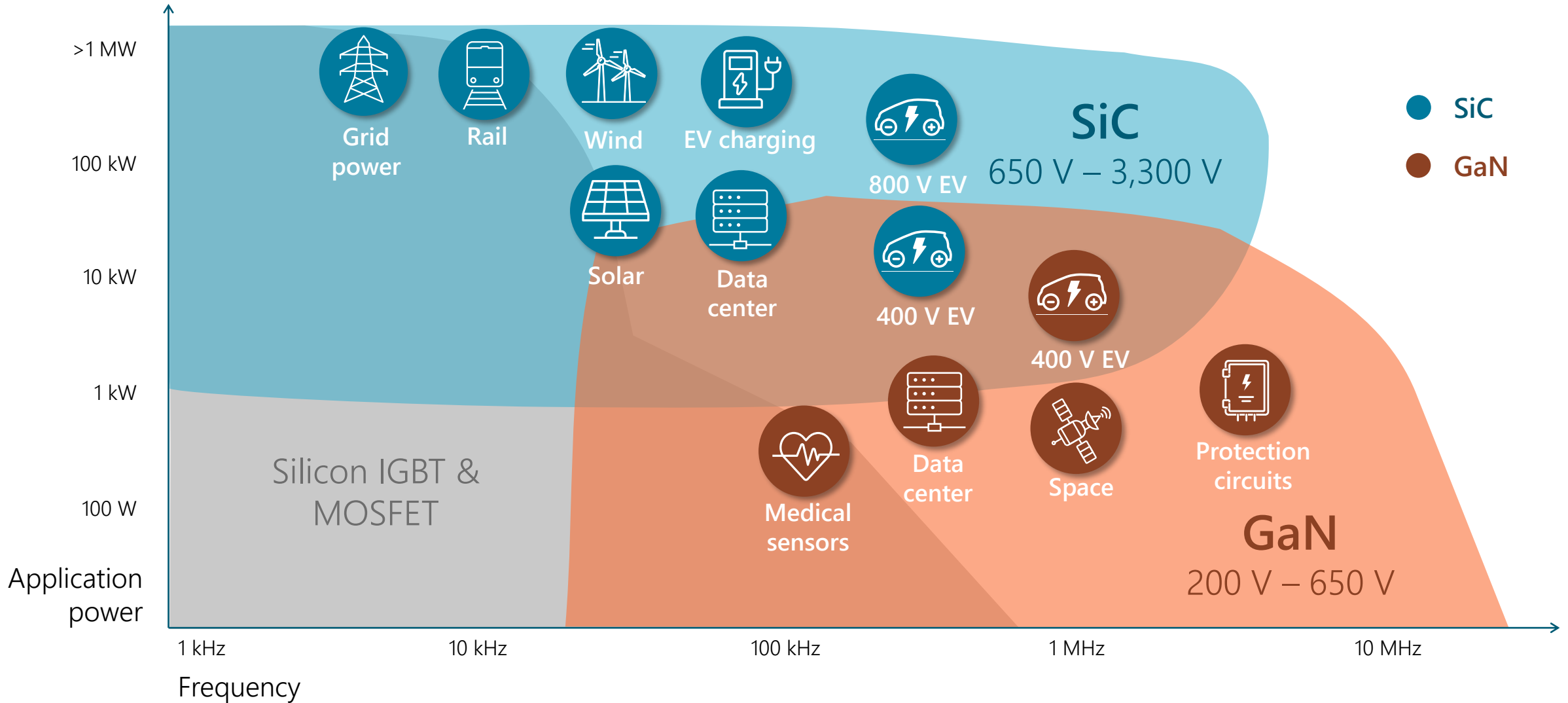
- One process – one product, the default in SiC & GaN
- No design support, focus on wafer manufacturing
- Not easily scalable for a foundry

Co-creation foundry

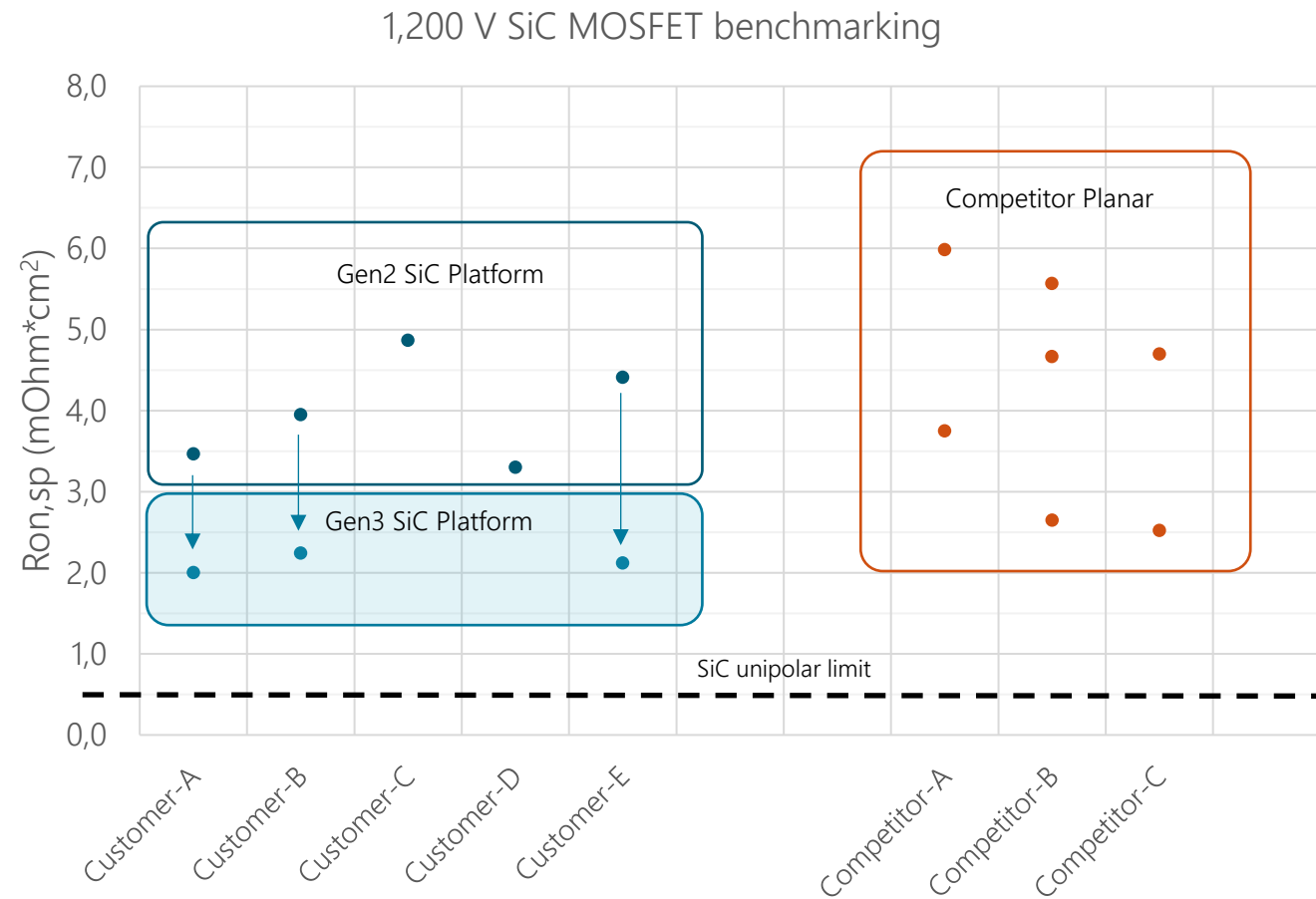


- Scalable SiC & GaN foundry model with fast onboarding of customer-specific solutions
- Fast and easy customization to match requirements in automotive, renewable energy, and data center markets

X-FAB customer adoption in SiC and GaN



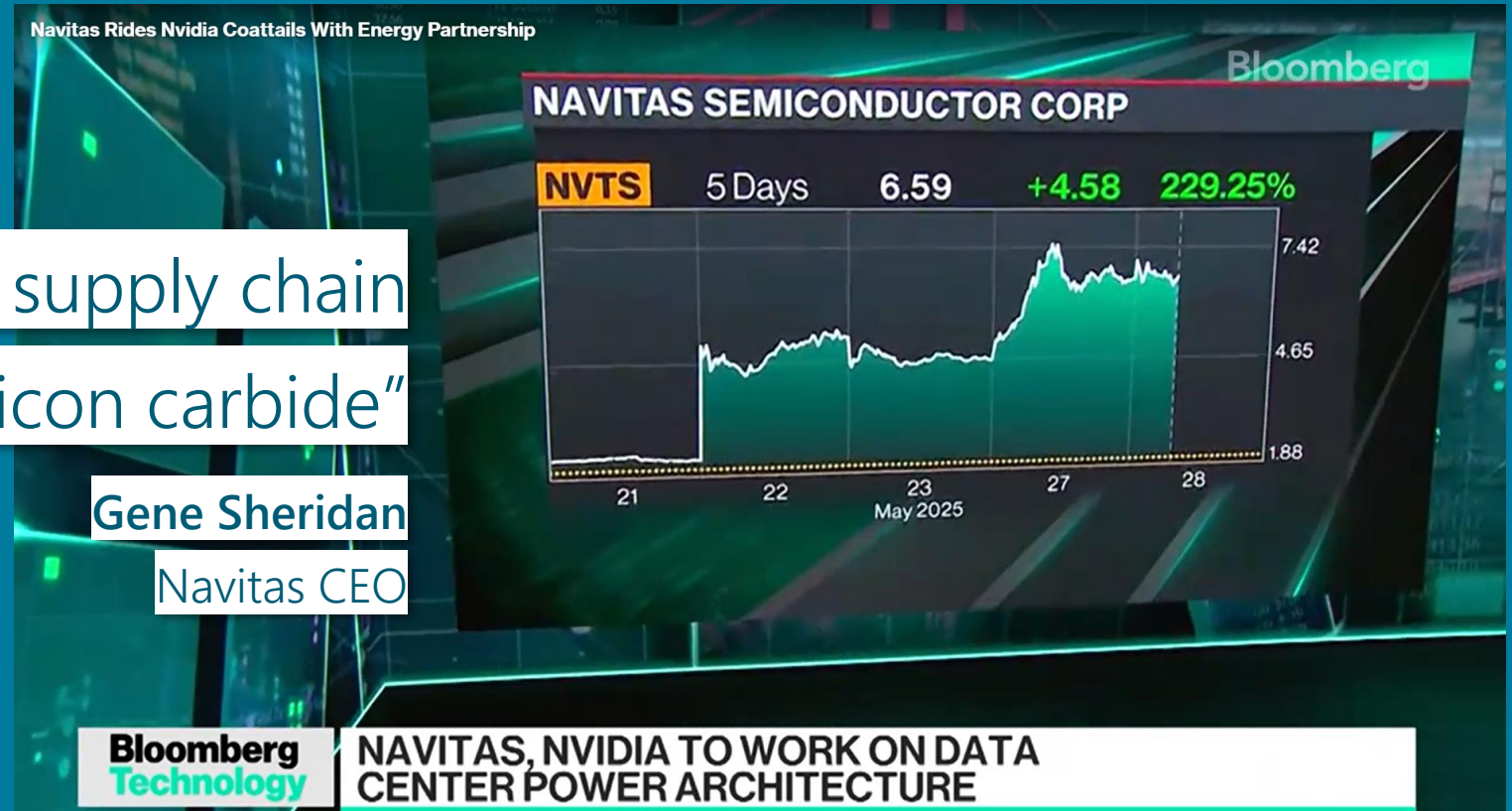
Leading performance with X-FAB SiC platforms



- > Our Gen 3 SiC platform supports the **smallest form factor planar SiC MOSFETs**
- > **Lowest on-resistance** for highest efficiency

Sustainable datacenter supported by X-FAB

"We have excellent supply chain partners: X-FAB with silicon carbide"



Powering the future

- Our SiC, GaN, and BCD-on-SOI technologies address all power requirements:
 - from drive train to BMS,
 - from grid to datacenter, and
 - for many other automotive, industrial, and medical applications





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Thank you.



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