



**CVD epitaxy reactor systems
for wide bandgap (WBG) semiconductors**

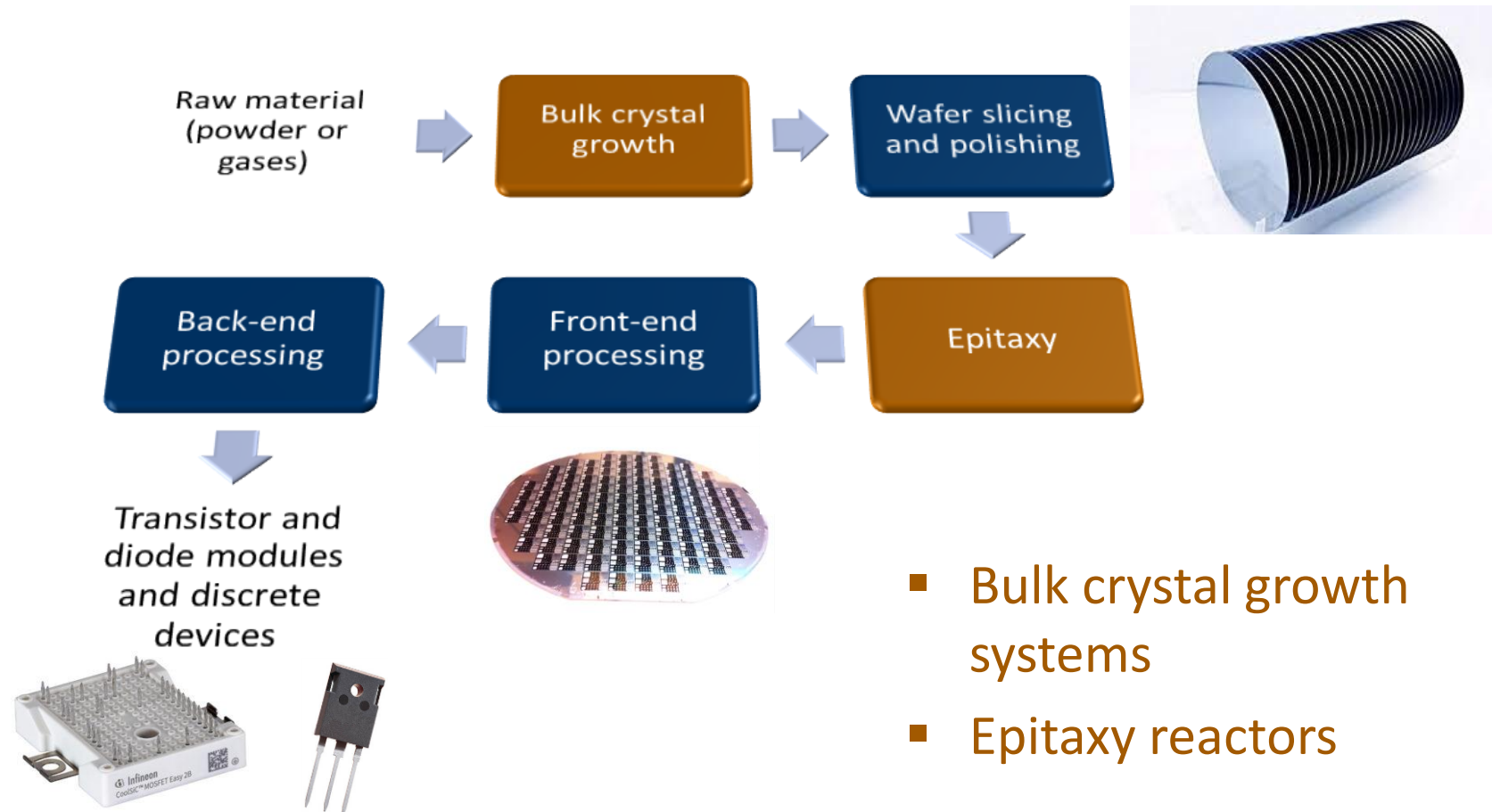
Applications for semiconductors based on "new" materials replacing silicon



SiC & GaN



Epiluvac solutions in the manufacturing process



The company

- Founded 2014 by a team of former Aixtron/Epigress engineers
- Background from 30 years of CVD equipment development
 - Silicon Carbide (SiC) epi reactors since 1993
 - Experience from various reactor designs (CVD, UHV, PVT/sublimation, Graphene, RIE, PECVD, HTCVD and HVPE)
 - Expertise in high temperatures and high vacuum
- A dedicated team backed by a network of consultants and subcontractors
- Aims for technical leadership
- Located at Ideon Science Park in Lund, Sweden



What we offer

CVD epitaxy reactors for SiC and GaN

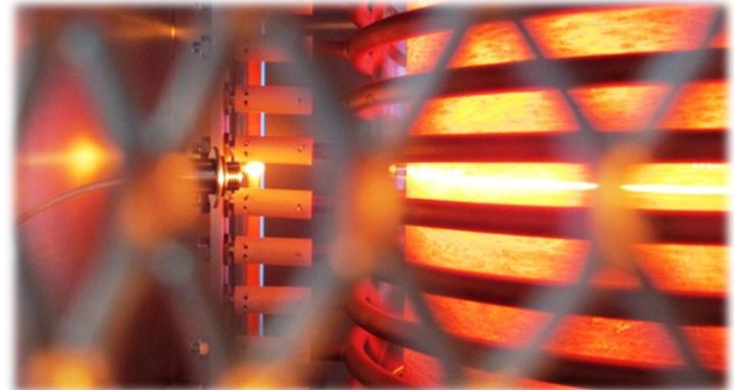
- Single-wafer hot-wall
- High wafer uniformity
- Low cost of operation

SiC bulk growth systems

- For PVT/sublimation
- Cost efficient proven design

Customized solutions

- High temperature
- Low pressure / Vacuum



CVD epitaxy reactors



Epiluvac EPI 1000

- Proven R&D tool for SiC and GaN epitaxy
- Horizontal quartz tube with RF heating
- Hot-wall CVD
- Manual loading
- Proven processes
- 100/150 mm wafer



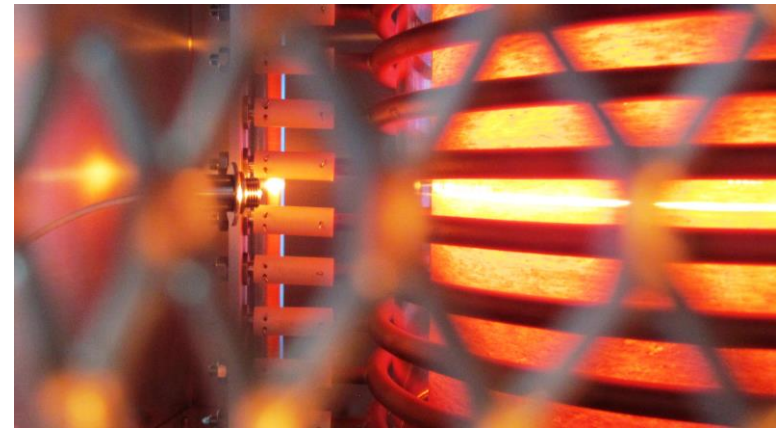
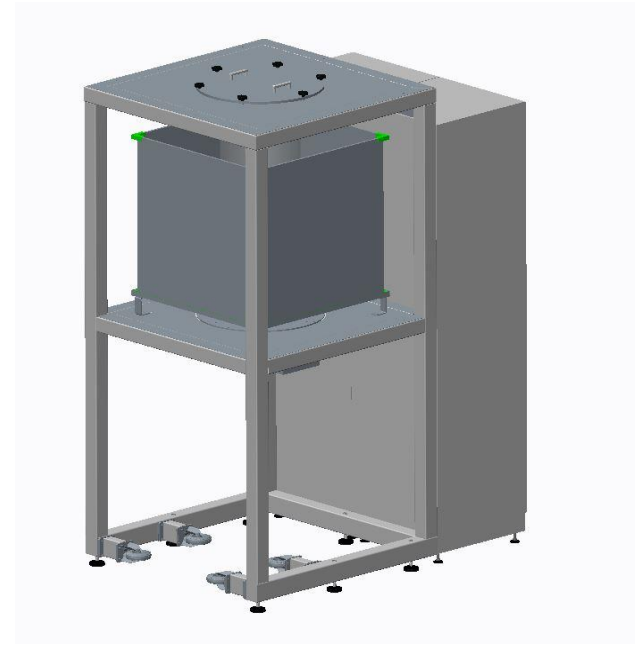
Epiluvac ER3 (NEW!)

- Optimized for **highest possible yield by excellent uniformity and minimal number of defects.**
- **Ready for 200 mm SiC and GaN**
- Quartz-free and ready for chlorinated processes
- Automatic hot-wafer loading/unloading
- Hot-wall CVD
- Optional cluster configuration and cassette-to-cassette automation

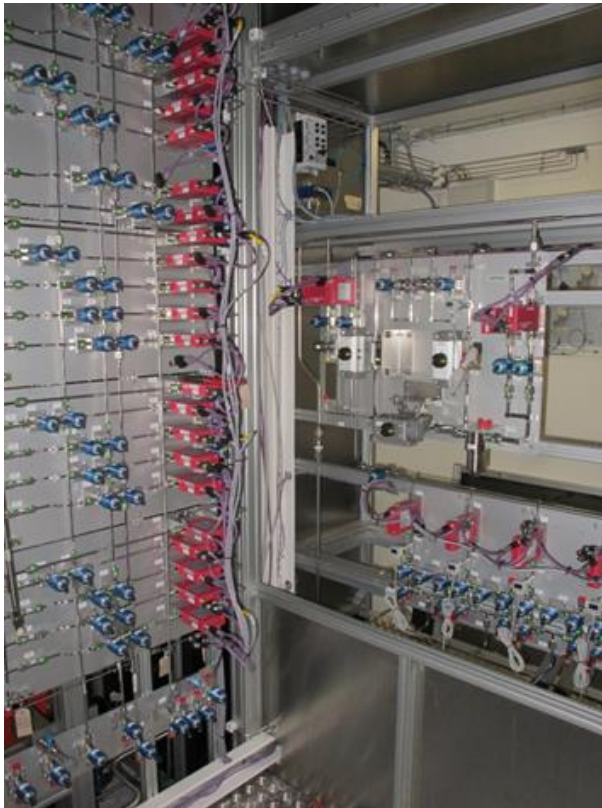
Crystal growth systems

Epiluvac SB3

- Long experience. First system delivered 1996!
- For Physical Vapor Transport (PVT)
- For 150 mm diameter (200 mm optional)
- Optimized cost/performance for volume production of SiC-ingots
 - Adapted to each customer's process
- Small footprint
 - Compact design
 - Can be placed side-by-side
- Options
 - Turbo molecular pump
 - Extended temperature measurement



Customized Solutions



**High temperature
Low pressure / Vacuum
Complex reactor solutions**

Complete systems including:

- **Control hardware and software**
- **Safety according to European norms**
- **Documentation**
- **Test and commissioning**

Small to multi-million Euro projects

Innovative start-ups and researchers rely on our technology



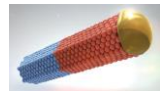
Group III-V GaN-on-SiC epitaxy



Semiconductor research (SiC, GaN, etc.)



Growth of GaAs nanowires for PV application
by SolVoltaics Aerotaxy®



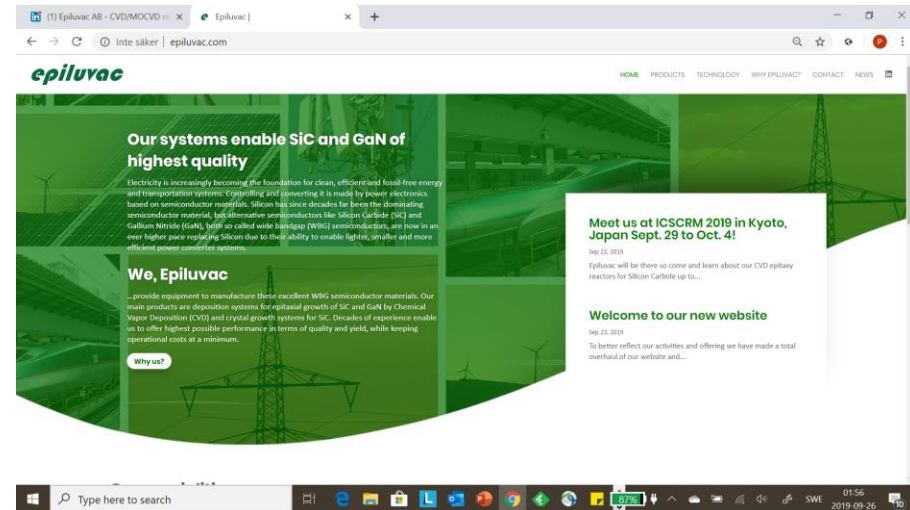
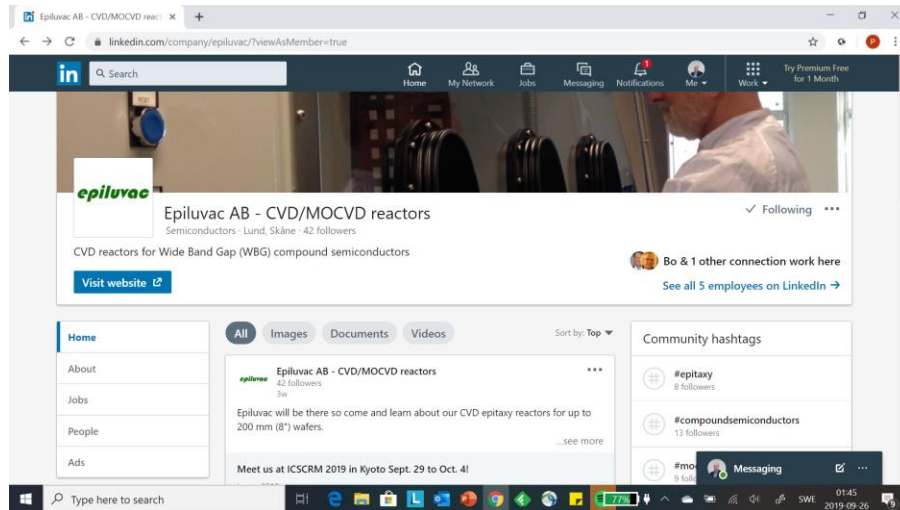
GaN epitaxy within C3NiT – Swedish Centre
for III-nitride technology



Upgrades and maintenance of SiC tools
worldwide

Epiluvac - Summary

- Pioneers in tools for SiC epi and advanced CVD
- Focused on WBG semiconductors
- Aims for leadership in terms of technical performance
- Innovations for improved uniformity and yield
- Provides customized, as well as standardized solutions
- ...also for bulk growth of SiC



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Thank you!