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

- Bulk crystal growth systems
- Epitaxy reactors
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

- **SweGaN**
  - Group III-V GaN-on-SiC epitaxy

- **LiU Linköping University**
  - Semiconductor research (SiC, GaN, etc.)

- **SolVoltaics®**
  - Growth of GaAs nanowires for PV application by SolVoltaics Aerotaxy®

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

- **ascatron and ST**
  - Upgrades and maintenance of SiC tools worldwide

…and others
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
Follow us at LinkedIn or www.epiluvac.com

Thank you!