

EUVL Regional Review - Europe.

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Presented by: Dr Tomas Mocek





Damage of multilayer optics with varying capping layers induced by focused extreme ultraviolet beam

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Stability of EUV multilayer coatings to low energy alpha particles bombardment

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Dublin: UCD & DCU

▶ UCD

- Colliding plasma work for 13.5 nm
- Time-resolved spectra at 6.x nm
- Dilute medium & high-Z targets for 6.x nm
- DPP studies at 6.x nm

- Spectroscopy & source development for “Water Window”

- New grant proposals in preparation.....




▶ DCU

- Colliding Plasma
- Pulsed Laser Deposition Studies



Zurich

- ▶ ETHZ – Laboratory for Energy Conversion (LEC)
 - ▶ Research on droplet-based laser-produced plasma sources. Adlyte (spin-off company) commercializes technology.
 - ▶ Prototype EUV sources for actinic metrology have been designed, developed and tested over the last years.
 - ▶ Source brightness of 350 W/mm²sr and a EUV pulse-to-pulse stability of 3% (σ).
 - ▶ New IF module installed and cleanliness studied after IF.
 - ▶ Recent focus on extension of operating time, source cleanliness and new fuels.
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ASML

- ▶ Advanced Research Centre for Nano-Lithography
- ▶ ARCNL Established with FOM, NOW, UvA & VU
- ▶ Director – Prof. dr. Joost Frenken
- ▶ Jan 2014 start



ASML



Prague

- ▶ Multiple Centres of Activity
- ▶ > 50 active researchers + ~20 students
- ▶ Optics, sources, applications
- ▶ Plasma diagnostics
- ▶ Universities, Institutes + RIT Europe

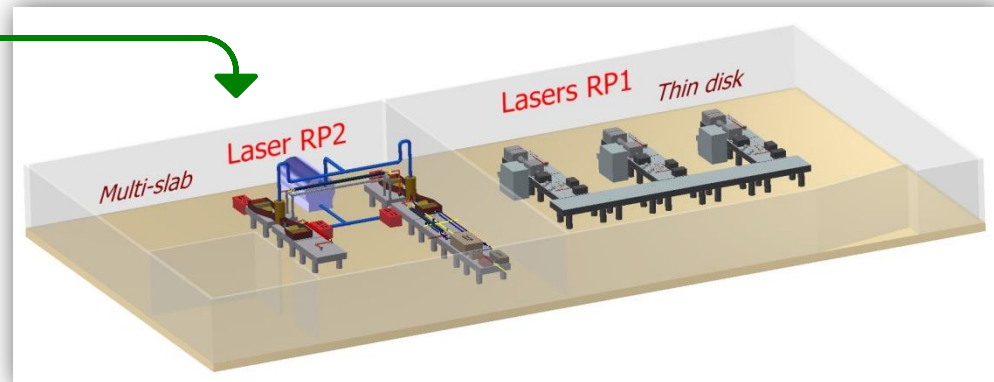


High average power, pulsed LASERs

- Project led by the Institute of Physics ASCR
- Financed by the Research and Development for Innovation Operational Program (ERDF)
- Research center of international importance
- Applications of DPSSL in high-tech industry
- Lasers with breakthrough parameters
- Synergy with ELI Beamlines

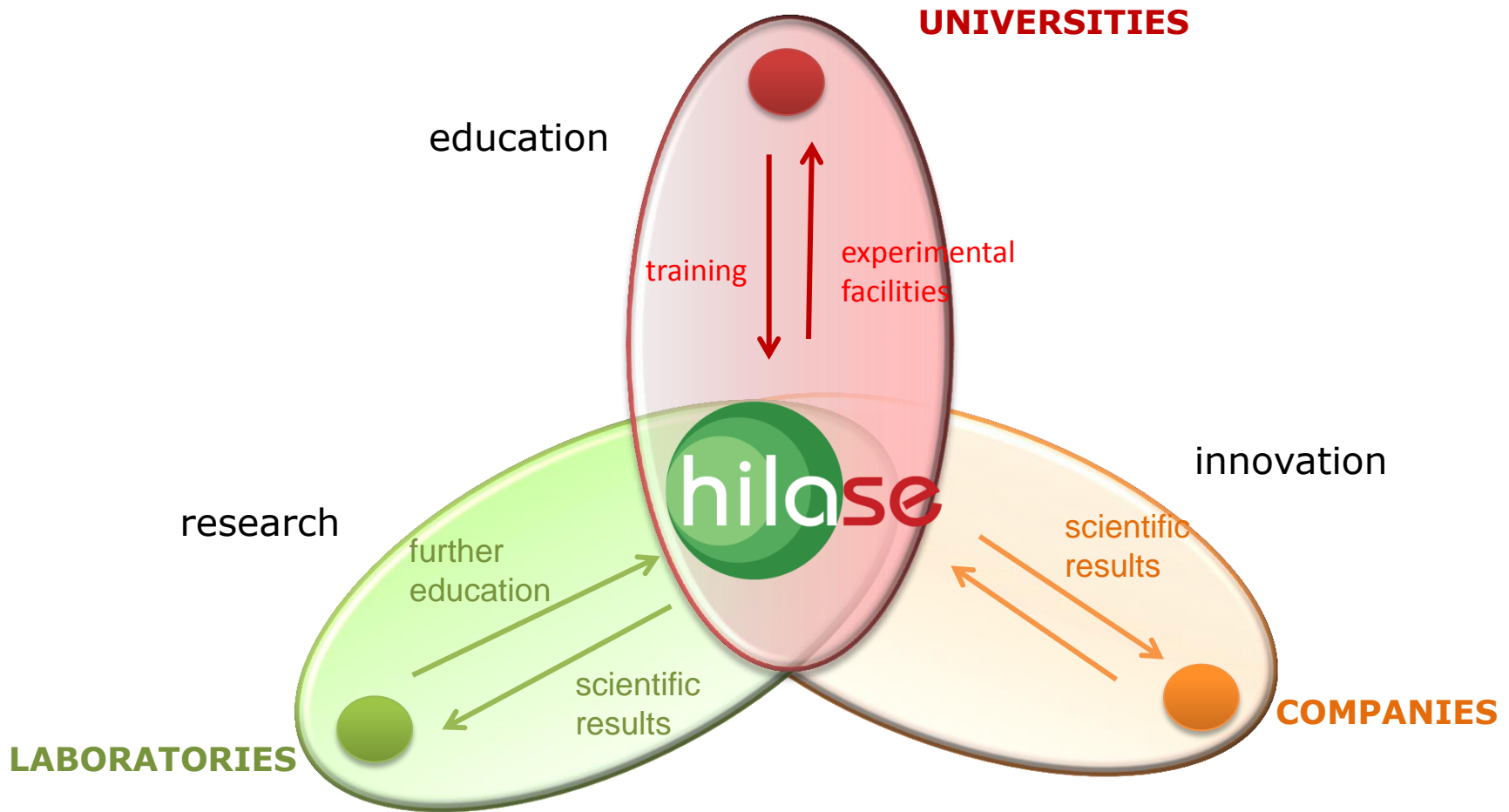


New HiLASE building



Laser technologies

Mission



In-house R&D: 12/2013



June 2014



Thin-disk laser lab clean & ready

