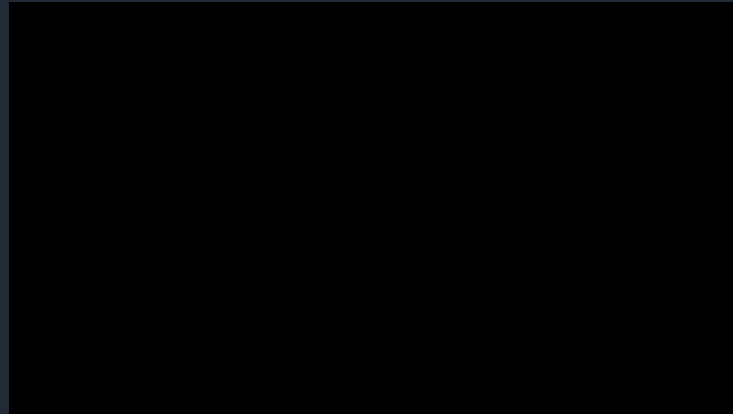




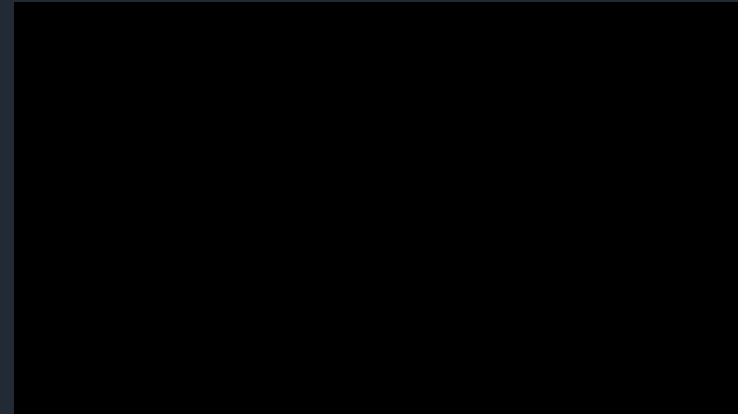
EDI – Institute of Electronics and Computer Science

Institute of Electronics and Computer Science (EDI) is a public research institution specializing in the development of Smart Embedded Cooperative Systems in the fields of:

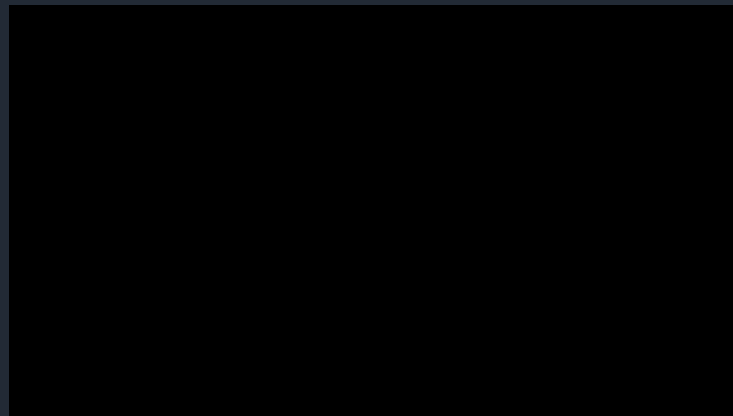
Health



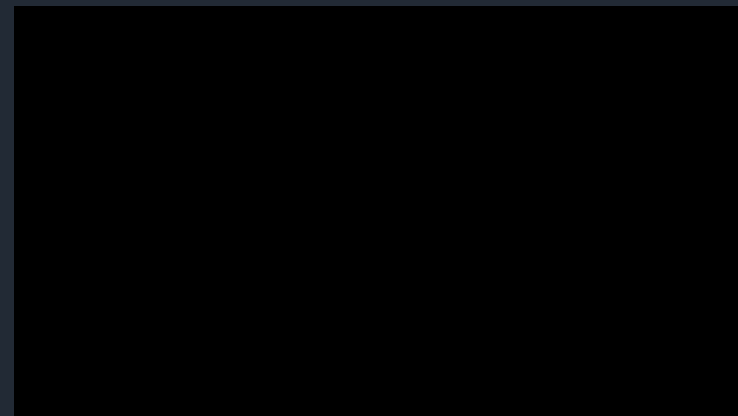
Mobility



Production



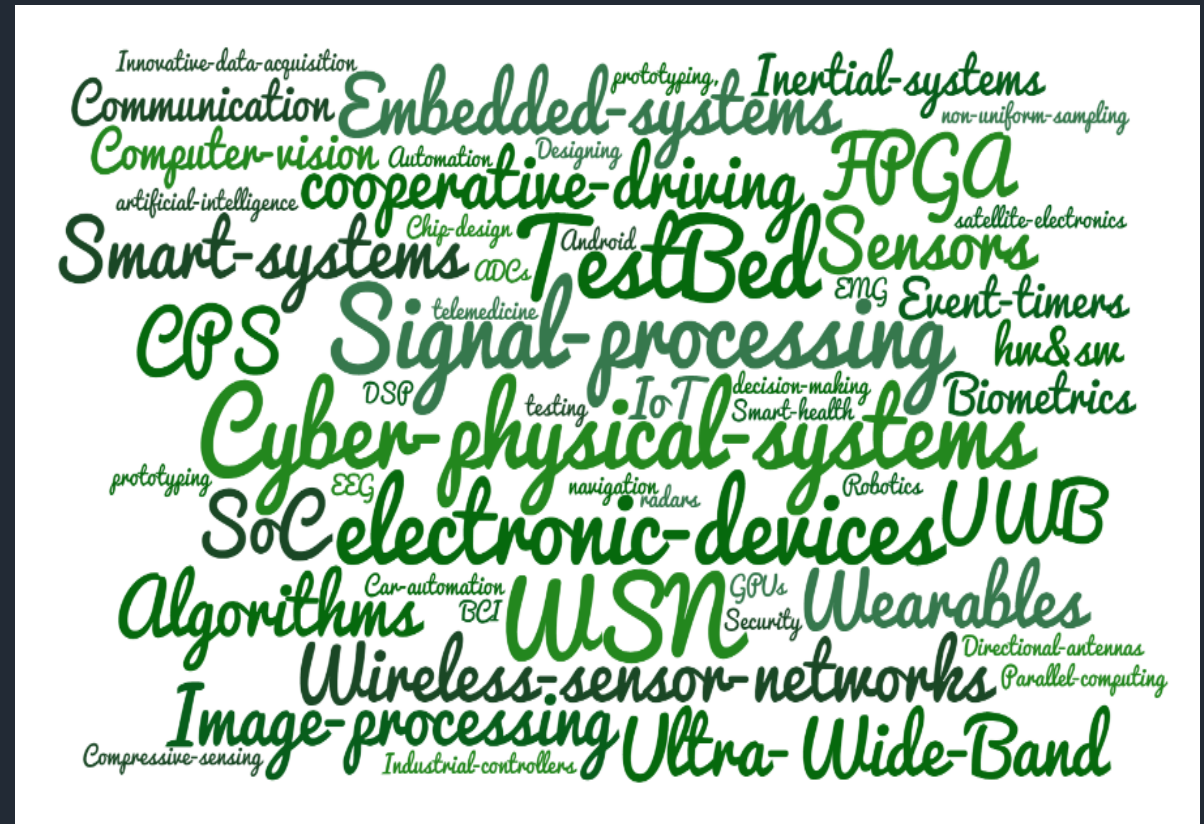
Space



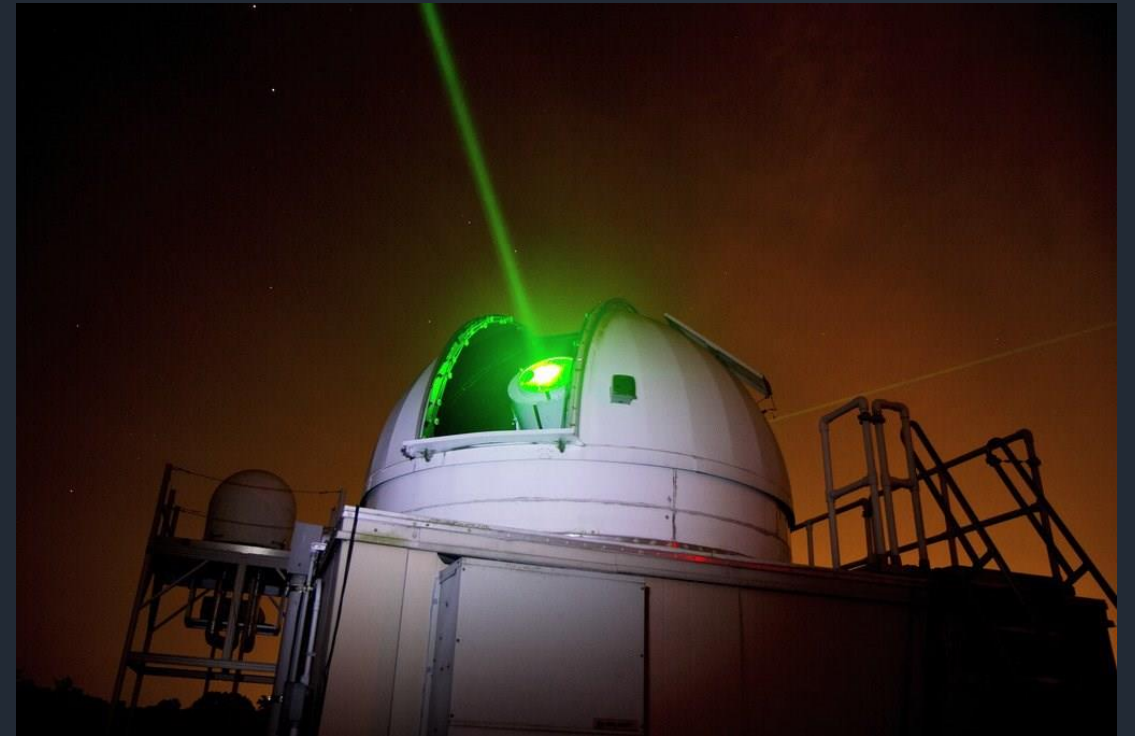
EDI research directions

- Extremely precise event timing
- Remote sensing and space data processing
- Smart sensors and IoT
- Signal processing and embedded intelligence
- Robotics and machine perception
- Energetics

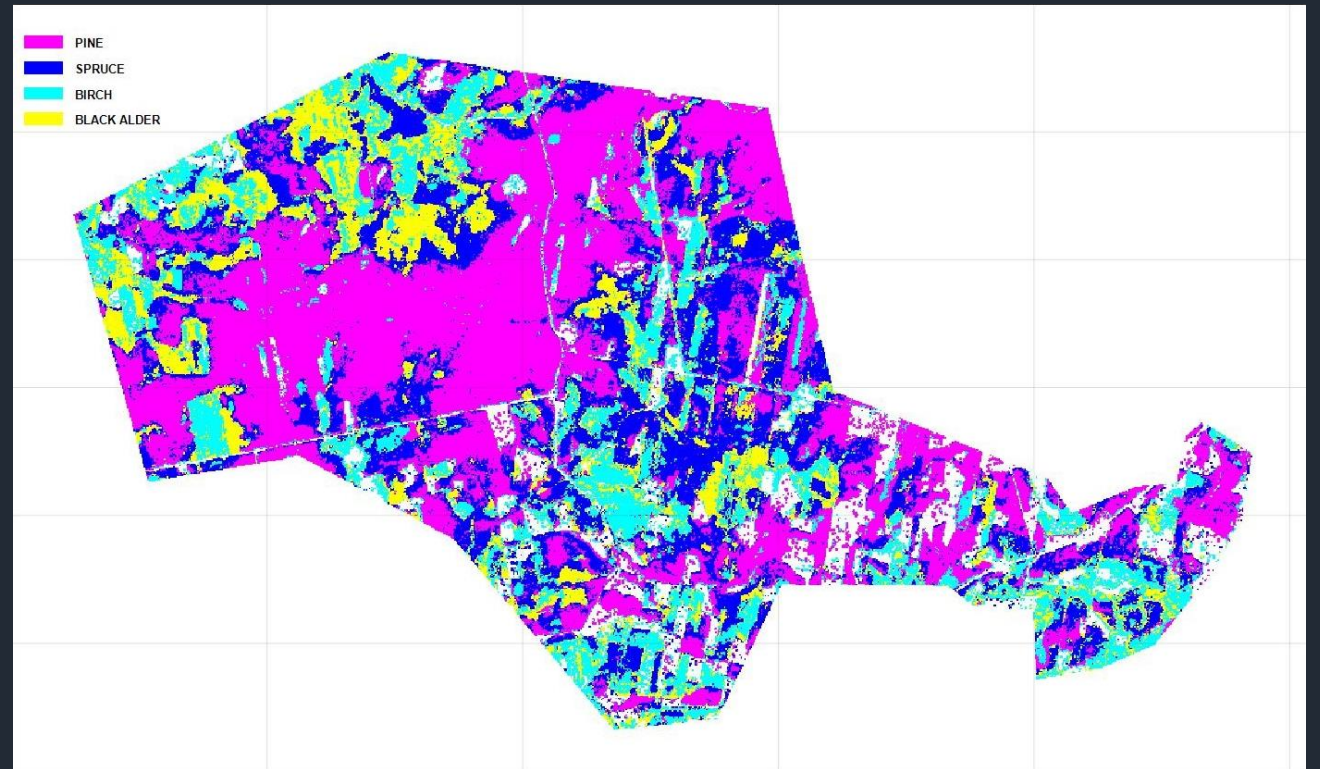
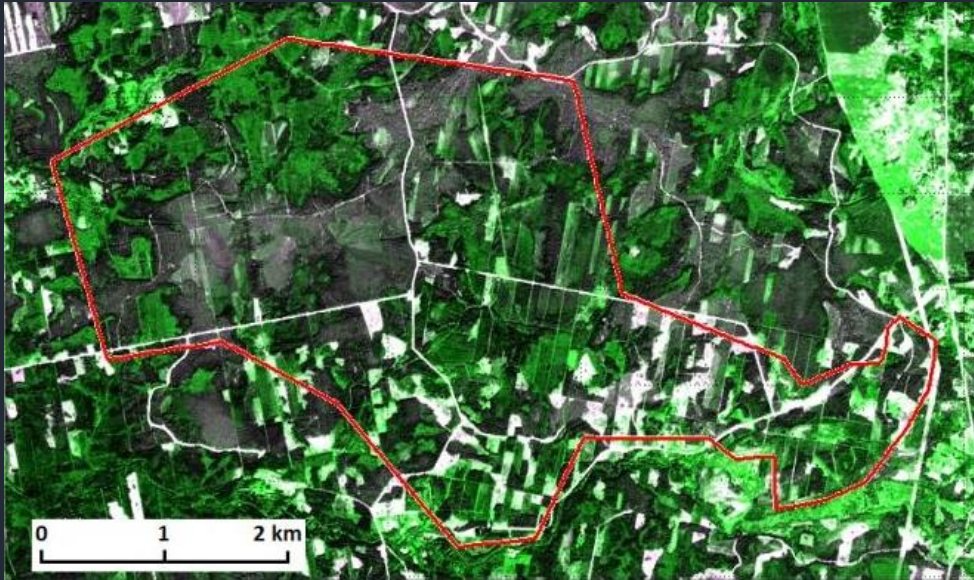
www.edi.lv



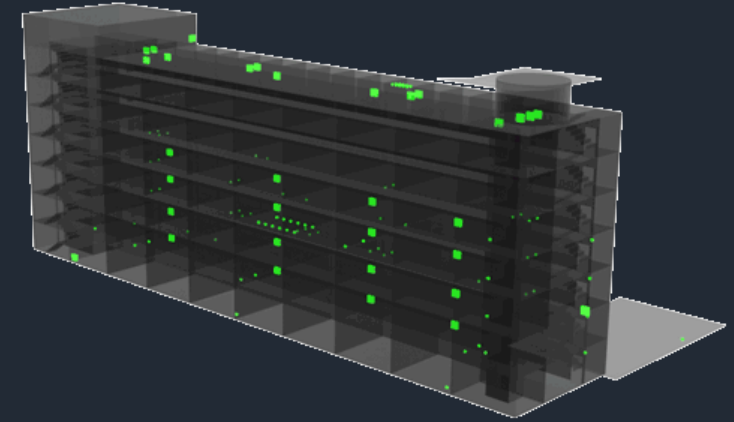
Extremely precise event timing



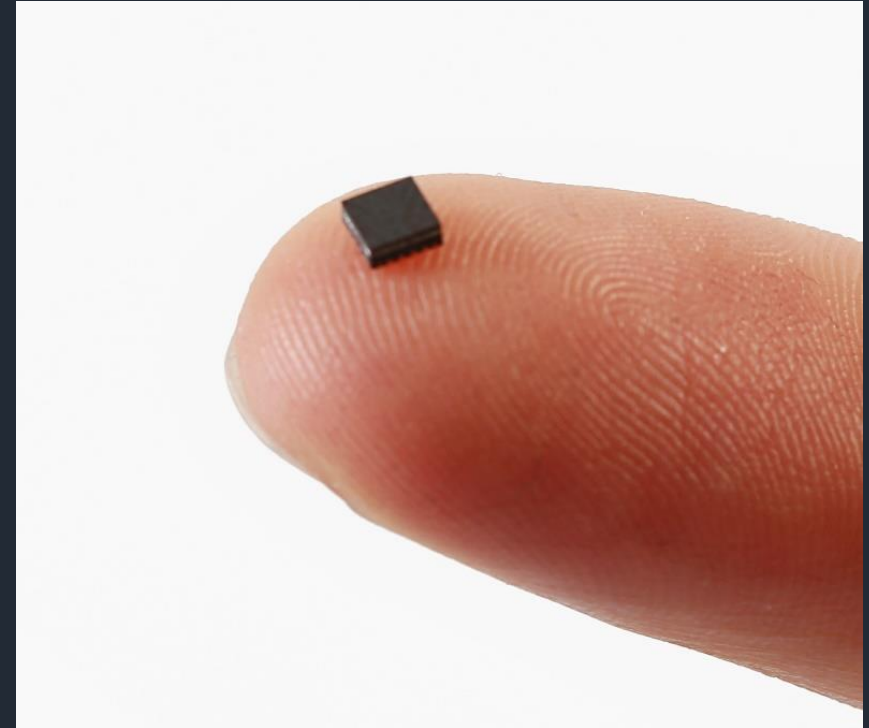
Remote sensing and space data processing



Smart sensors and IoT



Signal processing and embedded intelligence



Dr. Sc. Ing. **Roberts Kadiķis**

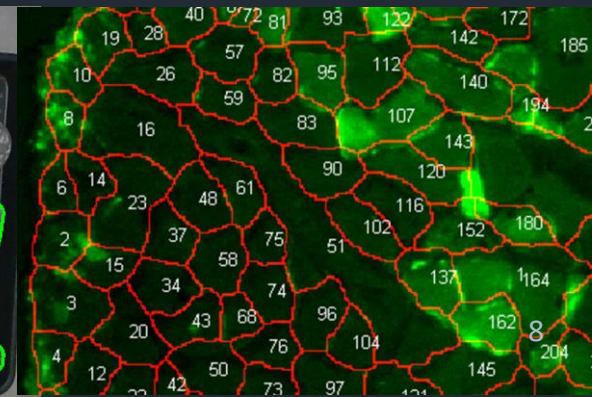
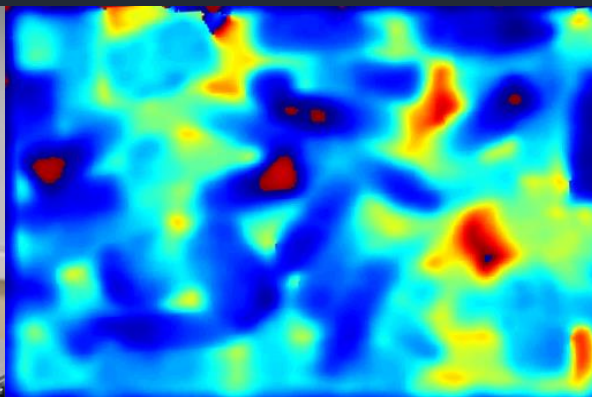
Senior Researcher at EDI

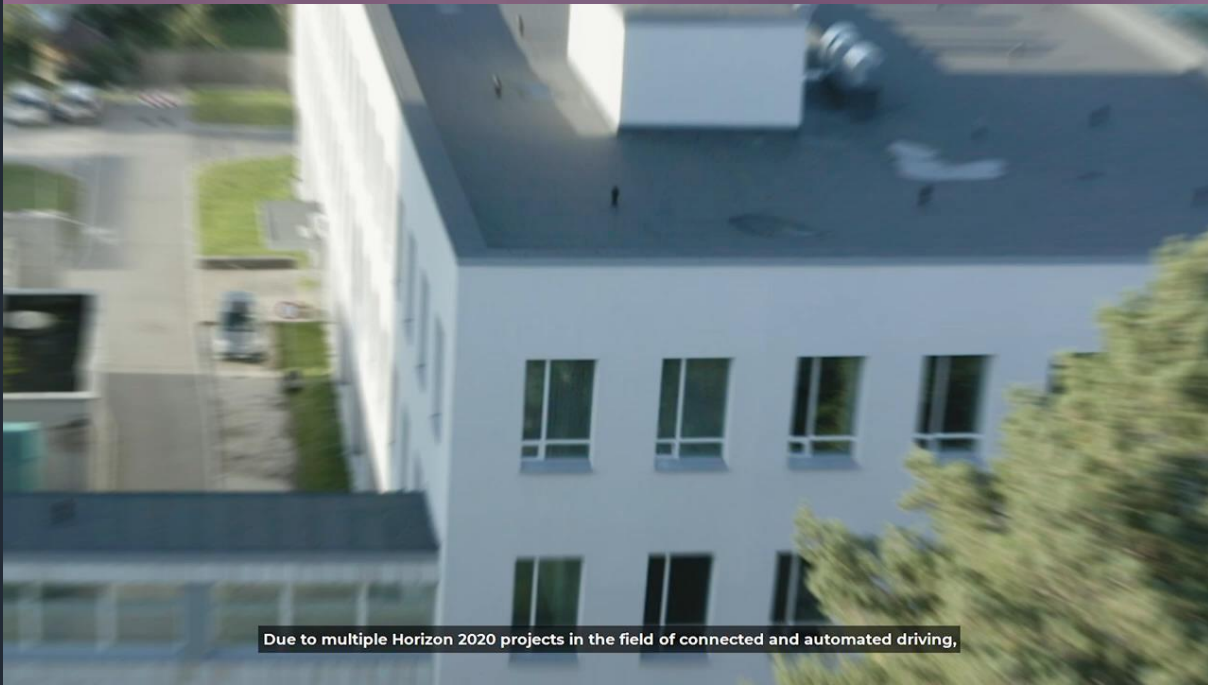
Head of Robotics and Machine Perception laboratory

Chairman of Scientific Council

roberts.kadikis@edi.lv

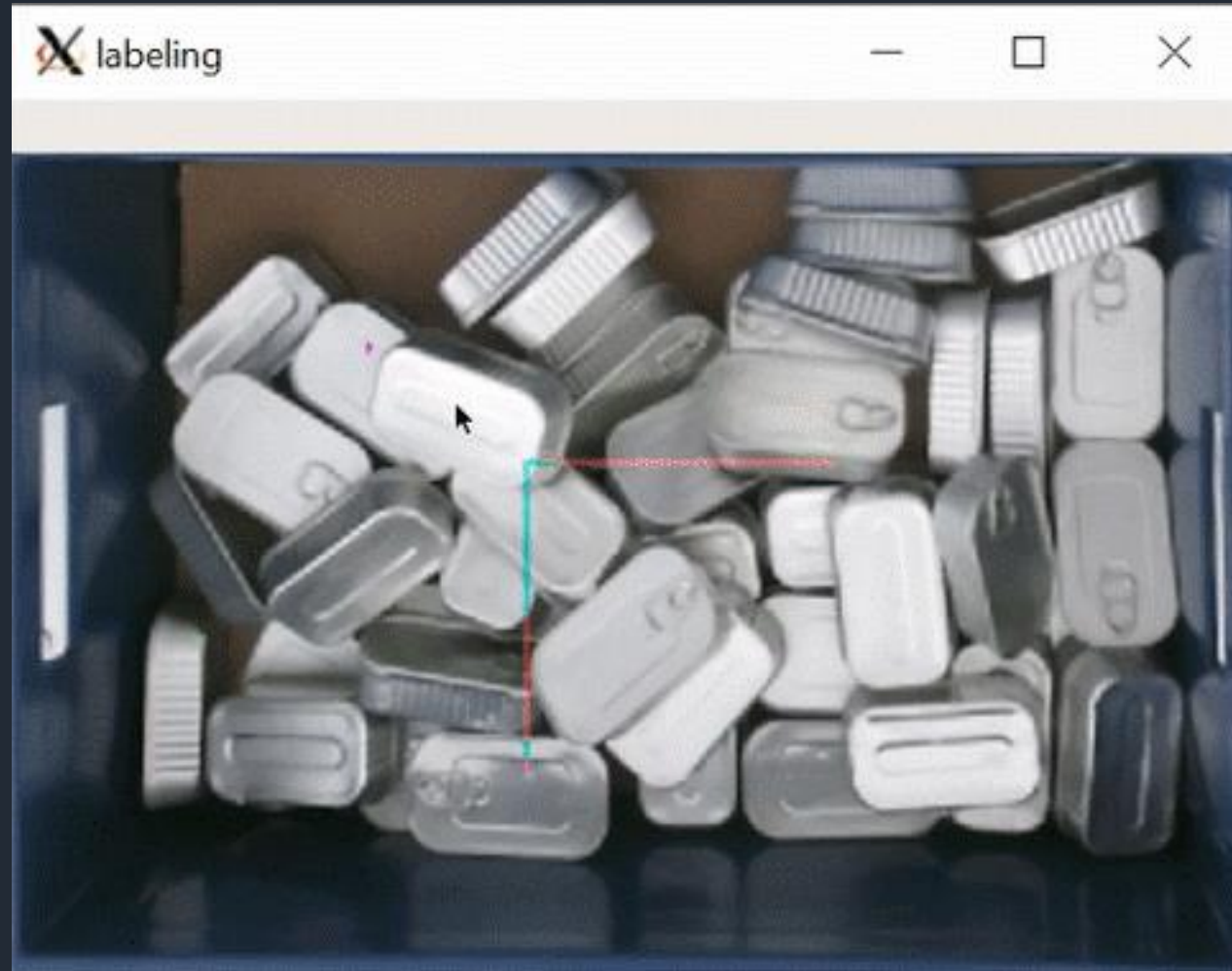
Image Processing, Computer Vision, Machine Learning, AI





Due to multiple Horizon 2020 projects in the field of connected and automated driving,









synthetic

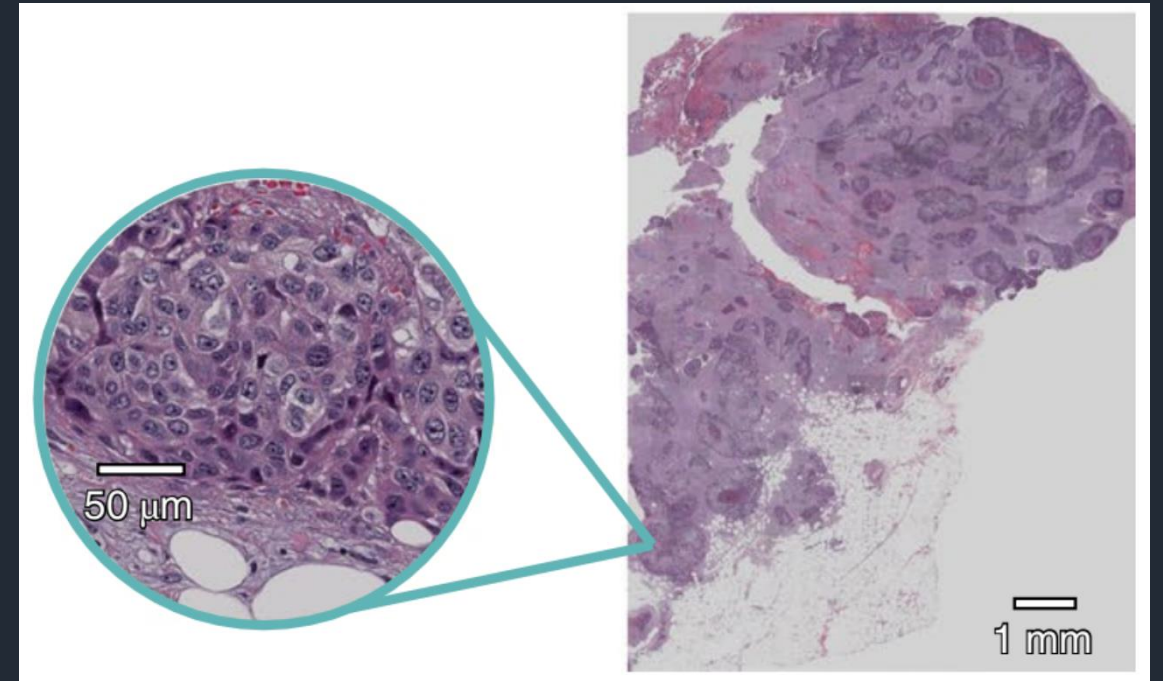
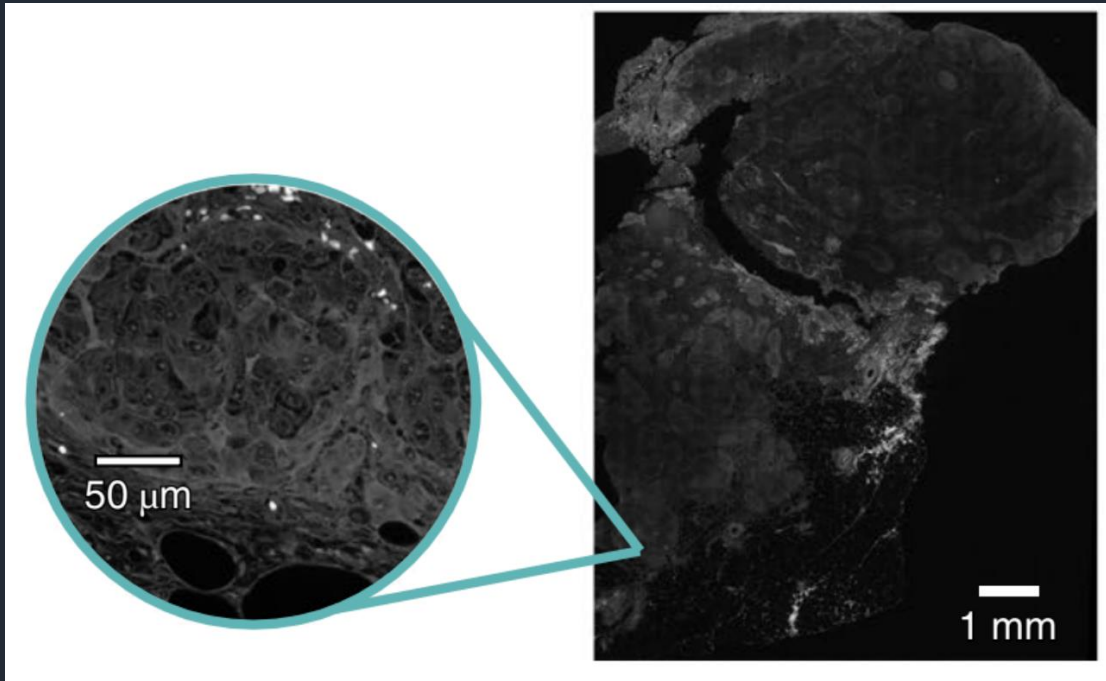


real

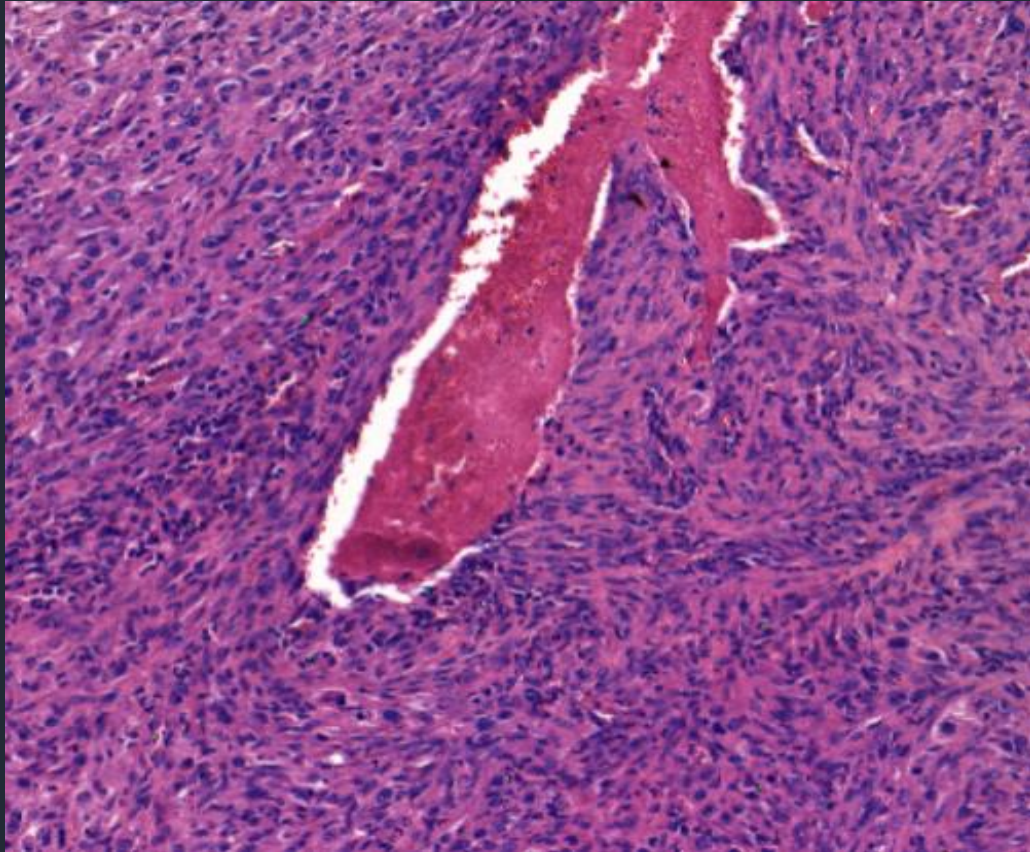




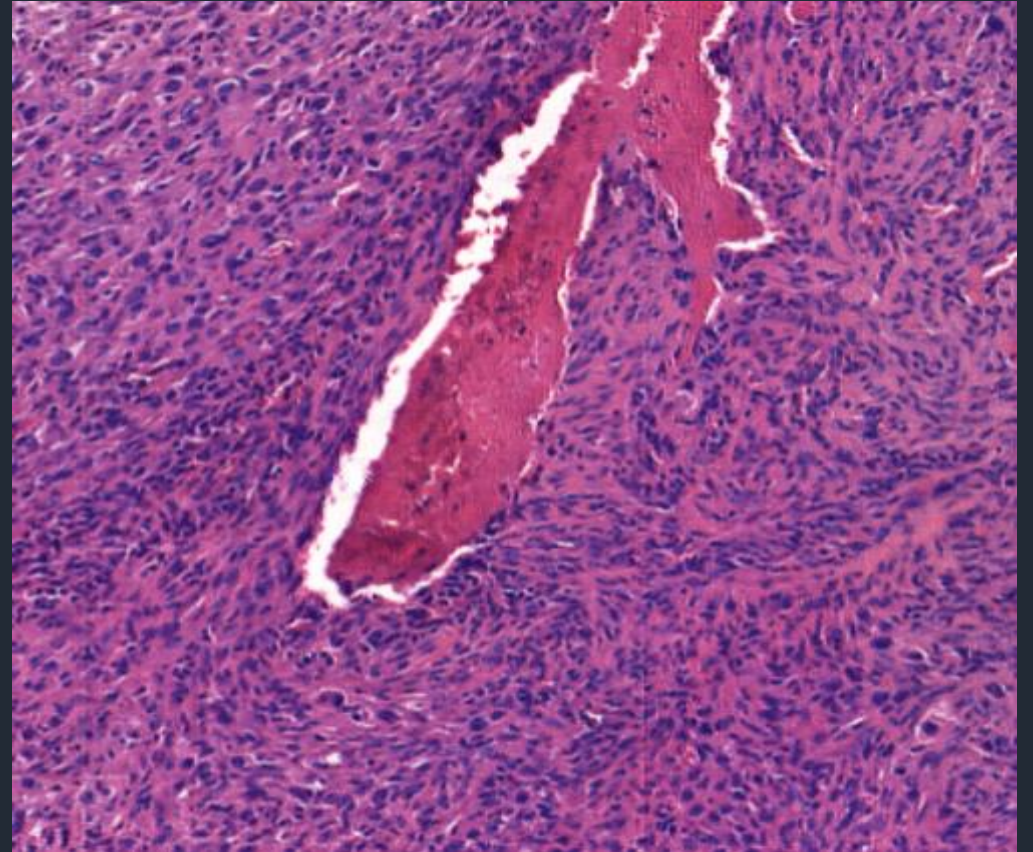
Image translation – histology image staining

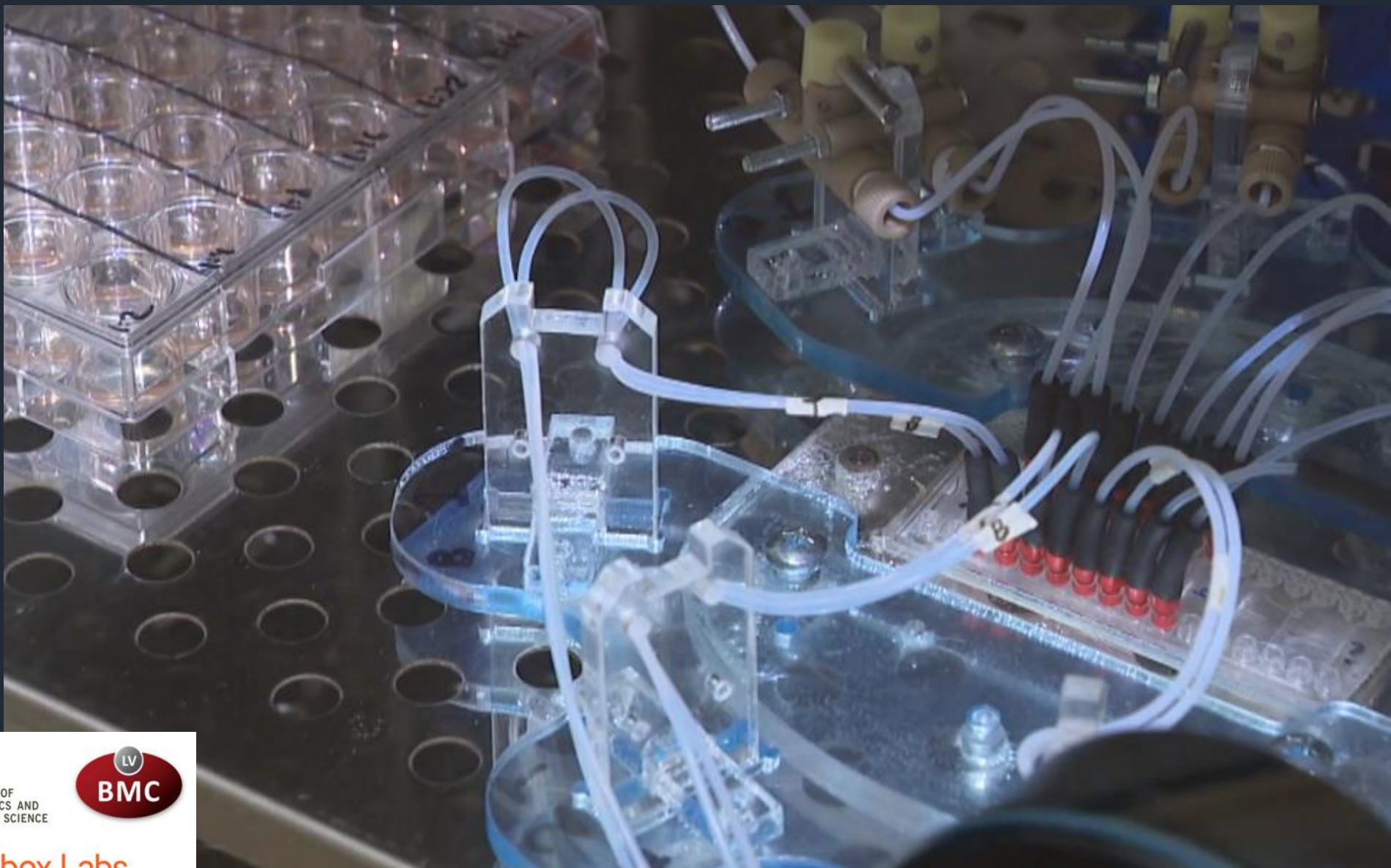


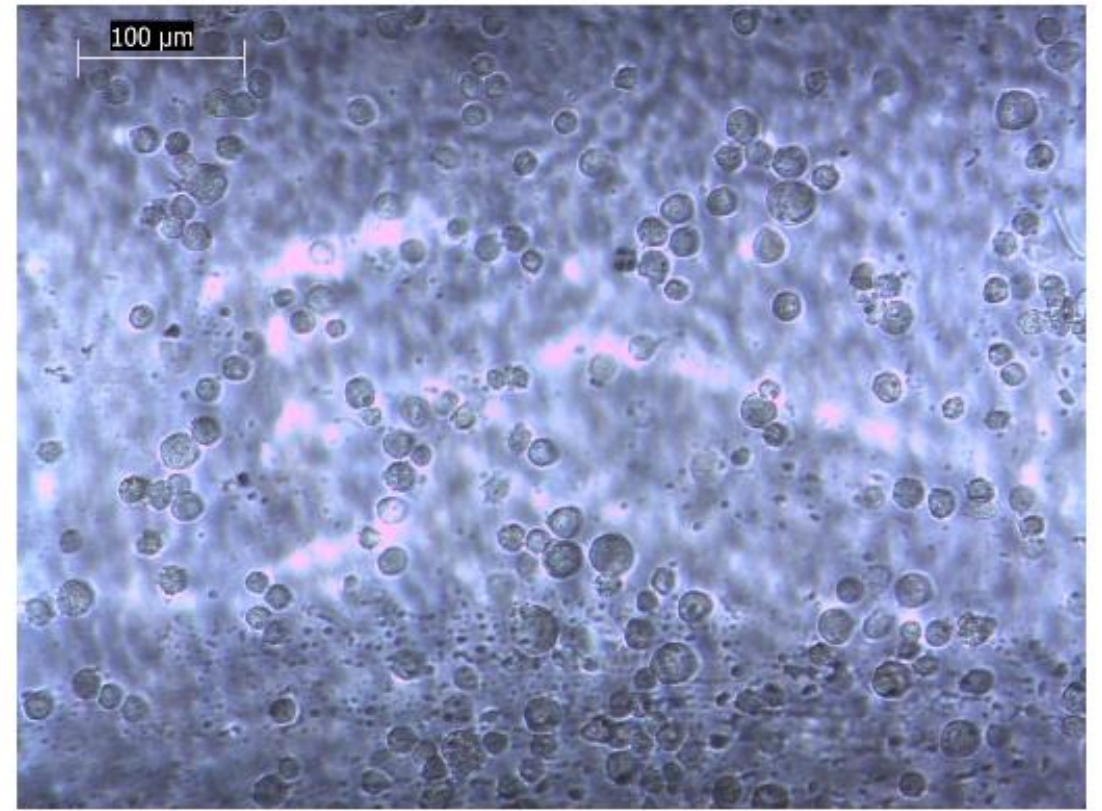
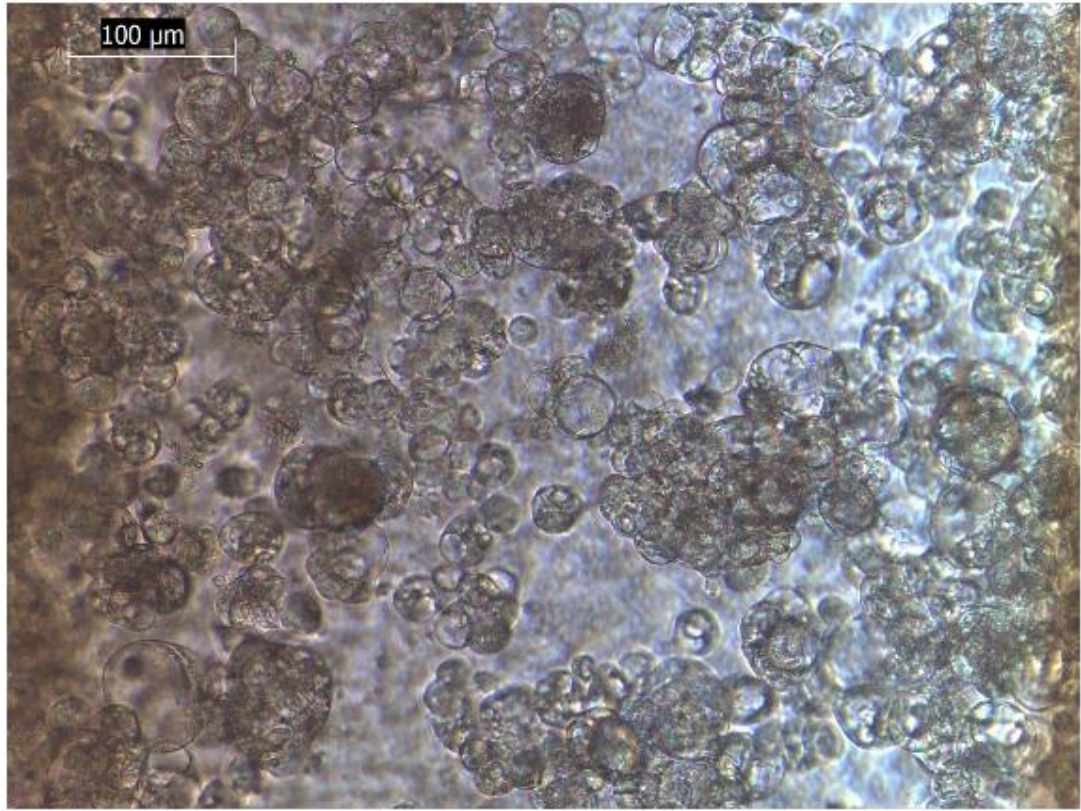
Manually stained



Virtually stained

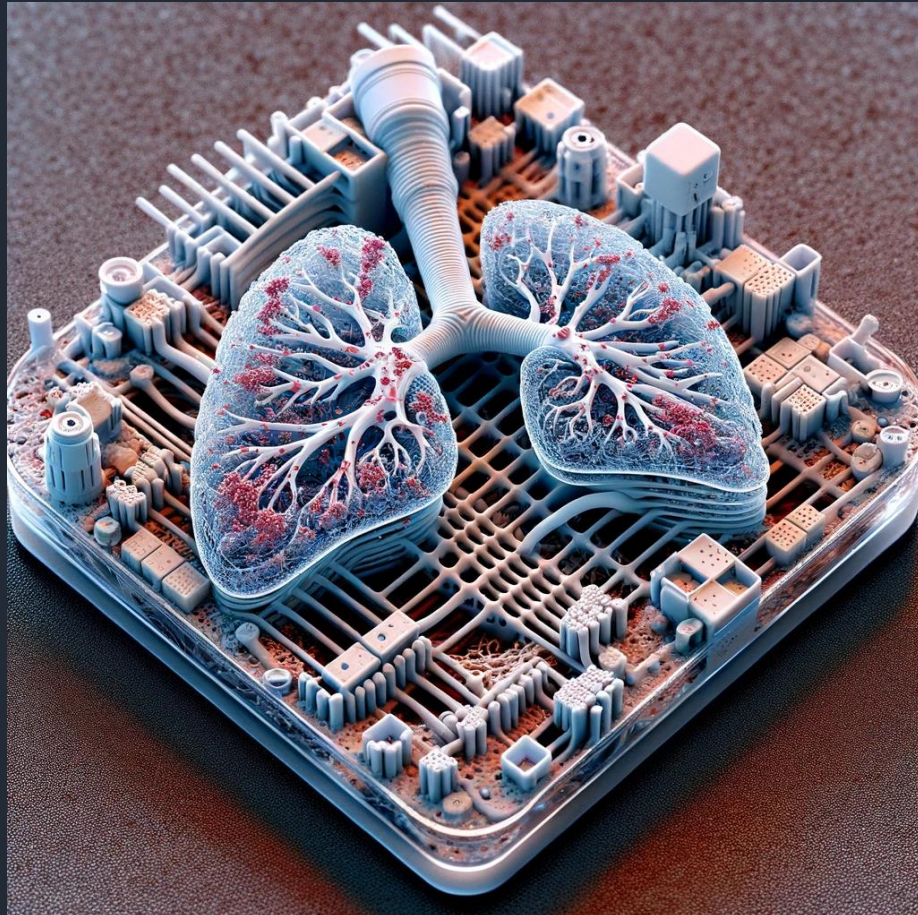






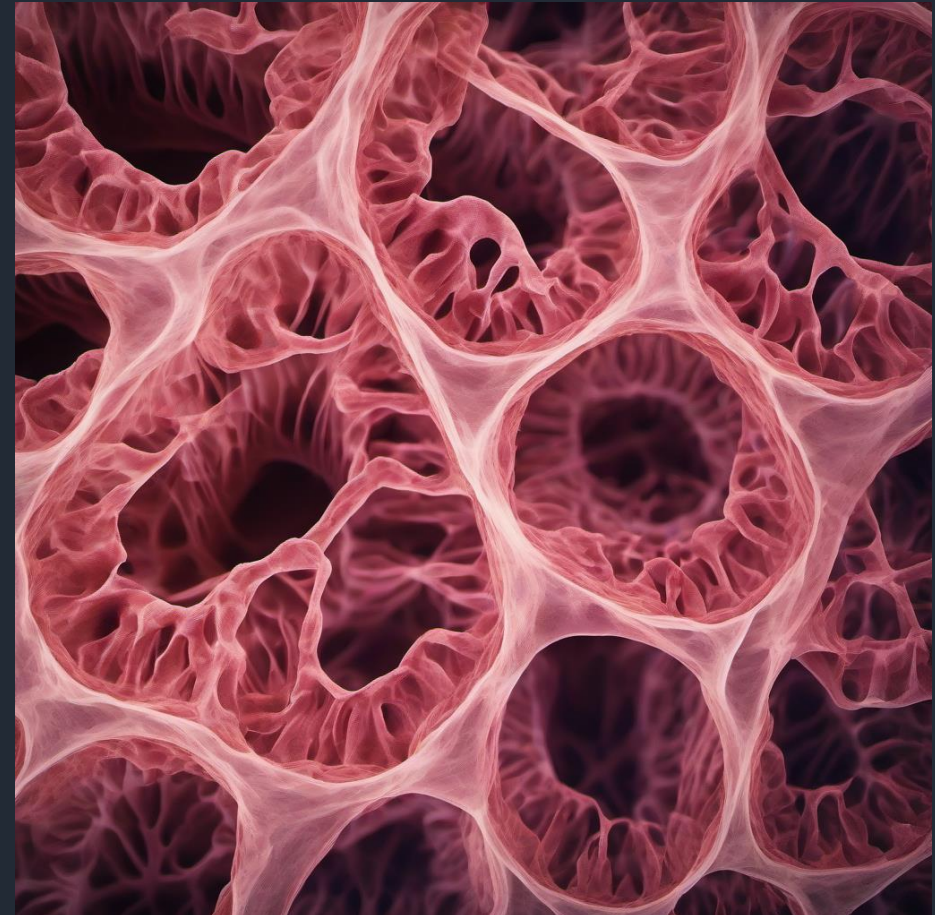
ChatGPT4 (DALL-E 3)

«draw microscopy image of an organ-on-chip with lung cells»

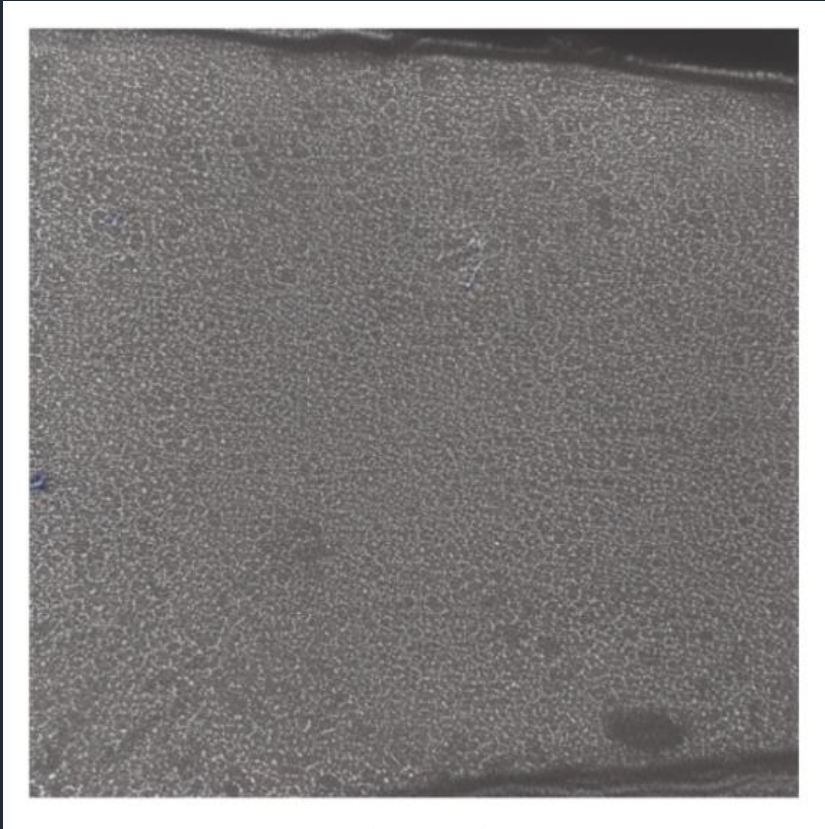


SDXL

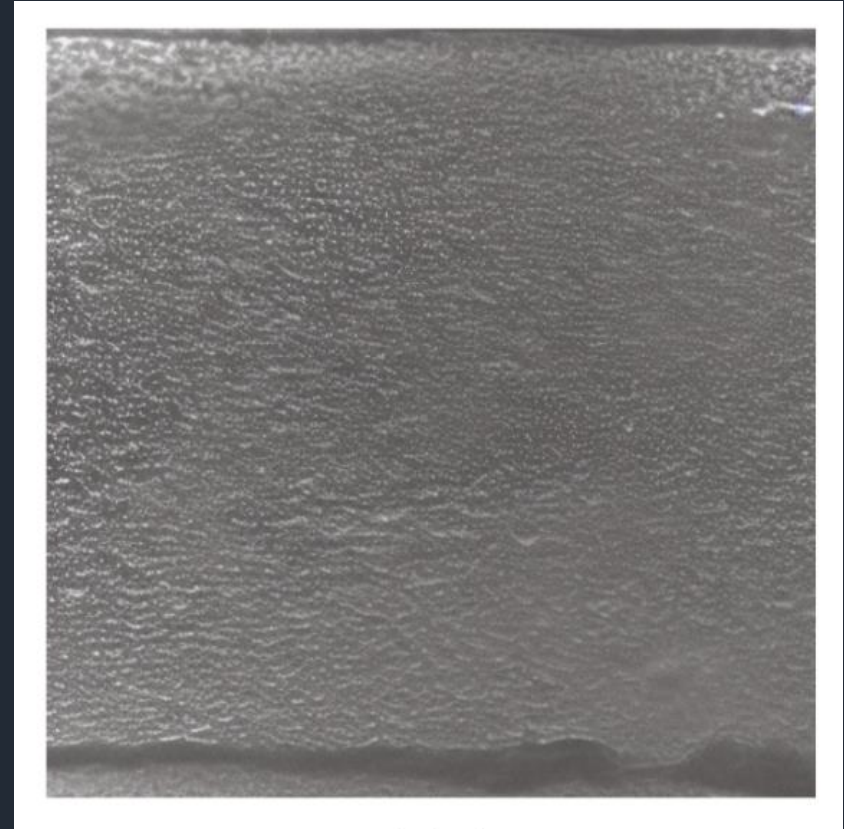
«closeup image of lung tissues»



LoRA – low-rank adaptation

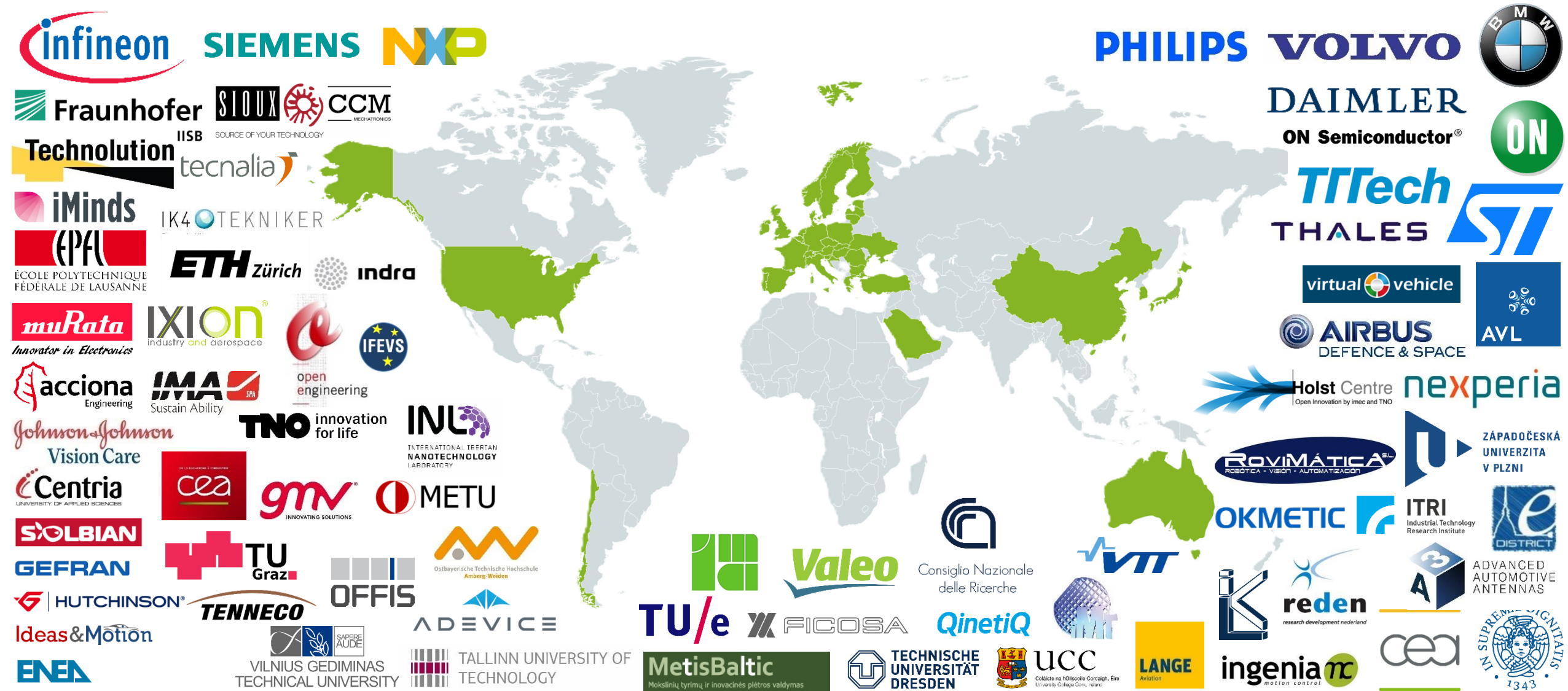


class: **good**

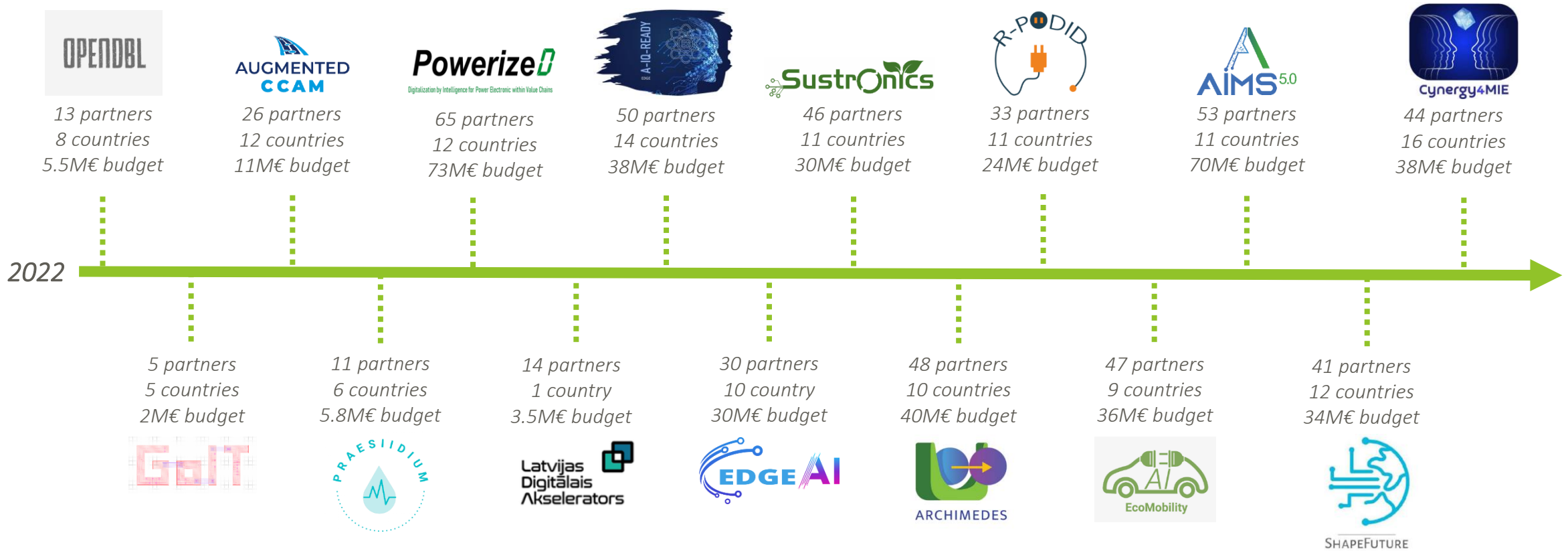


class: **bad**

Some of our partners



EDI in Horizon Europe



Facts and numbers about EDI



Founded:
1960



Location:
Riga, Latvia



Personnel:
120+



Building area:
16 000 m²



No. of Labs:
5

Signal Processing Lab.
Space Technology Lab.
Robotics and Machine perception Lab.
Cyber-Physical systems Lab.
Integrated circuit and systems Lab.



Equipment:
Multi-million
state of the art
equipment



International evaluation:
Highest rated institute in
Latvia in the field of
engineering and
technologies



Collaboration:
500+ scientific and
industrial partners
world wide

Thank you!