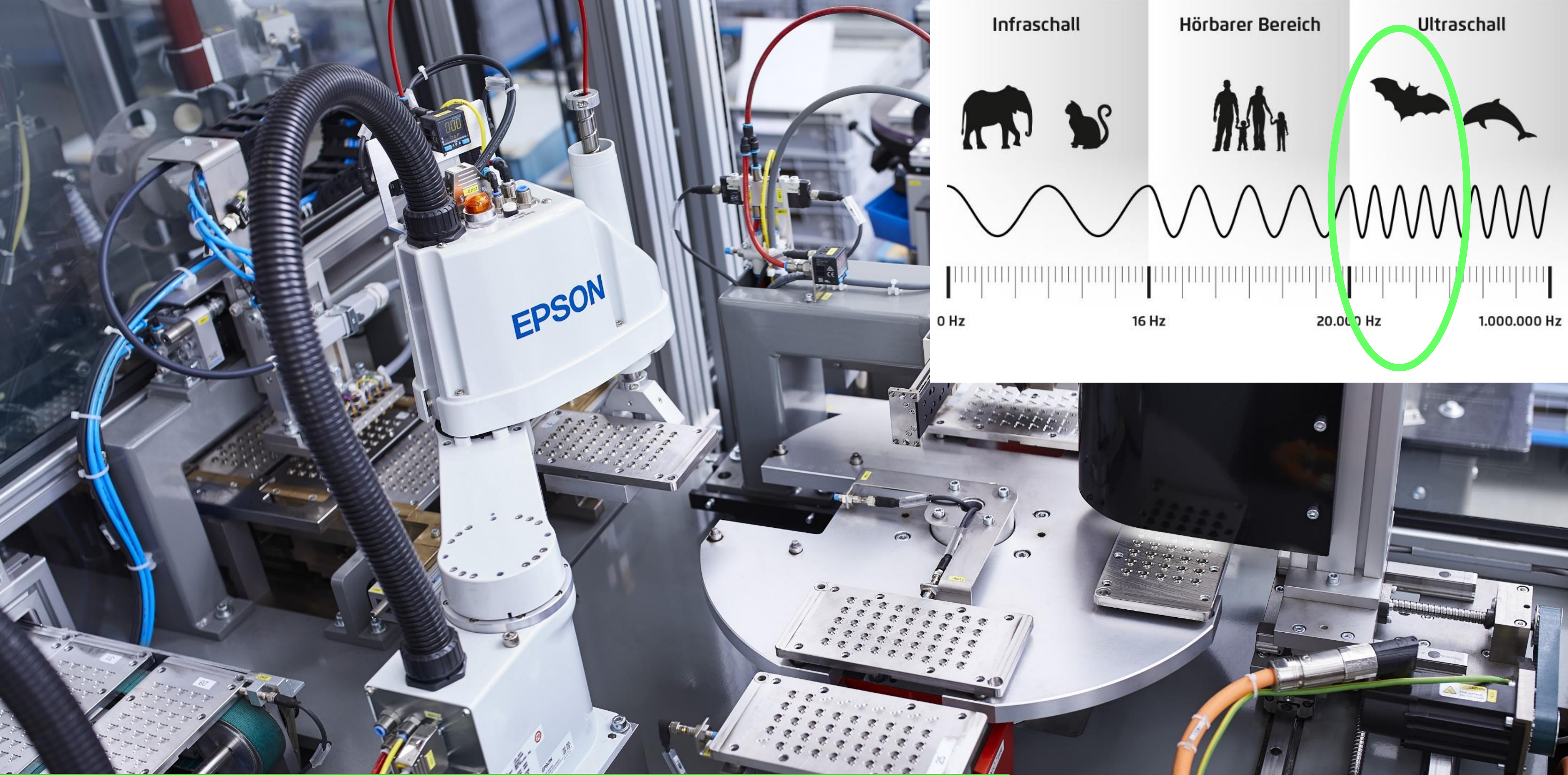
A bat on the production floor.
Condition based monitoring with ultrasound

Iason Kastanis



Situation production machinery:
Frequency range 20-150kHz is not investigated

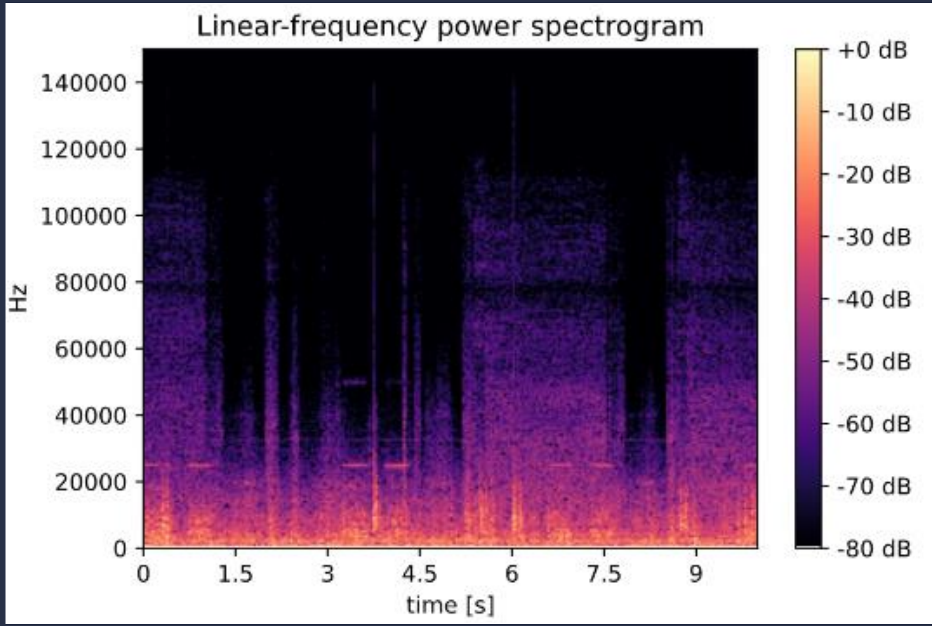
CSEM Research Machine

- Feeder
- Robot
- Conveyor
- Sorter
- Camera
- Illumination
- IR
- Pump
- Vacuum
- Sensors

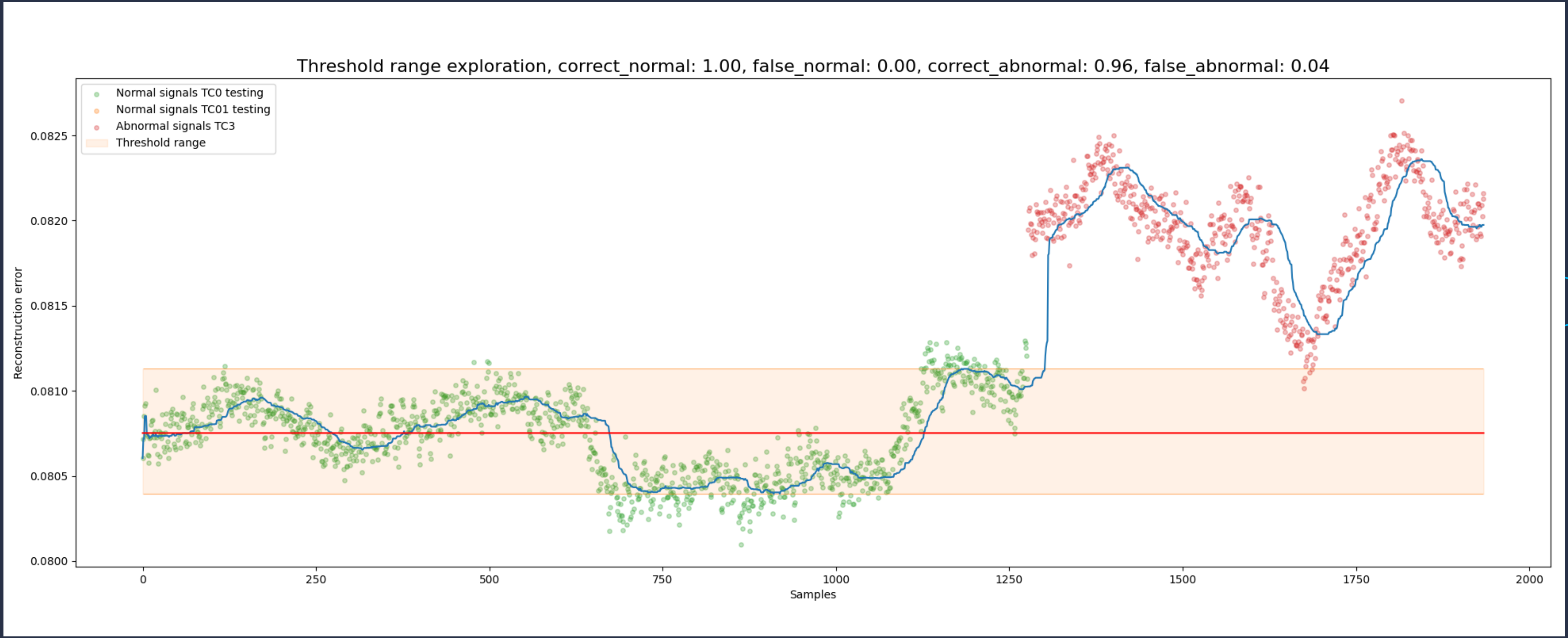
Condition Based Monitoring for Industry 4.0

Special sensor – Batlogger

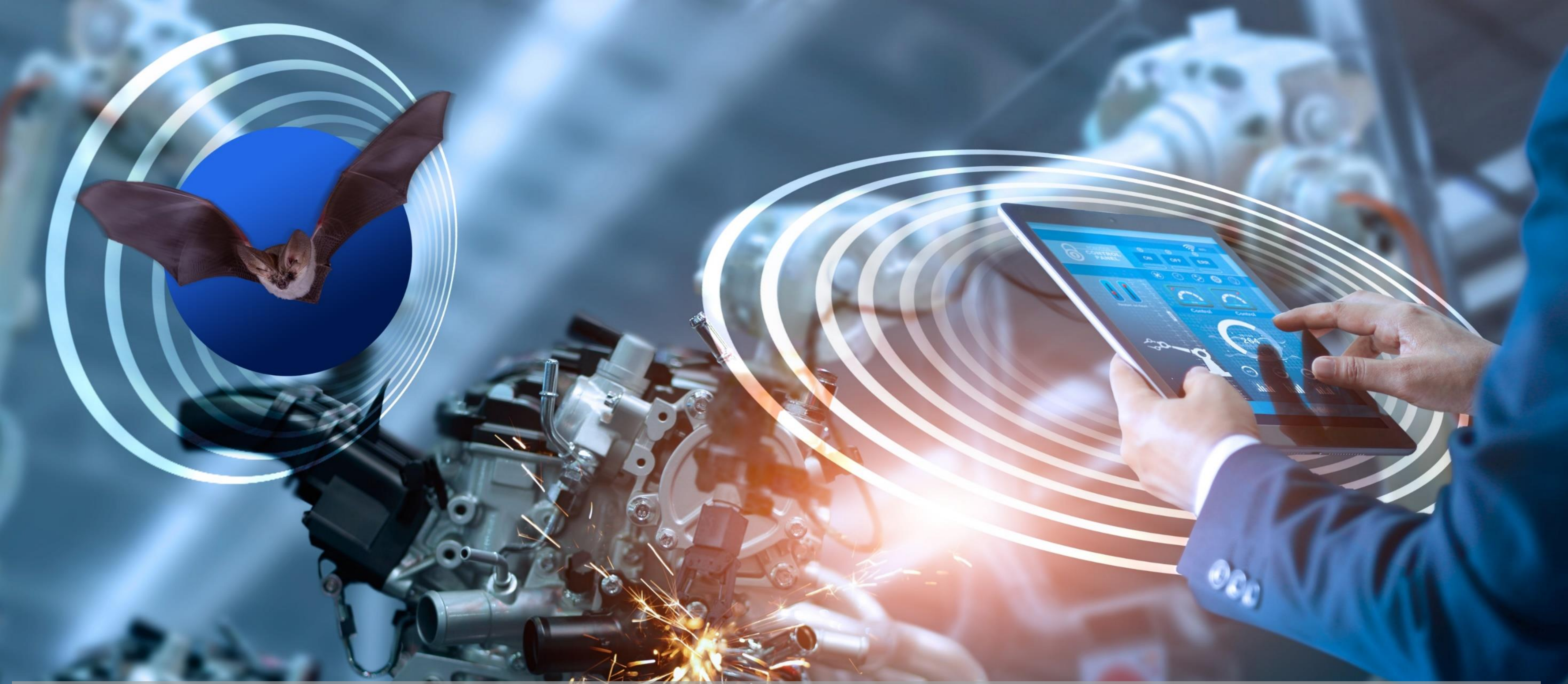
- Microfon: 0-150kHz
- Sampling frequency: 1MHz
- 10s log files
  > 500GB of data



Camera Failure



csem



- **Train AI only with normal operation**
- **Achieve 80% detection accuracy only with 1 sensor**