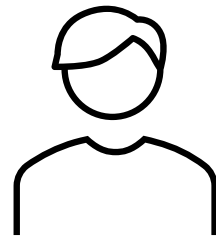TEKNOLOGISK
INSTITUT

A cloud-assisted framework for real-time monitoring of refrigeration and heat pump systems

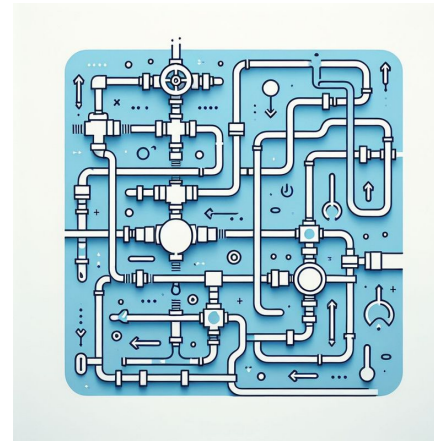Johan Hardt Løbner, Danish Technological Institute (DTI)
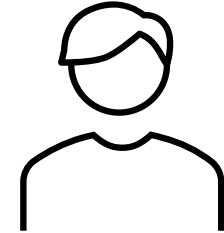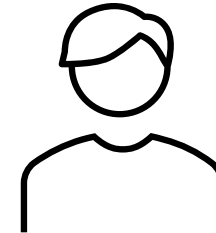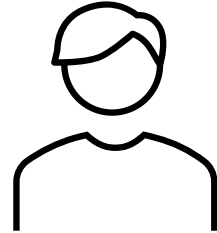
Why

- Systems contain data
- Digital but unconnected
  - Models
  - Systems
  - Loss of data
- What do we want?
- Insights
- Cooperation between systems and people
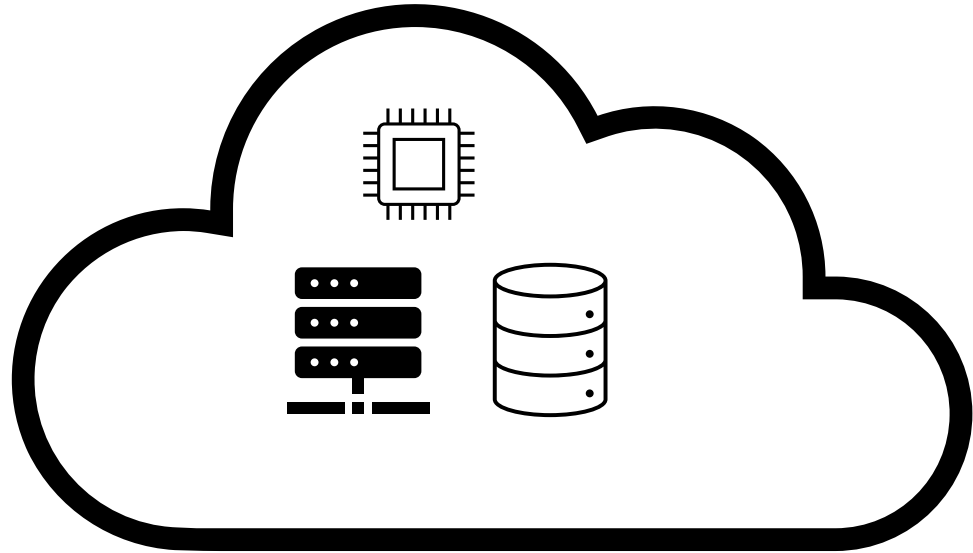 - Anytime anywhere

The end points

- The user(s)
  - Different user different need
  - Anywhere anytime
- The systems
  - DAQ systems
  - Test devices
  - The weather
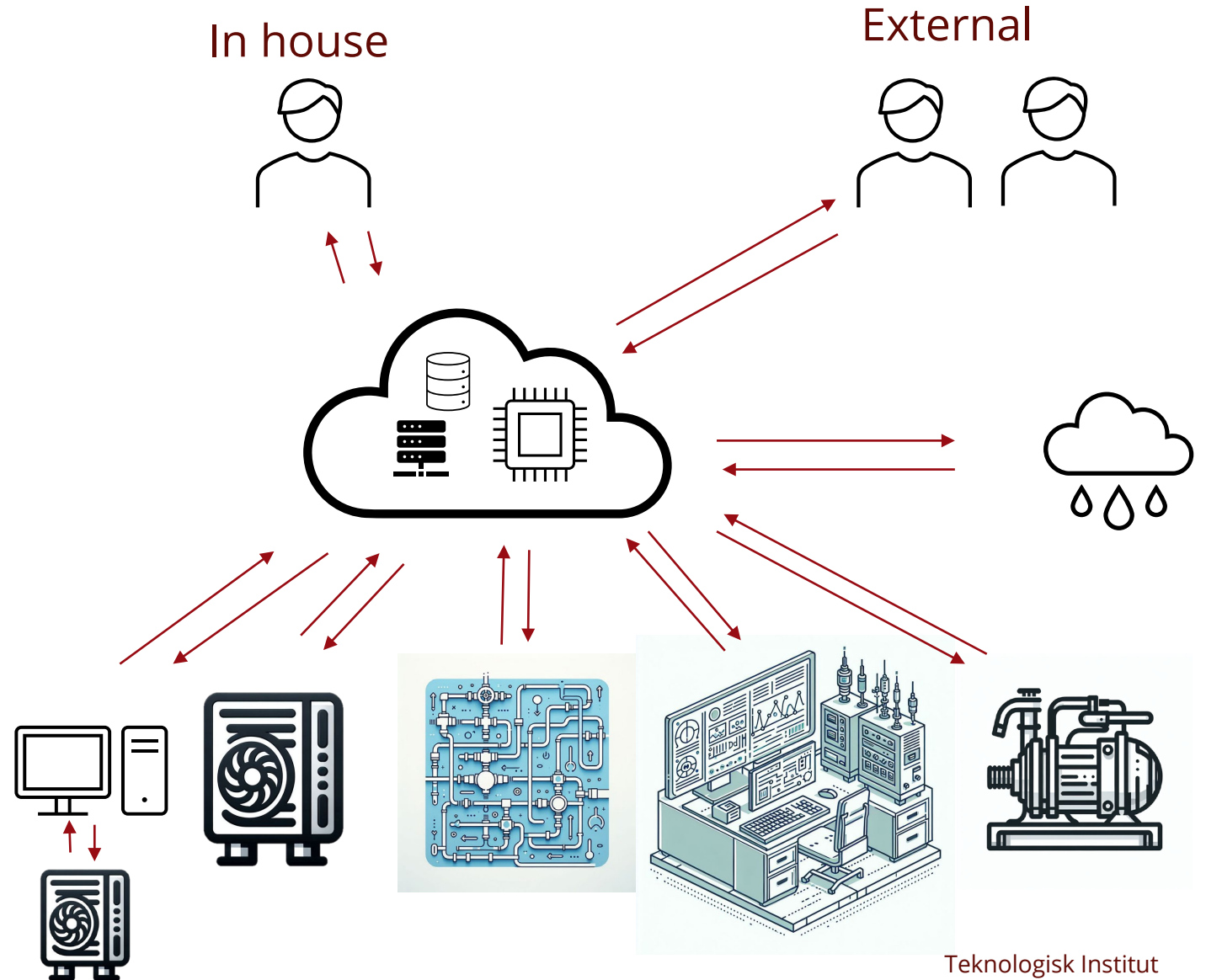- Making it all play together

How and the cloud

- A common connection point

- Anywhere anytime

  - Real time data streams

  - Models and simulations

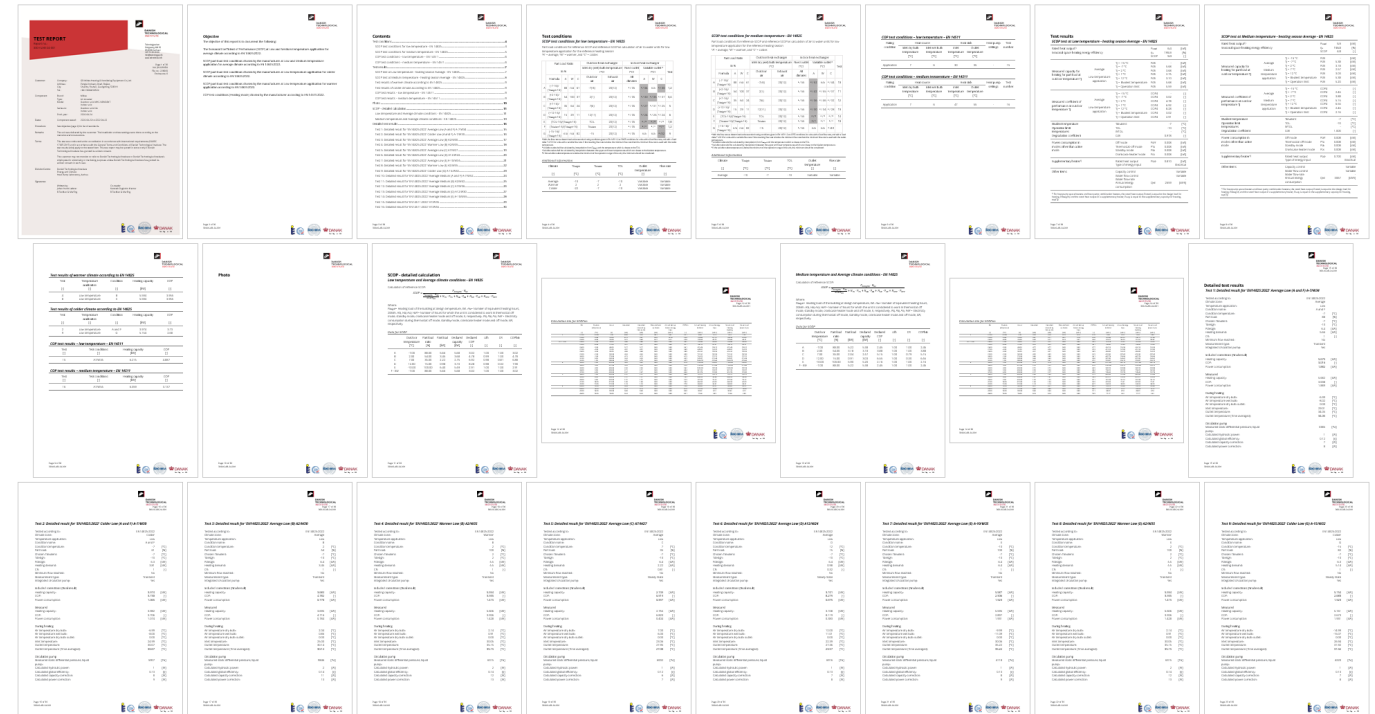- Databases

- Server side processing

The framework

- Connecting the dots
- Translation layers
  - Lifting established legacy systems
- Relying on established protocols
  - MQTT, HTTPS, MODBUS, OPC, SQL..
- Two-way communication
- Real time

In house

External

Teknologisk Institut

The "finished" product

- Cohesive presentation of multiple data sources

- Growing with the challenges

- The importance of flexibility

- Leveraging DTI's excellent IT department

- Custom webapps

- A tailor-made testing environment

- Psst it's never finished

Questions?