# IoT for Maintenance

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#### FOOD GROUP



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# The problem

- Manual maintenance
- Every month
- A lot of different machines
- A lot of money and time



#### Wireless techniques





# Industrie Sensors

- Temperature
- Flow
- Vibration
- Pressure
- Sound













# Corona situation

- Not physically possible to work together anymore
- Restricted access to school resources
- The company is less accessible
- Work from home



sensor simulatie / data generatie









# Sensor placement





#### Tenserflow

- Liniar Regression
- Classification
- Clustering
- Hidden Markov Models
- Neural Networks
- AutoEncoder



# The Solution

#### **The Simulator**

- Run the program manually or automatically
- Sensors can
  "break"
- Sensors, machines and locations are configurable

#### The Database

- Houses the data from the sensors
- The data is accessible for analysis & visualization
- Uses a REST API

#### Tenserflow

- Analyses the sensor data
- Gives a prediction on when maintenance is nececary

#### Grafana

- Visualizes all the information
- Gives alerts when something is wrong



### The Future

- Replace the data simulator or configure it, to have a better representation of the actual machines.
- Confer with the factory employees on what information they want to see
- Intergrade the system on a factory



#### Demo

#### Meat compressor #32 -

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