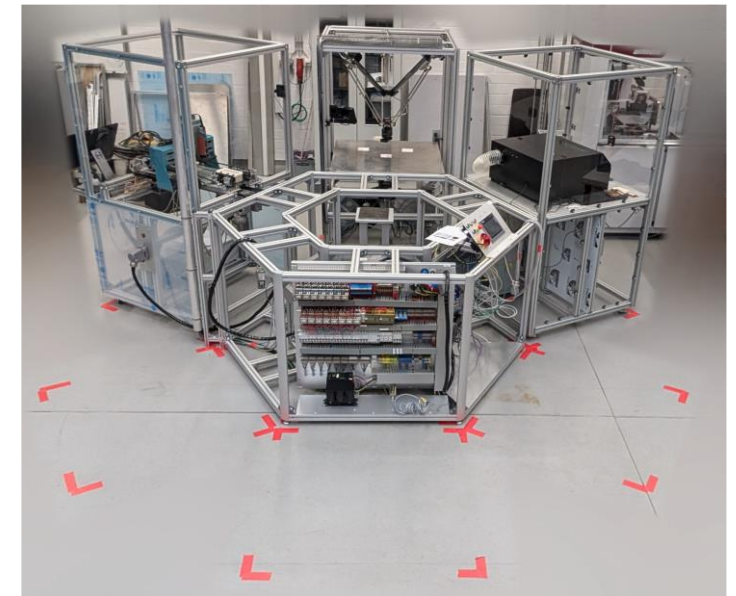
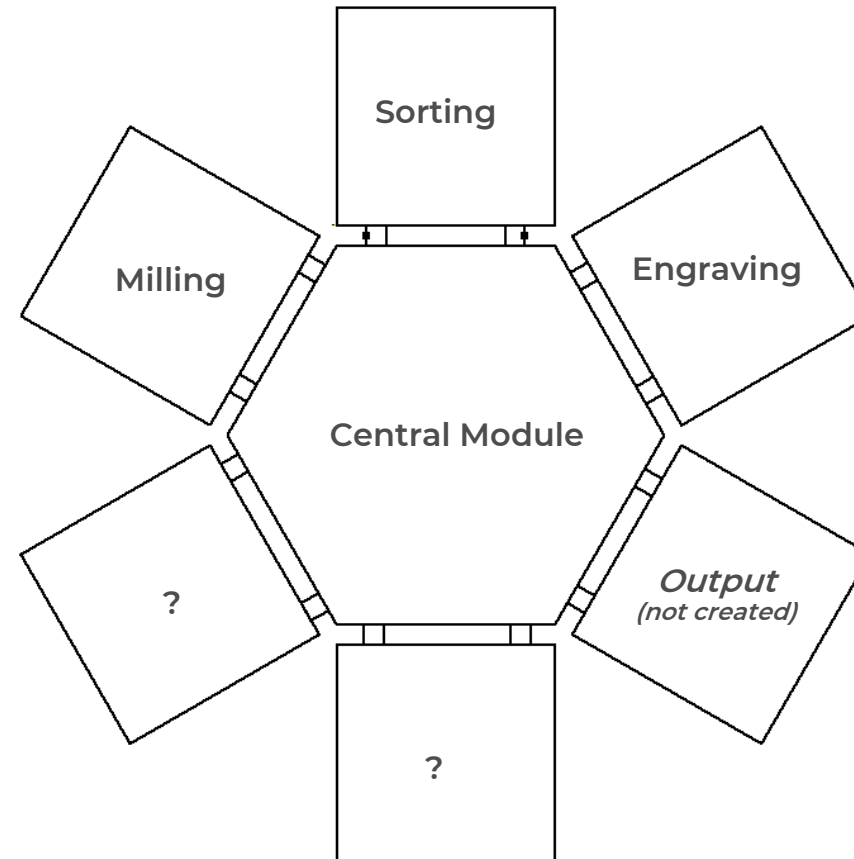


# Digital Factory

Project Group



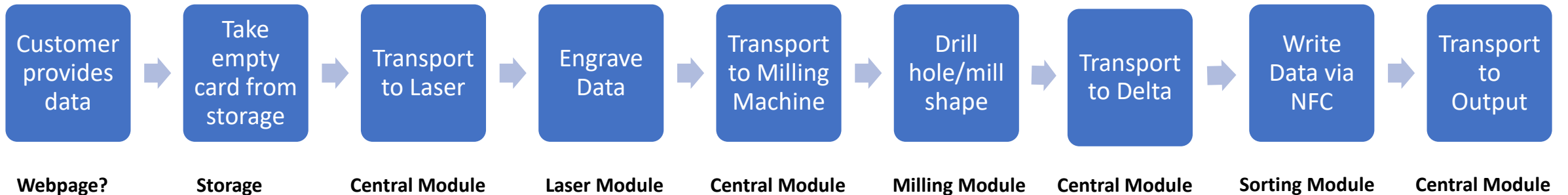
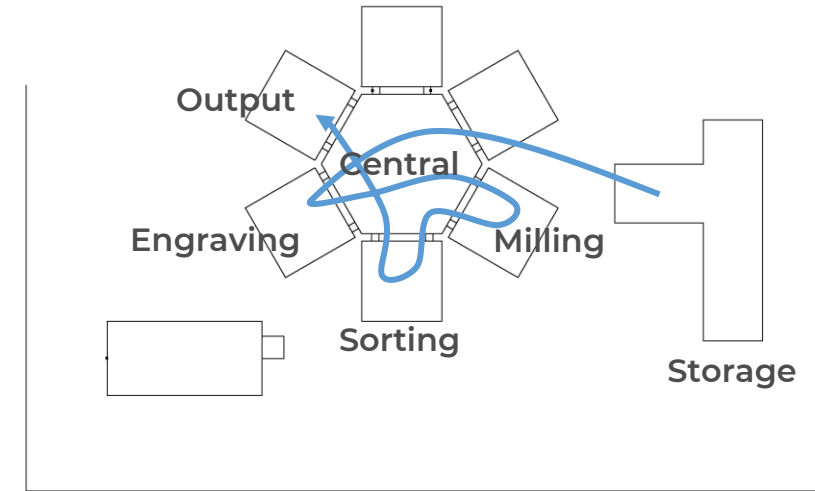


# Product and Production Process



NFC Business Card

Each **product** is supposed to have an „**AAS**“ to store its **data** (e.g. business card info or engraving/milling programs)



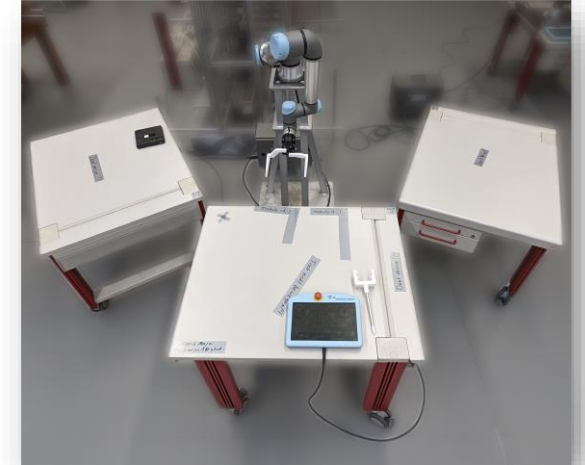
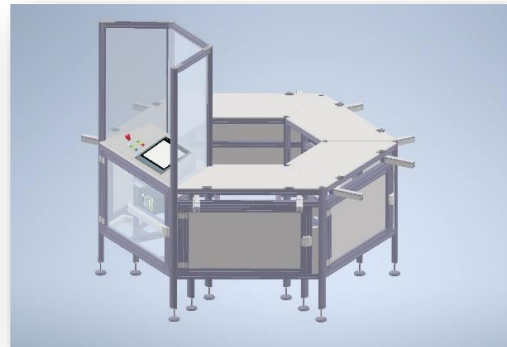
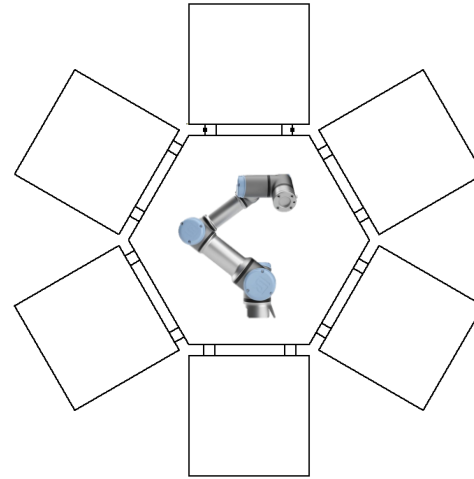


## Storage

- Stores platforms
- Not directly connected to hexagon yet
- We assume that there is an existing transportation mechanism between them

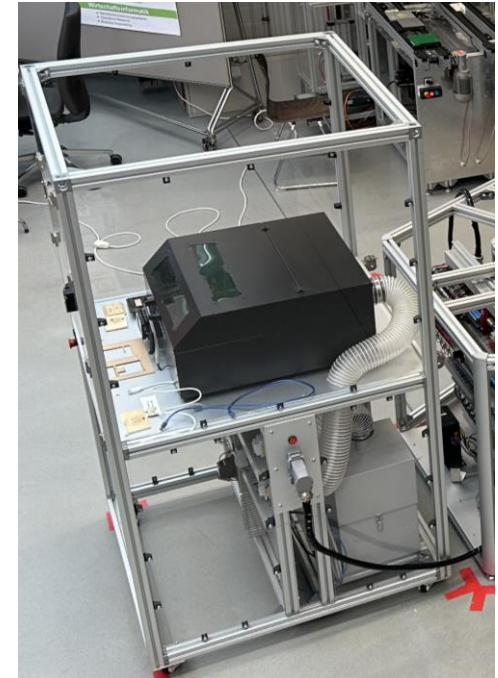
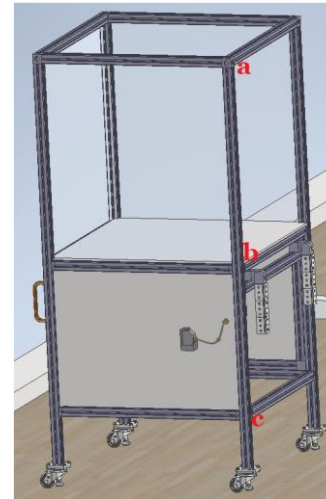
# Central Module

- Robot transports platforms between modules
- 6 positions to transport to
- Places the platforms inside the module



# Laser Module

- Platform with product needs to be placed into the laser (and aligned accordingly)
- Module needs correct program to laser the correct information (takes it from AAS?)
- Maybe Quality Check after Laser Process?



# Milling Module

- Module contains a CNC milling machine
- Machine can be used to drill a small hole or a shape into the card (could be individually assigned by the customer)





# Sorting Module

- Delta kinematics robot can pick and place the product
- This can be used to:
  - Sort the products into holders
  - Put the product in front of a NFC writer to write data onto it

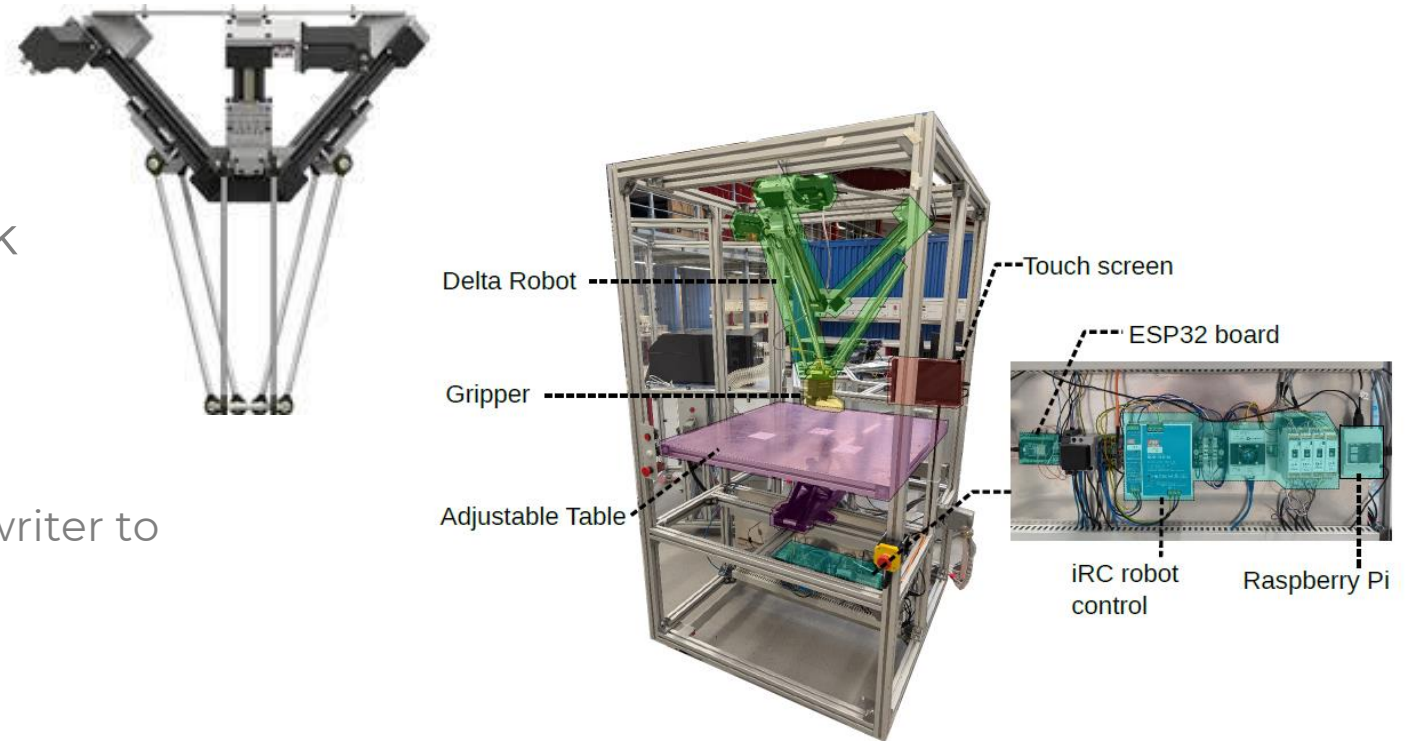


Figure 3: Pick and place module components



# Module Capabilities and Description

- Similar to the product, each module is supposed to have some kind of Asset Administration Shell
- The Asset Administration Shell – among other data – contains a capability description of the module
- The usage of a certain resource (e.g. the different modules) is decided during the process based on the available capabilities
- For a better explanation of this concept, see [here](#)

