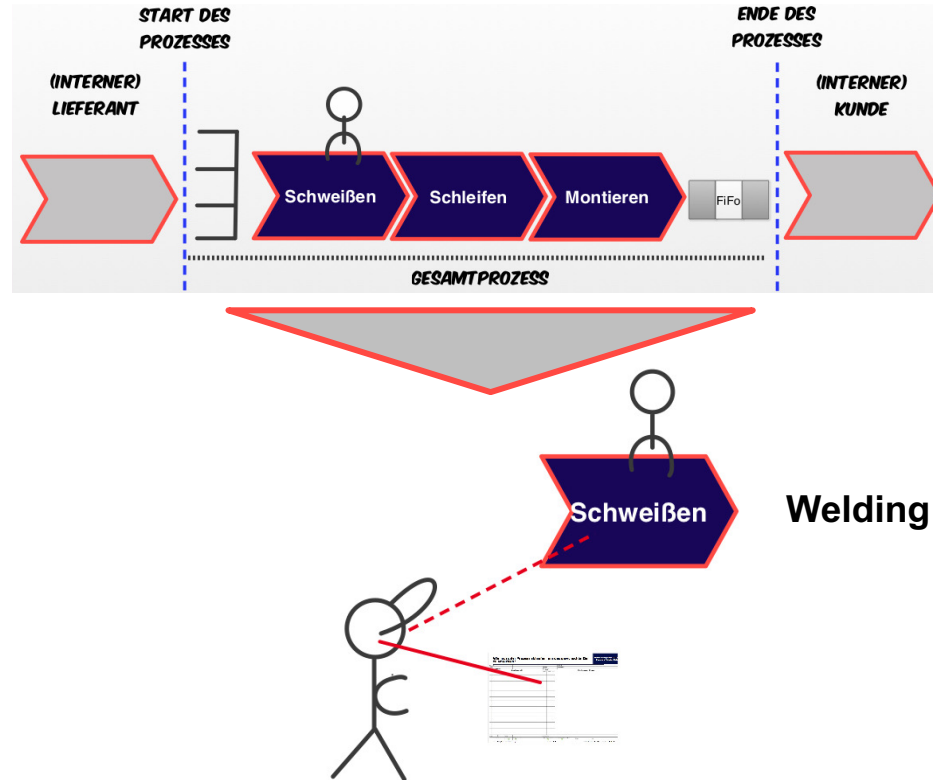




What is the sketch useful for?

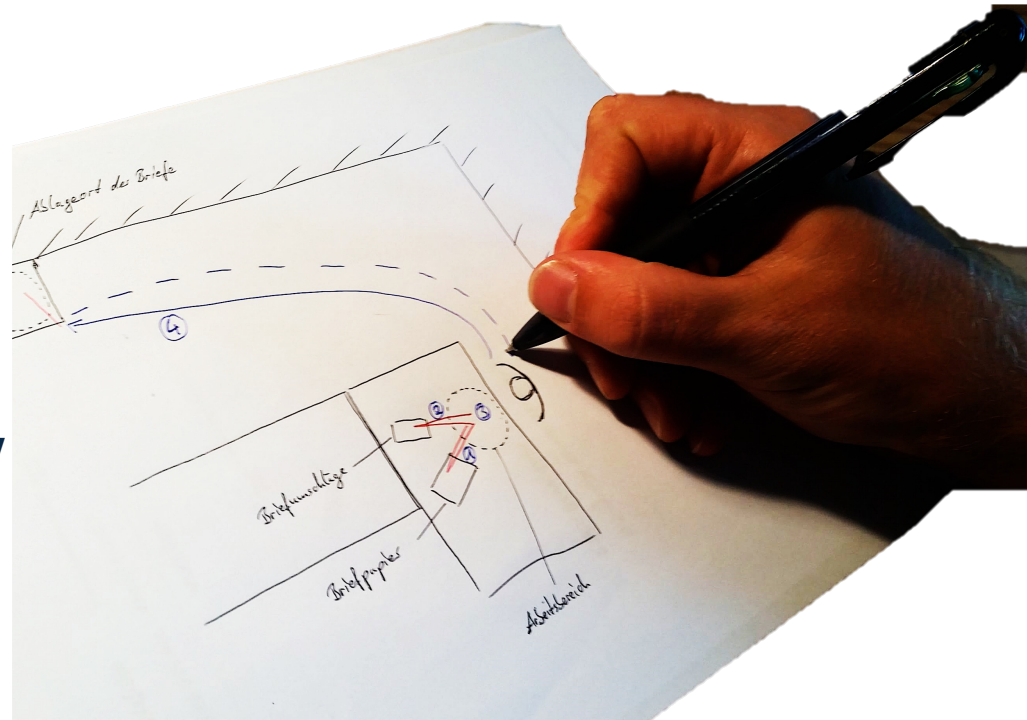


- Process understanding = key to success
- Build understanding through sketching.
- Sketch is the basis for in-depth observations

What is shown in a sketch?

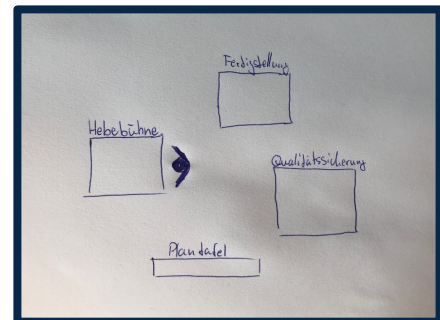
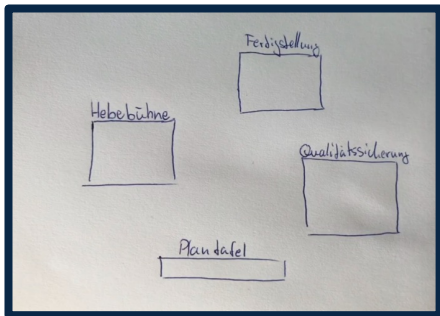
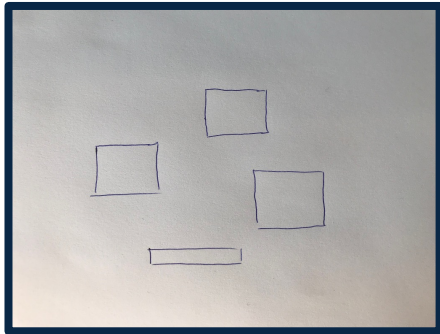


- Entry process understanding = movements
- Overview through the following elements:
 1. **premises** & environment of the process
 2. **working position** of the employee
 3. walking or gripping paths
 4. **return path** to the working position
- Elements visualised from a "**bird's eye view**"



Sketch the movements yourself to build your understanding of the process

What is shown in a sketch? - Premises & environment



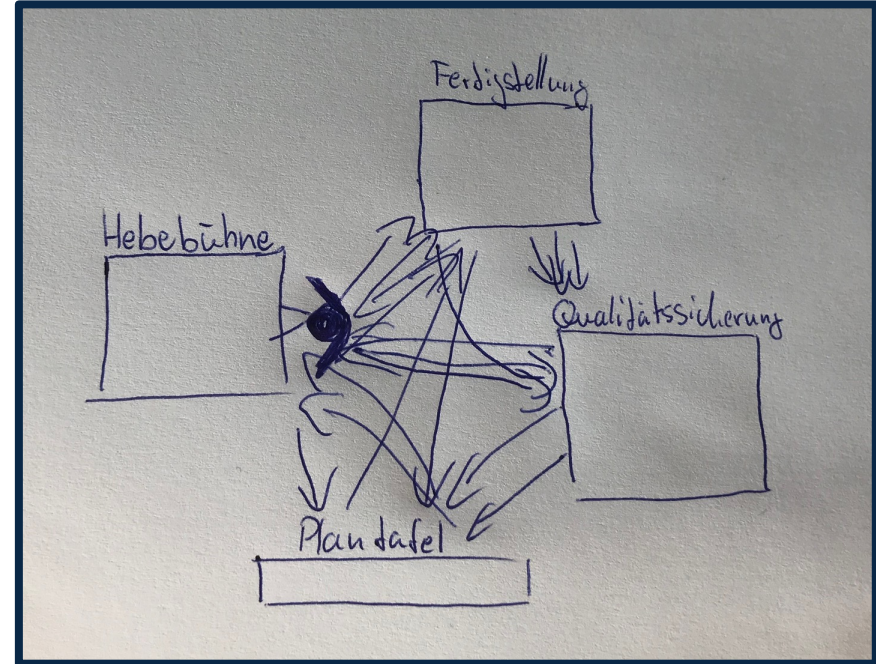
- At the beginning: **observe few cycles**
 - **Visualise the working environment** of the process
 - Draw premises on **blank sheet of paper**
 - Representing a real working environment
- ! Important:**
Visualise all places relevant for the process !
- **Label areas.**
 - **Working position** to start the cycle:
 - Draw in the **paths of the employee.**



How are the movements visualised in the sketch?



- Observe the process and draw **paths**.
- Distinguish between walking and reaching paths.
- **Employees** working at **several workplaces**:
Walking routes at and between workplaces
Overview of the routes
- Visualise walking routes **with arrow** in walking direction
- Activity **predominantly** at a **workplace**: →
Visualise **gripping paths** at the workplace.
- Gripping paths marked **with a line** ———
- Depending on the focus: First analyse walking paths and then gripping paths.
- **IMPORTANT: Record every single movement from start to finish.**
Every single way the employee moves!



Draw every single movement in the layout

How are the movements visualised in the sketch? (2/2)



Overview of the display elements

1. walkways



- Visualise walking path with arrow
 - Draw an arrow in the direction of travel of the employee
 - From the starting point to the end point of the walkway
-

2. gripping paths



- Visualise the reach path with a line
 - From the starting point to the end point of the gripping trail
-

3. way back



- Visualise the return path (end of cycle) with a dotted arrow in the direction of travel.
 - From the starting point to the end point of the return journey
-

4. quality



- Visualise quality-relevant work steps with "quality diamonds"
 - Visualise quality diamond in the place where the step is performed
-

5. safety



- Visualise safety-relevant work steps with a safety cross
- Visualise the cross at the place, workstation or device where the work step is carried out.

What must be considered when creating a sketch?



Instructions for creating a sketch:

- Represent an entire cycle.
- Leave sufficient space
- Visualise every single movement.
- Walking distances when working at several workplaces
- Predominantly at a workplace: Reach distances
- Several employees involved: Observe one at a time

The sketch visualises the actual observed sequence of a cycle.