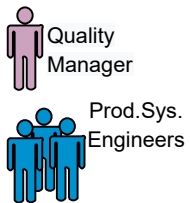


14.0 Stakeholder questions/concepts



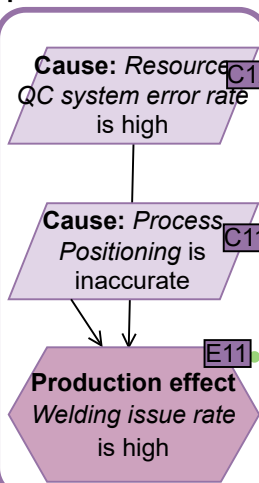
Production quality:
Why is Welding issue rate high?

Resource function:
When is Q. Control sys. error rate high?

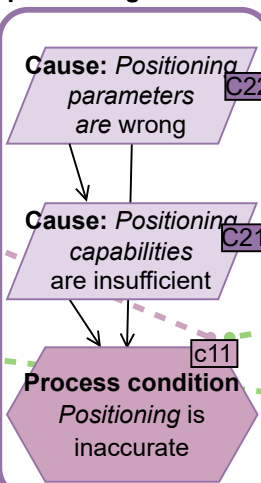
What processes or resources influence
Throughput?

Production condition > FMEA (DIN 60812)
Cause+Effect Network (CEN)

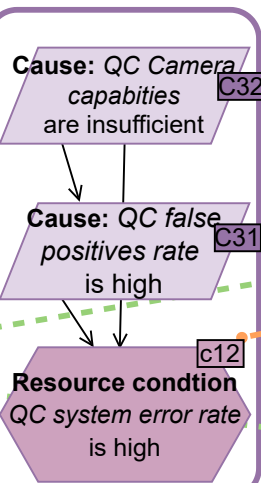
CEN Module A: final production condition



CEN Module B: pre-processing condition



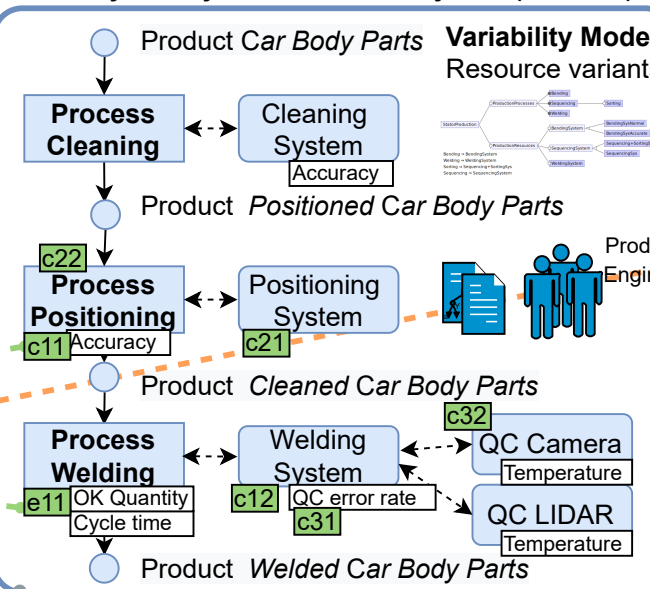
CEN Module C: resource condition



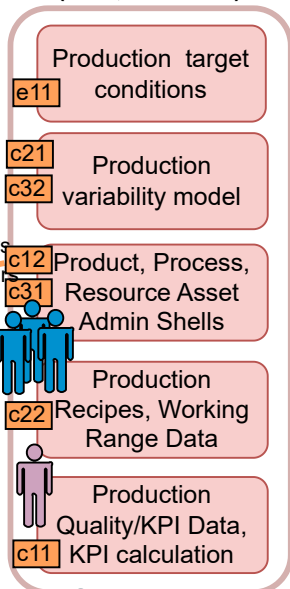
Industry 4.0
Information System
Solution Architecture

Production Knowledge/Database

Product, Process, and Resource Asset Network (PAN)
for a Cyber-Physical Production System (VDI 3682)



Production Data Space (PDS, VDI 2206)

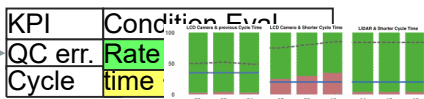


Answers to stakeholder questions

```
Scenario: OK10 -- Good
# above_limits (shl)
hairpin_ok_state
Then *number of OK
*above the thresho:

MATCH pts=(n)
WHERE (n:cause=true or n:effect=true)
AND NOT ((n)-[:ppr_conn]-())
FOR EACH (t IN NODES(pts))
SET t.marker="Diamond.Red"

MATCH pts=(a:ppr)-[]-(b)
WHERE (a)-[:ppr_conn]-()
AND NOT ((a)-[:pda_conn]-())
FOR EACH (t IN NODES(pts))
SET t.marker="Diamond.Yellow"
```



IS User Interface