**PAC Lite**

**Idea / Goal**

- Know some basics of a machine without connectivity

**Requirements**

Signals 24 V  
- Up  
- Down  
- Good Counts  
- Indexes  
- Bad products

Based on digital signals

No wireless communication  
Goal to drive CAMSTAR

Option: With remote IO to collect

“Retrofit” functionality

Box small with PLC in it

**Open Questions**

How many PAC licenses do we need?  
e.g. 5 machines on one PLC?

Last Information from znt:  
10 measurement values per PAC possible  
Results in about 100$ based on other the licensing model

Typical:  
1 PAC per Equipment  
  
By now PAC is the common way to communicate to Camstar

How many CAMSTAR licenses do we need?

Camstar User?  
1 user == 1 equipment == 1 resource -> ? to be clarified

**Information**

Intern starts on Monday for whole summer

**Possible solutions**

**Single machine on one PLC, all the same**

S7 PLC, S7 1200 local IO, 150 $  
Every machine has ethernet on 100 $ per port  
PAC License 1000 $  
Box 300 $

1500 $ per machine

**Collection a line of 10 machines on one PLC**

S7 PLC, S7 1200 local IO, 150 $  
Ethernet port 100 $ per port  
PAC License 1000$ to be clarified?  
Box 300 $  
10 IO’s 5000 $

655 $ per machine

**Single machine on one PLC, all the same, without PAC**

S7 PLC, S7 1200 local IO, 150 $  
Every machine has ethernet on 100 $ per port  
Box 300 $

500 $ per machine

**Single machine on one Microcontroller, all the same, without PAC**

Microbox with Microcontroller 100 $  
Every machine has ethernet on 100 $ per port  
Box 300$

400 per machine

**Single machine on one Retrofit KIT / SCADA BOX, all the same, without PAC**

SCADA Box 300 $  
Every machine has ethernet on 100 $ per port  
Box 300$

700 per machine

10 lines with 10 machines 100 pieces for HIL

**Communication**

3 transcactions to CAMSTAR

Standard definition of Jason Telegram sent by IoT Box,   
one piece of service JSON in -> to XML (ESB) -> CAMSTAR

**Best Case:** IoT Box counts, sent counts and Up / Down with MQQT -> ESB (Conversion) -> XML to CAMSTAR

Queuing necessary, done in SCADA Box, to be implemented on ESB Level (active MQ)  
Function ready to use with SCADA Box