

DE LA RECHERCHE À L'INDUSTRIE



# GAS CONTROL

## PLC specifications and application

[www.cea.fr](http://www.cea.fr)



Quentin BERTRAND, July 10th 2017

- Common PLC specifications
- Control architectures for ESS nBLM
- Process
- Status



# COMMON PLC SPECIFICATIONS

Siemens PLC 1500 are :

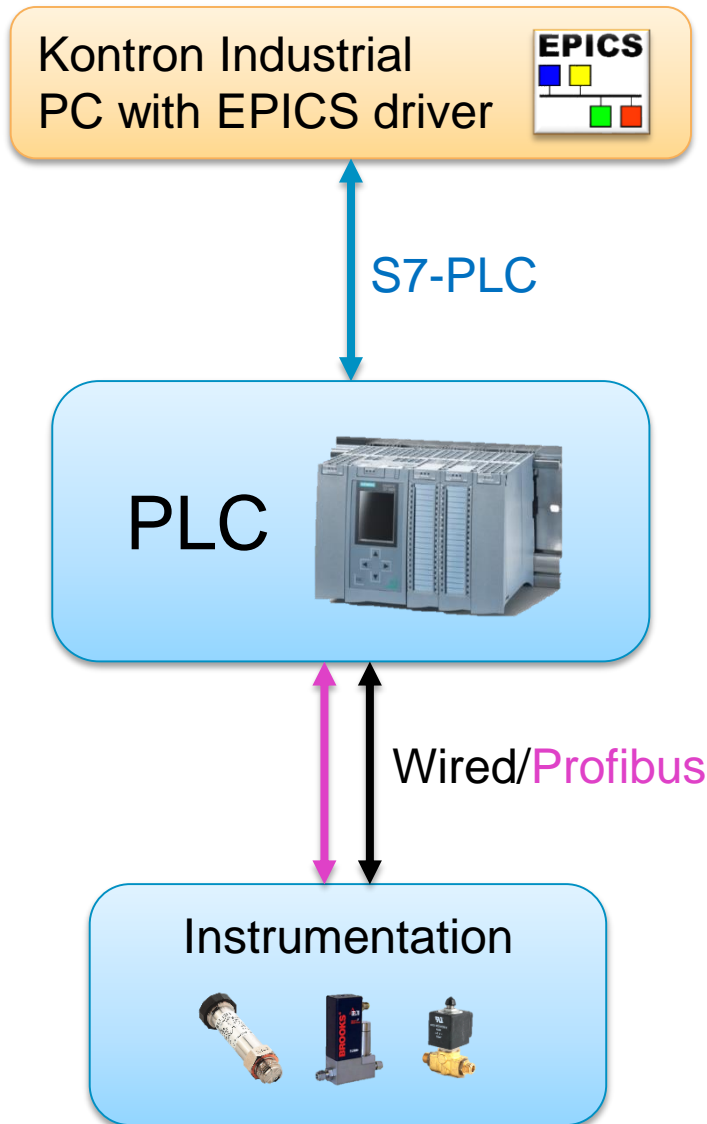


- New generation Siemens PLC
- Programmable with TIA Portal
- In production and updated for at least 10 years
- Available for 15 years more as spare parts
- Deployed all around the world in industries
- Deployed on many of CEA experiments



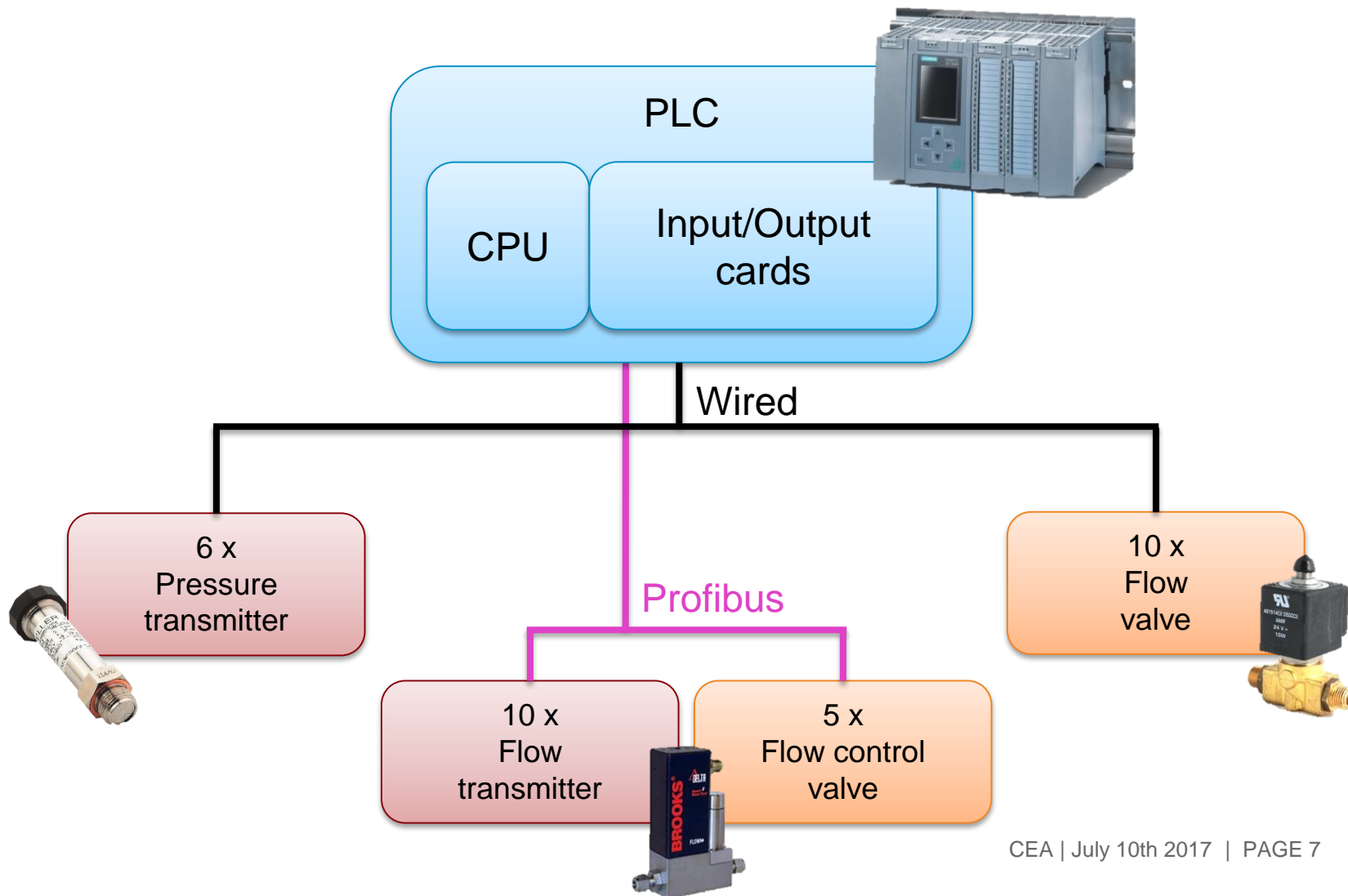
# NETWORK AND PLC ARCHITECTURES

# ESS NBLM NETWORK ARCHITECTURE

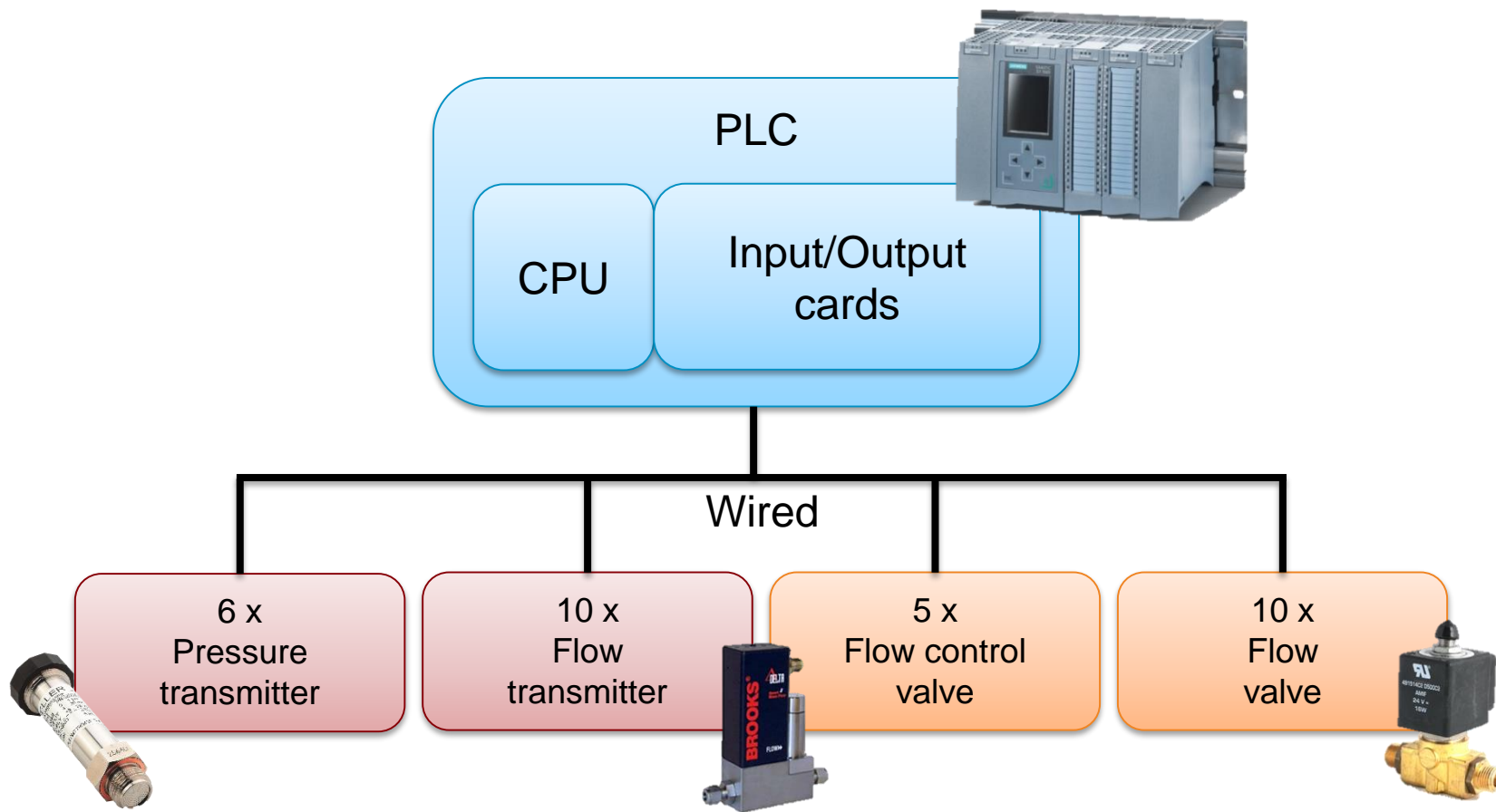


Communication  
with  
instrumentation :  
  
2 possibilities

## Profibus solution

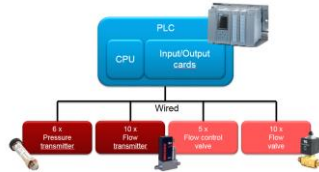


## Wired solution

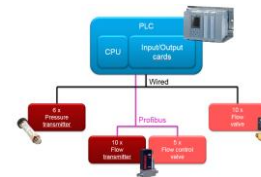




## Pros and cons



- No fieldbus limitation



- Only 3 PLC cards
- Easier implementation
- More information uploaded to the PLC
- Profibus use by Brooks, MKS...
- Add a device : less expensive and faster



- 6 PLC cards
- More electrical cabling

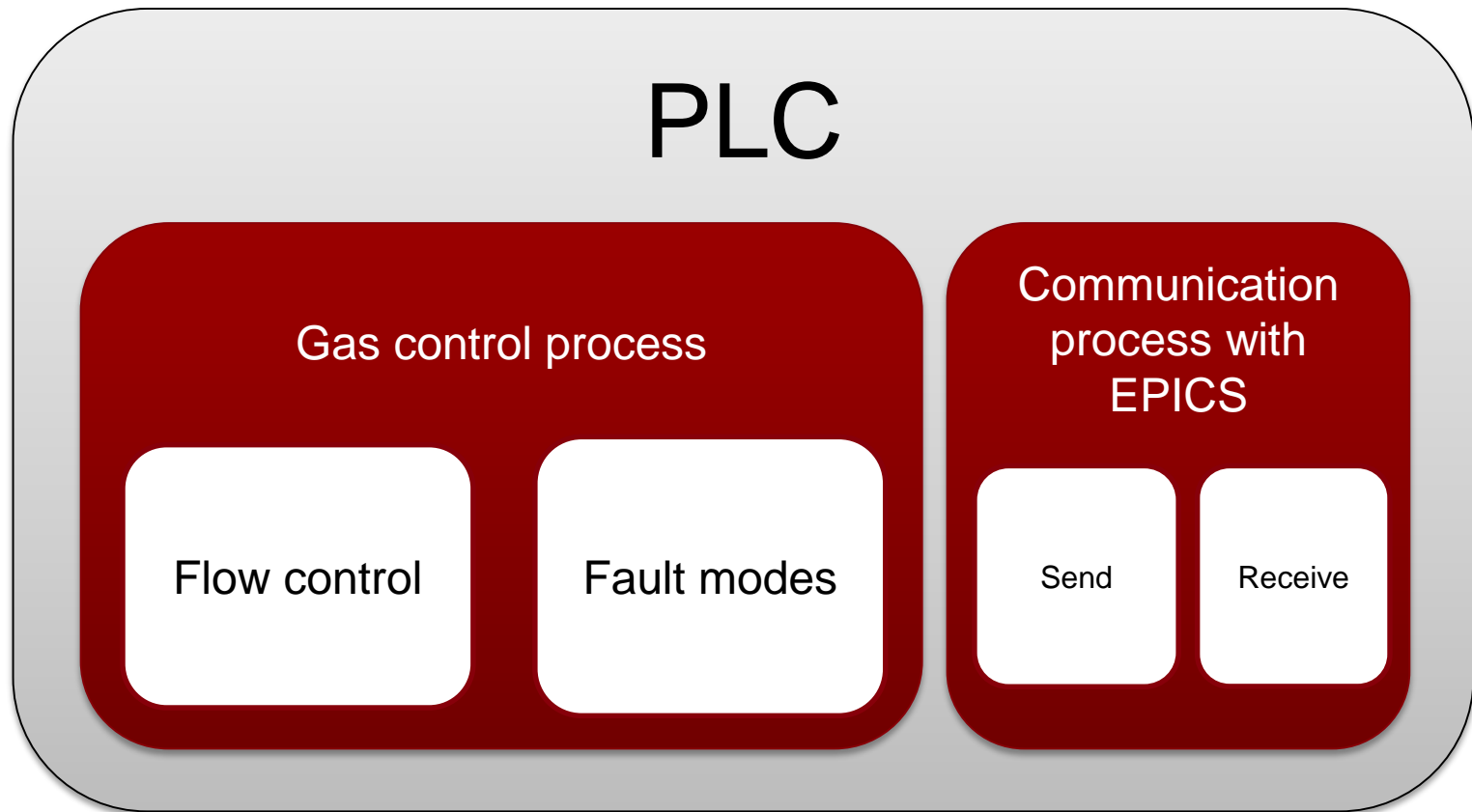


- Special fieldbus cable

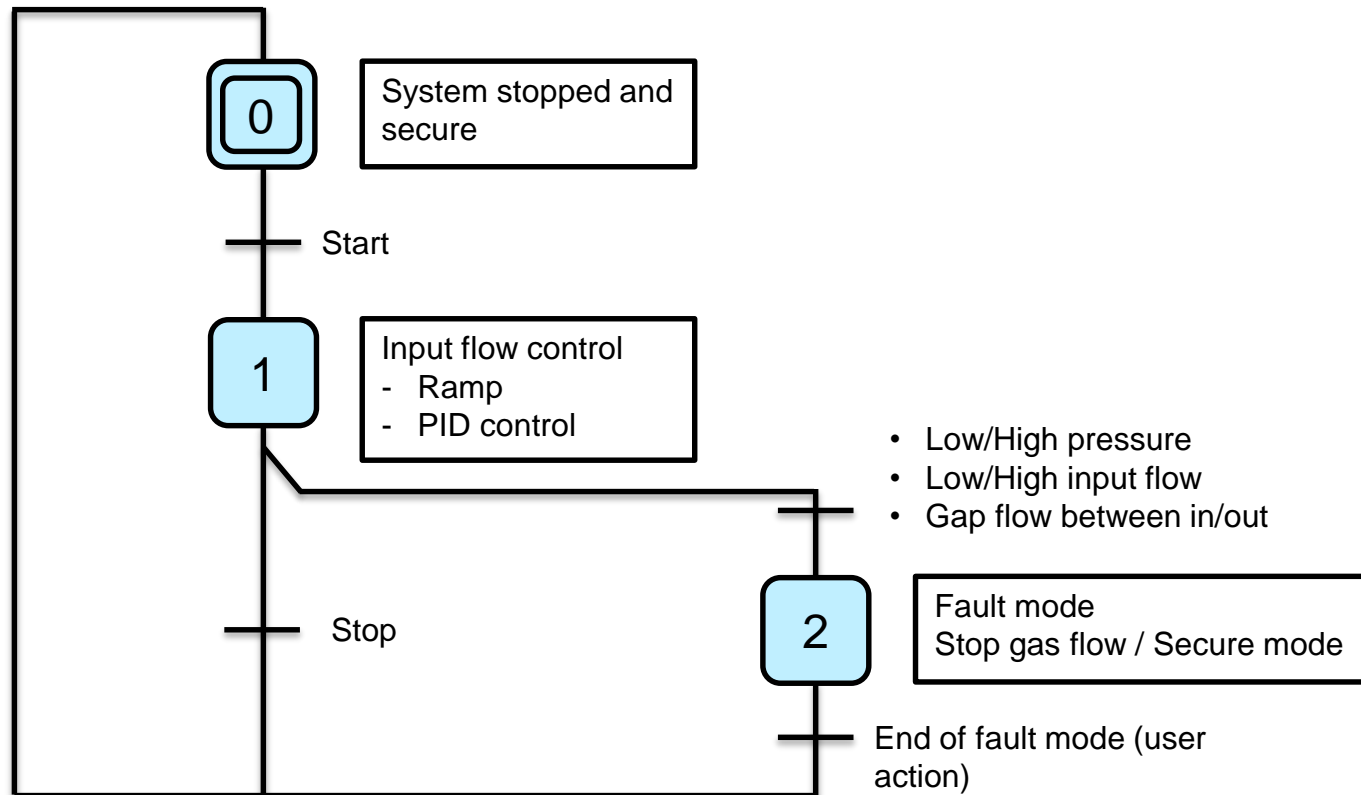


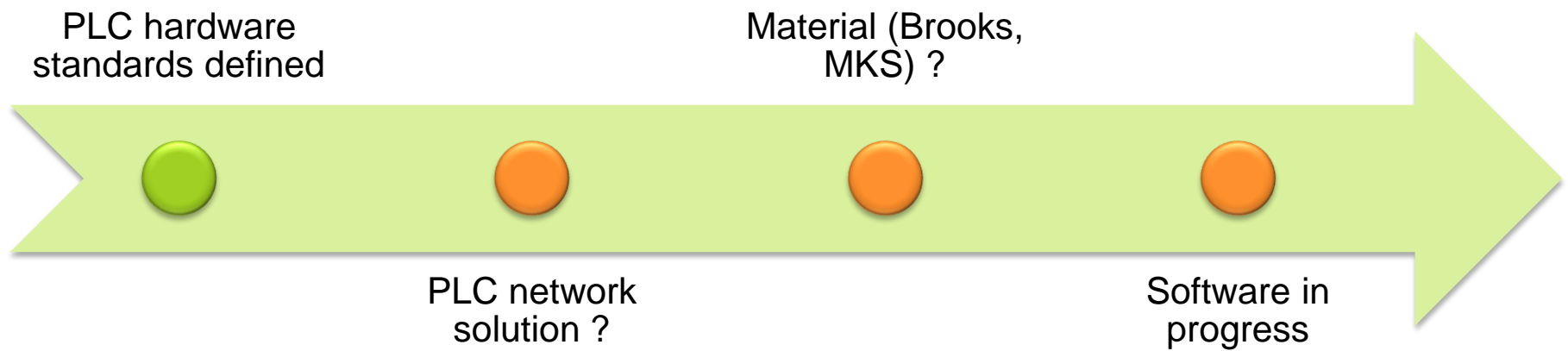
# PLC APPLICATION AND PROCESS

ESS nBLM PLC applications are:



# ESS PLC GAS CONTROL PROCESS





Thanks for your attention, do you have  
any question ?

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