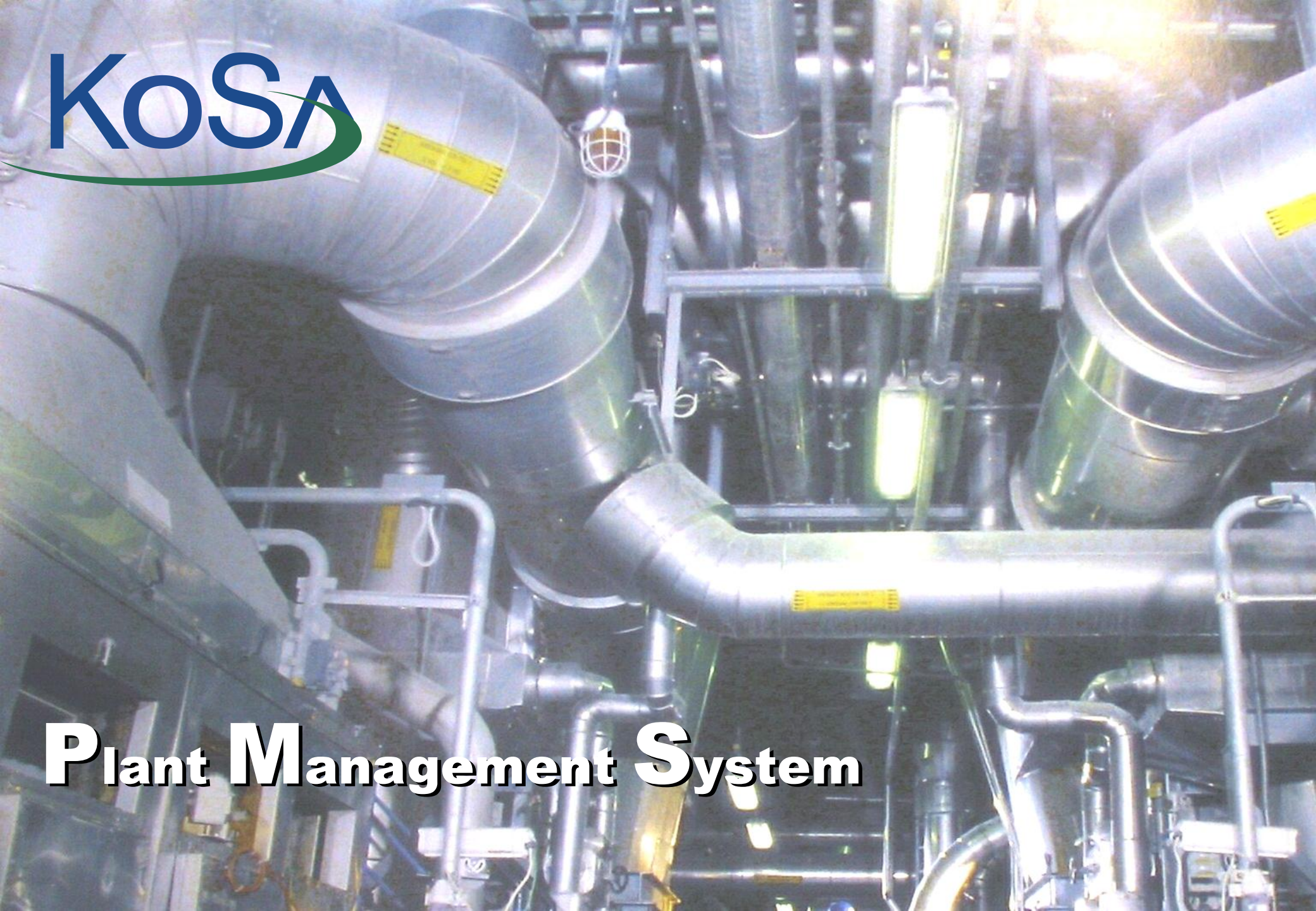
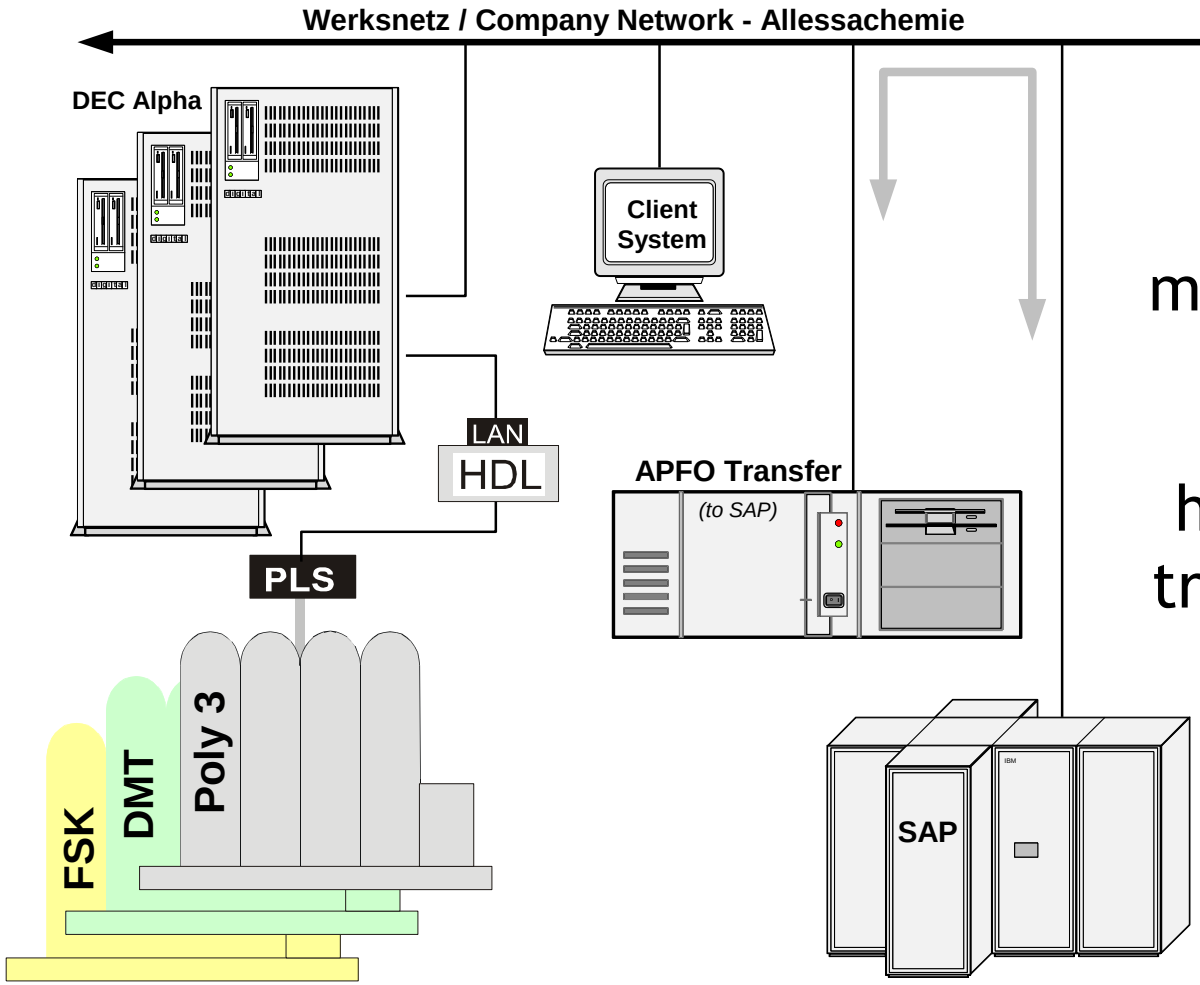

KoSA
Plant Management System

Current state



A single
DEC Alpha per plant is
managing the process data

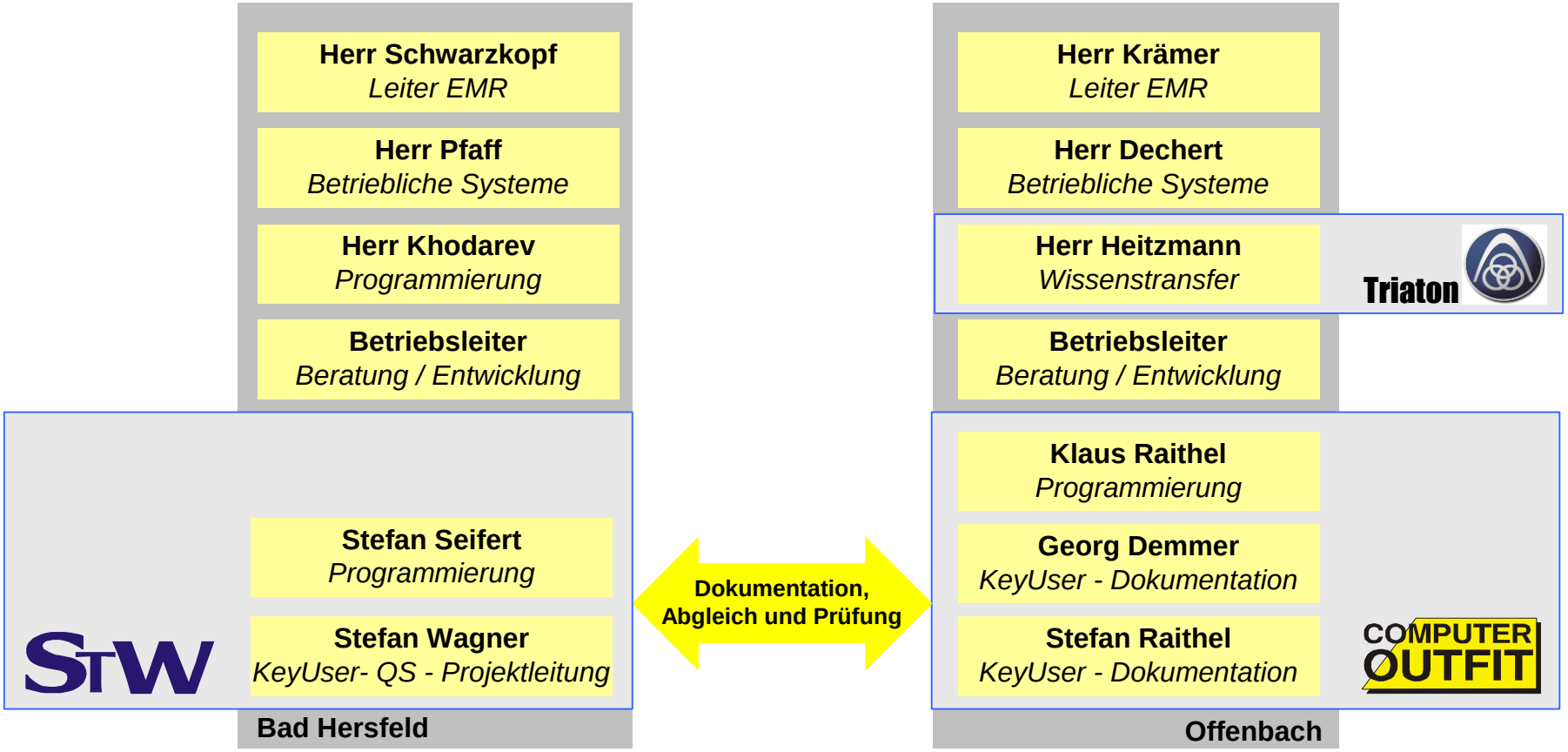
Only one machine is
handling the whole APFO
transfer to the SAP system

KoSA

Present risks

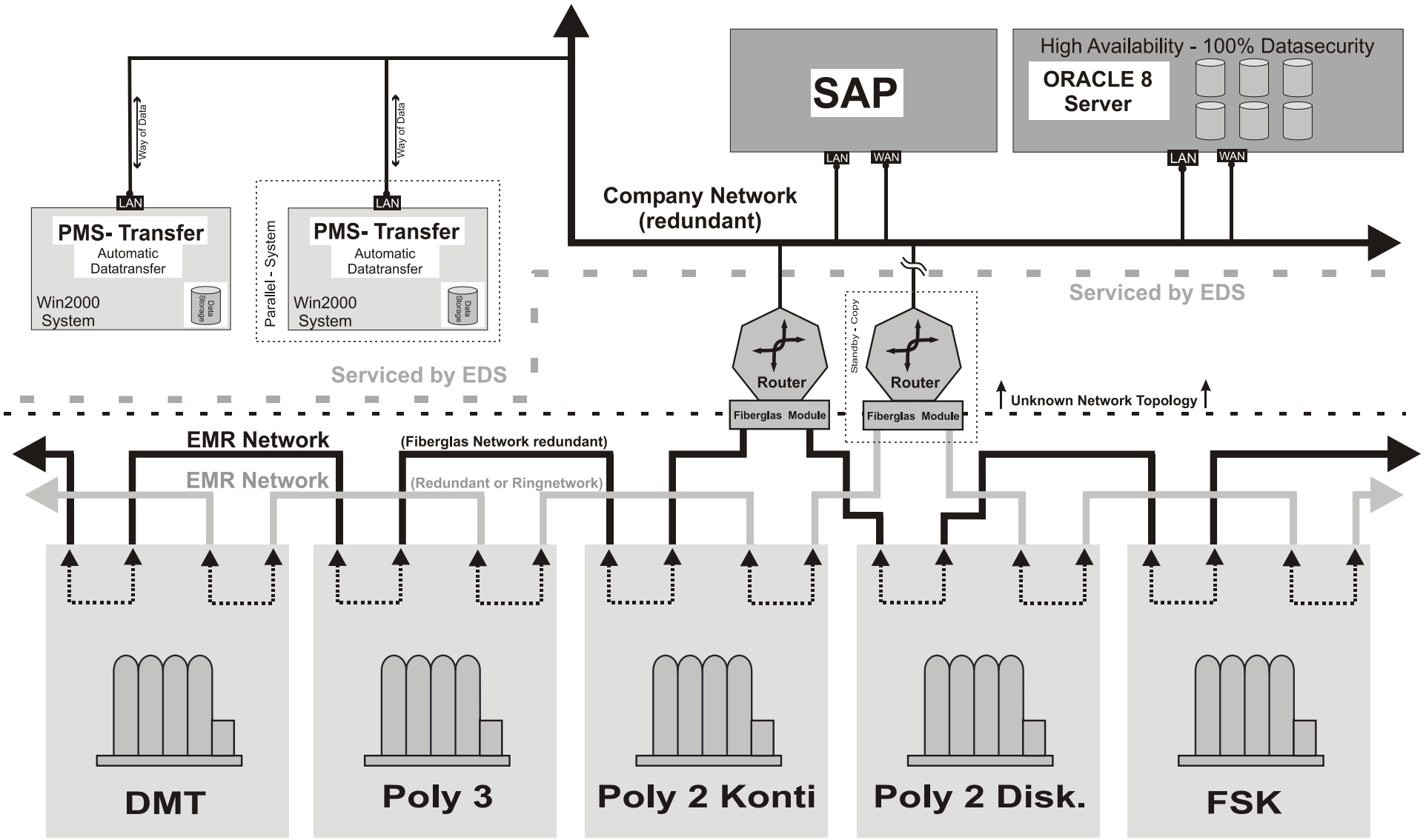
- No redundancy – single points of failure.
- Long delivery times for replacement parts.
  Expensive costs for storage and know how (Alpha, Fortran).
- Long reaction time in case of maintenance.
- Production data has to be transmitted over foreign networks.
  Access of the production systems depends on third party.
- The system knowledge is concentrated in only one person.

Common development

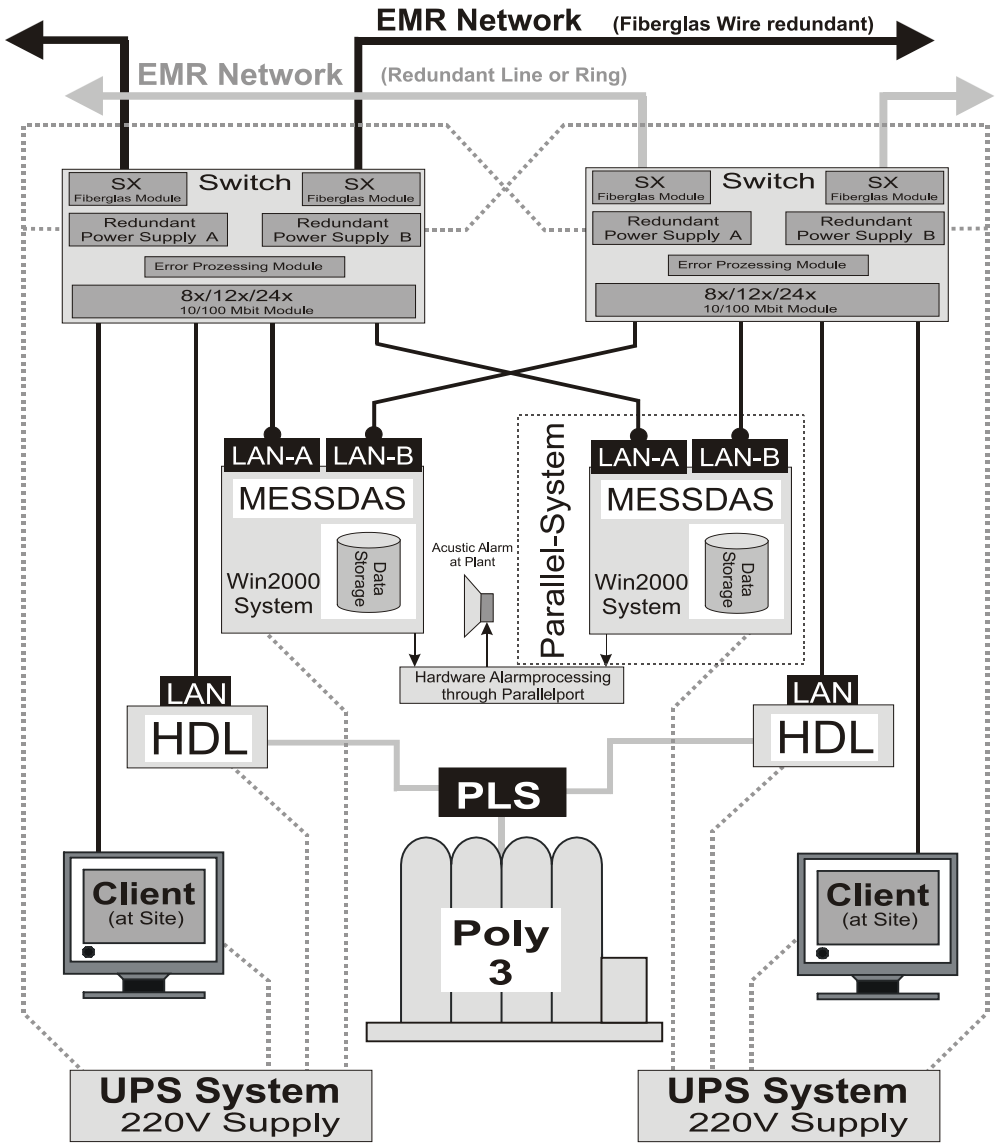


Common development for Bad Hersfeld, Offenbach, Bobingen and Guben. The solution is applicable for every factory.

Target solution - Hardware



Hardware details



Instead of complex cluster technology – redundancy in every component:

- HDL
- industrial computers
- switches
- power supply‘s
- UPS
- fiber optical network

Simple to service.....

Risk comparison – Part 1

Current systems	Plant Management System
No redundancy High risk of system failures	High redundancy Largely reduced risk of failure
Long delays in delivery for replacement parts	Standard industry systems short delivery cycles
No emergency replacement systems	Two complete, actual systems per plant
Expensive costs of specialized know how	Cost efficient by small amount of specialized know how.

Risk comparison – Part 2

Current systems	Plant Management System
Transport of production data via foreign (Allessa) network	Full control and autonomous support by own know how
Reliant of other companies and decisions	Low reliance of other companies (e.g. Allessa)
System knowledge is concentrated in one person	Wide spread knowledge. Existing emergency plans
Expensive purchase of foreign knowledge in emergency case	Simple and cheap purchase of knowledge.

Which endangerments are even now existing?

1. Virus attacks
2. Power loss in the network – Though all plants are running, the transfer to SAP is at risk.
3. Both systems of one plant have failed.
   Maximum downtime = Replacement time
4. … ??

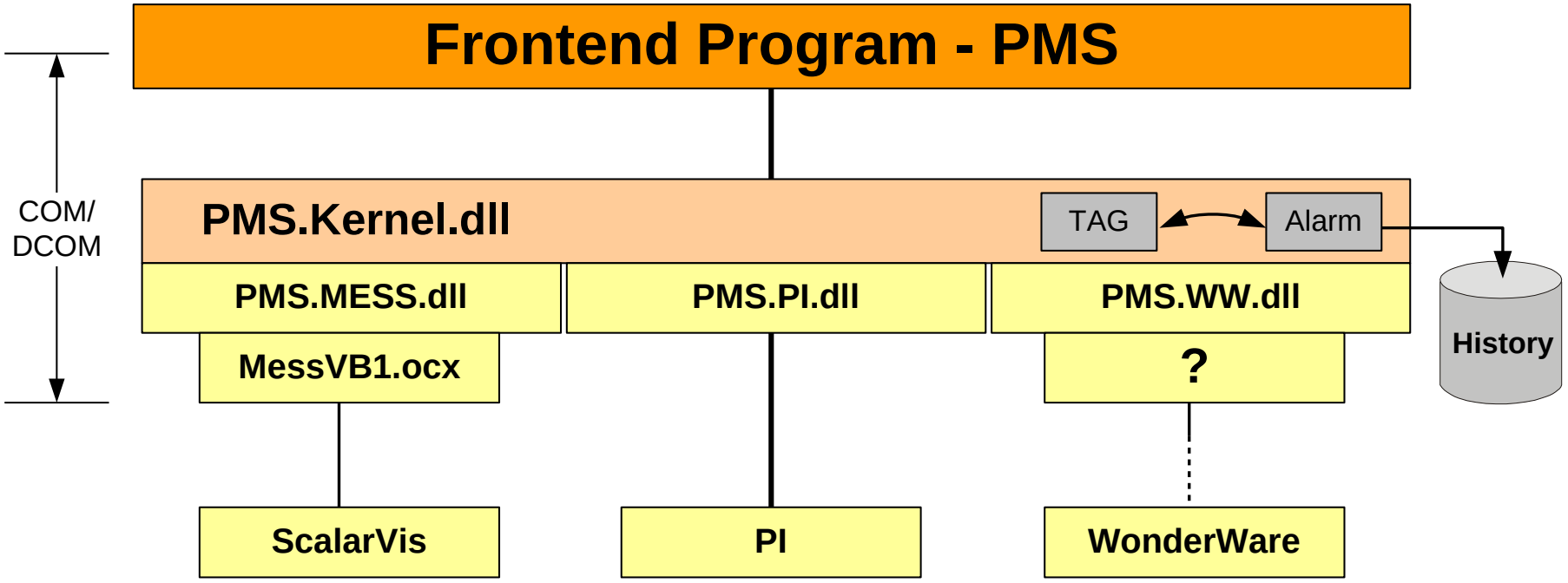
Training of internal resources

1. Training and courses of the KoSa employees are planned on every location.
2. Until KoSa takes the full control of the whole system, the substitutability is fully assured.

Factory support

1. Bobingen will be supported by Hersfeld and Guben by Hersfeld and/or Offenbach, as requested
2. Know how for Messdas is mainly located in Offenbach
3. The Process data capturing systems “Messdas”, “PI” and “Wonderware” will be tested in Offenbach. The test results will be shared with the other factories.

Investment assurance by modular concept



The concept is transferable to any concerned factory

Where do we stand?

1. The distribution of the software is nearly finished and ready for test.
2. The tryout of the software may start as soon as the hardware for the test system is shipped.
3. The benchmark tests for alternative process data capturing systems will start soon.
4. The adaptation of the front end mask is nearly complete.

To be continued…

1. Since the system can be installed with the existing Allessa LAN (including the before mentioned restrictions) or the planned EMR LAN, it may be started live directly after the tryout phase.
2. The users manual and the programming guide lines will be finalized to increase the portability between the different locations.
3. Creation of a broader knowledge through further training of the KoSa employees.