

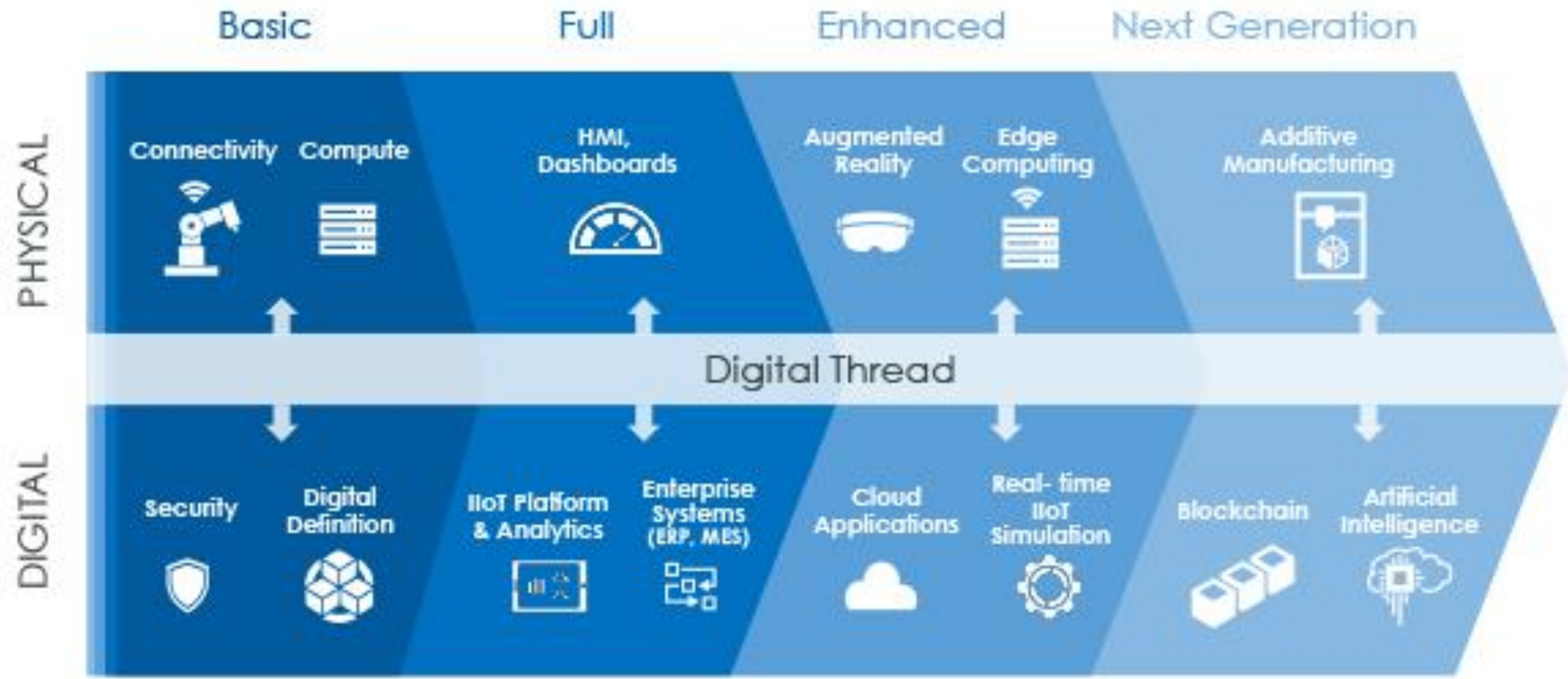
# EL BESSÓ DIGITAL, DEL PRODUCTE INDUSTRIAL I DEL PROCÉS DE MANUFACTURA

Carlos Cosials (ccosials@integralplm.com)  
IoT Senior Business Consultant

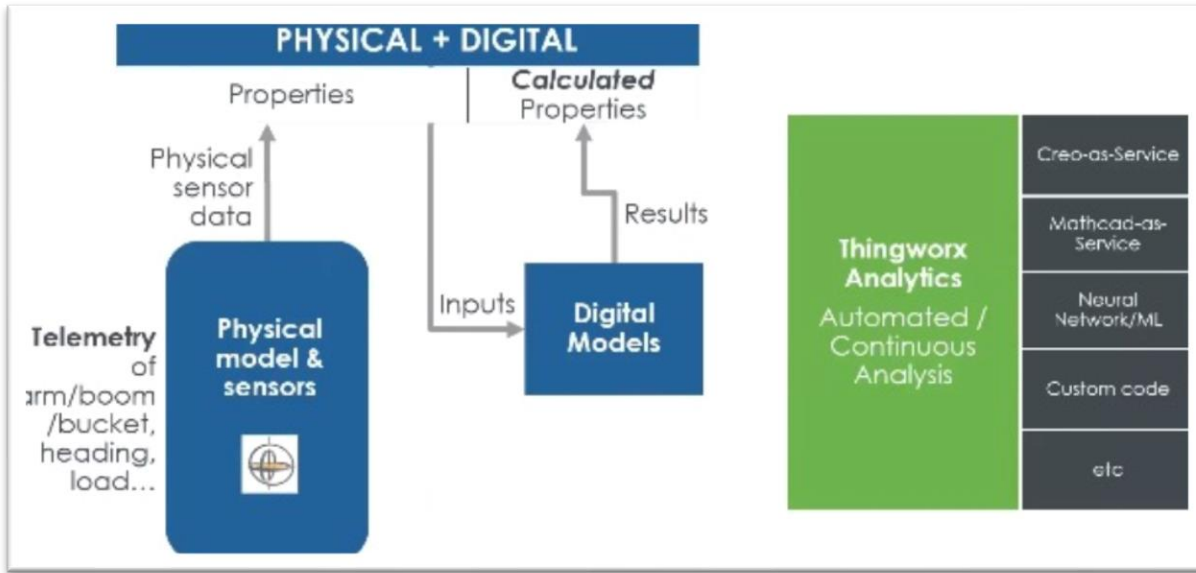
20190905, Marketplace Indústria 4.0 (ACC1Ó)

**INTEGRAL**  
INNOVATION EXPERTS

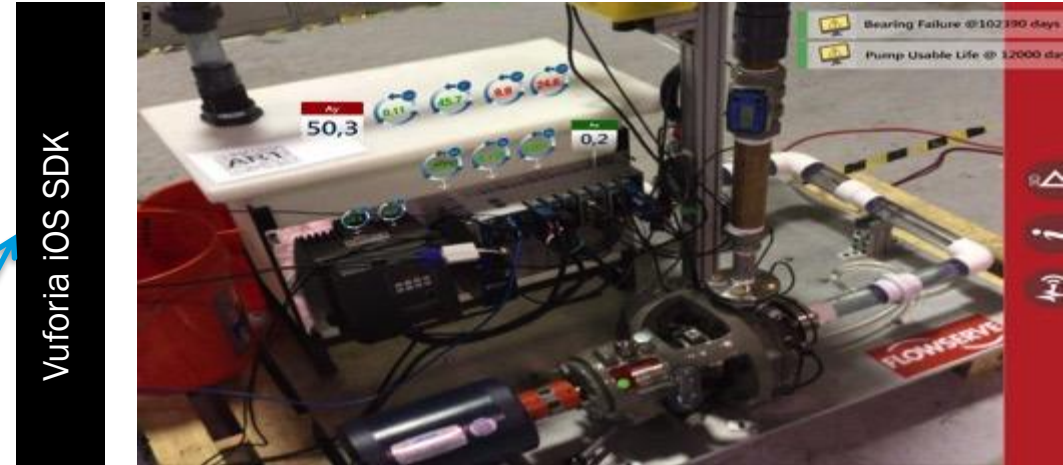




# LA SIMULACIÓ ES CONTRASTA AMB EL COMPORTAMENT REAL

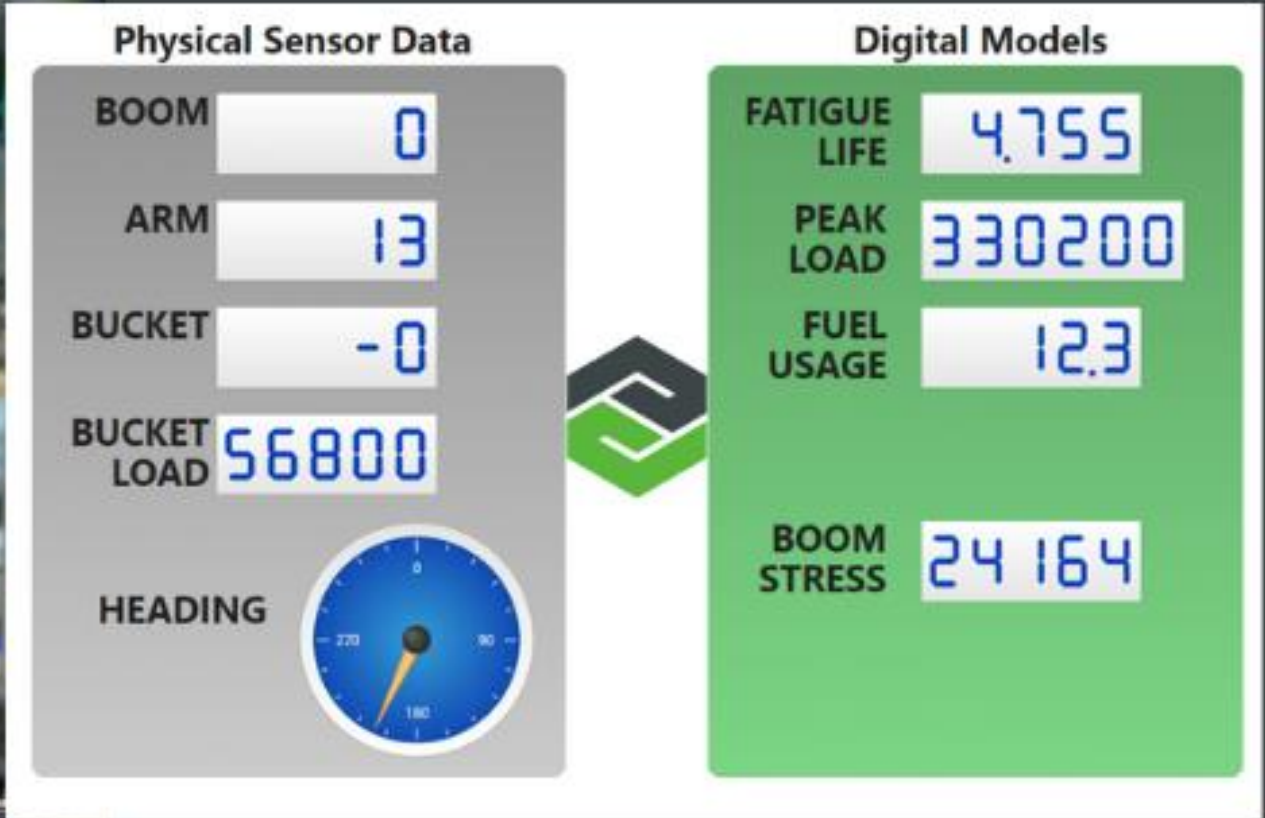


## AR Experience



## Browser-Application







**FLOWSERVE**

Select Menu 02 + Home
Home Reports Collaboration Camera Asset Information

01 - IPS Sensor
02 - Remote Hydraulic Lab
03 - Performance Monitoring
04 - Competency Enhancement
05 - Lifecycle Advantage
06 - Live Type PR Demo
07 - Vibration Monitoring
08 - Houston (FLS)
09 - Balance of Plant
10 - NA Demo Units
11 - EMEA Demo Kits
12 - APAC Demo Kits
13 - Pump Performance Demo

**Nameplate**

Customer	Flowserve	Unit	Power Lab A	Country	USA
Site	Demo Site	Equipment	PAS	Serial	456577

Flow: 26.26 gpm

Total Dev Head: 35.7 ft

Seal Temp: 89.6 °F

Flow: 26.26 gpm

Horsepower: 0.60

Voltage: 71.12, 3.99, -75.36

Current: 2.77, 3.29, -6.06

Vibration

Bearing Y: 0.03

Bearing X: -0.14

Inlet X: -0.07

Discharge Pressure: 17.94 psi (Anomaly)

Delta Pressure: 14.59 (Anomaly)

Suction Pressure: 3.36 psi (Anomaly)

44% % of BEP

80% 100% 110%

VALVE CONTROL

Suction Valve: 50

Discharge Valve: 75

**FAILURE PREDICTIONS**

Bearing Failure	Impeller Failure	Mechanical Seal Failure
295 Days	6 Days	184 Days

**ROOT CAUSE**

**Cavitation**

The suction valve is closed or obstructed. Pump is operating in sub optimal state and could cause mechanical failure

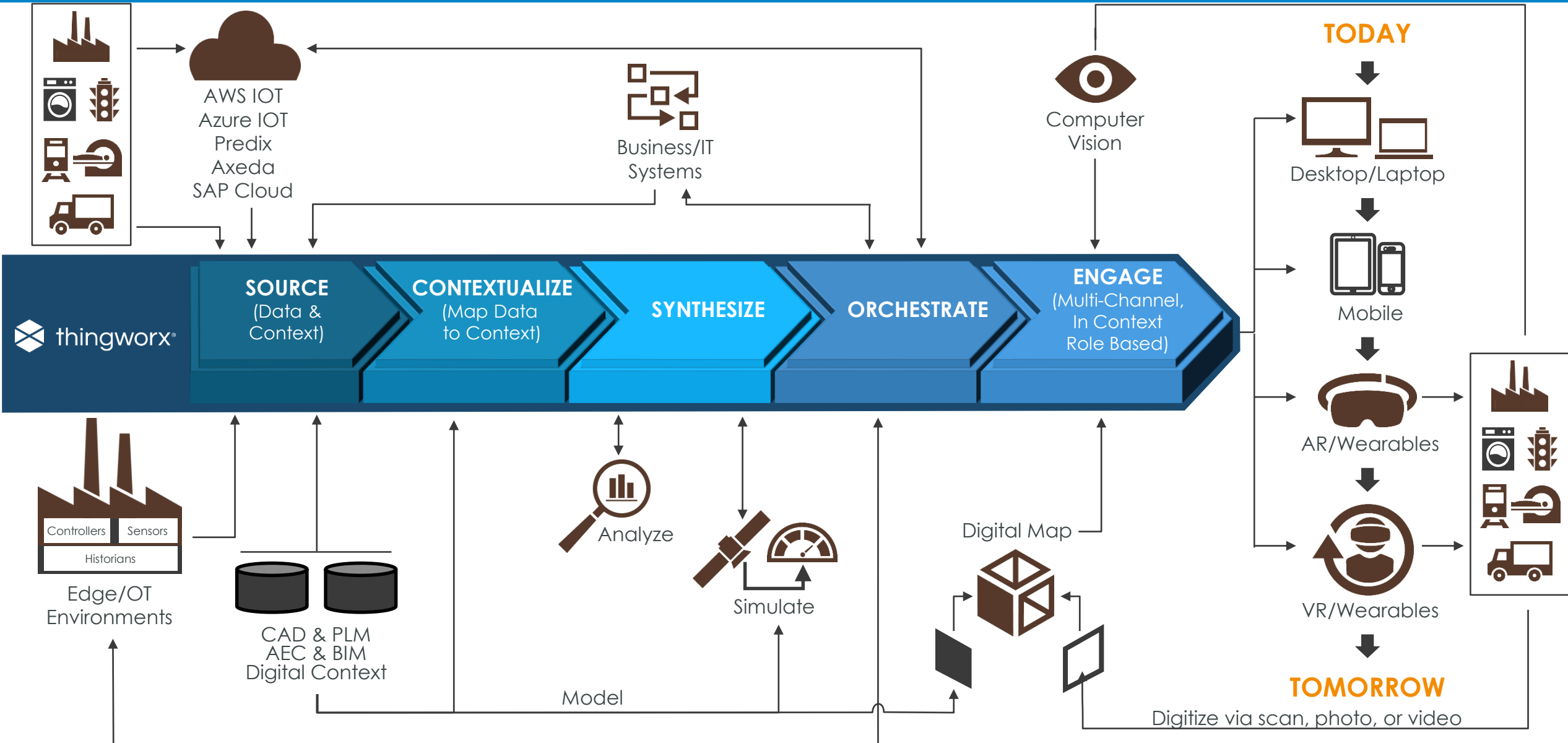
**ANOMALY MONITORING**

- Suction Pressure
- Discharge Pressure
- Delta Pressure
- Bearing Y
- Bearing X
- Inlet X

View Service Information

6

# GESTIONAR LA ORQUESTRACIÓ ENTRE LO FÍSIC I LO DIGITAL



# SOLAR TURBINE: ANÁLISIS EN TEMPS REAL

**Solar Turbines**  
A Caterpillar Company

Display Work Instruction Wizard

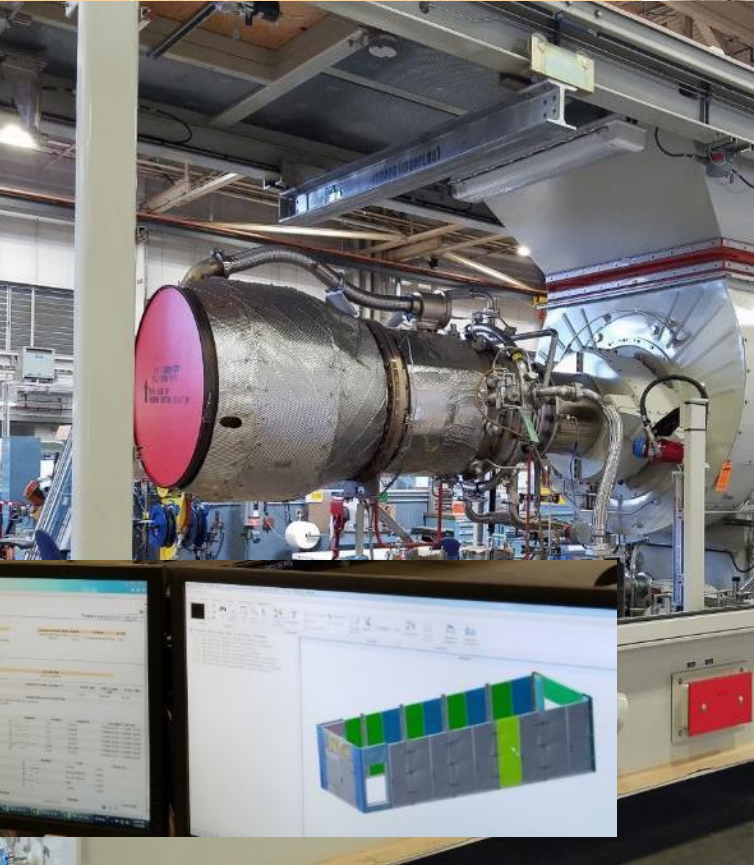
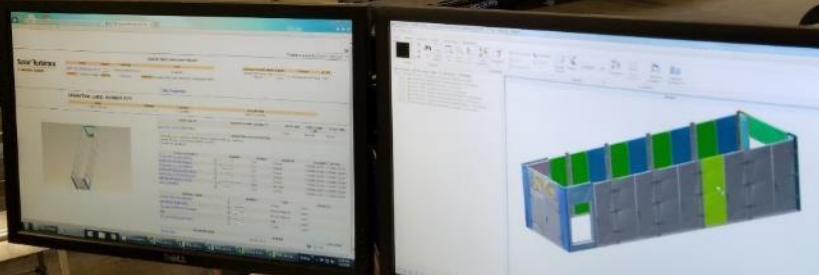
NAME	NUMBER	VERSION	TYPE	ASSOCIATED PART NAME	NUMBER	VERSION	ACTIVE
CONFIG.GF.PURGE.NITRO	1119344	A.19 (Manufacturing Process)	Production	CONFIG.GF.PURGE.NITRO	1119344	-1.10 (Manufacturing Process)	Yes

STATE: In Work    STATUS: Work in progress    CONTEXT: Configurable Packages [CAT-Confidential Yellow]

[Filter Properties](#)

OPERATION LABEL NUMBER 0050

NAME	NUMBER	VERSION	DESCRIPTION
FIT AND INSTALL TUBING			

STATE: In Work    STATUS: Work in progress



Control Panel

Show Operation

Wire List

Wire Number	From Device ID	To Device ID	Action
P944013	AF0291-34	AF0291-34	
FU0290	AF0291-34	AF0291-34	

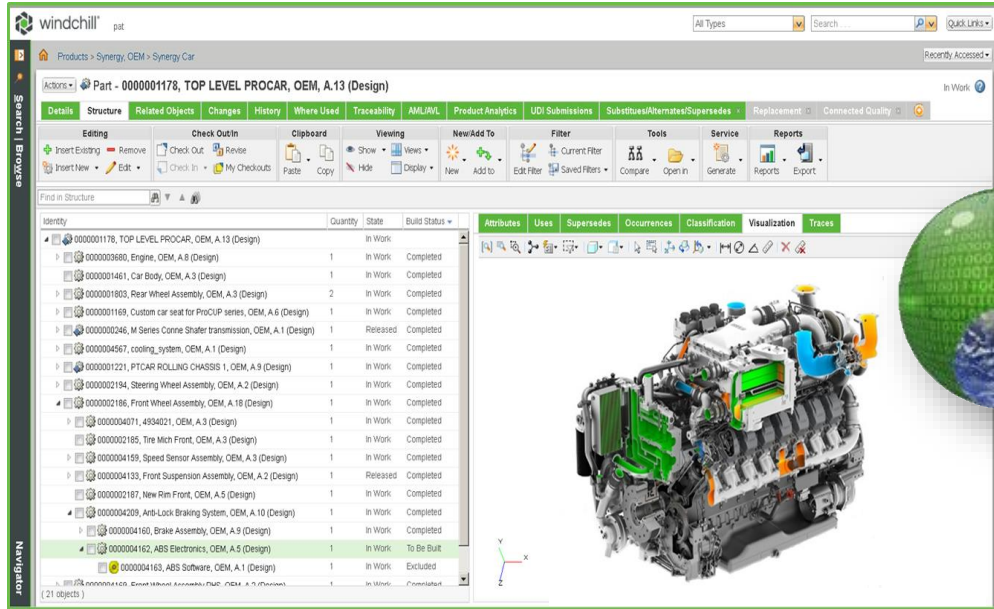
Parts with Reference Designators

Number	Name	RefID
AU0290		
AU0291-27		

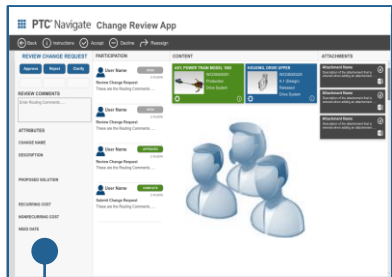
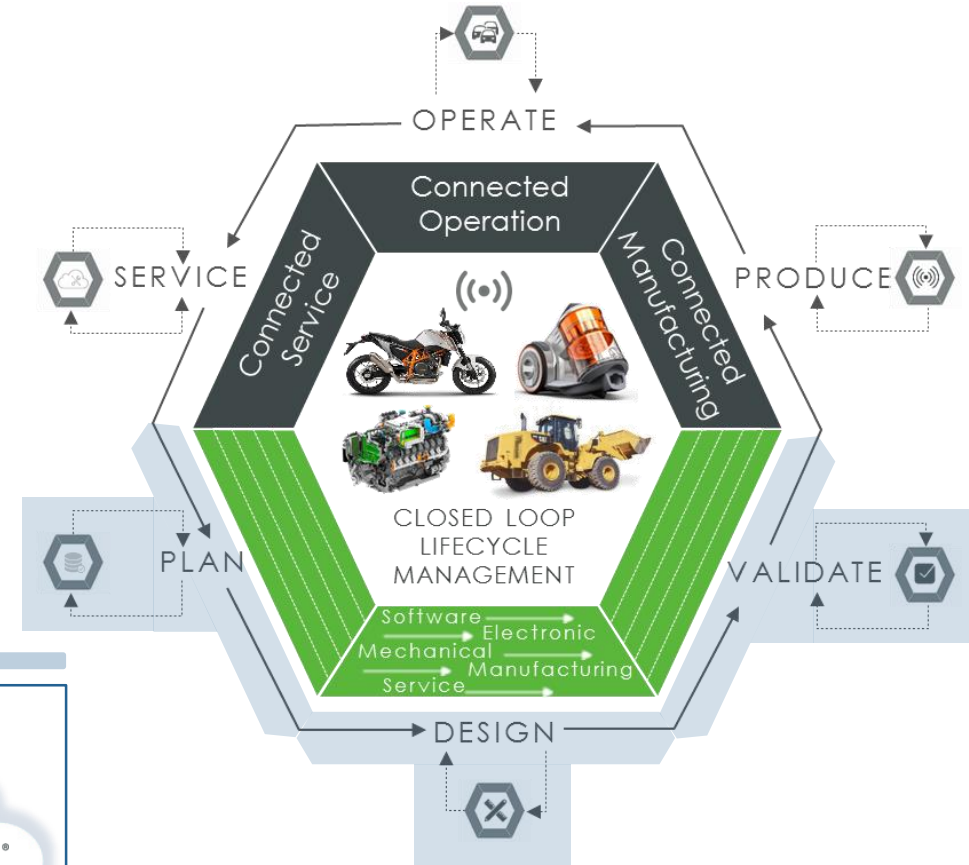
Caterpillar Confidential, Green



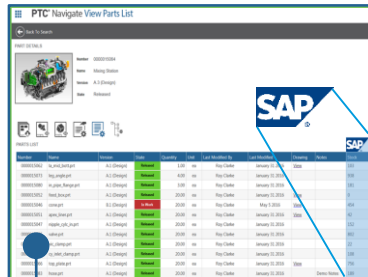
# LA NOVA FORMA DE FER L'ENGINYERIA, DE PRODUCTE/PROCÉS



Smart  
Connected  
Products



Role-based  
Apps



Smart  
connected  
PLM

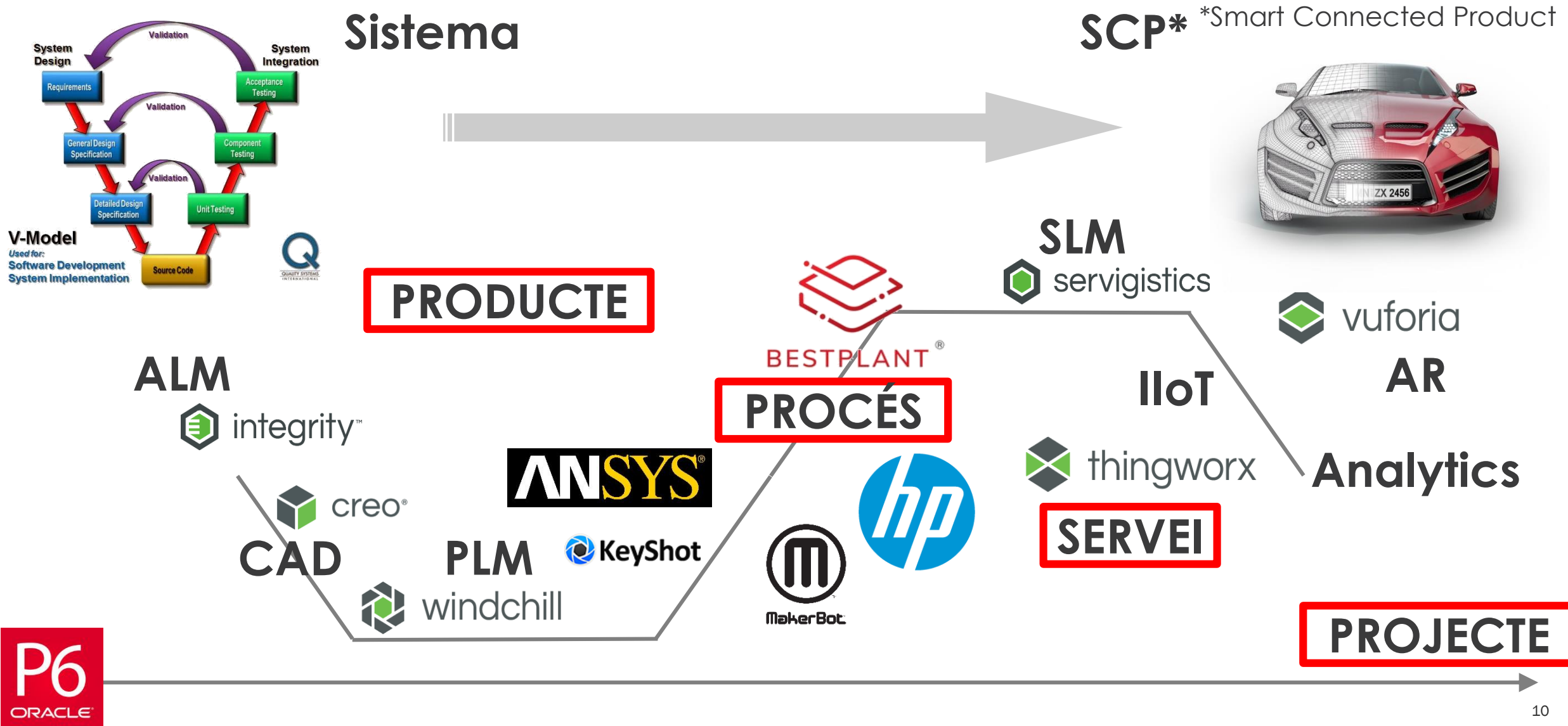


Connected  
Quality



PLM in the  
Cloud

## Optimitzar la complexitat, mitjançant un enfocament holístic



**INTEGRAL**  
INNOVATION EXPERTS

[integralplm.com](https://integralplm.com)