



Title:

Extend the Life of Your Hydraulic System with Hydac's Smart Fluid Connection Software

Presentation:

Marcel Magre – Hydac Technology.

Automation Manager at Service



Smart Fluid Connection

Powered by Hydac Brazil

Schedule

- 1. WhySFC?**
- 2. What is SFC?**
- 3. Value Offer;**
- 4. Let's practice;**

Why SFC?



**Industry 4.0
- Topic of the
moment.**



**Industry 4.0
Technology**

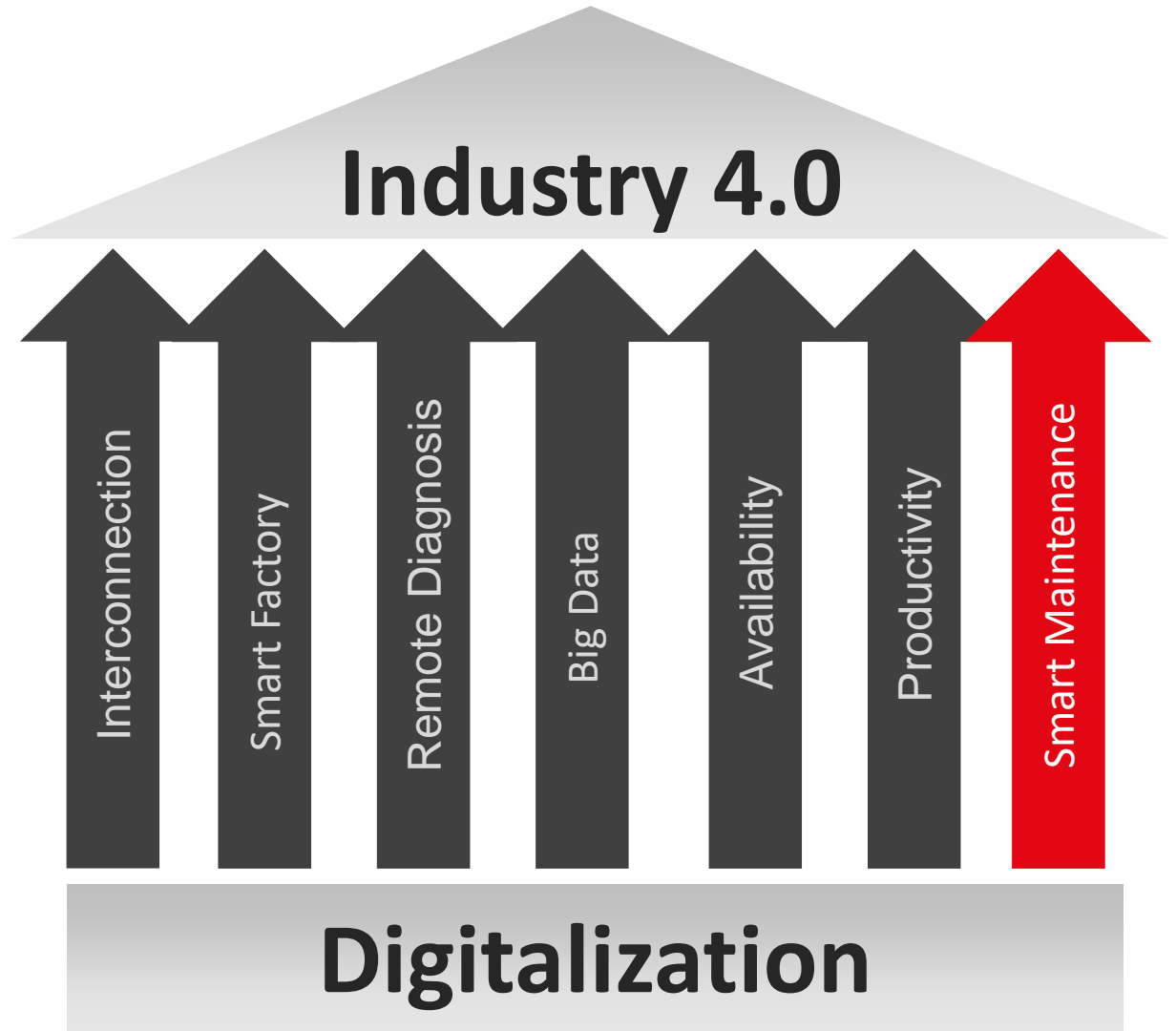


Why SFC?



Global Trends.

- Themes and benefits

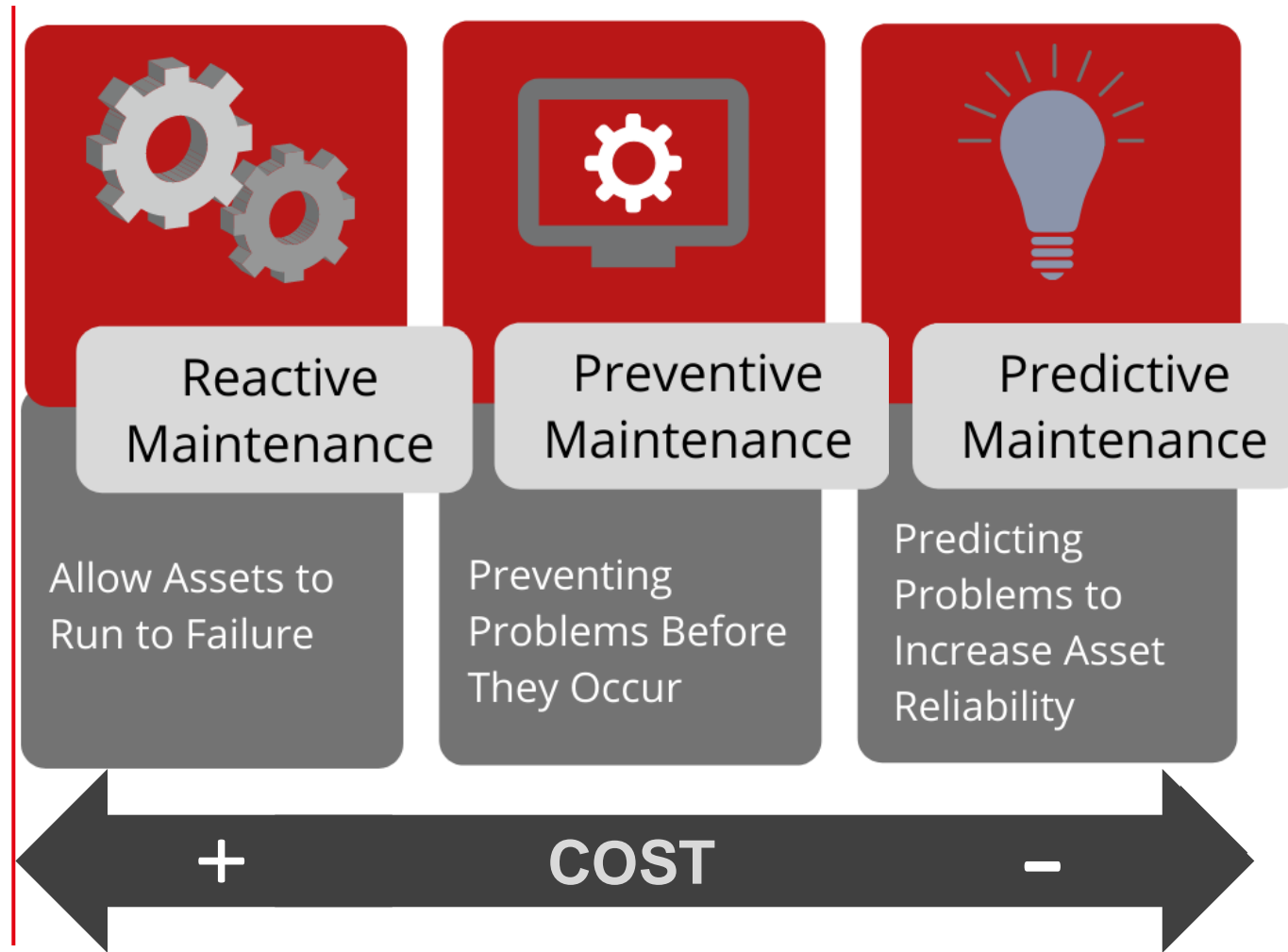


Why SFC?



Smart
Maintenance.

- Main
Benefits:
Low Cost

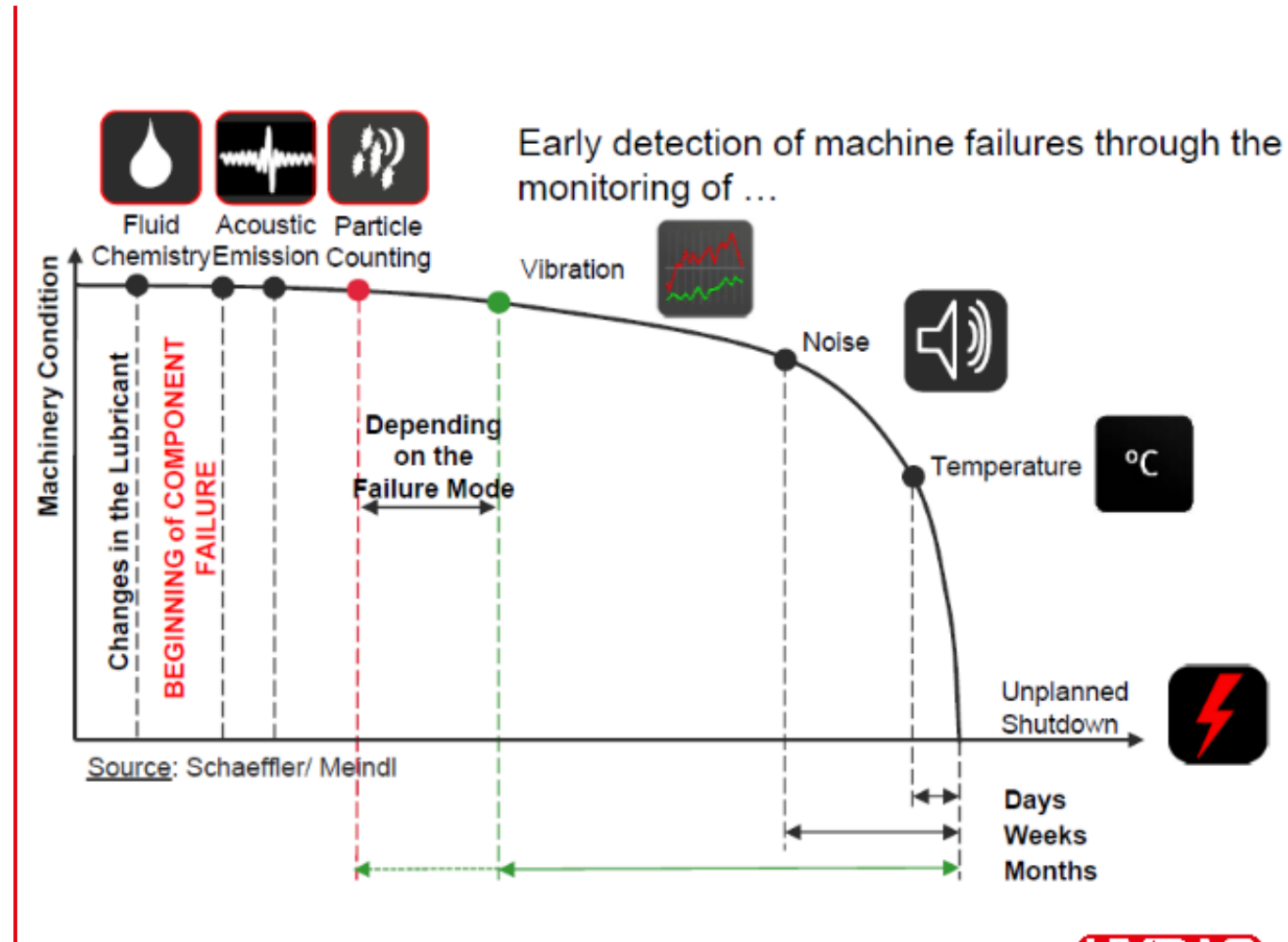


Why SFC?



Why monitor the hydraulic system?

- Equipment wear cycle!

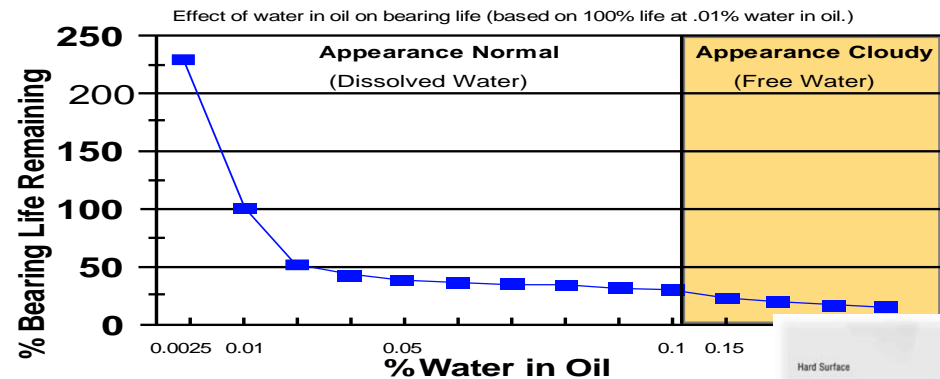


Why SFC?

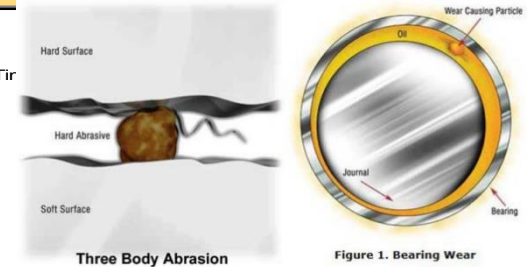


The good quality of the hydraulic system guarantees equipment availability!

Contamination shortens bearing life



Reference: "Machine Design" July 86, "How Dirt And Water Effect Bearing Life" by Tir

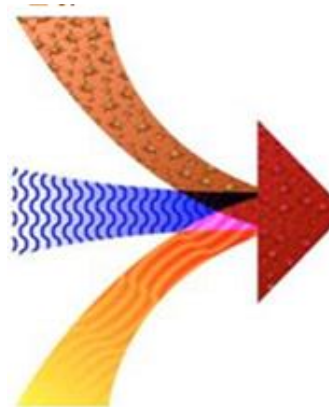


Factors that decrease equipment availability

Solid Particles

Water

Temperature



What are the advantages of monitoring the hydraulic system?

1- Clean fluid maintenance

2- Dry fluid maintenance



4- Guarantee of fluid conditions

3- Cold fluid maintenance

Aumento de eficiência

- Produtividade
- Eficiência de recursos

- Disponibilidade de máquina
- Serviços, manutenção baseada nas condições ou preventiva
- Eficiência energética
- Consumo de material, poluição ambiental
- Sistemas de assistência nova forma do trabalho

Oil Condition ✓
Temperature ✓
Contamination by particles ✓
Contamination by water ✓

What is important to monitor in the hydraulic system?

- Variables.

Availability of Relevant Information:

- Oil contamination by particles
- Oil contamination by water
- Temperature
- Oil condition
- Flow
- Pressure
- Level
- And others...

What is SFC?



How to make?

- Our Solution.

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What is SFC? - Business Way



Machine



Interfaces



IOT



Mobile Network



Internet



Hydac SFC

Data Storage



Sensors for data acquisition

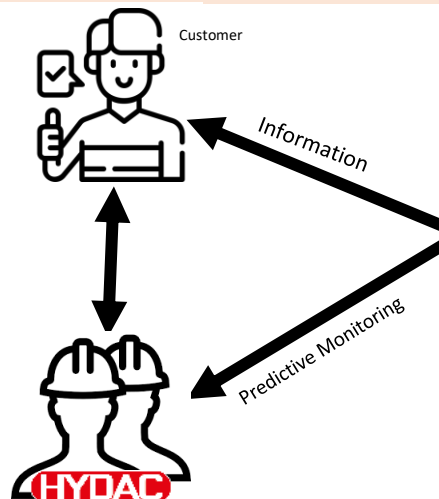
- Connection and memory for sensor data
- Interface for data transfer

One-way data transfer via secure mobile connection

Possible mobile networks:
3G, 4G, 5G

Data transfer via secure connection

Report, Function/condition assessment and action recommendation.



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Hydac's service portal

Data Analysis

#JUNTOSTRANSFORMAREMOS



Service's Team (Serviço Excluso)

Armazenamento dos dados na Hydac



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Análise de dados

1. Analysis and definition of the reference value for "normal" operating behavior (learning)

- Continuous recording of sensor data
- Data analysis and definition of "normal" operating behavior
- Reference value display

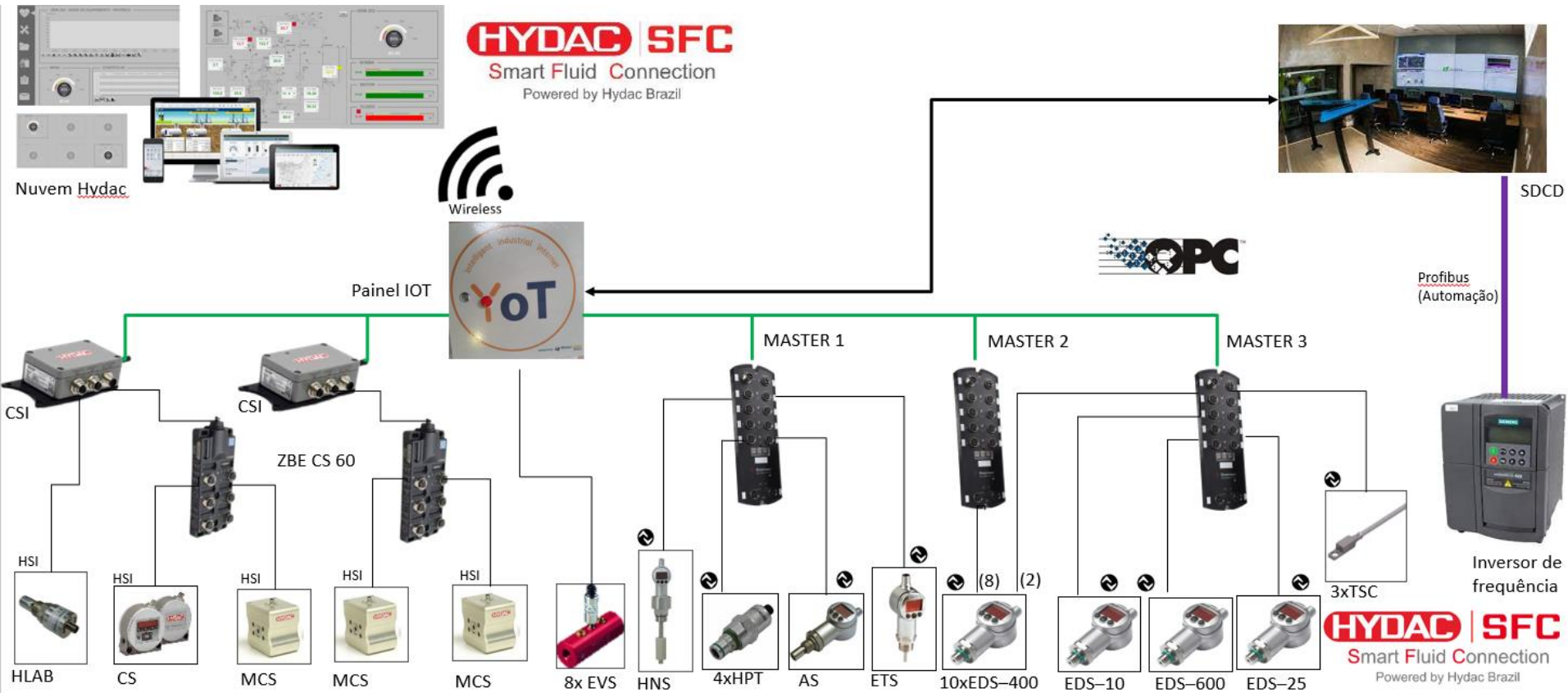
2. Registration of deviation from the reference value (monitoring phase)

- Continuous recording of all sensor data
- Analysis and data definition of deviation from the reference value
- Display of the current situation

3. Defining an action point for component replacement (action phase)

- Data analysis shows a critical deviation from the reference value
- Recommendation: Component Replacement

What is SFC? - Basic Topology



Benefits and advantages.

- Hydac Complete Solution (turn Key);
- Project Elaborated by Team Specialist;
- Custom Project;
- Predictive maintenance before something happens;
- Reduce unplanned production stop times;
- Better planning of maintenance activities;
- Explore the maximum life of components;
- Increased productivity;
- 24/7 monitoring;

Presentation.



Let's practice



Home
screen.





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THANK YOU!