Sustainability – a Driver for Software Innovation in Industry

Hasso-Plattner-Institut
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Festo at a glance

Employees
~20,000

R&D
8 %

Sales
3,2 Bn €

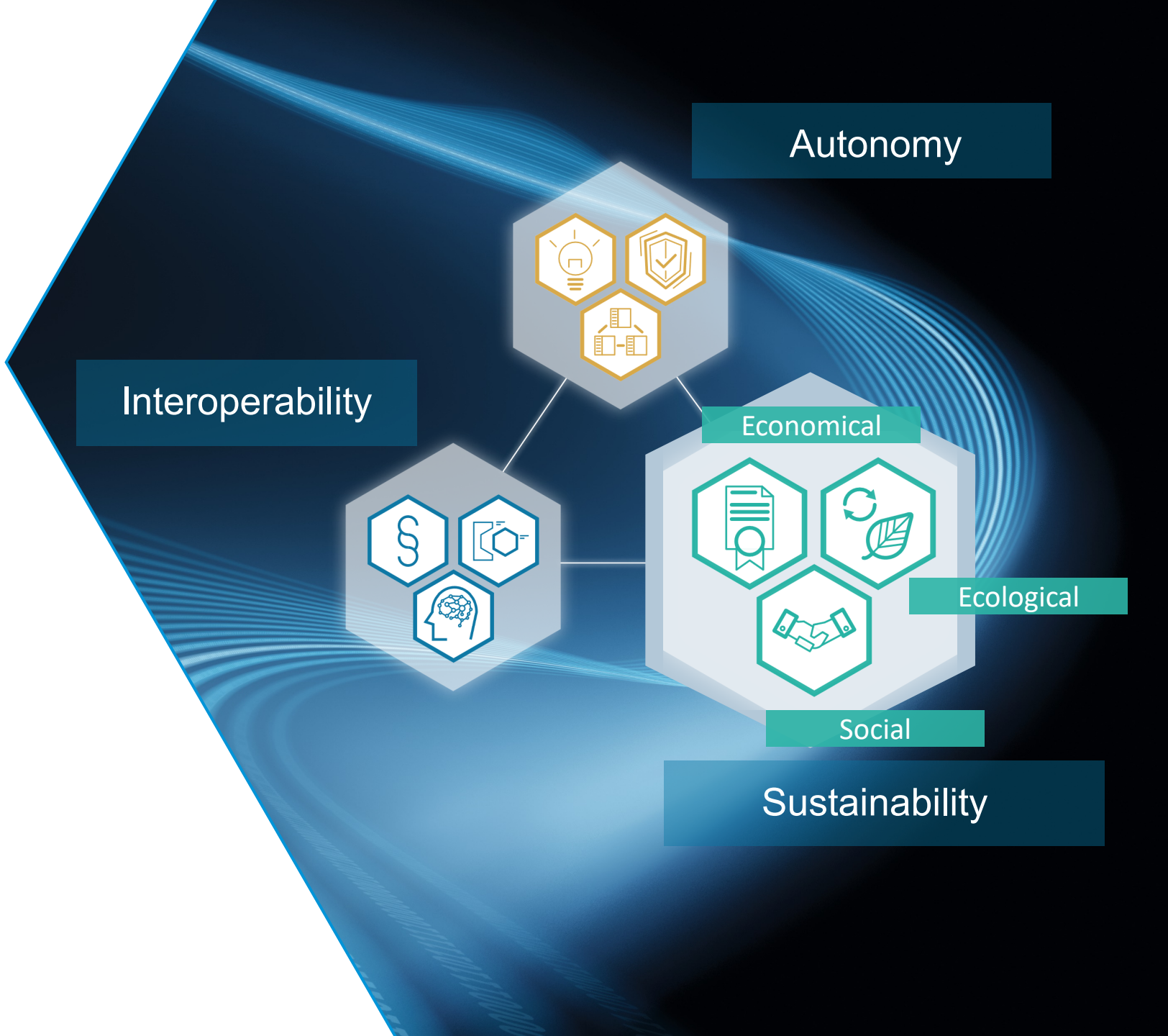
Automation

Didactic

35,000
mainly
mechanical
Products

Spirit of Innovation
drives shift
to Software

Industrie 4.0 – Vision 2030



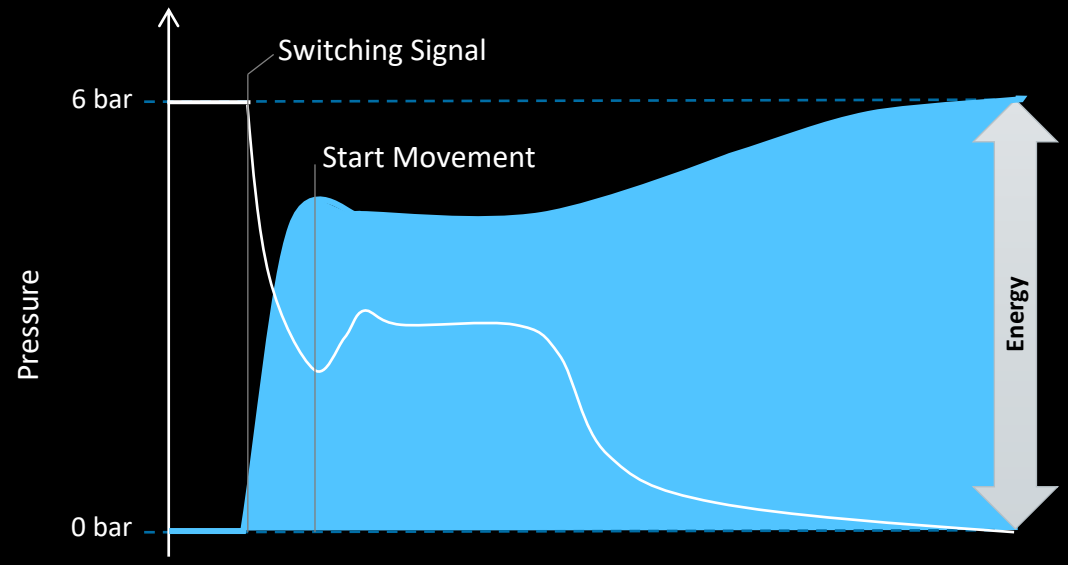
Ecological Sustainability has various manifestations

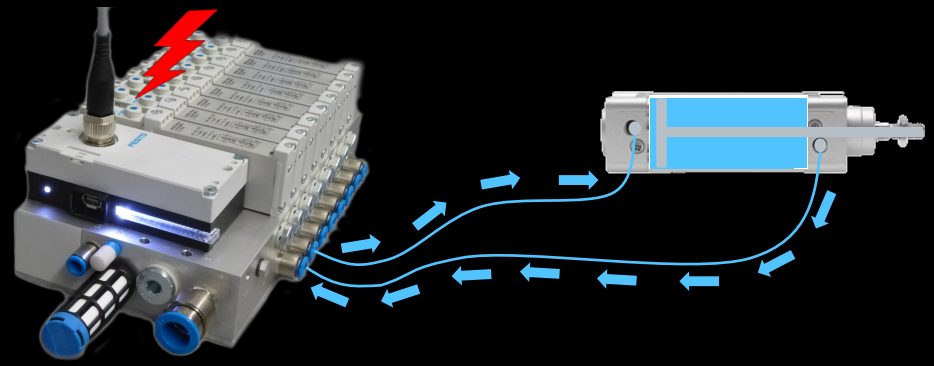
Reduce consumption, increase impact

From mass product to transparent service offering

Share and connect

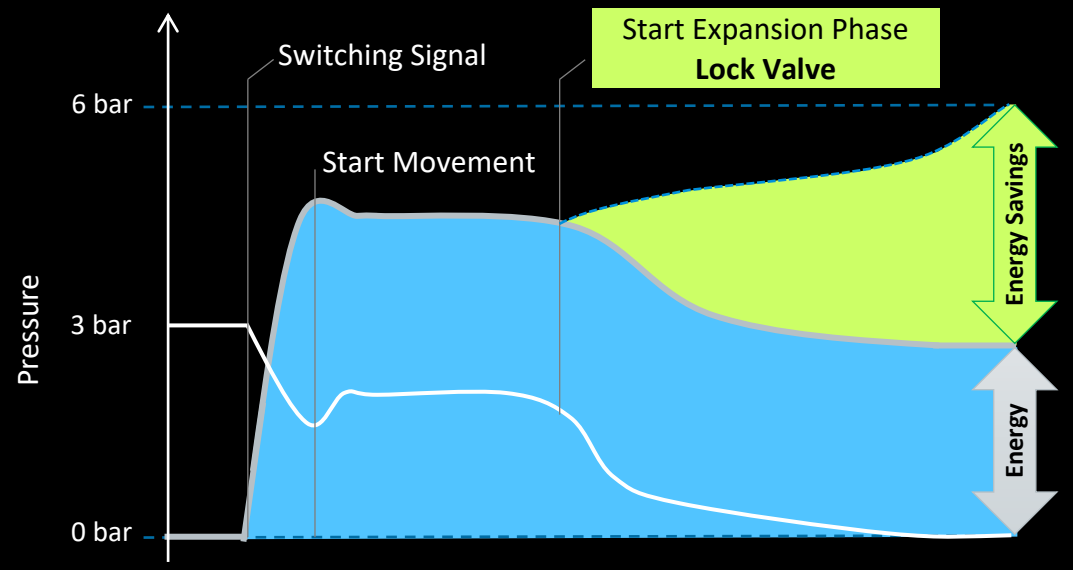
Only an **on-demand supply** of energy is sustainable

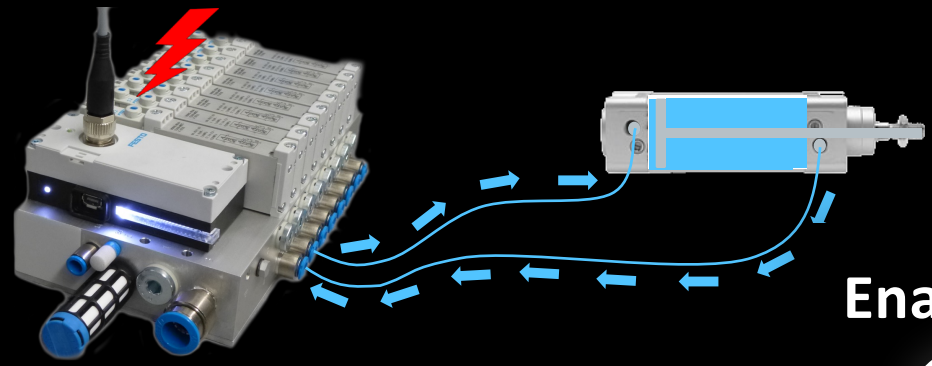




Reduce consumption, increase impact

Only an **on-demand supply** of energy is sustainable





Reduce consumption, increase impact

Enabling Technologies

Control Engineering

Embedded Software

Enable **Business Model Transformation** towards **Production as a Service**

Digital Value Chain

Flexible Production Concepts

Performance Guarantee

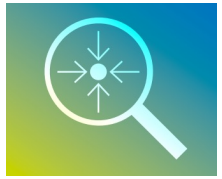
Financial Structuring

FLEXFACTORY
Digital Production as a Service

Enabling SW/Data Technologies

AI **Cloud** **Connectivity** **Data Spaces**

Optimized asset usage through **databased production models**



From mass product to transparent service offering

Optimizing **Energy Stream** with **AI**

Share and connect

PLC

EDGE

Festo AX and its AI engine ensure process optimization thanks to predictive consumption analysis and optimization of compressor control

Enabling Technologies

AI | Connectivity | Edge | Data | Data Spaces

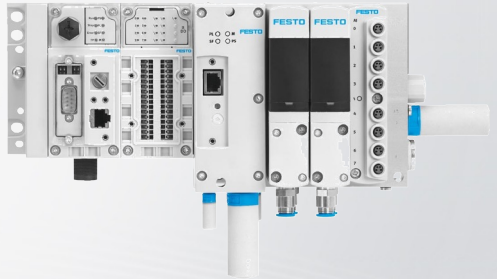
Mechanic Differentiation
becomes **Software functionality**

Install and Forget

Hardware

Electronics	SW

Install, connect and create added value

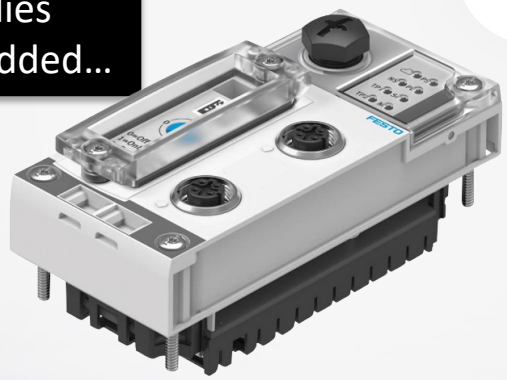


Software	**Data**
Hardware	Electronics
	Business Model

Increased complexity
by further integration
into subsystems

Efficient software is more economical and more sustainable.

This applies
to embedded…

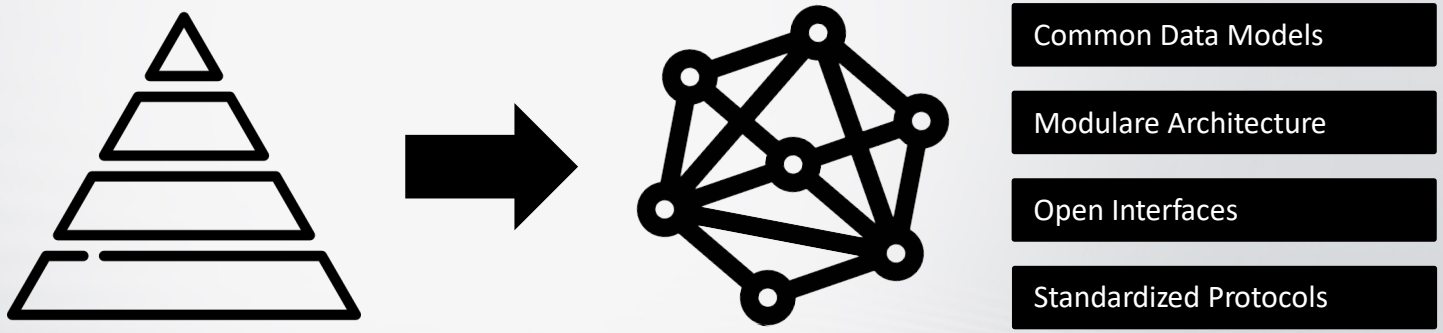


…as well as for the cloud.

Maintaining efficiency becomes harder with many components involved.

New Architecture

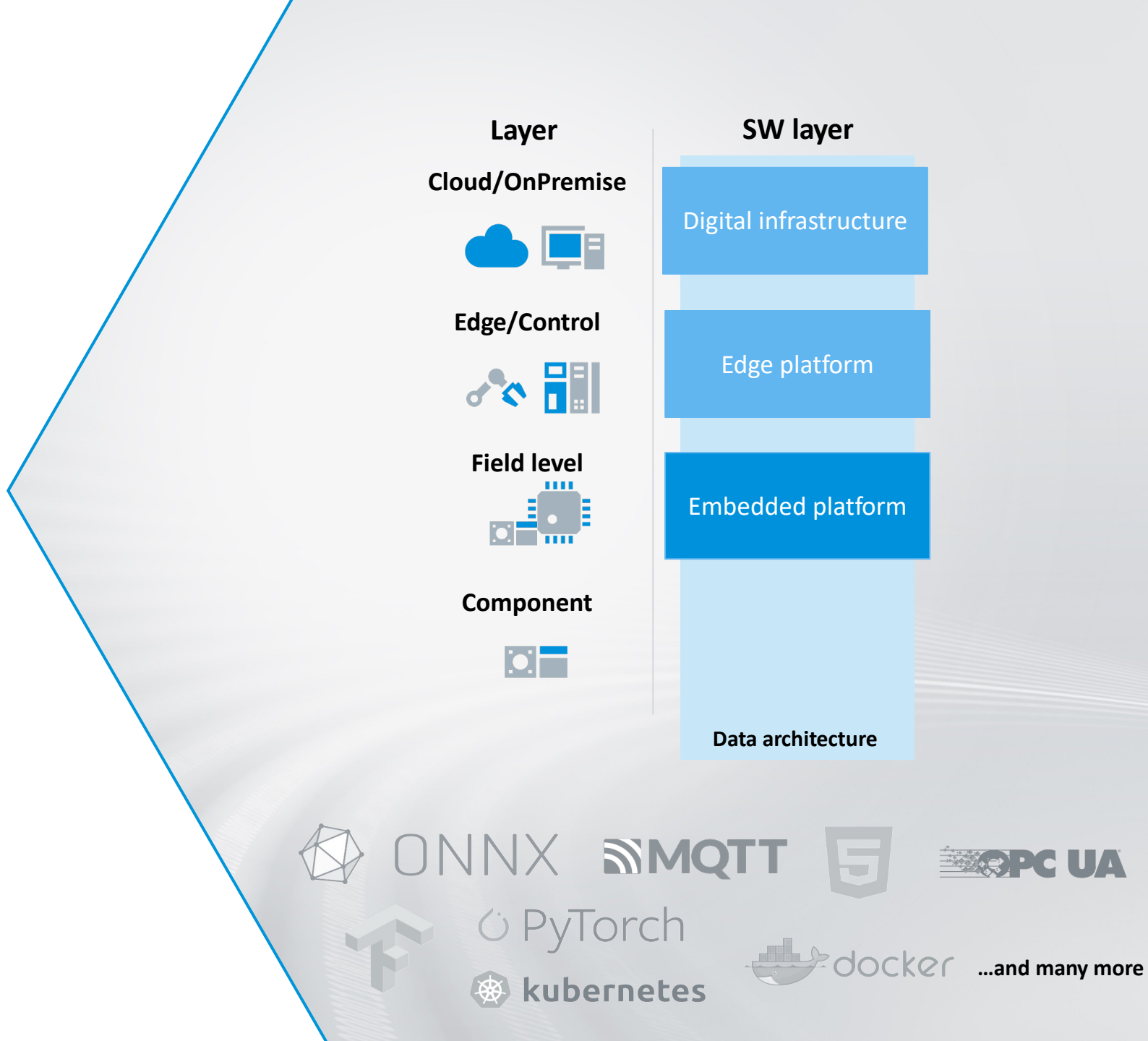
The increasing **modularization** and dissolution of the classic automation pyramid leads to increased **reusability** of software and systems.



New Architecture

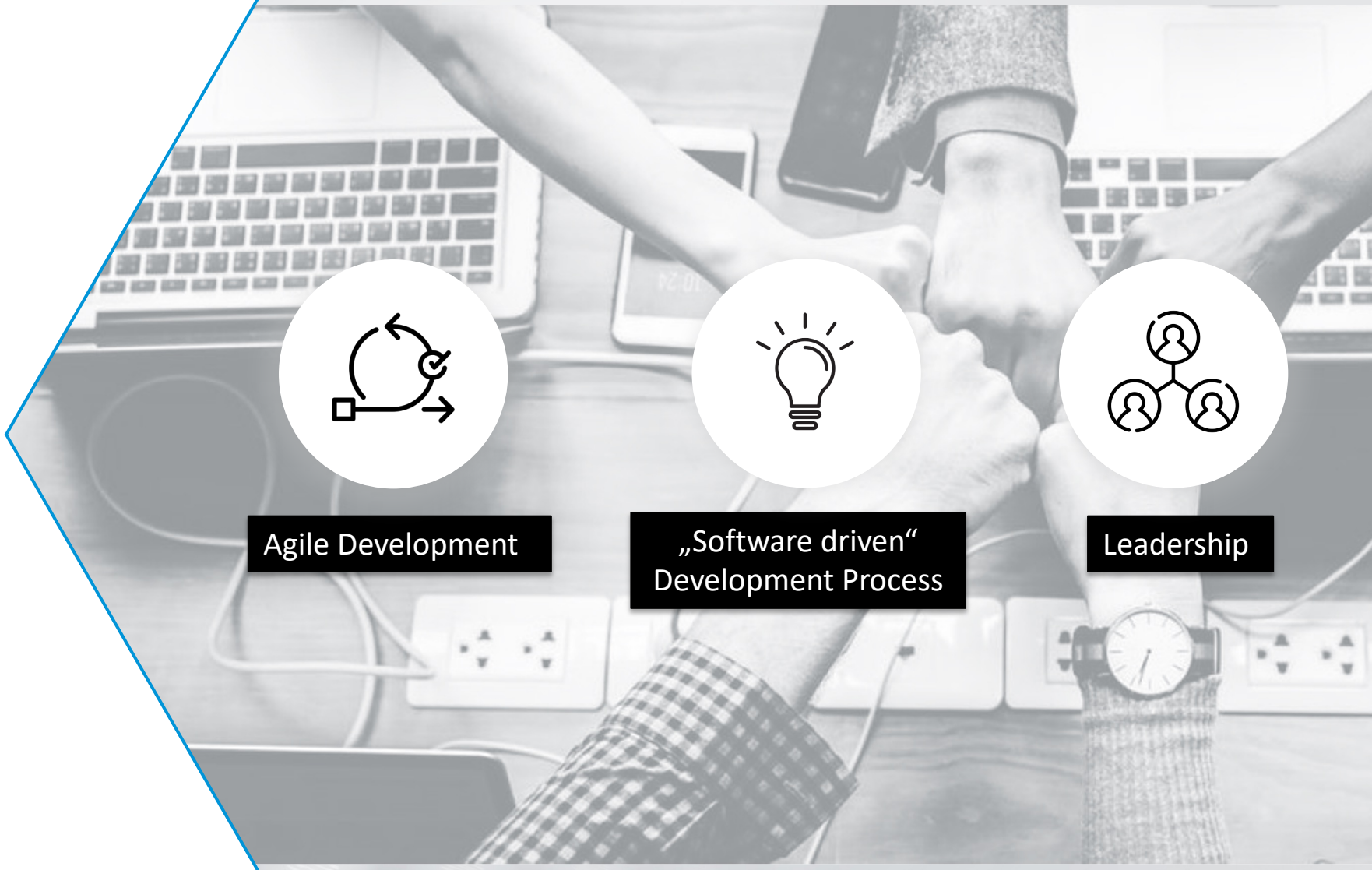
This new architecture brings in a **sophisticated software stack** to manage and new methods to apply.

A **challenge** for a company innovating mechanics.



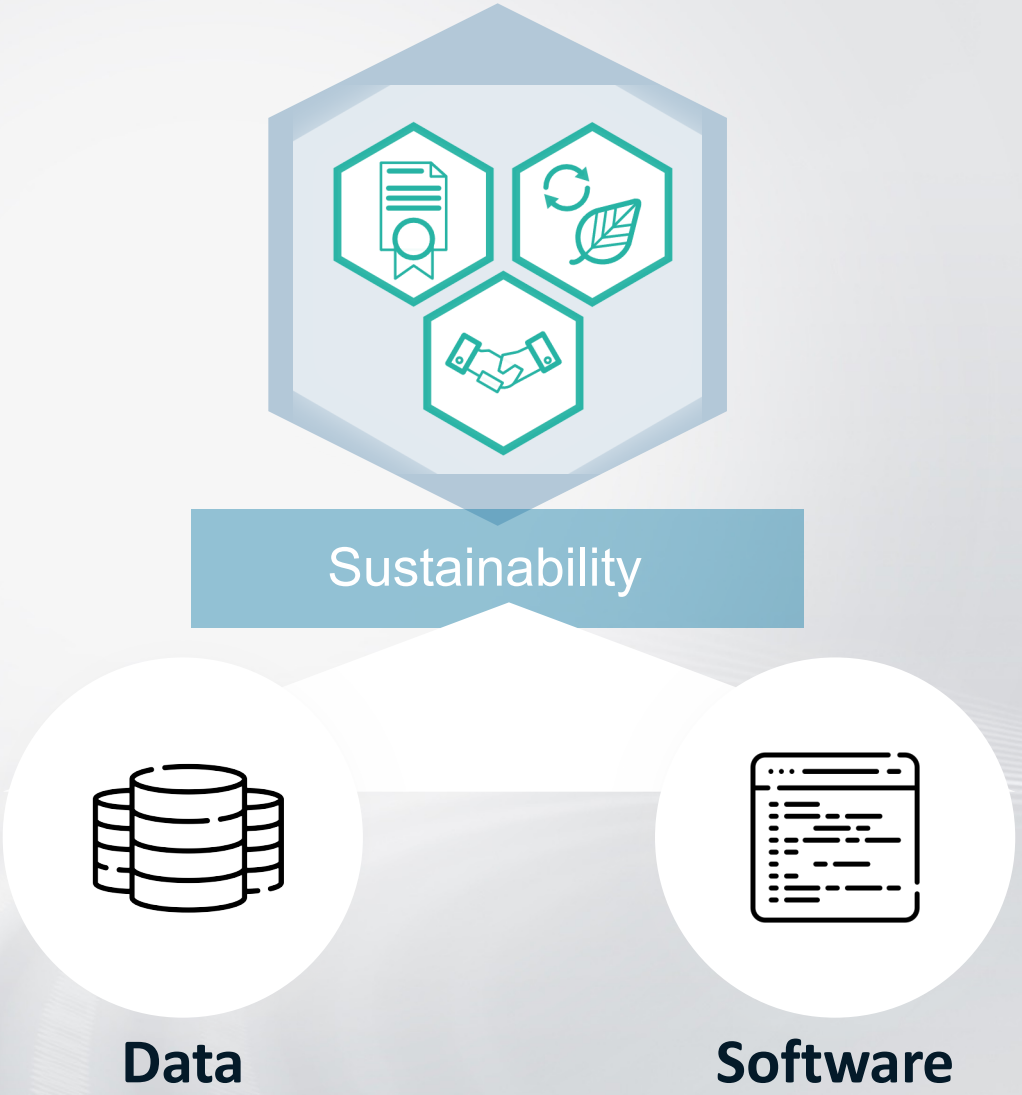
Festo is developing a modular system for building **intelligent**, **efficient** and **sustainable software** on a large scale**.**

Mastering technology does not solve it alone -
a **change in culture and leadership** is needed for innovating with software.



Software empowers Sustainability

Sustainability drives innovation and transformation



Thank you
for your attention