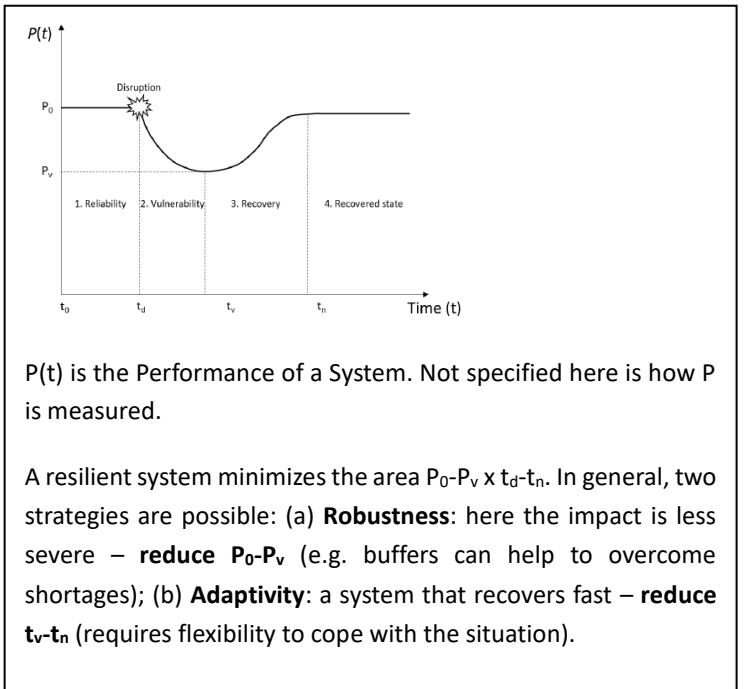


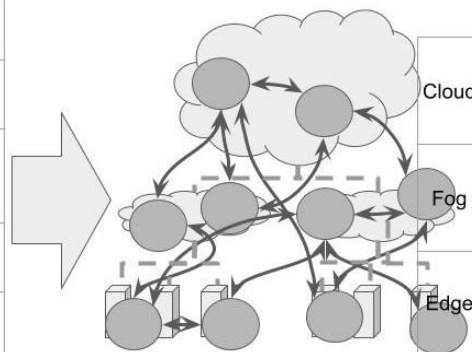
Increased Resilience in Manufacturing

PROFACTOR aims at further developing and researching enterprise / software architectures that supports resilience on all levels of the automation pyramid, to be able to

- Reduce the impact of disturbances (reactive/ex-post & pro-active/ex-ante).
- Support identification of disturbances, the planning of mitigation actions, the execution of mitigation actions, the monitoring of the results of those actions.



Months / days	Enterprise Resource Planning (ERP)
hours	Manufacturing Execution System (MES)
minutes	Supervisory Control & Data Acquisition (SCADA) / Human Machine Interface (HMI)
seconds	Programmable Logic Controller (PLC)
ms / ms	Production Process; Sensors; Actuators



Cyber Physical Production Systems (CPPS) Architecture for Increased Flexibility for Resilience

Current Research Activities:

- Research a resilient CPPS Architecture with relevant Interfaces & Services to increase Resilience
- Implement Cloud Based Dynamic Shop Floor Planning and Disturbance Management Methodology
- Define Interfaces for Machine2Machine & Sensor2Machine Communications
- Develop a DevOps Toolchain and Methodology for continuous development and evolution of resilient CPPS

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