

# CRP: Adaptive Production Systems

## Common Research Programme: Demonstrator Project 2

### A Joint Initiative with the Center for Digital Production



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## MOTIVATION & GOALS

Research in adaptive production systems supports production companies in Europe to be able to provide customized goods for local customers at low costs. Recent developments, in **Industrial Internet of Things**, and **Cyber Physical Production Systems**, require interactive machines. Interface technologies for interoperable systems-of-systems and engineering support is missing.

In addition to adaptivity on the shop floor, feeding production-process data analysis back into the automated design process will enable production process improvements in terms of production quality and cost.

### Project FactBox

**Project Name** CRP DP2 / APS

**Project ID** DP2

**Duration** 48 Months

#### Area 2

Cognitive Robotics & Shopfloors

#### Area X

Common Research Programme

#### Project Lead

Prof. Dr. Alexander Egyed

Dr. Christoph Mayr Dorn

Dr. Georg Weichhart

## APPROACH

A **Model-Driven Systems** approach has been taken, combining **flexible production planning** with a **work-flow and process based systems architecture**.

It combines an actor-based reactive scheduling system with the centurio.work process engine developed at the center for digital production (CDP).

## CONTRIBUTION

### Scientific contribution

Computer Vision for Object Identification

Flexible Robot Control handling heterogeneous parts

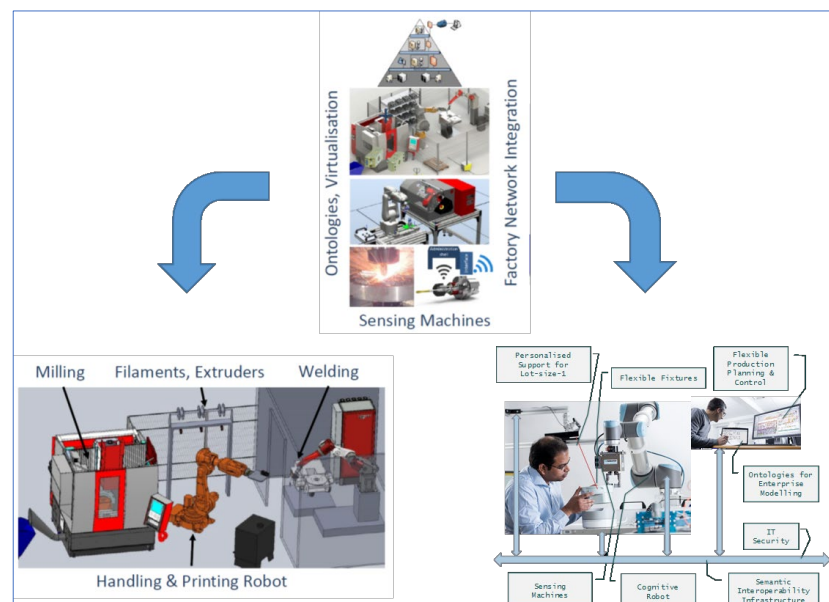
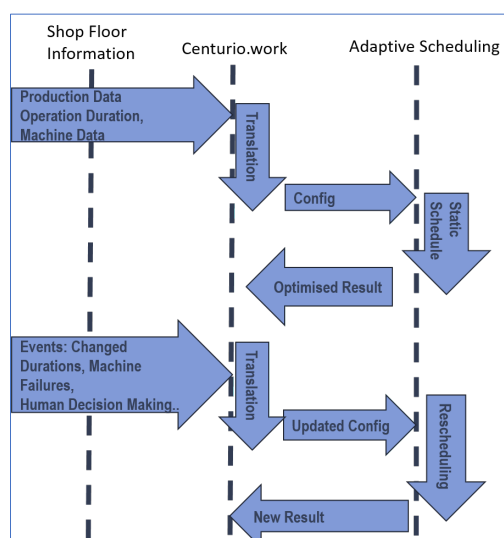
Flexible Production Planning and Control for Re-Scheduling

Workflow-based Systems

### Economic contribution

Automation of production for small lot sizes and / or parts with high variability supports Austrian Manufacturing SMEs in benefitting from automation.

## SYSTEM ARCHITECTURE



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