Virtual Machining

Virtual machining control offers a quick possibility to verify the machining results before the real machining on the machine starts. This significantly reduces the time for machine tool and machining technology tuning when introducing a new part into production.

- **Machine tool digital twin** is an effective instrument for predicting and optimizing the machining process
- Machine tool digital twin allows for calculating the real machining time, optimizing the CNC control and feed drive setting, optimizing the tool path and cutting process parameters or calculating the cutting forces during machining process
- **Workpiece digital twin** is a result of a complex simulation of the real machine – process interaction and its dynamic behavior

![Diagram of virtual machining process](image)

- CAM simulation only
- Simulation including the CNC controller
- Simulation using the machine tool digital twin
- A real workpiece

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