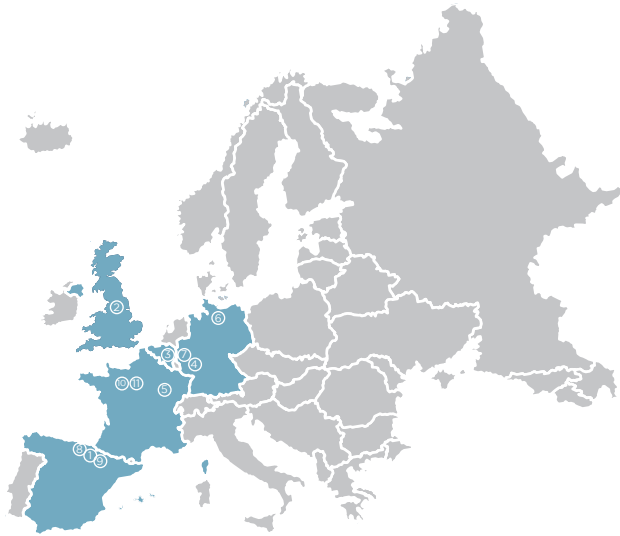


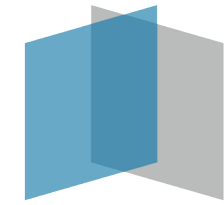
# The Twin-Control consortium



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## twincontrol

### A new concept for machine tool and machining process performance simulation



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# Twin-Control

Twin-Control is a new concept for machine tool and machining process performance optimization. It is based on a new simulation model that integrates the different aspects that affect machine tool and machining performance, including lifecycle concepts like energy consumption and end-life of components (Cyber World). Current condition of the machine tools is included in the models by using monitored data stored at a fleet level data management system.


In Twin-Control, the most important variables of the machining process and machine condition (Real World) will be monitored, managed at local and fleet level, and combined with the developed models to perform model-based control actions and make health assessment activities.

## The project

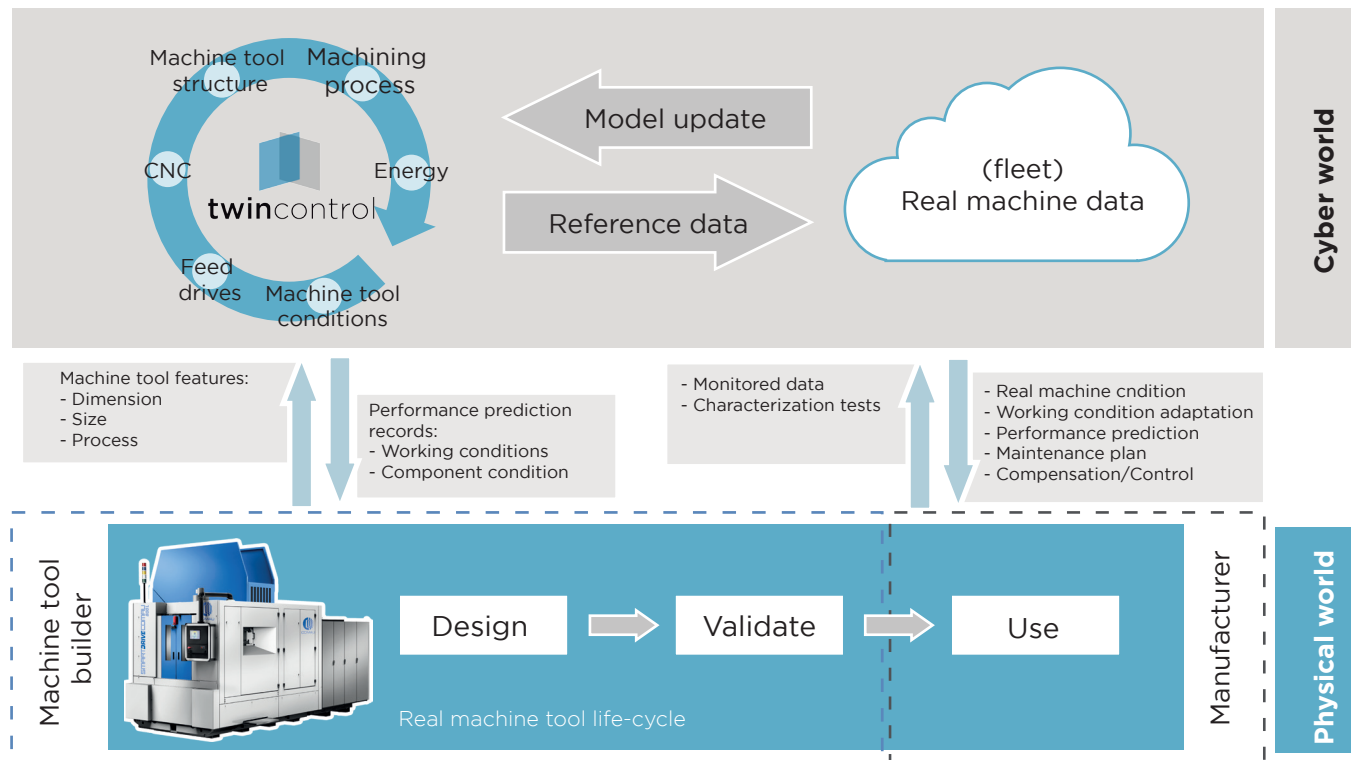
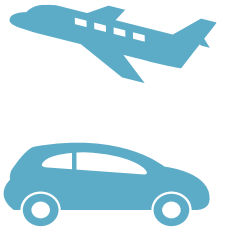
 **11** partners

 **36** months

 **5.6M€** budget

 **3** pilot lines  
**2** industrial use cases

Twin-Control reliability will be demonstrated in two of the key industries for European economy: aerospace and automotive.



## Results

- ★ A reduction of time to get the machine working as designed (10% time & cost reduction).
- ★ A reduction of time to get process working as designed (20% time & cost reduction).
- ★ Getting a first-time-right part manufacturing (75%) of all new processes.
- ★ An improvement of process performance through model-based control (increase of 1-2% in machine up-time).
- ★ The reduction of energy consumption (25-50%).
- ★ An improvement of machine reliability and increase machine up-time due to a proactive maintenance (2-4.5%).
- ★ Reduction of machine tool life cycle costs (15%) with a reduction of O&M costs in the range of 25% for manufacturing system and process.

\*Due October 2018