

twino for MOLDFLOW – Efficient Part Inspection for Improved Tryout Processes in Injection Molding

Injection molding is the most important process for the industrial production of plastic parts, and simulation has become indispensable for process design today. However, during actual commissioning, unexpected deviations still frequently occur, causing significant delays in production operations. Common issues include:

- Data silos between design and manufacturing teams
- Slow and expensive inspections
- Geographically distributed teams
- Lost data and missing documentation

A solution is needed to effectively identify root causes and corrective actions to quickly achieve quality-compliant production.

twino – The Super Tool for Documentation and Workflow Management

The Innovations Company for Advanced Production Systems (inpro) has developed a digital twin solution for injection molding in collaboration with MFS: twino. This software bridges the gap between simulation and reality throughout the entire development process of injection-molded plastic parts.

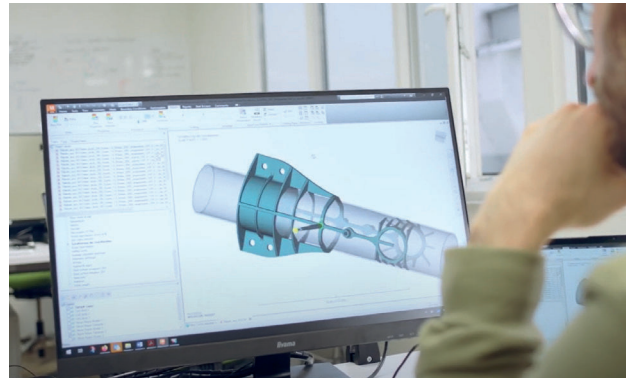
With twino, complex simulation results and large datasets from Moldflow can be visualized directly on a mobile device and applied to real components on the factory floor. Integrated measurement functions simplify the recording of real-world data from tools and parts, enabling real-time recognition of deviations between simulation and reality. The results are visualized using augmented reality, and experience-based knowledge from tryouts and production is automatically fed back to the simulation department.

twino accelerates and streamlines inspection, validation, and documentation workflows by enabling:

- **Utilization of design and simulation data** during process parameter setup, selection, and testing.
- **Fast, accurate, and efficient inspections** with high-resolution images.
- **Live support** for rapid troubleshooting through remote expert assistance.
- **Seamless collaboration** through shared use of inspection images and reports.
- **Simplified workflows** for creating documentation and concise reports that combine relevant digital and operational data.
- **Cross-platform usage** on all devices in the office and on the shop floor.

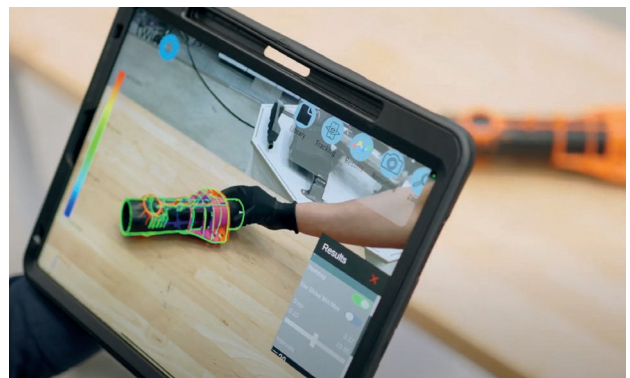
twino PLANNER und twino EXECUTE

Two applications are available for the planning and execution phases:



twino PLANNER /

In the desktop application twino PLANNER, all project data is consolidated and integrated into a single project. Plans are created for factory operations, detailing step-by-step what needs to be worked on and specifying the type of results, feedback, and documentation required.



twino EXECUTE /

The process is synchronized with twino EXECUTE on your mobile device. twino EXECUTE helps efficiently complete predefined tasks. During execution, documentation is generated, which is then fed back into twino PLANNER.



Structured Plans

In twino PLANNER, the user creates a workflow in the form of tasks step by step. The designer selects a task type, adds a description, specifies the data to be used (e.g., Moldflow simulation data), and defines the desired result (e.g., screenshots or tables). These tasks are then transferred to the mobile app and executed on the shop floor. Special productivity tools in twino help complete tasks even more efficiently.



Tools for Increased Productivity

1. Process Parameter Tool

This tool allows process parameter data related to tasks to be incorporated. All changes to process parameters can be easily entered and saved for complete documentation.

2. Mobile Viewer Tool

This tool enables the paperless visualization of technical data on the production floor, whether it's CAD or Moldflow simulation data. Direct import support on mobile devices eliminates the need for additional conversion tools, saving time.

3. Filling Study Tool

Once part production begins, this tool helps compare filling simulations with images. For example, it allows analysis of process parameters, flow front deviations, weld lines, or weld line angles. This is particularly useful for parts with multiple gates or multiple mold cavities.

4. Measurement Tool

During the production phase, precise dimensional properties are crucial. twino's Measurement Tool enables rapid measurement of key dimensions for each trial part using high-resolution images with sub-millimeter accuracy. It also tracks how part dimensions change over time.

5. CAD Compare

CAD Compare is a productivity tool that overlays CAD data onto a physical part using augmented reality, enabling comparison between digital designs and reality. This tool can be used to verify molds, fixtures, or robotic grippers, control design revisions, inspect incoming and outgoing parts, and create documentation.

Any Questions?

As the official reseller for twino, MFS is your go-to partner for all questions regarding its application. From licensing to support services and training, we've got you covered. Contact us today!



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