

AUTOMATED MACHINERY

Industry Solutions

OVERVIEW

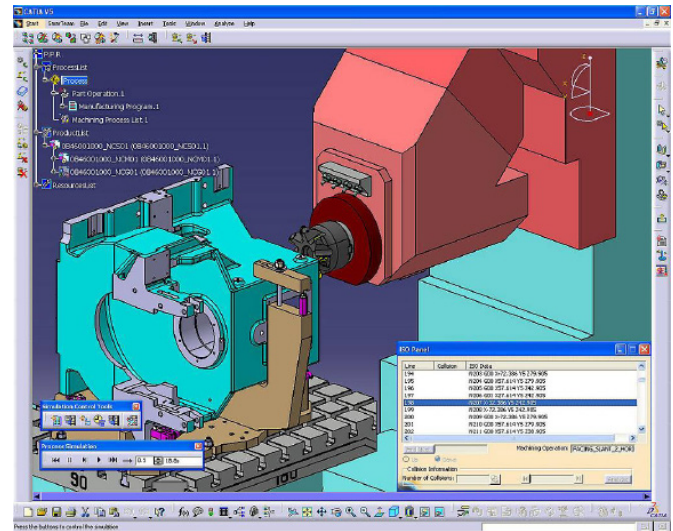
The growing use of 3D models within manufacturing and the need for specialized software applications to support complex machining operations has driven automated machine manufacturers to rethink their software strategy. Software has the potential to become a competitive advantage. While off-the-shelf CAD software has provided a generalized solution to the challenge, CAD applications are developed for the workflows of product design, not the unique workflows of manufacturing applications. The result is a solution inadequate for the specialized needs of machine programmers and operators.

Automated machinery manufacturers are choosing to develop custom software to drive their machining solutions and achieve competitive differentiation. These manufacturers have software development staffs dedicated to enabling machine functionality, optimizing workflows, and providing an efficient user interface. However, these teams often have little time, or expertise, to develop and support the software infrastructure. For these development teams, Spatial provides an application development framework, 3D software components, technical support, and 3D expertise. The result is higher-quality products, faster time-to-market, and market-leading applications that distinguish themselves in a highly competitive market.

BENEFITS OF 3D SOFTWARE COMPONENTS

3D software components from Spatial provide a foundation for development of specialized applications in manufacturing. These software components provide standard functions, such as geometry representations, import/export and visualization capabilities, within a software application. Purpose-built applications eliminate the need for end-users to learn and maintain unneeded CAD skills, significantly shortening the learning curve and increasing user productivity.

For developers, 3D software components accelerate time-to-market and enable sparse development resources to maintain focus on adding industry or product specific capabilities, rather than developing the basic infrastructure. Software components provide the flexibility to offer product updates based on application needs and schedule, rather than a CAD vendor's release schedule.



AUTOMATED MACHINERY APPLICATIONS

Spatial's 3D software components are designed to be used in a variety of manufacturing applications. Some example applications include:

Robotics – Spatial 3D software components provide geometry import, geometry query, manipulation and editing, visualization, simulation with collision detection, reverse kinematics, and path planning capabilities.

Metal Working – Spatial 3D software components provide geometry import, geometry modification for improved manufacturing, algorithms for path planning, feature identification, and removal capabilities. Spatial provides a 3D Springback component to enable a one-step method for springback compensation.

Inspection – Spatial 3D software components provide geometry and manufacturing information input, geometry query and manipulation for path planning, visualization and simulation with collision detection.

SPATIAL'S 3D SOFTWARE COMPONENTS

Spatial provides automated machinery manufacturers with a full breadth of 3D software components for enabling 3D modeling, data translation, and visualization within manufacturing applications.

3D INTEROP

Spatial's 3D InterOp supports the most popular CAD formats – CATIA V6, CATIA V5, SolidWorks, Siemens NX and others.

The suite of 3D InterOp translators supports the exchange of product structure, graphical data, geometry and semantic PMI. 3D InterOp provides visual fidelity for graphical data exchange along with high quality geometry translation for downstream engineering use. Regular format updates ensure accurate 3D data interoperability for the latest versions.

3D MODELING

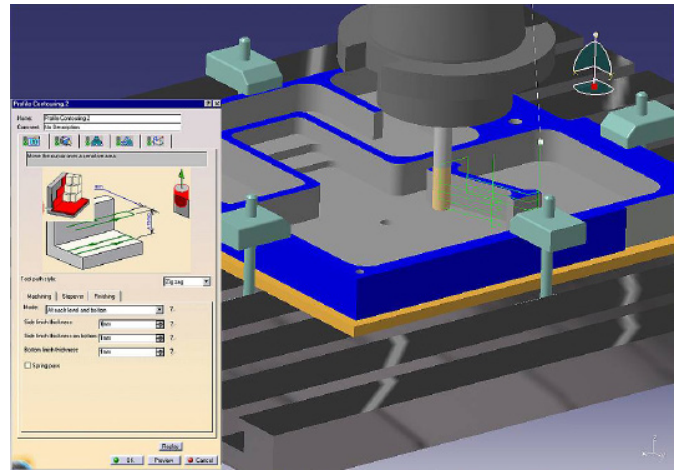
Providing software developers and manufacturers with the 3D modeling functionality necessary for creating innovative, high-performance applications, Spatial sets the standard. At the core of Spatial's modeling technology is a high-precision boundary representation and a tightly integrated suite of curve, surface, and solid modeling capabilities, providing application developers with a comprehensive set of functionality to solve today's complex modeling needs. Spatial delivers robust, flexible, industry-proven capabilities that enable quality-control, manufacturing, engineering and design application providers to bring 3D applications to market in less time, at lower development costs, and with less risk.

3D VISUALIZATION

Delivering a powerful, portable and complete graphics development component for 3D applications, HOOPS Visualize accelerates development of your high-performance applications. HOOPS Visualize helps you efficiently deliver a competitive application with unparalleled graphics power, ability to interact with large models, flexibility to deploy on multiple platforms and advanced functionality tailored to match your 3D requirements.

SHARED PARTNER SUCCESS

Spatial is committed to ensuring you, our development partner, are successful. We work with you sharing our expertise as well as our 3D components to assist your development efforts and accelerate success.



LEARN MORE ABOUT SPATIAL'S AUTOMATED MACHINERY SOLUTIONS:

www.spatial.com/industries/automated-machinery

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