

A detailed 3D CAD rendering of an industrial sulphur granulator. The machine features a large horizontal rotating drum, a tall vertical exhaust stack, and a complex network of white pipes and ducts. The entire assembly is mounted on a yellow metal platform with safety railings. The background is a dark, solid color.

Autodesk®  
Inventor®

Design better products,  
reduce development costs,  
get to market faster

Rendering of the RS1500™ sulphur granulator  
using rotating drum technology.  
Image courtesy of Brimrock Group Inc. and  
Mechanix Design Solutions Inc.

Autodesk®

# The Autodesk Inventor 3D model is an accurate 3D digital prototype that enables users to validate the form, fit and function of a design, minimise the need for physical prototypes and reduce costly engineering changes that are discovered only after the design is sent to manufacturing.

## Facing these issues?

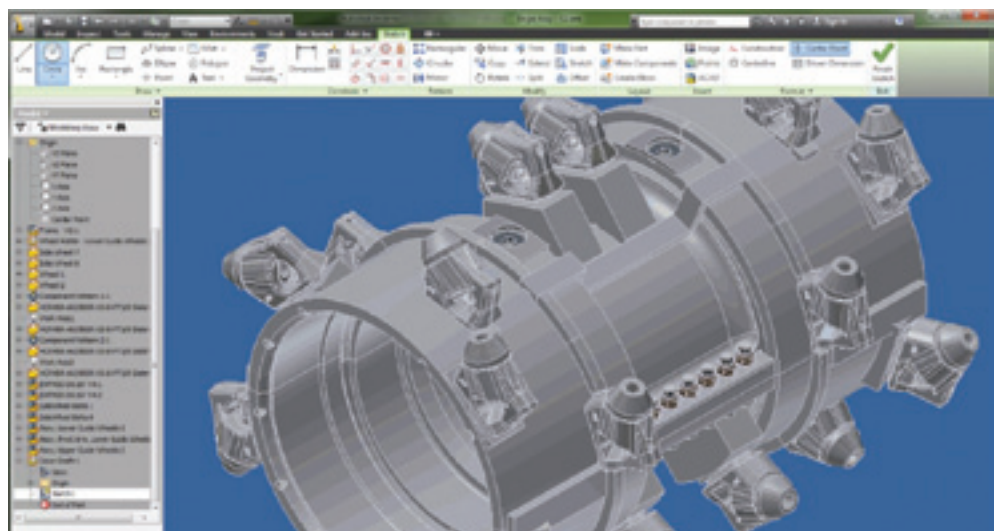
- Product design teams need to increase innovation in existing and new designs while reducing time to market.
- Designers are interested in the benefits of Digital Prototyping but worried about losing investments in existing DWG™ design data.
- Designers need to optimise product performance and make accurate design decisions with limited physical prototypes.
- Design approval cycles require rapid creation of production-ready drawings.
- Inability to find and reuse design data leads to duplicate efforts and increased costs.
- Piping and wiring designs take too long to develop.
- Design teams struggle to communicate design intent effectively with non-technical partners.

Learn how Inventor can help you to take advantage of a Digital Prototyping workflow to design and build better products in less time.

Autodesk® Inventor® software includes comprehensive tools to generate accurate engineering and manufacturing documentation directly from the 3D model and makes it easy for AutoCAD® software users to realise the benefits of Digital Prototyping by taking full advantage of their investments in DWG™ design data and AutoCAD software expertise. Manufacturers who use Inventor possess leading 3D mechanical engineering, design, visualisation and simulation software.

## Digital Prototyping

Autodesk Inventor software gives you the ability to create and explore a complete product before it is built. Inventor software makes it easy to realise the benefits of Digital Prototyping by integrating 2D AutoCAD drawings and 3D data into a single digital model. This single digital model creates a virtual representation of the final product that helps companies to better design, visualise and simulate their product with less reliance on costly physical prototypes, helping to improve time to market and increase competitive advantage.



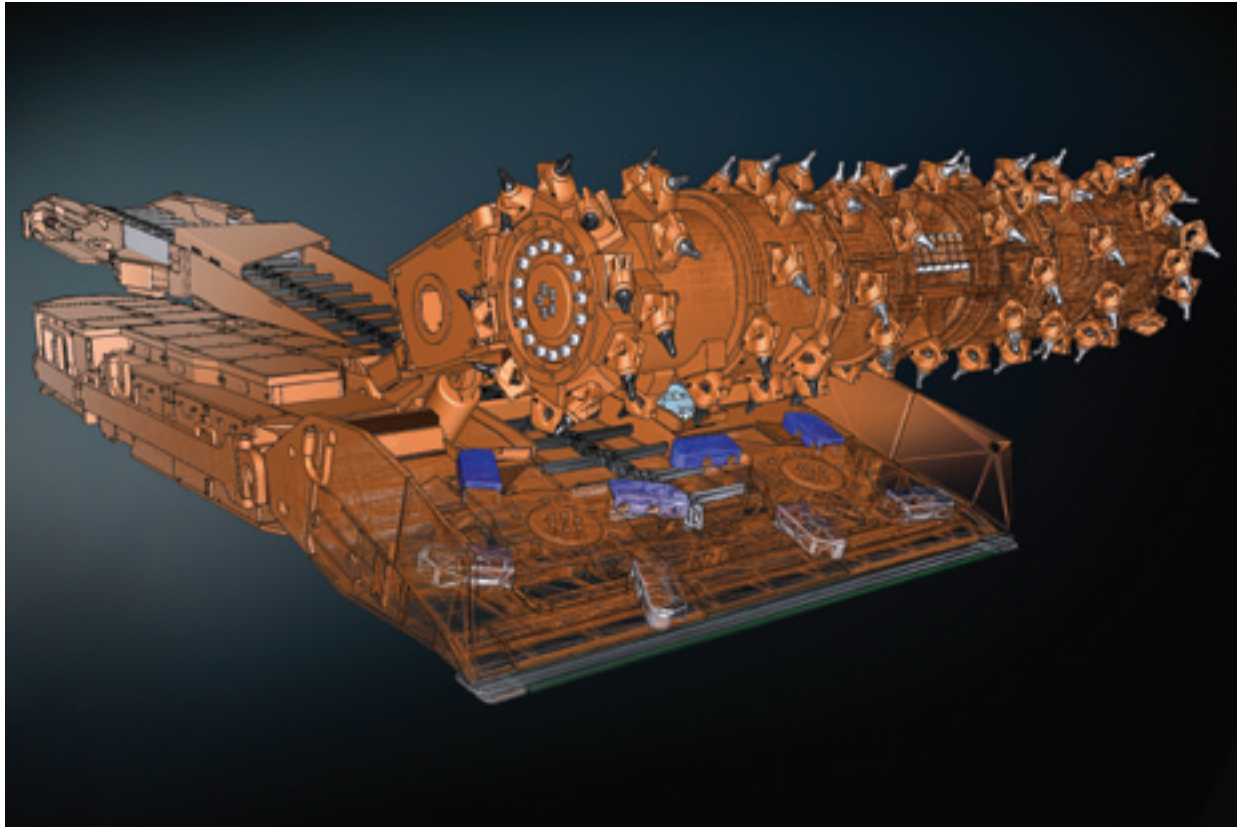


Image courtesy of Joy Mining Machinery

We can interact more effectively with customers at earlier stages of development using Digital Prototyping. The best part is that we can capture customer changes before we start cutting metal, reducing costs and speeding up manufacturing.

—Chris Flynn  
Director of Engineering Systems  
Joy Mining Machinery



Image courtesy of Joy Mining Machinery

**Underground mining machinery leaders.**

Joy Mining Machinery uses the Autodesk solution for Digital Prototyping to design and develop new and innovative products.





Image courtesy of Gottwald Port Technology GmbH

### Engineering Design Productivity

Design better products using 3D. Inventor software offers a wide range of tools to simplify the transition from 2D to 3D design and helps users to become productive immediately. Breakthroughs in assembly design and part modelling provide design tools that are significantly easier to learn and use. Intuitive sketching and direct manipulation modelling offer an uninterrupted workflow for exploring and evaluating concepts quickly. Specialised features accelerate the design of plastic parts and sheet metal. In addition, easy-to-use tools help to guide assembly creation, so that every part and component fits together correctly.

### Design Automation

Autodesk Inventor software features rules-based design and automation tools to accelerate the design process by automating common tasks, enabling users to focus on design intent rather than modelling geometry manually. Inventor software captures the functional requirements of a design to drive the automatic creation of intelligent components and accelerate design cycles. Inventor iLogic technology simplifies rules-based design dramatically to help any Inventor user – even one with little or no programming experience – to define complex product configurations, increase engineering productivity and optimise designs.

### Industry-Leading Visualisation

Create stunning renderings, animations and presentations quickly and easily to improve communication with your design partners and customers. Autodesk Inventor software provides industry-leading visualisation, illustration and animation tools directly in the default workspace, giving you a realistic representation of your design at all times. Dynamic shading, precise lighting control and the included library of high-resolution textures make it easy to create near-photorealistic scenes of your final products in actual environments. Autodesk® Product Design Suite offers expansive visualisation capabilities with tight Inventor interoperability, enabling you to communicate design intent and experience your design as if it were already manufactured.

We evaluated several 3D applications and quickly agreed on Autodesk Inventor, mainly because it is so easy to use. Digital Prototyping with Inventor has given our designers peace of mind. It provides them with reliable tools to detect potential interferences and critical areas within the construction.

—Frank Schalla  
CAD Administrator  
Gottwald Port Technology GmbH



Image courtesy of Gottwald Port Technology GmbH

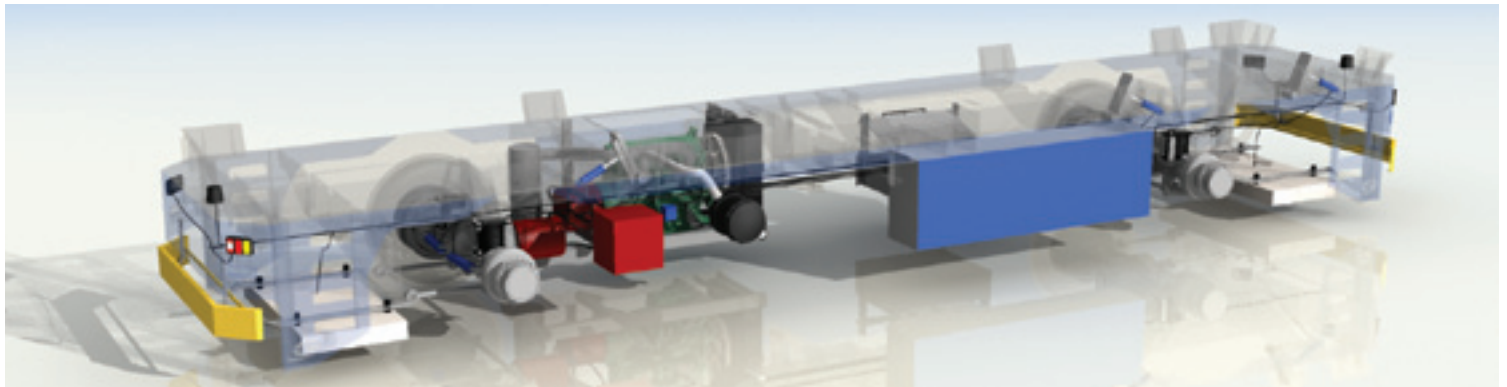


Image courtesy of Gottwald Port Technology GmbH

#### Efficient Design Asset Reuse

Autodesk Inventor maximises reuse of valuable design assets through a comprehensive set of translators that read and write files from other CAD applications. With direct read and write of true DWG format, Inventor users can share design data efficiently and accurately. Inventor enables users to integrate AutoCAD drawings and 3D CAD data into a single digital representation of the final product. It also includes tools specifically for designers and fabricators who work with architects, builders and contractors. The Building Information Modelling (BIM) exchange functionality enables data sharing between Inventor and Autodesk® Revit® products and AutoCAD® Architecture software.

#### Drawings and Documentation

Generate and share production-ready drawings easily for manufacturing teams and external suppliers. Autodesk Inventor software enables you to generate engineering and manufacturing documentation from a validated digital prototype to reduce errors and to deliver designs in less time. Maximise reuse of 2D AutoCAD drawing assets and create drawings faster in Inventor. Simply call out drawing views, including front, side, ISO, detail, section and auxiliary views, and Autodesk Inventor projects the geometry. Generate automated and associative parts lists and bills of materials (BOMs) developed specifically for manufacturing. Automatic updates mean that changes ripple through the entire design to help keep everyone on schedule with accurate part counting, identification and ordering. Inventor enables you to create true DWG-based drawings of 2D and 3D designs from virtually any CAD source.

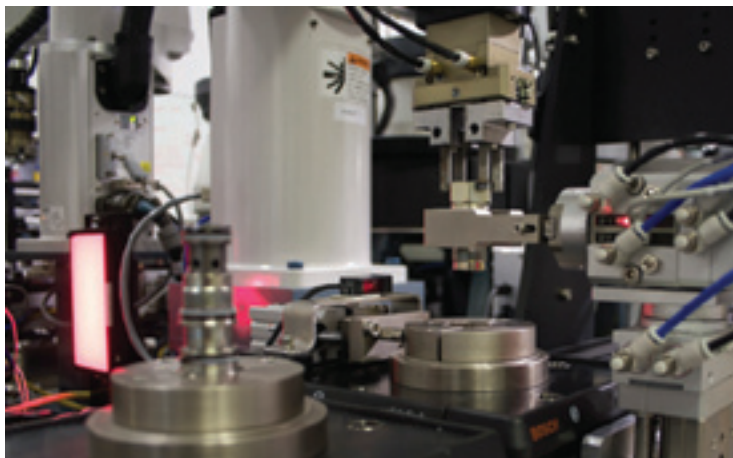
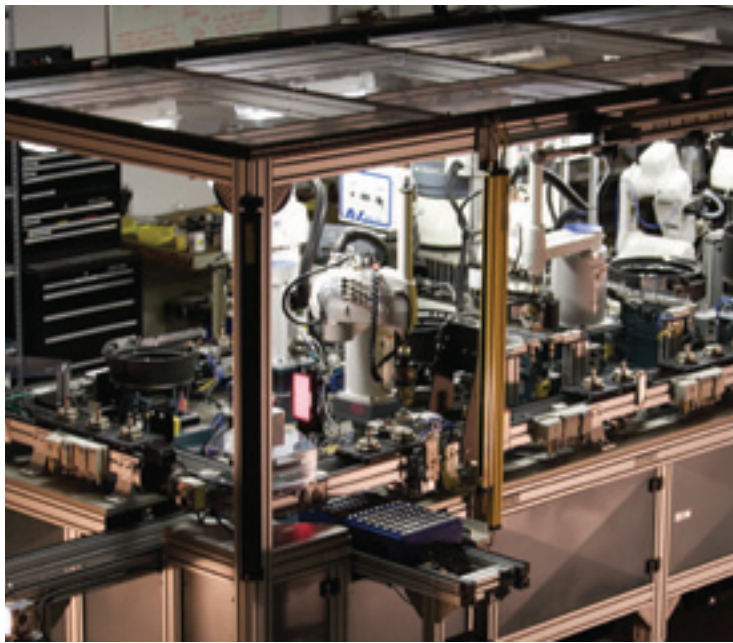


Image courtesy of RND Automation & Engineering LLC

Before Autodesk Inventor, the engineers had to make assumptions and simplifications to the design or do lengthy hand calculations. Now they simply query properties such as the mass moment of inertia and within minutes, they have the figures they need.

—Sean Dotson  
President  
**RND Automation & Engineering LLC**

#### Easy-to-Use Simulation

Autodesk® Inventor® Professional software provides the ability to optimise and validate product performance before the product is built. A comprehensive simulation environment provides support for motion simulation, as well as static and modal finite element analysis (FEA) of parts, assemblies and load-bearing frames. Inventor Professional also includes Autodesk® Simulation Moldflow® plastic injection moulding simulation tools to validate the design of injection moulds for plastic parts.

In addition to traditional performance evaluations, Inventor Professional helps users to optimise material selection based on environmental impact and costs, including disposability and other environmental handling concerns, through the Eco Materials Adviser jointly developed with Granta Design Ltd. Tight integration with the 3D design software makes it practical and cost-effective to use simulation throughout the design process.



### Autodesk 360

Autodesk® Subscription now gives you a greater advantage with Autodesk® 360 capabilities to help you increase mobility, improve collaboration and optimise your designs, advancing the way you work. Document storage, sharing and viewing in the cloud enable you to advance the way you work. Extend ideation and simulation beyond the desktop by testing the performance of multiple product design options with Autodesk Inventor optimisation capability, powered by Autodesk 360. This capability makes it easy to create higher-quality products and more sustainable designs that reduce costs.

### Integrated Data Management

Autodesk Inventor software is preconfigured to integrate with Autodesk® Vault, centralised data management software that enables workgroups to store and manage work-in-progress design data and related documents securely. To learn more about data management and topics such as BOM management, change and revision control, and file and folder security, review the entire family of Autodesk Vault products.

### Complete Design

Autodesk Inventor Professional provides rules-based routing tools that select the correct fittings and help to ensure that pipe runs comply with your standards for segment length, round-off increments and bend radius. Inventor Professional streamlines cable and harness design by using wire list information imported from schematic design packages such as AutoCAD® Electrical software. Inventor Professional automates key design aspects of injection moulds for plastic parts, so you can create and validate complete mould designs quickly, reducing errors and improving mould performance.

### Make Digital Prototyping Your Competitive Advantage with Suites

Autodesk® Design Suites provide comprehensive workflows for specific needs in product design, factory design and more. These compatible sets of tools offer interoperability and capabilities that take advantage of the familiarity of Autodesk's leading design and visualisation solutions, in a single economical and convenient package. Autodesk Inventor software is included in the following Design Suites.

	Standard	Premium	Ultimate
<b>Autodesk Product Design Suite</b>	•	•	•
Autodesk® Product Design Suite is a comprehensive set of design, visualisation and simulation software. From early concepts to detailed engineering and simulation, Product Design Suite provides a Digital Prototyping solution for your entire product design workflow.			
<b>Autodesk Factory Design Suite</b>		•	•
Autodesk® Factory Design Suite combines unique factory-specific functionality in AutoCAD and Autodesk Inventor software with powerful visualisation tools to help you make better layout decisions as business requirements change.			
<b>Autodesk Building Design Suite</b>			•
Autodesk® Building Design Suite can help you to design and communicate more effectively. Experience a comprehensive software solution, featuring Autodesk's leading design and visualisation tools for building, all in a single, economical and convenient package.			
<b>Autodesk Plant Design Suite</b>			•
Autodesk® Plant Design Suite is a comprehensive plant design, modelling and review software in a convenient, cost-effective package that enables you to design more efficiently and stay on schedule and within budget.			

# Digital Prototyping for the Manufacturing Market

Autodesk is a world-leading supplier of engineering software, providing companies with tools to design, visualise and simulate their ideas. By putting powerful Digital Prototyping technology within the reach of mainstream manufacturers, Autodesk is changing the way manufacturers think about their design processes and is helping them to create more productive workflows. The Autodesk approach to Digital Prototyping is unique in that it is scalable, attainable and cost effective, which allows a broader group of manufacturers to realise the benefits with minimal disruption to existing workflows, and provides the most straightforward path to creating and maintaining a single digital model in a multidisciplinary engineering environment.

## Learn More or Purchase

Access specialists worldwide who can provide product expertise, a deep understanding of your industry and value that extends beyond your software. To license Autodesk Inventor software, contact an Autodesk Value Added Reseller. To locate the reseller nearest you, please visit [www.autodesk.co.uk/reseller](http://www.autodesk.co.uk/reseller).

## Autodesk Education

Autodesk offers students and educators a variety of resources to help ensure that students are prepared for successful design careers. Educators can access design software, curricula and teaching resources, while students can access free\* software, training videos, design competitions and career resources. Anyone can get expert guidance at an Autodesk Authorised Training Centre (ATC®) site and validate their skills with Autodesk Certification. To learn more, please visit [www.autodesk.co.uk/education](http://www.autodesk.co.uk/education).

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