Get your tire production rolling

With consistent, end-to-end solutions for optimizing your entire manufacturing process

siemens.com/tire-info
Respond flexibly to competitive pressure

Tire production has long meant more than simply finding the perfect rubber blend. Fierce competition is forcing manufacturers to be more efficient and productive – while at the same time improving their product’s quality. We can supply the technology that will allow you to achieve all this and more.

With over 30 years of experience in the industry, Siemens is your ideal partner for facing all tire manufacturing challenges. As the competition gets tougher, we will work with you to fulfill today’s higher quality, safety, and emissions standards while minimizing production times and costs.

We use a flexible range of products and systems to cope with today’s complex production environments. Our custom solutions are precisely adapted to conditions in your tire plant. Our comprehensive automation systems within the scope of “Totally Integrated Automation” (TIA) support the entire manufacturing process – from rubber compounding and mixing to vulcanization to quality assurance. Components are perfectly matched to increase the efficiency of every step of tire production, which improves your long-term competitiveness.

Making every process in every production center consistent, transparent, and efficient is the only way to master the challenges of an increasingly global tire industry.

The increasing internationalization of tire manufacturing is creating challenges – including different standards, procedures, and equipment at different locations. We can help you transform even these obstacles into opportunities.
Custom products and systems for all aspects of the tire manufacturing process are an integral part of our portfolio. Siemens also offers comprehensive service along with planning, monitoring, and logistical solutions for your entire tire plant.

You can rely on “one-stop shopping” at Siemens for solutions for your plant, your equipment, and the entire tire manufacturing process.

Based on Siemens’ many years of experience in the tire industry and its expertise in automation and drive technology, our extensive portfolio will help you design your plant and optimize your products to:

- **Increase plant availability** – based on proven systems tailored to your needs.
- **Improve product quality** – thanks to consistent automation and transparent monitoring of manufacturing processes.
- **Maximize energy efficiency** – using modern, scalable high-performance drives and engines.
- **Increase production speed** – by optimizing processes along the entire production line.
- **Increase the productivity, flexibility, and efficiency of the whole tire plant while keeping your total costs low** – thanks to the competitive edge offered by our Industry Services portfolio.
All-around solutions – top results

Tire manufacturing is more than the sum of its individual steps – and the connecting processes offer the greatest potential for improvement. Cost-effective planning, efficient data management, smooth logistics, and high-quality service will keep your production economical far into the future.

**Manufacturing Execution System (MES)**
The centralized data storage provided by our MES, which is based on SIMATIC IT, allows you to display all of the information from the processes and operations throughout your production facility in real time. This makes it easy to synchronize workflows, calculate strategic decisions in advance, and introduce new production mechanisms. Standardized components and the open TIA system architecture promote smooth operations, ensure that future needs will be met, and provide scalability.

**Production planning and machine design**
Simulations and the ability to link tire development to all parts of production offer completely new opportunities for product optimization, development, and fabrication as well as cost reductions. Our Tecnomatix™ software for Product Lifecycle Management (PLM) is based on the Teamcenter™ Manufacturing Backbone, and is currently the most comprehensive collection of digital production solutions on the market. It significantly shortens the time between generating an idea and getting production up and running.

**Complete logistical solutions**
We offer many logistical products and systems tailored to the tire industry to connect individual tire manufacturing processes along the entire value chain. All of these products benefit from our many years of experience with complete transportation solutions. They ensure that your tires and tire parts can be tracked as they travel swiftly and smoothly to their final destinations.

**Service, support, and training**
As your partner, we are continuously available to assist you at our local tire support centers all over the world. You can count on the technical expertise of our service specialists in areas like project planning, commissioning, maintenance, and training around the clock, 365 days a year. You will profit from complete protection of your investment, greater availability of machines, and the ability to plan costs over the entire lifecycle of your tire production equipment.
Mixing and extrusion

The complexity of the rubber mixing process places heavy demands on every system involved. Our product line – including controls, visualization, drives, and motors – flexibly fulfills those demands during and after the entire mixing process. Our integrated portfolio even includes mixer management and storage. The following focus areas also ensure the quality, efficiency, and profitability of specific customer concepts and custom solutions:

- Maximizing energy efficiency
- Optimizing mixing results
- Visualizing the entire mixing process to obtain useful information

Production of semiproducts

Thanks to a high level of standardization over our entire range of products, our solutions guarantee flexibility for manufacturing semiproducts. Generous scalability makes it possible to customize drive solutions to all machines used for confection of the individual tire components. That lets you tap into unimagined potential for maximizing your productivity and profits – while still conserving energy. Your benefits at a glance:

- Higher level of standardization
- Lean automation solutions
- Energy savings

Find out more:
siemens.com/tire-mixing

Find out more:
siemens.com/tire-semiproducts
One of the highlights of digital production planning and development is the curing press simulator you can use to increase your production capacity during the vulcanization process without adversely impacting actual production.

The curing presses used in the vulcanization process present many opportunities for modification. Our innovative control solutions enhance workflows and automation as you employ powerful control units installed near your equipment to monitor and adjust parameters like pressure, temperature, and time. Our perfectly coordinated portfolio keeps your production profitable using:

- Cost-effective control panels for your curing presses
- Custom automation solutions for curing presses
- Digital simulation of the curing process

Vulcanization

Our specialized SINAMICS and SIMOTION drive solutions are specifically adapted to the requirements of tire building machines to minimize their energy consumption and maximize productivity. They work perfectly with the SIMATIC controllers to automate tire building machines. This increases the output of your tire manufacturing system – and offers further major advantages:

- Improved cycle times
- Open, robust automation concepts
- High availability of tire building machines

Tire building

Find out more:
siemens.com/tire-tirebuilding

Find out more:
siemens.com/tire-vulcanization
The advantages of an integrated solution

All of the components we offer are seamlessly interlinked. This not only improves the individual production steps but also reduces disruptions to tire production in general. The advantages of this will be felt throughout the plant:

- Shorter time to market
- Efficient engineering
- Lower operating expenses
- Improved reliability and safety of machines
- Increased availability of plant and equipment
- Faster tire production
- Improved IT security
- Greater energy efficiency
- Increased overall product and plant quality

The key to successfully manufacturing tires over the long term is the optimal calibration of your production processes with minimal, if any, frictional losses.

“Siemens provides durable and reliable technology while obeying applicable regulations and laws. Another advantage is the global network Siemens has to offer.”

Patrick van der Linde,
VMI Group, Epe (Netherlands)

Quality control

Reliable final inspections are the only way to improve product quality over the long term. Our fully automated solution combines x-ray monitoring, tire balancing checks, and force variation tests with centralized data management – guaranteeing optimal test performance and complete traceability of tires. A long-term partnership with us will help you:

- Improve test performance.
- Save space and reduce costs thanks to our intelligent design.
- To an exact tracking and tracing for complete tire traceability.

Find out more:
siemens.com/tire-qualitycontrol
**The complete information package: just a mouse click away**

- Detailed descriptions of our products
- Additional graphics, charts, and videos
- Easy navigation with sorting by process, product, or value creation

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