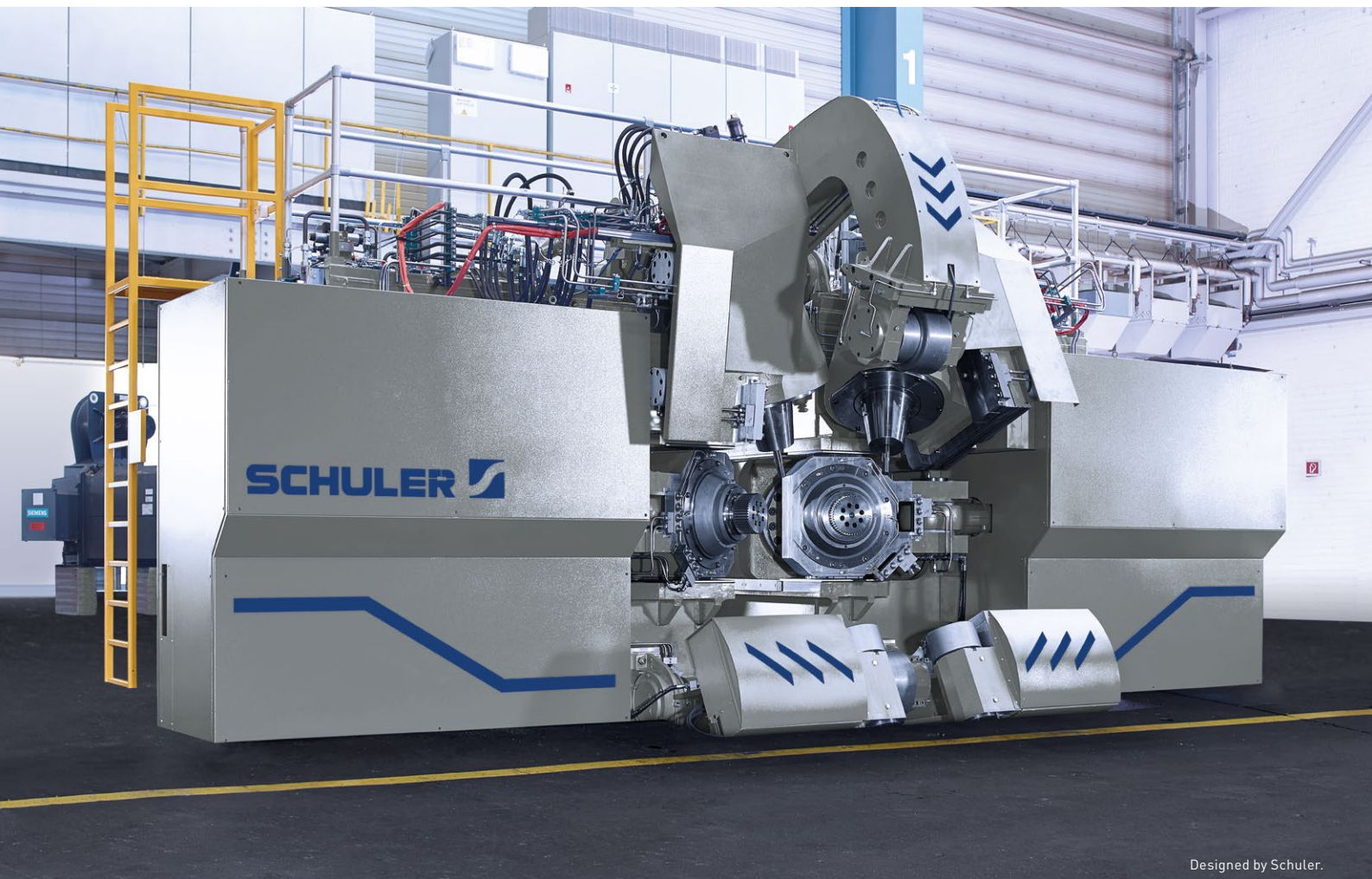


FORMING THE FUTURE



Designed by Schuler.

## FORGING AND ROLLING RAILWAY WHEELS AND RINGS

**SCHULER** 

Member of the ANDRITZ GROUP

# FORGING AND ROLLING. TURNKEY MACHINES FOR MANUFACTURING RINGS.

## ■ Machines for hot forging

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**Schuler forging.** System solutions from Schuler offer customers all over the world a decisive quality advantage in all temperature ranges:

- Systems for hot forging
- Systems for warm forging
- Systems for cold forging

Turnkey machines for manufacturing rings or railway wheels are used in hot forging.

**Tailor-made forging and rolling processes from Schuler.** These machines make it possible to manufacture seamless rings according to their specific required properties.

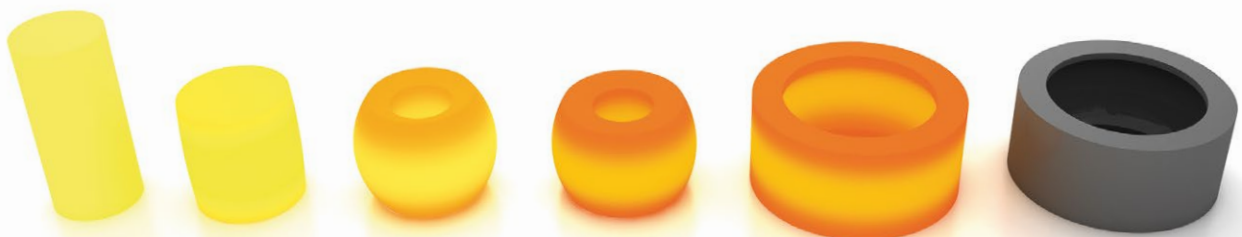
The seamless rings are used on engine casings, bearing shells, blade carriers and different structural elements. Advanced features offered by Schuler, such as simultaneous punching, achieve optimized flow of special products.

### **The advantages of ring roller:**

- Reliable technology proven for decades in forging environments
- Special design for production of small and large rings on the same ring roller
- Quick tool change solutions to reduce machine downtime

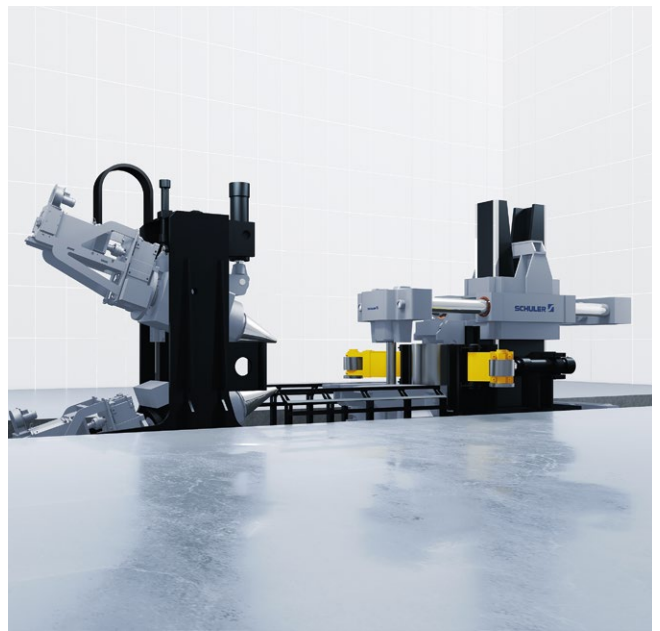
## SEQUENCE OF OPERATIONS FOR MANUFACTURING SEAMLESS RINGS

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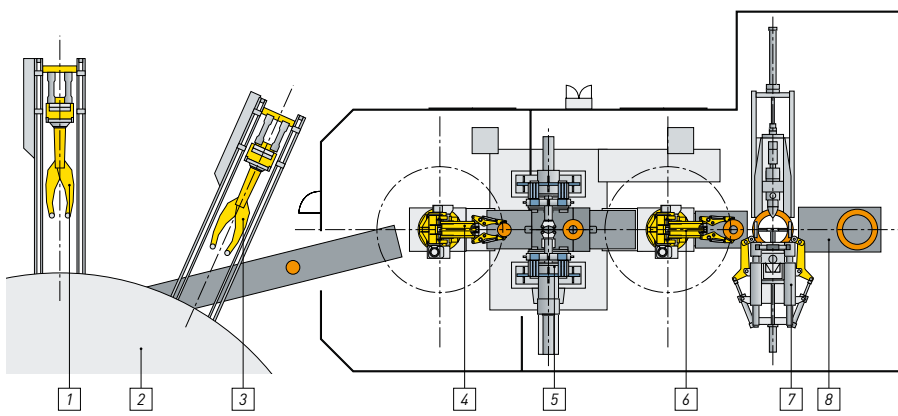


Hydraulic press for forging ring blanks (MH-3000).



Production of small and large rings on a single Schuler ring roller.

TURNKEY MACHINE FOR MANUFACTURING RINGS



- 1 Charging
- 2 Rotary hearth furnace
- 3 Discharging
- 4 Robot
- 5 Hydraulic forging press
- 6 Robot
- 7 Ring roller
- 8 Conveyor

# FORGING AND ROLLING. TURNKEY MACHINES FOR MANUFACTURING RAILWAY WHEELS.



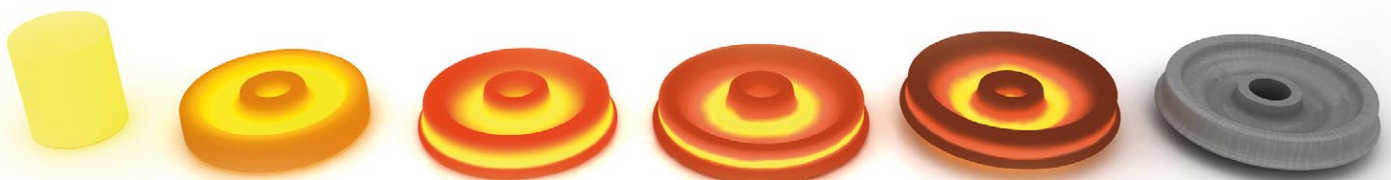
Rolling a freight car wheel on the new Schuler wheel roller.

**Turnkey machines for efficiently manufacturing wheels.** Schuler special equipment configurations can fulfill all customer requirements for a complete process starting from the continuous casted material to the finished wheel for the most economic production of Wagon, Locomotive and High Speed Wheels. High press forces linked to precise control systems ensure lowest material consumption.

**The advantages:**

- Precise pre-forging by high press forces for high precision in the areas of the hub and running rim
- Weight savings due to high accuracy in presses and wheel roller
- Enhanced productivity and availability
- Quick and easy retooling of the entire machine
- Standardized operating concept for the presses and the wheel roller

## SEQUENCE OF OPERATIONS FOR MANUFACTURING RAILWAY WHEELS





Designed by Schuler

Schuler wheel roller optimized for extended tool life.

**The advantages of wheel roller:**

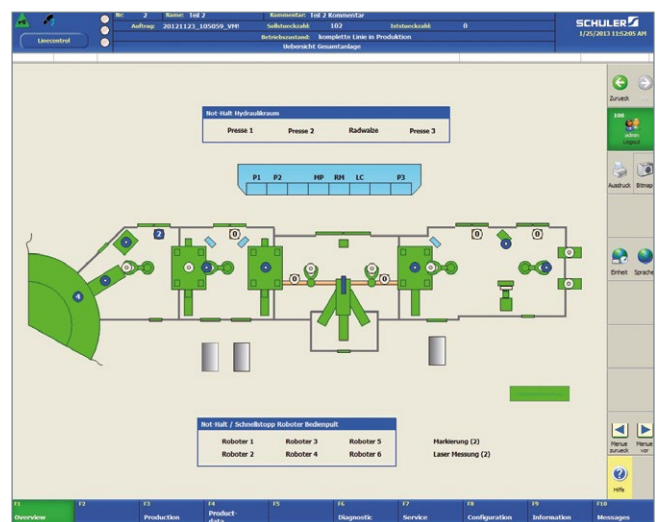
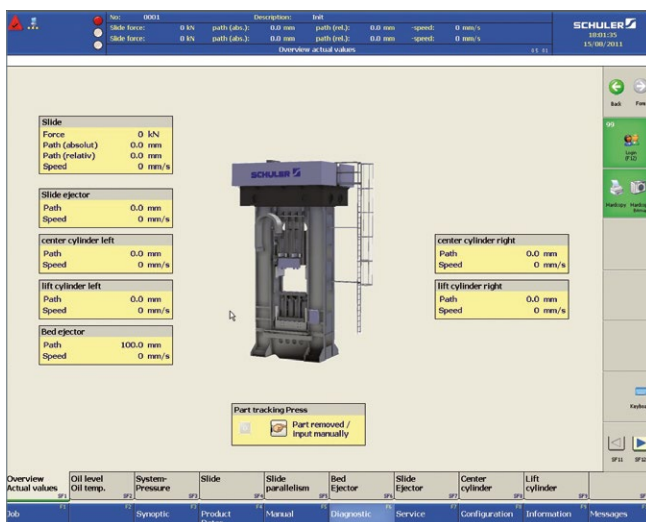
- High accuracy due to rigid machine design
- All tool axles driven (main and support drives)
- Continuous cooling during loading /unloading for less wear and increased tool life
- Zeroing of internal torque for less abrasion and extended tool life
- Extended life time of shafts and bearings due to well-sized units

**AUTOMATED TURNKEY MACHINE FOR MANUFACTURING RAILWAY WHEELS WITH ROTARY HEARTH FURNACE, THREE HYDRAULIC FORGING PRESSES AND THE SCHULER WHEEL ROLLING MACHINE**



# OPTIMUM ROLLING PROCESSES. CONTROL SYSTEMS FOR TURNKEY MACHINES.

The control system assures optimum rolling production. This program takes into account the special needs of rings and wheels.



### Machine control:

- Well-arranged visualization of process parameters
- Free sequence programming of processes
- Easy input of parameters
- Complete product data management
- Service friendly
- User-Management with different password levels

### Master control:

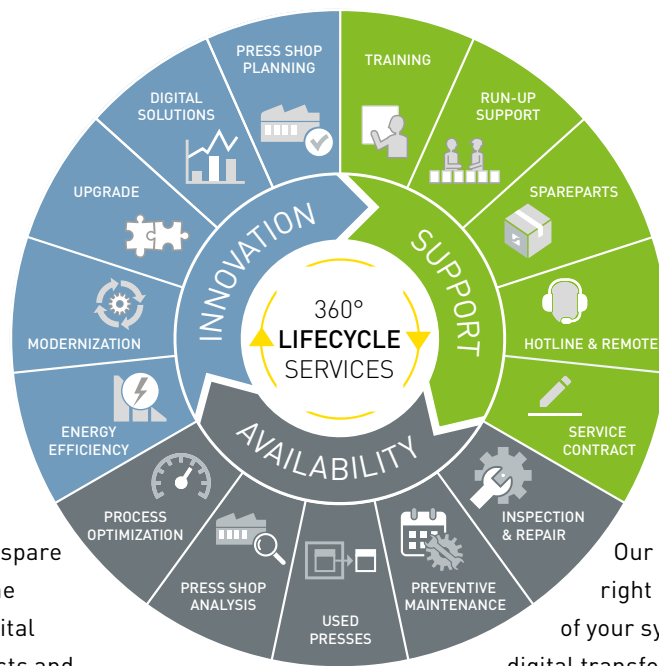
- Total line overview
- Easy part and fault tracking
- Multiple production plans possible
- Connection to Production information system
- Entire safety control of the line

### Process control:

- Strong partnership for the simulation of the entire process chain



# LIFECYCLE SERVICE FROM SCHULER. EXTENSIVE INDUSTRY SERVICES FOR FORMING TECHNOLOGY.



From the dependable supply of spare parts and rapid assistance in the event of malfunctions to the digital transformation process: products and services from Schuler Service help you to keep your system running at an optimal level.

Whether it's spare parts service, maintenance work, modernisations, used presses, IT solutions, or our 24/7 support with quick response times: you can count on our Service Team to ensure maximum safety and system availability in your press shop – whenever you need us, even on our 24/7 Hotline.

Our experts provide you with the right solutions over the entire lifecycle of your system whilst assisting you with digital transformation, from consultations about various available IT solutions to the actual implementation.

Schuler Service is here to help as your competent partner. Reliable, knowledgeable and friendly.

**We look forward to hearing from you.  
Your Service Team.**



[www.schulergroup.com/service\\_en](http://www.schulergroup.com/service_en)

## ABOUT THE SCHULER GROUP – [WWW.SCHULERGROUP.COM](http://WWW.SCHULERGROUP.COM)

Schuler offers customized cutting-edge technology in all areas of forming – from the networked press to press shop planning. In addition to presses, our products include automation, dies, process know-how and service for the entire metalworking industry. Schuler's Digital Suite brings together solutions for networking forming technology and is continuously being developed to further improve line productivity and availability. Our customers include automotive manufacturers and suppliers, as well as companies in the forging, household appliance and electrical industries. Presses from the Schuler Group mint coins for more than 180 countries. Founded in 1839 at our headquarters in Göppingen, Germany, Schuler has approx. 5,000 employees at production sites in Europe, China and the Americas, as well as service companies in more than 40 countries. The company is part of the international technology group ANDRITZ.

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