

SMS MEER at a glance



MEETING your **EXPECTATIONS**

SMS MEER GMBH

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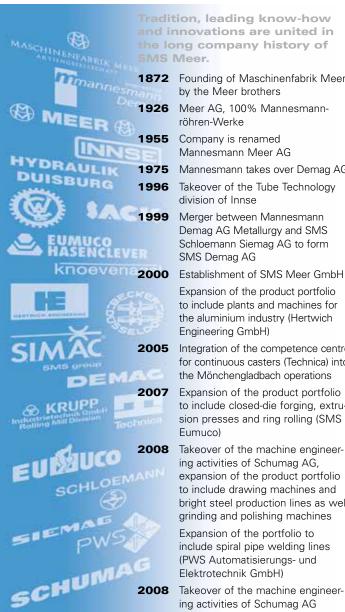
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CUTTING-EDGE technology since 1872



Tradition, leading know-how and innovations are united in the long company history of SMS Meer.

1872 Founding of Maschinenfabrik Meer by the Meer brothers

1926 Meer AG, 100% Mannesmannröhren-Werke

1955 Company is renamed Mannesmann Meer AG

1975 Mannesmann takes over Demag AG

1996 Takeover of the Tube Technology division of Innse

1999 Merger between Mannesmann Demag AG Metallurgy and SMS Schloemann Siemag AG to form SMS Demag AG

Expansion of the product portfolio to include plants and machines for the aluminium industry (Hertwich Engineering GmbH)

2005 Integration of the competence centre for continuous casters (Technica) into the Mönchengladbach operations

> Expansion of the product portfolio to include closed-die forging, extrusion presses and ring rolling (SMS Eumuco)

2008 Takeover of the machine engineering activities of Schumag AG, expansion of the product portfolio to include drawing machines and bright steel production lines as well grinding and polishing machines

> Expansion of the portfolio to include spiral pipe welding lines (PWS Automatisierungs- und Elektrotechnik GmbH)

2008 Takeover of the machine engineering activities of Schumag AG

2011 Incorporation of SMS CONCAST into the SMS Meer Business Area

FOR SATISFIED CUSTOMERS

Company

SMS Meer is a division of the SMS group, world market leader in plant and machine engineering for the industrial processing of steel, aluminium and non-ferrous (NF) metals. Through organic growth and acquisitions of further leading companies, SMS Meer has developed into the leading full-line provider in the field of metal forming. With a productspanning service organisation, the company offers its customers optimum support in all areas even after the commissioning of the machines and plants.

With offices in Western and Eastern Europe, the Middle East and Asia as well as North and South America, SMS Meer cooperates with its customers around the globe. The annual turnover totals FUR 1.2 billion

Employees

SMS Meer has 3,000 employees, more than half of whom at the company headquarters in Mönchengladbach (North-Rhine Westphalia) - including 80 apprentices. As a family-owned company, SMS Meer practices the corporate culture of a medium-sized enterprise with flat hierarchies and short decision routes.

The cooperation is marked by direct communication, respect and trust - while at the same time employing professional management methods and standardised processes.







Products and customers

Whether tubes for pipelines, rails for the high-speed ICE and TGV trains, transmission components for the Mercedes S Class, the outer skin of the Ariane rocket or gigantic wind power generators: The machines and plants tailored by SMS Meer ensure the flawless production of the necessary parts of the highest possible standard. SMS Meer holds a roughly 40 percent share of the world market. making the company the undisputed world market leader for metal forming plants.

The STRUCTURE Organised STRENGTH

SMS group

SMS MEER Business Area

SMS SIEMAG Business Area





SEAMLESS TUBE PLANTS

FOR HOT SEAMLESS TUBES

- Cross-roll piercing mills
- Mandrel mills
 3-roll systems (PQF®) with
 - retained circulating mandrel bar
 - retained mandrel bar 2-roll systems (MPM)
- Assel mills
- Push benches / CPE mills
- Plug mills
- Hot pilger mills
- Sizing / stretch-reducing mills 3-roll systems with
 - non-adjustable rolls
 - adjustable rolls (FPS and FQS)
- Rotary expanders
- Technological automation and quality management systems (CARTA® and LASUS®)

FOR COLD SEAMLESS TUBES

Cold pilger mills



one-type pierce



Stretch-reducing mill



Cold pilger mill

WELDED TUBE PLANTS

WELDING LINES FOR TUBES AND SECTIONS UP TO 26"

- Strip preparation lines
- Strip cross welders
- Travelling strip cut-off machine
- Strip accumulators
- Strip edge millers
- Straightedge forming sections
- URD® rolling and squeeze stands
- Inside and outside scarfers
- Travelling saws and milling cut-off units
- Quick-change systems for rolls and stands
- Computer-controlled automation systems for setting and positioning of the rolls (Quicksetting)

MACHINERY AND PLANTS FOR LARGE-DIAMETER PIPES UP TO 64"

- Plate edge milling machines
- Plate edge crimping presses
- Forming presses using the JCO® method
- 3-roll bending machines
- U-ing and O-ing presses
- Tack-welding machines
- Inside and outside welding machines
- Expanders
- Hydrostatic pipe testers
- Pipe chamfering machines



strip accumulator



HFI tube welding





FINISHING PLANTS and MACHINES

INTEGRATED TUBE AND PIPE FINISHING LINES

INDIVIDUAL MACHINES

- Threading machines
- Chamfering machines
- Coupling threading machines
- Tooljoint finishing machines
- Drillpipe manufacturing equipment
- Stationary and travelling milling cut-off machines
- Edge milling machines
- Bundling stations
- Cross-roll straightening machines
- Hydrostatic pipe testers
- Pipe end upsetting and sizing presses

BECKER MACHINES

- Hot pilger die dressing machines
- Cold pilger die grinders
- Roll groove dressing machines for stretch-reducing mill stands



CNC thread cutting line





Roll groove dressing machine



Cross-roll straightening machine

JCO pipe forming pres



SECTION and BILLET MILLS

HEAVY SECTION MILLS

- Breakdown stands
- Tandem reversing mills
- Cooling beds
- Straightening machines
- Finishing lines

MEDIUM SECTION MILLS

- Tandem reversing mills
- Semi-continuous and continuous mills

RAIL MILLS

- Universal mills
- Straighteners
- Finishing lines

CBP® PLANTS

 Casting and rolling plants for the production of beams

MPS® PLANTS

 Casting and rolling plants for the production of beams and sections

BLOOMING MILLS

- Two-high reversing blooming mill stands
- Finishing lines

BILLET MILLS

- Two-high reversing mills
- Semi-continuous and continuous mills

PROCESS CONTROL SYSTEMS

- Technological control systems
- Process models

PRODUCTION PLANNING SYSTEMS





urnover cooling bed





Horizontal and vertical (H+V) straightener for rails

WIRE ROD and

WIRE ROD MILLS

- Mill stands
- High-speed wire rod blocks
- Sizing blocks for wire rod (FRS®)
- Loop laying heads with cooling conveyor (LCC®)

BAR MILLS

- Mill stands
- Sizing systems for bars
 - 3-roll reducing and sizing blocks (PSM[®])
 - Hydraulically adjustable mill stands (ASC®)
- Cooling lines

GARRETT COILERS

PROCESS CONTROL SYSTEMS

- Technological control systems
- Process models

PRODUCTION PLANNING SYSTEMS









LIGHT SECTION MILLS

ROLLING MILLS FOR LIGHT SECTIONS

- Billet welding machines
- Housingless stands / cantilever stands
- Hot shears
- Slitting equipment
- Water cooling sections
- Rebar quenching and selftempering systems (QST)
- High-speed delivery systems (HSD®)
- Cooling beds
- Cold shears and saws
- Straightening machines

VERTICAL COMPACT COILERS (VCC®)

COMPACTING AND TYING MACHINES FOR WIRE ROD COILS

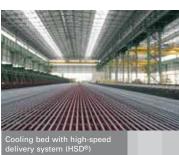
TYING MACHINES FOR BARS AND SECTIONS

COIL TRANSPORT SYSTEMS

ELECTRICAL SYSTEMS AND AUTOMATION

PROCESS CONTROL SYSTEMS







Vertical Compact Coiler (VCC®)



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HYDRAULIC PRESSES

OPEN-DIE FORGING PRESSES

RAIL-BOUND FORGING MANIPULATORS

HYDRAULIC RADIAL FORGING MACHINES

SPECIAL PRESSES

- Sheet and plate stretchers
- Cable sheathing presses
- Presses for carbon electrodes



Open-die forging press with manipulator



POWDER PRESSES

- Hydraulic CNC presses (up to 12 axes)
- Mechanical presses
- Hybrid presses
- Transport systems
- Tool adapter systems (CPA technology)
- Adapter changing systems

EXTRUSION PRESSES

- Extrusion and tube extrusion presses for light and heavy metals
- Fully automated handling systems





55 MN extrusion and tube extrusion press

EUMUCO HASENCLEVER

MACHINES FOR HOT FORGING AND SEMI-HOT FORGING

STROKE-BOUND MACHINES

- Eccentric forging presses
- Wedge presses
- Crank presses

FORCE-BOUND MACHINES

- Hydraulic presses
 - Cold forming
 - Hot forming

ENERGY-BOUND MACHINES

- Screw presses
- Hammers

ROLLS

- Forging rolls
- Cross rolls

SPECIAL-PURPOSE MACHINES

- Electrical upsetting machines
- Horizontal forging machines
- Upline and downline forming presses
 - Mechanical
 - Hydraulic
- Shears
 - Cold shears
 - Hot shears
- Special machines

MISCELLANEOUS

- Automatic forging lines and plants
- Automation systems
- Spray technology
- Process and tool technologies











QW 850/2 cross roll

WAGNER BANNING

RING ROLLING MACHINES AND PLANTS

- Radial and radial-axial ring rolling machines
- Complete plants, including the necessary handling equipment

RING BLANK PRESSES

- Of frame design with fixed workstations
- Of frame, disc and column design with die shifting table

WHEEL ROLLING MACHINES AND LINES

- Wheel rolling machines and combined ring and wheel rolling machines
- Complete lines, including the necessary handling equipment

CLOSED-DIE ROLLING MACHINES AND LINES

- Axial closed-die rolling machines
- Radial closed-die rolling machines
- Complete lines, including the necessary handling equipment

RING EXPANDERS

COLD DIE ROLLING

SOFTWARE SYSTEMS

- CARWIN
- ROLLTECH Rings, Wheels, Flanges, Profile
- = ROLLTRONIC
- PRESSTRONIC
- EXPANTRONIC





Ring blank press



Solid wheel rolling machine



DLLTECH Rinas



COPPER PLANTS

FOR THE PRODUCTION
OF SEMI-FINISHED
PRODUCTS FROM
NON-FERROUS AND
PRECIOUS METALS

CASTING AND ROLLING PLANTS

- Shaft melting furnaces
- Anode casting wheels
- Casting and shearing lines for anodes, CONTILANOD®
- Casting and rolling lines for wire rod. CONTIROD®
- Casting and rolling lines for narrow strip, CONAS®

CONTIROD® is a registered trademark of Aurubis Belgium

TUBE PLANTS

- Integrated copper tube plants, directube®
- Planetary rolling mills PSW
- Cold pilger mills KPW

TECHNICA CONTINUOUS CASTING PLANTS

- Complete copper casthouses
- Vertical continuous and semicontinuous casting plants for extrusion billets, slabs and cold-rollable strips
- Vertical continuous casting plants for precision casting (tubes, wire rod, bars and profiles)
- Horizontal continuous casting plants for cold-rollable strips, extrusion billets, wire rod, tubes and bars
- Horizontal continuous casting plants for cast iron, precious metals and special alloys



Loop laying head with ring forming chamber for wire rod coils up to 5 t



lanetary rolling mill



Horizontai continuous casters for cold-rollable strips



Vertical continuous caster

ALUMINIUM PLANTS

HERTWICH ENGINEERING

- Continuous homogenising plants
- Chamber-type homogenising furnaces
- Ultrasonic testing equipment
- Sawing plants
- Stacking, marking and packing machines
- Swarf briquetting presses
- Charging machines
- Horizontal continuous casters for
 - Round bars,
 - Foundry and rolling ingots,
 - T bars
 - Busbars
- Vertical continuous casters
- Belt-type ingot casters
- Compact-type remelt plants
- Efficient melting systems for chips and small scrap
- Melting and casting furnaces for contaminated scrap
- Electromagnetic liquid metal pumps and stirrers
- Rotary tilting-type furnaces, 3 14 m³ capacity

KNOEVENAGEL MACHINES

- Ingot scalping machines with vertical and horizontal milling heads
- Edge scalpers for aluminium slabs
- Band saws for aluminium slabs
- In-line scalpers for trapezoidal aluminium profiles









ingot scalping macinii

HEAT TREATMENT

SMS ELOTHERM

PLANTS FOR INDUC-TION HEATING AND HEAT TREATMENT

TUBES

- High-frequency tube welding
- Seam, full body and bright annealing
- Tubes and bar quenching and tempering
- Tube bending
- Wire rod and bar re-heating

FORGING

- Billet heating
- Bar heating

HARDENING

- Engine components
- Drive train and power train components
- Large-diameter rings and gears

SPECIAL APPLICATIONS

- Strip heating
- Strip stabilising
- Induction stirring
- Laser applications

SMS MEER S.P.A.

FURNACE PLANTS

- Heating furnaces
- Reheating furnaces
- Holding furnaces
- Rotary hearth furnaces
- Quench and temper lines









Heating furnace

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COLD FINISHING

SCHUMAG & KUPFER

BRIGHT STEEL PROCESSING LINES

- Pre-straightening
- Peeling
- Bright bar straightening
- Chamfering and sawing
- Automatic bundling
- Handling systems

DRAWING LINES SOLID MATERAL

- Pay-off reels
- Straighteners for pre- and final straightening
- Cutting devices
- Bright bar straightening machines
- Integration of testing equipment
- Chamfering machines
- Automatic bundling

GRINDING AND POLISHING MACHINES

- Centerless grinding- and polishing machines
- Regulating wheel grinding machines
- Handling systems

COPPER TUBE MACHINES

- Drawing cascades
- Spinner blocks
- Finish drawing lines for straight lengths and pancake coils
- Innergrooving lines
- Single and double level winders
- Basket handling systems









SPIRAL PIPE TECHNOLOGY

PWS GMBH

SPIRAL PIPE MILLS

- 2-step spiral pipe mills (off-line) up to 64"
- 2-step spiral pipe mills (off-line) up to 100"
- Conventional spiral pipe mills (on-line) up to 120"
- Accumulators for continuous production process
- Strip cross welding station with strip shear
- Strip edge milling machines
- Pipe forming stand with CNC-axes
- Pipe Cutting Carriage with Water-Injection Plasma Cutter

SUBMERGED ARC-WELDING SYSTEMS

- SA-Welding stands with orthogonal rollers up to 64"
- SA-Welding stands with helical conveyor up to 100"
- Automatic pipe feeding and discharge System
- Automatic welding start positioning system
- Automatic welding seam tracking system
- Multi-wire digital welding system

AUTOMATION AND MONITORING SYSTEMS

- 2nd/3rd level automation
- Pipe-ID and database system
- AMS process-management-system for production optimization











Hydrostatic testing machine



SERVICE

The central Service Product Unit at SMS Meer ensures that customers are satisfied with their machine or plant a whole life long. The staff know every detail and every single component. After all, they developed and designed it themselves. That is why the experts from SMS Meer are exactly the right choice when it comes to ensuring lasting reliable operation of the plant.

The support from the SMS Meer Service experts ensures that the plants are regularly modified to meet changing market demands. Furthermore, the regular interaction with the Service personnel keeps the customer's know-how constantly up-to-date.

The advantages for the customer of the service provided by SMS Meer are obvious:

- Increased productivity
- Increased plant availability
- Improved product quality
- Reduced operating costs
- Safeguarding of the plant value









PRODUCTION

In close cooperation with the design engineers, Production at SMS Meer ensures that the company's unique know-how is transformed into plants and machines of incomparable quality.

The colleagues in the workshops are constantly kept up-to-date in the fields of machine engineering, hydraulics, electrics and electronics.

The manufacture of the machines and equipment also includes the assembly with extensive test runs and a production-related simulation of the process sequences.

THE GREATEST STRENGTHS:

- Highly qualified, experienced personnel
 - Cost-effective production of the key components
 - Combination of the components into functional units during works assembly, including test run
 - Testing and documentation of the necessary technical basic data
- High quality standards with certification to DIN ISO 9001
- Continuous CAD / CAM process chain









BROJECT MANAGEMENT

Building modern, efficient plants and machines is a complex business. For this reason, effective project management is crucial at SMS Meer. The goal is clear: All orders placed with the company should be completed on schedule and within the budget – to the benefit of the customer.

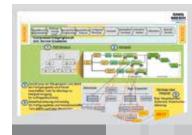
The whole project, from the initial discussion with the customer through to the start of plant production, is managed and documented in detail by the SMS Meer personnel. Within the framework of our stringent project control, requirements and objectives are defined together with the customer in the first step.

A detailed and realistic time schedule for the project then allows close monitoring of the work progress from the engineering, through logistics and erection right up to the commissioning of the whole production facility.

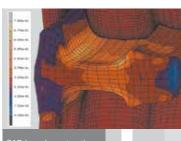
Clear management of the interfaces between host systems, automation and data processing are also of great importance.

Our ultimate goal is high customer satisfaction. Effective project handling, efficient use of resources, a smooth interplay between all the partners involved in the project and close adherence to time schedules are of paramount importance in achieving this goal. All this is ensured from the first moment of the cooperation.

Thanks to effective project management to the benefit of the customer.









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COMPETENCE and SERVICE CENTRES

SMS Meer - at your side worldwide

In addition to cutting-edge know-how and innovation, speed and competence are the pivotal factors for success on the market. Our competence and service centres guarantee quick and effective service – we speak the customer's language.

With offices in Western and Eastern Europe, the Middle East region and Asia as well as North and South America, SMS Meer is represented worldwide.

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COMPETENCE and SERVICE CENTRES

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Seamless tube plants Welded tube plants

Finishing plants and machines Section and billet mills

Wire rod and bar mills

Hydraulic presses Extrusion presses Closed die forging

Ingot scalpers and band saws for aluminium

Service

Nerscheider Weg 170 52076 Aachen Germany

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Bright steel processing lines Copper plants

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Phone: +49 (0) 2302 7098-3370 Fax: +49 (0) 2302 7098-3376 www.sms-meer.com

info@sms-meer.com Ring and wheel rolling

SMS Elotherm GmbH

In der Fleute 2 42897 Remscheid Germany Phone: +49 (0) 2191 891-0 Fax: +49 (0) 2191 891-229 www.sms-elotherm.com info@sms-elotherm.de

Induction technology Hardening machines Quench and temper lines

PWS GmbH

Zuppinger Str. 5 88213 Ravensburg Germany

Phone: +49 (0) 751 29596-0 Fax: +49 (0) 751 29596-1010

www.pws-gmbh.info pws@pws-gmbh.info Spiral tube plants

Submerged arc-welding systems

AUSTRIA

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Aluminium plants

SMS Concast AG

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Phone: +41 44 204 65 11 Fax: +41 44 202 81 22 www.sms-concast.ch sales@sms-concast.ch Electric arc furnaces

Secondary metallurgy

Continiuous casting (Long product mills)

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Light section mills Furnace plants

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