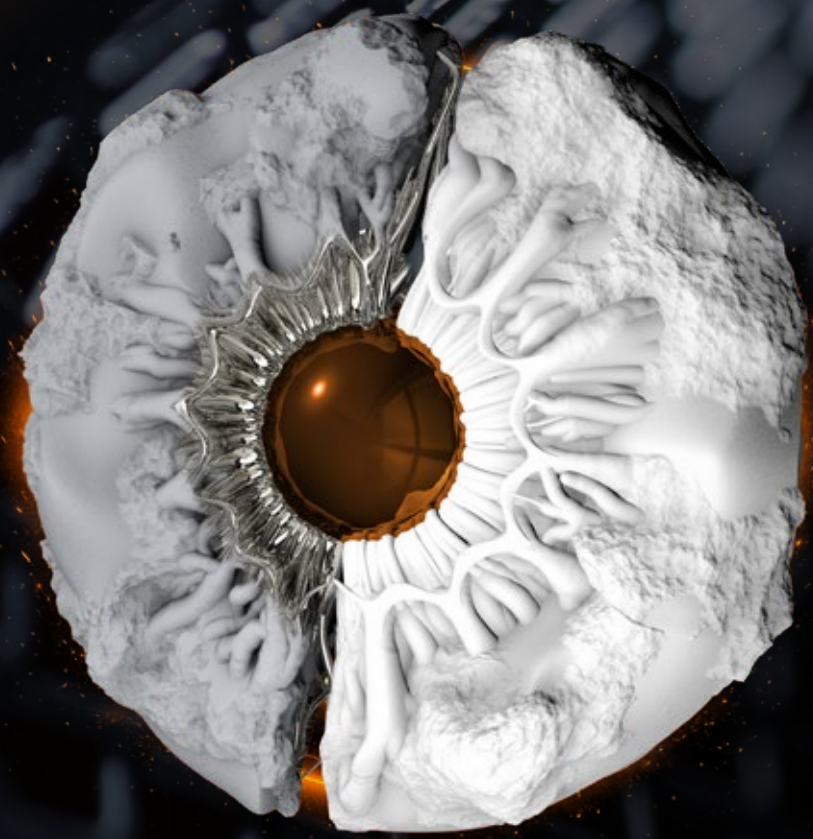
AM solutions

3D post processing technology

All eyes on industrial 3D post processing



German Standards

BEST OF GERMAN INDUSTRY 2025

A brand of the Rösler Group

www.solutions-for-am.com

Your partner for industrial 3D post processing solutions

Independent of printing process, material and production volume

AM solutions
3D post processing technology

We are AM Solutions – 3D post processing technology

With over 90 years of cross-industry know-how, Rösler is among the worldwide leading suppliers of innovative solutions in the field of surface finishing. In recent years, we have been increasingly dealing with requests for the surface finishing of 3D printed parts. We quickly concluded that (compared to traditional manufacturing processes) additive manufacturing poses entirely new challenges for post processing and surface finishing.

For example, the unmachined surface of additively manufactured components is significantly rougher, and also the more complex geometries that are possible make smoothing and polishing much more difficult. In addition to that, there are new challenges like unpacking, the removal of loose or sintered powder residues, and, of course, the removal of support structures. Often, these challenges are still undertaken manually, but this has a negative impact on cost-effectiveness and repeatability.

To meet the unique requirements of AM parts in the best possible way, we established the brand AM Solutions – 3D post processing technology, which is responsible for developing and offering tailor-made equipment, process technologies, and consumables for the automated post processing of 3D printed components. Regardless of material, printing process, or production volume, we will find the best technical and most economical solution for your post processing requirements. Our experts are here to provide advice and support starting at the design phase of your parts to guarantee perfect post processing.

If you think of Additive Manufacturing – think of AM Solutions!

Our offer – your added value!

>400 m² Customer Experience Center
at the location Germany

In-house **development and production of consumables**

›90 More than **90 years** of cross-industry **experience**

15 locations –
over **150** distributors –
1,500 employees worldwide

>80,000 m² Production and development in Germany

Worldwide **Service**

Longtime experience in
Automation / System chaining

Transfer of professional expertise by certified trainers

Our portfolio

Machine solutions for the entire spectrum of 3D post processing

Automated, economical, repeatable

The surface finishing demands are as multifaceted as the spectrum of 3D printed components. They require treatment processes in line with the functional characteristics of a component and must produce absolutely repeatable results.

Be it powder removal, cleaning, sieving and mixing, removal of support structures, surface homogenizing and smoothing, or high gloss polishing - with our comprehensive know-how in the field of additive manufacturing and decades of experience in surface preparation and finishing we can offer the optimal solution for each and every post process task, irrespective of the component material and the printing system; everything from one single source! The fully automatic treatment processes guarantee stable, repeatable results combined with considerable time and cost savings.

Our equipment – perfectly adapted to your specific requirements – can be supplied as stand-alone units or as fully automated, linked systems. Of course, work piece handling can be manual, partially, or fully automated, entirely in line with your preferences.

This allows you to consistently produce high-quality results for all post processing functions with higher cost efficiency and, therefore provides you with a decisive competitive advantage!

Pre-Process ····· In-Process ·····

Post-Process

Powder Removal

Powder Handling

Support Removal

Cleaning

Surface Finishing

Our service, your benefit:

- Decades of experience in the field of surface preparation and finishing
- Innovative, customer-oriented process development in the field of additive manufacturing
- Processes that are adapted to your individual workpieces and process stage
- Tailor-made advice for optimal work piece design
- Broad portfolio of equipment for surface preparation and surface finishing
- Consumables that have been specifically developed and adapted for AM components
- Broad service package that can deal with any post processing challenge
- Professional after sales support and worldwide branches for direct contact on site

SIEMENS eos stratasys Altair gom hp

AM solutions

3D post processing technology

3D post processing - a significant process step in additive manufacturing

Ra: 16 µm;
after 3D printing

Increased productivity

No negative impact on the original component geometry

Lower production costs

Improved part performance

High gloss surface finishes

Surface free of micro scratches

Ra: 1,1 µm;
after post processing

M-Line Cost efficient solutions for a perfect surface finish

M4 Basic – Easy entry into automated post-processing of 3D printed parts

The M4 Basic provides a cost-effective entry into automated post-processing of 3D-printed metal and plastic parts. Designed specifically for single parts and small series up to 70 × 70 × 25 mm, it combines a compact design with proven mass finishing technology. The machine enables smoothing, grinding, polishing, deburring, cleaning, and matt finishing with consistently high, repeatable quality – all without assembly or retooling thanks to its plug-and-play design. Internally developed media and process materials ensure maximum process performance. A circular vibrator efficiently processes the parts in combination with water, compound, and media, while an integrated wastewater tank separates solids, saves process water, and reduces downtime. Its compact, mobile design allows flexible integration into any production environment. As an entry-level solution, the M4 Basic minimizes manual post-processing, increases throughput, lowers part costs, and ensures repeatable quality.

- Cost-efficient: Automated process with reduced water and energy consumption
- Resource-saving: Integrated wastewater tank extends process water usage and minimizes downtime
- Mobile use: Compact design with castors for flexible integration

M1 – Versatile all-rounder for multi-stage surface finishing

The M1 is the optimal system for smart, flexible, and fully automated post-processing of 3D-printed metal and plastic parts – including smoothing, grinding, polishing, or deburring. Designed for processing of single parts and small batches, it enables multi-stage finishing using mass finishing technology in a tub vibrator. The vibrating bowl combines water, compound, and media to deliver precise, repeatable surface results. A flexible divider system allows processing in up to three chambers simultaneously – enabling different processes to run in parallel without media changes. A separating unit with material cart ensures easy and efficient separation of workpieces and media. Thanks to advanced control technology, individually storable processing programs and two operating modes are available: stand-alone operation with a waste watertank, or circulation mode with fresh water supply for maximum process stability. The M1 eliminates the need for manual post-processing, resulting in higher throughput, reduced operating costs, and consistently high-quality finishes.

- Multi-stage processing: Several workpieces can be treated simultaneously in different processes
- Flexible operating options: Self-sufficient processing in the wastewater tank or continuous circulation with fresh water
- Simple material handling: Separating unit with material trolley for efficient separation of workpieces and abrasives
- Programmable: Storable programs for repeatable results

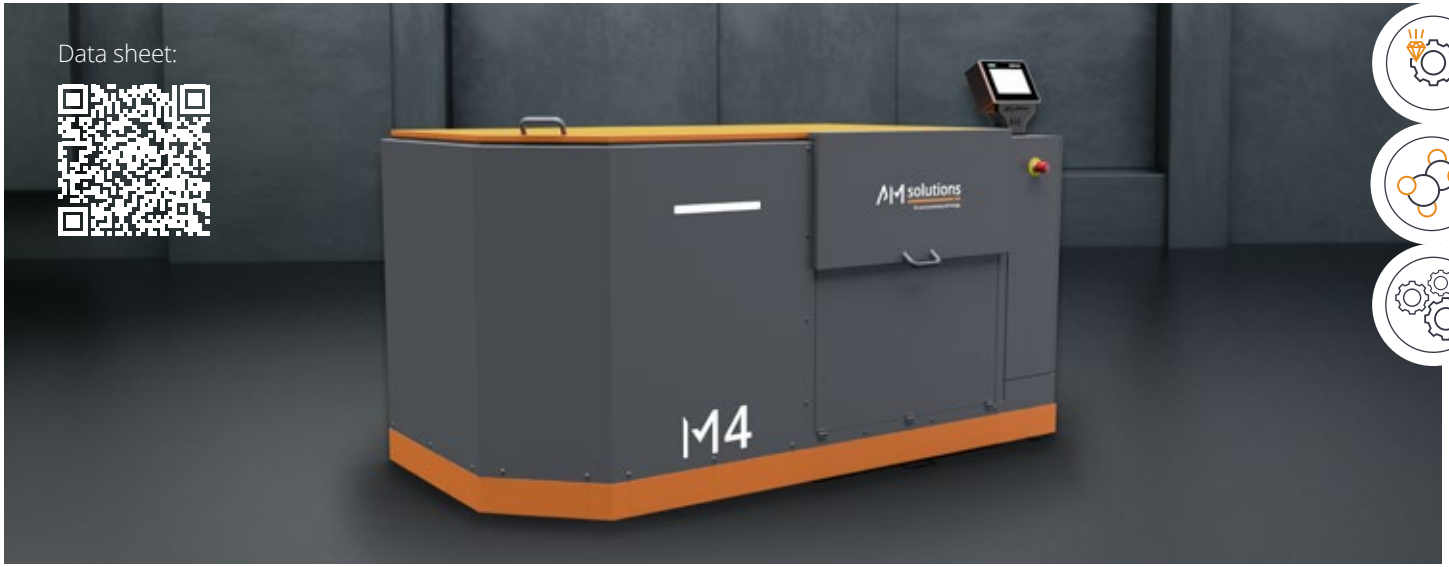
Data sheet:

M4 – The compact 2-in-1 solution for maximum stability and efficiency

The M4 is a fully automated 2-in-1 system that combines mass finishing with a powerful cleaning centrifuge, ensuring economical and stable post-processing of 3D-printed plastic and metal parts. The system covers a wide range of processes, including smoothing, grinding, polishing, deburring, matting, and cleaning – all performed reliably, repeatably, and efficiently. The M4 is suitable for both single-part and batch processing. Its integrated control technology enables precise economical process management with storable programs, individually tailored to material, geometry, and surface quality requirements. The fully integrated process water management system with cleaning centrifuge makes the M4 independent of a fresh water connection, ensuring a consistently clean process with significantly reduced water consumption. The sound-insulated housing lowers operating noise to under 69 dB(A), making it ideal for any production environment.

- Fully automated 2-in-1 system: Maximum efficiency and cost-effectiveness
- Maximum process stability: Closed water circuit with centrifuge for consistently high quality
- Cost-efficient: Reduced water consumption and minimized downtime lower operating costs
- Noise reduction: Integrated enclosure for quiet operation < 69 dB(A)

Data sheet:



M3 Pro – High performance and perfect results in every detail

The grinding or polishing media is evenly flowing around the firmly mounted workpieces in the working section of the M3 Pro. This ensures an intensive, even processing, even on internal surface areas. Since the workpieces do not touch each other, and because of the gentle processing even very delicate components can be treated without the risk of nicking or any other damage. The intelligent equipment design allows the finishing of one single, large component (max. size = 650 mm) or the treatment of several small workpieces in one single batch.

- Easy, ergonomic workpiece handling
- Extensive equipment options for every task
- Suitable for machining internal channels and details
- Innovative control with many features such as live tracking of all process parameters

S-Line

Effective solutions for cleaning and surface finishing

S1 – The smart multi-talent for cleaning and surface finishing

The next generation of the S1 sets new standards in the post-processing of powder bed-based polymer printing processes. The smart plug-and-play solution enables cleaning, smoothing, and homogenizing in one system. The S1 is also suitable for surface finishing of de-powdered metal components made of non-reactive materials. It also impresses with its simple operation by means of software-controlled process automation. Thanks to its compact and robust design, this multi-talent can be easily integrated into any production environment and offers maximum repeatability, traceability and cost efficiency. The ergonomic design (along with a process-optimized nozzle setup for automatic operation) round off the overall package.

- 2-in-1 Solution for cleaning and surface finishing with easy blast media exchange
- Especially developed for polymer powder bed based technologies
- Blast media conditioning system for optimal and consistent quality of blasting media

S1 Wet – The versatile wet blast solution for cleaning and surface finishing

Irrespective of whether you need to treat metal or plastic components as single workpieces or in batches, the all-round S1 Wet system represents an excellent solution. Equipped with numerous accessories, it can be perfectly adapted to your cleaning, surface homogenization and / or smoothing requirements. Among its many features is the machine's small footprint and the integrated media cleaning and recycling system that allows the re-use of the blast media. Of course, the process water is also recycled.

- Significantly reduced surface roughness values on the internal surface areas of metallic components
- Plug-and-play system with integrated control panel as well as conditioning of the blast media, process water and air
- The wet blast process requires no ATEX accessories
- Manual, semi-automatic, and fully automatic operation

S2 – Fully automated 2-in-1 process with maximum blasting media throughput for series production

The S2 is the perfect solution for fully automated cleaning and surface finishing of part batches from powder-based printing processes in 24/7 operation. An optimally coordinated shot blasting process ensures consistent dwell times for the parts, resulting in a uniform surface finish. The special PU loop belt enables unique part handling, complemented by a drum sieve for maximum cleaning performance. The innovative blast media preparation using conveyor screws and extraction ensures a sustainable and cost-effective shot blasting process, guaranteeing a perfect part surface.

- Uniform blast processing and gentle part handling through the unique continuous loop belt design
- Automated processing of an entire print job, regardless of manufacturer
- Efficient blast media preparation for maximum savings
- Ensures repeatable results through blasting process monitoring
- Maintenance-friendly plug-and-play system for 24/7 operation

S3 Duo – Process complex components efficiently and fully automatically

The S3 Duo plug-and-play system was specially developed for wet blasting applications and is also available as a dry blast solution. The robot-guided blast nozzle movement allows the targeted, gentle processing of large and complex metal or plastic workpieces. Continuous, fully automatic logging and monitoring of all process parameters guarantees absolutely repeatable results for the removal of support structures, residual powder, and surface finishing. In addition, the wide range of equipment options (including simplified robot programming) ensure a great deal of flexibility thanks to an innovative playback process. An intuitive and intelligent control system rounds off the profile.

- Robot-guided, automatic processing
- Available as wet or dry blast system
- Integrated media conditioning system
- Integrated closed loop water recirculation (wet version)
- "L" shaped door allows workpiece loading via crane
- Simple robot programming thanks to optional playback function

C-Line

The next generation of post processing

C1 – Fully automatic and efficient support / resin removal from 3D printed plastic components

Our C1 system is an excellent tool for the automated and cost-efficient post processing of photopolymer / resin components. The perfectly adapted compound (and the interplay between mechanical and thermal effects) results in the highly consistent, effective, and gentle removal of support structures / resin. In addition, our C1 machine contains various features to guarantee the optimal use of the compound and to minimize operating costs. These include a fill level control system and an integrated saturation (contamination) sensor. Key process parameters such as temperature, cycle times and the degree of contamination of the compound are continuously recorded and saved with a data logger.

- Fully automatic removal of support structures / resin of photopolymers (e.g. Polyjet, SLA, etc.)
- A special software package allows programming the entire process sequence (individually extendable)
- Continuous monitoring of the temperature and the degree of contamination of the compound
- Built-in grate with a drip edge guarantees clean and safe processing
- Suspended particle screen, easy to remove and clean

C1 Max – Efficient cleaning of large SLA parts without harmful solvents

The C1 Max provides a fully automated, user-friendly, and monitored cleaning process for 3D-printed polymer parts. SLA components are immersed into the cleaning tank via an automatically-lowered build platform, and optimally cleaned using a specially tempered process medium. This medium (developed by AM Solutions) operates without harmful solvents such as IPA. The process also simplifies the manual removal of support structures, saving valuable time and costs.

- Optimized for large-format parts up to 750 x 750 x 550 mm (L x W x H)
- Automated cleaning process with improved surface quality at lower operating costs
- Free from harmful solvents like IPA
- Simplifies manual removal of support structures
- Compatible with 3D Systems ProX 800 & SLA 750, expandable to Stratasys Neo® 800

Data sheet:

Powder handling redefined

D1 – Automated unpacking for maximum efficiency, safety and quality

The innovative D1 unpacking station sets new standards for handling SLS-produced plastic parts with its fully automated and gentle operation. It is compatible with the proven EOS P3 and EOS P3 NEXT systems, and enhances both the efficiency and cost-effectiveness of your production. The intelligent, vibration-assisted unpacking process of the D1 treats parts particularly gently, reducing damage and scrap rates while ensuring consistently high part quality. At the same time, the system achieves an impressive powder recovery rate of up to 95%, further lowering unit costs and significantly improving production sustainability. With an integrated powder storage and a closed powder loop, the D1 offers maximum process and operator safety, and can be flexibly integrated into any production environment.

- Fully automated unpacking and gentle part handling with maximum efficiency
- Reduced unit costs through powder recovery, lower scrap rates, and less labor
- Maximum operator safety thanks to a closed powder loop

Gentle part removal is possible via the EOS P3 or EOS P3 NEXT swap frames or a fabric container. The D1 provides practical options for convenient and flexible powder handling, such as the custom AM Solutions Polybox with a 170-liter capacity or the EOS MultiBox. Storable process parameters ensure consistent production conditions and maximum repeatability with minimal operator effort.

- Reliable production conditions through automated processes
- Resource-efficient production thanks to maximum powder recovery
- Storable process parameters for increased efficiency and consistent results

Data sheet:

F1 – Automatic sieving and mixing in a closed loop for maximum quality

The F1 powder handling system is an innovative solution for optimal and fully automatic sieving and mixing of virgin and used powder. Its closed-loop design ensures consistently high powder quality, stable processes, and maximum operator safety in polymer 3D printing. Equipped with a 245 µm ultrasonic sieve, the F1 reliably removes contaminants and clumps, while providing high dosing accuracy of ±2 %, and allowing flexible mixing ratios.

The system integrates seamlessly into existing process chains and supports various container formats – ideal for EOS polymer printers using PA12 (PA2200). With a mixing capacity of up to 40 kg/h and user-friendly operation, the F1 increases efficiency and delivers consistently high-quality results. Combined with the D1 unpacking station, used powder is immediately reusable, making production more sustainable and cost-effective.

- Fully automatic powder processing: Efficient and cost-effective sieving and mixing of virgin and used powder
- Consistent powder quality: Highest dosing accuracy of +/- 2% and ultrasonic sieve for stable production processes and consistent part quality
- High performance: Processing of up to 40 kg/h of powder for EOS polymer printers using PA12 (PA2200)
- Maximum work safety: Protection of employees from powder contact and ensuring clean processes thanks to a closed-loop powder system

Data sheet:

Processing equipment and finishing consumables for practically every material

The ideal basis for individual, customer-oriented process development

Additive manufacturing has special requirements:
We have the answer

Regardless of whether you print components from metal, plastic, ceramic or any other material – with AM Solutions – 3D post processing you have a technology partner that can support you at every stage of post processing. We offer not only a wide spectrum of machine equipment but can also supply the required media and compounds, which are constantly adapted to all kinds of AM applications. Our consumables product range includes grinding & polishing media, compounds for customized mass finishing processes, and shot blast media. This wealth of products (combined with the expertise and experience of our specialists in the Rösler test centers around the world) allows the development of process solutions that can fully meet your specific technical requirements. **The result:** We can provide you with technically and economically optimal solutions for practically every application.

Our development partners

Shaping the future of Additive Manufacturing together!

In order to offer an economical, safe, and efficient post processing solution suitable for its new printer the 3DUJ-2207, Mimaki have entered into a cooperation with AM Solutions – 3D post processing technology. The jointly developed compact post processing solution enables the fully automatic removal of support structures without compromising the high level of detail and color nuance of the 3D parts. The process (in which chemical, mechanical, and thermal effects interact according to the parameters selected) is up to three times faster than equipment previously available on the market. "With AM Solutions, we have a partner with extensive know-how and experience in the fields of mechanical engineering, industrial surface finishing, and the development and production of consumables. At the same time, the company is among the leading suppliers of automatized post processing equipment in the AM sector, where it pursues constant development", explains Arjen Evertse, General Manager Sales from Mimaki. The post processing solution is manufactured at the German location of the Rösler brand AM Solutions – 3D post processing technology.

The PowderEase™ T1, developed in collaboration with Stratasys, is an automated station designed to integrate multiple post-processing steps into a single, efficient unit. This streamlined solution significantly simplifies workflows, reduces operational costs, and boosts overall productivity. Tailored for the H350 SAF printer, it offers automated powder breakout, retrieval, and dosing. With the capacity to comfortably support up to six printers, the solution minimizes manual labor, optimizes powder utilization, and enhances productivity for high-volume production environments. It's an ideal solution for manufacturers seeking efficient, labor-saving workflows that improve output and reduce costs. The PowderEase™ T1 is manufactured by the Rösler brand AM Solutions – 3D post processing technology in Germany.

- 3-in-1 functionality
- Scalable efficiency / increased productivity
- Optimized powder utilization
- Consistently precise, high-quality parts

With our innovative 3D Automatic Unpacking Station, HP and AM Solutions – 3D post processing technology present our first jointly developed product. The scalable, industrial-grade post-processing solution allows for the fully automated, repeatable unpacking of additively manufactured components from the HP Jet Fusion 5200 3D Printing System in a continuous workflow. Besides a significant productivity increase and greatly improved cost efficiency, it also achieves a considerably higher powder reclaim rate, depending on the geometry of the component. The Automatic Unpacking Station is manufactured by the Rösler brand AM Solutions – 3D post processing technology in Germany.

- Increased productivity / economic efficiency
- Best, repeatable results
- Higher powder reclaim rate

AM Solutions – your One-Stop-Partner on your way to the perfect surface

Workpiece in powder bed

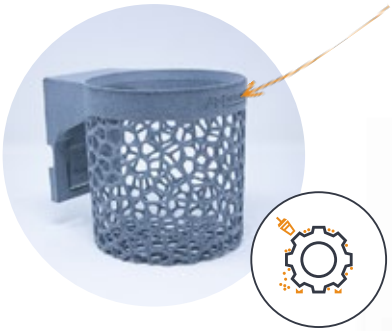
Workpiece after powder removal

Step 1

Powder removal:
HP 3D Automatic Unpacking Station
(powered by AM Solutions)

- Simple transfer of the print job and all associated print data
- Automated, component-specific powder removal without any powder contact
- Significantly reduced material use thanks to maximized powder reclaim

Ra about 10 µm



Workpiece after the blasting process

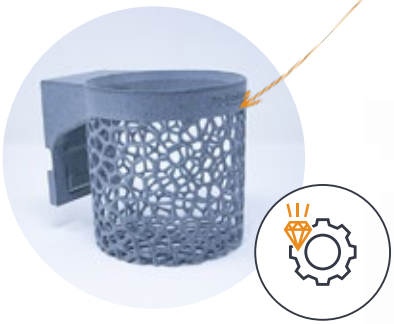
S1 – THE 2-IN-1 SOLUTION

Step 2

Cleaning:
AM Solutions S1

- Safe and ergonomic operation
- Automated blasting process ensures high efficiency and repeatable results
- Economic use of blast media thanks to integrated blast media conditioning

Ra < 2 µm



Workpiece after surface finishing

Step 3

Smoothing:
AM Solutions M1

- Easy operation and the highest repeatability
- Fast and simultaneous processing of different components
- Perfect surfaces at a constantly high level

Customer Experience Center – Developing post-processing solutions for your individual applications

Ideal environment for process and product development

The dedicated AM Solutions Customer Experience Center, with over 400 m² of space, sets the benchmark for the development and design of customized processes and products for the post-processing of additively manufactured components. We ensure this with a comprehensive array of equipment along the entire process chain, with state-of-the-art engineering software, diverse 3D printing technologies, and a unique post-processing section. In the post processing section, AM Solutions – 3D post processing technology uses its entire machine pportfolio which represents an impressive range of post-processing technologies.

80,000 m² manufacturing space guarantees your success!

Exceptional manufacturing knowledge ensures total flexibility and optimal quality

AM Solutions – 3D post processing technology is a global leader in the field of post processing of 3D printed components. To meet customer demands for precision, reliability, consistency of results and excellent quality, we manufacture our products at our main manufacturing site in Germany on an area of more than 80,000 m².

This enables us to quickly respond to the specific requirements of our customers and to provide them with high-quality solutions. Moreover, because of our exceptional manufacturing knowledge, we are much less dependent on external suppliers and are not affected by international supply chain uncertainties.

AM® solutions

3D post processing technology

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