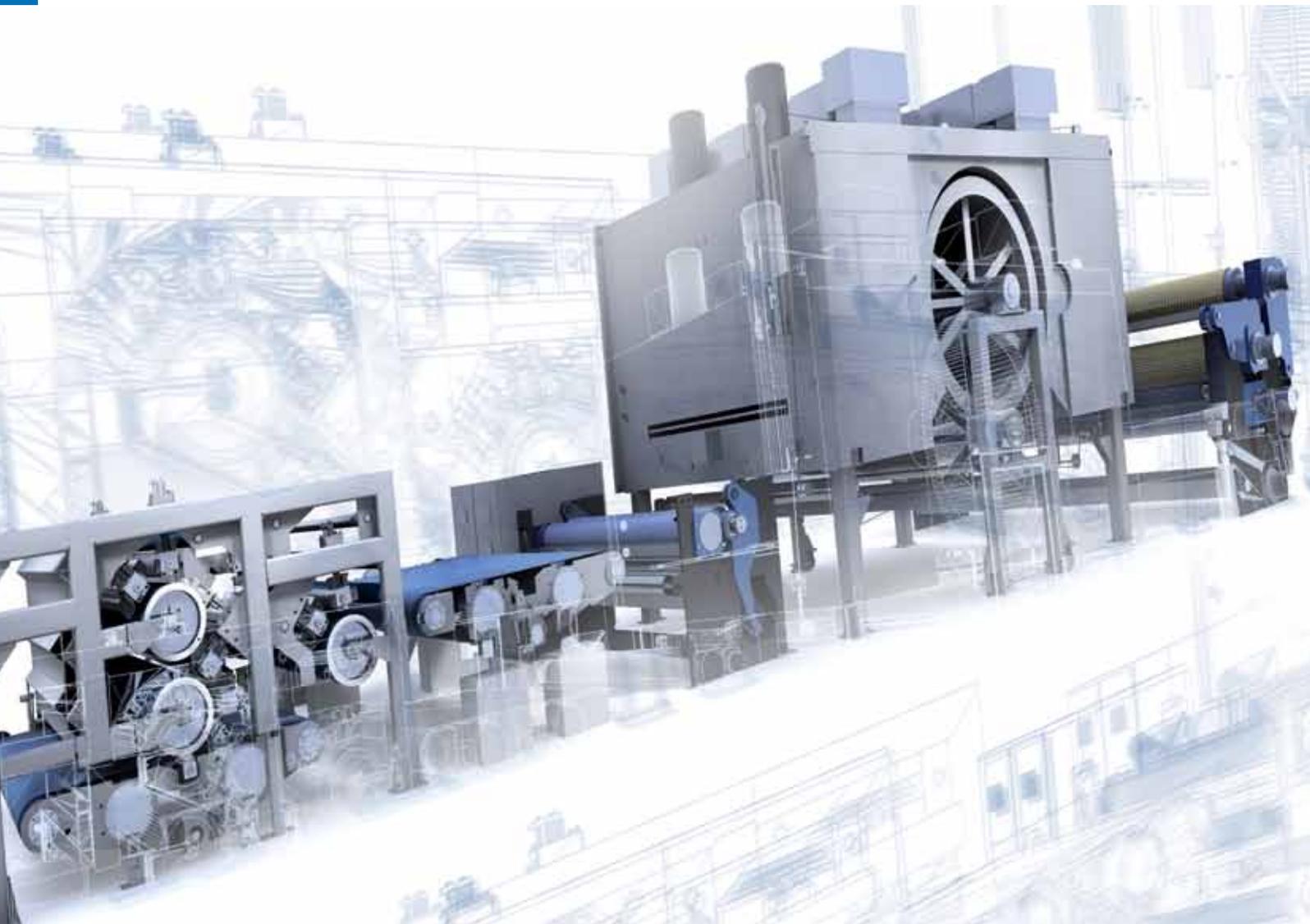


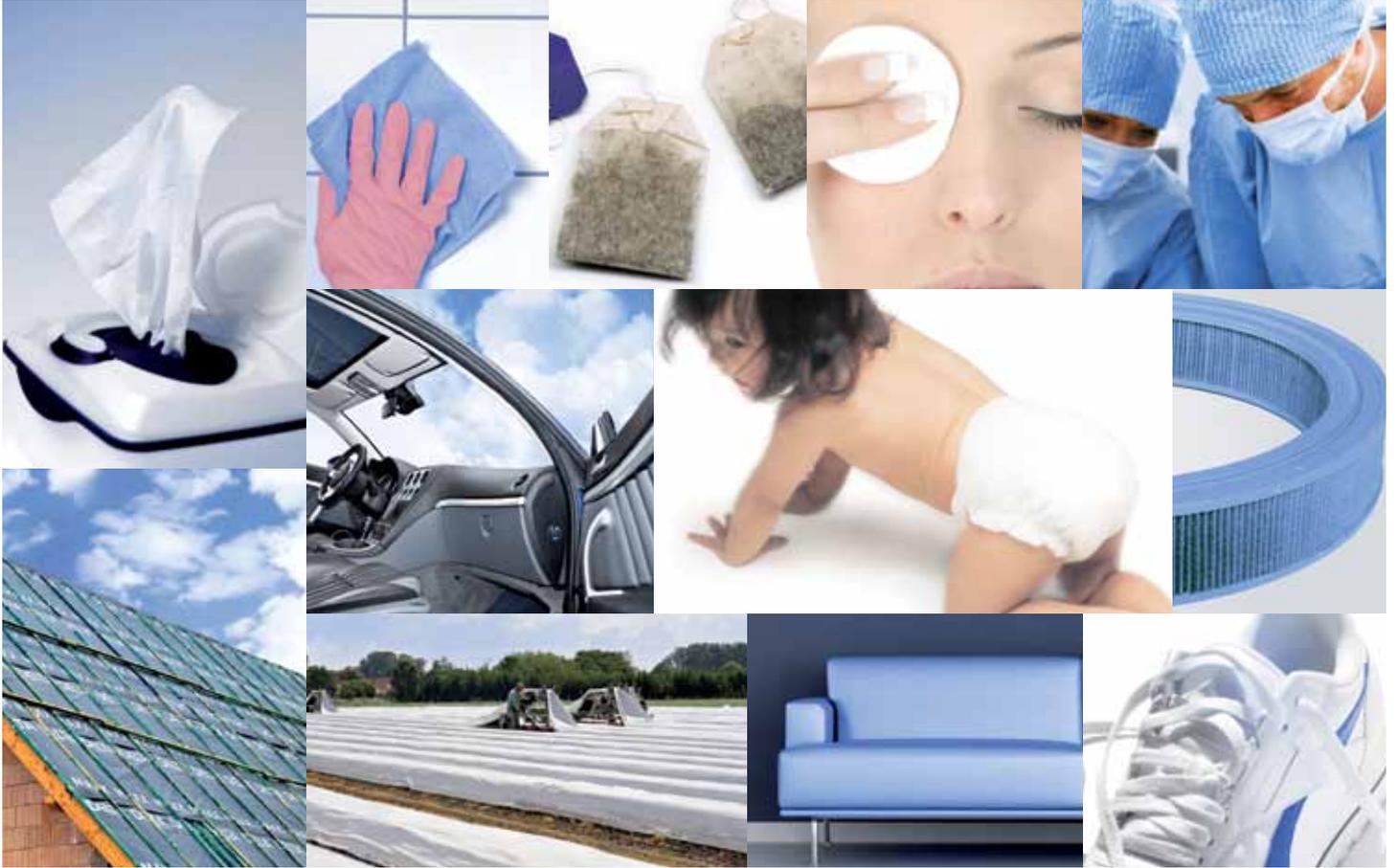
System solutions for nonwovens

From forming to finishing



Team up with ANDRITZ

We care for your products



Best process solutions for a great variety of nonwoven applications

ANDRITZ is one of the world's leading suppliers of technologies for the nonwoven industry. This leading position is not without good reason: We see ourselves as a long-term and innovative partner for the nonwoven industry. Our technologies comply optimally with the individual requirements of our customers' products and contribute to a fast and profitable return on investment. Our key competences lie in wetlaid, spunlace, spunbond and spunjet technologies.

Traditionally innovative

As one of the pioneers in hydroentanglement, ANDRITZ Perfojet now has more than 160 machines and complete production lines in operation worldwide. ANDRITZ Küsters looks back on an equally

successful history in calendering and wet finishing processes: more than 2,500 calenders and 24,000 deflection controlled rolls sold to the nonwoven, textile and paper industries. These long years of experience in the hands of Küsters and Perfojet form the foundation of the ANDRITZ nonwoven technology. By uniting our forces in engineering and process development, we can provide unrivalled expertise to the benefit of our customers. Complete lines, rebuilds, upgrades and automation are our focus, as well as business with individual machines.

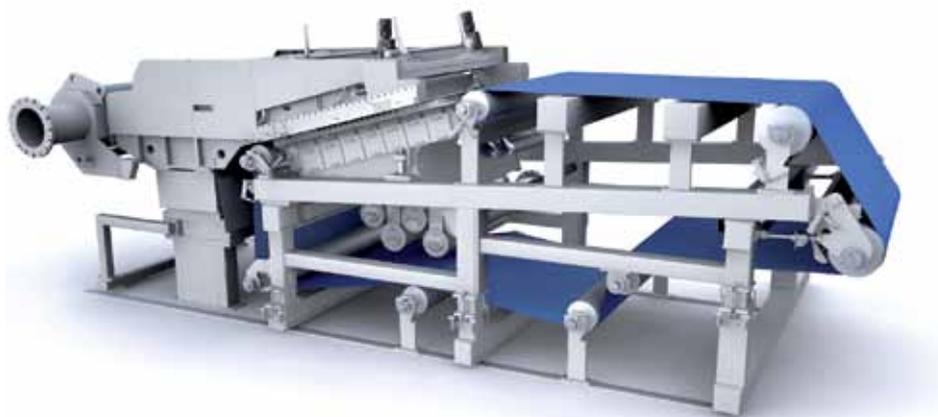
Our **nonwoven excellence** brand stands for certified high-quality performance from forming to finishing, top-class service, and smooth project execution.

Your benefits:

- Tailor-made system solutions for all production capacities
- State-of-the-art design
- Excellent energy efficiency
- Process warranty
- Budget control
- Worldwide customer service

Wetlaid technology

Inclined wire systems and line concepts



◀ neXformer wetlaid – the core of the ANDRITZ wetlaid technology

From fibers to wetlaid nonwovens

Wetlaid nonwovens are gaining increasing importance. The development of new high-tech fibers and the rediscovery of natural fibers constantly open up new niche markets for nonwovens in almost all fields of industry.

The ANDRITZ neXline wetlaid technology is suitable for many areas of application, such as the automotive industry, the aerospace industry, agriculture and construction, the medical/hygiene industry, and in the household.

High-tech fibers for innovative end products

The wetlaid pilot line in the ANDRITZ Küsters Technical Center is much frequented by leading fiber and roll good producers.

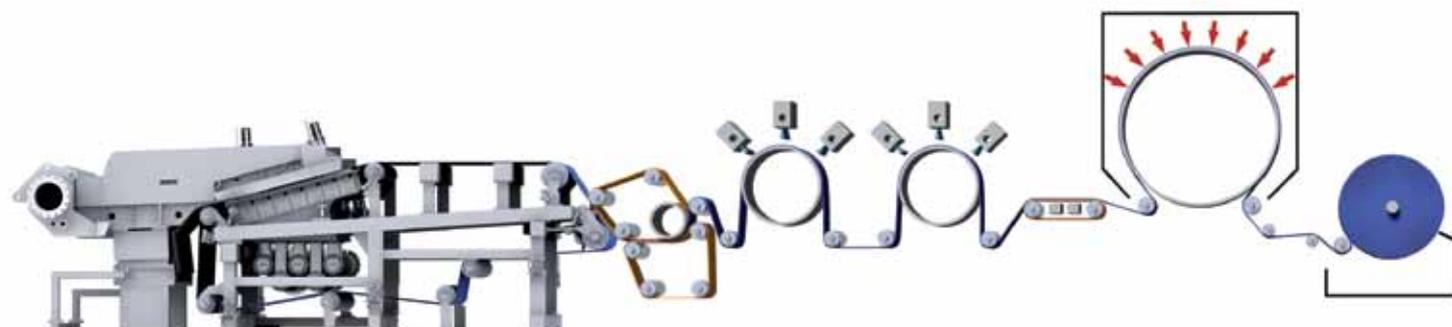
ANDRITZ has special expertise in the treatment of high-tech fibers, such as carbon or aramid. Our process engineers work continuously in close cooperation with R&D partners from technical universities and research institutes on the development of innovative products from new fibers and blends according to market demands.

Eco-friendly products

The rising demand for eco-friendly nonwovens is met by the ANDRITZ wetlaid technology as well. Many natural fibers are suitable for the wetlaid process. When wetlaid and hydroentanglement are combined in the neXline wetlace, fully biodegradable nonwovens can be produced with neither chemical additives, nor thermal bonding.

Your benefits:

- End product development
- Audit and performance consulting
- Customized line configuration
- Rebuilds and upgrades for quality and capacity increase



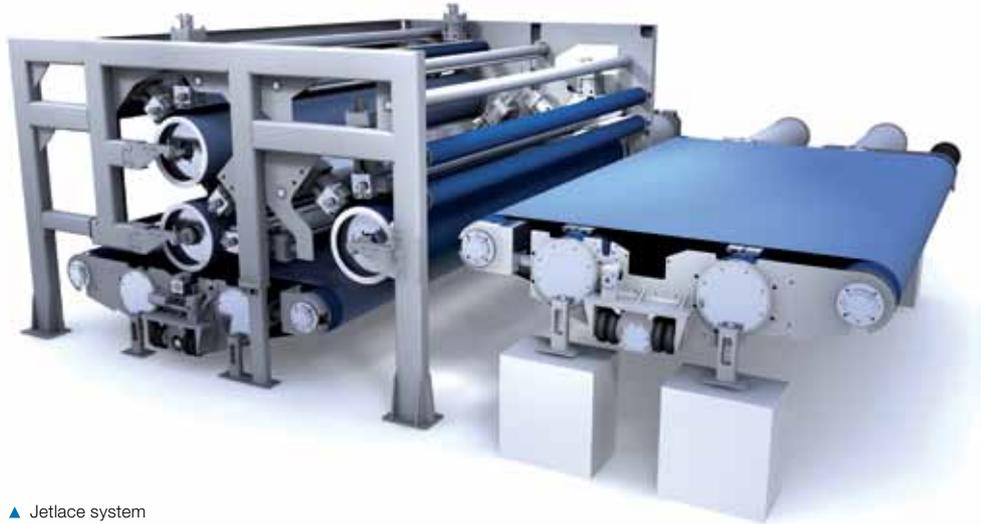
▲ Line layout of neXline wetlace

Hydroentanglement technology

The core process in spunlace and spunjet

Spunlace

Spunlace nonwovens are mainly used in hygiene and medical applications that require a very fine and gentle surface, but also in many other fields, such like filtration, artificial leather, automotive. Bulk and excellent cloth-like feel are clear advantages of the spunlace process. It offers greatest flexibility to choose nearly any blend of raw materials, from natural to synthetic fibers, without the use of chemical binders.



▲ Jetlace system

Patented design

The ANDRITZ spunlace technology is based on a number of patented core components: State-of-the-art injectors generate highly coherent water jets working on random micro-perforated sleeves. ANDRITZ Perfojet developed its proprietary, highly efficient and ecological water recirculation and filtration system to ensure continuous production with highest yield.

Single source system supply

The neXline spunlace unites leading technologies from ANDRITZ Küsters and ANDRITZ Perfojet: the Jetlace hydroentanglement system, the neXaqua dewatering unit, the Perfodry through air drying technology and the neXcal twin embossing calender. These state-of-the-art technologies provide excellent performance and energy efficiency.

Your benefits:

- One system supplier from fiber to finished roll
- Customized line configuration
- Process expertise incl. filtration
- Excellent end-product properties
- Technical center with complete spunlace/spunjet production line

Spunjet

A further innovative development by ANDRITZ Perfojet is the spunjet technology for spunlaid nonwovens. This process entails hydroentanglement of continuous filaments, thus creating a new generation of nonwovens with superior fabric properties as regards bulk, softness, drape, and tensile strength.

ANDRITZ's customers now have the opportunity to combine two first-class bonding technologies in one line. Depending on the requirements of the final product, the process can apply either thermal bonding and/or spunjet technology.



▲ Spunjet system with integrated neXcal thermobonding calender

Calender technology

Thermobonding and more



▲ neXcal twin for ultimate flexibility

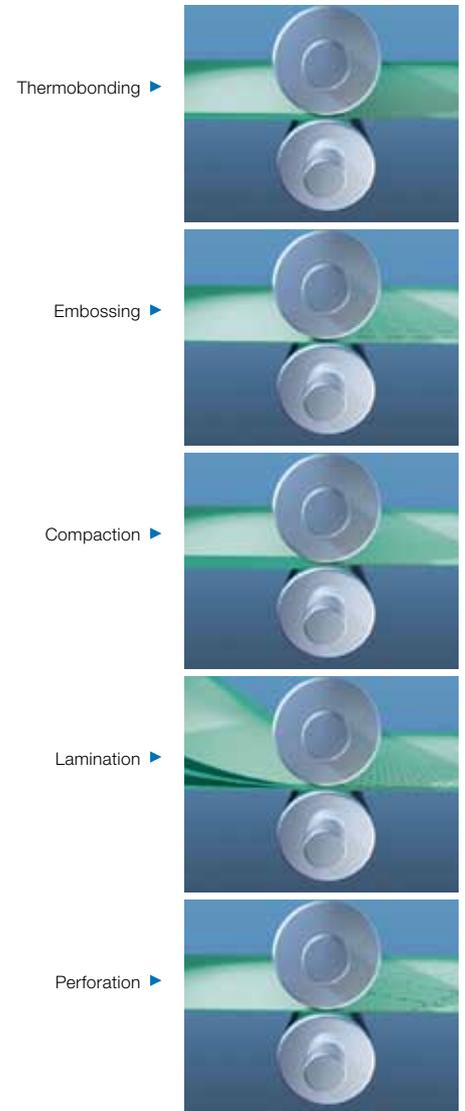
High-performance nonwoven calenders

In the production of nonwovens, a high degree of process optimization and value added can be achieved with innovative calender technology. Be it a spunlaid, airlaid, wetlaid or drylaid line, ANDRITZ Küsters offers different neXcal concepts depending on fiber blend, speed and final application.

Calenders with two, three or more rolls in vertical or horizontal design, according to the process demands, are part of the standard program. The ANDRITZ Küsters neXcal program offers the optimal product for the most varied ranges of application. Extremely high production capacities and speeds demand calender technology that is geared to the maximum burden limit

without any problems. The neXcal twin with two turnable engraved counter rolls is the high-tech solution for ultimate flexibility in modern nonwoven production.

Whether thermobonding, embossing, perforating, laminating or calibrating – the performance of the roll technology is crucial for the final product. All neXcal nonwoven calenders are equipped with a deflection controlled Hot S-Roll. These rolls with a roll surface temperature of up to 275° C were designed especially for the nonwoven industry with line speeds of up to 1,000 m/min. They achieve even bonding properties over the entire material width for all types of polymers.



◀ Hot S-Roll – the heart of the ANDRITZ Küsters nonwoven calender technology

Your benefits:

- Appropriate calender execution for each application
- Excellent product reproducibility
- Twin calender technology for ultimate production flexibility
- Technical center with several production and pilot calenders

Finishing and drying technology

Versatile process concepts

Functionalizing nonwovens

The demands on modern nonwovens and their manufacturing process are steadily increasing. In finishing applications nonwovens acquire improved product properties, manifold functionalities and a marked added value.

The ANDRITZ finishing concepts were designed in close cooperation with leading chemicals suppliers and meet our customers' demands with regard to capability, reliability, reproducibility and efficiency. Our process solutions include dosing, application (low add-on/impregnation), dewatering, drying, process control and documentation from just one source.

Achievable properties are: permanently hydrophilic, anti-static, alcohol repellent, flame resistant, and many more finishes.

Innovative drying technology

As a supplier of complete wetlaid and spunlace lines, ANDRITZ has developed a through-air drying technology that matches the highest demands of the nonwoven industry. The Perfodry comprises a number of innovative features: The dual temperature zone concept allows highest evaporation and gentle web treatment at the same time.

The unique circumference channel design stands for highest drying efficiency and optimum bearing lifetime. As the main drum is mounted on a separate frame, it can be rolled out for easy maintenance.

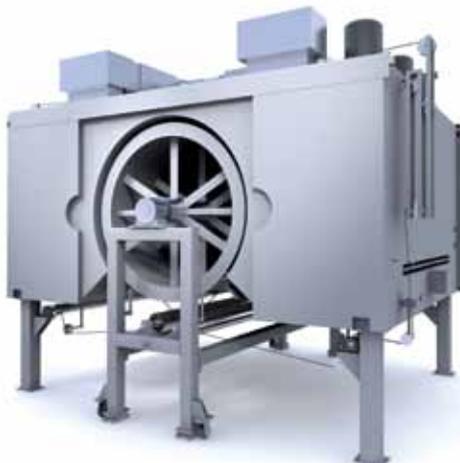
The Perfodry concept is rounded off by a compact design with an integrated air system.



▲ neXline finish from bonding to finishing

Your benefits:

- Complete process solutions from one source
- More than 50 years experience in wet finishing
- Strong cooperation with leading chemicals suppliers
- Technical center equipped for all wet finishing processes



▲ Perfodry

Your benefits:

- Dual temperature zone concept
- Excellent energy efficiency
- Easy maintenance roll-out design
- Integrated air system
- Circumference channel design
- Automatically adjustable decks

The nonwoven competence center

From development to order execution

Two technical centers dedicated to nonwoven innovation

With state-of-the-art installations at our technical centers in Krefeld (Germany) and Montbonnot (France), ANDRITZ expert process engineers work as your partners in product development. Evaluation of new processes and definition of parameters for product guarantees are another main focus.

The technical center in Montbonnot has spunlace and spunjet pilot lines, whereas the Krefeld site is equipped with a wetlaid pilot line, production and pilot calenders, as well as various wet finishing machines.



▲ ANDRITZ Perfojet Technical Center in Montbonnot



▲ ANDRITZ Küsters Technical Center in Krefeld



Smooth order execution

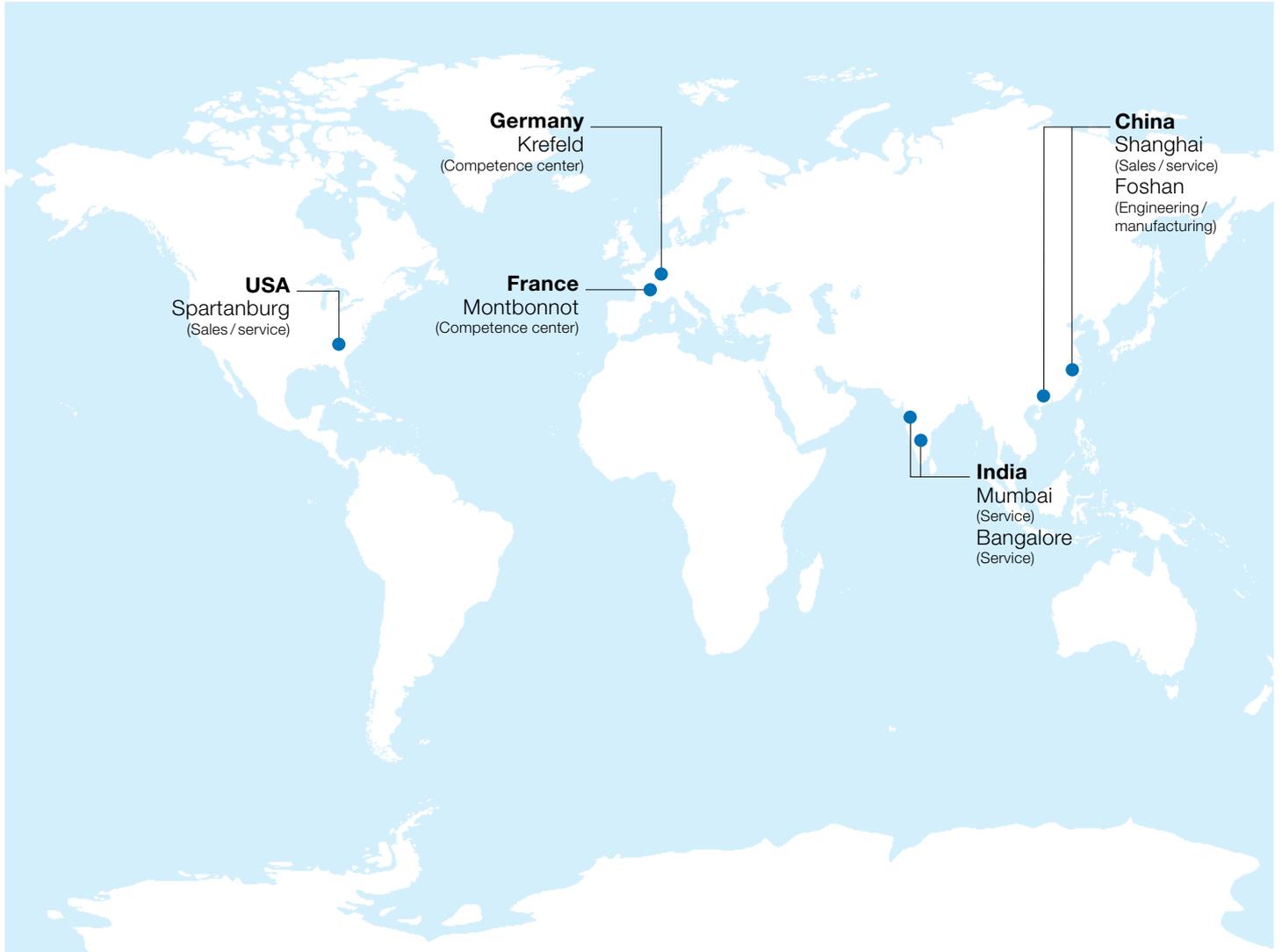
Innovative technology concepts need to be put into practice carefully and consistently to take account of all quality and practical requirements. Our dedicated and flexible project managers support our customers from project kick-off until the end of the warranty period. Set milestones are a binding promise. The execution of our comprehensive machine and line concepts is carried out by highly qualified and experienced teams from engineering and our ISO 9001 certified manufacturing and assembly centers. Our start-up engineers are well-trained, technically as well as technologically, and have profound experience in smooth and swift commissioning of our line concepts.

ANDRITZ Küsters and ANDRITZ Perfojet have joined forces to ensure excellent line performance and customer satisfaction. Team up with ANDRITZ. We care for your products.



ANDRITZ nonwoven

Closer to our clients



Service is the essence of a long-term partnership. We offer global technical and technological advice, service, spare parts, training, repairs, upgrades and modernization for the complete ANDRITZ nonwoven program.

The global network of ANDRITZ subsidiaries and representatives ensures swift service solutions. Our customers benefit from the comprehensive experience of our technologists and service engineers all over the world.

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