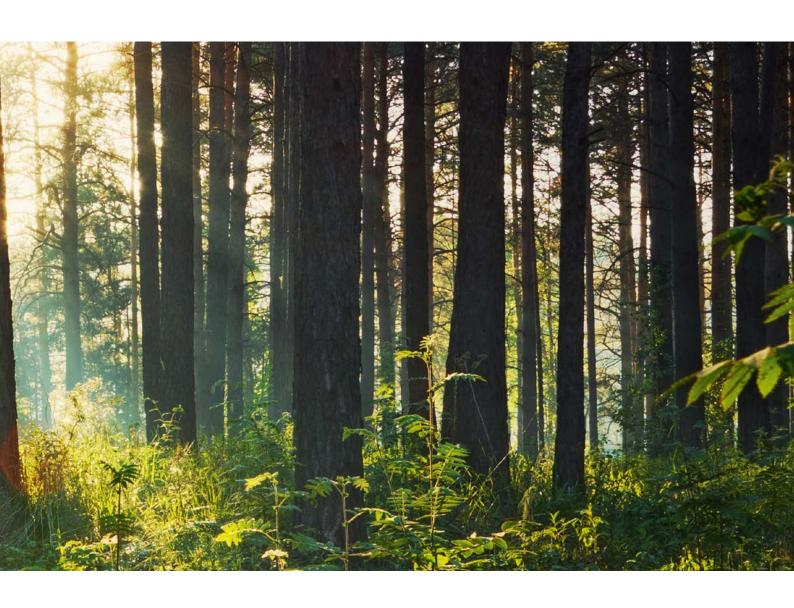


## Intelligent success is sustainable success. And clearly a matter for forward thinkers.

Behind the fascination of every moment that nature offers us with its complex beauty there is always a concept for tomorrow. We at WINTERSTEIGER have learned a lesson from this. All our developments are characterized by a holistic forward-looking approach which is well thought out and completely sustainable. Thin-cutting saw blades are a good example of this.

WINTERSTEIGER's thin-cutting saw blades achieve highest values because of their unmatched cutting accuracy, low kerfs and the perfect adaptation to each machine.



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## WINTERSTEIGER Process solutions for quality thin-cutting.

WINTERSTEIGER is famous for up-to-date thin-cutting technology, which is used throughout the world in the production of lamellas. High quality lamellas (sawn veneers) play an important part in the production of parquet floors, doors, pencil boards, multi-layer boards, architectural windows, furniture, musical instruments and much more.



WINTERSTEIGER Saw GmbH, D-Arnstadt

However, even the best thin-cutting technology is only as good as the tool it uses. The tool does the work on the wood and makes a significant contribution to the quality of the workpiece. For this reason, our know-how as innovative machine and saw blade manufacturers in qualitative thin-cutting has been valued by a professional international clientele for over 30 years.

This long period was continuously defined by an all-embracing, holistic approach to development which is now concentrated at the WINTERSTEIGER Sägen GmbH. The company's clear message is: "The best saw blades for the best machines". The new building with its state of the art production systems, which the company moved into in 2006, is more than merely an outward sign of this demanding requirement.

At the same time, the availability and cutting life span of the tools plays an important role too. Optimum tool reconditioning results in a major competitive edge. WINTERSTEIGER provides its customers with the security of always having superbly conditioned tools on hand.



New carbide-tipped band-saw production



Latest production facilities

Maximum wood yield with minimum waste of material!

## What exactly is high-quality thin-cutting?

- Cutting kerfs for band saws from 1.1 mm and frame saws from 0.7 mm
- High precision: +/- 0.15 mm
- Cutting surface ready for further processing

All together, these factors (cutting kerf, precision, surface quality) mean maximum wood yield for us and minimum waste of material for the user!



Commonm cutting technology waste afflicted due to insufficient precision



High-quality thin cutting with thinnest cutting kerf and highest precision



## Carbide-tipped saw blade for thin-cutting frame saws.

Carbide is a sintered material made of one or more hard materials. Carbide offers significant advantages as a result of different microstructures and production techniques. Carbide-tipped saw blades and scraper saws possess extremely high wear resistance, and thus offer substantial advantages when cutting special, tropical hardwoods.



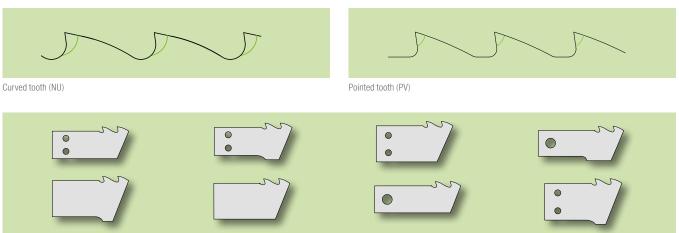




Saw frame DSG Notum

Saw frame DSG 150 / Eco / Eco Plus

Saw blades and scraper saws are available with these tooth shapes and buckle types:



Buckle types

### Carbide-tipped saw blade for thin-cutting frame saws.



#### **DSG HM Ultra**

The ultimate carbide-tipped saw blade by WINTERSTEIGER with the thinnest kerf in maximum precision.

- Kerf from 0.9 mm
- Cutting height up to 300 mm
- Base material as in DSG HM Gold
- 28 % lower cutting loss by comparison with saw blades with 1.25 mm kerf
- Optimally matched to all thin-cutting frame saws by WINTERSTEIGER

#### Carbide-tipped scraper saws for thin-cutting frame saws.

The precisely calculated recesses in the body of the scraper saw guarantee optimum distribution of the tension forces to the thin-cutting saw blades and scraper saws.



#### **DSG HM Scraper**

Manufacture of high-quality outer lamellas for immediate further processing without subsequent calibration.

- Especially suited to cut tropical hardwood
- Longer cutting life span with very hard wooden species
- Shorter preparation, lower staff and tool costs
- Higher availability of machines
- Optimally matched to all thin-cutting frame saws by WINTERSTEIGER

## Stellite® saw blades for thin-cutting frame saws.

Stellite is an alloy of cobalt, chrome and tungsten. The optimum price/performance ratio of Stellite® saw blades is due to their huge versatility. They are especially suited for the processing of all softwoods as well as European hardwoods.



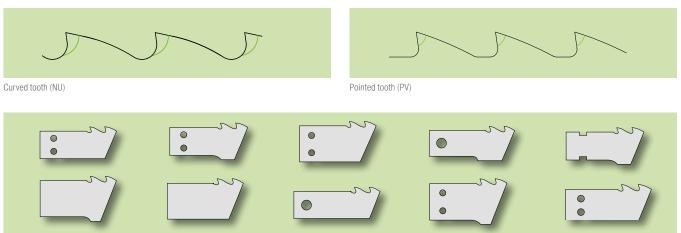




Saw frame DSG Sonic

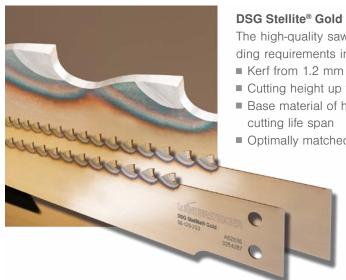
Saw frame DSG 200

Saw blades and scraper saws are available with these tooth shapes and buckle types:



Buckle types

#### Stellite® saw blades for thin-cutting frame saws.



#### DSG Stellite® Gold / Silver

The high-quality saw blade DSG Stellite® Gold by WINTERSTEIGER for demanding requirements in qualitative thin-cutting.

- Cutting height up to 400 mm
- Base material of high-alloy steel with improved stress behaviour for longer
- Optimally matched to all thin-cutting frame saws by WINTERSTEIGER

The entry-level product DSG Stellite® Silver by WINTERSTEIGER for standard requirements.

- Kerf from 1.25 mm
- Cutting height up to 200 mm
- Base material of hardened carbon steel
- Suitable for all thin-cutting frame saws by WINTER-STEIGER and alternative suppliers



#### Stellite® scraper saws for thin-cutting frame saws.

The precisely calculated recesses in the body of the scraper saw guarantee optimum distribution of the tension forces to the thin-cutting saw blades and scraper saws.



### Carbide-tipped and Stellite® saw blades for thin-cutting band saws.



Thin-cutting band saws by WINTERSTEIGER are known for their highest precision and cost effectiveness.

With the newly developed carbide-tipped band-saw blade **DSB Revo HM\***, WINTERSTEIGER has now extended its already broad product portfolio by a saw blade that also provides first-class cutting for extra hard and tropical woods. WINTERSTEIGER thus now offers the perfect saw blade for any type of wood.

The Stellite® band saw blades **DSB Stellite® Gold** and **DSB Stellite® Ultra** offer convincing performance in a variety of industrial applications. Their operating performance and highest precision are compelling – for both soft and hard wood.

A perfect cut is always the result of a coordinated interaction of various parameters. And saw blades play a central role in the process. WINTER-STEIGER therefore offers a broad range of highly innovative products, many of which are also used in machines from other manufacturers.

Our choice of band saw blades includes various tooth shapes, base materials, and application support to match tool and machine, or to improve existing parameters.





Curved tooth (PV)



PCP tooth (PCP)

Carbide-tipped band saws with kerf from 1.1 mm!

#### Carbide-tipped saw blades for thin-cutting band saws.



### Stellite® saw blades for thin-cutting band saws.





## X-Clean saw blades for thin-cutting band saws.

Up to 92 % less saw dust!

The new X-Clean band saw blade by WINTERSTEIGER reduces sawdust on the lamellas by up to 92 %!

A special design and geometry are responsible for this benefit. The new X-Clean is available for all WINTERSTEIGER thin-cutting band saws starting from 1.1 mm kerf.

An optimum solution to combat dust that has been specially developed by WINTERSTEIGER and therefore guarantees an excellent downstream production workflow.



#### Your benefits summed up:

- Up to 92 % less saw dust formation
- Same feed speed as the standard saw blade
- Positiv influence on saw blade life time
- WINTERSTEIGER saw blade quality applicable to DSB Singlehead and DSB Twinhead

### Comparison of DSB saw blade Stellite<sup>®</sup> Ultra standard with DSB saw blade X-Clean

Larch	Pine, glued up
2430 x 190	800 x 600
0.46	0.48
26.7	13.9
2.3	4.5
24.4	9.4
	2430 x 190 0.46 26.7 2.3

	Saw dust reduction	92 %	68 %
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Saw dust accumulation with standard saw blade



Saw dust accumulation with DSB saw blade X-Clean



## X-Well saw blades for thin-cutting band saws.

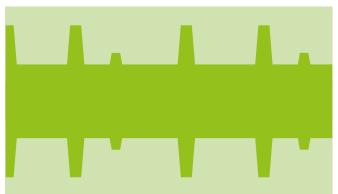
Individual surfaces with custumer specific structuring!

Individuality with maximum quality is the motto. Your customer decides on a specific surface structure, WINTERSTEIGER produces the appropriate band saw blade to do the job for you.

The special design of the tooth geometry allows you to create both regular and irregular surfaces. As a result it is possible to create unique top layer structures that lend an interesting appearance to a wellness area or showers and encourage relaxation.



The new X-Well band saw blades are available for all WINTERSTEIGER thin-cutting band saws.



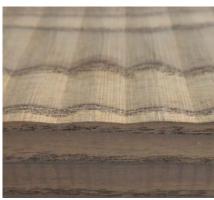
Computer animated surface



Sawn surface



Finished surface



Cross section (profile) of finished surface





### Saw service for DSG frame saw blades.

Machines for optimal saw servicing!

Economic success with thin-cutting frame saws requires superbly sharpened saw blades. Therefore, the success of your business starts in the sharpening room.

#### Micro Grinder HT

The inexpensive entry-model for thin-cutting frame saw blades and scraper saws.

#### Maximum operating efficiency

- Favourable price/performance ratio
- Minimum removal of material thanks to accurate saw blade guidance

#### **Maximum precision**

- Precision grinding unit with wet grinding device
- Can be switched over from curved to pointed tooth

#### **Easy operation**

- Angle setting with 2 adjustable fixed stops
- Additional cleaning hose with stop cock and tripod support
- Adjustable table height





Technical Data		
	Micro Grinder HT	
Grinding spindle speed	3700 rpm	
Throughput performance	25 teeth/min	
Cutting angle	2 to 20°	
Clearance angle	0 to 20°	
Tooth height	4 to 7 mm (0.15 to 0.28")	
Tooth pitch	10 to 25 mm (0.39 to 1")	
Saw length	380 to 710 mm (15 to 28")	
Blade thickness	0.4 to 3.0 mm (0.016 to 0.12")	
Saw height	35 to 45 mm (1.38 to 1.77")	



#### **Tension Master**

Saw roller device for retensioning of thin-cutting saw blades. Saws must be tensioned with great force in order to achieve even cutting quality with thin-cutting saw blades. The introduction of this tensile stress into the saw's tooth area is particularly important as it is there that the cutting forces occur.

#### Advantages at a glance:

- Optimum tension in tooth area
- Greater cutting accuracy
- Increase in service life of thin-cutting saw blades

#### **Tension Control**

Test set-up for checking re-tensioned thin-cutting saw blades.

#### Micro Grinder NC

The professional NC automatic saw sharpener for all thin-cutting frame saw blades and scraper saws that offers highest grinding quality for industrial use.

#### Fully automated operation

- Magazine capacity with automatic in- and out-feeding (~100 saw blades)
- 6 8 hours of fully automated operation (~1 shift)
- Freely programmable application-specific tooth shapes and pitches
- Cyclically adjustable cleaning of the grinding wheel
- Air blowing unit for drying of saw blades

#### Maximum precision

- Improvement of service life due to extremely high grinding accuracy and precise geometry
- Minimum removal of material due to automatic height measurement per saw blade
- Precision feed with very short cycle times and down times
- Optimised grinding movement on saw tooth
- Height adjustable saw blade clamping
- High grinding accuracy and surface quality using wet grinding device
- Special grinding wheels for Stellite® and carbide-tipped saw blades

#### Easy handling

- Comfortable operation using touch-screen display
- Easy loading and unloading of the magazines
- Optimum accessibility of all machine components
- Favourites list for frequently used saws/saw geometries



Technical Data	
	Micro Grinder NC
Grinding spindle speed	6000 rpm
Throughput performance	Depending on feed speed set and number of teeth.
Saw length 510 mm (20"); 28 teeth Saw length 390 mm (15"); 23 teeth	Approx. 04:00 to 05:00 minutes Approx. 03:20 to 04:00 minutes
Cutting angle	4 to 15°
Clearance angle	8 to 20°
Tooth height	3.5 to 8.6 mm (0.14 to 0.34")
Tooth pitch	10 to 25 mm (0.39 to 1")
Saw length	380 to 710 mm (15 to 28")
Blade thickness	0.4 to 3.8 mm (0.016 to 0.15")
Saw height	35 to 50 mm (1.38 to 2")





### Saw service for DSB band saw blades.

Machines for optimal saw servicing.

Economic success with thin-cutting band saws requires superbly sharpened band saw blades. Therefore, the success of your business is decided already in the sharpening room.

#### Micro Grinder HT DSB

The inexpensive entry-model for thin-cutting band saw blades.

#### Maximum operating efficiency

- Favorable price/performance ratio
- Minimum removal of material thanks to accurate saw blade guidance

#### **Maximum precision**

- Precision grinding unit with wet grinding device
- Can be switched over from curved to pointed tooth

#### **Easy operation**

- Angle setting with 2 adjustable fixed stops
- Additional cleaning hose with stop cock and tripod support
- Adjustable table height
- Machine lamp
- Adjustable saw blade width
- Adjustable saw blade guiding for all blade lengths





Technical data	
	Micro Grinder HT DSB
Grinding spindle speed	3700 rpm
Throughput performance	25 teeth/min
Cutting angle	5 to 25°
Clearance angle	0 to 20°
Tooth height	3 to 15 mm (0.12 to 0.59")
Tooth pitch	10 to 25 mm (0.39 to 1")
Saw length	Up to 6500 mm (256")
Blade thickness	0.4 to 1.0 mm (0.016 to 0.039")
Saw height	50 to 80 mm (2 to 3.15")





#### Micro Grinder VNC

The automatic NC machine can be used to resharpen all band saw blades. The enclosed design makes it ideal for wet grinding.

The generously sized grinding disc together with the powerful cooling ensure optimal grinding results.

Besides offering mechanical perfection, the Micro Grinder VNC is also an absolutely innovative product – ergonomically as well as electrically. The operator enjoys an easy-to-understand machine set-up and a simple handling by a swivel-mounted display for conveniently adjusting the grinding parameters.

The software can be intuitively operated and is therefore easy to learn; it allows the storing of the respective grinding programs. As a result, the machine set-up time when changing the saw type is significantly reduced. Further advantages of the Micro Grinder VNC: The optional exhaust system clears the air from grinding mist and other pollutants.

#### Great range of applications

- For saw blade widths from 50 to 300 mm (2 to 11.8")
- For all common tooth shapes
- Customized grinding programs

#### **Highest-quality grinding**

- Large grinding disc
- Effective blade cooling
- Variable grinding speed

#### Easy to use

- Grinding program management
- Swivel-mounted display
- Simple tooling-up of saw blades



Technical data	
	Micro Grinder VNC
Model	SPS-controlled saw sharpener
Power input	3 kW
Tooth profiles	All common tooth shapes – curved tooth, pointed tooth, PCP tooth
Saw blade thickness	0.6 - 6 mm (0.023 to 0.24")
Pitch	15 - 60 mm (0.59 to 2.4, variable tooth pitch
Tooth height	0 - 25 mm (0 to 1")
Cutting angle	0 - 40°
Operating speed	Optimally 6 - 10 teeth/min
Grinding discs	Borazon grinding disc, 300 mm (11.8") diameter
Water pump	Up to 300 I/min
Permissible ambient temperature	+ 4 to 38°C
Dimensions without arm (L x W x H)	1400 x 1000 x 1800 mm (55 x 39 x 71")



Fitting the saw blade



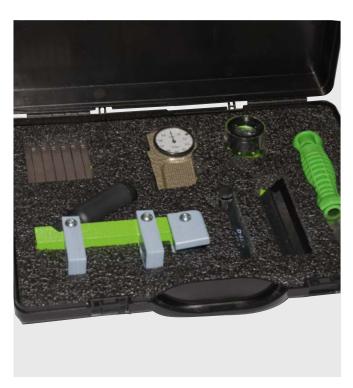
Grinding disc, blade cooling

### Sharpening accessories for band saw blades.

#### The competitively priced set for quick-and-easy saw repair.

Each cutting process involves the risk of mechanical influences that may affect the saw blade's efficiency. Loose branches and split wood can bend the saw teeth or dent the blade body. Fortunately, most of this annoying damage

can be easily located and economically repaired using the WINTERSTEIGER sharpening accessories set.





Setting regulator



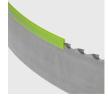
Tooth setter



Setting gauge



Inspection loupe



Tooth protection for new



Tooth protection fitting tool



Tooth protection for service



Feeler gauge



Hair ruler



### WINTERSTEIGER After Sales Service. Support starts where delivery ends.

The best time for assessing the quality of an investment is in the many years after its delivery. Therefore WINTERSTEIGER has established a global after sales service.

#### Installation and training

WINTERSTEIGER ensures both with its experts world-wide and of course on site.

#### Support

We provide continuous support to quickly optimize the profitability of the machine for our customers.

#### Proactive maintenance

Maintenance and preventive active replacement of pre-defined wear parts at firmly defined times (e.g. during company holidays) which also helps to keep maintenance and repair costs to a minimum.

#### Contracts for consumables and saw blades

These agreements enable us to plan our annual requirements in advance and save costs which of course we pass on immediately to our customers.

#### Other benefits:

- Just-in-time delivery of saw blades
- Availability at short notice
- Warehousing of saw blades by WINTERSTEIGER

#### Helpdesk on call service

This service underlines our high level, global service commitment to our partners and ensures first-class support even outside our normal business hours.



### Our broad product portfolio.

The BANSO saw blades are optimized for specific applications and the material to be cut, offering our customers best results with maximum quality and cost effectiveness. From selection of the raw material to planning, execution and inspection of production to dispatch of the finished product, our highly-qualified and responsible employees take great care to ensure the best possible quality at the highest levels on an ongoing basis.



Customer satisfaction is at the core of our quality policy. Quality consciousness is therefore an integral part of corporate governance and characterizes all business areas.





#### Joiner saws

For all types of cutting in the narrow range of 6 to 50 mm





#### Saws for mobile sawmills

For longitudinal cutting in the narrow mobile range of 27 to 50 mm





#### Resaw and log band saw blades

For use in the wide mobile range and in the sawmill from 32 to 150  $\mbox{mm}$ 





#### Food saws meat, fish, vegetables

For use in the food industry, such as the trenching of fresh meat with bones, frozen meat, fish and vegetables from 16 to 25 mm

### Qualities and types.

#### Carbide

Characteristic of the carbides are very high hardness, wear resistance, and especially the high hot hardness. Carbide band-saw blades are suited for extremely hard woods, tropical woods, and wood grown in very sandy soil.



#### Stellite®

Stellite® is an alloy of cobalt, chrome and tungsten.

Stellite-tipped saws are particularly well-suited for processing all softwoods and hardwoods and offer substantially longer service life than bare saws.



#### X-Cut

- Tooth tips hardened to 60 62 HRC, offset in pairs, sharpened
- Every third tooth tipped with Stellite®
- No need to reset the teeth

A combination of teeth with hardened and Stellite® tips ensures minimal cutting pressure and thus maximum performance.



#### Flex-Back

- Saw blade with hardenend tooth tips and flexible blade back
- Toothed, set and ground
- Tooth tips hardened to 60 62 HRC and blade back flattened, structure tempered to 38 HRC

The hardness of tooth tips ensures long service life even for hard raw materials; the flexibility and special tooth shape counteract bending and thus the risk of fracture.



#### Hardened tooth tips

- Toothed, set and ground
- Tooth tips hardened to 60 62 HRC and blade back flattened



#### Ready to saw

■ Toothed, set and ground

#### Toothed

Semi-finished products for further processing



### WINTERSTEIGER WOODTECH. The value of wood increases with the level of its finish.

Wood as a sustainable and growing resource with all its brilliant properties is being rediscovered more intensively than ever before. Thin-cutting in particular is proving to be one of the key technologies in the processing of wood. WINTERSTEIGER already has over 30 years of know-how in this segment and has been a market leader for many years.

Sales of more than 1500 thin-cutting frame saws underline WINTERSTEIGER's global market leadership which is based on a philosophy that is transparent and pursued consistently: To create clear added values for the future by being receptive to innovation whilst offering high-performance and excellent operating reliability.

WINTERSTEIGER's technology offers absolutely perfect conditions for the production of products like

- Engineered floors
- Multi-layer boards
- Doors
- Windows
- Furniture
- Pencil boards
- Musical instruments and many more

Conceived and put into practice by a team of users, technicians and designers, the entire product range of thincutting frame saws to the technology for gluing and pressing excels with a wide variety of advantages.

- High precision
- Minimum cutting kerfs
- Ready to glue surfaces
- Further processing of lamellas without additional work stages











#### Precise cutting of all non-wood materials.

As the quality leader, WINTERSTEIGER is present wherever precise cutting with minimal material loss is at a premium. This applies to various materials not made of wood. Ask for our customized solutions!



### WINTERSTEIGER. A Global Player.

WINTERSTEIGER AG is a special-purpose machine builder based in Upper Austria and has concentrated on niche markets since its foundation in 1953.

The internationalization of the markets and the technological revolutions have become the deciding factors in the global competition. WINTERSTEIGER has always considered such

challenges opportunities and has taken advantage of them. This has resulted in continuous growth, which is further ensured by the innovative power of its employees and driven through strategic acquisitions. In this way we succeeded in providing the optimal conditions for long-term and stable partnerships with our customers.

#### Business Unit SEEDMECH

■ Turnkey solutions for plant breeding and research

#### Business Unit SPORTS

- One-stop supplier for ski and snowboard rental and servicing
- Systems for hygienic drying of sports goods and work clothes
- Fit-optimizing solutions and individual sports shoe adjustments

#### Business Unit WOODTECH

- Process solutions for precision thin-cutting, wood repairs and cosmetics
- Saw blades for wood and food

#### Business Unit METALS

- Levelling technology machines and systems (KOHLER Maschinenbau GmbH)
- Machines for the automatic deburring of sheet metal (PAUL ERNST Maschinenfabrik GmbH)

- = 21 cubeidiaries
- 60 representatives
- Sales to 130 countries
- 90 % export share
- Global market leader in SEEDMECH, SPORTS and WOODTECH

#### Business Unit AUTOMATION

■ Plants and automation solutions for industrial manufacturing companies (VAP Gruber Automations GmbH)



Company head offices at Ried im Innkreis, Upper Austria

# Success begins with the right decisions. At the right time. We look forward to you!





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#### Representations:

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