



iwis solutions for bakeries



The bread and baking industry is constantly confronted with growing consumer needs. iwis supports companies in the baking industry with **top-quality chain solutions** and trailblazing solutions for **preventive maintenance**. In this way, we want to help you to minimize downtimes and maximize productivity. After all: together, we move the world.

iwis industry solutions



iwis.de/industries

www.iwis.com



Performance across the board

The bread and baking industry places high demands on chain technology. We offer perfectly tailored solutions to take account of critical aspects such as hygiene regulations, different temperature ranges, high precision and corrosion resistance. Our product range covers drive and conveyor chains for the entire process, from production of the dough, through fermentation and right up to packaging of the finished goods.

No matter whether you are making croissants (radial power bend chains), pastries or baguettes (flat top chains), iwis offers a comprehensive range of products that meet all of your requirements in terms of hygiene, temperature fluctuations and cleaning.

Creative sales engineers and skilled project managers will find smart solutions for complex challenges; solutions that match up to your requirements.

Your expectations

- Increased productivity
- Reduced machine downtimes
- Greatest possible length precision and tolerances across pairs of components
- Use of the optimum lubricant
- On-site customer care by iwis staff

Our solution

iwis antriebssysteme sees its role as a **development partner** and, as a technology leader, supports you in overcoming the challenges you face. Ultramodern **simulation and design tools that have been developed in house** help our development engineers to select the right products for you up front.

Your contact at iwis

Contact the iwis Customer Service Team for support for your industry!

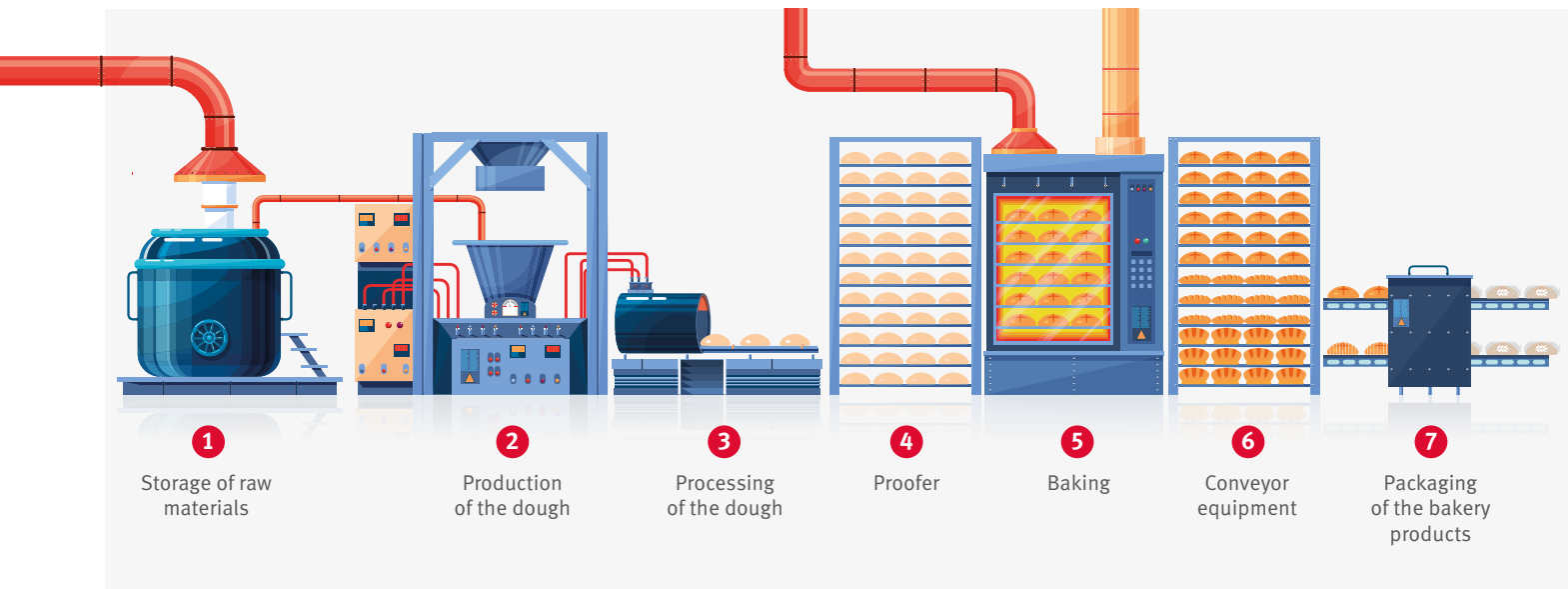
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**CUSTOMER
SERVICE TEAM**





The right chain for each step in the process

<p>1</p> <p>Storage of raw materials</p> <hr/> <p>Bush conveyor chains</p> <hr/> <p>Roller chains with attachments</p>	<p>2</p> <p>Production of the dough</p> <hr/> <p>MEGAlife maintenance-free roller chains</p> <hr/> <p>Coated roller chains</p> <hr/> <p>CF stainless steel chains</p> <hr/> <p>CR corrosion-resistant chains</p>	<p>3</p> <p>Processing of the dough</p> <hr/> <p>MEGAlife maintenance-free roller chains</p> <hr/> <p>Coated roller chains</p> <hr/> <p>CF stainless steel chains</p> <hr/> <p>CR corrosion-resistant chains</p> <hr/> <p>Flat top chains</p>	<p>4</p> <p>Proofer</p> <hr/> <p>MEGAlife maintenance-free roller chains</p> <hr/> <p>Coated roller chains</p> <hr/> <p>CF stainless steel chains</p> <hr/> <p>CR corrosion-resistant chains</p> <hr/> <p>Bush conveyor chains</p> <hr/> <p>Hollow pin chains HB50.8</p>
<p>5</p> <p>Baking</p> <hr/> <p>Bush conveyor chains</p> <hr/> <p>Roller chains with attachments</p>	<p>6</p> <p>Conveyor equipment</p> <hr/> <p>b.triton roller chains</p> <hr/> <p>b.dry maintenance-free stainless steel chains</p>	<p>7</p> <p>Packaging of the bakery products</p> <hr/> <p>Grip chains</p> <hr/> <p>Flat top chains</p> <hr/> <p>Radial power bend chains</p> <hr/> <p>b.triton roller chains</p> <hr/> <p>b.dry maintenance-free stainless steel chains</p>	<p>Condition monitoring</p>  <p>NEW from iwis</p> <p>CCM-S Chain Condition Monitoring</p> <p>The chain condition monitoring system</p> 



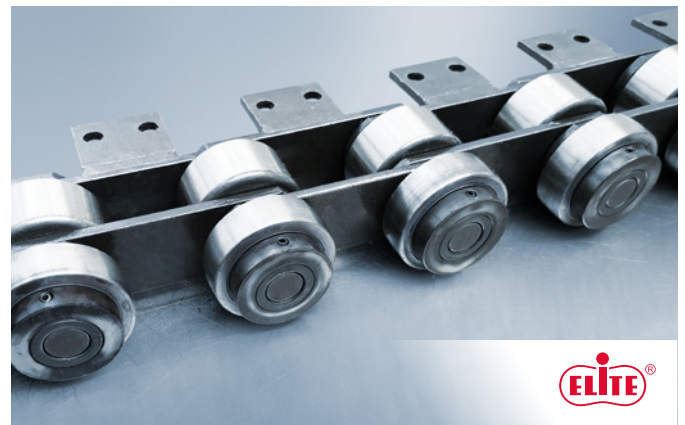
Hollow pin chains HB50.8

Dripping oil and/or zinc abrasion lead to significant contamination of machinery and thus to problems in meeting the requirements of hygiene regulations in respect of bakery technology. With the development of the HB50.8 hollow pin chain, iwis has introduced a program that ensures a high level of resistance against abrasion and wear. HB50.8 hollow pin chains are available in standard steel, stainless steel and zinc-plated steel, and with steel or plastic rollers.

The improved abrasion resistance of the HB50.8 ZPKDD version is achieved primarily as a result of its optimized plastic sliding bearing. In addition, thrust washers mounted between the inner and outer plates prevent unwanted zinc abrasion.

Highlights

- Many versions available from stock
- Versions with seamless bushes and hollow pins
- Available in steel, zinc-plated steel and stainless steel
- On request, pair-matched chains can be supplied to guarantee optimum parallel running
- Plastic rollers made of wear-resistant POM
- Blue-coloured plastic rollers available on request
- Chains with wax lubricant available on request



Bush conveyor chains

Continuous baking ovens put particular demands on drive chains generally. They represent a harsh environment with high temperatures and contamination that is typically associated with ovens, such as baked-on deposits. The best chains for use in these demanding applications are ELITE bush conveyor chains. They have been specially developed for conveyor operations covering long distances at relatively low speeds. The ELITE product range covers conveyor bush chains compliant with DIN 8165 and DIN 8167 as well as with British Standards in imperial dimensions and with a wide variety of special constructions.

Depending on your particular application, different surface coatings and materials can be used to manufacture your custom-built chain. The result is a system that is perfectly matched to your production equipment.

The high temperatures involved mean that many lubricants will be stretched to their technical limits. In cases such as this, iwis is able to offer chains with special ball bearings or graphite-based, high-temperature sliding bearings. ELITE bush conveyor chains are custom-made to order to meet a wide range of special requirements.

Highlights

- External idler rollers with ball bearings or sliding bearings
- Extended pins for carrying product trays
- Outer plates with special attachments, manufactured and fitted to customer specifications

For more information,
see our product flyer or visit
www.iwis.com



For more information, see our
ELITE product catalogue or visit
www.iwis.com





MEGAlife maintenance-free roller chains

MEGAlife maintenance-free roller and conveyor chains with a special link design can be used in all areas where relubrication is difficult or impossible. These include dry environments and applications where maintenance access is difficult. MEGAlife chains have nickel-plated parts and are therefore corrosion resistant and have an operating temperature range of -40 °C to +150 °C.

iwis maintenance-free MEGAlife roller chains have extremely high endurance and fatigue strength, giving customers additional operational reliability. The above-average service life without relubrication means fewer downtimes and reduced maintenance outlay. Depending on the application, the maintenance-free chains are supplied either dry or with additional special lubrication.

Highlights

- Seamless sintered bush made of a material specially developed for this application, hardened and treated to optimize its tribological properties
- Pin with wear-resistant, friction-optimized coating
- Seamless roller with corrosion-resistant coating and geometry optimized to match the sintered bush



Coated roller chains

Our ELITE brand products offer a wide range of roller chains that ensure high wear-resistance coupled with excellent corrosion protection for attachments.

Zinc-plated ELITE chains (ZP)

Zinc protects the chain against corrosion in two different ways. Firstly, the zinc forms an unbroken layer around the chain components to prevent water, salt and oxygen from coming into direct contact with the steel link plate; secondly, zinc acts as a “sacrificial anode” in the event of damage to the chain and protects important load-bearing components against corrosion.

Zinc-flake coated ELITE chains (ZAP) **NEW**

The new zinc-aluminium coated chains (zinc-flake coated chains) offer the best corrosion protection of all coated chains. The typical lamellar structure of these coatings provide a “barrier effect” and high cathodic corrosion protection without the risk of hydrogen embrittlement. The coating also has a positive impact on friction in the chain bearing. The new ZAP coating will replace the existing Geomet and Dacromet chains.

Nickel-plated ELITE chains (NP)

The characteristic properties of nickel make it a particularly suitable coating metal for a wide range of applications. It is impervious not only to water and air, but also to a variety of acids and alkalis.

For more information,
see our product flyer or visit
www.iwis.com



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ELITE product catalogue or visit
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CF stainless steel chains

Corrosion-free CF stainless steel chains from iwis are extremely reliable, and offer good fatigue and corrosion resistance. They are therefore ideal for applications in the food and beverage industry. Restricted length tolerances for precise positioning and a range of different lubricants represent key advantages to address the challenges faced by drive chains in the baking industry.

Highlights

- Precisely punched link plates and supreme surface quality ensure stability and an extended service life
- Extremely shock-resistant rollers for use in demanding applications
- Seamless bushes from iwis reduce initial wear elongation and guarantee a significantly higher positioning precision than conventional stainless steel roller chains in operation
- Various special lubricants available e.g. for high temperatures (up to +400 °C), low temperatures or food-grade lubricant with NSF H1 approval
- Temperature range: -100 ° to +400 °C with special lubricant. The use of chains in extreme temperature ranges has to be taken into account when designing a chain system. Just have a word with us!

Another plus point

In the standardized salt spray test, our CF stainless steel chains achieve higher corrosion resistance in comparison with other corrosion-free chains available on the market.



For more information,
see our product flyer or visit
www.iwis.com



b.dry maintenance-free stainless steel chains

b.dry roller chains are made from rustproof, maintenance-free CF stainless steel with an optimized articulated link that represents a **masterpiece of high precision**. The secret of the b.dry range is to consign the old notions of "steel on steel" to the past!

The fact that no lubricants are needed is thanks to our b.dry bushes, which are made from a special, high-performance polymer. The capabilities of this material are absolutely unparalleled.

Chain construction

- **High-performance polymer bush** ① from FDA-compliant material
- Thin-walled, seamless, **stainless steel bush** ②, ball-drilled
- Basic chain: **JWIS CF stainless steel chain** ③



Highlights

- Optimized wear behaviour
- Very good tensile and fatigue strength
- Corrosion-free and durable thanks to high-quality materials
- Reduced downtimes and maintenance costs for machines and systems
- Reduced risk of product contamination and soiling during production



For more information,
see our product flyer or visit
www.iwis.com/bdry



CR corrosion-resistant chains

CR chains consist of hardened highly alloyed steels with good corrosion resistance and considerably higher tensile and fatigue strength than ordinary stainless steel chains. CR chains can be used for all applications where chains need to remain flexible despite corrosive environments or must not rust for reasons of hygiene or appearance.

All CR chains are supplied with highly effective initial lubrication. Corrosion resistance is maintained with adequate relubrication.

Highlights

- High wear resistance if regularly relubricated
- Good, long-lasting corrosion resistance in comparison with surface-coated chains
- Significantly higher tensile and fatigue strength than ordinary stainless steel chains
- Smaller dimensions possible

Applications

- Food and beverage processing industry
- Drinks manufacturing
- Packaging machines
- Cheesemaking and dairy technology
- Moist or aggressive environments
- Cleaning systems



b.triton roller chains

b.triton chains are the ideal solution when the strength of stainless steel is no longer sufficient and traditional coatings no longer provide corrosion resistance when exposed to harsh operating environments and ambient conditions. High-performance zinc flake technology combined with a unique surface treatment give JWIS b.triton chains greater corrosion resistance than any other coated chain. This makes them particularly durable, and consequently environmentally friendly.

Highlights

- Best corrosion protection: Up to 1000 hours of salt spray testing as per ISO 9227
- Wear resistant thanks to specially coated chain link
- Carefully selected high-quality carbon steel offers outstanding strength
- Suitable for temperatures from -10 °C to +130 °C thanks to new initial lubricant iwiDUR-G
- Extended operating range up to 150 °C with high-temperature lubricant
- Extruded bushes and rollers for even better corrosion resistance, reduced initial elongation and quieter running
- Environmentally-friendly: Materials comply with RoHS and are free from hexavalent chromium (CrVI)

Applications

Any environments involving water or water vapour applications or in which strict cleaning regulations apply, in conjunction with stringent demands on the strength of the roller chains used.

For more information, see our JWIS product catalogue or visit www.iwis.com

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Grip chains

iwis grip chains have wear and corrosion-resistant clamping elements that ensure the secure feeding, conveying and positioning of large-format thin materials such as plastic films. Differing levels of spring force allow a wide range of materials to be gripped gently and held securely. With iwis's grip chains, the clamp fits precisely into the groove to deliver an improved retaining force. The increased free space in the insertion area permits better feeding of film. Film is not stretched or deformed over the clamp and noise emissions are reduced. The iwis grip chains feature nub plates to ensure operational reliability and high levels of hygiene. iwis offers a total of 6 different grip chain versions.

Highlights

- Excellent wear resistance and minimal initial elongation due to optimum pre-stretching
- Extremely high chain rigidity allows the chains to be used even in long machines
- Basic chains are chemically nickel-plated / maintenance-free MEGAlife versions available on request
- Identical chain lengths (within the selected tolerance range) ensure excellent running characteristics in both synchronous and parallel operation
- Differing levels of spring force allow a wide range of materials to be gripped gently and held securely
- Chains with restricted length tolerances can be manufactured
- For applications in the food processing industry, all chains can be supplied with a food-grade initial lubricant

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iwis[®]

Radial power bend chains

iwis radial power bend chains offer the ideal solution for any application with curved synthetic conveyor belts, even with extremely small bend radii. All chains of this type are manufactured to the same extremely high standard of precision as all iwis side-bow chains, with their unique tapered pin and chain link design.

Highlights

- Supreme load-bearing capacity and reliability are guaranteed in long-term use
- Products are arranged and transported in a stable manner on the curved synthetic conveyor belts
- Tight bend radii possible
- Straight and bent attachment plates allow the chains to be used as conveyor chains



For more information,
see our product flyer or visit
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Flat top chains

iwis flat top chains are available as straight running or sideliflexing versions, in a variety of materials, link designs and plate thicknesses. Whether they are made from steel, stainless steel or plastic, flat top chains possess very special characteristics such as high wear resistance and high-quality workmanship.

Highlights

- All FLEXON flat top chains are subject to the high quality inspection standards and continuous testing required by ISO 9001.
- iwis flat top chains are produced from high quality materials sourced from reputable suppliers.
- Almost all steel versions of the flat top chains are supplied with hardened pins, which reduces wear and increases the service life of the chain.
- We are constantly expanding, optimising and developing the FLEXON product range.
- In addition, our Engineering Team will be glad to develop and implement custom flattop chain solutions. This covers everything from configuring systems for specific chains to chain modification (e.g. attachments and special materials).



Condition monitoring

The CCM-S, which has been revised and is now equipped with additional sensors and interfaces, measures the wear elongation of chains during use and consequently helps maintenance staff recognize in good time when the chain has to be replaced due to wear elongation.

Highlights

- Gives maintenance staff time to (re)act!
- No long downtimes for plant or machinery
- No risk to promised delivery dates – no interruption of the logistics chain
- Prevents financial losses caused by interruptions to production
- Monitoring of precision chain applications
- "Plug and Play" principle applies – does not require calibration, etc.
- Wear- and impact-resistant plastic sliding guide
- Stable, leakproof plastic housing

- ✓ Digitalization interface
- ✓ Simple, modular construction
- ✓ Optimized design



For more information,
see our catalogue or visit
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Chain lubrication

Because most of the friction is generated in the chain link joints, lubrication of this location has a decisive impact on the service life of a chain drive. In the baking industry, the use of food-grade lubricants depends on factors such as the accessibility of plant equipment, maintenance intervals, the risk of contamination and the intensity of cleaning.


When selecting the correct lubricant, it is also important to consider the media with which the chain comes into contact in the application. Products such as flour, sugar and starch can penetrate the chain link joint, and this can take lubricant from the chain and/or have an abrasive effect. This can result in inefficient relubrication and stiffness in the chain link joints.

Depending on the conditions of use, we recommend the following **initial lubricants**:

IP16 Oil-based food-grade lubricants

IP16 offers optimum protection against wear and corrosion and excellent penetration into the chain link joint. The high-performance oil forms an effective protective film that cannot be thrown off and permits problem-free relubrication.


Technical data:

Chemical composition	Synthetic hydrocarbon oil + ester oil
Colour	Yellow
Viscosity	Kinematic (40 °C): 15 cm ² /s (1500 cSt)
Density	Approx. 0.86 g/cm ³ (20 °C)
Physical state	Liquid
Temperature range	-25 °C to +120 °C
NSF H1 approval	154891 

EL-6 High-performance, wax-based lubricant

EL-6 is a chain lubrication wax with outstanding adhesion properties that has been specially developed for the foodstuffs industry. This wax has a positive effect on wear and corrosion and forms a protective film to prevent abrasive particles from penetrating into the chain link joint.

Technical data:

Structure	Highly viscous
Colour	Beige
Viscosity	Approx. 125 mm ² /s at +100 °C
Density	Approx. 0.89
Service temperature	-25 °C to approx. +80 °C (change of state)
NSF H1 approval	154890 

iwidur®

Relubrication

Our high-adhesion **VP6 Kombi Superplus Spray** is ideally suited for relubricating chains with no risk of contact with foodstuffs and in temperature ranges of up to +250 °C.

The new iwis **VP8 FoodPlus** meets the stringent requirements of the NSF and has H1 approval (no. 157999). It is an excellent choice for the foodstuffs industry. VP8 can also be used in low-temperature ranges down to -35 °C.

Furthermore, our **MEGALife** and **CF b.dry** maintenance-free chains permit a remarkable service life without any initial lubrication or relubrication (**dry running**).



VP6 SuperPlus Spray

- Temperature range from 0 °C to 250 °C
- Wide range of applications
- Easy to apply
- High-performance lubricant developed especially for chain applications
- Optimum penetration
- Silicone-free



NEW VP8 FoodPlus Spray

- NSF H1 food grade approval (no. 157999)
- Free of MOSH/MOAH
- Precise, economic application possible
- Optimum penetration of chain link joint
- Temperature range of -35 °C to +135 °C
- Free of animal products and ethanol
- Silicone-free

For more information, see our flyer
"Lubrication Solutions from iwis"

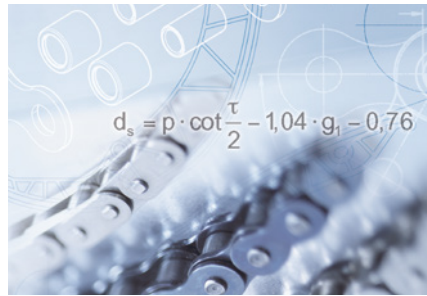


Customer service: We are here to help you



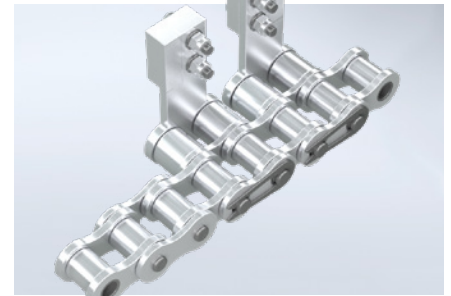
On-site advice and assessment

- Complete chain appraisals and plant analysis
- Expert experience and recommendations
- Application-specific solutions



Technical support

- Chain drive configuration (www.iwis.com/chain-calculation)
- Endurance tests and benchmarking
- Fatigue strength, breaking strength and metallographic analyses
- 3D printing models
- Technical documentation



Tailored solutions

- Wide variety of options for mounting attachments
- New design and optimization of attachments
- Customer-specific article labelling



Condition monitoring

Chain elongation monitoring system (CCM-S) as a perfect preventive maintenance tool.



Online tools

- CAD drawings
- Chain finder
- Chain configurator



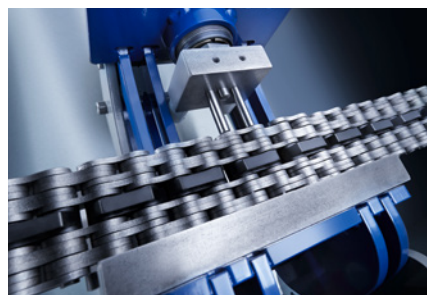
Online shop – www.iwis.com/shop

Clear, at-a-glance product information and fast-track ordering of stand-ard-length chains.



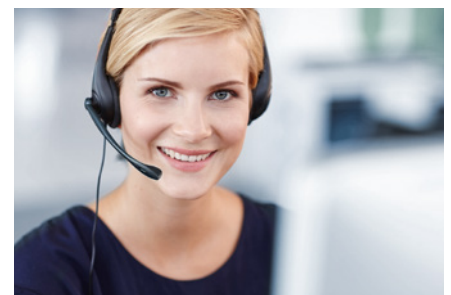
Drive components

- Sprockets
- Plate wheels
- Chain tensioners



iwiTools

- Chain breaking tools
- Chain pullers
- Pin extractors



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iwis
wir bewegen die welt

Your sales representative

