

fischer worldwide



Technology for the future

**fischer**  
group



# A world market leader with family values

**For more than 50 years – today with subsidiaries in 8 countries worldwide**

In 1969 Hans Fischer has started as a real garage start-up. Thanks to a clear vision, a great team, loads of ideas and a gift for winning people over, in just a few decades he succeeded in becoming the world market leader for longitudinally welded stainless steel tubes. With proprietary machine technology and a wide range of further processing options in tube technology, 18 branches were gradually established on various continents. Building on a strong foundation of solidarity, loyalty and family values, the Seebach Mechanical Workshop became the international fischer group.

**As a family business in the second generation: reliable worldwide ready to receive your ideas.**



The fischer management team: Founder Hans Fischer (2<sup>nd</sup> from right) with his sons Hans-Peter (2<sup>nd</sup> from left), Roland Fischer (right) and Commercial Director Björn Weber (left)

**“For more than 50 years, more and more customers have come to know and appreciate the exceptional reliability of fischer products, technologies and processes.”**

**Employees**



worldwide around

**2,600**

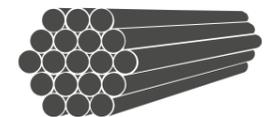
**Meters of tubing**



per year

**128 million**

**Quantity of material**



per year

**160,000 t**

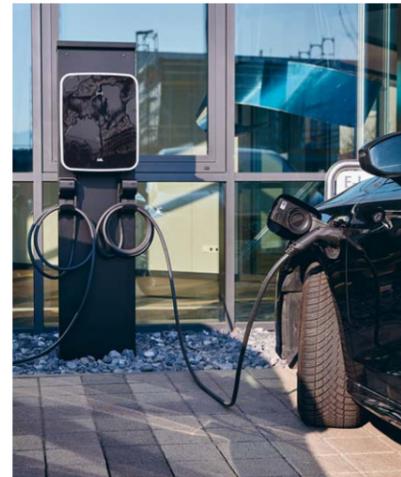
# Sustainable thinking

## With an eye on the finish line right from the start

At the fischer group, sustainable thinking is firmly rooted in the company's DNA. Our high-quality products, optimized for longevity, already stand for the principle of sustainability. This sustainability principle is also reflected in the six pillars of the fischer group's company culture. There, under sustainable thinking, you will find the following: "We are committed to sustainably meeting the economic requirements of the process of production of goods and services under ecological objectives." And we have always lived by this principle. Not only the primary processes in production are optimized in terms of sustainability.

With the new fischer Power Solutions division, we are demonstrating that we are strategically moving further in this direction and developing and distributing sustainable, ecologically optimized products.

Ultimately, internal processes are also constantly being rethought and taken to their logical conclusion under sustainability aspects. This leads, for example, to ecologically optimized building climate control fed by residual heat from production.



**A pillar of our company culture**  
We are committed to sustainably meeting the economic requirements of the process of production of goods and services under ecological objectives.





# Leading technology at all locations

## First-class results thanks to uniform machine technology

Just as at the headquarters in Achern, internally developed fischer tube profiling lines are also installed at the fischer group's international locations. "We developed the machines and processes ourselves and have been refining them for decades," recalls Hans Fischer. "In this regard we are in a class of our own." For this purpose, fischer established its Maschinentechnik subsidiary early on. It deals exclusively with the further development of machines and production processes as well as the manufacture of tools for the companies in the group.

Thanks to the special expertise within the group of companies, intensive international dialog and training by colleagues from the locations in Germany, uniformly high quality is maintained at all locations.

**Wherever you are in the world: you get the same first-class results everywhere.**

## Strategically distributed around the world

**With uniform fischer technology, we now produce at eight international locations:**

- fischer Germany
- fischer Austria
- fischer Canada
- fischer USA
- fischer Mexicana
- fischer Uruguay
- fischer South Africa
- fischer China

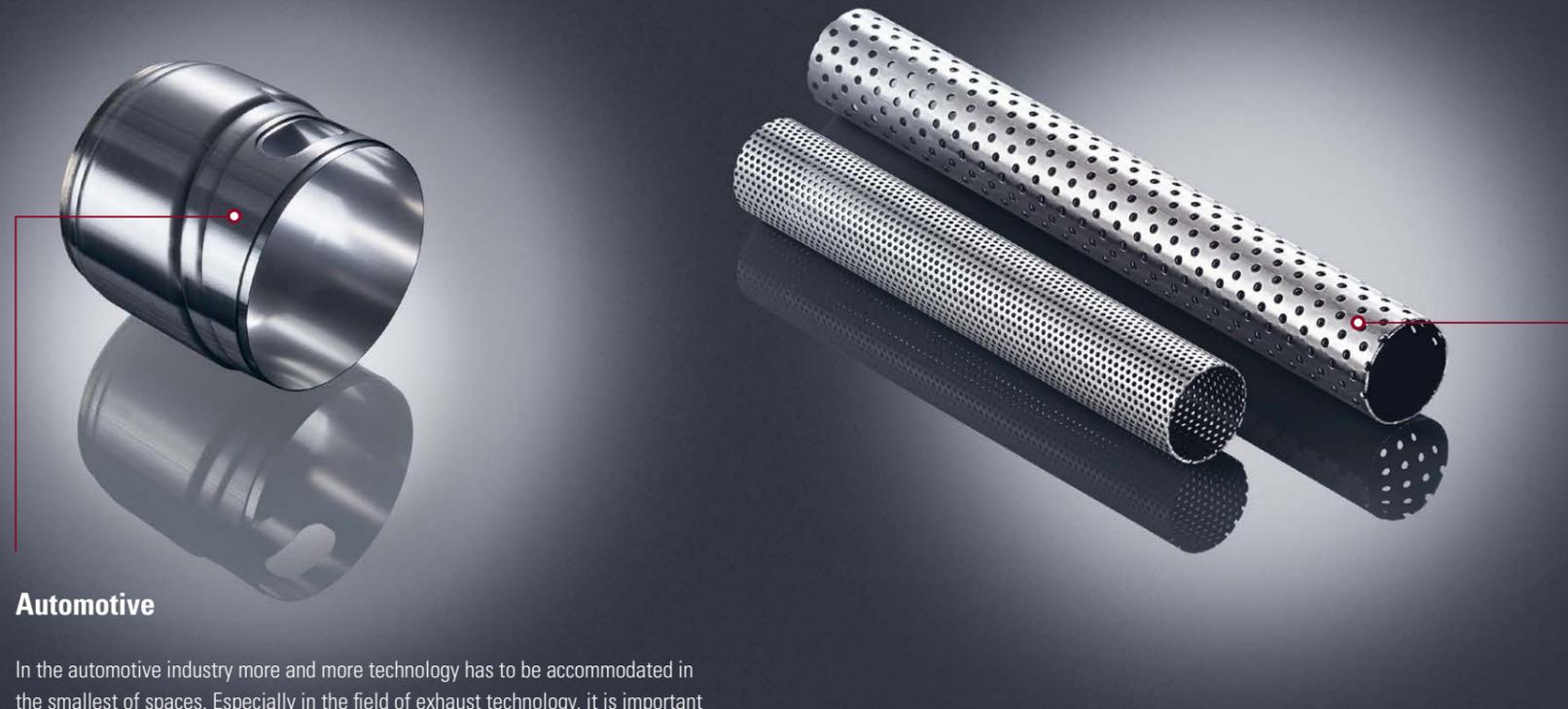
**"Globally uniform fischer quality through machines and processes developed in-house and optimized continuously."**



# Multipurpose applications

## Stainless steel tubing, components and technologies for the industries of the world

fischer stainless steel tubing has made a name for itself over the decades and made the fischer group the leading global supplier. The high-strength, temperature and corrosion resistant tubes are preferred components and semi-finished products in many industries and industrial applications nowadays.

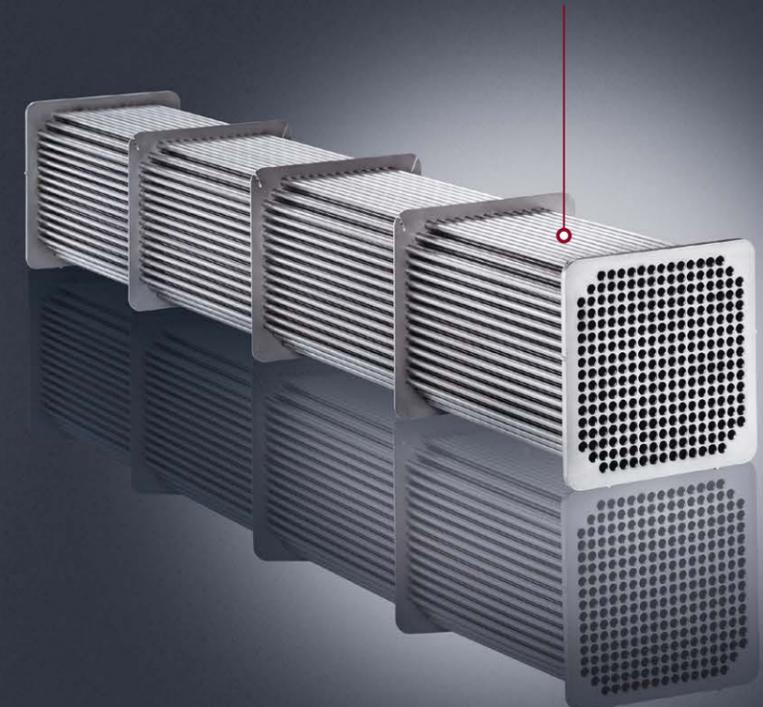


### Automotive

In the automotive industry more and more technology has to be accommodated in the smallest of spaces. Especially in the field of exhaust technology, it is important to develop intelligent designs that also meet the high physical demands of mechanical stress, heat and corrosive influences. The fischer group offers convincing solutions for this.

## Heat exchanger tubes in plant engineering

Special fischer heat exchanger tubes are used, among other things, for heating, cooling and reheating liquids, gases or air in a wide variety of industries. fischer tubes are the first choice where liquids and gases have to be transported safely.



### Process industry and energy supply

In power plants, energy supply and the process industry, alloyed steel tubes and components in particular are exposed to the highest loads. The fischer group develops, manufactures and supplies you with the right components for these requirements: highly corrosion-resistant, with the best mechanical and physical properties in ideal material grades, appropriate diameters and lengths.

# Successful in many industries

## Where fischer tubes and components are used

High quality materials, processed in special fischer quality, provide sustainable solutions in many industrial applications around the world. Reliable in the long term, even under the most adverse conditions.

The range of applications for our tubes and components extends from the automotive industry to applications in the chemical and food industries, from energy supply to the household sector – and many more.



**“With the unique fischer quality and the competence in customized solutions fischer is finding satisfied customers in more and more industries.”**

### Automotive industry

- Exhaust systems
- Frame and structural components
- Components close to the engine
- Tank systems
- Alternative drives

### Oil and gas

- Line pipes
- Supply lines
- Riser pipes

### Sanitary

- Drinking water pipes
- Water treatment
- Swimming pool and sanitary facilities

### Household appliances and electrical industry

- Pipes for domestic water stations
- Heaters for kitchen appliances
- Vacuum cleaner tubes
- Linkage for commercial kitchen appliances

### Equipment and plant construction

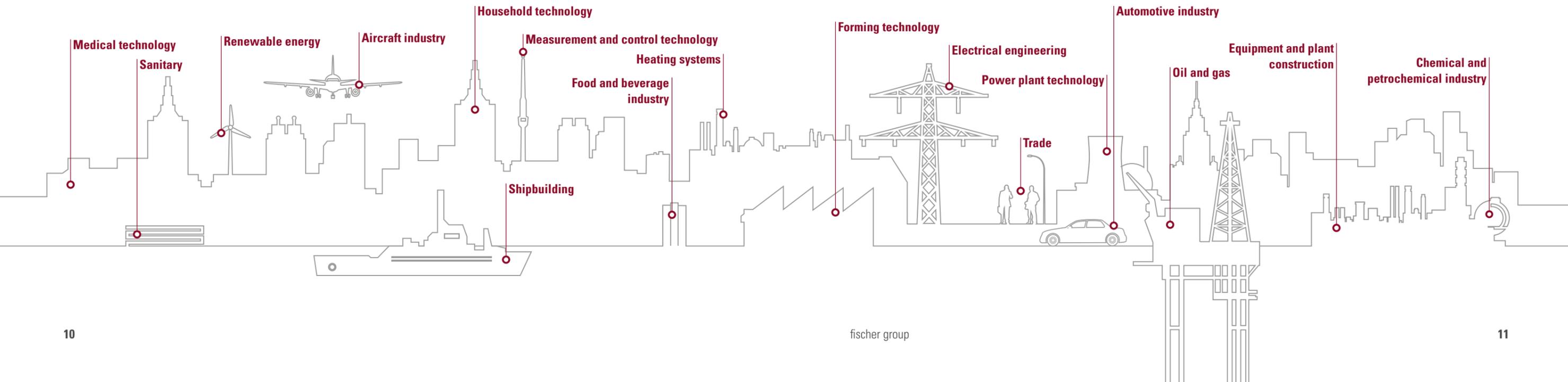
- Condensers
- Preheater tubes
- Process measuring and control technology
- Heat exchangers

### Trade

- Stock replenishment
- Individual orders
- Special geometries
- Project business

### Chemical and petrochemical industry

- Bundle tubes for hydraulic lines
- Equipment and heat exchangers



# Beyond the standard

## Extremely durable, very thin-walled tubes are our specialty

At fischer, material, wall thickness, diameter and length are precisely tailored to the necessary requirements. Beyond the standard in particular, fischer can fully leverage its special competence in process engineering and the implementation of individual requirements.

### Specialty: extreme wall thickness / diameter ratios

A special focus of fischer stainless steel tube production is on particularly thin-walled tubing with a low wall thickness / diameter ratio.

#### Material groups

Always the appropriate material

- Austenitic
- Ferritic
- Super ferritic
- Duplex
- Super duplex
- Nickel base
- Titanium

# Individually developed, intelligently produced

## Components and subassemblies made from special tubes

The fischer group develops individually formed components and complex subassemblies from high-strength fischer tubes according to customer requirements. Supplied parts, such as plastic parts or similar, can be integrated and subassemblies can be delivered ready for installation. For large series we rely on fully automated progressive production processes.

### Components

- Components based on round tubes
- Components made of thin-walled tubes
- Components made of calibrated square, rectangular and profile tubes
- Metal bellows
- Components with multiple wall thicknesses
- Components with structured surfaces
- Perforated components
- Hydroformed components

### Subassemblies

- Shells and connecting elements  
Double-walled, air-gap insulated shells for particulate filters or catalytic converters
- Housing with connections  
Complex housing, e.g. exhaust gas cooler housing with all connections and mounting brackets
- Reshaped tubes  
Automotive fuel rails, high pressure lines, fluid lines and process tubes for oil and water cooling circuits

# Fischer Innovation Center

## Rethinking the future

With the fischer Innovation Center (FIZ), the fischer group has created its own development center for innovative and future-proof solutions. Here a wide range of functional specialists work together across functions and locations to address the challenges of the future. Through the targeted combination of fischer's international core competencies in research & development, product management, quality management and business development, new ground is being broken. This results in innovative solutions for the future requirements of customers, legislation and politics and of society as a whole.

Everything to meet the challenges of tomorrow and beyond as effectively as possible.

- Completion in 2022
- 23 employees
- Cross-functional team
- Testing/Process development/Prototyping
- Simulation/Engineering

E-mobility



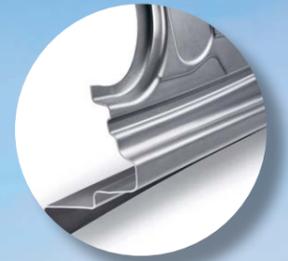
Hydrogen power



Emissions reduction



Lightweight construction



**"Innovations secure our future."**

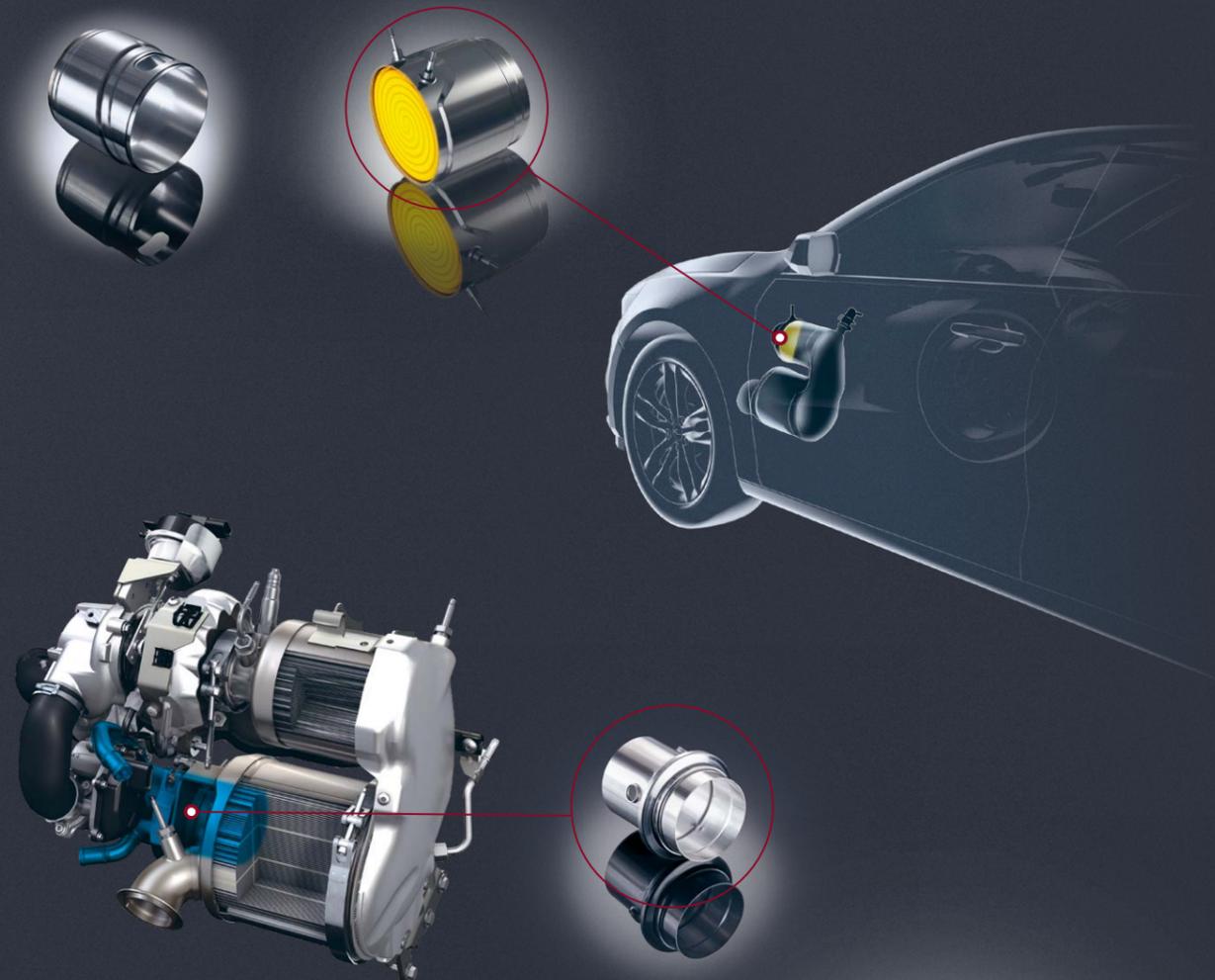
Dieter Oberacker, Head of FIZ



# Efficiently reducing emissions

## Double-walled electrically heated catalytic converters

To achieve the planned Euro 7 emissions standard, there is an increasing focus on heated catalytic converters. The reason for this is to bridge phases (e.g. cold start phase) in which the exhaust gas temperatures in the system are too low to ensure the desired functionality of the catalytic converter. fischer makes its contribution to emission reduction with its double-walled, air-gap insulated housings.



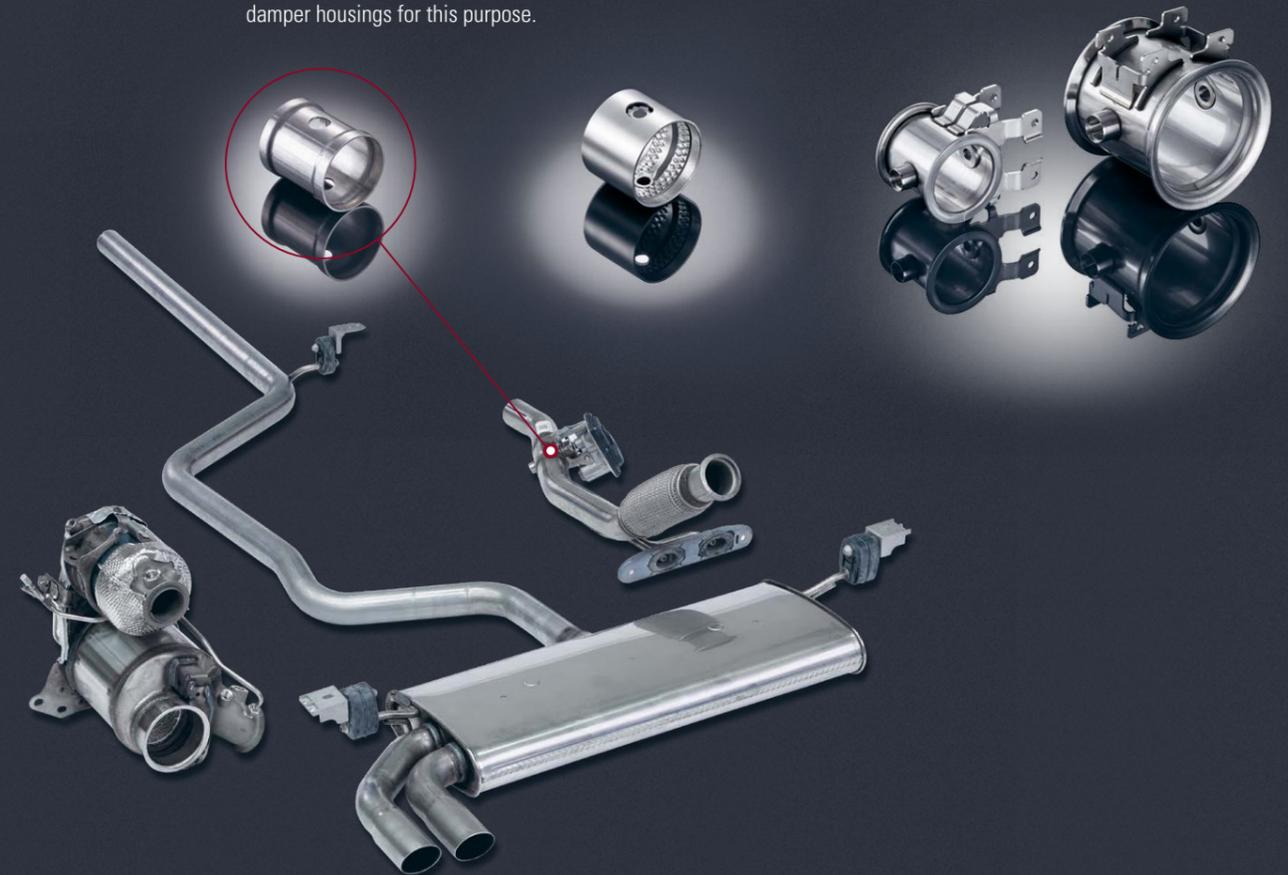
## Exhaust gas recirculation cooler

Partial recirculation of exhaust gases into the fuel combustion chamber is an important measure for reducing nitrogen oxide (NOx) emissions. Cooling, ensured by means of exhaust gas recirculation coolers, is crucial for effectiveness. fischer's contribution includes the manufacture of appropriate cooler housings.



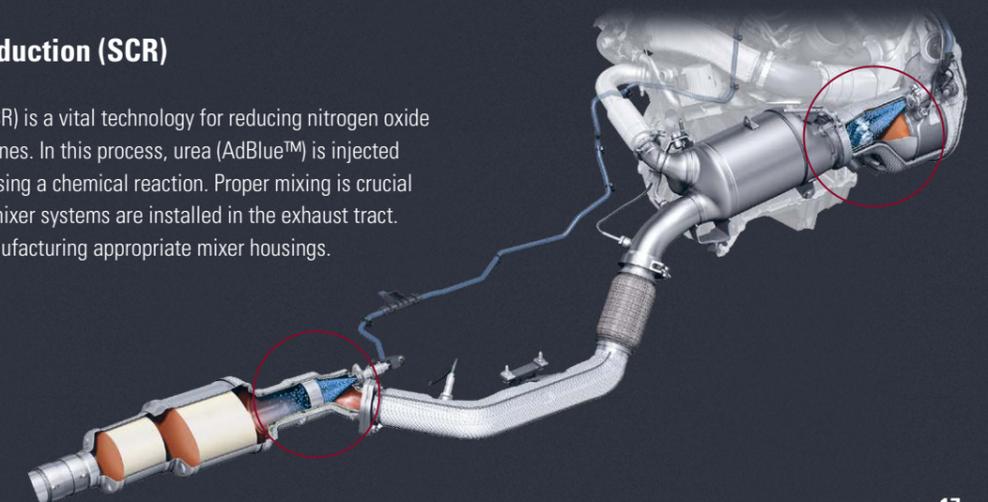
## Exhaust dampers

A key component in modern exhaust systems is the exhaust damper. Depending on the application, it fulfills several functions that serve to reduce emissions. Whether for generating dynamic pressure in the case of exhaust gas recirculation or for thermal management, primarily in light to heavy commercial vehicles. fischer manufactures different variants of exhaust damper housings for this purpose.



## Selective Catalytic Reduction (SCR)

Selective Catalytic Reduction (SCR) is a vital technology for reducing nitrogen oxide (NOx) emissions from diesel engines. In this process, urea (AdBlue™) is injected into the exhaust gas stream, causing a chemical reaction. Proper mixing is crucial for effectiveness, which is why mixer systems are installed in the exhaust tract. fischer contributes to this by manufacturing appropriate mixer housings.



# Sophisticated processes for complex shapes

## Hydroforming: infinite variety of shapes under high pressure

Internal high-pressure forming (IHU) or hydroforming not only enables tube forming into complex three-dimensional shapes. Often it is possible to save further joining steps such as soldering or welding and to create a one-piece product with very good strength values via hydroforming. Hydroforming has established itself in many industries, from exhaust manifolds to solar plants, from designer phones to aerospace applications. The fischer group has been offering hydroforming since 2001. Since 2007, the fischer group has been one of the world's leading hydroforming providers and is the technology leader in hydroforming in Germany.



### Advantages of hydroforming

- Economical solutions for tubes with high requirements
- Complex geometric progressions as well as cross-sectional and circumference enlargements
- Cost reduction through the use of thin-walled tubes and replacement of several work steps
- High dimensional and shape accuracy
- High repeatability



### Further processing steps

Ready to meet any demand

- Laser welding
- Laser cutting and contour cuts
- Bending
- Hydroforming
- Other shaping processes
- Other joining processes
- Heat treatment
- Surface Treatment
- Aluminum hot forming



# Innovative lightweight construction with aluminum hot forming

## HFQ®: sophisticated geometries combined with maximum strength

HFQ® (Hot Form Quench) technology opens up completely new possibilities for processing precipitation hardening 6xxx and 7xxx aluminum alloys. Thanks to the new technology, complex components with large drawing depths and tight radii can now be produced with these high-strength materials. Components or subassemblies previously manufactured in several stages or individually assembled can be easily and cost-effectively formed in a single pass. By eliminating previously unavoidable springback effects, the tightest tolerances can be achieved even in large series. Aluminum hot forming therefore opens up new possibilities for innovative lightweight construction.



### Versatile in use

- Structural bodywork components in vehicle manufacturing
- Rigid components in aircraft manufacturing
- High-strength lightweight structural components for e-mobility
- Consumer electronics



# Energy for the future

## Sustainable system solutions for energy storage

fischer Power Solutions complements the fischer range with high-performance lithium-ion batteries, a forward-looking energy storage technology. The battery system impresses with its high efficiency, long service life and maximum safety. Equipped with a highly efficient liquid cooling method, the systems are suitable to temporarily supply power independent of the main grid.



### Liquid-cooled battery system for energy storage:

- Homogeneous temperature distribution amongst battery cells for long service life
- Thermal overload prevention for safe operation
- High performance suitable for continuous ultra-fast discharging

**“The future of energy supply is one of the key issues of our civilization. With fischer Power Solutions we are pleased to make a contribution towards it.”**

# Quality by conviction

## Part of the company's identity right from the start

The fischer group lives up to extraordinary quality standards in all areas of the company. Internationally recognized quality management systems and certifications are an expression of this fundamental conviction. All fischer tubes are continuously tested for the highest standard-compliant quality. All common destructive and non-destructive test methods and corrosion tests are used. Additional customer-specific test procedures can be carried out on request.



ISO 9001:2008 | ID:0910170483



WZ 520 HH 4



Interessengemeinschaft  
Regelwerke Technik (IGR) e.V.

### Non-destructive tests

- Eddy current
- Ultrasound
- Air under water
- Dimensional inspection and length measurement technology
- Surface inspection (roughness)

### Corrosion tests

- Intercrystalline corrosion test
- Check for corrosion residues
- G48 test

### Destructive tests

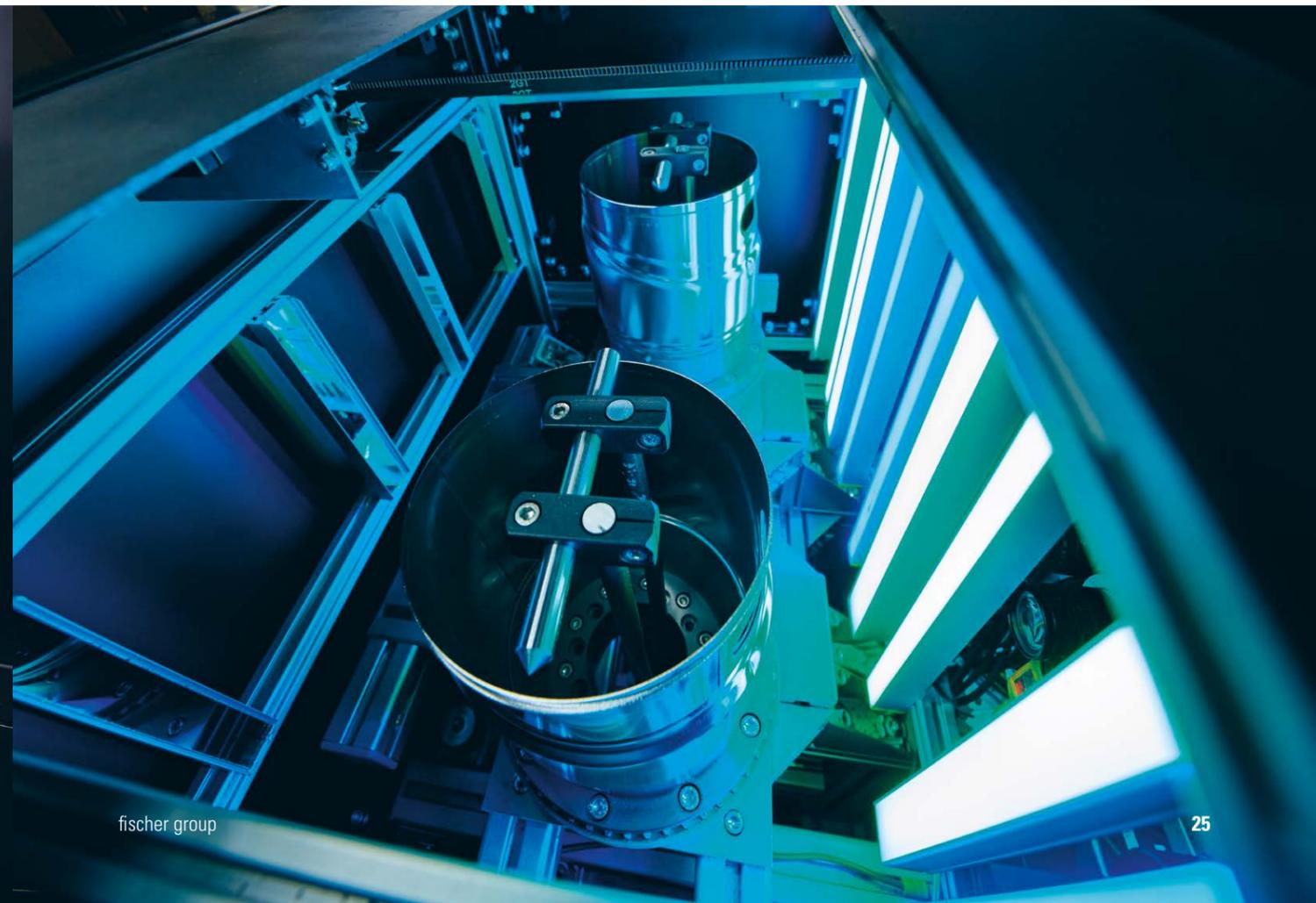
- Chemical analysis / spectral analysis
- Tensile test
- Drift expanding test
- Technological tests
- Hardness testing
- Metallographic inspection

### Standards

- DIN EN 10204  
Acceptance test certificates for metallic products
- DIN EN 10236-2  
Welded steel pipes for general service
- EN 10217-7  
Welded steel tubes for pressure purposes
- AD 2000 data sheet W2  
code of practice for the construction of pressure vessels
- ASTM A249 / ASME SA249M
- ASTM A312 / ASME SA312M
- ASTM A789 / ASME SA789M

### Certifications and approvals

- DIN EN ISO 9001:2015  
Internationally recognized standard for quality management
- IATF 16949  
International quality standard of the automotive industry
- DIN EN ISO 14001  
Internationally recognized standard for environmental management
- DIN EN ISO 50001:2018  
Internationally recognized standard for energy management
- DIN EN ISO 3834-2  
Tested welding quality at the highest level
- Certificate AD 2000 Leaflet W0 Welding  
Competence for pressure vessels and piping systems
- Material manufacturer according to Directive 2014/68/EU – EN 764-5:2014
- H2 Readiness according to TÜV SÜD test standard



# Shaping the future together

## Optimize your sustainable solutions right from the start

Let us tackle the challenges for your sustainable product developments together. With us you will find the accumulated international know-how from more than 50 years of development and production of the highest quality tubing, complex components to innovative shaping technologies and sophisticated battery technology for a clean energy future.

With more than 18 companies in eight countries, the fischer group offers you the best prerequisites, nationally and internationally, and in a wide range of industries.

## From idea development to series production worldwide

The earlier we talk to each other, the better we can take all requirements into account and think all scenarios through to their logical conclusion. This is how we bring your new ideas to series production readiness – and to all markets around the world.

## Talk to us

### Automotive

Your contact for innovative ideas for the future of the automobile



**Marc Maushart**  
Head of Sales Automotive  
Phone +49 7841 6803-617  
marc.maushart@fischer-group.com

### Industry & Trade

Your contact for the highest quality standards in industry and trade



**Manfred Seewald**  
Sales Director Industry & Trade, Authorized Representative  
Phone +49 7841 6803-809  
manfred.seewald@fischer-group.com

### Power Solutions

Your contact for all questions about our battery systems and solutions

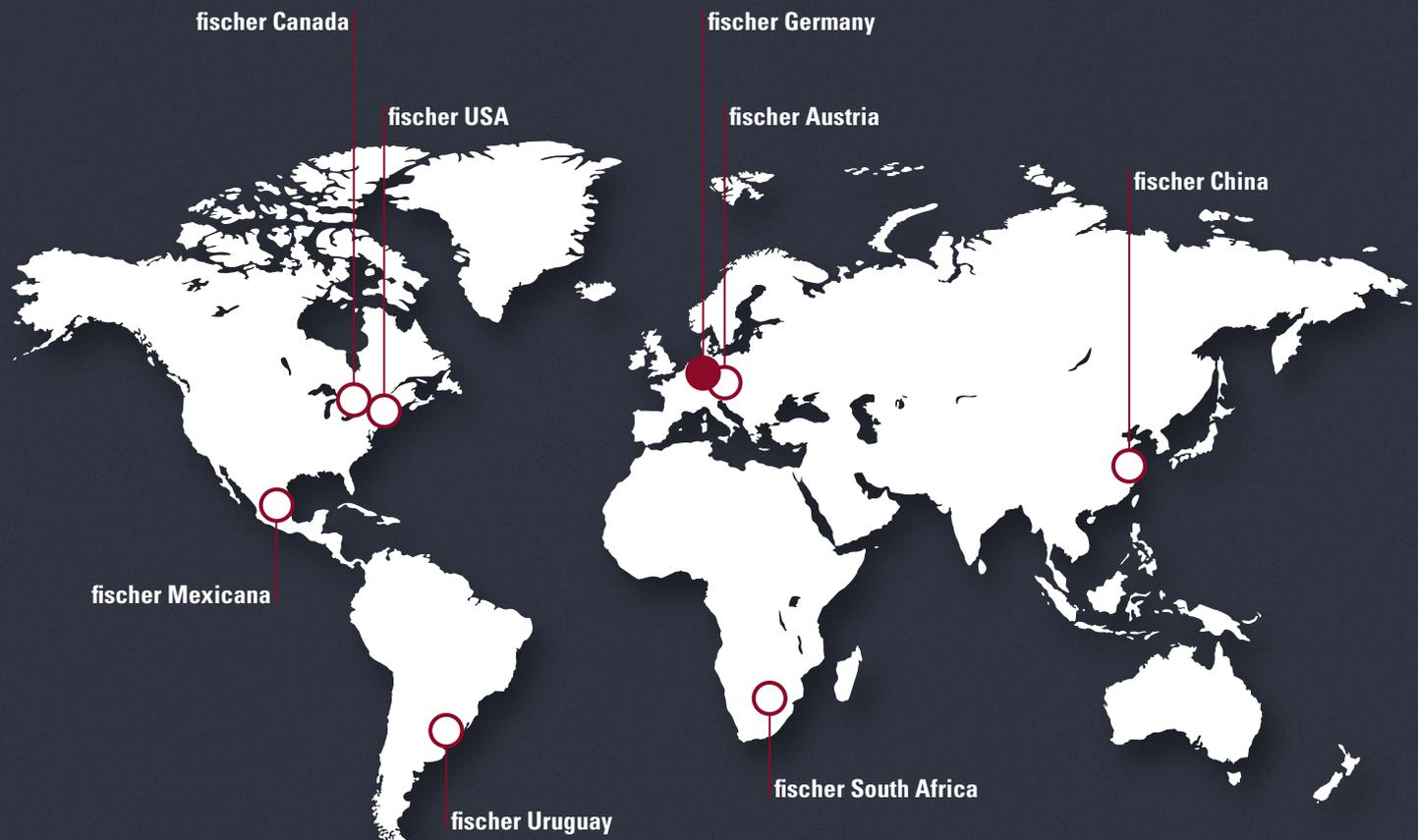


**Dr. Michael Kühner**  
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# All around the world

## The fischer group and its international locations



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