

HAILIANG





Headquarter is located Hangzhou City,
Zhejiang Province, China.



**FORTUNE GLOBAL
500 COMPANY**

**CHINA TOP 500
ENTERPRISES**

**CHINA TOP 500
PRIVATE ENTERPRISES**

1995
Established Hailiang Education Group

2008
Shenzhen Stock Exchange (002203.SZ)

2019
Become a Fortune 500 company

2025
Entered the Fortune Global 500 for five years

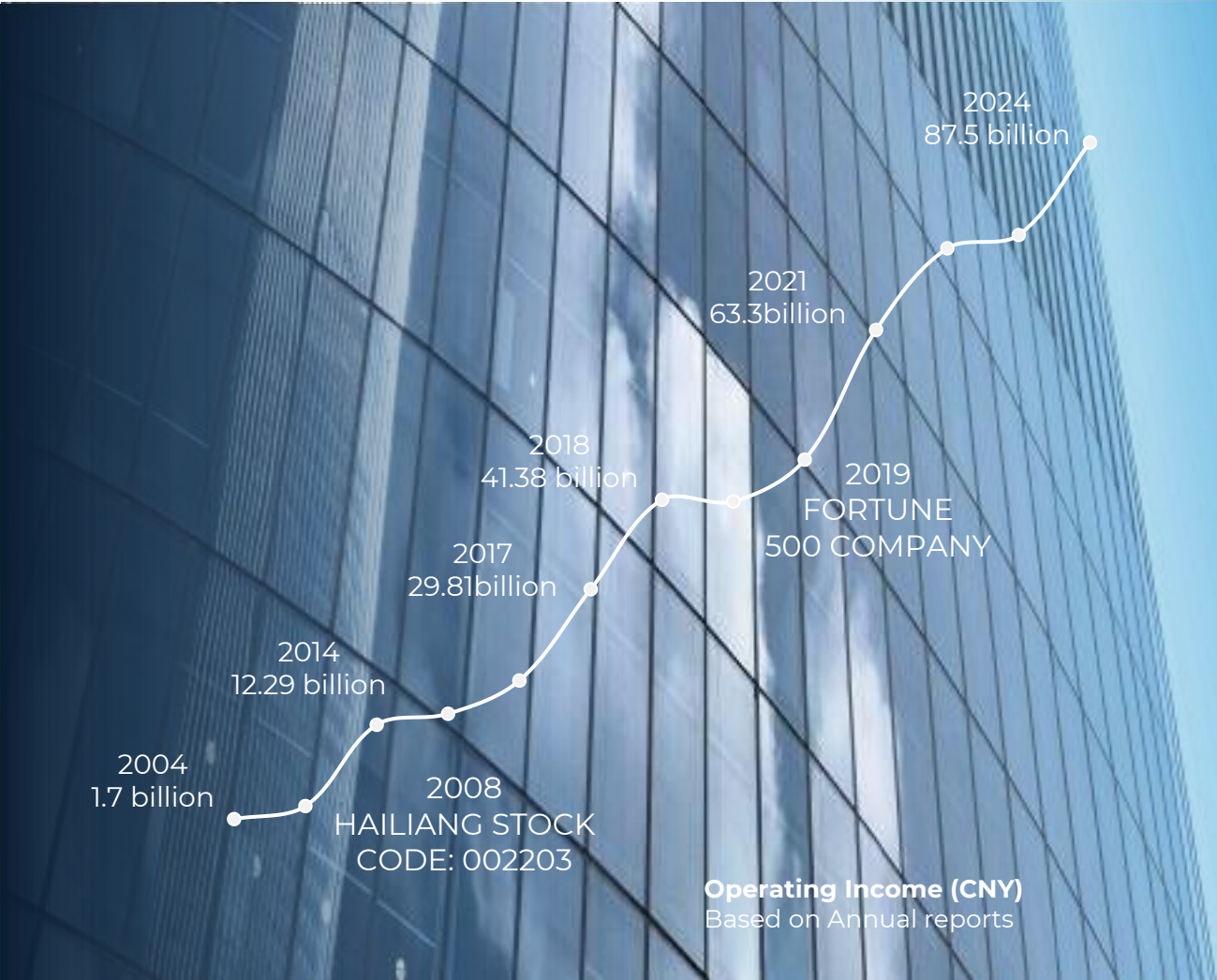
1989
HAILIANG was founded in Zhuji, Zhejiang

2004
Selected as top 500 Chinese enterprises

2012
Create an agricultural group

2020
Foundation of Mingde Academy





By 31 December 2023, the total asset of Zhejiang Hailiang Co., Ltd. reached 40.405 billion yuan, with 14.077 billion yuan of net asset belonging to the shareholders of the listed company.

In 2023, the company generated 75.60 billion yuan of total revenue and 1.118 billion yuan of net profit belonging to the shareholders of the listed company.

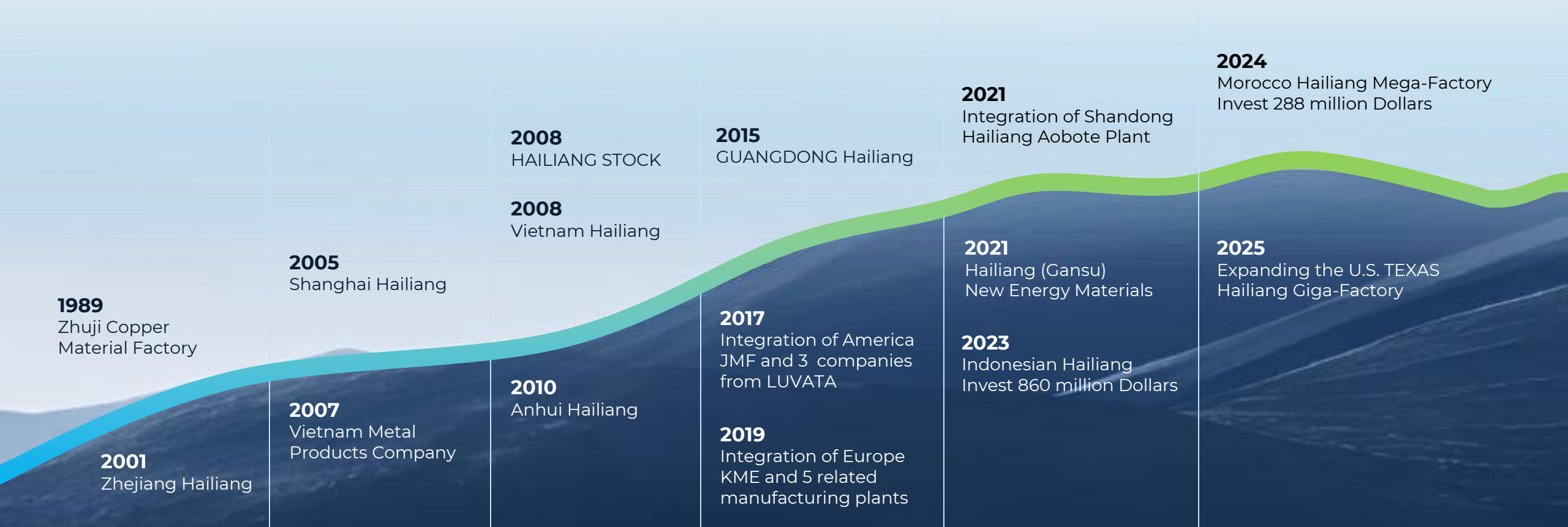
Production And Sales In 2024

1,008,400 ^{Tons}

Operating Income Of 2024

¥ 87.5 ^{Billion}

Operating Income (CNY)
Based on Annual reports





442

Fortune Global 500



340+

Master's degrees or Higher



130+

Global Footprint



10,000

Long-term Clients



16 years

China #1 Exporter for Copper
Tube product



90%

Equipment developed
through proprietary R&D



SINCE

2001

Dual-driven domestic-
international trade



80%

Led formulation of 80%
national/industry standards



9,000+

Global
Headcount

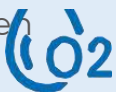
844

Patents/Software
Copyrights



80%

Product certified as
low-carbon/green



6819 Mkwh

Photovoltaic Annually
Generation



An aerial view of the Earth from space, showing a network of glowing white lines connecting various points across the globe, symbolizing a global supply chain or network. The sun is visible on the right side, creating a bright glow and lens flare effect.

HAILIANG® ROBUST GLOBAL SUPPLY CHAIN

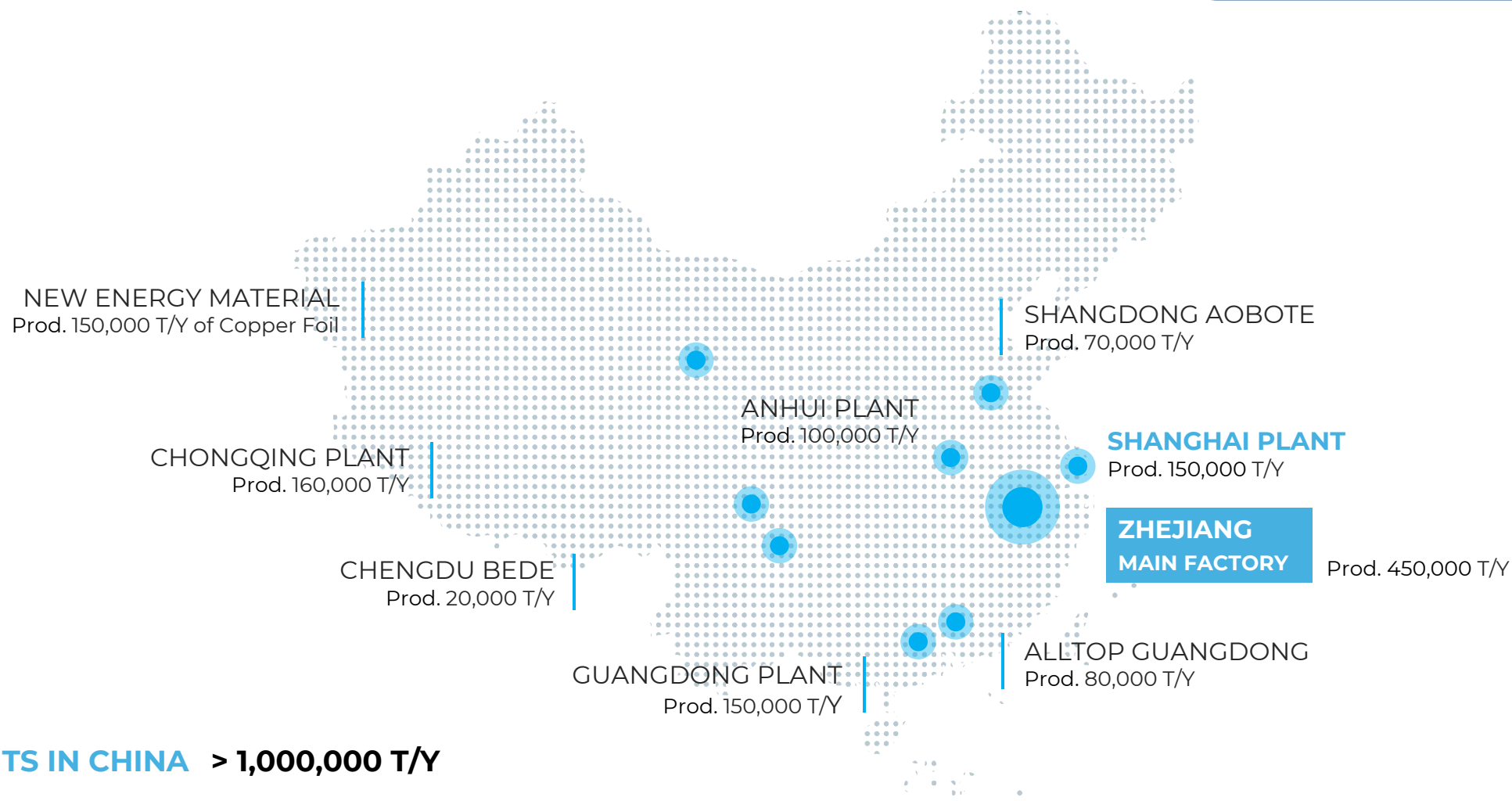
Wherever our clients are, our globally established, robust supply chain system stands ready to deliver.

HAILIANG® EXTENSIVE PRODUCT PORTFOLIO

We are committed to responding promptly to the individual needs of global customers.

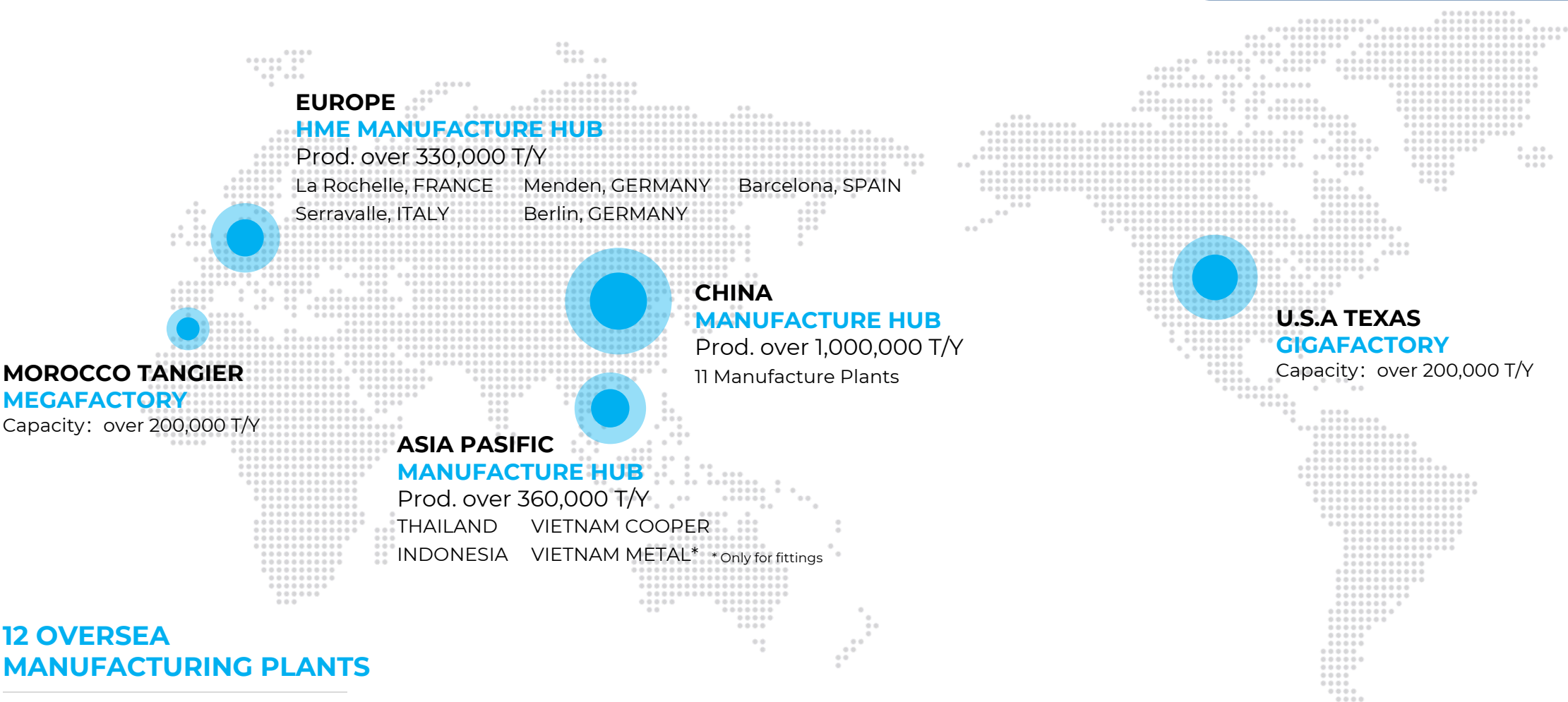
HAILIANG® ADVANCED TECHNOLOGY

Where there's new technology, Hailiang is there - not just conducting current but delivering the future.



12 PLANTS IN CHINA > 1,000,000 T/Y





MOROCCO TANGIER
MEGAFACTORY
Capacity: over 200,000 T/Y

**12 OVERSEA
MANUFACTURING PLANTS**

Production Capacity is over 600,000 T/Y





**18 WORLDWIDE
SERVICE OFFICES**

Provide High-level service for over 10,000 worldwide customers





HAILIANG® ROBUST GLOBAL SUPPLY CHAIN

Wherever our clients are, our globally established, robust supply chain system stands ready to deliver.

HME COPPER GERMANY - MENDEN PLANT

- Location: Carl-Benz-Str. 13, D-58706, Menden, Germany
- Total Size of Area: 78.000 m²
- Annual capacity: 50,000 tons



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HAILIANG SHANGHAI

- Established: July 2005
- Total Investment: US\$ 100 million
- Site Area: 230,000 square meters
- Current Production: Total capacity of 200,000 tons by 2025.



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HAILIANG AMERICA CORP.

- Established: 2009
- Service Office: Leesport, Pennsylvania
- Headsquare: Diamond Bar, California

HAILIANG COPPER TEXAS INC.

- Established: October 2018
- Industrial Park: 200 acres (Built-up Area: 928,000 sq.ft.)
- Copper Tube Plant: 432,970 sq.ft.
- Cumulative investment reached USD \$150 million as of Dec. 2024



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LOYAL HAILIANG COPPER THAILAND

- Integration: 2017
- Global Headcount: 420 employees
- Site Area: 86,400 square meters
- Current Production: Total capacity of 60,000 tons by 2025.



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HAILIANG VIETNAM COOPER

- Established: 2007
- Total Investment: US\$ 100 million
- Site Area: 200,000 square meters
- Current Production: Total capacity of 100,000 tons by 2025.

HAILIANG has simultaneously accumulated a large group of high-quality and stable customers in both domestic and overseas, establishing a long-term business cooperation relationship with **over 10,000 customers in 188 countries and regions worldwide.**

 大金空调		 格力			 奥克斯	 日立		
 三菱重工	 三菱电机							 夏普
	 盾安环境	 汉斯格雅	 科勒		 海鸥住工	 林内	 英格索兰	 正泰
 上海电气	 特变电工	 PRESTON ELECTRIC	 台达		 宁德时代		 吉利汽车	 广汽集团
	 蜂巢能源	 阳光电源	 赣锋锂业	 海辰新能源	 朗晖	 中天科技	 多氟多	





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HAILIANG 6 MAIN PRODUCTS

PART IV. EXTENSIVE PRODUCT PORTFOLIO



ALUMINUM PIPE

A large-scale domestic production base has been established, featuring comprehensive product lines and a stable supply.



COPPER PIPE/ROD

The production and sales volume of 900,000 tons
Ranks first in the world



COPPER BAR

Production and sales volume of 33,000 tons
Ranks second in China



COPPER FITTING

The production and sales volume of 12,000 tons
Ranks first in China



COPPER FOIL

A globally spanning copper foil supply chain network has taken initial shape.





COIL

STRAIGHT TUBE

FITTINGS

BUSBAR

ROD

FOIL

ALUMINUM

INNOVATION

LEVEL WOUND COPPER COILS

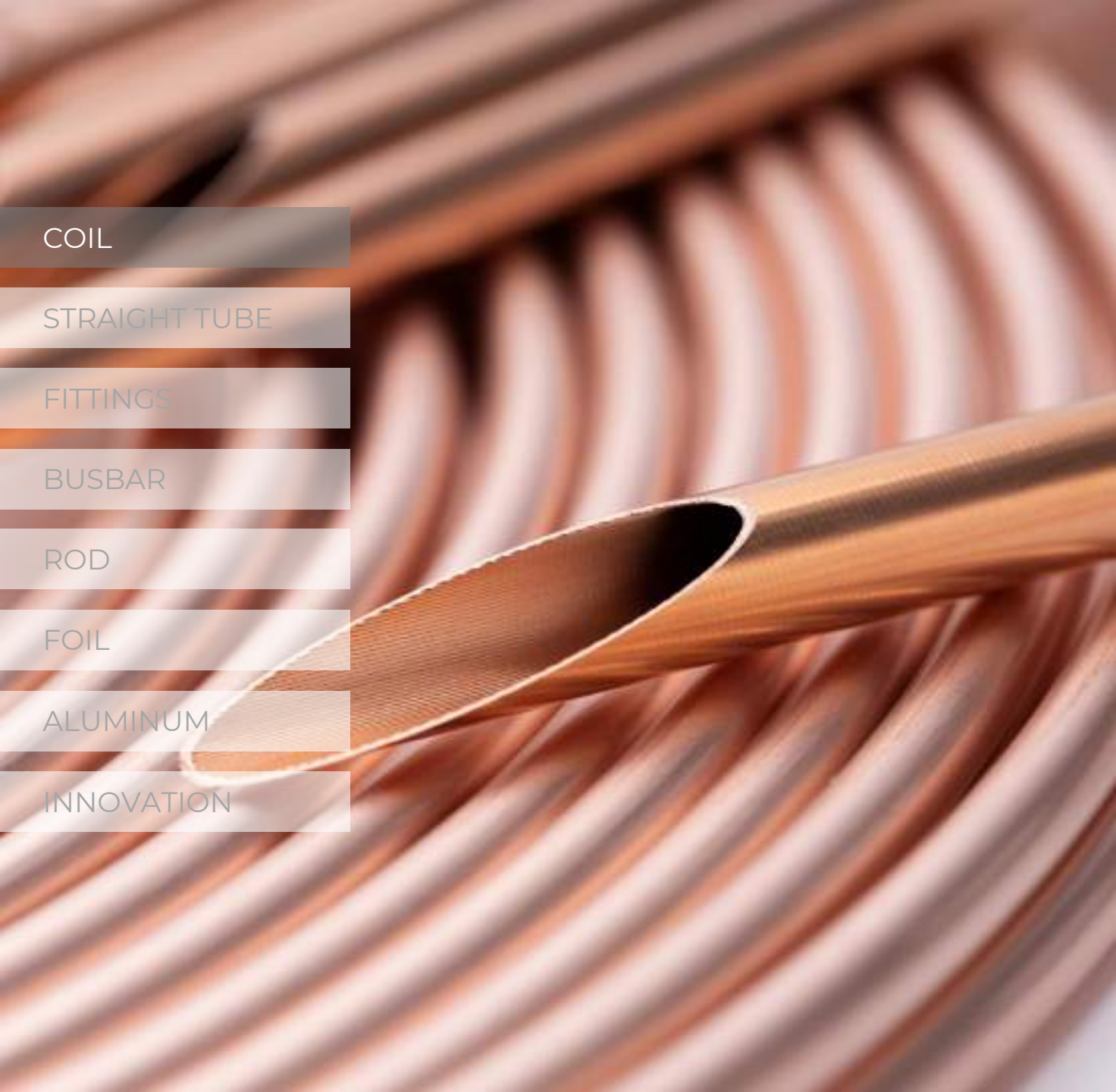
The coils production range covers a full series of capabilities from $\phi 4\text{MM}$ to $\phi 30\text{MM}$.

The advantages of this process include achieving high material yield and production efficiency while ensuring advanced manufacturing techniques and enhancing the stability of product quality.

Hailiang is one of the few manufacturers with **full-series production capabilities** ranging from $\phi 4$ to $\phi 219$, with large-diameter production technology.

Product Features

- Excellent thermal conductivity, corrosion resistance, and pressure resistance
- Easy to weld, strong plasticity, and easy to process into various shapes
- High cleanliness on both internal and external surfaces, ultra-glossy finish, and low residual contaminants on inner surfaces.



COIL

STRAIGHT TUBE

FITTINGS

BUSBAR

ROD

FOIL

ALUMINUM

INNOVATION

INNER CROOVED TUBE

An internal thread refers to a copper tube with a smooth outer surface and an inner surface featuring a specific number of regularly arranged threads.

Product Features

- Excellent thermal conductivity, corrosion resistance, and pressure resistance
- Easy to weld, strong plasticity, and easy to process into various shapes
- High cleanliness on both internal and external surfaces, ultra-glossy finish, and low residual contaminants on inner surfaces.
- Uniform and dense structure, full tooth profile, and high dimensional accuracy.

Applications

- High-efficiency, energy-saving, and environmentally friendly evaporators and condensers for air conditioning and refrigeration equipment.
- High-performance CPU heat sinks for computers.

COIL

STRAIGHT TUBE

FITTINGS

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ROD

FOIL

ALUMINUM

INNOVATION



COPPER STRAIGHT TUBE

Copper, with a copper content of over 99%, has excellent ductility and is easy to process into various shapes.

Copper tubes are widely used in refrigeration, plumbing, and electromechanical industries.

Copper refrigeration tubes have excellent thermal conductivity, are easy to process, simple to weld, and have a long service life. Copper plumbing tubes have excellent bactericidal properties for drinking water, a service life of up to 100 years, and are nearly 100% recyclable.

Pure copper has excellent electrical conductivity and is widely used in power, electric furnaces, and nuclear power industries.

Applications

- Direct sales products, mainly used in T2 series conductive components and conductive tubes.



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ALUMINUM

INNOVATION

COPPER ALLOY TUBE

- Brass Tube
- Bronze Tube
- Copper Nickel Tube
- Aluminum Bronze Tube
- Copper Iron Tube

Applications

- To address the diverse practical needs of our clients across various operating conditions.



COIL

STRAIGHT TUBE

FITTINGS

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ROD

FOIL

ALUMINUM

INNOVATION

COPPER/BRASS FITTINGS

Copper fittings include:

- Brazed Fittings ASME-AS-EN
- Press Fittings ASME-AS-EN
- DW Drainage Fittings ASME
- Tinned Fittings EN

Brass fittings include:

- PEX fitting
- Threaded fitting
- Socket fitting
- Aluminum-plastic composite or press fitting
- Compression fitting
- Refrigeration fitting
- Gas fitting
- Garden hose fitting
- Ring fitting
- and electronic and communication fittings.

They are widely used in plumbing, HVAC, refrigeration, gas, medical gas, garden irrigation, nuclear power engineering, and electronic communication technology fields.



COIL

STRAIGHT TUBE

FITTINGS

BUSBAR

ROD

FOIL

ALUMINUM

INNOVATION

COPPER BAR

We have **various sizes** of customized copper busbars and **special-shaped** copper busbars: rods and oxygen-free copper rods with high-purity, high-conductivity.

Special-shaped copper busbars with high-purity and high-conductivity

Widely used in battery system of new energy vehicle, electricity, power transmission and other industries.

Extrusion Copper Bar

Produces copper bar coils with or without workpiece tray in the range of $\phi 6.6 \sim \phi 30\text{mm}$, with weights of 0.8~4 tons.

Meeting customers' needs for deep processing of special cables, electric-powered equipment and metals.

Deep processing capability

Tin-plated products with customized length $\leq 6.1\text{m}$.
Direct supply of finished busbar and end parts.



COIL

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ALUMINUM

INNOVATION

COPPER ROD/BRASS ROD

Common Brass Rods are available in liquid and solid forms, mostly lead brass, covering national, Japanese, American, and European standards.

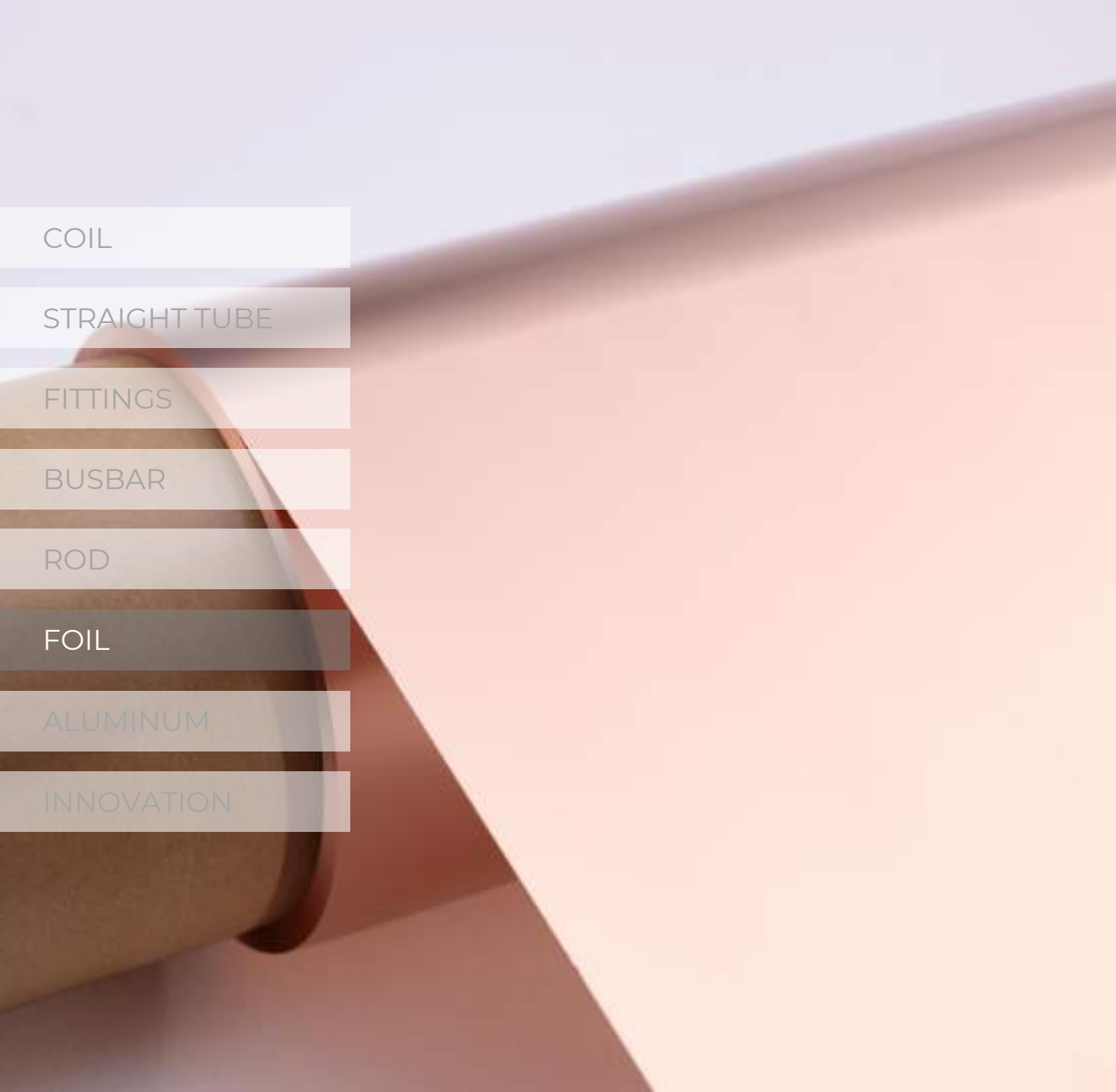
They are often used in hot-forged hardware components, such as plumbing and bathroom fittings.

Lead Brass Rods are solid-formed extruded bars. They have high dimensional accuracy and excellent mechanical and machining properties.

It's widely used in electronics, automotive, shipbuilding, aerospace, and other fields.

Lead-Free Free-Cutting Brass Rods include common brass series, bismuth lead-free series, silicon lead-free series, and tin brass series.

They are suitable for automatic and CNC lathe processing, meeting ecological and health safety requirements, such as electronics, telecommunications, electrical connectors, fittings, hardware, photography, home appliances, and drinking water engineering components.



COIL

STRAIGHT TUBE

FITTINGS

BUSBAR

ROD

FOIL

ALUMINUM

INNOVATION

COPPER FOIL

MAIN PRODUCT SERIES

- Conventional Cu Foil
- Li-ion Cu Foil
- RTF Reverse Treated Foil
- VLP Very low Profile Foil

our product portfolio also includes:

- 3.5 μ m Ultra-Thin Foil
- High Uniformity Foil
- Low-Carbon Eco-Friendly Foil
- Ultra-High-Strength Foil
- Porous Copper Foil
- Composite Current Collector Foil



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INNOVATION

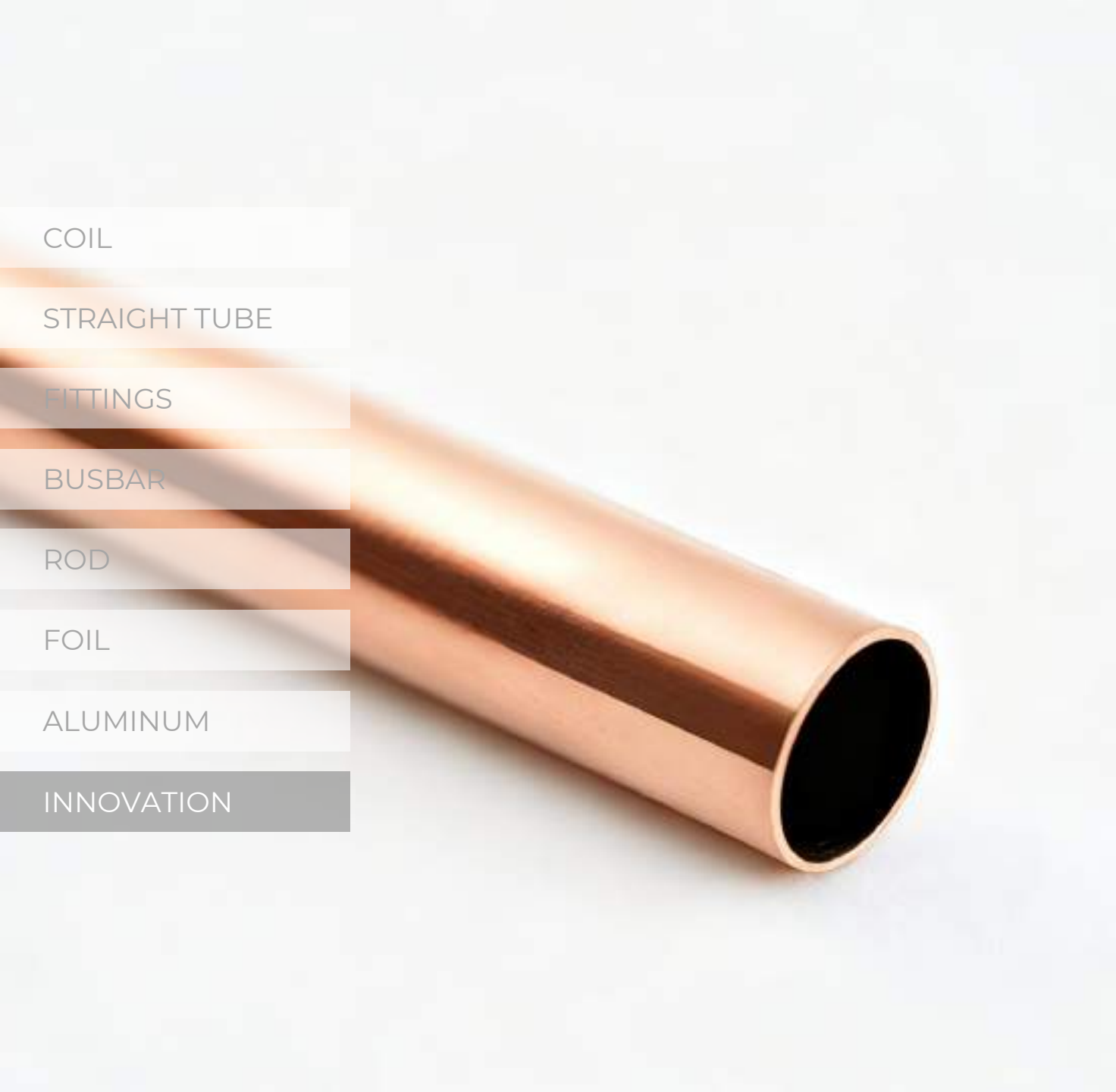
Tips:

Radiator Tube Adopts the domestic leading process to ensure product consistency. Compared with the counterparts, it is characterized by large width, thin wall thickness, more holes and high surface smooth.

ALUMINUM TUBE

MAIN PRODUCT SERIES

- Rifled Tube
- Round Coils/Tube
- Microchannel Flat Tube
- Radiator Tube



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ALUMINUM

INNOVATION

TUBE FOR HIGH PRESSURE INSTALLATIONS

- max. working pressure = 130 bar
- Slim version = 80 bar possible
- Material temper: R300 / R420 (depending on tube Diameter) acc. to EN 12735-1
- Working temperature: -100°C up to 150°C

Applications

- These tubes are adapted for high pressure installations, in particular for the cooling agent CO_2



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ALUMINUM

INNOVATION

HAILIANG® HIGH STRENGTH TUBE

High Strength Tube - HST provides a Comprehensive Range of Cost Efficiency Solutions for your Product

■ SYNERGISTIC OPTIMIZATION OF STRENGTH AND PLASTICITY

The High Strength Tube exhibits **an 8-15% increase in average tensile strength (R_m)**, proof strength at 0.2% offset ($R_{p0.2}$), and proof strength at 0.5% total extension ($R_{t0.5}$), while its elongation after fracture (A) is 5-8% higher than TP2 tube.

■ GREAT COST EFFICIENCY - **REDUCE 10% OF MATERIAL USE**

By reducing the wall thickness while maintaining the pressure resistance, the weight per unit length of the copper tube could be visible reduced. This results in an average material saving of 12% for LWC and 7.5% for IGT

■ DESIGNED FOR HIGH-PRESSURE REFRIGERANT COOLING SYSTEM

The increase in tensile strength enhances the pressure resistance of the tubing, meeting the design requirements of cooling systems within new high-pressure refrigerant.



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China Grand Awards for Industry

Research on Low Carbon Intelligent Manufacturing Technology and Equipment for Precision Copper Tubes

■ 2020

Single-line annual output of 80,000 tons of automated multi-specification copper alloy bar (continuous casting).

■ 2021 5th Generation of intelligent manufacture

Intelligent single-line of 20,000 tons of copper fittings
48,000 tons/Y of low-carbon intelligent coil (single-line)
30,000 tons/Y of automated extruded copper alloy bar.



Green & Digital-Intelligent Factories with High Quality, Low Cost, and Flexible Manufacturing

Establishing MES-Centric Intelligent Strategy to Empower Continuous Improvement and Enhancement of Global Production Capabilities



Real-time Full-process Online Monitoring for Production Operations



Smart Warehousing & Intelligent Logistics:

AGV Smart Logistics Vehicles Navigating Across Workshops





Digital Operation Management System – Unified Data and Streamlined Decision-Making

Core Architecture + CRM/ERP/MES/LMS/DCS + Auxiliary Systems
Achieving comprehensive coverage of key business data through:

- Production-Marketing Coordination
- Finance-Operation Integration
- Precision Logistics
- Dual-Cloud Interconnection
- Intelligent Manufacturing
- Operational Excellence

Digital Twin

Implementing Physical-Digital Mirroring via 3D Modeling and Digital Simulation Technologies

- Smart Operations Dashboard – Management
- Logistics Digital Command - Smart Campus Integration
- Scenario Simulation Platform



**Hailiang Collaborates with Huawei to Release Industry's First AI Whitepaper
for Non-Ferrous Metals Materials Sector**

Digital Transformation – Empowering the Future

Collaborative Innovation Laboratory

Hailiang Co., Ltd. and Huawei Jointly Establish Industry First Collaborative Innovation Laboratory for Non-Ferrous Metals Sector in Zhuji city.

This laboratory aims to integrate **AI** technologies with industrial demands of non-ferrous materials, developing globally leading vertical-specific large models to advance industry-wide intelligent manufacturing capabilities. Leveraging Huawei's PanGu Large Model (AI Architecture) and Hailiang's domain expertise, the facility will drive intelligent innovation across:

- Production Process Optimization • R&D Digitalization • Manufacturing Technique Enhancement • AI-Driven Quality Inspection
- Propelling high-quality development through technological convergence in strategic industrial domains.

SUSTAINABILITY

Setting New Industry Benchmarks in Green Development Global Integration and Full Industrial Chain Ecosystem Development

Decarbonization: Full Lifecycle Carbon Footprint Tracking with Enhanced Energy Efficiency

Green Raw Material Sourcing: Prioritizing non-toxic, harmless, and reusable materials to reduce resource consumption and environmental impact

- **Industry Energy Efficiency Leadership:** As a leading drafter of China's **GB21350-2013**, Hailiang implements energy-saving upgrades aligned with national standards, establishing industry benchmarks
- **Cleaner Production Practices:** All production units adhere to cleaner production principles, completing four rounds of environmental audits, and earning accolades including "Zhejiang Provincial Model Energy Enterprise" and "Water-Saving Enterprise".
- **Renewable Energy Adoption:** In 2023, the company purchased 6,000 green electricity certificates to further support renewable energy development



PV Power Generation

68.91_{MW}

2023 Electricity Generation Output

6819.12_{MWh}

CO₂ Emission Reductions

36,919 T

SUSTAINABILITY

Resource Management and Circular Economy

- **Cooling Water Recycling:** Equipment and product cooling water from workshops is reused through cooling water recycling pools, with periodic discharge only, significantly reducing freshwater consumption.
- **Cleaning Water Reduction & Recovery:** Acid cleaning solutions utilize warm water treatment technology to minimize water usage in product cleaning processes. Post-cleaning wastewater is purified through wastewater treatment plants and redirected back to circulation pools.
- **Packaging Material Circularity:** Reusable wooden packaging is employed for product delivery, with complimentary recycling transportation services returning timber to manufacturing facilities for reprocessing and reuse. Select packaging materials can directly enter local recycling systems at client sites.

SUSTAINABILITY

Pollution Prevention and Control

Strengthen the accountability mechanism for pollution prevention and control and enhance the operational efficiency and monitoring capabilities of environmental protection facilities.

- **Wastewater Management:** The company has established 11 wastewater treatment stations at domestic facilities, with a daily treatment capacity of 3,749 cubic meters.
- **Waste Gas Management:** A total of 31 sets of dust removal equipment are installed across all facilities, achieving a synchronized operational rate of 95%-99%.
- **Solid Waste Management:** Compliant with Standards for Pollution Control on the Storage and Disposal Site of General Industrial Solid Wastes and Standards for Pollution Control on Hazardous Waste Storage.
- By actively fulfilling social responsibilities, advancing cleaner production and resource efficiency, the company contributes to the achievement of green sustainable development.

31 sets

Dust Removal Equipment

11

Wastewater Treatment Stations

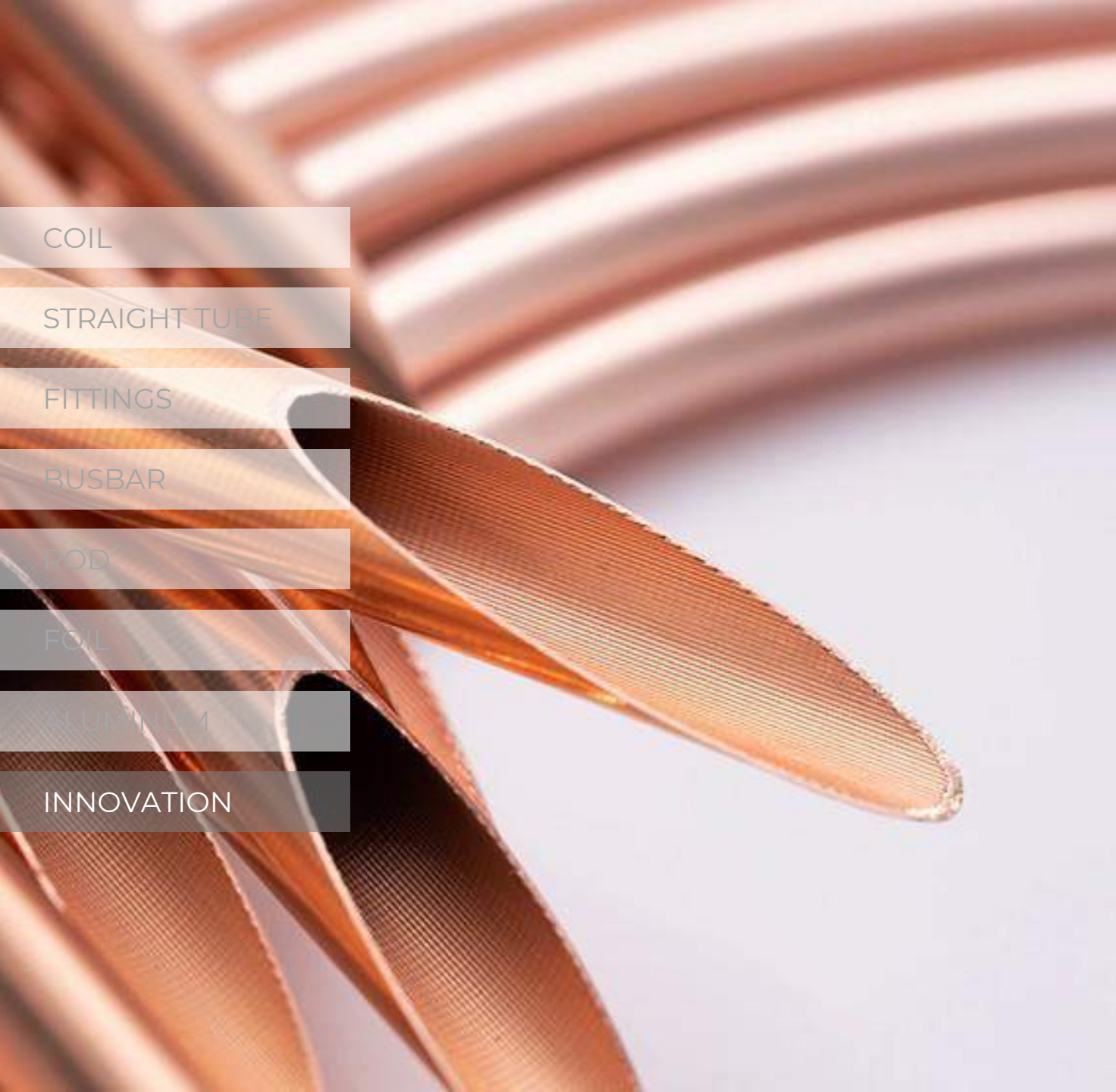
Thanks

**A Global Leading Company in
Green and intelligence manufacturing
in the non-ferrous metals industry**

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COIL

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ALUMINUM

INNOVATION

HEAT DISSIPATION COPPER TUBE

Excellent thermal conductivity, weldability, processability, and corrosion resistance.

Melting point of 1080°C, with a soft state elongation of over 40%.