

ASCOMETAL

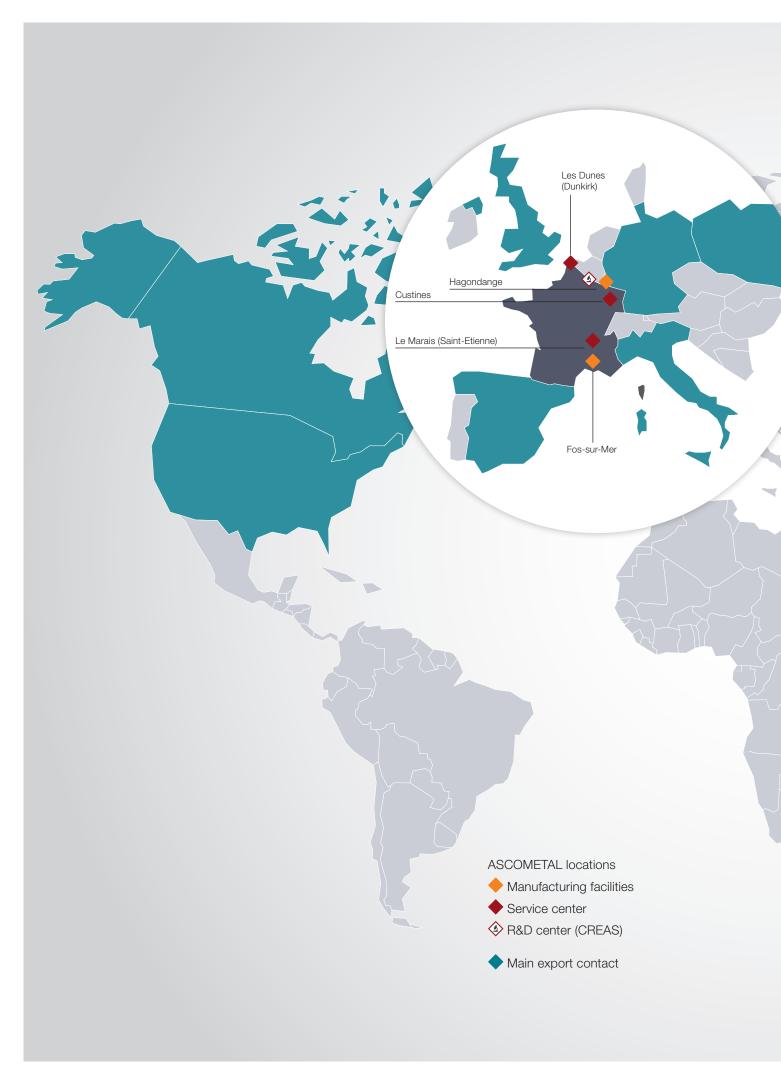
Special bar quality





| ASCOMETAL A key european player in engineering special long products Quality, environment, safety: our priorities ASCOMETAL R&D center (CREAS): at the forefront of innovation | 04 |
|--|----|
| Automotive Market Close relationships with Automotive players, a thorough understanding of technical and economical opportunities | 10 |
| Bearing Market Long term partnership with worldwide Bearing manufacturers | 12 |
| Oil and Gas Market A renowned global supplier of special steels for drilling and completion | 14 |
| Mechanical engineering Market Technical assistance for innovative solutions | 16 |

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ASCOMETAL, a key European producer of engineering special long products

Through a worldwide Sales & Services Network of Swiss Steel international, ASCOMETAL provides international support to its customers.

ASCOMETAL is a renowned global partner, particularly in the Automotive/Forging, Bearings, Energy as well as Mechanical engineering markets. Our organisational structure is based on specific industry sectors, which are supported by an in-depth knowledge of our customers' needs.

Our technical and commercial development is backed by **experienced teams** who are fully knowledgeable of all the industrial processes.

A complete product offering from a specialist: ASCOMETAL has an extensive range of grades, products (dimensions), and finishing processes (heat treatments, cold finishing, inspections) which are tailored to the various needs of its customers.

Product/process innovation is at the core of our approach: our Research & Development Center (CREAS) is constantly developing new steel solutions to meet the increasingly specific demands of our customers.

Logistical offer and value chain optimization.

A Business Unit of Swiss Steel group: the ASCOMETAL® trademark is a powerful international group dedicated to specialty steel long products.

CERTIFICATIONS:

ISO 9001, IATF 16949, ISO 14001, OHSAS 18001, ISO 50001

Three priorities: quality, environment, safety

Environment

Environmental protection is an integral part of our business approach, applied in both our processes and products.

We act based on the following principles:

- > Comply with all laws and regulations applicable to our activities.
- Control our disposal of industrial waste and implement waste recycling solutions.
- > Limit our use of natural resources.
- > Simplify production processes while saving fossil fuels.
- > Help make vehicles lighter in order to limit their greenhouse gas emissions.

ASCOMETAL special steels, which can be **recycled virtually indefinitely**, also contribute to our customers' environmental efficiency.

"Green" by nature!

Entirely based on the use of recycled scrap metal and on Electric Arc Furnace process naturally based on a low ${\rm CO_2}$ emitting mix, the carbon balance of Ascometal steels is particularly favourable.

Our performance in carbon low emission and the geographical proximity of the majority of our customers contribute to the virtuous nature of their own environmental footprint.



Quality

ASCOMETAL is attuned to its customers' needs and has **experts** capable of providing the metallurgical solutions that offer the most appropriate technical response to these requirements. All the reference systems, notably in the Automotive sector, and the customers' specific Quality requirements are integrated systematically into our Quality Management processes.

Safety

We ensure the highest standards in **Occupational Health and Safety** as per OHSAS 18001 to which our mills are certified without compromising on product quality. At the same time, our customers must have the assurance that our production is reliable and that our products can be used safely throughout all stages of their process. Safety data sheets (SDS) of our products are available to our customers.

ASCOMETAL is also committed to the ISO 45000 certification relating to Occupational health and safety management systems.





PARTNERSHIPS DEVELOPMENT PROGRAMS WITH CUSTOMERS

VALUE CREATION

AIMING AT OPTIMIZING OUR CUSTOMERS' PROCESSING

R&D Center (CREAS): at the forefront of innovation

Research & Development, which is at the core of ASCOMETAL business strategy, creates effective and original solutions.

The design and development process is based on our knowledge of our customers' requirements. The commercial teams provide the initial input through their relations with the customers, and this is then passed on downstream by the industrial teams in charge of manufacturing new products.

The fundamental principles of Research & Development are:

- > Eco-design to guarantee solutions with controlled costs and short transformation processes.
- Optimisation and enhancement of mechanical properties, and the weight reduction of components made with our steel.
- Achieving quality through in-depth knowledge of the physical and chemical, thermal and mechanical processes that are involved in the fabrication process (production and transformation).

CREAS (ASCOMETAL Special Steels R&D Center) fulfills 2 complementary functions:

- Providing technical assistance to our customers and production mills.
- Improving the reliability and productivity of the industrial resources.

Automotive Market

Close relationships with automotive players and a thorough understanding of technical and economical opportunities

As a supplier to the main Automotive and Heavy Vehicle manufacturers,

ASCOMETAL works with all the players in the industrial chain to meet the various requirements of the Automotive world:

- > Making parts lighter, while improving mechanical characteristics.
- $^{\flat}$ Environmental goals: reduction in fuel consumption and $\mathrm{CO_2}$ emissions. Improvement of the recyclability.
- > Technical specifications: structure, strength and durability of steels, machinability, inclusion cleanliness, in-service behaviour, suitability of heattreatment after forging, quenchability, technical characteristics (yield strength, tensile strength, etc.).
- > Cost control.

An innovative Automotive offering

ASCOMETAL offers all the products necessary for the manufacturing of components for various vehicle functions: engine, injection, transmission, steering, gearbox, etc.

Standard grades as well as more customized solutions, available on products at the cutting edge of innovation:

- > **JOMASCO®:** case-hardening steels with optimized Jominy and enhanced quenchability.
- > **SPLITASCO®:** steels for shear connecting rods.
- > **METASCO®:** steels suitable for hot forging treatment (bainitic and AFP steels).
- > VITAC®, SUPERVITAC®: steels with improved machinability and proven levels of performance.









Optimized steel solutions for the various functions of the Automotive market: Quality and Service

While fine tuning steel products to the customer specific process, ASCOMETAL values a know-how developed over the years.

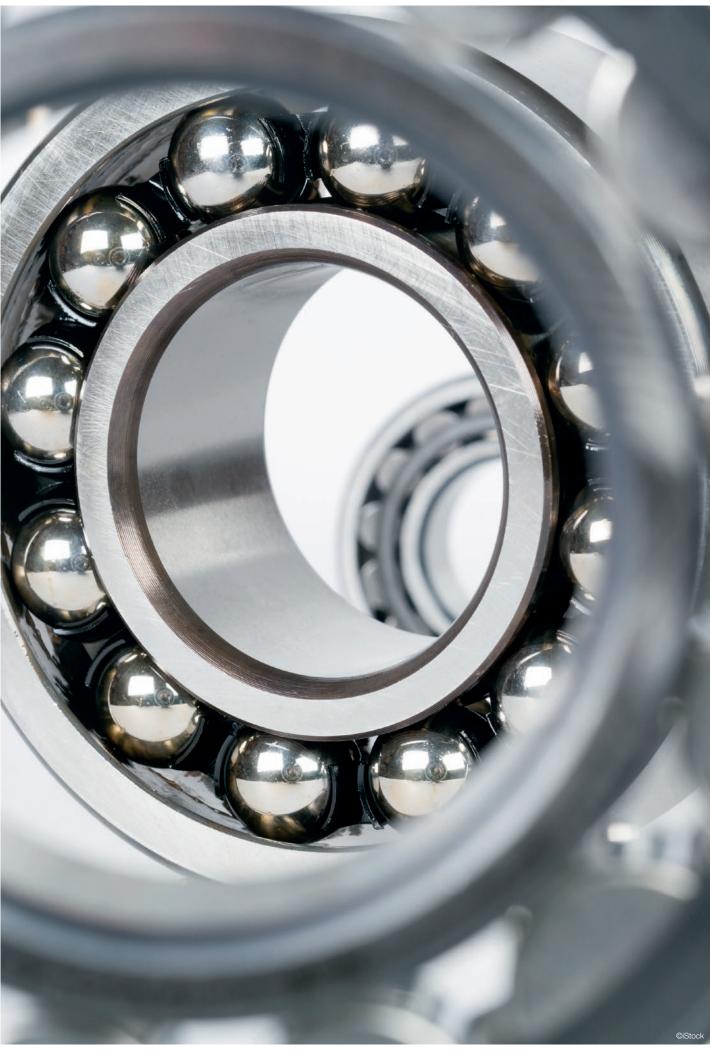
Thanks to well defined R&D methods (measures, residual stresses, fatigue, corrosion...), ASCOMETAL constantly improves the metallurgical properties of its steel products to better fit the requirements of the Automotive market (down sizing, higher mechanical properties, lighter weight).

Standard grades

A complete range of carbon and alloy steels meeting national and international standards

- > Steels for heat treatment
- > Case-hardening steels
- Bearing steels
- > Spring steels
- > Surface hardening steels
- > Fastening/bolting steels
- > Nitriding and carbonitriding steels
- Micro-alloy steels

These customers have formally approved our services as a sign of their confidence in ASCOMETAL: Bosch, BMW, Daimler, Dana, Delphi, Denso, Ferrari, FIAT, Ford, General Motors, Getrag, GKN, Iveco, JTEKT, PSA, Renault, Toyota, VAG, ZF...



Bearing Market

A long term partnership with the world's bearing manufacturers

A major player in the Bearing market, ASCOMETAL has developed an active partnership with Bearing manufacturers and their subcontractors internationally for more than 25 years.

This partnership consists in optimising the technical characteristics of the bearings (reliability, vibration reduction, performance in tough environments, cleanliness, mechanical characteristics, improved resistance to high temperatures or to heavy loads, etc.) thanks to the skills of our Research & Development Center. **Delivering excellence is ASCOMETAL top priority for its Bearing customers.**

Some main customer approvals: NSK group, Koyo, NRB Bearings, NTN SNR, Schaeffler, SKF, Timken...

An accredited Bearing steel offering: carbon steels, through-hardening steels, case-hardening steels, grades that fulfill specific requirements, ENDURASCO®.

Steel solutions for inner and outer bearing rings, latest-generation integrated bearings and rolling elements (balls, rollers, needles), principally for the following markets: Automotive and Heavy Vehicle, Mechanical Engineering (wind turbines, machinery, etc.), Railways.

The extreme demands of many bearing manufacturers have led ASCOMETAL to develop specific volume inspection processes and methods (ultrasonic testing 10 to 100 MHz, SEV...) guaranteeing optimized compatibility of our products with the specific needs of bearing manufacturers.

- Typical grades: 100Cr6, carbon grades, case-hardening or carbonitriding grades, through-hardening grades.
- > Multi department relationships with Bearing manufacturers and their teams.





Oil and Gas Market

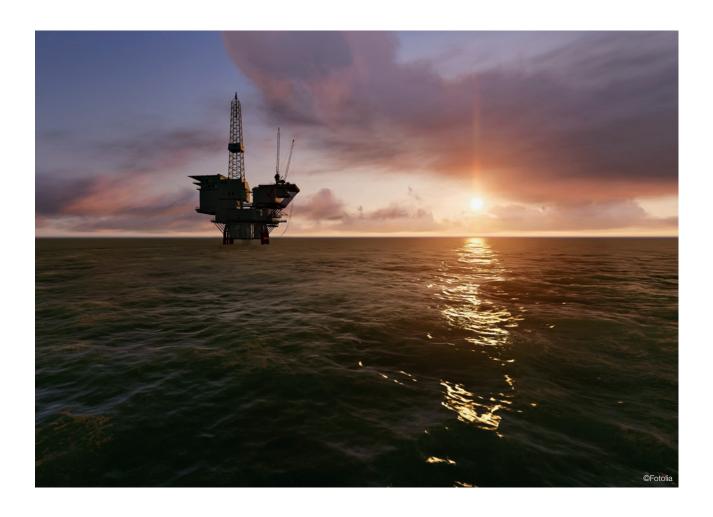
A world-renowned player in drilling and completion

Its industrial and technical assets make ASCOMETAL the partner of choice for equipment manufacturers and specialized distributors.

A commercial team based in the USA, plus localized teams in Europe and Asia-Pacific region, enable the group to respond faster to the growing demands of the market.

Appropriate industrial resources to meet the customers' requirements and their most stringent specifications in terms of yield strength, toughness and sour service resistance:

- > Heat treatment capacity, process excellence (macro and micro-inclusion cleanliness), absolute straightness, wide range of dimensions, control of long lengths and fixed lengths, high-performance inspection facilities, etc.
- High-tech heat treatment facilities (austenitizing, quenching, tempering, annealing).



A tailored Oil/Gas offering

In addition to the standard AISI grades, ASCOMETAL has developed innovative solutions to respond to increasingly severe operating stresses (pressure, temperature, corrosion) and to increase the equipment service life, namely the ASCOWELL® steels for extreme conditions and JOMASCO® DB for drill bits.

Main applications

- > Bottom Hole Assembly: Drill Collar, Tool Joint, Heavy Weight Drill Pipe, etc.
- > Tooling: Jar, Stabilizer, Reamer, Packer, Mandrel, etc.
- > Completion: Wellhead, Valve, etc.
- $^{\flat}$ Drilling and completion for oil and gas (conventional, unconventional, oil sands) in the most diversified conditions: vertical, horizontal drills, deep sea, $\rm H_2S$ and high temperature conditions.

To optimize its offering, ASCOMETAL works in close collaboration with organisations such as API and NACE, as well as the ordering customers: Baker Hughes, Cameron, TechnipFMC, NOV, Schlumberger, Total, Weatherford...



Mechanical engineering Market

Technical assistance for innovative solutions

The Mechanical Engineering Industry encompasses many applications ranging from the transformation of metals (forging, machining, etc.) to the production of more complex machine and engine components. The vast diversity of customers means that sales often involve specialized distributors. This level of complexity requires good knowledge of the users' needs.

Thanks to the support of its research and development center, ASCOMETAL proposes an extensive range of products that meet the customers' specifications and enhance the manufacture of the end-product (e.g. improved machinability, shorter case-hardening times, elimination of post-forging heat treatment).

ASCOMETAL has developed innovative steel products to complement the conventional grades:

- > VITAC®, SUPERVITAC®: steels with improved machinability and proven levels of performance.
- JOMASCO®: case-hardening steels with optimized Jominy and enhanced quenchability.
- > NITRASCO®: nitriding steels offering ever-greater wear resistance.
- > **METASCO®:** steels suitable for hot forging treatment (bainitic and AFP steels).
- > **ASCOROC®:** steels for the mining industry, rock breakers, stone crushers, etc.

Main applications: Power Transmission/Driving Chains, Wind Turbines, Railway Industry, Machinery, Mining, Public Works, Iron and Steel Works, Mechanical Engineering Subcontracting, Defense, etc.

Examples of parts:

- > Gearing, reduction gear, wind turbine slewing ring;
- > Tool holder, cam shaft, printing cylinder, extrusion screws and barrels, etc.;
- > Rock breakers;
- > Wheels, axles for railway rolling stock.

Some main customers approvals: Bosch Rexroth, Caterpillar, Gamesa, Liebherr, MAN, Poclain, SEW, Siemens, SNCF, Vestas, Wartsila...



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ASCOMETAL products are sold in more then 30 countries through Swiss Steel International Sales & Services Network.

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