



Metal powder?



That's right!

Metal powder is used in everything from automotive components to breakfast cereals, heat exchangers and wind power stations. Even for purifying water.



Did you know that...

Metal powder has also proven useful for ecological applications such as saving the lives of oil-covered seagulls.

Some said it couldn't be done

We drove our test car fitted with gears made from metal powder all the way from Sweden to Italy just to surprise a group of sceptics who said it could not be done.



Contributing to clean technology

Inductors made from Höganäs' Soft Magnetic Composite (SMC) materials are used in solar and wind power systems to improve the quality of power supplied to electrical networks. They help to reduce disturbances that can impact appliances in people's homes.





Imagine the cost of replacing a worn, 11m long, 26-ton ship engine shaft!

Now imagine how much was saved by being able to restore it to its original condition using innovative, metal powder-based surface overlay technology instead.

Seeing the whole process

Our specially developed lubricants can reduce wear on machinery and tools, extending their service life. They also reduce the risk of defects by improving the properties of components, and provide a superior, spotless surface that minimises post-processing costs. They even help to lower energy costs.

Did you know that...

Höganäs was the first company to successfully reduce iron ore into sponge iron and later pioneered the field of Soft Magnetic Composites (SMC).

Not all metal powders are created equal

Finding the most cost-efficient material for your particular process often means developing new alloys. Whether you want to reduce vulnerability to huge fluctuations in raw material prices, or lessen the wear that existing materials are causing your equipment, Höganäs develops special alloys that can do both. And lower your impact on the environment, too.

Adding value by saving you work

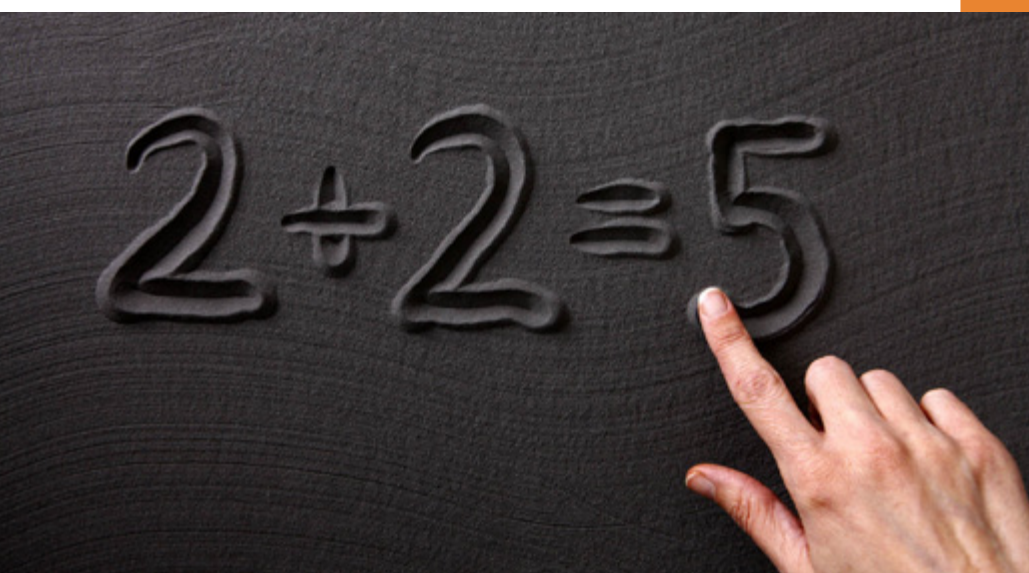
Imagine being able to manufacture the components you are already making, but without any of the costly post machining work needed today. By choosing the right powder for your application and process, you can start saving money now.

Looking for best cost performance?

So are we. At Höganäs we understand that lowering costs is at the top of your priority list. That is why we develop solutions that enable you to squeeze overall costs in ways that others cannot.

How? By looking at the whole process. That is what makes us more than just a supplier of metal powders. We find ways to improve the cost-efficiency, quality and appearance of the products you make. So far, millions of different components have been manufactured by our customers with exactly the same idea in mind – better cost performance.

Choosing the right materials for your application is a good place to start. Getting the most out of them gives you a stronger edge.



Turning up the heat on corrosion

Thanks to their high resistance to corrosion and oxidation, high-temperature **brazing** filler metals are extremely well adapted for bonding metal parts in high-temperature systems.



The lighter the better

Höganäs' Soft Magnetic Composite (SMC) materials enable customers to create lighter, more compact and more efficient **electromagnetic applications** such as electric motors and inductive components.



Opportunities everywhere

Metal powders are used in thousands of applications – products and solutions that are part of our everyday lives. And no matter in which direction we look, we see more and more opportunities for helping innovative customers take advantage of the unique properties of metal powders.

Like surface coating to protect against wear and corrosion. Or fast switching actuators made with Soft Magnetic Composite (SMC) materials for an expanding range of fuel injectors. In fact, metal powders offer great potential for use in a wide variety of areas such as vibration damping, magnetic bearings, electro-magnetic suspension, gears, cam lobes, connecting rods and much more.



Did you know that...

Cost-efficient and net-shaped sintered components are used in a wide variety of applications, from motor vehicles to power tools and home appliances.

6 prioritised development areas

Our metal powders are successfully used in a wide spectrum of applications in areas as diverse as welding, metallurgical and chemical processes, friction, iron fortification and many others. The main focus of our development is on six prioritised areas:

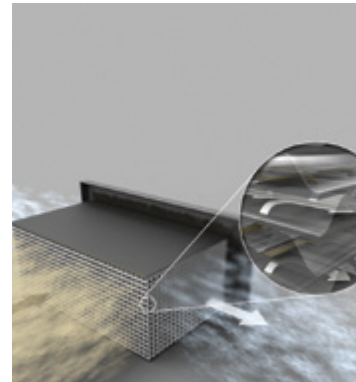
- Sintered Components
- Brazing
- Electromagnetic Applications
- Surface Coating
- Filters
- Metal Injection Moulding

Protecting your investments

Powder spray deposition with metal powder is a cost-efficient surface coating technique to protect precision surfaces such as moulds used in high volume glass bottle production.

Separating impurities from gas and liquids at high pressures and temperatures

Loosely packed metal powders and porous components are used for filtering and controlling the flow of fluids in power generation, engines and hot polymer filtration.



One shot beats casting, forging and machining

Metal Injection Moulding offers unique shaping opportunities for achieving intricate curved surfaces, undercuts, holes etc. in a single shot.

Reflections
from a few of
our markets



Doing things your way

There are lots of ways to do business. At Höganäs we believe in the collaborative approach. Because no matter where in the world we find our customers, the one thing we all share in common is that by cooperating and sharing best practices, we all achieve more.

From the Americas to Asia and just about everywhere in between, customers in more than 75 countries teach us what it means to be truly sensitive to the needs of the local market. These insights make us ever more responsive and proactive as we try hard to be the most customer-oriented partner in the industry.





Always expect more

Did you know that...

In our most recent survey, customers ranked our technical support as one of their top reasons for doing business with us.

There are many factors to consider when choosing the right partner to team up with. Price, quality, knowledge and market presence are all very important. But we think there is more. And 'more' is precisely what we want you to expect from us.

We are talking about commitment, of course – the willingness to do more than one might expect. Like performing metallographic investigations to help customers identify the root causes of their production problems, and offering suggestions on how to remedy them. Because like any relationship one invests in, it is not just about the thinking behind one's decision. It should also feel right.

Support in action

One example of how we do more is by sending support teams to perform on-site demonstrations using the customer's equipment to illustrate the best ways to use Höganäs' powders. Even on-site measurements can be performed to facilitate immediate analysis and feedback.



Driven by vision

At Höganäs we believe our powders create virtually unlimited possibilities for developing new or better products. By pushing the limits of metal powder we offer customers the ability to take ideas several steps closer to becoming real, competitive products and solutions.

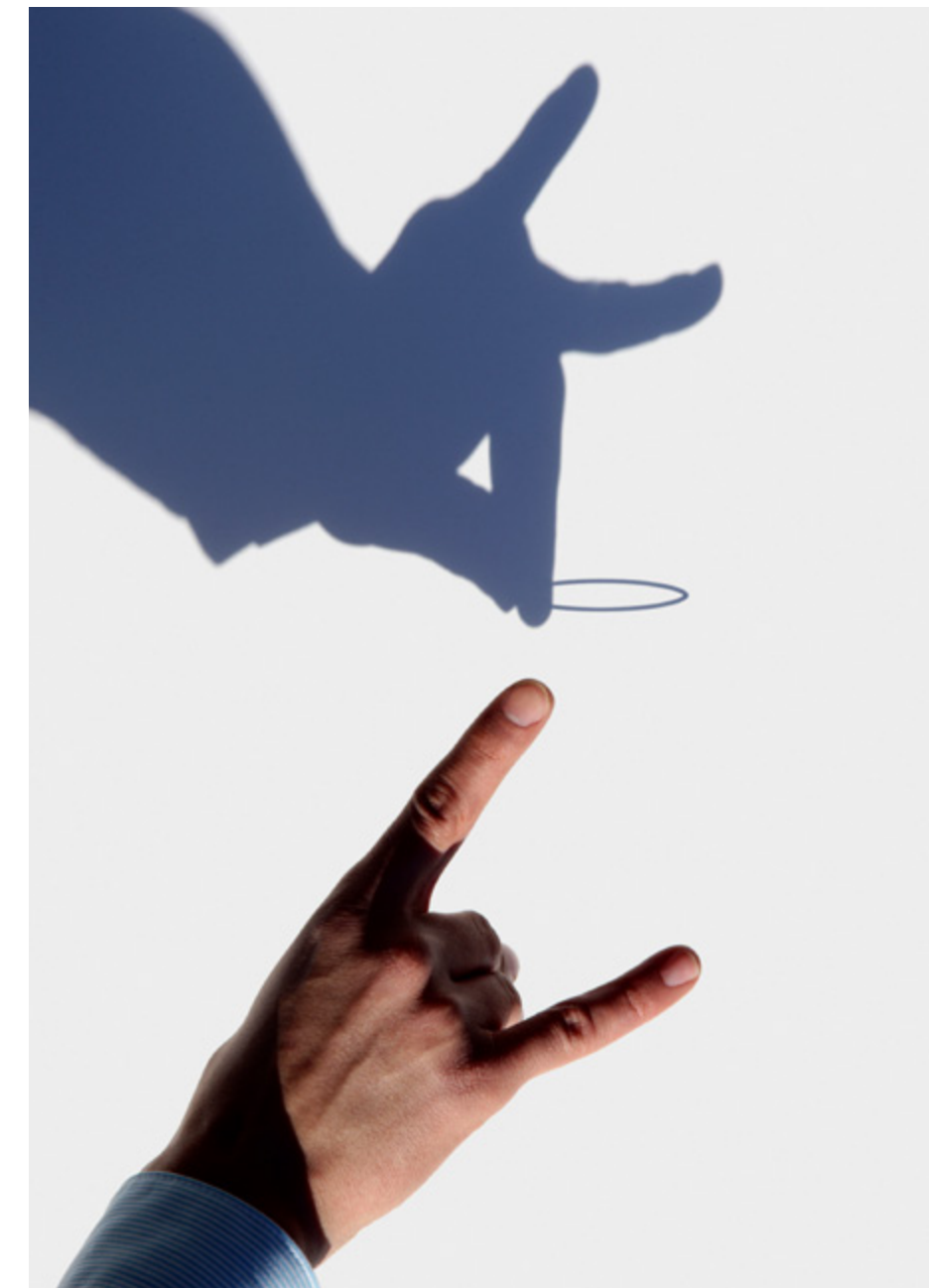
Zero Loss Manufacturing

We are not there yet, but the world's largest automaker is getting closer. Using metal powders from Höganäs to make selected components, Toyota has been able to reduce waste to just 5% of the amount generated when using traditional methods and materials.

That is the kind of vision and results we are talking about. Where some people see boundaries, others see new frontiers. And though progress is sometimes made only one step at a time, each step taken brings its own rewards. Especially to those who drive the pursuit of great ideas.

Fuelled by knowledge

While imagination and desire will get an idea to the starting line, it is knowledge that powers it over the finish line. Your knowledge makes you an expert in your field, while we know how to get the most out of metal powder. Together we can push ideas farther and faster in the race to finish first.



Welcome to our house

If you have ever visited one of our Power of Powder Centres, or any of our Tech Centres around the world, then you already know that Höganäs is more than just a supplier of metal powders. If not, take a step inside for a look at some of the ways we add value through R&D and various processes for sharing of knowledge.

Did you know that...

Höganäs is, together with raw material and gas suppliers as well as other steel producers, establishing a secure source of environmentally friendly raw materials. Direct reduction of iron ore into pure iron melt stock, based on natural gas, will enable steel to be produced with up to 75% less CO₂ emissions.



where anything is possible



Keeping our ear to the ground

As a company focused on knowledge it is easy to get carried away and talk about all we know. Listening to customers and learning more about you is more challenging. And for us, that's where it all begins.

By listening to you we discover things that we may not have been aware of, especially in areas that are new to us. Just like many of our customers are unaware of the possibilities provided by metal powders. That is why the personal, one-to-one interaction between dedicated individuals at both ends is so important, and something we always want to cultivate.



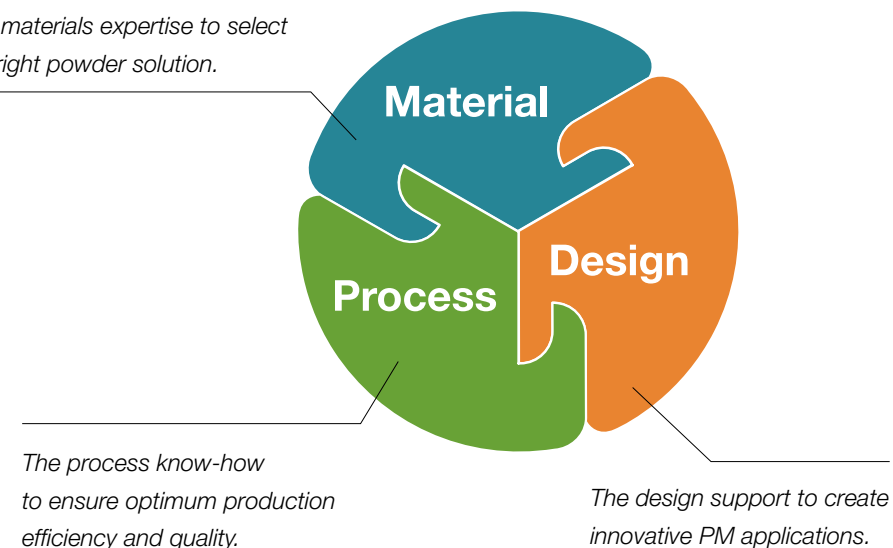
Tech Centres – supporting long-term relations

In addition to the personal attention provided through sales offices and agents across the globe, Höganäs also offers extensive technical support and training at special Tech Centres in the U.S. and China, as well as at our Technical Sales department in Sweden. These facilities function as high-tech meeting places where customers and specialists work side by side to examine needs and possibilities at an even deeper level. Many of our customers also visit our Tech Centres to receive training in the various aspects of powder metallurgy.

Did you know that...

In 1955 Höganäs built the Pilot Centre, our first lab set up for the purpose of exchanging knowledge with customers and helping our own staff to learn more about the challenges our customers face.

The materials expertise to select the right powder solution.



The process know-how to ensure optimum production efficiency and quality.

The design support to create innovative PM applications.

The PoP Centre – where it all comes together

Material. Design. Process. The ability to incorporate powder metallurgy expertise relating to each of these three facets of your industrial manufacturing is a major advantage. For some, it is critical.

This competence is nowhere more accessible than through your partnership with Höganäs, and nowhere more evident than at our Power of Powder Centres located in Sweden and India. Equipped with leading-edge technology, the PoP Centres represent the heart of our application development carried out by our most knowledgeable researchers in close collaboration with our customers. Here, more than anywhere else, Höganäs is pushing the limits of metal powders to advance both existing and new applications.

Did you know that...

Gears made from metal powder showed less wear and tear than machined gears after a very demanding season with one of Sweden's leading rally drivers.



Key competencies deliver key benefits

Prototyping. Rapid production of machined prototypes to shorten time to market

Testing. Comprehensive testing and analysis capabilities to choose the best material for an application

Process development. Finding new ways to help you optimise your manufacturing processes

Application development. Exploring new business opportunities through close cooperation with designers and OEMs

Training. Spreading knowledge about powder-based solutions through a wide range of courses



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