

PACO Imagineer.Ing

Wire Mesh and Mesh-Based
System Solutions
with the Power
of Ing.eneering Skill



PACO Mesholutions powered by .Ing

ING. – THE ENGINEER’S DEGREE MADE IN GERMANY

There are very few abbreviations that so accurately sum up a specific vocational qualification as “Ing”. This short form of the German word Ingenieur (Engineer) is an extremely important academic title in the German educational system. Whoever receives it, has definitely proved their ability. That is why German engineers have gained themselves an enviable reputation throughout the world.

In the English speaking world, “Ing.” corresponds with the designation “Eng.” for Engineer(Ing). Common to both titles is the proven ability of providing solutions on the basis of scientific knowledge and technical skills. This is teamed with the intellectual capability of acquiring, analysing and understanding technical design and system-related facts and conditions. When creativity and innovative power are added, the utmost PACO objective is attained: solution-oriented Imagineer.Ing on the basis of practice-oriented Ing.eneering skills with inherent benefits for the user and their applications.



LEARN MORE:

Contents

JUST IMAGINE:

**You Order a Product and
Get a Solution with .Ing** 4

PACO IMAGINEER.ING:

**Technical Creativity plus High-Level
Engineering Skills** 6

KNOW-HOW WITH .ING:

**65 plus 30 Years' Process and Application
Technology Experience has a lot of .Ing** 8

WIRE MESH WITH .ING:

**Constant Maximum Performance
for a Guaranteed Solution** 10

FILTER MEDIUM DESIGN WITH .ING:

We Like to Filter in Outer Space 12

SEPARATING STRATEGIES WITH .ING:

**Making Sure that only the most
Economic Solution Gets Through!** 14

SCREENING TECHNOLOGY WITH .ING:

**For more than a Wide-Ranging
Application Partnership** 16

SCREEN PRINTING WITH .ING:

**Even Something Never in Print
is one of our Specialities** 18

ARCHITECTURAL SUPPORT WITH .ING:

As Aesthetic Quality also Comes from within 20

PACO IMAGINEER.ING

For Product Quality and Safety 22

PACO IMAGINEER.ING –

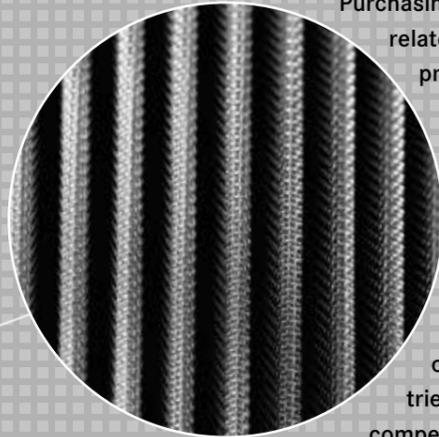
Our Link to Your Optimization Requests 24

PACO HISTORY

Growth R.Ings 26

JUST IMAGINE:

You Order a Product and Get a Solution with .Ing



Purchasing is one of the most important business-related functions in any company as it provides the basis for economic efficiency and profitability. As low-wage countries have established themselves in the global supply chain, price has come to be a predominant purchasing criteria. The search for the lowest quotation has become increasingly important.

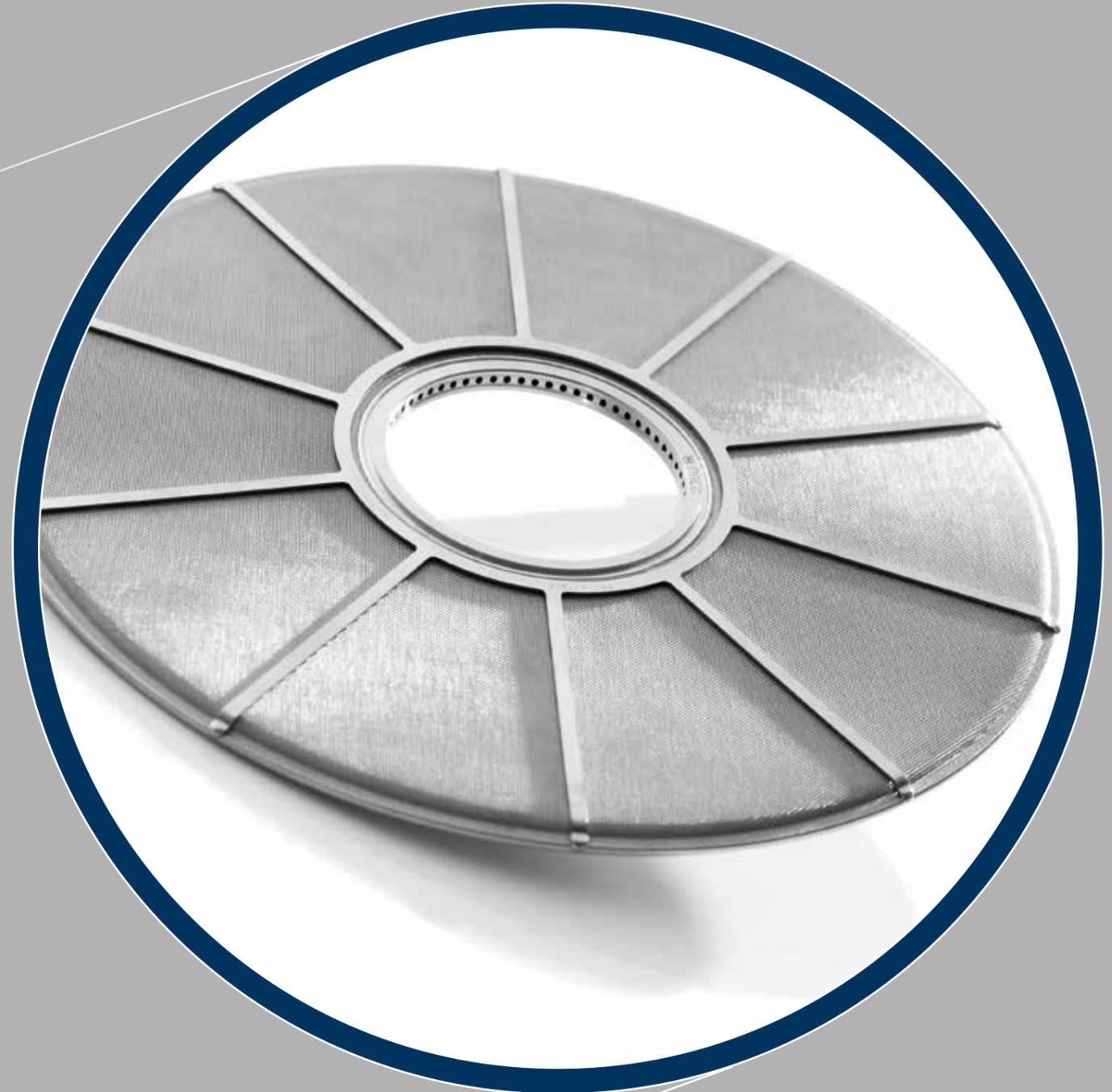
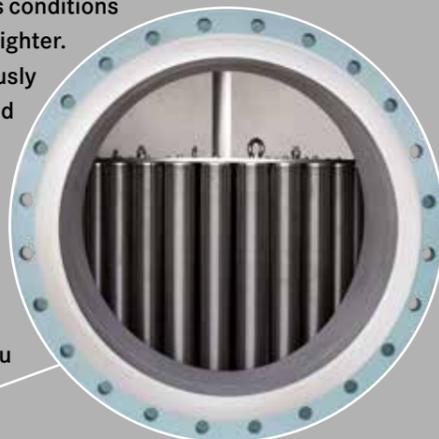
And what about suppliers outside of the low-wage countries? Whoever tries to undercut the prices of their competitors risks their economic existence.

And whoever simply remains expensive, loses out on one invitation for tender after another. Of course PACO has had to find a way of fighting for orders and market share in this rapidly changing economic climate. Our method of choice is to increase the value and usability of our products over and above their physical characteristics.

The low-price scenario tends to place the supplier in the role of a manufacturer of predominantly standardised products in the desired volume. Consequently the first strategy of relativizing the price argument is to enhance the product beyond its straightforward manufacturing process. This is for example achieved by providing “added value” services from the initial planning right thru to final implementation. This is a route that we have taken at PACO from a very early stage.

Nevertheless the globalisation of markets and the development of emerging economies into industrial countries means that business conditions have become tighter and tighter.

That is why PACO is continuously increasing the added value and usability of their products for their customers and users. The result is the jump from a product with added services to a product that is a solution with .Ing. In other words far more than the product that you order and are invoiced for.



PACO
Imagineer.Ing

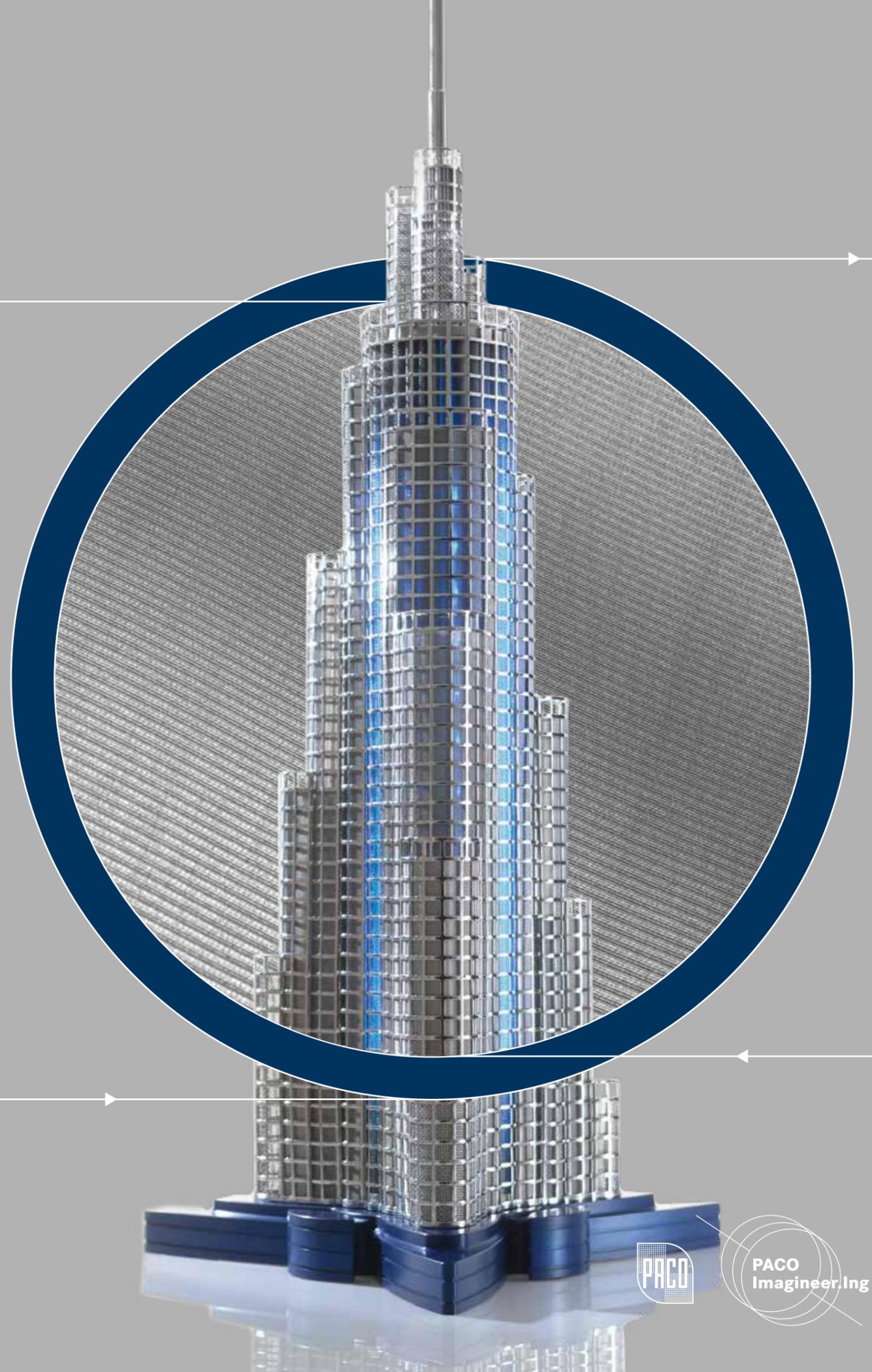
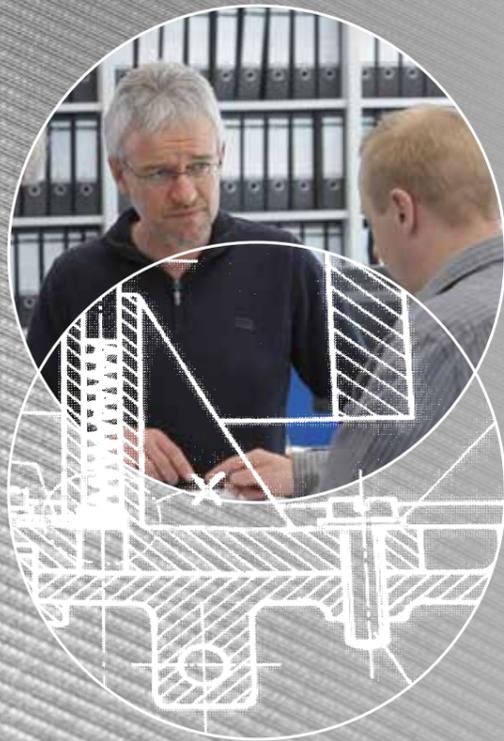
Technical Creativity plus High-Level Engineering Skills

The weaving of threads to form cloth is one of the oldest production techniques known to mankind. Despite this, there is a big difference between textiles that are made into gauze for a simple bandage or a technical textile for a spacesuit.

The same is true with respect to warp and weft applications for metal wire mesh. When it comes to mass-produced goods, there is a large selection of vendors all around the world. But when it comes to demanding subsequent processing or critical fields of application, the number of potential suppliers is significantly reduced. And in many cases the choice is reduced to one – and frequently this is PACO.

The development of a family company into an internationally respected player has a lot to do with intuition. But even this has to be analysed and rationally evaluated to ensure that strategies remain on track and that success can be ensured. The result to which we have come to within the PACO Group is a concept that we have defined with the term Imagineer.Ing.

To envisage the challenges of a particular application requires experience and technical expertise. To then draw up possible solutions requires a lot of imagination. The step towards development of the possible solutions finally requires equal amounts of creativity and technical know-how: Imagination is accompanied with engineering skills to form a combination that we call PACO Imagineer.Ing.



65 plus 30 Years' Process and Application Technology Experience has a lot of .Ing

PACO was founded in 1953 on the basis of the leading weaving machine designs of the time as well as state-of-the-art wire mesh weaving know-how, inasmuch as the young company was a kind of spin-off from the market leader of that period.



This means that together PACO and HETA have nearly 100 years' experience of work at the .Ing level. An accomplishment documented by numerous firsts and record-breaking performances over the course of many decades. Regardless of how tough global competition is and how attractive the cheapest offer appears to be: it's a PACO screen cloth that has been selected for the NASA Mars robot Curiosity to play its part in the exploration of the red planet.

PACO takes its Imagineer. Ing company strategy just as seriously as engineers within Germany and the European Union view .Ing – the academic title of the graduate engineer. In just the same way as you could not imagine PACO and the PACO Group without their mastery of complex technical processes and engineering skills.

And HETA was founded in 1989 at the initiative of an engineer. He specialized in mechanical engineering and welding technology that was increasingly finding its way into the fields of filtration and separation. Skills that were being demanded for larger and larger projects in more and more countries.



WIRE MESH WITH .ING:

Constant Maximum Performance for a Guaranteed Solution



Quality control



Selection



Excellence



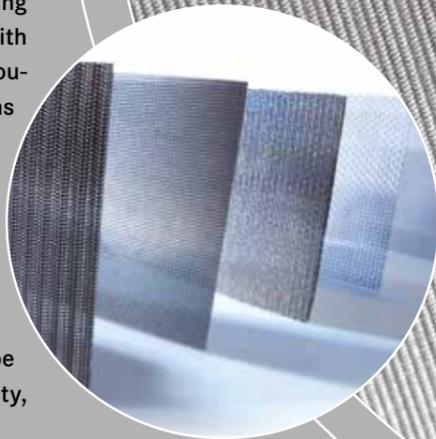
Value creation

The optimization of cloths made from wire through the special characteristics and demands of .Ing is particularly ambitious on two counts. Firstly, the attention to detail in creating the fundamental requirements that are needed to produce mesh of the utmost quality.

This starts with the careful selection and strict quality control of the required metal wires that are often finer than a human hair. And to weave these into cloths with a multitude of widely differing specifications, extremely precise automated looms are needed. The fact that these are sourced from PACO's own mechanical engineering workshops is a further consequence of the .Ing strategy.

And what can be achieved through such thoroughness and ambition? Innovation of course, but also records in the consistency of quality, precision and excellence of the meshes and their packaging regardless of the demanded specifications. With a mesh size of a centimetre and more or 46 thousandths of a millimetre and less. For applications in industry through to science or leading-edge technology.

Nevertheless, PACO constant maximum performance never serves as a means in itself but always as a service for a specific job. To fulfil the expectations of the user that something can be done better. As a solution that guarantees safety, productivity and added value.



PACO
Imagineer.Ing

We Like to Filter in Outer Space



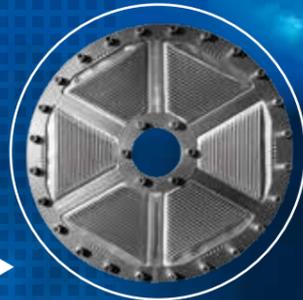
It goes without saying that the volume of filter cloths made of wire mesh that are demanded for space exploration are not sufficient to keep a PACO weaving shop busy for very long. Nevertheless such orders for high tech applications are always a particular highlight for us.

What other maker of metal wire cloth can be proud of the fact that their products have been built into the tanks of Ariane launch vehicles to ensure the gas bubble free supply of fuel to the engines? Particular when this pride is also the basis for PACO being awarded the particularly challenging quality management certification for the aerospace industry.

The economically relevant revenues are however earned with other products that have a more "down to earth" character. And filtration is one of the most frequently required functions within the context of industrial processes. Whereby there are significant and numerous differences in the physical characteristics of the media being filtered or the particles that are to be retained.

PACO packages its high quality wire mesh into filter elements of a wide variety of designs and capabilities. The filter medium, design and production are from a single source – this in conjunction with the .Ing potential from PACO provides solutions and filtration performance that are among the best available on the world market.

More than this: often the close cooperation of skilled experts from the user's side as well as from PACO enables innovative solutions to be provided that were previously unavailable. With increases in precision, lifetime, reliability and cost-effectiveness.



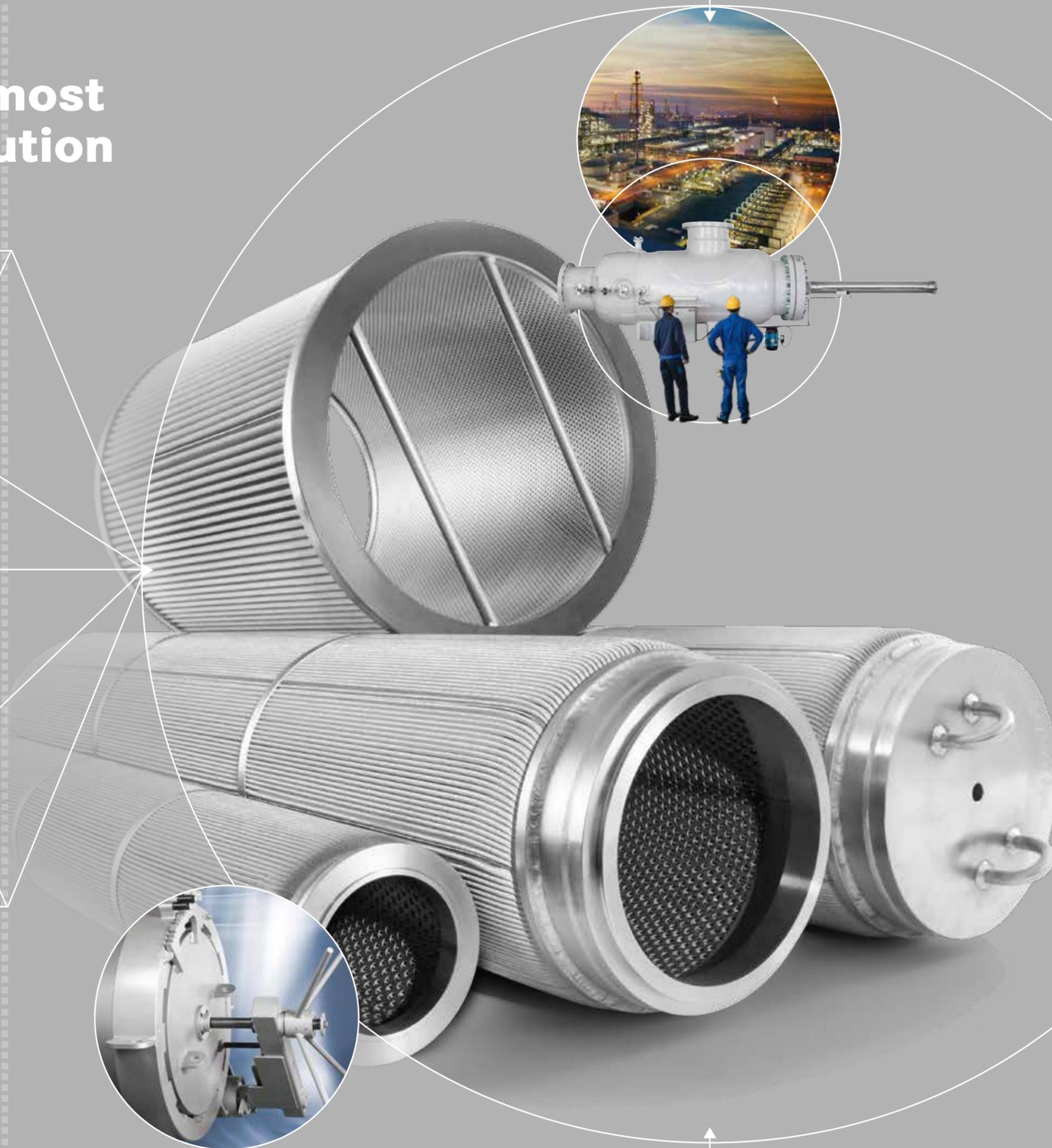
Making Sure that only the most Economic Solution Gets Through!

The requirement to separate substances from each other is not only getting more and more specialized, but also the scale of the operations is getting increasingly larger – right up to being gigantic. Without .Ing it would be impossible to master such challenges. On the basis of perfectly controllable technology and extensive process know-how in the fields of operation of our users.

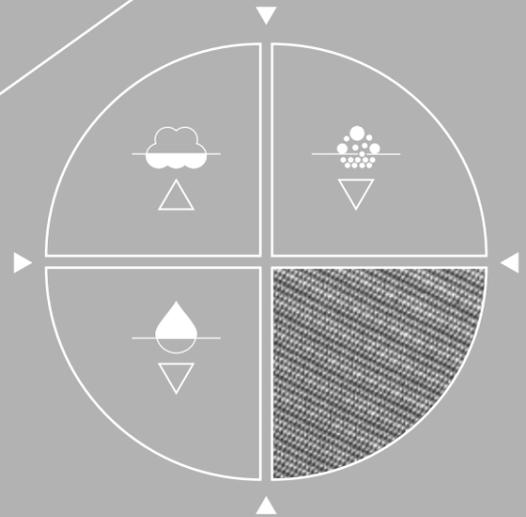
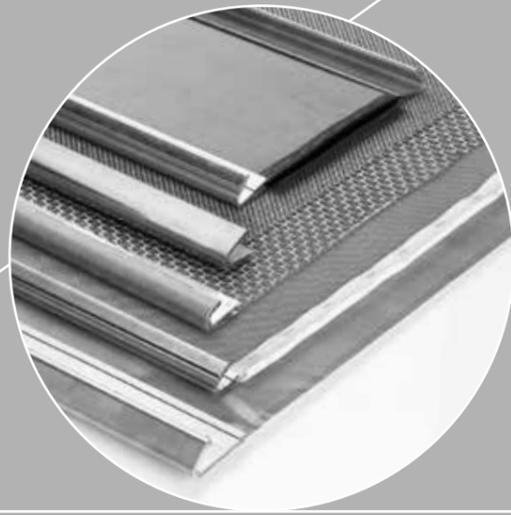
It doesn't matter how different the composition of the substance mixtures to be separated are or how varied their physical, chemical and thermal characteristics may be, there is always a common customer demand: economic efficiency.

PACO products and solutions are distinctive contributions towards profitability with the ensured quality synonymous with "Made in Germany" paired with the unconditional willingness to support our users. Further contributions in the fields of plant manufacture through to automation are available exactly tailored to your needs from the .Ing member of the PACO-Group: from HETA Verfahrenstechnik.

The HETA Team has proven itself with large projects in giga format that are open to worldwide tender. These include supplying parts of a huge automatic filtering system with self-cleaning for the treatment of seawater to cool one of the largest oil and gas refineries in the world.



For more than a Wide-Ranging Application Partnership



Screening technology is another excellent example of how basic technology can be continuously developed to become a high-tech application. PACO has been following and furthering this development since the company started. Contributions range from specially developed cloths through to dedicated machines for extreme cases of difficult to separate materials. In other words, a lot of added .Ing.

The spectrum of screening applications ranges from fine, ultra-precise analysis sieves in pharmaceutical laboratories through to virtually indestructible gratings in quarries. Despite this, the majority of screens being used are associated with the products of .Ing conscious screening machine manufacturers. From industrial screens through to round sieves – PACO most definitely sees itself as a reliable partner of the internationally competitive screening machine manufacturers.

And PACO is also one of the best possible partners that screen users can imagine. The .Ing contribution to our users is our smart and fast re-screening service. This includes an uncompromising customer-oriented logistics chain that ensures the constant availability of screens and efficient transport between PACO and customer.

And we wouldn't be PACO if we didn't have a particularly special screening application with a lot of .Ing that we can be especially proud of: as part of a NASA mission to Mars, the Mars Rover "Curiosity" is driving – right at this moment – across the red planet collecting soil samples with the assistance of a number of PACO sieves (mesh size of 400 and finer).



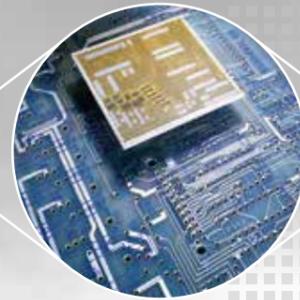
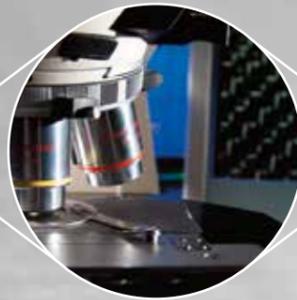
Even Something Never in Print Is One of Our Specialities

“Screen Printing” and “Innovation” are two terms with widely different meanings that in the sense of .Ing are almost synonymous with each other. Screen printing is the basis for technical developments that would have never been possible without it. And innovations, particularly in the field of metal wire weaving, have paved the way for such decisive advances.

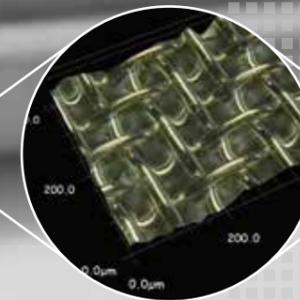
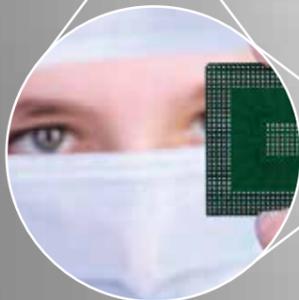


PACO screen printing cloths have always used their .Ing capabilities to earn themselves an excellent reputation. This all started by printing gold or platinum onto valuable porcelain. And there was no better grounding into what accuracy and accountability really means. Essential qualities that are both needed down to this day in the printing of electronic chips or RFIDs.

PACO Smart Mesh is a seal of quality that describes the exceptional capabilities of PACO screen printing cloth that is implemented and assured through the close interlinking of wire quality, PACO weaving machine technology and application expertise that works hand in hand with our customers' specialists. The result is convincing and competitive Mesholutions.



The most fascinating results of our .Ing work for the screen printing industry are concepts that have never been seen before. This now includes bank notes that have been provided with highly developed features that make them even more difficult to counterfeit.



As Aesthetic Quality also Comes from within

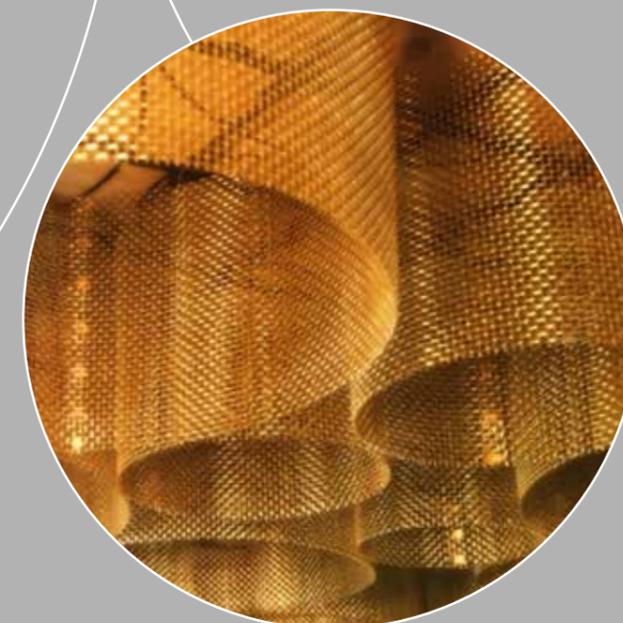
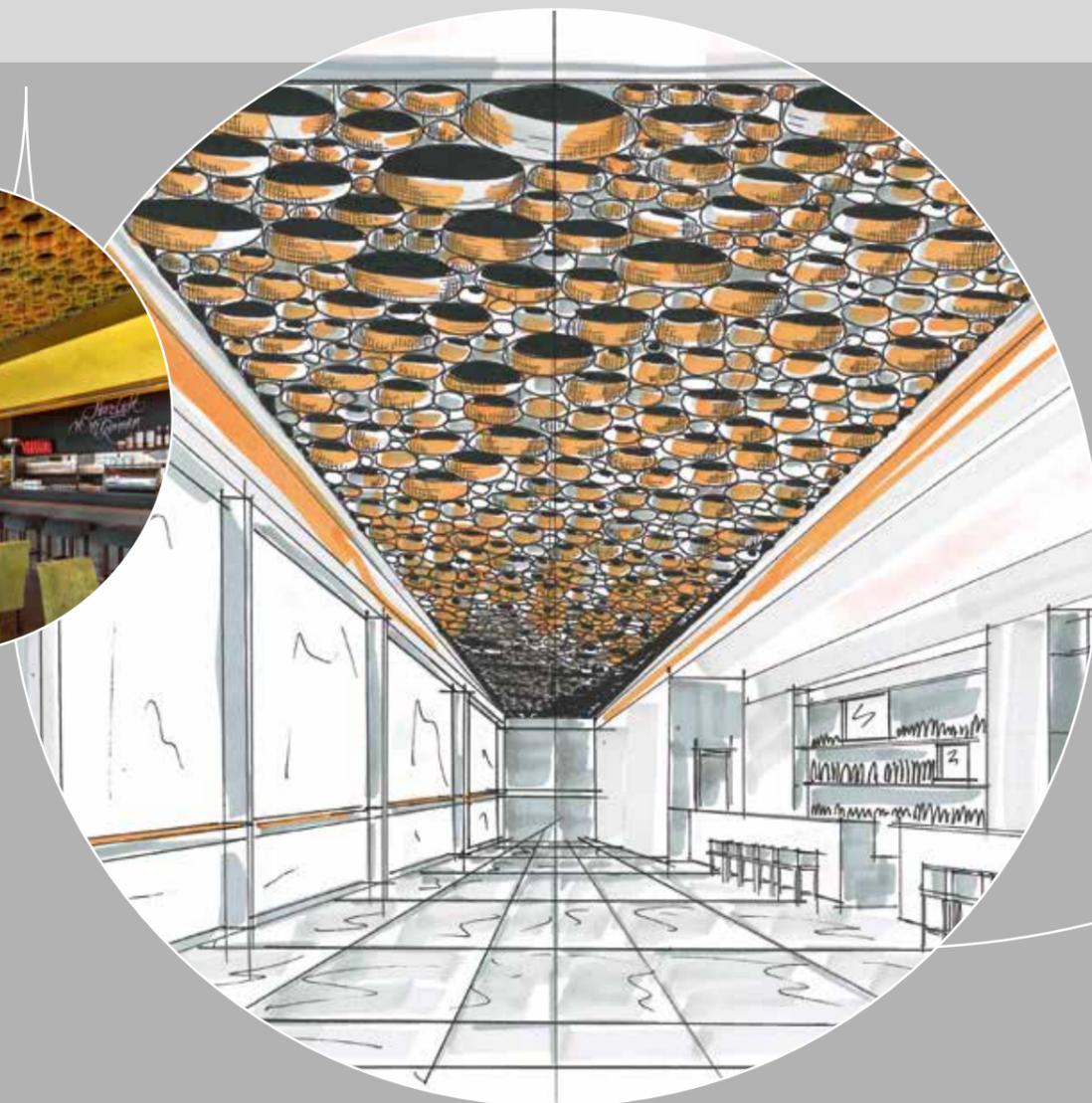
What is immediately apparent with PACO wire cloths is the irresistible high quality appearance that they inherently possess. Regardless of whether they are plain weaves or one of the dutch weaves, the natural beauty of the material that is normally hidden is quite obvious. But far more than looks, it is particularly the quality and capabilities of PACO cloths that make them so attractive.

To look at something familiar through completely different eyes can create a whole new world of opportunities. This is, for example, something that architects experienced as they discovered PACO screening and filtering cloths made of the finest stainless steel as a material for their building projects. But we at PACO also had to put our trust in our cloths in the face of such new challenges.

Although others can also offer stainless steel and similar types of weave, PACO is unique in providing the art of finishing exactly according to the ideas and needs of the client. An excellent example of this is "MESHconcept"* – the PACO collection for interior architecture and ceiling design. This consists of cloth cylinders that can be shaped and combined as desired to provide completely new solutions and creative possibilities.

*protected by utility model

MESHconcept enables PACO to honour its .Ing claim to architects, designers, structural engineers or building developers through systematic support and customer services. Starting with its own drafting office through photo-realistic 3D models of its designs to material choice consultation. Perfect manufacturing and punctual delivery are also an essential part of the package.



For Product Quality and Safety

According to our understanding of .Ing, there is more to quality work than simply fulfilling the applicable DIN, EN and ISO standards. In addition to obtaining the necessary certification and carrying out the required annual re-examinations, PACO, HETA and the other group members have voluntarily implemented additional quality control and quality assurance measures.

The key element is our test laboratory with its extensive quality testing equipment. Working methods are being continually refined and innovative checking systems introduced to provide a more and more exact diagnosis and record of product perfection. Fully in harmony with the objectives of .Ing.

Although changes in our customer base mean that some certification has not needed to be renewed, the fundamental quality capabilities remain. For instance in the case of EN 9001 (E) ff / AS 9100 ff for the aerospace industry.

A particularly important aspect of our .Ing philosophy is the label "Made in Germany". As a family company we hold our hometown of Steinau and its surrounding area in very high esteem. The rational side of the coin is, however, the reliable availability of our production resources and, in particular, the excellently trained and loyal workforce. That is why PACO has successfully obligated themselves to obtain the "Certificate of Origin Made in Germany" from TÜV NORD CERT and continue working according to its requirements.

Management System Certificate

ISO 9001:2015

Development, manufacturing and distribution of metal wire cloth and screening, separating and filter elements



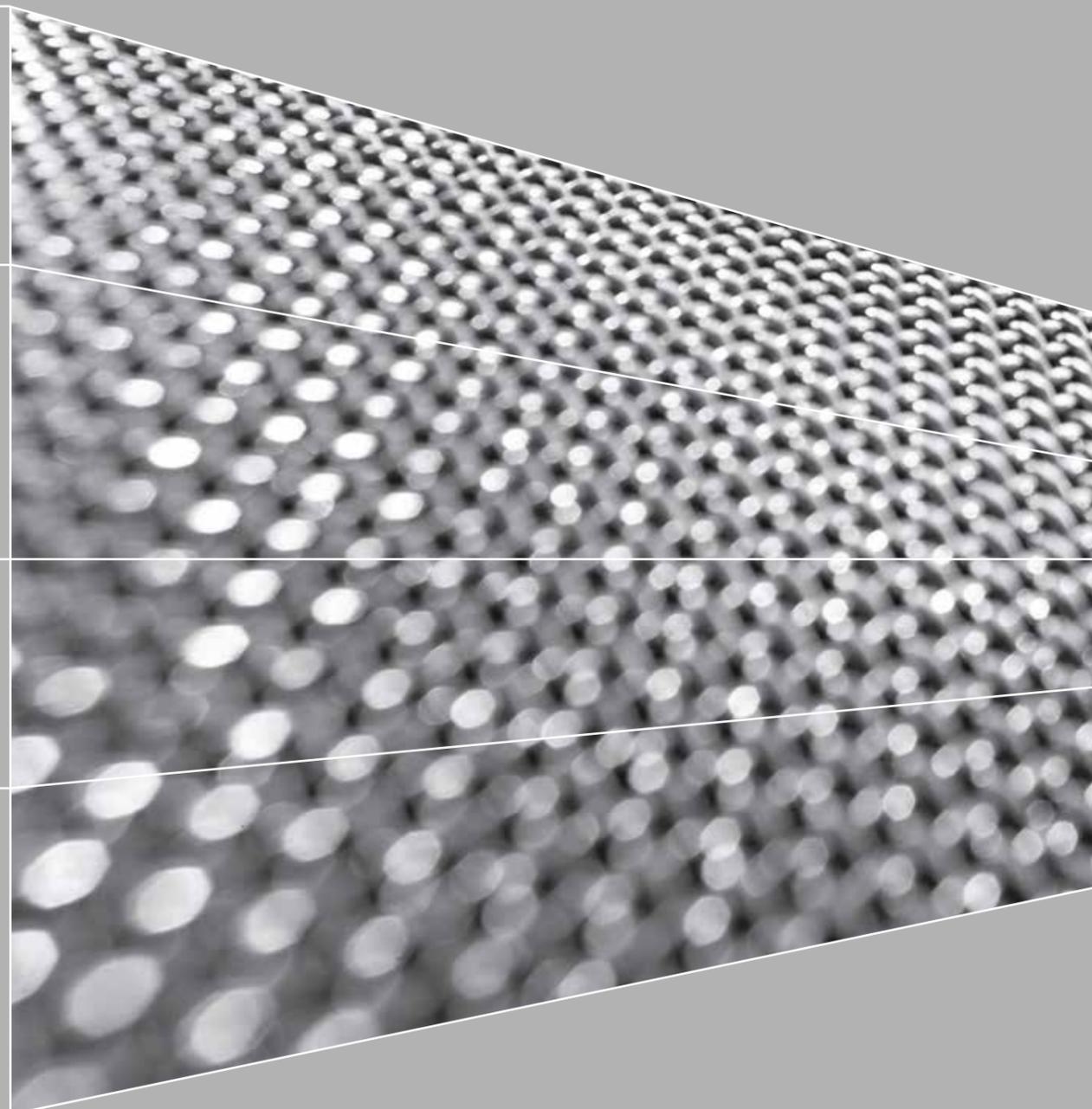
Our Link to Your Optimization Requests

Every engineer likes to see themselves as being open (for new ideas), flexible (for different solutions) and creative (for innovations), with much more unconventionality to round off the picture. But it is not only their willingness, but also their capability of doing things differently that enables the development of optimized or fully new solutions.

▶ PACO Imagineer.Ing contains all of this: openness, flexibility, creativity. Contact PACO and your dialogue partner will willingly listen attentively to you. Your needs and wishes will be taken on board as an impulse to seek out the ideal solution. At the same time your engineering skills and those of PACO and HETA specialists will be intensified through close professional contact and cooperation.

▶ Technical discussions are made even more promising by the fact that PACO and HETA have such a depth of process and application experience that they will be quickly able to understand what is needed and put the ideal Imagineer.Ing solution into practice.

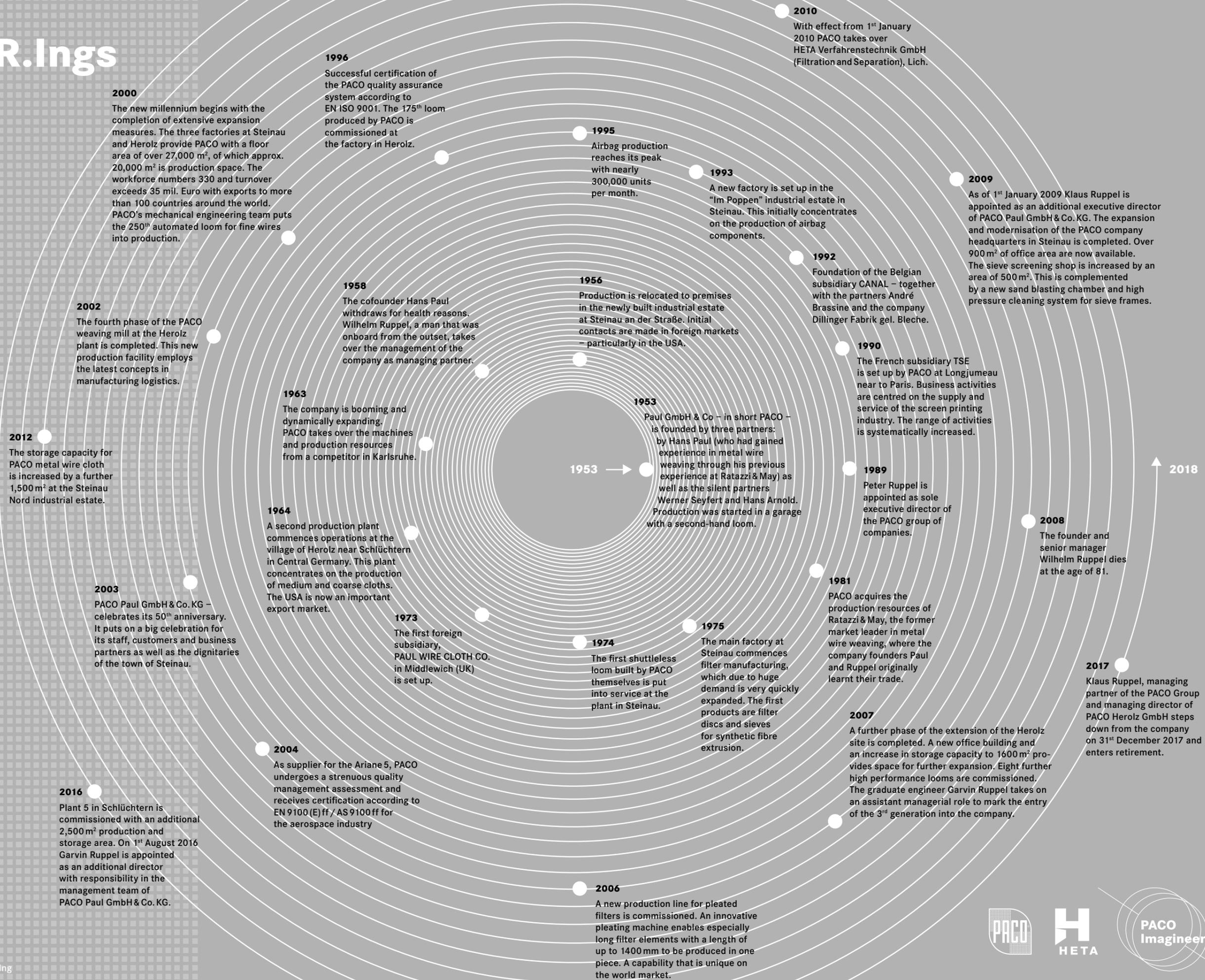
▶ To further simplify communication, the PACO Group is full of specialists and dialogue partners that would like to talk to you. Simply use our network of sales partners or speak directly to us – online or on the phone. We would be pleased to come and visit you or invite you to visit us. Regardless of which way you choose the main thing for us is that we can present you with the best possible solution. Through PACO-Imagineer.Ing.



E-Mail: info@paco-online.com
Internet: www.paco-online.com
Telefon: +49 (0) 66 63 - 97 8 - 0
Telefax: +49 (0) 66 63 - 91 91 16

Post:
PACO
Paul GmbH & Co. KG
Metallgewebe- und Filterfabriken
Postfach 12 20
36393 Steinau an der Straße
Deutschland

Growth R.Ings



2012
The storage capacity for PACO metal wire cloth is increased by a further 1,500 m² at the Steinau Nord industrial estate.

2003
PACO Paul GmbH & Co. KG – celebrates its 50th anniversary. It puts on a big celebration for its staff, customers and business partners as well as the dignitaries of the town of Steinau.

2016
Plant 5 in Schlüchtern is commissioned with an additional 2,500 m² production and storage area. On 1st August 2016 Garvin Ruppel is appointed as an additional director with responsibility in the management team of PACO Paul GmbH & Co. KG.

2002
The fourth phase of the PACO weaving mill at the Herolz plant is completed. This new production facility employs the latest concepts in manufacturing logistics.

2000
The new millennium begins with the completion of extensive expansion measures. The three factories at Steinau and Herolz provide PACO with a floor area of over 27,000 m², of which approx. 20,000 m² is production space. The workforce numbers 330 and turnover exceeds 35 mil. Euro with exports to more than 100 countries around the world. PACO's mechanical engineering team puts the 250th automated loom for fine wires into production.

2004
As supplier for the Ariane 5, PACO undergoes a strenuous quality management assessment and receives certification according to EN 9100 (E) ff / AS 9100 ff for the aerospace industry

1964
A second production plant commences operations at the village of Herolz near Schlüchtern in Central Germany. This plant concentrates on the production of medium and coarse cloths. The USA is now an important export market.

1963
The company is booming and dynamically expanding. PACO takes over the machines and production resources from a competitor in Karlsruhe.

1958
The cofounder Hans Paul withdraws for health reasons. Wilhelm Ruppel, a man that was onboard from the outset, takes over the management of the company as managing partner.

1996
Successful certification of the PACO quality assurance system according to EN ISO 9001. The 175th loom produced by PACO is commissioned at the factory in Herolz.

1973
The first foreign subsidiary, PAUL WIRE CLOTH CO. in Middlewich (UK) is set up.

1974
The first shuttleless loom built by PACO themselves is put into service at the plant in Steinau.

1953
Paul GmbH & Co – in short PACO – is founded by three partners: by Hans Paul (who had gained experience in metal wire weaving through his previous experience at Ratazzi & May) as well as the silent partners Werner Seyfert and Hans Arnold. Production was started in a garage with a second-hand loom.

1956
Production is relocated to premises in the newly built industrial estate at Steinau an der Straße. Initial contacts are made in foreign markets – particularly in the USA.

1995
Airbag production reaches its peak with nearly 300,000 units per month.

1975
The main factory at Steinau commences filter manufacturing, which due to huge demand is very quickly expanded. The first products are filter discs and sieves for synthetic fibre extrusion.

1993
A new factory is set up in the "Im Poppen" industrial estate in Steinau. This initially concentrates on the production of airbag components.

1981
PACO acquires the production resources of Ratazzi & May, the former market leader in metal wire weaving, where the company founders Paul and Ruppel originally learnt their trade.

1992
Foundation of the Belgian subsidiary CANAL – together with the partners André Brassine and the company Dillinger Fabrik gel. Bleche.

2010
With effect from 1st January 2010 PACO takes over HETA Verfahrenstechnik GmbH (Filtration and Separation), Lich.

2007
A further phase of the extension of the Herolz site is completed. A new office building and an increase in storage capacity to 1600 m² provides space for further expansion. Eight further high performance looms are commissioned. The graduate engineer Garvin Ruppel takes on an assistant managerial role to mark the entry of the 3rd generation into the company.

1990
The French subsidiary TSE is set up by PACO at Longjumeau near to Paris. Business activities are centred on the supply and service of the screen printing industry. The range of activities is systematically increased.

1989
Peter Ruppel is appointed as sole executive director of the PACO group of companies.

2009
As of 1st January 2009 Klaus Ruppel is appointed as an additional executive director of PACO Paul GmbH & Co. KG. The expansion and modernisation of the PACO company headquarters in Steinau is completed. Over 900 m² of office area are now available. The sieve screening shop is increased by an area of 500 m². This is complemented by a new sand blasting chamber and high pressure cleaning system for sieve frames.

2008
The founder and senior manager Wilhelm Ruppel dies at the age of 81.

2017
Klaus Ruppel, managing partner of the PACO Group and managing director of PACO Herolz GmbH steps down from the company on 31st December 2017 and enters retirement.





PACO Mesholutions powered by .Ing