

European Office



# A strong industry is our common target

How Europe can improve:  
Entrepreneurs offer an insight into their everyday work



# Preface



Thilo Brodtmann  
Executive Board

**Dear reader,**

Sometimes companies can be hard on the EU. Even though they often lack a clear understanding of the procedures in the Commission and the Parliament, they complain about Brussels and technocrats designing absurd regulation. In return, politicians and employees of the European institutions show a certain reluctance to listen to the companies' concerns from time to time. This results in ideas that are out of touch with reality for entrepreneurs and might even harm industry.

As a mechanical engineering association, we consider our task in Brussels to be to bring entrepreneurs and politicians together. We are convinced that the better we get to know each other, the more benefits there are for European industry and society.

Through this booklet we will inform you about demands from machinery companies about issues relating to trade, environment, the single market and industry. We mainly let the entrepreneurs speak themselves about how the EU could help machinery companies improve their situation in the future.

I want to encourage you to keep up the dialogue; call us, meet up with the staff of our European Office in Brussels or visit one of our member companies. Europe's industry has great plans for the years ahead. Let's tackle them together.

Kind regards,  
**Thilo Brodtmann**



## Hundreds of issues in a machine

Whenever Carl Martin Welcker receives a call from the United States, he has to worry about hundreds of little things. The fifty-four-year-old is a managing partner at Alfred H. Schütte GmbH in Cologne, a manufacturer of multispindle automatic lathes with 600 employees. These highly technological machines are used to produce components which are, for example, integrated into car airbags. However, unfortunately Welcker cannot just sell the machine to US car manufacturers as it has been designed for the European market.

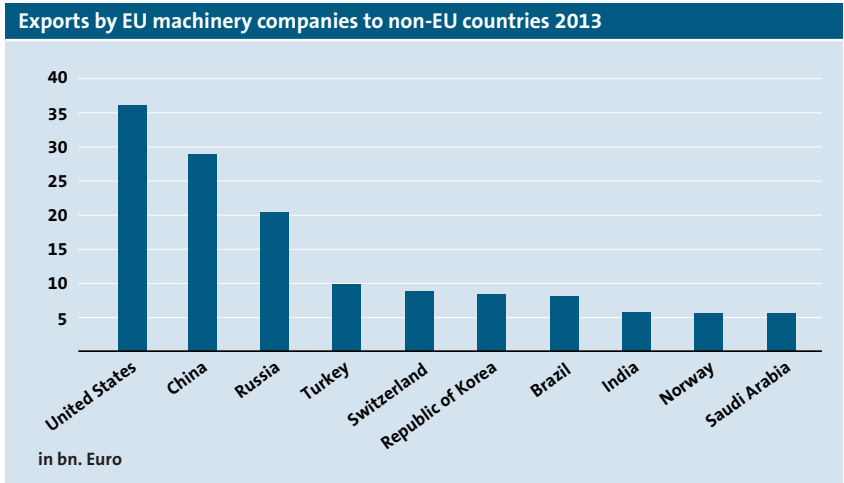
**“We need to get round a table with the Americans and ask ourselves: where are the sticking points and what can we do about it?”**

“The electronic parts of our machines are connected by plugs and we have hundreds of plugs built into every machine,” says Welcker. “In Europe, a plug is considered to be safe as long as it’s CE-certified. By contrast, the Americans have everything tested in their national labs. Basically, these plugs are safe on both sides of the Atlantic Ocean, but authorised use in the European market does not mean they satisfy the American standard – and the other way around.” For Welcker’s engineers, the plugs are not the only

problem. When receiving an order from the US they need to take into consideration all the other different regulations that apply in the American market, such as the colour of the cables or imperial standard threads. Alongside purchasing and storing components of machines designed for the German market, the same process is needed for machines that are supposed to be sold to the American market – with the correct cables, matching threads and hundreds of US plugs.

This leads to a competitive disadvantage for Welcker. “It takes between six and nine months to produce a machine for the European market, but seven to twelve for an American client,” says the entrepreneur. “In addition, adapting the machines to meet US norms increases our production costs by between five and fifteen percent.” This is why Welcker hopes that the EU and USA will agree on the Transatlantic Trade and Investment Partnership (TTIP) and mutual norms and standards. “We need to get round a table with the Americans and ask ourselves: where are the sticking points and what can we do about it?” Welcker and his colleagues might then avoid having to re-assemble every single machine for the US market and stop having to worry about hundreds of plugs.

## From Europe to the world



Source: eurostat, VDMA

The mechanical engineering industry is highly export-driven. In 2013, European companies generated a total revenue of 620 billion euro, 239 billion euro of which was generated by selling outside the EU. The machinery industry in the EU therefore has an export share of **38.6 per cent**.

In 2012, the value of machinery deliveries in the US came to 36 billion euro. As a result, mechanical engineering in the EU accounted for almost **13 per cent**

of all exports from Europe to the US and achieved a higher export volume than the EU's automotive industry.

Due to non-tariff barriers to trade such as different standards or additional certification processes, products by European machinery companies become significantly more expensive when sold in the USA. VDMA's member companies estimate that the additional costs add up to between **5 and 20 per cent**, depending on the machine and the size of the company.

38.6

13

5 to 20

## For fair and free trade

Mechanical engineering companies mainly sell their products abroad. VDMA has therefore always supported the EU's free trade agenda. Some of the biggest markets for European machinery companies are located outside the EU, such as the USA, China or Russia. In order to remain competitive, companies must not be overloaded with unnecessary bureaucracy. This also applies for Corporate Social Responsibility (CSR), a policy tool that must continue to be voluntary.

Since 2013, the EU and the USA have been negotiating the free trade agreement TTIP. Its aim is to facilitate trade between Hawaii and the Black Sea significantly for companies and some 800 million consumers. TTIP would be an achievement, especially for the machinery industry. Today, many small and medium-sized companies face difficulties when they try to sell their products abroad as different industrial standards are a considerable barrier to trade.

## We call for

- **A successful finalisation of the TTIP negotiations**  
TTIP shall lead to the elimination of all tariffs and the cutting of non-tariff barriers between the EU and the USA.
- **Removal of non-tariff-barriers**  
TTIP should ensure that technical requirements for products will be harmonised and mutually accepted in the EU and the USA.
- **All activities in the field of CSR should remain voluntary**  
Red tape is a barrier to trade. International companies in the machinery industry are already engaged with society in an efficient and non-bureaucratic manner.





## Plenty of paper for the furnace

One morning, Joachim Wüning is sitting in front of his computer when he clicks on a PDF file in which the EU sets out possible environmental requirements for industrial furnaces. A file opens on his desktop containing more than 700 pages. The fifty-year-old Wüning is a managing partner at WS Wärmeprozessstechnik, a company based in Renningen in southern Germany. The company produces burners that are, for example, part of industrial furnaces used by automotive suppliers to heat metals. When the entrepreneur reads the Commission's furnace ideas, even he, as an expert, is perplexed. "It seems that the approach was to define a regulation for every conceivable process," says Wüning. "Honestly, I didn't read all 700 pages."

**"When big enterprises successfully communicate to Brussels that regulations should be tailor-made for their techniques and methods, small businesses have a problem."**

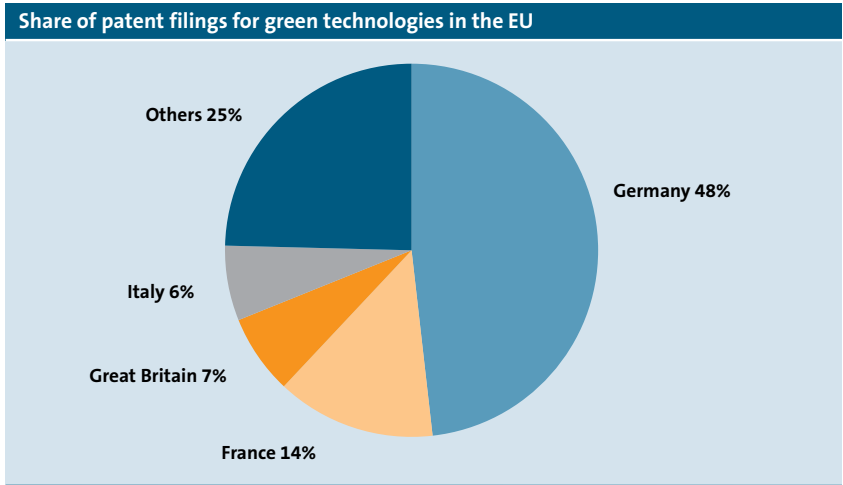
Saving energy is an instinct for Joachim Wüning. In an industrial furnace for galvanising materials, more than 100 tonnes of steel sheets are heated up to 800 degrees every hour. 200 to 300 burners are manufactured in such a furnace; the energy for these machines

costs several millions of euro. Unfortunately, when lawmakers in Brussels run consultations to ask businesses about their opinion on future legislation, Wüning and his 100 employees have limited resources to take part. "In these consultations it is often the bigger companies that are visible, those who have the manpower to provide the Commission with loads of documentation," says Wüning. "When big enterprises successfully communicate to Brussels that regulations should be tailor-made for their techniques and methods, small businesses have a problem."

The proposal Wüning finally sends to Brussels is exactly two pages long. The paper defines the maximum amount of waste gas loss of a furnace as well as the maximum amount of pollutant emissions. "In the end, that's what matters," says the entrepreneur. What Wüning expects from the EU's environmental policy is reliability – the practical steps to fulfil these policies should be industry's responsibility. "I do not object to regulation at all," says Wüning. "But laws made in Brussels should not give an advantage or disadvantage to specific technologies. Policymakers should determine the general direction of policy – but how to innovate should be the concern of the companies themselves."



## Where green innovation happens



Source: EAA: Ressource-efficient green economy and EU policies 2/2014

The mechanical engineering industry carries out intensive research in the field of environment protection. **Forty to fifty per cent** of mechanical engineering companies that brought innovations to the market in the years between 2006 and 2008 were able to make a contribution to environmental protection with their new technologies.

Mechanical engineering is ahead of other industries with regard to environmental protection. **Sixty per cent** of the

revenue generated by German sales of environmental protection goods came from machinery products in 2010.

Resource efficiency is an opportunity for the mechanical engineering industry. Between 2002 and 2011, global trade with environmental goods rose by **12.7 per cent** per year on average. The market for raw material and material efficient products alone will grow by 7.6 per cent per year by 2025.

40 to 50

60

12.7

## For a reliable environmental policy

Coping with finite resources – be that water, energy or non-energy raw materials – is part of everyday business for mechanical engineering companies. There is a double incentive for manufacturers to design machines as efficiently as possible. It is not just about keeping production costs low. It is also the client's expectation for a product to last potentially several decades to have low operating costs due to efficient use of resources. The capital goods industry

can therefore make a crucial contribution to fulfilling the European Union's environmental, energy and climate policy objectives. However, it is important to find a balance between what is technically possible, political objectives and entrepreneurial cost-effectiveness. Leaps in technology happen unexpectedly without a regulatory format being readily available. Legislation must leave room for creativity, especially for small- and medium-sized companies.

## We call for

- **No additional legislative instrument for resource efficiency**  
Instead of creating new instruments, existing ones should be managed more effectively by using a solid data base and proven methodologies before requirements are determined.
- **Implementing the Ecodesign Directive with care**  
Rigid limit values risk limiting design options and innovation. Technical details should not be part of implementing regulations. By contrast, industry should be allowed to take on more responsibilities.
- **An ambitious climate and energy strategy 2030**  
New legislation becomes redundant if existing measures are implemented and enforced on a reliable and binding basis at the national level.



## The Romans are coming

Every now and then, three officials from the Italian Ministry of Economic Affairs go on a trip to Wildeshausen close to Bremen to pay a visit to Helmut Lorch. The sixty-three-year-old is the CEO of Atlas Weyhausen GmbH, a manufacturer of front loaders; heavy equipment with shovels or pallet forks which are used on construction sites or in other industrial environments. Before Lorch can sell his loaders on the Italian market, the inspectors want to have a close look at the vehicles. Lorch has to reserve an entire week to show the inspectors the production site of Atlas. Everything about the loaders seems to be of interest: what is the braking distance? Where are the warning lights located? How loud is the horn?

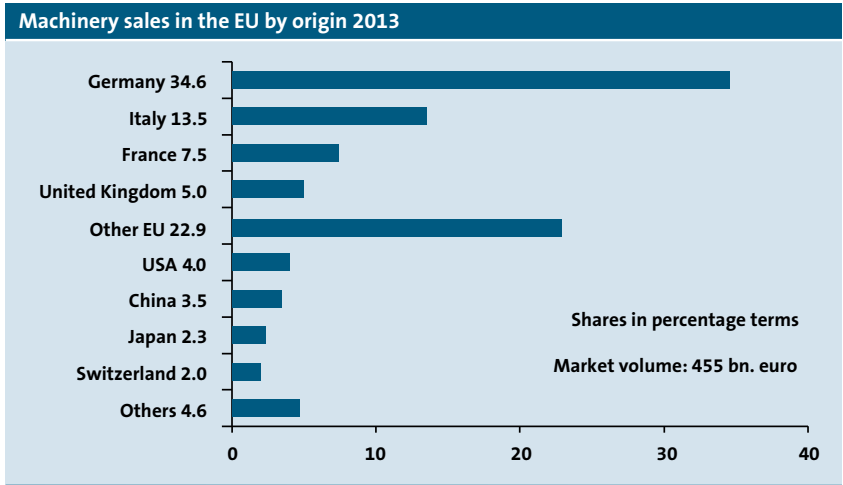
**“The European single market is a major achievement. Nevertheless, we can’t just pretend that there are no barriers left.”**

The experts call this spectacle ‘homologation’ – meaning conformity with national laws at the place where the machinery will end up. Though Lorch is an expert in this process, he does not quite understand the need for it. “When we develop and manufacture our products, we comply with the

EU Machinery Directive, EU Emission Standards and harmonised standards. Every machine is TÜV-certified,” says Lorch. For him, this issue is not only about workload but also about costs. Atlas Weyhausen employs 190 people in Germany and another 200 people in Hungary. The Italian market accounts for a rather limited share of their total products sold but a single employee still needs to put in three whole months of work to pull together the necessary files to obtain permission to sell the company’s five most-demanded products. In addition, Lorch has to pay various fees, the testing procedure and the bill for the hotel rooms hosting the three inspectors from Rome. “A one-off homologation of five machines costs 50,000 to 60,000 euro,” says Lorch.

The problem is not specifically German-Italian. Lorch can list special provisions concerning exports for many more EU member states. If he could make a wish, it would be for his company to supply every European market without being checked every single time. “The European single market is a major achievement of the EU,” he says. “Nevertheless, we can’t just pretend that there are no barriers left for European companies.”

## Strong on the European market



Source: eurostat, VDMA

**25** The production processes of Europe's manufacturing companies are highly interconnected with the single market. For example, the goods exported by German firms contain **25 per cent** of value added created outside Germany – of which 60 per cent comes from other EU member states.

**95** In order to be allowed to sell on the single market, a producer needs to prove that its products comply with the relevant EU requirements. **Ninety five**

**per cent** of companies in the engineering industry are doing this conformity testing themselves, which has not led to a higher number of occupational accidents.

Germany is not only Europe's biggest producer of machines but also its biggest market. In 2013, Germany accounted for **33.5 per cent** of the machine purchases in the EU. Other major markets are Italy (11.7 per cent) and France (10.9 per cent).

**33.5**

## For a functioning single market

The single market in the European Union is one of the biggest accomplishments for export industries and in particular for the mechanical engineering industry. EU efforts to align and adapt national laws and regulations in recent decades have boosted cross-border trade within Europe. The EU has therefore not only become the biggest market but also the most important supplier for the mechanical engineering industry.

For that reason, it is crucial for the industry that the single market functions properly. But entrepreneurs consistently notice that this is not always the case. There are still many gaps to be filled and beyond that there is a significant risk that companies might be burdened with unnecessary bureaucracy. Competitive distortions due to contradicting national laws or incoherent transposition of EU legislation are as problematic as poor infrastructure.

## We call for

- **A uniform product testing system by the producer**  
The CE marking has to be maintained and promoted. Additional tests by third parties are cost-intensive and do not create extra benefit.
- **Efficient and effective market surveillance**  
Common rules in the EU area only make sense if all market players comply with them. Competitive distortions due to insufficient market surveillance must be avoided.
- **Modernising energy and data networks**  
The single market needs to function for digital products. This requires an EU-wide interconnection in order to meet the requirements of a modern economy.





## Controlled through the Internet

Manfred Wittenstein only needs a light bulb and an iPhone to demonstrate the future of mechanical engineering. When the industry met at the trade fair in Hannover, the German entrepreneur Wittenstein fixed a 100-kilogramme weight on one of the drives, which is manufactured by his company in Igersheim. The company employs 1,800 people worldwide. Wittenstein started the motor and the weight moved directly towards a light bulb – but people in the audience could stop this movement with their smartphones. Using an application, the audience was able to send a command via internet to the drive so that it did not crash into the bulb. “I like this experiment, because it shows how mechanical engineering and IT merge,” says Wittenstein. “And it shows what might happen if this connection doesn’t work.”

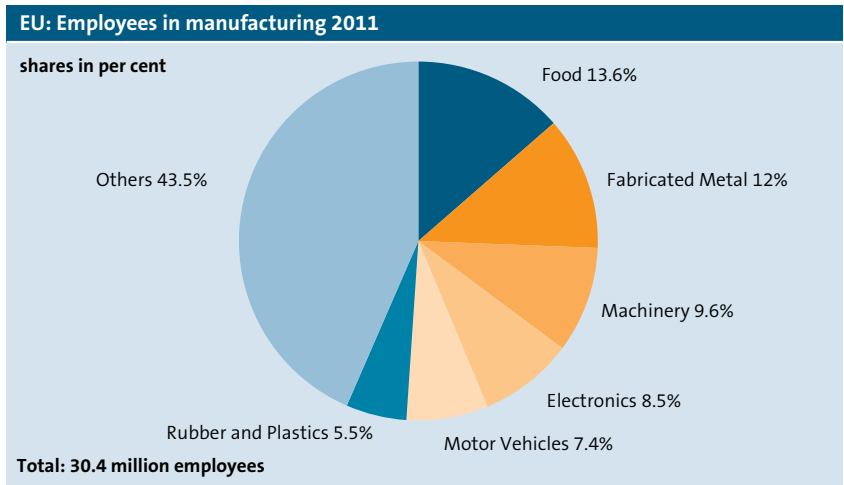
**“The only question is: Where will this future arrive first? The earlier we will create the frame needed for Industry 4.0, the more likely it is that this place will be Europe.”**

The drives by Wittenstein’s company can be integrated everywhere where there is movement. For example, they are used in the door lock of the Airbus A 380. “For decades we have asked ourselves:

How can we understand better why drives sometimes fail,” says Wittenstein. “Finally, there was an answer: we can use the internet.” Today, machines do not just receive commands online but also send all kinds of data back to a server, including information about temperature, speed and vibrations. Unfortunately, the general framework in Europe is not yet fully prepared for the phenomena called Industrie 4.0, which is where mechanical engineering and the internet come together. “When I show our connected drives to one of our clients, he responds: I will definitely not share online data that reveals how we produce.” Additionally, it is not yet clear who owns the data that a machine sends back to Wittenstein’s server – the owner of the machine or the manufacturer? Who would be accountable if data gets stolen and what would happen in the event of machine failure?

Wittenstein hopes that the EU will consider these developments when shaping the industry policy. Many companies will only dare to use the new technologies if they can rely on an adequate legal framework. “There can be no doubt that the connection of machines and the internet will be the future,” says Wittenstein. “The only question is: where will this future arrive first? The earlier we create the framework needed for Industrie 4.0, the more likely this place will be Europe.”

## Mechanical engineering – power for Europe



Source: eurostat, VDMA

**30** Mechanical engineering stands for small and medium-sized companies: the “Mittelstand”. A machinery company in the EU has, on average, **30 employees**. If one only takes into account European machinery companies with more than 20 employees, the average size of a company is 127 people.

**11.5** The mechanical engineering industry in Europe is driven by innovation and technological progress. In 2011, European mechanical engineering companies spent **11.5 billion euro** on

research and development. German companies account for more than 40 per cent of that amount.

Mechanical engineering offers a potential area of work for young people. In Germany, 6.6 per cent of the employees working in the machinery industry are apprentices. Compared to other industries, machinery has one of the highest shares of in-house training. More than **40 per cent** of all machinery companies offer apprenticeships. **40**

## For an industrial (r)evolution

By calling for an industrial renaissance, the EU has put manufacturing on top of the industrial policy agenda. At the same time, the world of industry is undergoing a fundamental change. On the one hand, global markets are demanding more flexibility and productivity whilst the consumption of resources has to be minimised. On the other hand, progress in both manufacturing and communication technologies opens new, sustainable and competitive types of innovation, production and consumption.

At the core of this industrial (r)evolution is the digitalisation of industrial value chains which will integrate people, machines and factories in flexible information networks, a development that is known as Industrie 4.0. More and faster information will optimise resource use, shorten lead times and increase productivity. However, this bright vision does not come for free: industry is facing a paradigm shift and a fundamental change of the way in which production is organised and how people work.

## We call for

- **New rules for a new and connected industry**  
The legal and regulatory framework has to be reviewed in order to protect business and process knowledge and to ensure clear rules for the ownership of data.
- **Excellent communication infrastructure**  
The integration of value chains and customers in real-time information networks requires access to ubiquitous and safe communication and broadband infrastructures with industry-level performance in terms of reliability, speed and volume.
- **Research funding to support the digital transition**  
All companies need fair and good starting conditions in order to benefit from Industrie 4.0. SMEs and mid-caps need to be supported via R&I funding.





## The European Office in Brussels

VDMA's office in Brussels bridges the gap between business and politics. The association informs its member companies about political developments that affect mechanical engineering. For policymakers in Brussels, the European Office (EurO) is a reliable point of contact with in-depth knowledge about the mechanical engineering industry to ensure that lawmaking does not happen

in isolation from the real world in which companies operate. Frequently, the EurO organises get-togethers between politicians and entrepreneurs. To fulfil this task, VDMA established the European Office in 2000. Today seven experts work directly for VDMA and another eight for European associations representing specific sectors in the European machinery industry.

## Representatives for the machinery industry

Europe aims to be more innovative, more efficient and more stable with a strong industrial base. For that task, VDMA represents a key industry. Approximately three million Europeans currently work in the mechanical engineering industry and one million in Germany alone. The industry stands for SMEs and innovation. A typical German machinery company operates with a few hundred employees and often does so successfully through the development and use of forward-

looking technologies. VDMA represents 3,100 member companies, with a rising share of enterprises based outside Germany. With more than 500 employees, the association is the largest and most forceful organisation representing the capital goods industry in Europe. With offices in Frankfurt, Berlin, Brussels, Peking, Moscow, Sao Paulo, Kolkata and Tokyo, VDMA possesses a worldwide network of experts and broad international experience.





**Holger Kunze**  
Director European Office

E-Mail [holger.kunze@vdma.org](mailto:holger.kunze@vdma.org)  
Phone +32 2 706 8 213



**Marleen De Vijlder**  
Secretariat

E-Mail [marleen.devijlder@vdma.org](mailto:marleen.devijlder@vdma.org)  
Phone +32 2 706 8 205



**Ann-Marie Goossens**  
Secretariat

E-Mail [anmarie.goossens@vdma.org](mailto:anmarie.goossens@vdma.org)  
Phone +32 2 706 8 208



**Hanna Blankemeyer**  
Technical Affairs,  
Environment, Energy

E-Mail [hanna.blankemeyer@vdma.org](mailto:hanna.blankemeyer@vdma.org)  
Phone +32 2 706 8 217



**Daniel Kern**  
Trade and Legal Affairs

E-Mail [daniel.kern@vdma.org](mailto:daniel.kern@vdma.org)  
Phone +32 2 706 8 207



**Kai Peters**  
Research and Development

E-Mail [kai.peters@vdma.org](mailto:kai.peters@vdma.org)  
Phone +32 2 706 8 219



**Eike Radszuhn**  
Press and Communications

E-Mail [eike.radszuhn@vdma.org](mailto:eike.radszuhn@vdma.org)  
Phone +32 2 706 8 123

## Imprint

### **Editor**

VDMA

Lyoner Straße 18  
60528 Frankfurt am Main

Phone +32 2 706 8205

Fax +32 2 706 8210

E-Mail [european.office@vdma.org](mailto:european.office@vdma.org)

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**VDMA European Office**

Diamant Building

Boulevard A. Reyers 80

B-1030 Brussels

Phone +32 270682-05

Fax +32 270682-10

E-Mail [european.office@vdma.org](mailto:european.office@vdma.org)

[www.vdma.org](http://www.vdma.org)