

ampere

ELECTRIFYING IDEAS

1.2024

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FREE!



**REAL TIME:
AUTOMATION**

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electrifying
ideas



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“Bureaucracy
must be pushed
back resolutely.”

Photo ZVEI / Maren Strehlau

Dear Reader,

The 2024 European elections will take place from 6 to 9 June. For the tenth time, the citizens of Europe are being called upon to elect their parliament. The elections are taking place at a difficult time in geopolitical terms – it is therefore all the more important that we as voters send a signal in favour of a strong and sustainable European Union.

ZVEI fully supports the European idea. The single market and the single currency are the basis of our prosperity. The electro and digital industry in particular benefits from the common economic and currency area.

At the same time, however, the EU must continue to develop if it wants to remain a guarantor of prosperity in the future. The growing number of regulations in particular is overburdening European companies. A reversal is overdue here – bureaucracy must be pushed back resolutely. One example is the EU Corporate Sustainability Due Diligence Directive, which we have always sharply criticised in both its German and European forms. It may be well-intentioned, but in practice it is proving to be counterproductive.

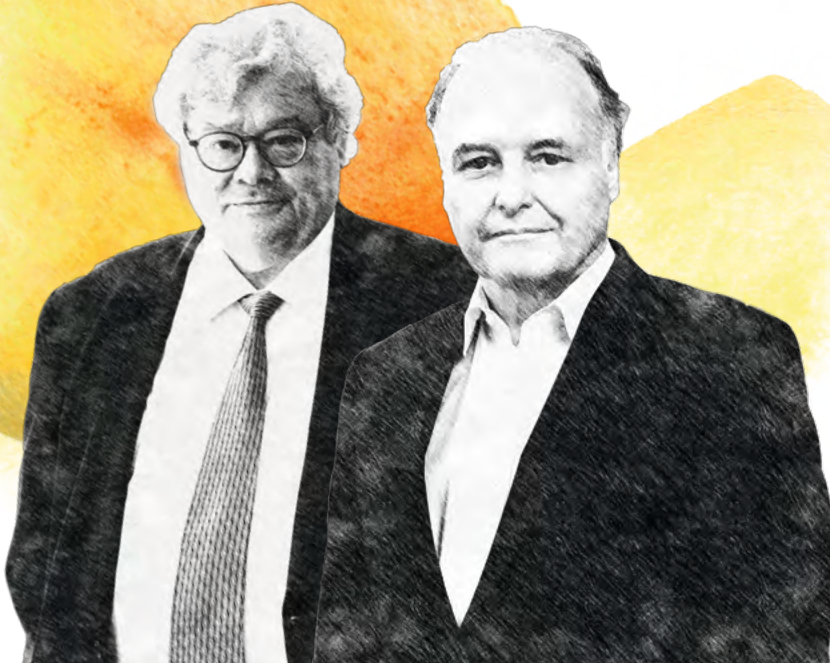
For more resilience, we need new free trade agreements. The EU must therefore continue with its ambitious trade agenda, negotiate new free trade agreements and implement them quickly. The EU should focus more on pragmatism in such negotiations – because today all countries worldwide have significantly more potential trading partners than 15 years ago. By making maximum demands, for example, it will be difficult for us to obtain all the raw materials we need for the sustainable transformation of our industry.

The European Union is a unique peace project and a haven of stability. We must preserve this – including by remaining economically strong. We in the electro and digital industry are convinced: Europe is capable of more, we just have to let it. As an association and as an industry, we want to make our contribution to this – with this **ampere** and with many “electrifying ideas for Europe”!

Yours,

DR OLIVER BLANK
ZVEI HEAD OF GLOBAL AFFAIRS

14



20



**electrifying ideas
FOR EUROPE**

Find out more about our
"electrifying ideas for
Europe" here:

WWW.ZVEI.ORG/FOR-EUROPE



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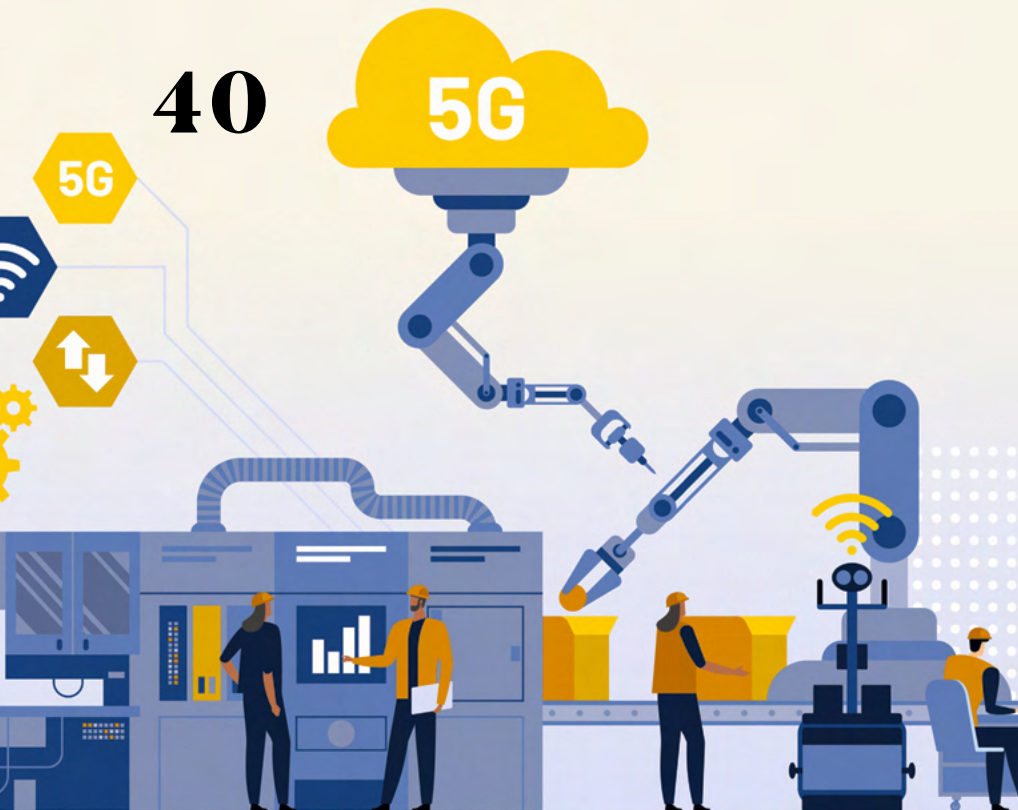


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Heads or tails

PEACE TIME

28,884

days of peace will have passed in the countries of the EU between the end of the Second World War on 8 May 1945 and the start of the European elections on 6 June 2024.

The war in Ukraine tragically shows that peace in Europe can by no means be taken for granted. But a look into history also clearly shows that in past centuries, war on the continent was the rule rather than the exception. After the catastrophe of the Second World War, the process of European unification began – with the aim of making military conflicts in Europe impossible in the future. This has also been achieved within the borders of the EU in recent decades, for which it was honoured with the Nobel Peace Prize in 2012. Important cornerstones for a peaceful Europe are the European Parliament, international exchange programmes such as Erasmus, as well as joint institutions in the field of research such as the European Space Agency or the Extreme Light Infrastructure. Instead of shooting at each other, Europeans are now coordinating their policies, studying together, conducting cutting-edge research and opening up space. The best conditions for many more days of peace in the future.





Photo ESA / NASA



Expertise

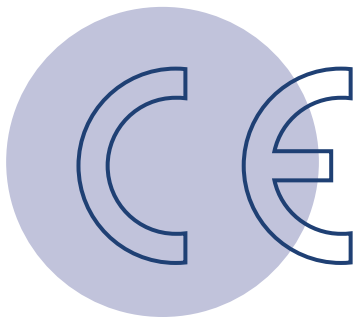
EUROPEAN ELECTRICITY MARKET DESIGN

The European Union will reform the electricity market. **Mark Becker-von Bredow**, Director Electrification and Climate at ZVEI, explains what adjustments need to be made in order to achieve more flexibility in the electricity system.

The Commission, Council and Parliament of the EU have agreed on a reform of the electricity market. In addition to industrial policy issues, attention was also rightly focussed on a better framework for the interaction between electricity supply and demand. The economic added value of decentralised flexibility was demonstrated by ZVEI together with the consulting company Neon – Neue Energieökonomik GmbH in a recently published study. Here in Germany in

particular, where we already have more than 50 per cent renewable power, the requirements for flexible and therefore cost-efficient use and storage of electricity are increasing. The compromise that has been reached will first of all maintain the flexible electricity tariffs that send the necessary price signals to electricity customers. Secondly, there should be a positive boost in energy sharing. Smaller producers should be able to share surplus electricity from renewable energies with

others without red tape. And thirdly, it is not only Germany that has up to now pursued the approach of ensuring security of supply during peaks in demand, particularly through additional generation plants. With the demand-response approach, the EU member states are now being encouraged to further develop the intelligent management of electricity demand and the integration of electricity storage systems in order to meet these peaks in demand.



The CE marking is repeatedly used fraudulently because of its significance. However, it is precisely defined. For example, an "E" whose centre line is in line with the top and bottom of the letter would be incorrect.

Electronic symbol

THE "CE" MARKING

The two letters CE stand for "**Conformité Européenne**", which means "European Conformity".

Everyone knows this logo, which can be found on countless products. And that is no surprise as many goods would not be authorised for marketing in the EU without the CE marking. It is an indication that a product has been tested by the manufacturer under its own responsibility and that it fulfils

all EU-wide requirements for safety, health protection and environmental protection. However, the CE marking does not mean that the EU or another organisation such as TÜV has assessed the product as safe. The CE marking was introduced in 1985 by a resolution of the then EC Council.

Milestone

1994

The **European Economic Area** is a free trade zone between 30 countries with around 520 million inhabitants.



The European Economic Area (EEA) was founded 30 years ago, one year after the single European market first saw the light of day. EEA members

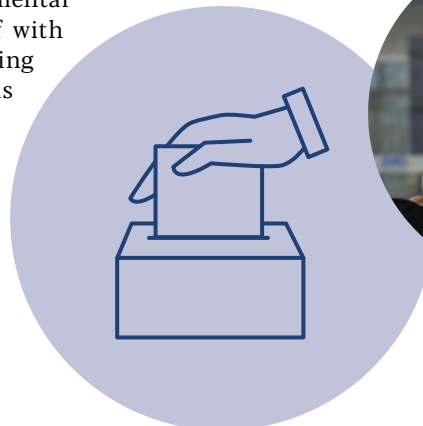
today are the 27 EU member states along with Iceland, Liechtenstein and Norway. They all form a single market with a population of around 520 million. In the EEA, customs duties between member states have been abolished and around 80 per cent of the EU's internal market regulations apply there. The core elements of the EEA are the free movement of people, goods and capital as well as co-operation in matters of transport, agriculture, fisheries, trade and energy. Various bodies are responsible for implementing the EEA Treaty, including the EEA Council, which is made up of representatives of the governments of the Member States. In contrast to Iceland, Liechtenstein and Norway, Switzerland regulates its relations with the EU via bilateral agreements.

My gadget

THE BALLOT BOX

Julia Dornwald argues in favour of participating in the European elections. After all, good politics requires a broad-based will of the voters, says the Head of ZVEI Regional Office NRW and Manager at the German Cable Maker's Association.

Ever since I was allowed to vote, I have been going to the polling station on the relevant Sundays. I like to consciously drop the ballot paper into the ballot box. For me, this is a fundamental contribution to our democracy, for which I reward myself with a walk and ice cream afterwards. However, I do not see voting as a duty, but as a privilege. We should not forget that this cannot be taken for granted. Politicians who set the framework should be elected by broad sections of the population. The European elections are also very exciting from a professional perspective. Most of the companies in ZVEI operate internationally. We have a common market in Europe, recruit employees there and share the same values. Maintaining this is particularly important. And voting is a basic element for this.



Convinced about Europe:
Julia Dornwald

OUR PROPOSITION:

The EU is a model of success. But it is capable of even more!

THE ARGUMENTS:

1. As a project for peace, freedom and prosperity, Europe is a unique success story.
2. The EU offers citizens the freedom to travel and companies a single market without customs barriers.
3. However, it has partly developed in the wrong direction, as national egoism and the regulatory tsunami show.
4. But it does not have to stay that way. The direction in which the EU develops is determined by the people of the continent.
5. Therefore, go and vote on 9 June! Because your commitment makes the difference.

COMMUNITY WITH LIGHT AND SHADOW:

The single market project alone has led to an increase in EU GDP of

6-8%.

Less than

50%

trust the European Union.

Thanks to the single market, exports from the German electro and digital industry to the EU founding states (which are still part of the EU today) have more than tripled since 1992 to

64.7 billion euros.

By eliminating customs duties within the EU, German importers of electrotechnical and electronic goods save around

More than 50%

of the bureaucratic costs of companies in Germany are caused by EU and international law.

2 billion euros per year.

Source: ZVEI, Eurobarometer, European Parliament, Ludwig Erhard Foundation

Set Europe free!

THIS IS THE ONLY WAY TO STAY SUCCESSFUL

Europe has shackled itself, its citizens and its companies – sometimes unnecessarily. In international competition, it is now important to release the brakes. Only then can the continent realise its full potential. And continue to play at eye-level worldwide.

TEXT **CHRISTIAN BUCK**

ILLUSTRATION **MONA EING & MICHAEL MEISSNER**



INFO

ZVEI EUROPEAN PAPER

The EU is the foundation of our prosperity. But it must continue to develop. You can find ZVEI's demands in our position paper.



Put in bureaucratic chains: Europe must focus on its core tasks instead of constantly inventing new regulations.

The idea sounds very promising and can be summarised in a simple formula: “One in, one out”. This refers to the principle of offsetting newly introduced burdens at EU level by reducing existing burdens in the same policy area. So far, however, companies in the European Union have experienced none of this – quite the opposite: “The regulatory frenzy in Europe is getting worse and worse,” states ZVEI President Dr Gunther Kegel. This is also the conclusion reached by the National Regulatory Control Council in its annual report for 2023: “Bureaucracy costs amount to some 65 billion euros per year. So there is still a considerable need for action here and great potential for relief.”

Bureaucracy costs amount to some 65 billion euros per year.

NATIONAL REGULATORY CONTROL COUNCIL

More than 50 per cent of companies' bureaucratic costs are caused by EU and international law. What this means in practice can be seen, for example, in the regulations on sustainability reporting. Europe's companies are expected to comply with 13 standard regulations totalling around 400 pages. Small and medium-sized companies in particular are reaching their limits in the face of such reporting and verification obligations – even if they are not supposed to be affected by a new law due to their size (more on this in the article on page 28).

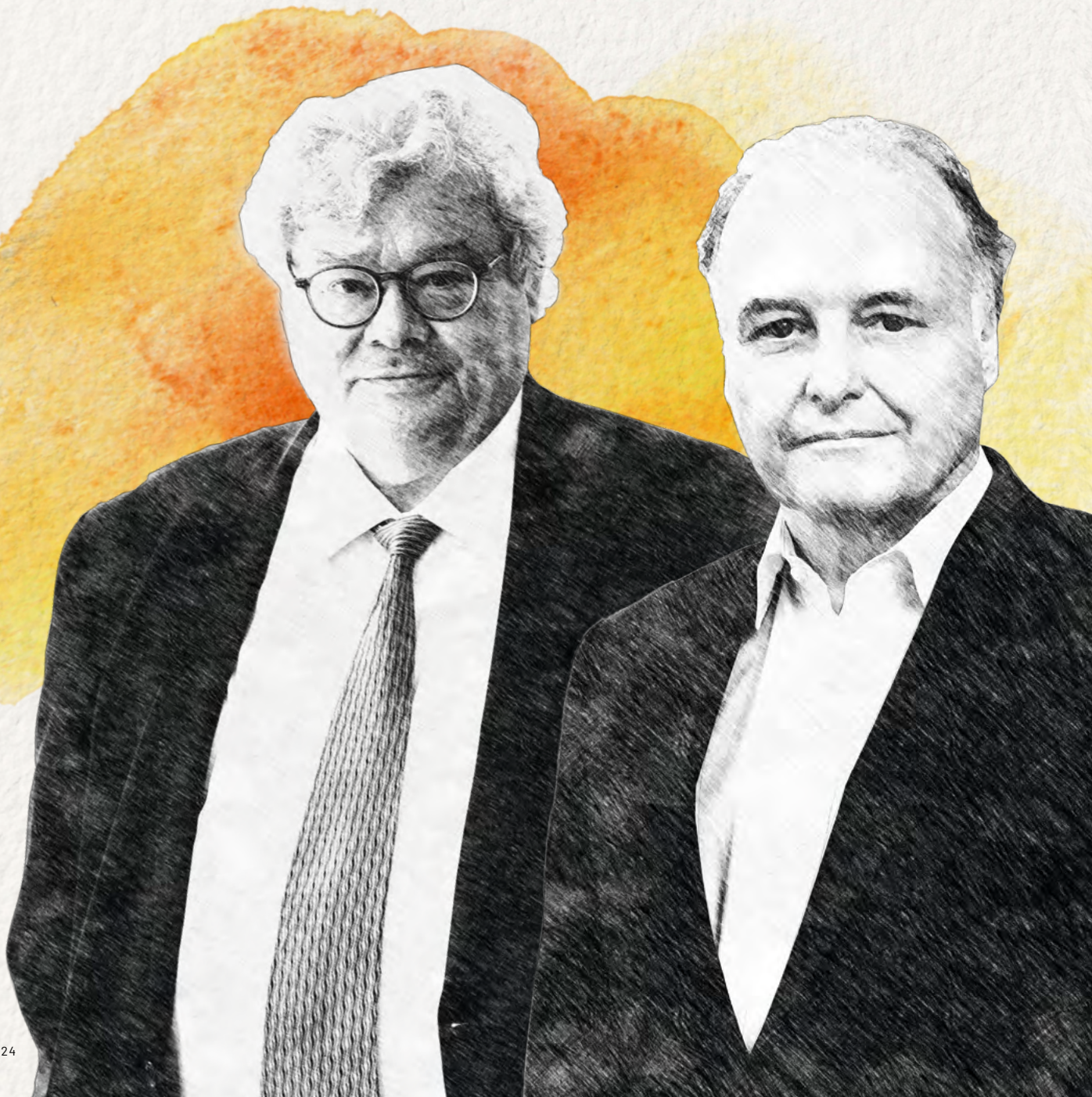
All of this is taking place against a backdrop of international uncertainty, rising prices, a shortage of skilled labour and growing global competition. If the EU, as a continent poor in raw materials, wants to remain a region of prosperity and stability in the future, it must develop the creative potential of its people and companies. And that means it must finally loosen the shackles where they are unnecessary and only cause damage. Otherwise, the economic and political balance worldwide will shift more and more in favour of other groups of countries such as the BRICS states (see the infographic on page 18).

However, “less EU” cannot be the answer to the current challenges. In recent decades, the European Union has been a key driver of growth and prosperity in the member states. And it can stay that way. According to a study by the European Parliament, further integration of the community could generate an additional 2.8 trillion euros in gross national product by 2032. Conversely, Brexit shows the consequences of leaving the EU. It costs companies in the UK around 100 billion pounds a year.

So what needs to be done to get the EU back on track? From ZVEI's point of view, there are, among others, the following three central tasks: Firstly, the EU internal market must be further developed and the regulatory burden reduced. Secondly, Europe must develop its energy infrastructures together and create a new electricity market design. And thirdly, the European standardisation system must continue to be driven by the stakeholders (more on this on page 24).

Europe can do more. We just have to let the continent get on with it. And drive it forward with pragmatic solutions.

**“We need
to make a
better offer!”**



*The geopolitical environment and sprawling bureaucracy are challenging Europe. Reinhard Bütikofer, Member of the European Parliament, and ZVEI President Dr Gunther Kegel talk about the state of the EU and its future prospects in an **ampere** interview.*

TEXT **CHRISTIAN BUCK**

Concerned EU supporters: Reinhard Bütikofer and Dr Gunther Kegel would like to see more global partnerships in Europe.

Mr Bütikofer, you are leaving the European Parliament after 15 years. How have the EU and the geopolitical environment changed during this time?

BÜTIKOFER: Today, the EU is facing a challenge that hardly anyone would have expected 15 years ago. We believed that the multilateral, western democratic system was firmly established. Instead, there have been fundamental shifts that have also affected the openness of markets. That is why Europe needs to start a new era – and I would say that we are already in the thick of it. This applies to both industrial and foreign policy. Everything is currently being reorganised.

How can Europe exert any influence at all if its global significance – for example economically – continues to decline?

BÜTIKOFER: Regarding foreign relations, we should adopt something like a guiding principle that has proven its worth within the community, and that is strength through cooperation. We need to cooperate even more closely with countries such as Japan, Australia, Mexico and Canada, which are close to us on many fundamental issues. Unfortunately, however, there is the ominous idea of “strategic autonomy” in Europe – as if it were desirable for the EU to act particularly zealous and often as if it were an autonomous entity. I think that is wrong, because we need “strategic cooperation”. With our sometimes arrogant attitude towards potential partners, we have given China and Russia far too much space. We must make a better offer than these authoritarian powers!

Dr Kegel, what do you see as the biggest challenges for the EU?

KEGEL: I have been working in the economy for around 35 years now. During this time, globalisation has been a prerequisite for economic success. But it has also been a good thing from a humanitarian point of view. As a result, it has lifted more people out of abject poverty than ever before. Unfortunately, since Russia’s invasion of Ukraine, we have been on the path to a power-based political approach. That is highly dangerous. After all, an export nation like Germany, but also Europe as a whole, needs peaceful coexistence, partnerships on an equal footing and rule-based structures. The EU urgently needs to work on this. ▷



“Europe must start a new era.”

REINHARD BÜTIKOFER

REINHARD BÜTIKOFER

has been a Member of the European Parliament since June 2009. Previously, he was the Federal Political Director and Federal Chairman of Bündnis 90/Die Grünen, among other roles.

How should the EU position itself in this new environment?

KEGEL: We are in the middle of a process of change and we do not yet know where it will lead. What is certain is that we have to increase our own defence capabilities and can no longer rely on the Americans to come to our rescue – because they will no longer do that. Nevertheless, the mentioned “strategic autonomy” is not a solution either. Europe cannot survive with such a policy because we are too small.

BÜTIKOFER: I believe that the transition to a power-based world is not yet complete. We can still help to prevent this from happening. In the UN Security Council, the Kenyan ambassador said the same thing: “We share Ukraine’s interest in ensuring that large states cannot force smaller neighbours to submit to their rule. As Africans, we are not directly affected – but if this approach prevails, there will be no more stability and peace in any other part of the world.” We must rely on such partners. We could cooperate with resource-rich coun-

tries in Africa and help them to develop their own processing industry, for example for rare earths. The EU is discussing this under the heading “Global Gateway Initiative”. The question, however, is whether everything will happen quickly enough.

Influence requires economic strength. Recently, however, we have heard more and more complaints that the EU has developed from a growth engine into a regulatory monster. Dr Kegel, how bad is the situation at the moment?

KEGEL: Our single market is an incredible asset. However, it is now being overshadowed by a regulatory frenzy that reached new heights in the last legislative period. Five new legal acts await us on the topic of “data economy” alone! We are already grappling with the General Data Protection Regulation, which has its intellectual origins in the 1980s. In addition, there is a German Supply Chain Due Diligence Act, which is being replaced by a European Due Diligence Act and imposes unbelievable documentation obligations on us – this is a huge burden, especially for small and medium-sized companies.

What does this mean for the economy?

KEGEL: At the company that I head, with around 1,800 employees in Germany, there are now ten people working on these compliance issues. We know from experience with the Dodd-Frank Act in the USA that this effort is disproportionate to the changes achieved. Nevertheless, the EU has based its regulation on this model.



“We should not leave countries like India to China and Russia.”

DR GUNTHER KEGEL

In addition to his position as CEO of Pepperl+Fuchs SE, DR GUNTHER KEGEL has been ZVEI President since October 2020 and BDI Vice President since 30 November 2020.

INFO

The Dodd-Frank Act regulates companies' disclosure and reporting obligations for “conflict minerals”. It is regarded as a model for supply chain legislation in Europe and previously in some countries such as Germany.

So are there bureaucrats in Europe who think up regulations without weighing up their consequences?

BÜTIKOFER: Despite all the justified criticism, we must be careful not to chase after the illusion that we could proceed without regulation. Markets arise from regulations and we have a toolbox for this in Europe. However, some tools are not included. With the Inflation Reduction Act, US President Biden has launched an ecological investment offensive that essentially utilises market-based instruments rather than regulatory law. This is not possible in the EU because the member states are responsible for this. If the EU wants to regulate something, it has to use other tools. However, I believe that the way regulations come about is antiquated. It would be more intelligent if the economy and society considered beforehand how the ecological aspects of the Green Deal, for example, can be used as a driving force for greater competitiveness.

To conclude, let us take a look into the future: How should the EU be organised in ten years' time?

BÜTIKOFER: There is one thing in particular that I would like to see: The EU should do more to partner with countries from the Global South. Otherwise these countries will become a mobilising force for authoritarian regimes. China's propaganda says: “The West has colonised the whole world for centuries. We are the first non-Western nation to have succeeded in rising up. You must all support us – because when we have risen up, you will follow.” If we add fuel to the fire through our behaviour and do not treat these countries as partners, we should not be surprised about the consequences.

KEGEL: I can only endorse that. I also hope that we will be further along in ten years' time with the completion of the single market, for example in the areas of grid expansion, digitalisation and telecommunications. Because this will keep us attractive for potential partners. And we have to meet these partners with a compromise-led policy – and not with a policy of finger-pointing. The free trade agreement with India is a perfect example. We have the chance to do everything right here. However, there is also a danger that we want to enforce European standards that cannot be implemented there. We should not leave countries like India to China and Russia, but as a democratic continent we should endeavour to build partnerships with them.

Shifting the balance

The BRICS group grew by five members at the beginning of the year. Their share of economic output is thus continuing to grow. But the balance is also shifting visibly in terms of patents and young STEM talent.

TEXT CHRISTIAN BUCK



EXPORT OF GOODS FROM THE EU TO THE BRICS COUNTRIES IN 2022:

€402.4 billion in total,
€65.5 billion electro and digital industry

IMPORT OF GOODS INTO THE EU FROM THE BRICS COUNTRIES IN 2022:

€976.7 billion in total,
€319.1 billion electro and digital industry

Source: EU Commission, ZVEI

MARKET VOLUME FOR EDI GOODS IN 2022:

EU countries:
€640.5 billion

BRICS countries:
€2,568.2 billion

Source: ZVEI and national statistical offices.
The figures on this page refer to the five original BRICS countries: Brazil, Russia, India, China and South Africa.

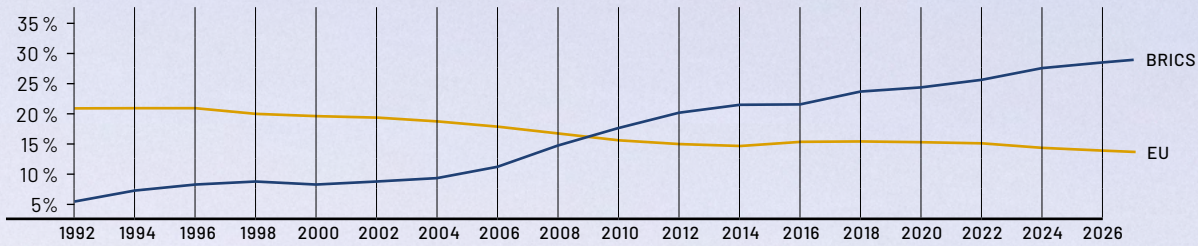


- EU COUNTRIES:** Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden

- EU ACCESSION CANDIDATES:** The EU is currently conducting accession negotiations with Turkey (since 2005), Montenegro (since 2012), Serbia (since 2014), Albania and North Macedonia (both 2022). Moldova and Ukraine are candidates for accession. Bosnia and Herzegovina, Kosovo and Georgia have the status of potential accession candidates.

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SHARE OF THE EU AND BRICS COUNTRIES IN GLOBAL GROSS DOMESTIC PRODUCT



Source: IMF



NUMBER OF INHABITANTS IN THE TEN BRICS COUNTRIES:

3.6 billion people
(45% of the world's population)

Source: United Nations



SHARE OF THE TEN BRICS COUNTRIES IN GLOBAL OIL PRODUCTION:

43%

Source: Energy Institute



58,990 PATENT APPLICATIONS FROM CHINA (2019)

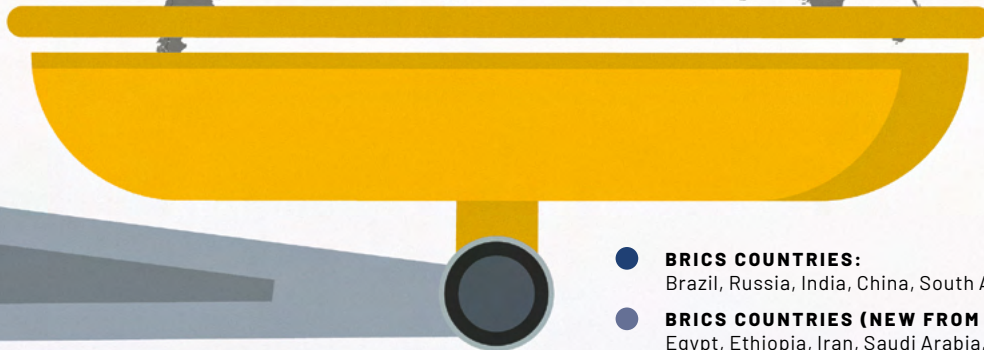
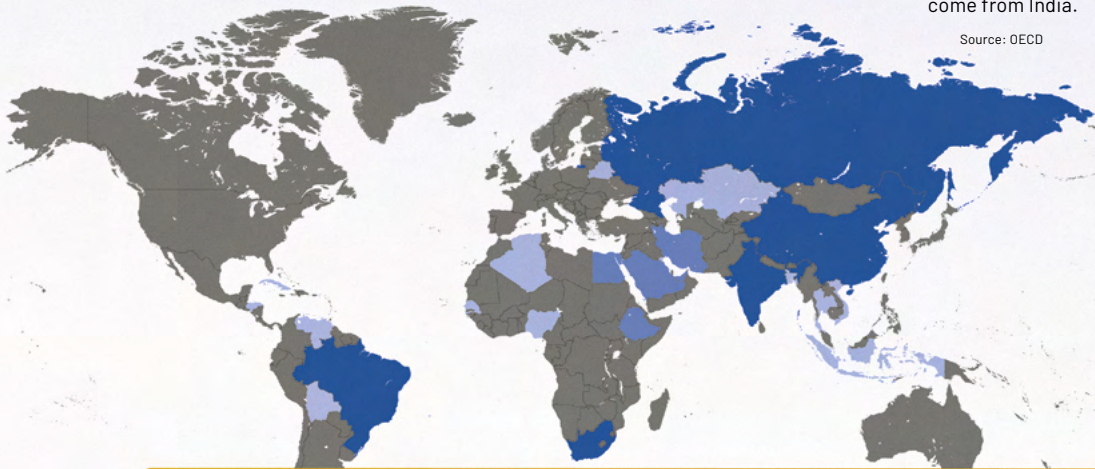
The country has thus overtaken the USA (57,840) and Japan (52,660).

Source: World Intellectual Property Organisation

37% OF STEM SCIENTISTS AND RESEARCHERS WILL COME FROM CHINA IN 2030.

A further 27% will then come from India.

Source: OECD



- **BRICS COUNTRIES:**
Brazil, Russia, India, China, South Africa
- **BRICS COUNTRIES (NEW FROM 2024):**
Egypt, Ethiopia, Iran, Saudi Arabia, UAE
- **BRICS CANDIDATE COUNTRIES:**
Algeria, Bangladesh, Bahrain, Belarus, Bolivia, Cuba, Honduras, Indonesia, Kazakhstan, Kuwait, Nigeria, Palestine, Senegal, Thailand, Venezuela, Vietnam





“We have to stand united”

Dr Barbara Frei is convinced the EU has enormous strengths, but they need to be put to better use. In an interview the Executive Vice President Industrial Automation at Schneider Electric argues that technologies for implementing the energy transition need to be promoted just as much as an ecosystem for start-ups. For her, the EU is the basis for a successful future if it develops long-term strategies that lead to further automation, digitalisation and therefore also more energy efficiency in industry, but also in the building sector.

TEXT **MARC-STEFAN ANDRES** · PHOTOGRAPHY **VERENA BRÜNING**

Ms Frei, straight away, in which areas is the EU important for a global company like Schneider Electric?

The first thing that comes to my mind is that in Europe, we still have many standards in the technology sector that differ from country to country. However, the EU offers a great opportunity to standardise these. We could develop into a similar market to the USA or China by becoming more harmonised. One of the EU's greatest achievements is standardisation, for which it is seen as a role model worldwide.

The EU is often seen as being particularly keen on regulation. What effect does that have?

We need to look at where things are regulated. We can also learn from others, for example from the US Inflation Reduction Act, which specifically promotes domestic production. It is primarily orientated towards the results and does not steer everything through a large bureaucracy in advance. The supply chain law in Europe, on the other hand, is very complex – even though it is reasonable in general. At Schneider Electric, we employ a considerable number of people worldwide who are solely responsible for ESG reporting. We should implement reporting in a more pragmatic and digital way. This will enable us to speed up processes and workflows and lower the barriers to entry for SMEs. This is the only way we can take the decision-makers with us on our journey.

Are there any laws and regulations that benefit you as Schneider Electric?

The EU Green Deal, which is about energy efficiency and the decarbonisation of industry and buildings, is creating markets for us. The industry, for which we have many products in our portfolio, is responsible for over 40 per cent of CO₂ emissions worldwide. Automation and digitalisation are always the starting point for achieving transparency. This allows me to measure consumption and therefore also emissions and then to become more energy efficient, for example by replacing a thermal process with an electrical one. However, I would like to see politicians do more to promote such technologies or facilitate their use.

You said in an interview that the conditions for IT and AI specialists in the EU need to be improved. What did you mean by this?

The majority of workers in this field want to work in start-ups. But instead of staying in Berlin, for example, many still go to Silicon Valley. In order to counteract this, we need a stronger ecosystem for start-ups in Europe that also attracts this talent

“We could develop into a similar market to the USA or China by becoming more harmonised.”



worldwide. To achieve this, we must, for example, change attitudes towards venture capital in a positive direction and create a tax incentive system for employee participation in start-ups and physical innovation hotspots within Europe.

How would Schneider Electric benefit from promoting start-ups? After all, young talent would still not be working for you?

At some point they will come to us (laughs). Seriously, we have been dealing with this topic for a long time. Here in Berlin, we have founded a start-up ourselves, Inno2Grid, with which we are working on sustainable mobility solutions and a future-proof energy supply. This enables us to attract many talented people who can later work at Schneider Electric. We have also founded SE Ventures, a venture capital fund, which we have endowed twice with 500 million euros each time. We are invested in around 50 start-ups there.

You are currently implementing a 300 million programme to invest in your factories in the USA. Are the conditions there better than in Europe?

At Schneider Electric, our philosophy is “In the market for the market”, which is why we want our factories to be close to the markets. We also learnt how important this is during the Covid pandemic. Now there are two additional factors. On the one hand, the data centre market, one of our core markets, is booming in the USA, and we need capacity for this. On the other hand, the need for “Made in America” is growing, especially in areas that are driven by the government, such as water supply or other infrastructures. These investments therefore do not

mean turning away from the EU, but towards the market, especially as we have also invested massively in Europe.

Schneider Electric offers many sustainability solutions. Investing in this area makes a lot of sense, but is sometimes also expensive. Can sustainability and prosperity be combined in the long term?

I am absolutely convinced of that. Ultimately, it is an investment in digitalisation and this is essential in terms of competitiveness, company resilience and value retention. In the medium term, it is always worth investing in energy efficiency measures. After all, the best way to achieve climate targets is not to consume energy in the first place. We have to think about the long term, especially in the building sector. In purely economic terms, this is also worthwhile: According to a study by the Boston Consulting Group, environmental technologies are expected to create a ten-trillion-euro market by 2050.

The investments are also worthwhile because they are amortised quite quickly. How can companies be motivated to think more long-term in this area, too?

A lot of it starts with an understanding that all the key technologies are available today to make buildings and – to a limited extent – industries climate-neutral. That is why there should be better tax conditions that make it easier for companies to invest. Or there could also be incentive systems to reduce CO₂ emissions. I also see the EU as having a duty here. It could launch further programmes to promote such technologies in Europe.

Finally, if you could decide which measures the EU Commission should implement first – what would be your priority?

A framework that helps us to scale projects in the energy sector. Because something like this would also be an export driver later on. Europe can once again become the market leader in this field. We also need to understand Europe much more strongly as a common economic region and sensitise people to this. It is not that easy, because it is often about fairness and transparency among each other, but also about the differences in cultures and interests. In Europe, we have to learn how to connect better and present a united front. And we need to tackle the core of the problems instead of just handing out “painkillers”. Then the EU will be and will remain a huge opportunity for us all.

Thank you very much for the interview, Ms Frei.

DR BARBARA FREI holds a doctorate in mechanical engineering from ETH Zurich and an MBA from IMD Lausanne. She started her career as a development project manager for motors and drives at ABB Schweiz AG. In 2016, she started as Country President Germany at Schneider Electric and then became Zone President of the DACH region. Today, she heads the global Industrial Automation Business and is a member of the Executive Committee of Schneider Electric.

Great geostrategic urgency

INTERNATIONAL STANDARDISATION

China has recognised the **strategic importance of standards**. Europe must accept this challenge if it is not to fall behind in international competition.

Standardisation processes are crucial to achieving market leadership in areas such as artificial intelligence and green tech. China has recognised this and is consistently expanding its presence in international standardisation bodies to its economic advantage. In the International Organization for Standardization (ISO), for example, the number of Chinese secretariats rose sharply from six in 2000 to 79 in 2019. And in the 69 IEC working groups on e-mobility, more than 50 per cent of the chairpersons today come from Asia. Germany comes in at 16 per cent.

In view of the rapid advances in electrification and digitalisation, it is crucial for German and European industry to continue to play a strong role in international standardisation bodies in the future. In addition, European standards should be as identical as possible to international standards, as German SMEs in particular would suffer from a fragmentation of standards. Protectionism or common specifications as an alternative to harmonised European standards, on the other hand, are not expedient because they represent a decoupling from international standardisation.

It is particularly important that the specialist knowledge of experts from corporate practice can be incorporated directly into the standardisation process. For small and medium-sized companies in particular, however, the high travel and personnel costs associated with standardisation activities are a major obstacle when it comes to involvement in the committees. ZVEI is therefore proposing that the established instrument of the tax allowance for research be expanded to include the area of standardisation. Personnel and travel costs for standardisation activities could then be tax-deductible – without the need for additional legislation or new budget items.

The challenge posed by China shows that standardisation urgently needs to move significantly up the list of priorities for companies and politicians. It is not only of technical importance, but also has social, economic and political significance. In other words, standardisation has now become an issue of great geostrategic urgency.



SARAH BÄUMCHEN
is member of the
ZVEI Executive Board.

34,918

standards make up the German body of standards, with around 7,500 relating to the field of electrical engineering.

2

national standardisation organisations exist in Germany: DKE (German Commission for Electrical, Electronic & Information Technologies) and DIN (German Institute for Standardisation).

STANDARDISATION IN FIGURES

Standards are everywhere - and support the economy, as these figures show.

17

billion euros saved by the German economy thanks to harmonised standards.

93

per cent of all electrotechnical standards today have a European or international background.

“Standards are top priority”

Read the **ampere** online interview with Kerstin Jorna, who heads the European Commission’s Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (GROW).



At least every

5

years, DIN reviews each standard.

Around

36,500

experts contribute their specialist knowledge to the standardisation process, around 10,000 of them in the field of electrotechnical standardisation.



A model for success

THE EUROPEAN UNION IN FIGURES

COVETED CLUB



The number of EU member states has risen from originally **6** to today's **27** and several other European countries have applied for membership.

Source: European Union

CONTINENT OF DEMOCRACY

By voting for the European Parliament, people can have a say in EU policies.

This year, around **350** million Europeans are eligible to vote.



Source: State Ministry of Baden-Württemberg

SOLID FOUNDATION OF VALUES

The EU favours fairness and inclusion.

It is guided by **20** principles from the areas of equal opportunities, fair working conditions, social protection and inclusion.



Source: European Commission

STRONGER TOGETHER

The European Single Market is one of the great achievements of the European Union.



By 2022, more than **3,600** standards had been harmonised at EU level. This ensures that quality standards and product safety are guaranteed throughout the EU.

Source: Federal Government

The European Union is a community with many facets. It shapes the everyday lives of its citizens, but is also an important player on the world stage. An overview.

BOOSTER FOR PROSPERITY



In Poland, unemployment fell from 19.5 per cent to 2.8 per cent between its accession to the EU in 2004 and 2023.

Gross domestic product rose from **255** billion US dollars to **842** billion US dollars.

Source: Statista

PAYMENT TRANSACTIONS WITHOUT BORDERS

Today you can pay with euros in 20 countries.

Worldwide, around **20** per cent of the world's foreign exchange reserves are held in this common currency.

This puts the euro in second place after the US dollar.



Source: European Council

FIT FOR 55



The EU is leading the way in climate protection worldwide. It aims to reduce greenhouse gas

emissions by at least **55** per cent by 2030.

Source: European Council

PROGRAMME FOR MUTUAL UNDERSTANDING

Erasmus+ was launched in 1987 and at the time offered just 3,000 students the opportunity to spend a semester abroad.



Since then (as of 2022) around **13** million people have taken part in the Erasmus+ programme.

Source: European Commission

In the maze of bureaucracy

Small and medium-sized companies in particular are increasingly suffering due to the EU's regulatory requirements. The example of Elschukom shows how much bureaucracy is involved and how much could be simplified.

TEXT **CHRISTIAN BUCK**

*In the **ampere** interview,
Ute Poerschke explains,
what advantages the EU
brings her.*



Ute Poerschke is a busy woman. As Managing Director of Elschukom GmbH in Veilsdorf, Thuringia, she is responsible for almost 100 employees and has to hold her own in the face of global competition. The company's innovative ultrafine wires are used in sensor technology, the textile industry, consumer electronics and the construction of musical instruments, among other things. If you want to be and remain successful in this sector, you have to constantly improve products and processes and be on the lookout for new markets.

With all this, Ute Poerschke already has enough to do. But she now has to sacrifice an estimated 15 per cent of her limited time for bureaucratic requirements of all kinds. For example, she and her staff have to fill in the substance database SCIP (Substances of Concern In Products) set up by the European Chemicals Agency ECHA. "We sell around 5,000 different wires and 3,000 other products," explains Poerschke. "The EU requires us to specify all components to the exact gram." The aim is to simplify recycling so that valuable raw materials can be recycled more easily.

Ute Poerschke also thinks that is a good thing. But: "The database is difficult to manage. An entry takes 30 minutes to an hour per product – although our products are relatively simple. In 2023 alone, SCIP cost us around two months of working time." Large corporations have their own departments for this. However, a small company like Elschukom has to carry out such activities alongside its day-to-day business. And the EU substance database is not the only one of its kind Elschukom has to maintain. The automotive industry operates the International Material Data System IMDS in parallel, which serves a similar purpose to SCIP. The Thuringian company also offers special solutions for major customers. "I would like to have just one database", Poerschke concludes. "It should also be designed in such a way that the waste management industry can derive the greatest benefit from it."

The German Supply Chain Due Diligence Act (LkSG) also entails additional costs. Although it is theoretically only mandatory for companies with at least 1,000 employees, it also increases the bureaucratic burden for Elschukom. "We are part of the supply chain of our customers, who demand information from us," explains Poerschke. "That is why, in turn, we have to enquire with around 300 suppliers. That costs us about one day per supplier." This is why the



“Increasing bureaucracy is eating up more and more of our profits.”



2

months of working time had to be invested by Elschukom in 2023 for entries in the European Chemicals Agency's substance database.

effort involved is comparable to that of a company directly affected by the LkSG.

From Poerschke's point of view, the problem could be solved quite simply: "All suppliers worldwide could be entered into a central database, which could be filled in by NGOs, for example, to identify any black sheep. Then every company would not have to obtain the same information over and over again." Instead, the central database could be queried automatically – just as is already done with the sanctions lists.

"Our margins have already shrunk in recent years as it is," Poerschke explains. "And the increasing bureaucracy is eating up more and more of our profits, which we would rather use to invest in the future." Nevertheless, she would definitely become an entrepreneur again. Because: "Who else is going to create the products for a future worth living? But the many new laws do not make it any easier – and you gradually get tired."



Elschukom employee Valentin Wirthwein setting up a wire drawing machine.

Standing up for a vibrant democracy

The Business Council for Democracy offers support for employees against hate speech, targeted disinformation and conspiracy narratives. In doing so, they are also helping the economy to make a contribution to strengthening democracy.

TEXT **MICHAEL GNEUSS**

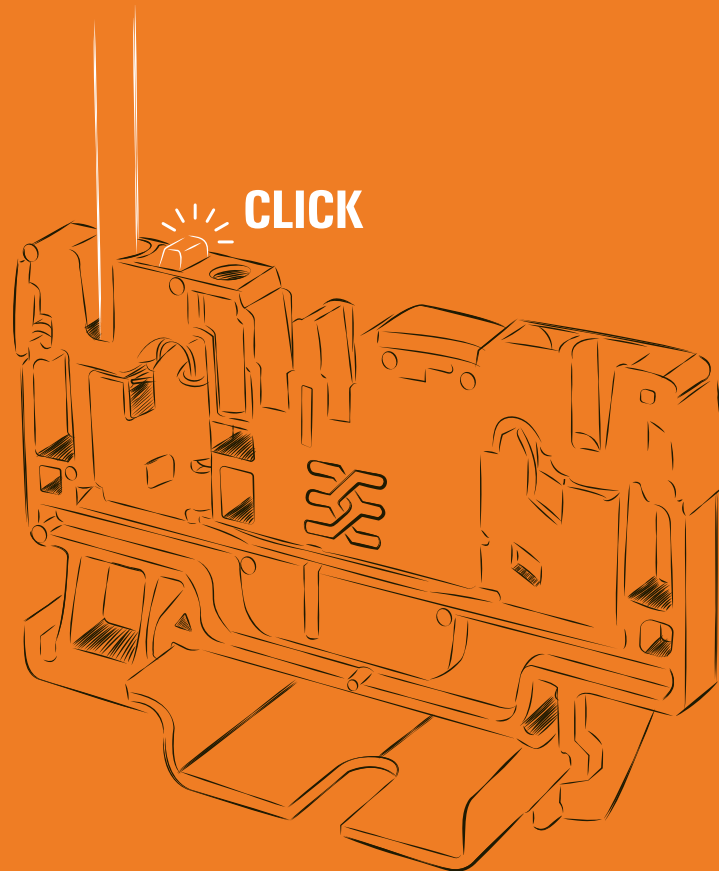
Gilda Sahebi is not worried that she will get bored as a trainer in the training programmes on democracy in the digital space. Because even after years of organising dozens of groups, routine never sets in: “There is always a topical issue that the

participants want to talk about. And this always leads to completely new discussions.” She cites the Hamas attack on Israel and the war in Ukraine as examples.

Again and again it shows that liberal democracy is under pressure, because disinformation is being spread around current political issues and conspiracy theories are emerging. Many companies no longer want to stand idly by – and are turning to the Business Council for Democracy (BC4D), which Sahebi works for. The initiative was launched in 2020 by the Hertie Foundation, the Bosch Foundation and the Institute of Strategic Dialogue (ISD). One of its aims is to bring together employers who want to stand up for a vibrant democracy. They are given practical ▷

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BC4D

The Business Council for Democracy was launched in 2020 and supports companies in their commitment to democracy.

tips at network meetings and discussion forums with personalities from the economy, politics, research and civil society to help them get involved in democracy.

A core instrument of the BC4D is a training programme for employees. Digital communication skills are taught in groups of 20 people. The programme focuses on the three problem areas of hate speech, targeted disinformation and conspiracy narratives. For example, the trainers explain what employees can do if they are exposed to hate attacks, how to recognise conspiracy myths and suspicious sources and what makes people susceptible to digital manipulation.

Gilda Sahebi has been involved as a trainer from the very beginning and helped develop the curriculum for the training programme. The journalist and author is keen to promote a “digital democratic culture”. During the courses, she explains, for example, how social media platforms work, what role algorithms play in this and how images and videos can be checked. “In addition to providing information, the participants also want plenty of room for discussion and group work. Over time, we have become more and more interactive,” explains Sahebi. For example, training is now also provided on how to respond to posts containing conspiracy theories or insults.

In Sahebi’s opinion it is even more important to focus on understanding the role of people as actors in digital discussions than on imparting knowledge. “I very much believe in the power of the individual who has the ability to influence society,” she says. “But everyone has to decide for themselves what values they follow, what political stance they take and how they express themselves. We do not want to influence that.” Instead, she wants to use the courses and discussions to raise awareness of the participants’ own positions. This also includes the question of



Trainer Gilda Sahebi wants to promote a digital democratic culture.

“The majority of people are not hateful.”

whether you basically want to be right or are prepared to learn. Being opinionated harbours the danger of making your own life an “emotional hell”. After all, you only learn something if you admit to yourself that you were wrong, says the Iranian-born woman, who came to Germany at the age of three.

Sahebi believes it is wrong to simply withdraw when hate dominates online chats or misinformation has a significant influence on online discussions. “We must not allow people who oppose basic democratic principles to determine the entire discourse on their own. The majority of people are not hateful and are much more orientated towards values such as love and compassion.”



*In an online interview:
Gilda Sahebi and ZVEI
employee Silke Sichter.*

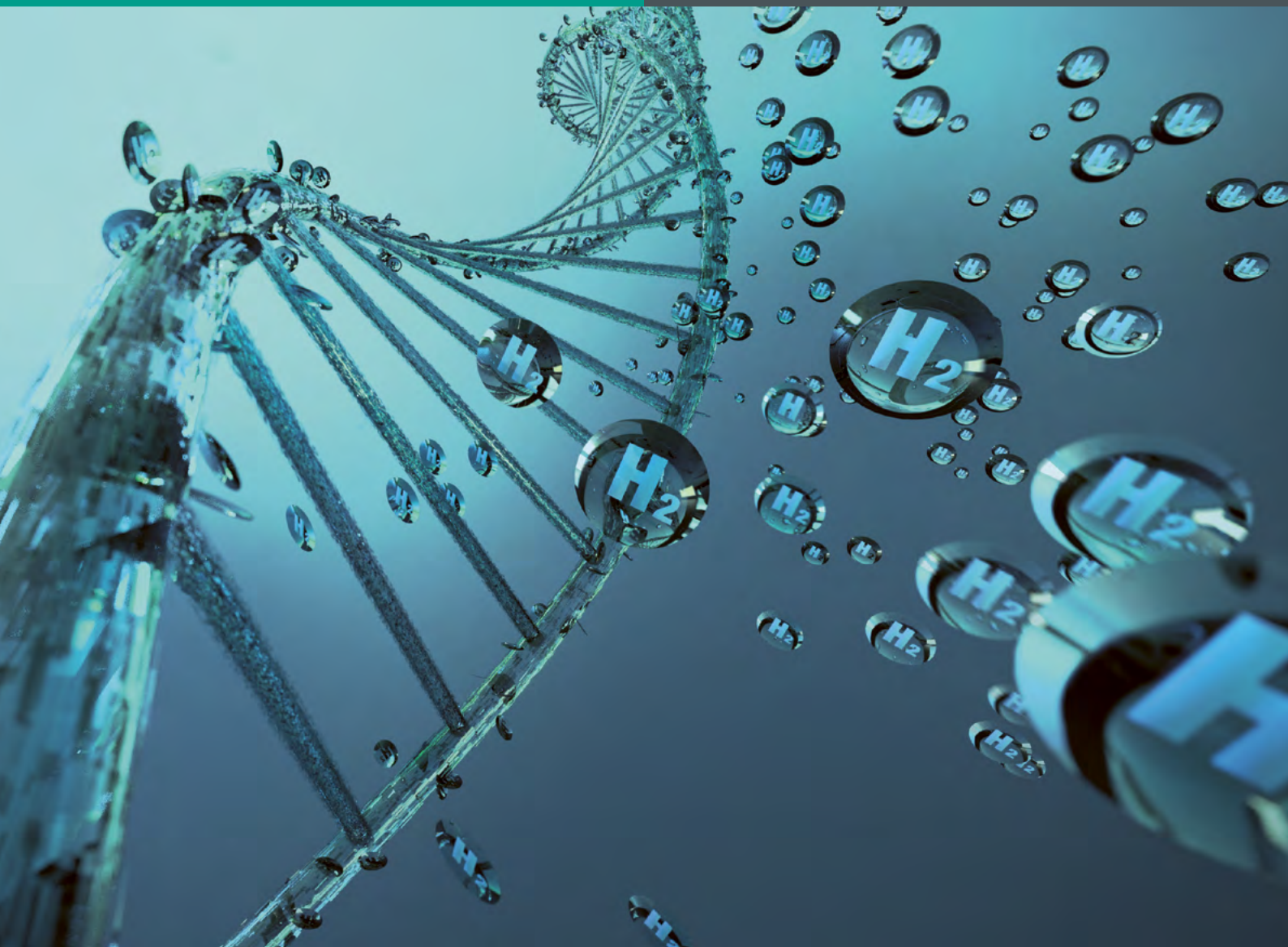
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NORWAY

Thanks to ubiquitous hydropower and state subsidies, Norway is much further along the road to an all electric society than Germany. Both countries are working closely together to achieve greater energy security and sustainability.

TEXT **CONSTANTIN GILLIES**

When visiting Oslo, the first thing you often notice is the silence. There are hardly any combustion engines to be heard in the city, where bicycles and Tesla taxis dominate the streets. Electrically powered ferries glide silently through the harbour basin, and even the city's construction sites cause hardly any noise because only emission-free machines are in use.

There is no doubt that Norway is the electrification world champion – especially on the road: 79.3 per cent of all newly registered cars there are electric. This is the highest figure in the world and miles ahead of the German rate – 17.7 per cent. Generous funding has made this possible. Until two years ago, Norwegians did not have to pay VAT on electric cars, which made premium EVs as cheap as mid-range combustion engine cars. The state has also subsidised the construction of 4,000 fast-charging stations. And construction companies that purchase an electric excavator have recently been reimbursed 40 per cent of the additional costs. ZVEI members also benefit from electrification. The Franconian company ABL, for example, claims to be the market leader for wallboxes in Norway.

But subsidies alone do not explain the electric miracle. “Norway's great advantage is that the electricity mix there has always been based on renewables and can be controlled flexibly,”

explains Marcus Franken, head of the German branch of the Norwegian consulting firm Thema, which specialises in energy issues. In Norway, 88 per cent of electricity comes from hydropower plants. The Scandinavians set the course for this more than 100 years ago when they installed generators at the fjord waterfalls for the first time. Today, green energy is one of the country's top exports. Since last year, Norway has been our second most important electricity supplier; Deutsche Bahn, for example, purchases electricity from the Mågeli hydropower plant (via so-called certificates).

In addition to hydropower, Norway wants to expand wind power. It currently accounts for 10 per cent of the electricity supply. However, expansion is a challenge. Acceptance of onshore wind turbines is low in Norway, and offshore projects are difficult because the Atlantic Ocean off the coast is very deep. Norway is therefore focusing on a relatively new technology, floating wind turbines. Last August, the energy company Equinor opened the largest floating wind farm in the world – Hywind Tampen – 140 kilometres off the coast. Eleven turbines deliver 88 megawatts and will initially supply the oil rigs in the surrounding area. Not a contradiction in terms from the Norwegians' point of view: “We will build a new industry on the shoulders of the oil and gas industry,”



MARCUS FRANKEN,
THEMA CONSULTING DEUTSCHLAND

says Siri Kindem, Head of Renewable Energy at Equinor.

There is also a need for investment in infrastructure. “In some areas, the power grid will have to be expanded more in the next five years than in the previous 50 years,” reports expert Franken. New settlements make this necessary. The company Blastr Green Steel, for example, is planning an electrical production plant for steel pellets, a primary product in steel production, north-west of Oslo. The grid technology business is therefore an “interesting field” for foreign providers, Franken concludes. The electrification world champion in the far north could therefore provide additional momentum for the electro industry throughout Europe.

You can find out more about the energy partnership with Norway here:



per cent of electricity in Norway comes from hydropower plants.

Norway could also be considered as an undersea repository for CO₂ from industrial production.



Fabian Zuleeg would like to see more strategic thinking and joint action from the EU.

Together against the permacrisis

Fabian Zuleeg heads the European Policy Centre and is a renowned expert on politics in Brussels. In his view, there can only be one answer to the current accumulation of crises, and that is more cooperation in Europe.

TEXT **CONSTANTIN GILLIES** · PHOTOGRAPHY **NATALIE BOTHUR**

One word is currently making quite a splash: “permacrisis”. It describes the new state of the world, in which “normal” no longer seems to exist. First the Covid pandemic, then the Ukraine war plus inflation – and all this against the backdrop of climate change. Fabian Zuleeg, Chief Executive of the European Policy Centre (EPC), a well-known Brussels think tank, is regarded as the creator of the word. This is how the economist describes the basic trend: “We are constantly dealing with new, interconnected crises that are more difficult to overcome than anything we have seen before.”

In Zuleeg’s view, the permacrisis is so dangerous because it coincides with a battered European Union. Populists are weakening the political centre in many places, politics is becoming more national again – and more short-term. Zuleeg believes this is precisely the wrong direction: “Europe must think

more strategically and act together to avoid being pushed against the wall by the superpowers.”

Zuleeg has headed the EPC for ten years and is one of the best-known figures in the Brussels political arena. “I am not an outspoken optimist,” he explains, “but it is important that we are honest.” What Europe has done so far is no longer nearly enough in times of the permacrisis. The EU needs a jolt.

What should be reformed in the next legislative period? “The EU must move away from the unanimity rule on many issues.” In order to prevent blockades by individual states in the future, he proposes the “majority minus one” model, in which a decision is deemed to have been made if only one member votes against it. As an alternative, Zuleeg can imagine a “coalition of the willing”, which is where a group of countries joins forces and implements individual projects with a ▶



Zuleeg is one of the best-known figures in the Brussels political scene.

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SCHALTSCHRÄNKE

STROMVERTEILUNG

KLIMATISIERUNG

“Taxes can provide more effective incentives than laws and regulations.”

kind of parallel budget. According to the Treaty of Lisbon, this is possible in principle.

Zuleeg is also calling for a rethink in industrial policy. “Acting purely on a national level here is no longer up to date.” The EPC boss points out a fundamental problem: The EU sets itself many ambitious goals, but leaves it up to its members to realise them. Take climate protection, for example. In March 2023, the EU published the “Net-Zero Industry Act”, which stipulates that at least 40 per cent of the climate-neutral technologies required per year will be produced in Europe from 2030. However, it is up to national governments to decide where and how battery factories, hydrogen electrolyzers or wind farms are built. There is therefore a risk that too little and only selective investment will be made in green technology. “All other countries have a much more active industrial policy – like the USA with its Inflation Reduction Act,” explains Zuleeg. This cannot be countered with national pettiness.

Joint action also requires joint resources. It is therefore high time for the EU to think about new sources of funding, says Zuleeg. He can imagine

the Union receiving a fixed share of national corporate and consumption taxes in the future. “Taxes can provide more effective incentives than laws and regulations,” Zuleeg believes. But how will an EU levy be received by European companies that already pay significantly more taxes than their competitors in the USA or the UK? Zuleeg trusts in the insight of the economy. Many are “not far away” from the idea of an EU tax.

One thing is certain for the visionary Zuleeg: The permacrisis will be long lasting. He can already see the next clouds gathering on the horizon. If Donald Trump becomes President of the United States again, relations with the EU are likely to deteriorate. “It could even jeopardise the transatlantic alliance.” Added to this are the rivalries between China and the USA, a possible conflict over Taiwan and new challenges posed by artificial intelligence. For Zuleeg, these are all arguments in favour of more cooperation – not resignation. Despite all the challenges posed by the Covid crisis, the Europe expert is convinced of the Union’s capabilities: “We are the only region that has managed to do so many things together.”

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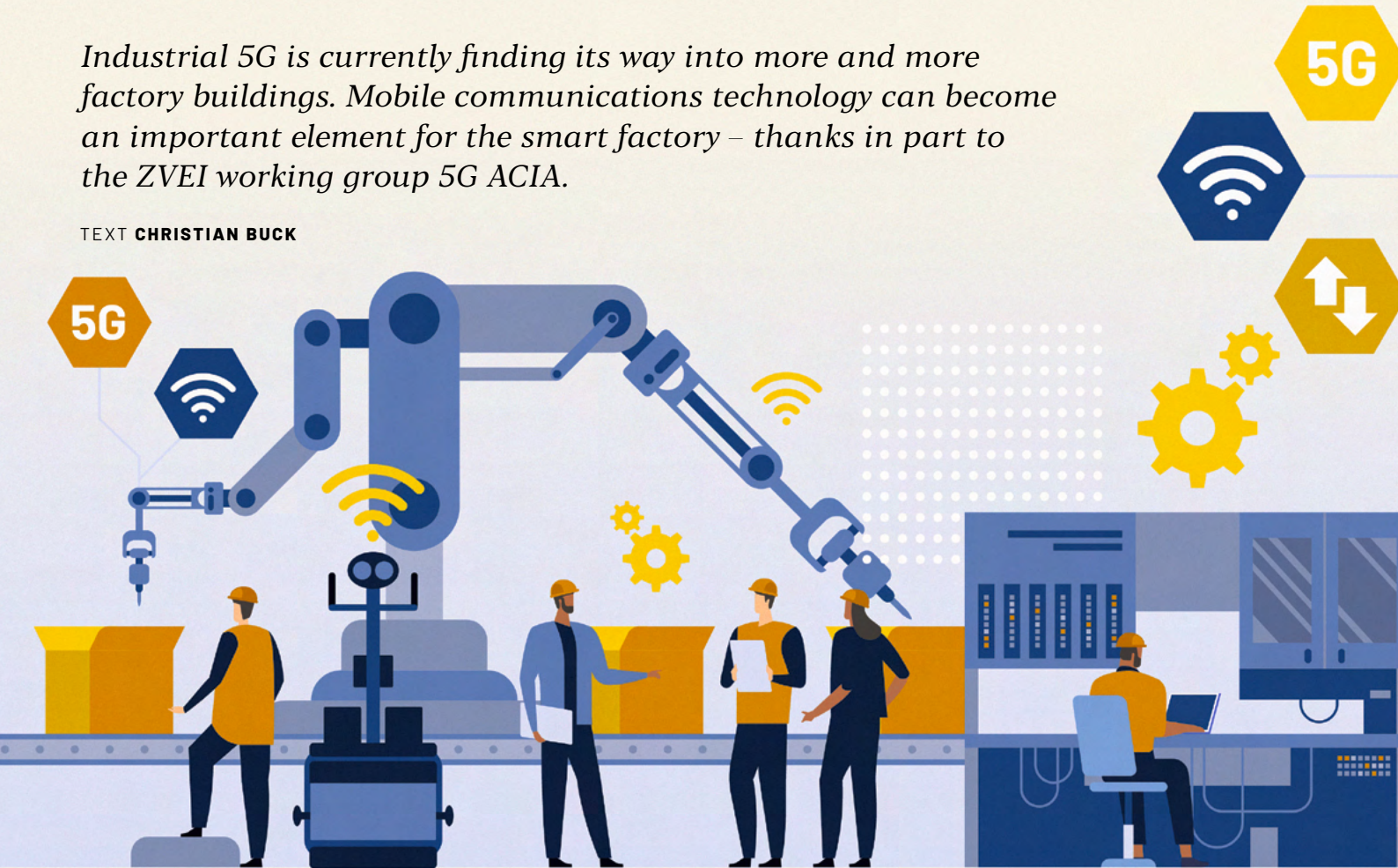


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MOBILE COMMUNICATIONS FOR MACHINES

Industrial 5G is currently finding its way into more and more factory buildings. Mobile communications technology can become an important element for the smart factory – thanks in part to the ZVEI working group 5G ACIA.

TEXT **CHRISTIAN BUCK**



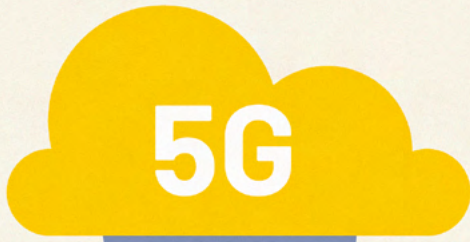
Whenever components or equipment parts are needed at a particular location in the Siemens production facility Manufacturing Karlsruhe (MF-K), “Wickie” and his colleagues have to get to work. The collaborative robots (cobots) support intralogistics at the plant, which focuses on “flowing matrix production”: Each product can be manufactured on any module, and the production management system automatically selects the next available module for each order. This is intended to avoid bottlenecks, increase

throughput and improve customer focus. However, the manufacturing paradigm also places high demands on the flexibility of intralogistics.

The cobots used for this are sent on their errands wirelessly and are dependent on a mobile communications network that works reliably even in a harsh industrial environment. For this purpose, information is exchanged with the mobile robots partly via a private 5G network that Siemens operates in its Karlsruhe factory. On the one hand, mobile phone technology has been used in public networks for years,

for example for making phone calls or for mobile Internet access. On the other hand, the still relatively new, private 5G networks in industry, also known as “campus networks”, are operated locally at a specific location such as a factory by the users themselves – on a private 5G frequency and with their own 5G infrastructure.

5G is thus leading to the convergence of the previously separate domains of information technology (IT) and operational technology (OT). This offers numerous advantages in the industrial environment and for machine-to-machine communi-



High reliability and low latency times make 5G attractive for industrial networking.

More about the 5G ACIA:

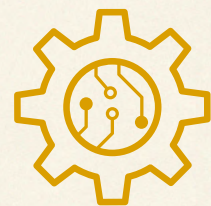


cation. Thanks to low latency times of just a few milliseconds and the high reliability of private 5G networks, mission-critical applications such as mobile robots, autonomous logistics and driverless transport systems can be deployed with the help of mobile communications technology. In addition, the data remains on the company premises and therefore private.

“Customers from all sectors have recognised the benefits of industrial 5G networks,” notes Axel Lorenz, CEO Process Automation at Siemens and Chairman of ZVEI’s Measurement and Process Auto-

mation Committee. “There is currently particularly strong interest from the chemical and pharmaceutical industries, the oil and gas sector and the automotive industry.” Above all, users are expecting optimised production processes, greater reliability and more flexibility from the use of 5G – after all, industrial systems can be adapted relatively easily to new customer requirements and industry trends thanks to wireless networking.

Siemens now offers a complete range of products for industrial 5G: the “5G Core” for managing the 5G network ▷



5G

brings together the domains of information and operational technology.



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DATA SPACE FOR SMART DRIVES

A lack of data availability and the absence of open standards are still holding back digitalisation in the field of drives. The joint project "Drive 4.0" aims to change this and create a common data space for smart drive solutions.

TEXT **CHRISTIAN BUCK**

Find out more about Drive 4.0 in the **ampere** interview.





Representatives from drive manufacturers, mechanical and plant engineers, and plant operators are part of the Drive 4.0 team.

Interoperability and common standards are the prerequisite for service-oriented business models in the field of digital production. “This is particularly true in the field of drives, because they have a lot of sensors and intelligence,” explains Martin Hankel, Head of Digital Business at Bosch Rexroth. “If we can achieve a precise, manufacturer-independent definition and availability of data, we can significantly advance the digitalisation of production.”

This is precisely the aim of the joint project “Drive 4.0”, which is funded by the Federal Ministry for Economic Affairs and Climate Protection. The partners want to create a shared data space for smart drive solutions that conforms to Gaia-X principles and forms the basis for the development of service-oriented business models relating to digitalised production and the interconnected value chain. In the regulatory sandboxes, research will be conducted into the selection, commissioning, operation and servicing of intelligent and connected drives. The consortium leader of the project, which started at the beginning of 2023, is the ZVEI Research Association Electrical Engineering; the consortium partners are the Fraunhofer Institute for Integrated Circuits IIS in Nuremberg, the Fraunhofer Institute for Integrated Systems and Device Technology IISB in Erlangen and TU Darmstadt. A further 16 renowned associated partners complete the research network.

“We attach particular importance to ensuring that our solutions are suitable

for practical use,” says Dr Falk Eckert, who heads the project at ZVEI’s Research Association Electrical Engineering. “That is why we will be trialling our use cases in regulatory sandbox demonstrators at various locations.” Discussions with potential users initially resulted in 36 use cases, which were prioritised through a survey of the project partners and their customers. Two of them are now being implemented as a first step: “Holistic, energy-efficient design of drive solutions” and “Digitalised asset management”. “These two key use cases promise industrial companies the greatest added value, both economically and ecologically,” says Dr Tassilo Schuster from Fraunhofer IIS, explaining the selection.

When designing drives, users of electric drives in mechanical engineering are always faced with the same question: Which drive is best suited to the technical challenges? “The manufacturers each offer their own tools for selection, in which you have to enter a lot of values – which also differ from manufacturer to manufacturer,” says Hankel. “It takes a great deal of effort and the recommendations are very difficult to compare, so the mechanical engineers no longer feel like filling out the tools after the second manufacturer.”

The goal of the first use case is that in future, there should be a standardised set of data that machine and system manufacturers, as well as system operators, will only have to calculate once and can then pass this data on to all drive manufacturers. In addition, it

“Many companies are still afraid to let go of data.”

MARTIN HANKEL,
BOSCH REXROTH

should also be possible to compare the returned results. “This would also allow the drive systems to be designed to be more energy-efficient in the future,” says Lara Schmidt, research associate at Fraunhofer IIS. “Because it would then be possible to combine drive components from different manufacturers in order to meet a load and motion profile specified by the operator as energy-efficiently as possible.”

The second use case aims at making the increasing complexity of systems more manageable. To this end, a standardised data set will accompany each drive throughout its entire life cycle and be continuously updated. “Digitalised asset management enables the central provision of all relevant information about an asset in a standardised format,” explains Schmidt. “Plant engineers and operators can thus maintain an overview of the installed base. This helps to improve the efficiency of the drive system, reduces downtimes, increases safety and extends the life cycle.”

Two demonstrators in Darmstadt and Erlangen will be used to test new services – also with AI support, for example in the design of drives and their start-up. In addition to the technical challenges, expert Hankel also sees a fundamental need for potential users to learn: “Many companies are still afraid to let go of data. But this is precisely what is preventing the data economy from finally taking off. Drive 4.0 offers a protected space to explore the opportunities of new services.”

A continent of opportunities

COMPETENCE CENTER ON AUTOMATION

A broad-based alliance of companies and organisations in Morocco is committed to expanding the electro and digital industry in Africa.

TEXT **MARC-STEFAN ANDRES**

The ferry crossing from Spain to Morocco takes just half an hour. But the industrialised emerging country is not only geographically close to Europe. It is also seen as a springboard for tapping into markets, particularly in the north and west of the huge, dynamically developing African continent. The German electro and digital industry has therefore been involved in the country for years. A number of companies have joined forces with ZVEI, the Deutsche Messe Technology Academy, the German Society for International Cooperation (GIZ) and the Steinbeis University of Applied Sciences to set up the Competence Center on Automation (CCoA) in Casablanca.

One of the first projects was a training course for 15 professors at the local premises of Phoenix Contact. They were trained in the methods of networked production in the context of Industrie 4.0 and to teach them to around 50 other teachers. "In the next step, these teachers then trained almost 500 students, technicians and engineers," says Youssef Asmi, who manages the Phoenix Contact branch. They were trained on the company's PLCnext Technology, an open ecosystem with which software components for automation can be developed and combined.

Phoenix Contact is involved for several reasons. "We want to promote the industry in Morocco and help with good training, from which our entire sector can benefit," says Asmi, who currently sees opportunities in the Moroccan automotive and food industries in particular. "At the same time, we make our technology visible and are close to the start-ups that are being created here." For Asmi, it is important that the commitment continues. "As Phoenix Contact, we will continue to make our premises and our expertise available," says Asmi. "In this way, we can help to build up our industry in Morocco in a sustainable way."



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Pioneers in Morocco:
Youssef Asmi from
Phoenix Contact.



Photo Phoenix Contact



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