

# Journal

Fit for Partnership with Germany

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MANAGER TRAINING PROGRAMME OF THE GERMAN FEDERAL MINISTRY FOR ECONOMIC AFFAIRS AND ENERGY



## In Focus: Industry 4.0 and Digitalisation in Medium-Sized Enterprises



### “Fit for business with Mexico”

In 2017, German managers will travel to Mexico for training for the first time.  
p. 4



### The pilot group from Georgia

Food producers are successful in Germany.  
p. 6





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Dear Friends of the Manager Training Programme!

The Manager Training Programme (MP) has continued to expand this year, initially in Georgia and now in the Middle East as Iran prepares to enter the pilot phase of the programme. The first group of Iranian executives will arrive in Germany in autumn 2016.



I am pleased to report that the first Georgian group has successfully completed training in Germany – see the article on page 6 for more on their experience. The respective German and Georgian ministries will soon sign a memorandum of understanding to officially admit the Caucasus country to the programme. Tunisia has also completed its pilot phase, and a political agreement is in the pipeline here as well. Mexico is the latest country to join the “Fit for Foreign Markets” programme aimed at German executives and an initial group will travel to the Latin American country in 2017. Such rapid progress goes hand in hand with a range of challenges, and we will continue to work throughout the year to meet them all.

The digitalisation of the economy and our society is ongoing and accelerating. The resulting trend of incorporating internet technologies into every aspect of manufacturing and beyond is creating challenges for the private sector and impacting competitive adaptability. What is known as industry 4.0 addresses the classic resource efficiency factors such as time, cost and quality, although flexibility, adaptability and stability are no less important. Managing this transition therefore tops the agendas in industrialised countries and of our MP partner countries as well, who are forging ahead into the global market and depend on a vibrant SME sector that is equipped to meet the future. Our “In Focus” column provides some insight into some of the challenges and opportunities of industry 4.0 in both Germany and our MP partner countries.

I hope you enjoy this latest issue and look forward to hearing your ideas and suggestions.

Yours truly,

  
Reimut Düring





Federal Minister Sigmar Gabriel (second from left) with Mexican President Enrique Peña Nieto (second from right) and Mexican Secretary of Energy Pedro Joaquín Coldwell (right)

## “Fit for Business with Mexico” to Start Soon



**Hamburg.** The Manager Training Programme (MP) with Mexico is developing at a rapid pace. The Latin American country has only been a partner in the Federal Ministry for Economic Affairs and Energy’s (BMWi) programme for three years; it has not even been two years since the bilateral cooperation was sealed with a Memorandum of Understanding in Cologne. And now – just one and a half years later – the next step is to follow: German entrepreneurs will soon be able to participate in training in Mexico. After Russia and China, this lays the foundation for the third programme for German executives from middle and upper management levels. Already in 2017, “Fit for Business with Mexico” is to open its doors to German companies interested in the Mexican market. This was agreed by government representatives of both countries when

the Mexican President Enrique Peña Nieto visited Hamburg in April 2016.

Sigmar Gabriel, Federal Minister for Economic Affairs and Energy, acknowledged the cooperation so far within the framework of the MP. “Today we have been able to progress further with the training programme for executives, which was launched in 2013”, the minister said. “Over 100 young Mexicans have already participated in the programme in Germany, and now German managers from small and medium-sized enterprises will be participating in a training programme in Mexico for the first time in 2017.” Gabriel sees the objective of the programme in enabling German and Mexican SMEs to become better acquainted with the respective corporate worlds and to tap into new business opportunities.

But that is not all. A pilot programme of the Mexican partner INADEM is a novelty in the history of the MP. INADEM wants to arrange a competition among the first three years’ alumni to identify the three best cooperation projects with German companies. In an intermediate step, a video conference with German chambers, trade associations and companies is planned. Here ten alumni whose projects have received the best ratings can get advice from German experts, who have a lot of practical experience, in order to improve their business plans for the cooperation projects. In the final phase, three winners will be nominated in coordination with the German side; they will receive financial support from the Mexican partner for the implementation of their projects. ■



The Azadi Tower in Tehran

## New MP Partner: Iran



**Tehran.** The Manager Training Programme has expanded into the Middle East. After initial negotiations, both parties confirmed an interest in working together as part of the MP. Following on from this, the GIZ and the designated Iranian partner organisations met again at the beginning of June to hammer out

the details. The Iran Small Industries and Industrial Parks Organisation (ISIPO) and the Tehran Chamber of Industry, Mining and Agriculture will coordinate the pilot phase of the programme, and the first group of Iranian executives are scheduled to arrive in Germany at the end of 2016. ■

## “Part of a Strategic Partnership”



Members of the steering committee in Cairo

The German-Egyptian Steering Committee of the Manager Training Programme (MP) met for the second time on the 9th and 10th of March – this time in Egypt. The cooperation has developed strongly since the programme started in 2012. In the meantime, 130 alumni have initiated business with German business partners amounting to more than 13 million euros. The new government strategy for promoting Egyptian SMEs is intended to help small and medium-sized enterprises gain access to external financing.

**Ain Sukhna.** The Egyptian government has launched a new strategy for promoting small and medium-sized enterprises. Among other things, the government wants to put access to external financing for Egyptian SMEs on a more stable basis with a law that obliges domestic banks to make 20 percent of their portfolio available for SME loans. The members of the German-Egyptian Steering Committee learnt of this at the beginning of March in Ain Sukhna, near the Suez Canal. Today a lack of access to capital is still one of the most significant obstacles to business development, not only in Egypt. It limits the expansion of existing production capacities as well as research and development projects. Mohamed Wahish, representative of the Egyptian Commercial Service, which is part of the Ministry of Industry, said that the MP as a programme for promoting SMEs fits well into this new strategy of the Egyptian government; this was particularly so if there was a noticeable benefit for the economy in both countries – and the results already achieved by the MP alumni in their cooperation

and training goals were a clear indication thereof.

Prospects of prolonging the programme for a further three years in 2017 were therefore good. Karl Wendling, German co-chairman and director at the Federal Ministry for Economic Affairs and Energy said that the programme was developing reliably and was of outstanding significance for the portfolio of those implementing it and for the structures involved. One of them is the Egyptian partner, Industrial Training Council (ITC), whose director Mahmoud El Sherbiny took over the co-chairmanship on the Egyptian side. “For us, the Manager Training Programme is part of a strategic partnership with the German side”, said El Sherbiny. MP alumni also attended the meeting – among them two representatives of the newly founded Egyptian alumni association (also see article on p. 45). This synergy opens up interesting opportunities for implementing the programme, e.g. regarding the briefing of future MP participants. The next steering committee will take place in 2017 in Germany. ■

## Reports from German Entrepreneurs



The Manager Training Programme (MP) remains a success story – not only for foreign executives but also for German companies. The new brochure published in German, titled “Tapping into foreign Markets” (German title: Erschließung ausländischer Märkte) by the Federal Ministry for Economic Affairs and Energy (BMWi), describes tangible successes. German entrepreneurs from a variety of industries, across almost all the federal states, speak of their “eureka moments” on the MP.

Helmut Petzko, Managing Director of the mechanical engineering company Strama MPS, is one example. For the joint manufacture of his machines, he initially found a distribution partner in India

through the programme. After four years, they established a joint venture in India in order to produce Strama machinery locally for the Indian market. Then there is Gerhard Friedel, CEO of Water Future Systems AG. He already knew his partners for the production of the underground irrigation hose in Kazakhstan. “I made use of the MP for a kind of short internship”, says Friedel. And he was very satisfied: his Kazakh business partners had received excellent training. The efforts of Jan Krückemeyer, Managing Director of Krückemeyer GmbH, to tap into the Russian market had been fruitless for a long time. Then he travelled to Russia himself for training within the framework of the MP, and this quickly opened many doors for his business. Krückemeyer says that direct contact with decision makers is essential in doing business with Russia. Now the cooperation is running smoothly.

These and other examples of successful business deals and arrangements between German companies and executives from MP partner countries provide abundant material for reading, contemplation or for taking action. The MP is open to all companies – irrespective of their size or industry. ■







Managers from Georgia are impressed with the juice sampling at Oro Obstverwertung eG



Tour of Dinzler Kaffeerösterei AG in Irschenberg



Group work during training at the IHK Akademie Westerham's seminar hotel

## Healthy Food from Georgia

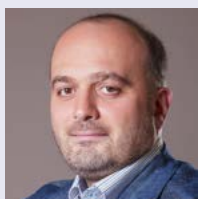


Georgia is the new partner country in the Manager Training Programme (MP) in 2016. The pilot group, with 18 executives from middle and upper management levels, came to Germany with high expectations. They were mainly, but not only, from the food industry. As in every four-week Manager Training Programme, the participants had the opportunity to review their image of Germany; in training sessions and during visits to companies they also learnt how to present themselves and their companies favourably. They were also able to open up new business segments through individual business meetings throughout Germany.

**Munich.** Georgia is best known for its wines; the fact that the country also has products such as tea, herbs, dried or fresh fruit in its portfolio is not quite as well-known. "As you perhaps know, fresh fruit is not a simple product", says MP participant George Gviniashvili. "Exporting it really is a challenge: Maintaining the cold chain – from harvest and packaging through to the final customer in Germany – requires considerable effort." Exporting dried fruit, tea or wine seems to be simpler.

On the MP, the participants learnt a lot from the companies producing foodstuffs. The hygiene regulations, in particular, are a major issue. European legislation has been applicable in this area since 1 January 2006, and diverse EU regulations on the hygiene of foodstuffs that replace the previous national regulation apply with immediate effect. It is often difficult to gain an insight into such companies if their

production is not completely transparent. However, a small number of companies



**Mikheil Chkuaseli**

Geoplant, one of the largest tea producers in Georgia, has been in the market for 20 years now and has 350 employees. Originally, the company, whose head office is in Tiflis, only produced black and green tea and exported it as a raw commodity. In 2008, it created the "Gurieli" brand name and, with that, advanced to become a producer of processed tea. Two new product lines have been added since 2010: fruit and herbal teas. What makes the tea special is that it is free of herbicides.

International contacts have existed for many years now, for example in Germany to the Martin Bauer Group and its subsidiary Plant-

made the effort to show the group their production processes. The baby food manufacturer Hipp in Pfaffenhofen has special connections to Georgia: senior partner Claus Hipp is the Georgian Honorary Consul for Bavaria and Baden-Württemberg and holds an honorary professorship in art in Tiflis. As he was not able to be present, his son Stefan Hipp welcomed the group and spoke openly about opportunities and risks for his company in Georgia. Hipp had had its own site there but had to close down the factory for fruit concentrate in the Shida Kartli region as there were not sufficient suitable apples. Altogether, he praised Georgian potential for the organic production of fruit and vegetables and said that Hipp is now investing in the primary production and the processing of fruit and vegetables (e.g. tomatoes and apples) in the Kakheti region.

extrakt in Vestenbergsgreuth in Bavaria. The Georgian company also maintains a business relationship with Kölle Etiketten in Esslingen, Baden-Württemberg, where the tags for the tea bags are manufactured. Now, besides cultivating contacts, Mikheil Chkuaseli wanted to position the processed tea in the German market. For this purpose, he met with two wholesalers who sell Eastern European foodstuffs. They drew his attention to the fact that Georgian foodstuffs were not yet established on the German market and are therefore unfamiliar. However, the wholesalers were interested in his tea. Negotiations are now in progress and it remains to be seen if Gurieli tea can soon be bought in Germany. The companies in Munich and Upper Bavaria which were visited were presented with free tasters as a gift.

region. During the course of the conversation, it turned out that a Georgian manager from the herbal segment is already "adding flavour" to Hipp products – through a German supplier.

The Georgian participants gradually realised that the organic market in Germany offers exactly the opportunities they are looking for. Some of the companies still need organic certification in addition to other certificates; promoting Georgian products will be another challenge. The executives discussed this during the training on marketing and in a workshop on web design and social media. This helped them to gain numerous new ideas, and they now want to create a new website or bring existing ones up to date to make an impression on their customers or potential new business partners.

The tour of Krones AG in Rosenheim was another highlight of the programme. At this location, the company produces packaging and palletizing equipment for customers in the "liquid food" industry, these primarily include bottlers. There, the participants were able to become closely acquainted with quality management. First, the various tools in the areas of planning, engineering and testing were explained to them. Then, the guests from Georgia learnt how Krones AG trains employees and also the service personnel from customer companies in its own academy, thus ensuring a high level of quality. During a tour of the company, the guests saw a completed machine being operated in test mode.

The programme also included companies from other branches of industry, for ex-

ample Old Oak GmbH in Rosenheim. Here however, it was about something different: a company that grew from a small start-up based on the sound experience of two friends in the field of wood technology. Their company creates new products, with very modern designs, out of old oak. The CEO's enthusiasm was contagious and the managers saw that it is possible to be successful even with a niche product – it takes a convincing idea and a good deal of commitment.

After days of intensive training, the group finally travelled to Berlin to present, as a pilot group, their results to the Federal Ministry for Economic Affairs and Energy. The participants were fully satisfied

with their training and the newly gained insights. Keso Chachava concluded: "The programme gave me a lot of positive impressions. I enjoyed the training which showed me many already known theories from different perspectives. The group visits reinforced my belief that "Made in Germany" is the best. I also enjoyed being in a new culture and being able to visit several cities in the country." ■



Katharina Bömers has been a project manager for international training at the Chamber of Industry and Commerce (IHK) of Munich and Upper Bavaria since 2011. She is responsible for the organisation and realisation of management training.



**George Gviniashvili**

We all know and love them, those fresh, delicious little berries. Vartsikhe Plantations

Ltd, a company in rural Vartsikhe, to the south of the larger town of Kutaisi, produces blueberries and raspberries. For five years now, Vartsikhe has not only supplied the local market but has also exported the berries. What is special is that the company maintains a very reliable quality control system from the orchard, right up to dispatch; and the fruit is packed according to the customers' requirements. Production of their own plantation amounts to 100 tons per year. But total production of blueberries in Georgia is rapidly increasing and next year it will reach 2,500 tons.

Managing Director George Gviniashvili had two goals in Germany. The first being that he wanted

to introduce the blueberries to the German market; and the second was that he was looking for a company that supplies packaging machinery. In the run-up to the programme, he attended the Fruit Logistica trade fair in Berlin and there he met with Krebeck GmbH from Damme in Lower Saxony. The parties soon reached an agreement and Gviniashvili ordered a number of packaging machines, which were installed in Georgia with the help of a German engineer in June 2016.

Then the Georgian MP participant met with Mario Andretta GmbH in Munich, where he also concluded a deal for the initial supply of 1,000 kg of blueberries. After his stay in Germany and visits to different companies, Gviniashvili realised that he needs to work on the certification of his products. A new facility for berry processing will be ready soon and right after that, implementation of ISO 22000:2005 certification is planned.





Full house: the 2016 work meeting in Bonn



Yıldız Götze (BMW) speaks on the economic significance of the MP

## Continuous Development of the MP



Measurable results and uniform quality criteria were focal points at this year's two-day meeting in Bonn, to which the Federal Ministry for Economic Affairs and Energy (BMWi) and GIZ had invited all training centres involved in the implementation of the programme. The thirteen centres exchanged their experiences, discussed best practice and talked through the changes for the new year.

**Bonn.** There are a number of changes in the programme. For example, two new training centres in Leipzig and Mannheim have been part of the MP since the beginning of 2016. Another newcomer in this round, BMWi Head of Division Yıldız Götze, introduced herself (also see Journal 7). She emphasised that the programme is highly regarded by BMWi: "The MP is regularly acknowledged as an outstanding example of bilateral cooperation to the benefit of both sides." She said that the economic significance of the programme did, however, need to be proved again every year. This means that important economic topics, such as energy transition or digitalisation, must also be dealt with during training. "SMEs are our target group, both those of foreign participants and also those in Germany", Götze continued. "And particularly for SMEs, digitalisation is a key to ensuring their competitiveness. Industry 4.0 promises individualised production and products as well as increased efficiency and makes new business models possible" (more on this in the "In Focus" section).

The steadily growing importance of evaluation, which is of high priority at both BMWi and GIZ, was a further topic. The value of the MP for opening up new markets can be deduced from the number of contracts concluded between participants and German companies. Business among the SMEs and the increase in foreign trade competencies in all participants are in the foreground of the monitoring and evaluation system at GIZ. However, the participants' personal satisfaction with the training in Germany is also important to GIZ and the training centres. Was the programme relevant for achieving individual goals? Did it meet the participants' expectations? What would they improve? There was lively discussion among the programme partners on methods for participant surveys and the process of saving and analysing the MP results.

Quality standards for the MP in Germany and the preparation in the partner country were further topics at the meeting. GIZ examines each training programme according to uniform quality criteria.

This ensures that MP participants are offered a programme in Germany that meets their needs and is based on the previously established professional level. To increase the effectiveness of preparation, the training centres have been carrying out introductory workshops in almost all partner countries since the beginning of 2016. There they present Germany as a business location and the coming training programme in detail and introduce the participants to the subject of cooperation initiation with German firms. In addition, they advise each applicant individually regarding his or her cooperation idea. This includes tips on how to find the right contact partner and how to prepare an application to a German company. After all, good preparation is the key to efficiently organised and successful individual business appointments – and all aspects of the training in Germany profit from this. ■

## Strengthening German-Egyptian Business Relations



Around 50 co-operations are planned or have already been agreed – this is what the 19 Egyptian managers, who completed further training in March 2016, have achieved so far. The economic value of these contacts is estimated at a total of 20 million euros, whereby most of this sum consists of goods exports from Germany to Egypt.

**Mannheim/Berlin.** Whether active in industry or the pharmaceutical, IT, textiles or services sector, the managers from Egypt used their time in Germany extremely efficiently. During the two weeks spent in Mannheim and Berlin respectively, they attended more than 70 individual appointments – and experienced a number of unexpected encounters and turn of events in the process. Take for example Mohamed Masoud, whose German counterpart was initially adamant they were not at all interested in a meeting.

Masoud is the managing director of El Masaid Clothing Co., a textiles production enterprise established in 1998. The company supplies major US American clothing companies and discount stores. Besides exchanging information, the Egyptian participant originally wanted to also acquire orders from German clothing companies during the MP. His tutor at AHP International's further training centre in Mannheim therefore approached TRIGEMA Inh. W. Grupp e.K., a significant player in the German clothing industry. However, the company's owner, Wolfgang Grupp, was not prepared to meet with Masoud. The German textiles industry is already

threatened by cheap foreign producers, he said in explanation of his refusal. An attempt was subsequently made to convince Grupp of one of the key purposes of the MP: to further not only foreign but also German businesses. Thus two further discussions took place in accordance with the motto of "What other opportunities exist for Masoud to cooperate with TRIGEMA?" The answer was clear: for him to sell German TRIGEMA products on the Egyptian market. The Egyptian textiles producer subsequently altered his cooperation aim – and then there was no longer anything stopping a meeting with Grupp. Masoud became acquainted with a state-of-the-art German textiles production company during the meeting. What's more, he was even accorded a very special honour: Grupp invited the Egyptian MP participant to lunch with his family at his private home. Together they considered which products Masoud could sell in Egypt. The managing director is now working on a sales strategy for TRIGEMA in Egypt, and actively supporting the preservation of German textiles production in the process.

**Impressive: German culture of innovation and state-of-the-art equipment standards**

Haytham Elsayed almost didn't come to Germany. The competitive German market initially put the managing director of Medicinia for Pharmaceutical Industries off participating in the MP. Yet Elsayed decided to attend the preparation seminar anyway – and subsequently decided to participate in the programme. He discovered a new aim for his business: to purchase machines for his planned production facility. His company Medicinia for Pharmaceutical Industries specialises in the production of high-quality pharmaceuticals and is one of the largest contract manufacturers in Egypt. Due to the comparatively low personnel costs and high investment incentives, Elsayed actually wanted to set up a production facility in Ireland or Spain. This makes the change in strategy prompted by his stay in Germany all the more remarkable.

A visit to the pharmaceutical company Boehringer Ingelheim, participation in the Arab-German Health Forum hosted by Ghorfa Arab-German Chamber of Commerce, and Elsayed's meeting with the machine manufacturer Holopack changed the Egyptian's mind and therefore also his goal. He now wishes to set up his future European production site in Germany. He was impressed by the German culture of innovation and state-of-the-art equipment standards. Elsayed's plan is ambitious: in three months' time, he wants to establish his company in Germany; in six months, product registration should be complete so that he can begin the export process.

This series of success stories can be complemented with further examples from countless Egyptian MP participants. Overall, their stay in Germany was not only a success in economic terms, but also on a personal and technical level through the countless contacts and new skills acquired – in the fields of personnel management and innovation, for example. ■



Egyptian managers in Germany



Franziska Schneider has worked at AHP International as a specialist tutor for the MP since 2016. Moreover, she is responsible for the organisation and implementation of individual Federal Ministry for Economic Affairs and Energy (BMWi) market development programmes, and helps American companies to develop their business relations with Europe.





The ATOS ScanBox: an optical 3D measuring machine for efficient quality control in the production process

# Industry 4.0 for Vietnamese Managers



What is industry 4.0? What challenges does the increased use of networks with internet applications and the Internet of Things bring with it? What technologies are used for automated production control? These and other questions on digitalisation occupied 21 Vietnamese executives from the middle and upper management levels within the framework of the Manager Training Programme (MP). In spring 2016, they informed themselves about the application of industry 4.0 in companies in Baden-Württemberg and Bavaria.

**Tubingen.** Nowadays companies need to design their products and services on an individual basis and to react quickly and flexibly to changing market demand. This means that procurement processes, production methods, marketing and sales have to be coordinated. And that requires the purposeful collection and analysis of market information and corporate data in order to derive suitable strategies for action. Lately, industry 4.0 applications have increasingly been used for this purpose. Thus, traditional value creation chains are progressively losing ground and giving way to new business models. Moreover, manufacturing companies are opting more and more for digitalisation.



The MP participants from Vietnam gained a first insight into state-of-the-art technologies for industry 4.0 applications in quality assurance at the "Control" trade fair in Stuttgart. There, leading manufacturers exhibited their solutions for quality management as well as overall solutions for production monitoring with software and hardware components. "The trade fair showed me new fields of application for my company and gave me new ideas and solution strategies, with which I can improve the quality of my products considerably", said Nguyen Nhat Quang Duong, Financial Manager of Nhat Tien Trading & Manufacture Co. Ltd afterwards. His company produces high-quality plastic

containers, by means of extrusion blow moulding, for customers in Asia and Europe.

## Insights gained at German firms

"I was impressed by the vehicle production at Daimler AG, in which the production processes are all closely embedded in digital networks", said Nguyen Anh Tanh, manager at the company Petrovietnam. "The individual customer orders are transmitted to the production line 'just in sequence', enabling intelligent production of custom-made vehicles. This makes the production very flexible and utilises the production factors in the best possible way with regard to costs, logistics, safety and time." Dinh-Ngoc Hong Puc, manager at Vietnam Materials and Equipment Trading Company Ltd., was also very impressed with the visit to Daimler: "The robots there are all digitally controlled and integrated harmoniously into the production line. Through the interaction of humans and machines, high-quality cars are manufactured with unbelievable speed and precision." Hoang Yen Phan, manager at CCL VIET NAM Co. Ltd., summarised: "Here, decentralised intelligence helps to create intelligent networks in which the real world is linked to the virtual world. This opens up completely new possibilities for production."

The guests from Vietnam not only became familiar with intelligent production; new digitalised concepts in construction planning and construction execution left a lasting impression, for example at Fichtner Bauconsulting. Nguyen Anh Tanh enthuses: "The company uses new software solutions that continuously visualise the classical range of tasks, from planning, to invitations to bid, to construction performance control with model-based processes. 'Augmented Reality' offers completely new possibilities. I found the way in which piping and cables for water, cooling, electricity or IT in the building are visualised in 3D simulations particularly fascinating."

## Industry 4.0 in Vietnam

What subject areas of industry 4.0 will be most important for Vietnamese companies in the next two years? And which specific possibilities do the Vietnamese executives see for putting industry 4.0 applications into practice in their companies? According to Quach Toan Thuan, Vietnam is currently at the industry standard 2.0 level. "We are still very dependent on human manual work. In the future, automation and monitoring as well as the quality control of machines, integrated into production processes, will become increasingly important", says the director from Viet Thanh Long Textiles Co. Ltd. "Regarding my company, I have identified some important needs for the application of industry 4.0. I want to automate the yarn production with robots and to automatically control the quality control in real time with photocells." Hoang Viet Cuang, Vice President of Than-glong Corporation, plans to introduce an IT platform for handling management training and to automate his production control system. "Industry 4.0 will revolutionise the existing business models and will particularly influence production, IT applications and communication." Nguyen Anh Tanh also thinks that the concept of integrated high-performance software systems with user interaction and their integration into digital networks offers the best opportunities for Vietnamese

companies. "With them, components and spare parts can be made available as needed, and final products manufactured and delivered according to customer requirements without any loss of time." He sees a high level of customer retention as a result of linking customers to the manufacturing processes with information on the products they have ordered. "The introduction of elements of industry 4.0 helps us to optimise supply chains and thus to reduce costs. Real-time analyses lower the risks and costs in the operational implementation and raise safety standards."



The Vietnamese executives were convinced that digitalisation and industry 4.0 present new opportunities for companies in Vietnam. Hence, most of the participants interviewed plan to implement elements of industry 4.0 in their companies at home within the next two years. With new ideas, Vietnamese flexibility and the knowledge and experiences gained in Germany, they are well equipped to do so. ■



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Shamyrat Mustafayev, Deputy Minister of Economy and Development of Turkmenistan



## Cooperation Between Germany and Turkmenistan



As part of the Turkmen-German Business Forum, Commerzbank AG invited around 120 representatives of Turkmen and German firms and organisations to a conference to explore questions of bilateral cooperation on 5th February 2016.

**Frankfurt/Main.** The Turkmen-German conference represented the successful continuation of dialogue with German business partners for Manager Training Programme alumni Rustam Annagurbatov, the head of the economics department at the Ministry of Industry, and Chudayar Kurbanov, the director of the firm Takyk Olchegeler ("Precise Measurements"). After completing the MP in

nov, the head of the economics department at the Ministry of Industry, and Chudayar Kurbanov, the director of the firm Takyk Olchegeler ("Precise Measurements"). After completing the MP in

Berlin in 2015, the two Turkmenistan delegation members served as experts on bilateral business relations.

"I looked forward to meeting with my partners from Germany and other European countries at the Turkmen-German Business Forum in Frankfurt, as we had arranged it while I was attending training in Germany in autumn 2015," Kurbanov says. "This time around we discussed the next steps for intensifying our cooperation and made concrete plans, such as drafting terms for our cooperation agreements and setting a signing date. Working together is good for both sides. I was very impressed by the dynamic business environment so clearly visible throughout Frankfurt."

Headed up by the President of the Turkmen Chamber of Commerce and Industry, Dovran Orasmyradov, and Deputy Minister of Finance Shamyrat Mustafayev, members of the Turkmen delegation praised the ongoing development of the Manager Training Programme with Turkmenistan.

In the plenary meeting, forum participants heard about successful joint ventures between Germany and Turkmenistan. Representatives from the two companies PWT Wasser- und Abwassertechnik GmbH and Hospitalia GmbH reported on progress made in their projects in Turkmenistan. They highlighted many of the different steps necessary for successful entry into the Turkmen market, such as working with partners to define the framework conditions for a joint venture at the very start, and scheduling enough time to really get to know each other well. ■



Lively discussions during the Business Forum

## TÜV Rheinland Akademie: Exactly Right



**Cologne.** Is TÜV a public sector organisation? What has TÜV (Technischer Überwachungsverein – Technical Inspection Association) got to do with an international manager training programme? These are questions most participants in the Manager Training Programme (MP) ask.

TÜV Rheinland AG operates as a private sector testing service provider and has 19,300 employees spread across every continent. The independent experts stand for quality and safety in the efficient interplay between humans, the environment and technology in almost all business sectors and almost all other spheres of life. Known as an "independent third party", TÜV Rheinland inspects technical systems, products and services, carries out inspections on behalf of companies and provides support for projects and processes for companies. This is done on the basis of acknowledged standards as well as national or international legal provisions. These include, for example, German or international DIN or ISO standards as well as laws and regulations.

The academy and life care business segment bundles the expertise and all the

services of TÜV Rheinland that have to do with people in their workplaces and their professional surroundings. This includes topics regarding personnel and organisational development, management training and seminars, corporate health management and occupational medicine as well as the certification of individuals, employment services and private schools. The business segment is represented in about 60 locations in Germany and in 30 countries spread across all continents. TÜV Rheinland has been active in Germany in the field of vocational qualifications for more than 40 years now and currently carries out about 12,000 events with roughly 200,000 participants each year.

### At the service of the MP

The Manager Training Programme of the Federal Ministry for Economic Affairs and Energy (BMWi) has been part of this portfolio since 2011, which now in its sixth year, already has 17 successful training courses attributed to it. The team at TÜV Rheinland Akademie sets itself high personal and professional standards and is committed to supporting the participants, not only during their stay in Germany but particularly on a long-term, sustainable basis, and to equipping them with important professional skills and advanced knowledge. In addition to management expertise, the participants receive important information during their stay in Germany concerning product or service certification.

After the training in Germany, they benefit as alumni from the regional TÜV networks in their home countries. As MP participants, they have access to specialist lectures, special webinars or in-house events that match their needs perfectly. For instance, the TÜV Rheinland team in Cologne works in close cooperation with

the branches abroad to ensure a smooth transition and to sustainably support the participants' individual goals. Further education to become a quality consultant or energy auditor, or certification in the fields of risk management or compliance: The skills acquired in Germany can be expanded on, on an individual basis, after returning home.

Obtaining the certification needed for exporting a firm's own products is often the key to success on the international playing field – testing laboratories help to make the products competitive. The largest laboratory centres of the Global Technology Assessment Centre (GTAC) of TÜV Rheinland are in Bangkok, Budapest, Cologne, Nuremberg, Milan, Silicon Valley, Shanghai and Yokohama. In addition, a broad network of solar energy assessment centres concentrates on the testing and certification of photovoltaic modules.

TÜV Rheinland is also one of the main players in the SWITCH-Asia programme launched by the EU to promote sustainable economic growth. Here it supports SMEs in the Shaanxi region in China in the implementation of clean and efficient technologies. This broad range of services is also open to MP alumni. ■







## Further and Advanced Vocational Training



# A Success Factor for German Businesses

Human resource management is a perennial issue among foreign MP participants. In light of the branch heterogeneity of some MP groups, it is often the common denominator that all participants benefit from equally – particularly when tips and tricks, based on real-life examples from German firms, are explained. The visit of Azerbaijani executives to KROHNE Messtechnik GmbH thus proved to be a highlight of the MP training, and vocational training featured on the programme alongside production processes as a measure for strategic employee planning in conjunction with the vocational training.

**Cologne.** Further and advanced vocational training is essential for economic growth in Germany. With its diverse opportunities for training and advancement, the German vocational training system opens up career prospects and guarantees good employability. Businesses play a de-

cisive role in this, for they must offer the training positions. Twenty-one executives from Azerbaijan were able to experience this first-hand when they participated in the MP in spring 2016 and visited KROHNE Messtechnik GmbH in Duisburg. The company has developed and

manufactured pressure, flow rate, temperature, analysis and fill level meters for a variety of industries since 1921, and has positioned itself as the leading global manufacturer and provider in its field. The visit focused on the dual training system and succession planning.

HR manager Katrin Grosse shared compelling insights into the training process and professions at KROHNE. She began by outlining the legal requirements and educational framework as cornerstones of the dual training system in order to provide the Azerbaijani participants with the appropriate context. She then focused specifically on the training offered at KROHNE. Specifics about the content of the training, the time frames and the conditions relating to who covers which costs were covered. It rapidly became clear to all MP participants that dual training is decisive to the company's success. Trainees learn about the specific products offered by KROHNE on the job and the vocational college provides the theoretical background. The advantages are clear: the young people are provided with career prospects and the company gains urgently needed specialists while also allowing employees to further their career internally. The internal succession planning, i.e. the career ladder within the company, ensures that this works. The individual career steps are meticulously structured – the employees' requirements and time frame for the process are both critical factors. Both are taken into account when planning because the employees play a central role in the company's philosophy. And these are not merely empty words: KROHNE is well aware that its employees and their expertise are their most important asset. The company strategy is paying off – 30 percent of employees are former trainees.

A lively exchange between the MP participants and managers and employees from KROHNE showed that vocational training, as an aspect of HR management, is undoubtedly valuable – it helps to retain specialists and thus ultimately secure the company's success. ■



Rimma Kadyrbayeva has been a project tutor at TÜV Rheinland Akademie responsible for assisting MP participants since April 2016. With her international focus and experience of different industries, she supports participants in the realisation of their cooperation projects in Germany.



# The “Dresdener”: A Strong Network



**Dresden.** As a private corporation, the Consortium of New Federal States (German name: Konsortium Neue Bundesländer, abbreviated as NBL) working group is part of a business association that has been implementing comprehensive international projects since the early 1990s. Over the past 25 years, the association has been involved in countless EU-funded projects. It builds on its own national business projects in the process, such as the founding of what is now the largest specialised publishing company in Russia or the takeover of a major educational enterprise in Hungary. The consortium moreover draws from these experiences in its work within the Manager Training Programme of the Federal Ministry for Economic Affairs and Energy (BMWi).

The NBL has participated in the Manager Training Programme and supported restructuring processes within firms in the according target countries since the programme was established back in 1998. It therefore affords countless years of experience in the provision of manager training for executives from Belarus, Kazakhstan, Kirghizstan, Moldova, Russia, Turkmenistan, Ukraine, Uzbekistan and Vietnam. This expertise pays off: the participants supported by the NBL achieve

sustainable success in establishing business contacts between German firms and firms in the respective partner country. With regard to knowledge transfer, the Dresden-based consortium is considered an important source of stimulus among graduates.

The NBL originally focused on working with firms and managers from the Commonwealth of Independent States (CIS) and other post-Soviet states in particular. For more than ten years now, it has also advised and supported manager groups from the Asian MP partner countries.

The NBL is a reliable contact for MP alumni seeking advice on economic relations with Germany, the mediation of further contacts, and interdisciplinary aspects. Alumni are moreover offered short programmes in Germany that are industry-specific or tailored to a specific company. These link individually to the MP and often lead to success in projects whose cornerstones were laid during the training in Germany. One particular strength of the NBL is networking. Their extensive networks allow MP alumni to

be supported with specialist programmes and training in many of their home countries and particularly in the post-Soviet region.

In several MP partner countries, the NBL graduates form a well-networked group with particularly good relations known as the “Dresdener”, who maintain friendly collegial relations with the training centre in Dresden. It is consequently easy for German firms who are interested in a co-operation with the MP partner countries to find a graduate and to establish contacts and networks. ■



Russian managers at NBL in Dresden





## Mexican Managers Visit CONTAG AG in Berlin

# A Unique Corporate Culture



In March 2016, 16 MP participants from Mexico visited CONTAG AG in Berlin and gained in-depth insights into a medium-sized company with an outstanding corporate culture.

**Berlin.** CONTAG AG manufactures prototype printed circuit boards for the electronics industry. The Berlin-based medium-sized company uses state-of-the-art equipment to manufacture in three shifts, and is available 24 hours a day to advise customers and guarantee particularly rapid service. The company's primary aim is complete customer satisfaction – while continuing to maintain a positive corporate culture and family-friendly personnel policy.

Long-term employee Guido Strehl, Assistant to the Board, explained to the Mexican managers that continuous improvement of processes and innovative solutions top the agenda at the company. In 2015, CONTAG AG was conferred the Grand Award for Small and Medium-Sized Enterprises (German: Großer Preis des Mittelstandes) for its hard work and successful developments in these areas. In particular, CONTAG AG outshone the competition in the categories of the creation and protection of jobs and vocational training positions, modernisation and in-

novation, regional commitment, service, and customer proximity.

Beside innovation and customer service, the company is above all characterised by a unique corporate culture. The 85 employees should feel comfortable and complete their work with a lasting high degree of motivation. Thus CONTAG AG offers long-term work contracts, team work on all levels, bonus systems for outstanding performance, and targeted further training. Strehl explained the company's outstanding commitment to an open communication style to the Mexican managers. A family-friendly approach is also particularly important: this is ensured through flexible working hours, tiered part-time models, and company events in which the employees' families can also participate.

During their tour of the company, the Mexican guests not only marvelled at the modern production facilities but also at the parent and child workroom and the

fitness room in which health courses and massages are offered. The beach volleyball court and table tennis tables in the company grounds were also inspected with enthusiasm, and all participants were able to imagine how company sports events could help to boost the sense of team spirit among employees.

Nevertheless, the Mexican managers explicitly wanted to hear about the benefits of these social facilities, and why investment in the corporate culture is worthwhile. "The employees are highly motivated and identify with the company aims," Strehl explained to his guests. There are also considerably fewer absences due to illness. Last but not least, the positive corporate culture also contributes to the company's economic success. Inspired by their visit, the Mexican managers discussed among themselves which ideas they could potentially introduce at their own companies and how they could reinforce the corporate culture. ■



Johanna Lange has been working at Carl Duisberg Centers as the project manager responsible for organising and implementing the Manager Training Programme since 2010.

# China: New Opportunities and Risks



In March 2016, one year after the training course "Ready for business with China", the participants from 2014 met for a follow-up seminar at GIZ in Bonn, in order to talk about the latest developments, China's thirteenth five-year plan, and their Chinese business activities.

**Bonn.** What influences China today and in the future? This was the issue being discussed by the participants of the training programme "Ready for business with China" who completed their course in China in 2014 and 2015. The group, whose stay had just finished a mere six months ago, was thereby able to enjoy an expert presentation which was based on first-hand information. And they knew the presenter quite well – it was Birger Vinck, who had prepared both of the groups for their programmes.

Vinck, the general manager of Vinck's Agency for Consulting and Trading (VACT), specialises in German-Chinese business relations. VACT consults businesses in market entry, procurement, marketing and sales in connection with doing business in China, and offers negotiation services as well as seminars and training courses. As part of the Management Training Programme, Vinck prepares German executives over the course of a two-day seminar for their training programme in China and also oversees follow-up. At the follow-up meeting he talked about

China's new thirteenth five-year plan and its implications for future business activities in China. Vinck delved into the topics of the current transformation of China's economy by structural reforms, the upgrading of industrial production and value creation processes by means of technological optimisation and progress, improvements in environmental protection, optimisation of energy efficiency, market consolidation, and increased income in the population.

## The new five-year plan

China's new five-year plan (2016-2020) offers political, business and societal guidelines. This plan pursues several goals with the objective of promoting China to the ranks of the industrialized nations: economic growth has again been optimistically set at approx. 6.5 percent, with per capita income doubling and overcapacity in heavy industry and steel manufacturing being reduced. The government aims to promote science, research and technology by substantially increasing investment in research and development. Access to

China's service and production sector is to be made easier for foreign investors, with the service sector assuming an ever greater role. New opportunities are being created for providers of automated, information and communication technology, as well as internet and software firms. China's fast growing domestic market is offering new opportunities for European companies that offer "China-compatible" products. Targets for environmental protection are also becoming more concrete. Renewable energies and efficient use of resources are encouraged and environmental regulations are enforced more tightly in order to improve the quality of life for the general population.

## The training programme in China: impressions and results

Reflecting on the training programme, sharing experiences from China and comparing results were all part of the main focus of the follow-up event with the aim of identifying good practices and learning from past mistakes. This also involved contrasting the expectations participants held prior to the training programme with the experiences they had during the programme to determine how effective the programme has proven for the participants' business activities. Most of the executives had wanted to identify potential customers, suppliers and business partners in China. The German managers succeeded in establishing numerous contacts there.

The biggest highlights were the company visits, which were able to convey a sense of a real status quo for China's production landscape, revealing major differences. Further programme highlights included a visit to the Sino-German Metal Eco City (MEC) in Jieyang in the province of Guangdong. The German guests were especially impressed by the high levels of organisation and hospitality. Two of the participants were able to immediately establish concrete business deals. Others are currently in negotiations with their Chinese partners. Two German entrepreneurs founded a company together (see Journal 6, p. 51). The programme was also highly successful on a personal level according to the participants. All of them gained valuable information and business experience. ■



Training participants Patrick Finkbeiner (L.) and Viktor Klaus in Bonn



# India as a Partner Country

## New Technology Desired



India has been an active partner of the Manager Training Programme of the Federal Ministry for Economic Affairs and Energy for eight years now. In order to manage the subcontinent's vast size, the GIZ has two partners for the implementation of the programme in India: The Confederation of Indian Industry (CII) and the Federation of Indian Chambers of Commerce and Industry (FICCI); both of which represent companies of all sizes and from all sectors within Indian industry. The CII and FICCI have brought around 500 Indian managers to Germany, many of whom are the owners of family businesses – and interest remains consistently high. In an interview with the GIZ, Amit Sanghvi, who is responsible for the implementation of the MP at CII, explains why this is.

*GIZ: Mr Sanghvi, the MP with India has been running for eight years now. Almost 500 Indian managers have participated during this time. In your opinion, how exactly has the programme developed?*

**Amit Sanghvi:** India's economy is developing very rapidly. It requires state-of-the-art technology for its growth. Germany is a highly-developed industrial nation that is renowned worldwide for its high quality technology. Conversely, all industrial nations suffered during the severe recession in 2008 and resolved to establish business relations with less developed countries. Good and in-depth business relations have existed between India and Germany for a long time now. The idea of offering the Manager Training Programme of the Federal Ministry for Economic Affairs and Energy to Indian en-

trepreneurs builds on this. In 2008, the two governments consulted with one another and signed the MoU that same year. Looking back on the achievements and success stories of our participants, we can rightly say that the programme has developed extremely well. Meanwhile, there are also a number of industry-specific training programmes.

*What specifically does the Indian government expect of the programme?*

In the cooperation between Germany and India, the Indian government's priorities clearly lie in technological developments. As I said, India needs state-of-the-art technology and wishes to obtain this from Germany. Another important aim is efficient production. Our entrepreneurs are also able to learn about this in Germany.



*What aspects of further training in Germany do Indian managers find particularly interesting?*

We increasingly hear from returning participants how very interesting the topic of innovation management is for them. This is naturally also closely associated with the R&D sector that facilitates and fosters innovation. Great importance is attached to R&D in Germany, and it commands enormous financial resources. Further compelling issues include intercultural management and the successful search for German partners. The latest MP groups



recently also gladly reported back on their experiences of the topical issue of industry 4.0 in Germany. In April, Indian managers attended the Hannover Messe where this highly innovative field was one of the focal topics.

*Indian managers have reported countless success stories. Which come to mind in particular?*

First and foremost, I must of course think of Ravindra Mahadeokar, the managing director and owner of a medium-sized Indian engineering company. Summit Engineers and Consultants was founded in 1996 and specialises in the production of automation technology. In Germany, Mahadeokar found a partner in Strama-MPS Maschinenbau GmbH & Co. KG with whom he has developed his business extremely dynamically over the years: Summit is now the sales, service and production partner for Strama in India, and a joint venture was founded in 2014. Since 2012, company turnover has increased by 90 percent every year.

One further fantastic success is our MP participant Dr. Rashi Gupta from Vision Mechatronics Private Limited (VMPL) based in the Indian city of Thane. One year after her initial meeting with a medium-sized Bavarian company, VMPL succeeded in overcoming all the challenges involved (i.e. a higher price, elaborate logistics, working with new technological processes) in introducing an innovative German energy storage system (lithium-ion batteries) onto the Indian market. The first battery systems capable of storing electricity from renewable energy, independent of the network, are now being produced and sold in Thane – German engineering made in India!

*Are there also interesting examples of improvements in management structures in Indian businesses thanks to the MP?*

I like to think of our participant Biju Philipose from Sevana Packaging Systems here. Unfortunately, he was unable to establish any business relations with German companies. However, he did benefit greatly from preparing a business plan during the MP. Training in personnel management also proved extremely useful. Philipose was able to use the new knowledge gained in these two areas in his company to boost business by 35 percent – thanks to his employees' improved motivation.

*Are there significant obstacles to business relations between Germany and India that make cooperation with German companies difficult?*

I cannot think of any fundamental obstacles at a higher level. Participants do of course report problems. Our Indian entrepreneurs have had problems identifying the right partners in Germany, for example. Some of them had a hard time convincing potential German partners of their expertise and managing to change their opinion of India to be able to do business with the Indian industry.

*Think global: Germany is India's most important trade partner within the EU though it continues to lag far behind countries such as the USA, China and Arab Emirates. What are your expectations for the future?*

India is a developing country whose strengths clearly lie in its low production costs. In contrast, Germany is far ahead in the fields of engineering and technology. Both our countries stand to benefit greatly if we cooperate on the technical aspects and establish more joint ventures.

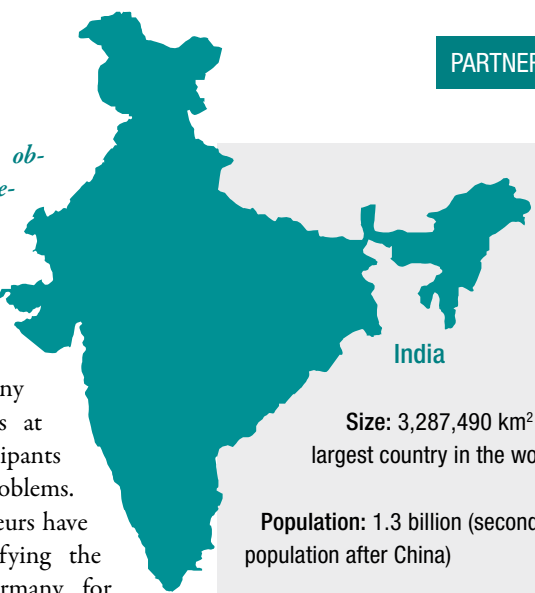
*In which sectors is the German market currently particularly attractive?*

Engineering is undoubtedly a priority. The automotive industry is also interesting. Renewable energy is growing in significance in India – and the German market has a great deal to offer in this field. The subject of waste management is very important to us, too. German companies have developed countless efficient technologies and applications here.

*Speaking of specific industries, Indian managers from the renewable energy sector are due to travel to Germany this September. How important is this industry for the Indian economy?*

Within the field of renewable energy, the Indian government's focus is currently on energy efficiency. The availability of energy and a guaranteed power supply are major issues in many regions of India. The energy prices are also extremely high.

*Thank you for the interview!* ■



Size: 3,287,490 km<sup>2</sup> (seventh largest country in the world)

Population: 1.3 billion (second largest population after China)

Raw materials: ores, bauxite, copper, coal, manganese, oil, natural gas, diamonds

GDP: US\$ 2,308 billion (2015)

GDP per capita: US\$ 1,808 (2015)

Share of economic sectors in the GDP: agriculture, forestry, fishing: 18%; mining and industry: 17%; construction: 8%; services: 57%

Key import partners: China, Saudi Arabia, United Arab Emirates, Switzerland, USA

Imports from Germany (13th in the ranking of international trade partners): machinery, systems, chemical products, electrical technology, measuring technology, cars and car parts

Exports to Germany: textiles, chemical products, machinery, food products, services

Market potential for foreign enterprises in 2016

Mechanical engineering	↗
Construction	↗
Electrical technology	↗
Environmental technology	→
Energy	↗
Automotive	↗
Chemical	↗
Medical technology	↗
Food products	↗
Packaging	↗
IT	↗

Source: Germany Trade & Invest (gtai)



# Fit for the European Market



The family-owned company CSort is a leading manufacturer of colour sorters in Russia. Development on an in-house line of colour sorters began in 2008, which the company began marketing in Europe in 2015. At the 2015 Agritechnica in Hannover, the largest agricultural technology exhibition in the world, CSort presented its newest product, the SmartSort series of colour sorters for dry solids. Four were immediately sold directly from the booth to European customers.

**Barnaul.** “Our booth was in the same exhibition hall as all the world-market leaders in colour sorters,” CSort Director Maxim Savinkov says. “Everyone working at the booth spoke either English or German, so initially visitors assumed we were European. When they found out we were from Russia, many asked in astonishment, ‘Was this machine really made in Russia?’ Then they gave us a congratulatory pat on back.” By the end of the very first day, word had spread through the entire hall of the “courageous Russians” who not only manufactured colour sorters in Russia, but who had also brought them to the exhibition to demonstrate how well they worked.

“When we invited potential business partners to come to our booth, we asked them to bring any kind of dry bulk material they wanted sorted. Then we ran it through our sorter, right then and there, to show what it could do. We had never seen some of the products before, like anise, thyme and industrial hemp. But it only took 15 minutes to adjust the programming to get SmartSort separating ‘the wheat from the chaff’ as it were,” Alexander Starkov, Head of CSort’s Foreign Trade Relations Department, recalls. “None of our competitors had the guts to sort unfamiliar bulk goods on location. In the beginning, no one believed our machine could do it. Once it started ‘making music’ and playing Bach and Mozart, we were absolutely inundated with requests.” The sorter actually plays music, and can even be programmed to play the German national anthem. This is the method by which the precision of the settings can be assessed: If the melody sounds harmonious then the machine is ok and is ready to operate; if the music is off key, this is a signal that the settings need to be re-adjusted.

Putting the colour sorter through its paces on site at the exhibition was a deciding factor in winning over the first customers. The machine on display never left Germany. It was purchased by the customers who had brought the anise and thyme for test sorting, representatives of a company that processes medicinal herbs and manufactures spices and essential oils. They were so impressed by the colour sorter’s precision that they signed the purchase agreement with CSort right there on the spot at the exhibition. An additional SmartSort machine will soon be shipped to the Czech Republic for use in a speciality grain mill, while a third is on its way to Bulgaria to a seed company. The fourth unit was bought by a business partner in Poland who installs production lines for companies throughout Europe.

## The preparation phase and importance of the training programme

The first successful sales in Europe were the culmination of a long lead up during which the company prepared to enter the European market. It all began with the Russian Presidential Programme, which all five top managers completed. Two of

whom, Director Maxim Savinkov and Head of Sales Vitaly Savinkov, also participated in the BMWi Manager Training Programme. “Back then we dove right into German business culture,” Maxim Savinkov recalls. “We established contact with German business owners and machine manufacturers. We learned all about the equipment Trumpf makes during our training, and decided to buy their lines to manufacture our colour sorters at home.” CSort currently employs a number of Trumpf systems and one Lissmac system in their factories. Contact to Lissmac was also established during the Manager Training Programme in Germany. The use of German technology has clearly improved the quality of the sorters.

Back then the Savinkov brothers also decided to focus on working with Germany, and took German values like exceptional planning, accuracy and punctuality back home with them to implement in the family firm. Once their colour sorters began holding their own in Russia against the competition from China, Korea and Italy, they decided it was time to conquer foreign markets as well. Their first target was Germany, familiar ground thanks to the MP and the purchased machines. “We knew that German customers were primarily interested in innovation, in new products. And that technical perfection and functionality were absolutely essential,” Maxim Savinkov explains. “The price was secondary.” So the company completely redesigned a new colour sorter especially for the German – and as such also the European – market to meet these



In production



Maxim Savinkov,  
Director of CSort

expectations and comply with the applicable European guidelines. Development took about a year.

Annually CSort invests ten percent of turnover in research and development and incorporates the latest findings from Russian scientific research. Their machines offer not just exceptional quality, but energy efficiency as well, which lowers operating costs and is good for the environment. The company invested its entire

wealth of experience into the development of the “European” colour sorter, designing the third generation of the SmartSort colour sorter line especially for the European market. This included using neuronal nets with learning algorithms to identify solutions for unsolved problems. The machines are fitted with an intuitively designed interface and internet connectivity, so any unit anywhere in the world can be configured or repaired online.

“Many Russian manufacturers report that it is very difficult to obtain the CE marking, but this was not an issue for us. Our machines passed all the tests easily since we were not trying to have a unit which is available on the Russian market certified, and had instead built an entirely new machine that complied with all the guidelines from the out-set,” Savinkov explains. Additionally, the firm created their

new Foreign Trade Relations Department to oversee entry into the EU market and hired staff with good working knowledge of English and German.

In Germany and Bulgaria potential European customers can come and see the units in action at any time and bring their own dry bulk materials for a test run. An agreement is already in place for the machine to also be on display in Poland in the near future. In 2016, CSort opened a representative office in Germany and will soon be represented in Bulgaria and the Czech Republic as well. At the moment, the family firm is exploring the US and Chinese markets as the next possible targets for expansion. ■



Anastasiya Chilynovskaja is a journalist from the Altai region of Russia and an alumna of the Russian Presidential Programme. Her professional specialisations include reporting on the foreign trade activities of companies based in the Altai region and the business successes of the Presidential Programme alumni.

## Beneficial Partnerships in Ukraine



**Lviv.** The Partner Conference in Lviv offered ample proof that successful partnerships are not as rare as one might think. At the beginning of June, over 80 representatives of all 17 Ukrainian partner platforms impressively illustrated just how successful partnerships can be.

The Ukraine partner platforms bring alumni and other stakeholders together and represent a relatively new and unique construct within the MP (for more information see the articles in issues 2/2013 and 6/2015). The country is now home to 17 regional platforms, which work to attract new participants, advertise and consult on the programme, and take advantage of the MP and the potential of MP alumni to set up PPPs (public private partnerships) to drive economic development in their regions. They help small businesses enter new markets (Sumy), initiate urban development concepts (Khmelnyski), and run marketing campaigns for their city and region (Rivne). The two-day event also welcomed representatives from the Belarus and Moldova alumni associations, who shared their experience with their Ukrainian counterparts. “Until now, we viewed



At the partner conference in Lviv

our alumni association as a trailblazer, a very special community of and for MP alumni in Moldova,” Anatol Palade from the Moldovan alumni association said. “But when we learned about the work being done by partner platforms with their alumni at the Partner Conference, we realised we are actually behind in a lot

of areas.” These words were soon followed up with action, and the alumni association representatives met with the Southern Ukraine partner platforms to talk about founding an international partner platform. As Ukraine has effectively shown, partner platforms set an excellent example for other MP partners. ■



## AHK Central Asia

# Access to the Central Asian Market



From an economic perspective, historically, Central Asian countries have not been very developed and have been highly dependent on raw materials. The aim is to reduce this dependency. In doing so, the greatest challenge lies in diversifying the economy. This is where the Delegation of the German Industry and Commerce for Central Asia comes in: it fosters economic involvement within the region and supports German companies seeking to establish business relations with Central Asian companies. The head of the delegation, Jörg Hetsch, reports back on the delegation's diverse tasks.



**Almaty.** In recent years, Central Asia as a whole – and Kazakhstan in particular – have become significantly more important for the German political and economic spheres. The tasks and fields of work of the small office representing the German industry in Kazakhstan, that has successfully represented the interests of German companies and partners for Kazakhstan since 1994, have therefore also grown accordingly. Thus the German Chambers of Industry and Commerce (the umbrella organisation of the German chambers of industry and commerce) resolved in 2008 to transform the small representative office into the office for the

Delegation of the German Industry and Commerce for Central Asia.

The areas of responsibility of the former representative office have been greatly expanded. Its main task now lies in supporting and advising on the economic activities of German companies in Central Asia in addition to supporting local companies seeking business contacts in Germany. In close cooperation with the German Business Association in Kazakhstan, the Delegation of the German Industry and Commerce for Central Asia represents the interests of the German industry in Kazakhstan and other countries in Central Asia. It is actively supported in this by the Federal Ministry for Economic Affairs and Energy (BMWi) and the German embassies in the respective countries. Furthermore, in Germany the delegation promotes Central Asia as a business location. It works closely with Central Asian organisations and the respective embassies in Germany and has established trusting relations.

## The Manager Training Programme as a win-win Situation

The Delegation of the German Industry and Commerce for Central Asia sup-

ports five countries, namely Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. With the exception of Tajikistan, all the countries are partners of the Manager Training Programme of the Federal Ministry for Economic Affairs and Energy which is coordinated by the GIZ. The Delegation of the German Industry and Commerce for Central Asia supports and tracks the progress of the programme. The delegation participates in graduate presentations at alumni meetings. In Kazakhstan, it regularly advises graduates on opportunities for making contact with German companies via the Delegation of the German Industry and Commerce, and if necessary, will personally assist in this.

The programme brings young managers from Central Asia together with German companies, thus fostering business relations between the countries. It truly is a win-win situation. During the MP training in Germany, the managers from Central Asia experience in person how German companies plan and implement their business processes, and learn in this way why not every business idea from Central Asia is interesting and lucrative for German companies. In turn, German companies are familiarised with the sensitivities and criteria that can play a role

## “The MP reinforces the development of a genuine ‘Mittelstand’ in Central Asia.”

for Central Asian companies. This allows them to rapidly find a common language with their partners. Many company representatives from Central Asian countries

sign contracts with German companies during or after the Manager Training Programme. Thus the programme makes an important contribution to the economic development of the individual countries and – most importantly – also reinforces the development of a genuine ‘Mittelstand’ in Central Asia. By using modern systems and equipment from Germany, Central Asian companies boost their productivity and innovative power. For their part, German companies access new sales markets.

Agriculture plays a major role in all five countries, hence providers of the according technology find many potential partners here. These range from conventional technology to specialised agricultural technology through to the supply of the

according components to storage and processing technology for agricultural projects for the cotton, fruit and vegetables cultivated throughout Central Asia. Technology from the field of energy efficiency – and increasingly also in the field of renewable energies – is in demand. All kinds of German products traditionally enjoy a good reputation here – be it cars, pharmaceutical products, classic machinery, sophisticated construction and building material machines, or agricultural or medical technology.

## A door opener for the Central Asian market

The comprehensive services offered by the Delegation of the German Industry and Commerce for Central Asia are provided by DEinternational Kazakhstan, a limited liability company according to Kazakh law. DEinternational's services are extremely diverse: from market exploration and development through to advice on legal, tax and customs matters, to local support in the search for personnel.

## Market development

We offer sound exploration of the market for companies wishing to know more about the markets in Central Asia and to establish preliminary local contacts. The following individual services are available:



Delegation der Deutschen Wirtschaft für Zentralasien  
Представительство Германской экономики в Центральной Азии

market surveys and analyses, organisation and implementation of market exploration trips, mediation of individual discussions, and provision of trade register excerpts and the according translations. We can gladly also tailor our services to your needs.

Companies who have already resolved to access the Central Asian market and wish to establish and build up their business locally are able to take advantage of our services in the fields of market entry and development. Among others, these include comprehensive packages for market entry, office support and accounting, trade fair services and corporate presentations to potential customers and decision-makers.

We invite graduates of the Manager Training Programme of the Federal Ministry for Economic Affairs and Energy to major events to allow them to make contact with potential partners – for example, B2B discussions with delegations and further training groups from Ger-

many. We are also on hand to assist with establishing direct contact to new potential suppliers.

## Legal, tax and customs matters

We support companies with questions relating to jurisdiction, taxes and customs clearance that must be clarified before business deals are concluded or that affect ongoing business and company activities. Among others, our services include the registration of all company forms, accreditation of representatives, checking of export/import contracts, and support in the acquisition of work permits and preparation of work contracts for local employees.

## Local personnel recruitment

We can gladly support German companies in the search for local personnel ideally suited to your activities. We conduct the preliminary screening of applicants and provide companies with the application documents along with a brief description of the suitable candidates in German based on the application documents and preliminary discussions. Moreover, we organise meetings between clients and applicants, and can get involved as desired. ■



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## Follow-Up in Moscow

# International Markets: Market Access Strategies, Opportunities and Risks



The follow-up event for the Russian alumni, which was held in April 2016, revolved around the topic of how to get started in a foreign market. How to get the timing right? Which strategies will be successful? Do the benefits outweigh the costs? German and Russian company representatives told the alumni about their experiences.



Follow-up in Moscow

**Moscow.** Ten percent of the businesses which the seminar participants are from are already active internationally, and another ten percent are planning on expanding into international markets soon. These were the results of a survey that was carried out as a starting point for further discussion. In other words, most of the participants were not planning on leaving their local environment to conquer neighbouring or far-off markets. One might therefore assume that the participants wouldn't be too interested in the topic, but the resulting discussions proved otherwise.

The survey results first served as an impulse to consider possible reasons: "Why do Russian entrepreneurs so rarely think about trying their luck abroad?" Some answers were provided by Liubov Markova from the Moscow office of gtai (German Trade and Invest), Patrick Pohlitz, a partner at the law firm YUST, and Sergey Bykov,

responsible for the regional activities of the German-Russian AHK, which deals with making it easier for German and Russian companies to enter each other's respective market. All three pointed to the same cause: It is simply a matter of a lack of knowledge.

Companies that would stand a good chance in a foreign market are not able to formulate their business idea in a way that is readily understood. They are not familiar with the processes or the different possibilities for tapping into foreign markets. But there are places such as gtai that – provided they are approached by someone with a realistic business idea – can provide support both in finding the right target markets and in gaining access. Any form of business can open an office abroad (see article on page 56-57).

Yelena Smirnova is the general director of Tech-Promplit GmbH, a company in the wood processing industry. Opening an office abroad was the ideal way for her to be able to claim Value-Added Tax (also known as Sales Tax) reimbursements resulting from exports. This is how she approached access to foreign markets: "Select the target markets – determine the advantages you have over the competition

– find a partner abroad – run a 'suitability test' on the potential partner – enter negotiations and sign a deal."

The seminar participants discussed the risks of deliveries being sent to foreign markets and the problems associated with underestimating those risks. There are some external risks, for example, over which an exporter has no control. This is the situation that AG Svet was confronted with. During his training programme in Germany, Assistant Managing Director Ivan Ivanov had closed a number of deals with German breweries as a bottle supplier. But the deliveries did not prove to be profitable last year when truck deliveries from Russia became problematic. After considering this case, the alumni concluded that these sorts of risks can be minimised. It is necessary to have good knowledge of the Incoterms and then to cover strategic issues in the terms and conditions of delivery.

Another area of potential risk concerns organisational and technical issues. Delivery delays and quality problems may occur. What surprised many of the Russian MP participants was that the critical competitive advantages for importers are high product quality and reliable delivery times, not price. This was confirmed by both Jan Krückemeyer, managing director of Reinhard Krückemeyer GmbH & Co. KG, and Maxim Savinkov, the director of CSort Ltd. High quality and customer orientation allowed Reinhard Krückemeyer GmbH & Co. KG to successfully maintain a presence on the Russian market despite the fall in the value of the ruble.

The company CSort from Barnaul served as an example that inspired enthusiasm among the attendees. They produce, sell and maintain precision colour sorters. The company has diligently pursued market entry in Europe and Asia, and plans to expand their business to the United States next year. Their most useful tool for gaining market access is participation in trade fairs (see article on page 20). ■



Dr Anna Suchkova is an economics lecturer at Lomonosov Moscow State University. She has advised on and helped to shape the implementation of the MP in Russia since 1998.



## Taking Green Energy Out of Its Niche



Renewable energies in Belarus are increasingly becoming an interesting segment of the market. What had previously blended into the background like a wallflower is now gradually inching its way to becoming a niche product with growing demand. Unsurprisingly many Belarusian entrepreneurs are turning to this as another source of business – or to accelerate their existing projects. This is what they discussed in March 2016 at the selection interviews for the manager training for renewable energies financed by the BMWi initiative "energy solutions - made in Germany".

**Minsk.** Oleg Vorobyov was enthusiastically talking about his three goals for the training programme on renewable energies during the selection interview at the Institute for Business and Management Technologies. He is first and foremost searching for German manufacturers of systems for producing energy from renewable sources. Be they solar power plants, windmills or hydroelectric turbines; this does not yet make much difference to the owner of the small Minsk enterprise. He would like to have the German technology certified in Belarus and then offer it for sale. And he has even more plans: "I'm thinking of a service centre that would run plants for solar and wind power here and in former Soviet states. We would like to create this kind of centre together with our German partners." Vorobyov is also interested in finding potential investors to help realise complete renewable energy projects in Belarus – from the initial project planning all the way through to service.

And he is not alone. Many Belarusian entrepreneurs are now seeking ways to attract foreign partners to join renewable energy projects because demand is growing. Energy prices are also steadily rising and becoming a burden on consumers, who are increasingly looking for alternative concepts for energy supply. Regardless of this, the Belarusian market provides almost no comprehensive solutions for smaller solar, wind or hydroelectric plants under 20 kW – including installation, mains connection and calculation of the payback periods of the investment. But this calculation would be important for the Belarusian banks being asked to finance these kinds of projects. So companies interested in green energy are now turning their hopes to Germany.

**"This is a unique opportunity to find out how solutions work that are not yet available in Belarus."**

The state is also sending clear signals. Currently, over 90 percent of the energy supply in Belarus is based on imported fossil fuels. Decreasing dependency on these imports is one of the declared objectives of the Belarusian government. Simultaneously, the country's natural resources should be increasingly tapped into. This includes renewable energies – especially biogas, mostly for the agricultural and food industries. Solar thermal energy is also being looked into. The state designated "National Programme for Expanding Locally Available and Renewable Energy" sees real potential here. But the construction of an atomic power plant close to the border to Lithuania, planned to be in service in 2018, has dampened the enthusiasm of the entrepreneurs already in the starting blocks.

A lack of financing is not the only obstacle to the desired expansion of renewable energies. Attaining the right technology is also quite a feat. Ten percent of the power plant technology used in Belarus is already produced in Germany. And this percentage could easily rise. Technologies made in Germany enjoy a great reputation in Belarus: "We have already bought systems from China", reports Ilya Khrushch, a manager at the energy company MediuM. "But the quality is often found to be wanting. We would like to expand our range and offer high-quality German technology to serve the other niche."

Because the entire business field of renewable energies in Belarus is still so young, the national companies already working in this area or just getting started are especially interested in a practical approach. The training programme in Germany is one way for them to learn about the latest German technologies in this field. Energy efficiency is one motivating force, as well as the issue of integrating green technologies in everyday life. "This is a unique opportunity to find out how solutions that are not yet available in Belarus, or that are just arriving, work in real life," says Vorobyov with conviction. ■



# In Focus: Industry 4.0 and Digitalisation in Medium-Sized Enterprises

Digitalisation is the new buzzword. It is the key to opening the doors to competitiveness, being “future-proof” and to efficiency. It has long encompassed all areas of private, public and corporate life, and is now continuing its series of triumphs elsewhere. Even well-established models such as fixed-line telephony, paper-based business communication and trips to the supermarket are fading further into the past as smart phones, electronic communication and e-commerce take their place.

Industry and manufacturing will also have to rely on digitalisation if they want to stay competitive and have a future. It is already becoming clear that if you miss this ship, you will be losing flexibility, efficiency and therefore, sooner or later, market position. Industry 4.0 is setting new standards where computer-integrated manufacturing used to be the order of the day. By individualising products with internet-based support and integrating customers and partners into business processes, this transformation will create completely new forms of production in the next few decades.

But it is the medium-sized enterprises in particular that are often not fully aware of the importance of comprehensive digitalisation as an investment in the future. Their resources are also more limited than those of the larger corporations, so the regional governments in Germany and some of the MP partner countries are using targeted funding instruments to promote the digitalisation of the medium-sized enterprises as a precondition for implementing the developments of industry 4.0. The key to wealth and the sustainable development of business and society lies within this rapid and vast digital transformation.

“Mittelstand-Digital” Is Helping to Take SMEs into the Digital Future

## Digital Applications Are Transforming Small and Medium-Sized Enterprises



Digitalisation is gradually advancing through SMEs, in all industries. Modern digital information and communication technologies have long since arrived in the production plants, warehouses and offices of many businesses, streamlining their processes. It is nearly impossible to imagine business communication without email, company visibility and sales without a website or accounting departments without specialist software applications. But German SMEs still often fail to recognize the importance of the digital world for maintaining their success and competitiveness. The initiative “Mittelstand-Digital” is helping to raise awareness.

**Berlin.** The current trend towards digitalisation and the ever increasing connection between the physical and virtual world is affecting a company's entire value creation chain: customer acquisition, production, sales, logistics and human resources. New products and services are being created. This development is pushing companies to use complex digital applications and to completely digitalise their process chains. And it is precisely here that the German SMEs still have some catching up to do, as a study done by the Bertelsmann Stiftung in 2015 shows (see the illustration).

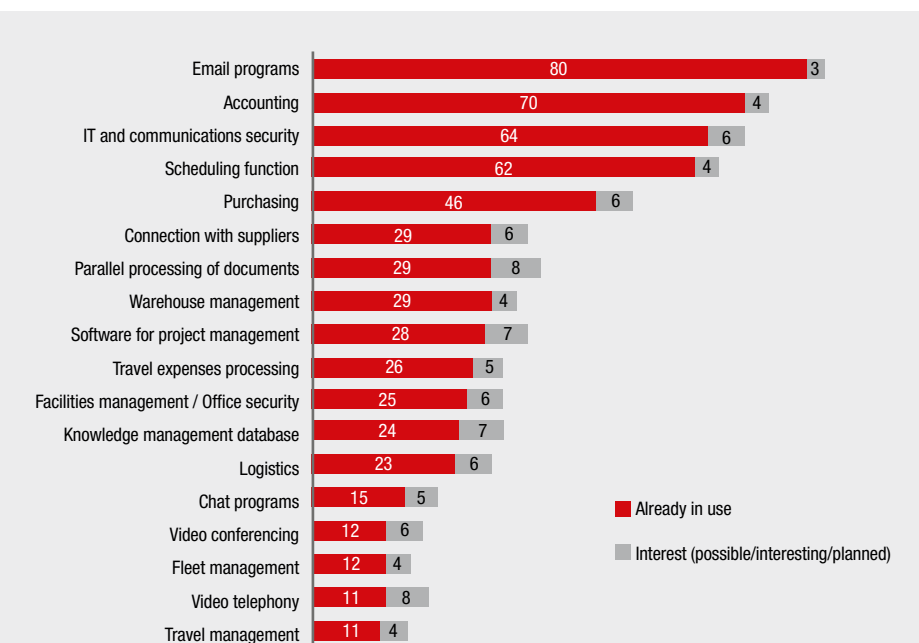
The Federal Ministry for Economic Affairs and Energy (BMWi) sees great opportunities for SMEs in the complete digitalisation and linking of production and business processes. According to the studies, the digital transformation occurring in Germany can help companies attain an increase in their added value of between 200 and 425 billion euros by the year 2025. Inter-industry connections can make nearly all business processes more streamlined, more efficient and less draining on resources. Completely

a much more customer-driven process – as opposed to an actively managed strategy for guaranteeing the future of the company. Smaller businesses often are not aware of the innovation and competitive advantages associated with the digitisation of their business processes. And unlike big firms, they usually do not have a separate IT department or the necessary financial means or human resources to create or maintain competencies in the areas of digital information and communication technology or to build or provide the respective infrastructure. This is exactly where the BMWi support programme “Mittelstand-Digital” comes into play.

**“Mittelstand-Digital”: raising awareness and providing information and qualifications**

The focus of “Mittelstand-Digital – Strategies for the Digital Transformation of

novel services can be developed and new digital business models will be created in all industries. But it is especially the SMEs that see the process of digitalisation to be



*Bertelsmann Stiftung: Study “Digitalisation in small and medium-sized businesses – results of a meta-study” from 18 May 2015, p. 13, created by TNS Infratest for Bertelsmann Stiftung*



Business Processes” at the Federal Ministry for Economic Affairs and Energy is to bundle various limited-term projects and measures to provide heightened awareness, information and support to SMEs in the digitalisation of their operations.

It is basically up to the individual business owner to decide whether and how to digitalise their company. To enable business owners to make these decisions on a solid foundation of knowledge, “Mittelstand-Digital” is raising awareness across Germany of both the opportunities and the challenges of digitalisation and providing customised non-biased information to SMEs. This means that the latest knowledge related to digitalisation generated by research and practice is summarised, structured to ease understanding and to offer a clear overview, and disseminated in a process designed to accommodate the actual needs of SMEs. The initiative prepares easy-to-imitate practical examples guided by their slogan “Entrepreneurs learn best from entrepreneurs” in addition to explaining the repercussions of digitalisation, answering queries, creating informational materials, films and checklists, and organising informational talks and (online) qualification events.

“Mittelstand-Digital” also runs various subsidised projects covering topics such as “eStandards: Standardising Business Processes and Guaranteeing Success”, “Simplicity by Intuition – Usability for Small and Medium-Sized Enterprises”, and “Mittelstand 4.0 – Digital Production and Work Processes”.

**Mittelstand 4.0 competence centres and Mittelstand 4.0 agencies provide information about the world of digital manufacturing and business**

By starting the initiative “Mittelstand 4.0 – Digital Production and Working Processes” last year under the umbrella of “Mittelstand-Digital”, BMWi is taking on current developments such as the application of industry 4.0 in SMEs and specialist eBusiness issues.

Deep-rooted changes are becoming apparent in national and international markets for goods and services. Customers are demanding increasingly individualised solutions, production in minimal quantities, products with special characteristics and tailored designs, faster and more reliable delivery as well as more accurate information on the associated costs and waiting times. The value chain that is today typically organized by individual companies is increasingly being enhanced, or in some cases replaced, by interactive business models. This will entail a number of different suppliers and manufacturers forming new cooperative networks on either an ad hoc or a permanent basis on the one hand, and involving the customers in the production process right from the start on the other. In the 4.0 world, machines, service providers, products and consumers will communicate closely, simultaneously and reliably with each other, through all steps of the value chain – from product planning to customer service.

The complete digitalisation and linking of production processes entails fundamental changes and adjustments affecting the

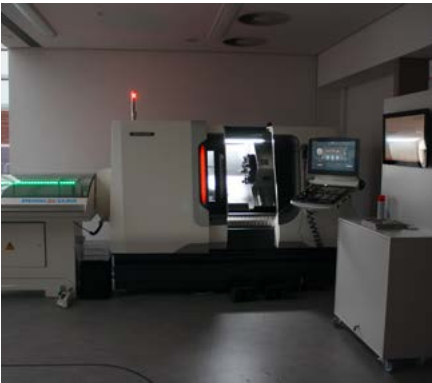
organisation of work. In order to accompany a product’s entire production and life cycle with the corresponding services, the basic underlying information must be systematically recorded, structured as smart data, and fed back into the system to maintain self-organisation. The optimal organisation of data generation, for example assisted by widespread use of sensors, data aggregation, and data analysis, is thus a necessary precondition for implementing 4.0 solutions – a precondition, which until now, only a few SMEs have been able to fulfil.

There are also new opportunities for SMEs and craft based businesses in the area of services, such as procurement or delivery, the maintenance and repair of machines and components, the design of software interfaces, customer service and consultancy and job-related education and training.

So that SMEs do not have to face these challenges on their own, four Mittelstand 4.0 agencies were established in the autumn of 2015, each dealing with one of these four topics: cloud computing, trade, communication and processes. An additional eleven Mittelstand 4.0 competence centres are currently being started, with the aim of offering support to SMEs and art and craft based businesses in implementing and promoting digitalisation and linking, as well as the application of industry 4.0 in their companies. The first centres, located in Hannover, Darmstadt, Dortmund, Kaiserslautern and Berlin, as well as the “Digital Craftwork” are already up and running.

**Mittelstand 4.0 agencies as experts in digitalisation and technology transfer**

The Mittelstand 4.0 agencies prepare specialised know-how on digitalisation and pass it on through information propagation channels such as various associations and chambers. These then pass it straight on to the businesses. The Mittelstand 4.0 agency for cloud computing, for instance, demonstrates the practical importance that cloud services have in optimising company processes and entering new areas of business within the context of industry 4.0. The work done by the communications agency focuses on issues of how digitally supported communication can improve production and sales processes and



The Industry 4.0 production of a pen in the Mittelstand 4.0 Competence Centre’s Learning Factory in Hanover

how entrepreneurs can best manage the digital transformation. The Mittelstand 4.0 agency for trade offers ideas on how an online shop should be designed for industrial business-to-business trade or how electronic invoicing can be implemented in a company. The agency for processes provides assistance in implementing and using digital solutions for operational processes and logistics.

Agency employees also have many years of experience in working in technology transfer for SMEs. They contribute their knowledge about the suitable ways of reaching SMEs and methods for achieving successful knowledge transfer to the Mittelstand 4.0 competence centres.

**Mittelstand 4.0 competence centres offer hands-on digitalisation**

The introduction of complex digital applications such as those required by industry 4.0 can pose a significant (financial) business risk for SMEs. The Mittelstand 4.0 competence centres therefore offer user-friendly, structured and comprehensive information as well as hands-on demonstrations and training. Dedicated demonstration and learning stations provide SMEs with the opportunity to try out and experiment with their own technical developments and product or customer interfaces, under professional supervision, before making investments of their own.

The latest research shows that model solutions for digital production and distribution processes have already been found, mostly in larger companies. But due to the high levels of technology involved and lack of refinement, they have limited applicability for SMEs and craft based businesses. This is why the staff

at the different centres are working at summarising current and practice-oriented knowledge on various facets of linking up business processes and industry 4.0 applications to further develop and “translate” the information into a language that SMEs can relate to. The centres have a portfolio that covers topics including production and automation, work 4.0, logistics, new services and security. Training and information is being developed and easy-to-reconstruct example solutions are being presented. Businesses can find out what (economic) benefits these kinds of applications can have for their own business model.

Services tailored to the needs of craft based businesses regarding the use of digital technologies within the enterprise are provided by the four outposts of the “Digital Skilled Craft” competence centre. These are located in the north (Oldenburg), south (Bayreuth), east (Dresden) and west (Koblenz) of Germany.

**eStandards and usability**

“Mittelstand-Digital” still includes the subsidised initiatives “eStandards: Standardising Business Processes and Guaranteeing Success”, “Simplicity by Intuition – Usability for Small and Medium-Sized Enterprises”. These projects develop numerous technically outstanding and economical solutions as role models for SMEs with the goal of accelerating the process of digitalisation within the enterprises.

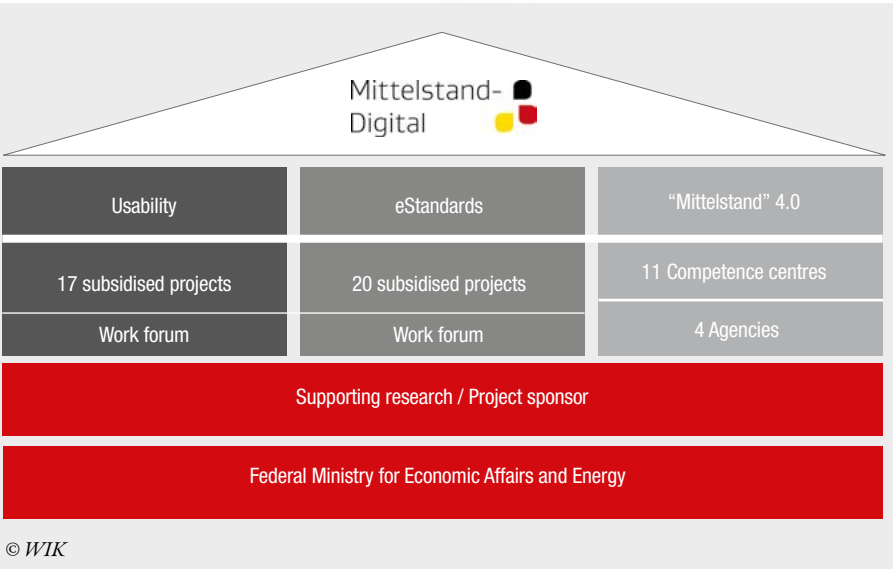
Digital standards, which are also sometimes referred to as eBusiness standards, form a common language in electronic business transactions, providing a basis for efficient connectivity and automated data exchange in and between businesses or administrators.

In the forest of standards which exist for the various areas of application and industries, the 20 eStandards projects support smaller SMEs, art and craft based businesses and administrative organisations in selecting and developing suitable and sustainable solutions. They also offer guidance to companies during the implementation stage and develop information and qualification formats designed for the needs of SMEs, as well as providing tools for self-assessment and to assess investment needs.

User-friendly software or web-based applications and positive user experiences with company software are increasingly becoming important factors in relation to the competitiveness of a business, in addition to technical criteria such as functionality, reliability and performance. BMWi has therefore requested 17 demonstration plans. These plans will generate suitable solutions and process models for the integration of usability and user experience criteria throughout the entire process of developing, selecting and implementing company software. The objective is to use high-performance application software on a broader scale to increase the efficiency of the investment in information and communication technology in SMEs, lower transaction costs, and increase application security, resulting in improved competitiveness. Practical process models ensure that user companies and software producers are aware of the advantages of user-friendly software in order to achieve large-scale sustainable changes in software development. ■

By Uta Böhner, Federal Ministry for Economic Affairs and Energy




More information is available here:  
[www.mittelstand-digital.de](http://www.mittelstand-digital.de)

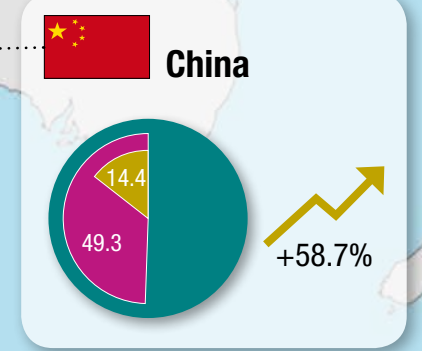
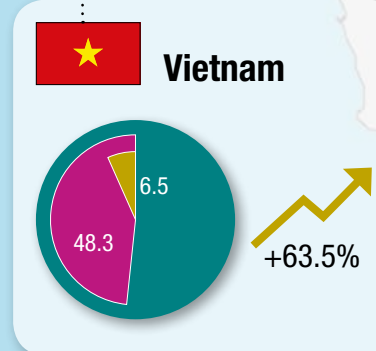
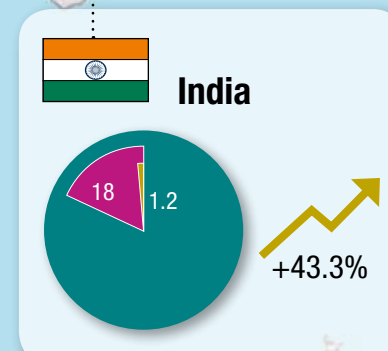
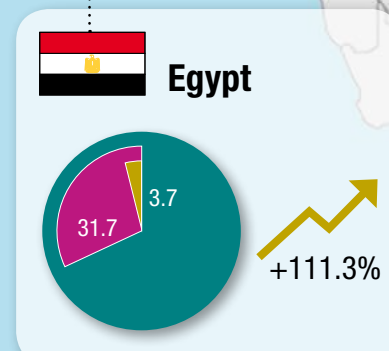
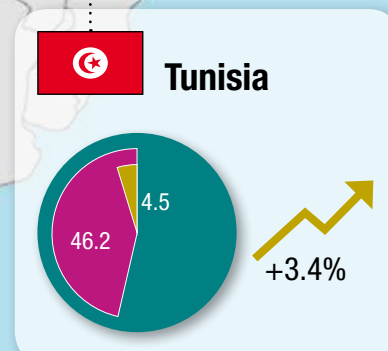
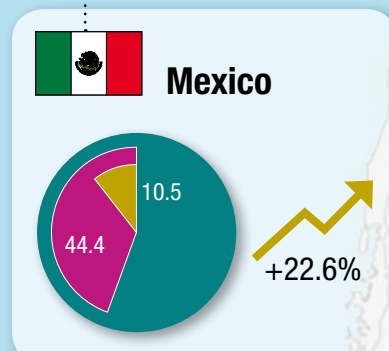
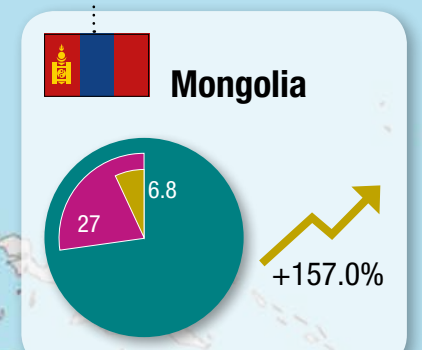
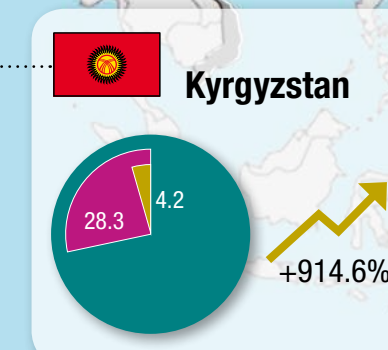
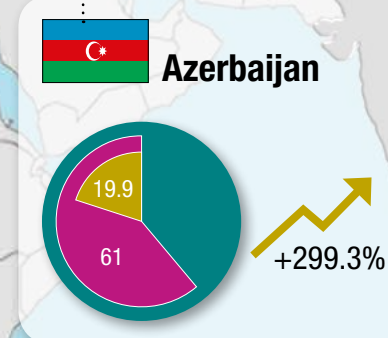
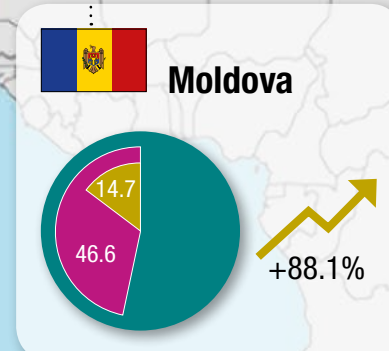
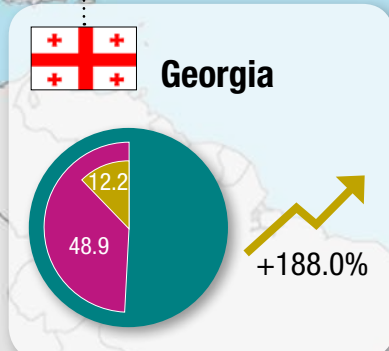
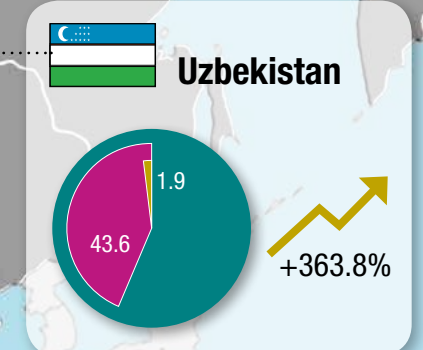
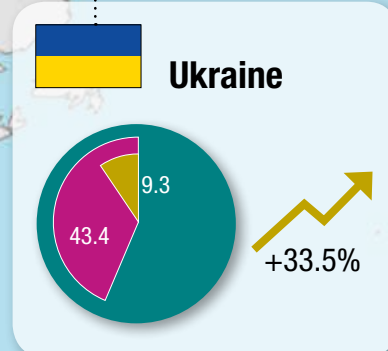
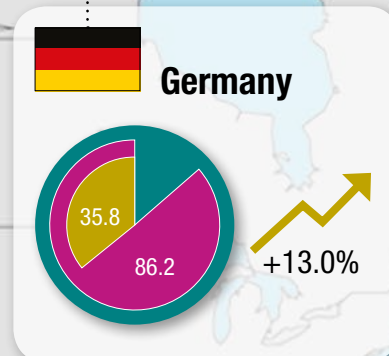
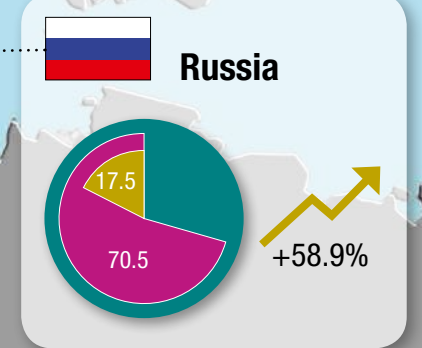
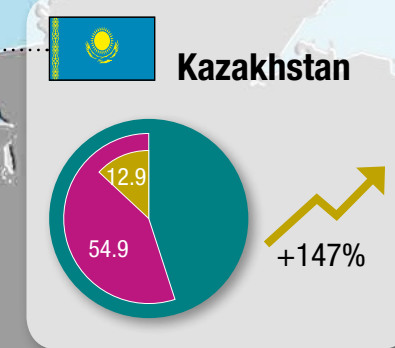
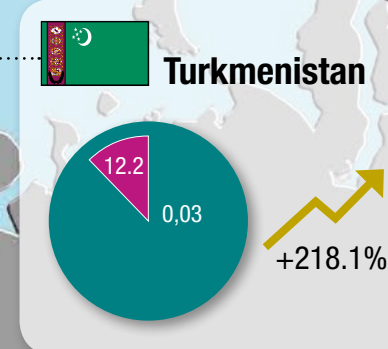
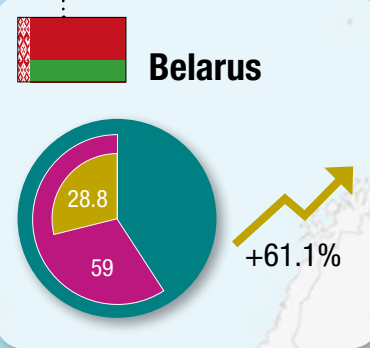




## Internet Usage in the MP Partner Countries

Source: International Telecommunication Union (ITU), [www.itu.int](http://www.itu.int)

-  Broadband internet connections in %\*
-  Internet users in %\*
-  Total broadband internet connections  
Development between 2010 and 2014 in %
- \* Proportion of total population







## Large Investments in Infrastructure are Necessary

# German SME Sector Needs to Catch Up in the Digital Field



The digital transformation of German firms is well underway. Internal processes and existing value creation chains are changing at an enormous pace. Decision-makers in firms must set the course now by developing and implementing a digitalisation strategy. According to opinions expressed at CeBIT 2016, this applies particularly to small and medium-sized enterprises.

**Berlin.** A study by the auditing and consultancy company Ernst & Young (EY) in spring 2016 comes to the conclusion that the entry of digital technologies into the German SME sector cannot be stopped. About 54 percent of the businesses polled by EY said that digital technologies already played a major or medium role in their business models today. The large majority believe that its significance will increase steadily up to 2021.

According to Commerzbank, small and medium-sized enterprises in Germany have recognised the potential of digitalisation. About 86 percent of the entrepreneurs and managers described it as being a “great opportunity” for Germany as an industrial location. And every sixth business even counted itself among the digital pioneers. “Such firms successfully place a stronger than average emphasis on new trends, for example to link value chains or to individualise their products. These pioneers are found in all industries, regardless of a business’ size or the manager’s age”, Commerzbank representatives say.

According to surveys by Germany’s digital association Bitkom, the competitive situation is changing for many businesses. Numerous firms assume that competitors from the digital industry are pushing into their traditional markets. This view is shared by 45 percent of the automotive and pharmaceutical products producers, by 53 percent of the banks and even 62 percent of the media firms. Almost two thirds of the banks and more than half of the vehicle manufacturers regard large companies in the digital industry as serious rivals in view of their new product developments.

### Big data and social networks with disruptive potential

On the other hand, it is far from clear whether digitalisation in the SME sector is taking place in a revolutionary, i.e. disruptive form, or rather in an evolutionary form. In the first instance, innovations that fundamentally change the traditional markets by displacing existing products or services play a decisive role. However, the Commerzbank analysts also proved that many firms are taking a wait-and-see approach regarding digitalisation.

The results of intensive polling of 21 businesses by a project team from Baden-Württemberg Cooperative State University (DHBW) fit this picture too. Ultimately, the businesses reacted to the increasing digital transformation by continuously developing and adapting their strategies. The authors of the report named both the current lack of market maturity of some technologies and the lack of fields of application as possible reasons. However, they acknowledged that big data, social networks and, partly, cloud computing

hold considerable potential for an abrupt change in present business models.

Furthermore, a significant number of surveys show that the SME sector often still gives little priority to the topic of digitalisation. A certain reservation could be observed in the evaluation of the much discussed phenomena such as big data, cloud computing or industry 4.0. In contrast, established digital technologies certainly were widely used. The latter include online marketing, the optimisation of administrative processes or working from home offices.

### Corporate hierarchies on the eve of change

The company InterSearch Executive Consultants points out that the fact that the digital transformation is taking place at an unhurried pace is also due to the rather slow change in traditional corporate hierarchies and decision processes. They say that in less than a quarter of the firms the organisational structure prevents departments such as production or marketing from being closely networked with the IT department. In the manufacturing indus-

try, the proportion is particularly low at 19 percent. Across the sectors, about 17 percent of the respective firms actively practise knowledge management using an IT-aided database or use quick internal communication infrastructure based on social-media technologies.

Moreover, the infrastructure in society as a whole must be adequate if digital business models are to be developed or processes in businesses simplified with computer technology. To achieve this, Sigmar Gabriel, Federal Minister for Economic Affairs and Energy, promised at CeBIT 2016 to make sure that network capacities are increased, affordable gigabit connections are made available for SMEs and transmission is practically instantaneous. According to the Vice Chancellor, investment of up to 100 billion euros is needed for the comprehensive provision of fibre optic communication (“fibre to the home”). On this occasion, Sigmar Gabriel also suggested the creation of a fund for the future, with ten billion euros capital for gigabit networks in rural areas.

Furthermore, he spoke in favour of a vanguard role for Germany in the in-

Spread of innovation obstacles in actively innovative SMEs 2012 to 2014\*

Reason	Proportion of answers as percentages
High investment costs	40.4
High economic risk	39.8
Lack of suitable specialist personnel	32.7
Lack of internal financing sources	30.1
Organisational problems within the business	25.4
Lack of customer acceptance/lack of demand for innovations	23.4
Lack of external financing sources	22.2
Legislation and legal regulations	22.0
Lengthy administrative and approval procedures	20.0
Market dominance of established firms	18.1
Internal resistance to innovation projects	17.5
Standards and norms	15.9
Lack of market information	15.2
Lack of information on technologies	13.6
Lack of access to property rights	10.6

\*) Businesses with five to 249 employees.

Those obstacles that led to innovation projects being delayed, abandoned or not carried out at all have been recorded. About 38.8 percent of approximately 270,000 SMEs carried out R&D or other innovation activities in 2013, either on an on-going basis or for a specific reason.

Source: Mannheim Innovation Panel, calculations by Centre for European Economic Research



► production of the mobile communication standard 5G, the intelligent linking of central infrastructure areas and the specific research and development of digital technology. In addition, Gabriel intends to make the business environment “more investment and innovation friendly” through regulatory measures.

It is clear from the broadband atlas published by the Federal Ministry of Transport and Digital Infrastructure (BMVI) that at the end of 2015 only 28.3 percent of the households in rural regions had access to transmission networks with more than 50Mbit/s. In so-called semi-urban areas, the proportion was 58.4 percent and in cities 85.8 percent. In the opinion of Deutscher Mittelstandsbund (German Association for Small and Medium-sized Enterprises), digital transformation projects often fail in rural regions because of the internet connections.

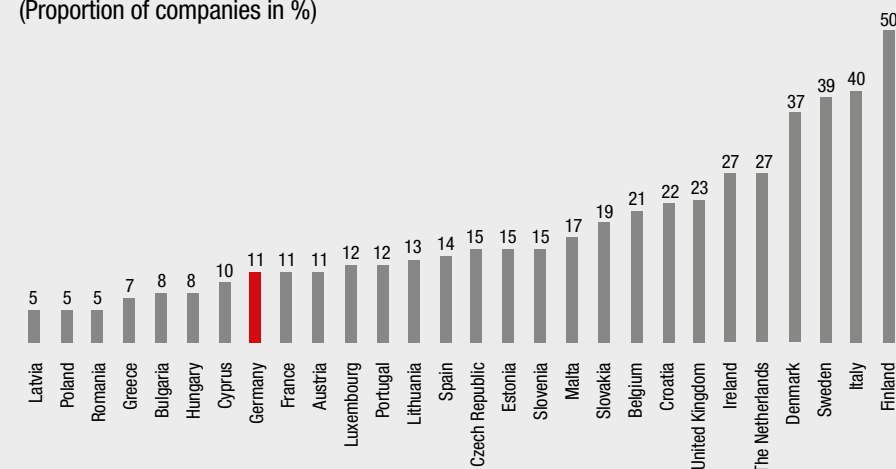
Besides the large number of studies and surveys, there is also abundant good advice available regarding the implementation of the so-called fourth industrial revolution. “Enterprises must pick up speed in digitalising their business”, said Dr Bernhard Rohleder, Managing Director of Bitkom, at the hub conference in Berlin. “In the digital platform economy, speed is a determining factor.” And Commerzbank analysts recommended that traditional firms learn from start-ups by trying completely new ways of tapping customer groups and distribution channels neglected so far and by creating different services.

#### Berlin, Hamburg and Munich dominate the start-up scene

In Germany, the start-up scene has developed particularly fast in recent years. Hamburg, Munich and especially the “start-up metropolis” Berlin are very popular among founders with sound technological expertise. But also other parts of the country including the Rhine-Ruhr region are gaining in importance. However, as Bitkom reported, some of the young entrepreneurs based there are considering moving to one of the three aforementioned geographic centres.

Others in Berlin and Munich, on the other hand, are thinking of moving their business abroad, the Bitkom experts say, and continue that in some cases financing conditions there are more favourable. With new government measures such as the Coparion Fund (225 million euros, KfW) and the European Investment Fund (500 million euros), the Federal Government wants to support founders of new businesses in the implementation of technological projects.

Use of Cloud Computing in SMEs  
(Proportion of companies in %)



Source: Eurostat. Data for 2014

For quite some time now, Hannover Messe has been among the rapidly increasing number of information sources in the field of digitalisation of SMEs. With its “Young Tech Enterprises”, “Digital Factory” and “Industrial Automation” exhibitions, it provides an important meeting place for technology and industry-oriented start-ups and for future-oriented SMEs. “Digital Factory” provides answers to the question of how a strong network

between mechanical engineering, electrical engineering and information technology can be established.

“From product design with CAx to production planning and controlling with ERP (Enterprise Resource Planning) and

MES (Manufacturing Execution System), simulation and projection with the aid of virtual reality, and from 3-D models through to the management of product

and production data throughout the entire life cycle with PDM (Product Data Management) and PLM (Product Life Cycle Management), all IT solutions that will support all processes digitally in the manufacturing firms are comprehensively presented.” This is how the manager, Arno Reich, described the concept of “Digital Factory”. ■



As a senior manager for observation of the German market at Germany Trade and Invest (gtai), Siegfried Ellermann works in Berlin on sectoral and general economic analyses. During previous stages of his career, he was based as an overseas staff member in gtai offices in Lima, Los Angeles, Caracas and Santiago de Chile.

## Digitalisation in Some MP Partner Countries

### Azerbaijan: Driving Force for the Non-Oil Sector



In the Republic of Azerbaijan in the South Caucasus, the ICT branch is a key driving force behind the expansion of the non-oil sector, and is on a steady expansion course despite the current challenging economic climate in the CIS. Foreign communication and information technology providers and various services closely associated with the sector are profiting from this trend. From 2010 to 2014, investment totalled around 2 billion US\$. The mobile technology segment is showing the highest sales figures and had a penetration rate of 112 percent mid-2015. In 2016, the companies Azercell, Bakcell and Azerfon have plans for upgrading their networks to the tune of more than 100 million US\$. Newcomer Delta Telecom will be introducing LTE technology to the market. The government is pursuing a 500 million US\$ project to expand the broadband network (10 to 100 Mbit/s) through 2018. By 2020, all state agencies will be accessible online, and tax breaks await investors in the new high-tech park.

Source: gtai

### Mongolia: ICT Sector On the Rise



In 2013, Mongolian ICT market volume was 470 million US dollars, 58 percent of which was attributed to mobile wireless technologies. With an around 140 percent penetration rate at the end of 2013, the market is saturated. Government initiatives like the “e-Mongolia National Programme” and ICT Vision 2021 are helping raise Mongolians’ awareness of the internet and how to use it. The impressive boom in mobile technology has led to a drop in the importance of landlines. The Mongolian government is pushing to establish a competitive ICT sector with two CDMA and two GSM mobile service operators. During the current transition to a market economy, Mongolia is planning to modernize its ICT networks and offer advanced communication services. The Mongolian government has prioritised national infrastructure development – especially for the ICT sector, which it views as a decisive factor the country’s overall development. Currently over 50 percent of all internet connections are broadband. Most larger buildings, like hotels, schools and government agencies, are linked to glass-fibre networks. MobiCom is currently operating the first Mongolian 3G WCDMA mobile telephone network, and an expansion of the 4G networks is on the agenda. Mongolia’s cold climate provides ideal conditions for large data centres.

Source: gtai

### Tunisia: Deep IT Graduate Talent Pool



Tunisia’s IT sector is just entering a very dynamic development phase. The fall of the Ben Ali regime in 2011 brought new freedom to the private sector, which has awakened IT companies’ interest in cooperating with foreign firms. A total of 80,848 people currently work in ICT in around 1,800 private companies. The sector will continue to grow, according to the Tunisian Association for Communication and Technology, which reports that Tunisian IT firms plan to increase the number of employees by seven percent by the end of 2015 and ten percent by the end of 2016. Many international companies have established R&D centres in the country. “The annual cost runs to about 26,000 euros per developer, which puts the industry on par with India,” Martin Stork, Vice President of the SAP Africa Growth Plan, says. Additional advantages include its geographical location and the fact that it shares a time zone with practically all of Europe. During the conversation, Stork also pointed to the deep talent pool of 13,000 IT graduates a year and widespread English language skills among Tunisian software developers.

Source: gtai

### Uzbekistan’s ICT Sector Kicks Off Expansion Offensive



The Uzbek ICT branch is enjoying a boom. A number of ambitious projects scheduled for completion by 2020 are creating new market opportunities for foreign ICT technology and service providers. These include technology upgrades and expanding mobile wireless networks, investment in the broadband network, in e-government and in multi-media services, and implementing information systems in state economic administration offices. The government is supporting these measures through two primary sector programmes designed to implement a range of improvements, such as installing 12,100 km of glass-fibre cabling, expanding the data exchange rate for the internet to 300 gigabits per second, investing in the mobile communications infrastructure, and building data centres. Software development also offers market opportunities, and tax incentives are available until the end of 2016.

Source: gtai



Hannover Messe 2016

# The Principle Hub for Industry 4.0



Industry 4.0 is more than mere hype – this was clear by the time it was presented at this year's Hannover Messe, a trade fair in Hannover. Many visitors from both Germany and abroad used the opportunity to learn about the latest developments and establish valuable contacts. MP participants from Azerbaijan, Belarus, India, Kazakhstan, Kyrgyzstan and Ukraine visited the trade fair to experience it first hand and to take part in initial talks with new business contacts.

**Hannover.** By the last week in April it was that time once again: The Hannover Messe opened its gates and more than 190,000 visitors came streaming into its halls to the booths of more than 5,200 exhibitors. The central theme of the world's most important industry trade fair was industry 4.0 – the fourth industrial revolution, whose history is closely tied to that of the Hannover Messe itself. Five years ago, the phrase "industry 4.0" was coined here, and then two years later the industry

4.0 working group presented its implementation recommendations at this trade fair to Federal Chancellor Angela Merkel. Since then the topic has gained steam and this year there were hardly any booths not focusing on the theme of industry 4.0.

## What does industry 4.0 mean?

Curious visitors could take a guided tour to get a general idea of the technologies and concepts associated with industry

4.0. The large numbers of international visitors were especially noticeable – more than 50,000, of whom 20,000 came from outside of Europe. "We created our own tour for industry 4.0 which took visitors through some of the company booths", reported MP participants from Kazakhstan and Kyrgyzstan. "Each company had something of their own to contribute, so afterwards we had a good idea of what industry 4.0 is actually about and where the technologies could be implemented." By then it was clear: What had started as part of the German government's 2020 high-tech strategy for strengthening Germany's competitiveness as a location for technology and business no longer concerns only Germany. One of the main preconditions for industry 4.0 is the linking of production sites, products and people via the Internet to form cyber-physical systems – and of course the internet is not

limited by any geographical boundaries. Universal global standards need to be formulated for industry 4.0, and the Hannover Messe offered the right platform for initiating dialogue between the leading industrial nations.

But what exactly is industry 4.0? This was the most urgent question on visitors' minds. Eavesdropping in the halls you could catch visitor comments like "Industry 4.0 is Siemens' German answer to SAP", showing there was a major need for clarification. The Hannover Messe offered visitors numerous opportunities to learn first-hand about the technical trends, technologies and concepts forming the basis of technology 4.0. And some parts were made quite transparent. Mahir Aliyev, an MP participant from Azerbaijan, found it very important to see the new technologies with his own eyes: "If you can look at the technology for yourself, touch it, and experience the main technical data first hand, you feel much more confident about praising it back home and persuading your colleagues of its advantages." Oleksandr Fesenko from Kharkiv was impressed by the symbiosis of innovation and quality management and the efficient use of IT technology. Roman Reznikov, a marketing manager at the company AMI Ltd, used the opportunity to get to know new trends in the fields of software and telecommunications.

But it wasn't always easy for an "average" visitor to follow technical expert descriptions on the standards and technologies for intelligent objects and their connection, autonomous and simulation-based systems, or the linking of data to generate new knowledge. These topics are so abstract and complex for people who are not computer systems specialists that the ideas which industry 4.0 is based on and their practical implementation, scope and uses are difficult to communicate. And it is not just the complexity, but the sheer diversity of the different subjects related to industry 4.0 that gave some visitors the impression that they had just heard at least five different opinions on industry 4.0 at four different booths. Of course, each exhibitor would rather discuss the aspects of industry 4.0 that concern his own firm and product line. The media and general talks tended to focus more on a certain sense of "science fiction" – which relates almost exclusively to production



**"If you can look at the technology for yourself, touch it, and experience the main technical data first hand, you feel much more confident about praising it back home and persuading your colleagues of its advantages."**

Mahir Aliyev, MP participant from Azerbaijan

automation. In this field, a workpiece may determine itself which production steps it requires, and on which machines, and the respective production machines what they are able to do and what their capacities are, so that they can appropriately "offer" their services to the workpiece. The objective is self-organising, self-optimising and extremely flexible production, which can respond quickly and profitably to individual customer expectations. The concepts proposed in the manufacturing industries are vastly different to those of the technical process systems, in which huge systems are being built that are specialised on the



production of just one single product. Customer-specific modifications, flexible production paths or even one-piece series are then very difficult or impossible to realise.

## Digitalisation and connectivity

Does industry 4.0 even offer any concepts that can be applied in both production-oriented and process-oriented technical industries? What do they have in common? The answer to these questions also served as the title for one of the main topics at the trade fair: "Connecting and digitalising industry". In other words: the digitalisation of production and integration via the internet. This integration of data concerns all manufacturing companies. The first step is to collect as much data as possible – they comprise the fuel for running industry 4.0. Information

sourced from the company as well as all other possible areas that may have direct or indirect ramifications for production are used to form a foundation. This mass of data (big data) contains information on the production, for example resources, customers, suppliers or data on operations. Even additional information such as weather forecasts, stock exchange data or holiday schedules could be helpful. These data do not directly affect production, but they could help to determine future needs. For individual company tasks, a second step needs to be taken to filter out and analyse the right data from this vast pool in order to generate targeted and useful information to improve production steering.

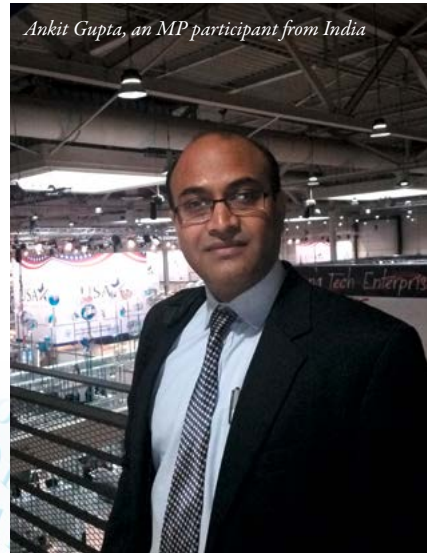
Exhibitors at the Hannover Messe showed curious visitors that the technologies and implementation plans are not only the purview of larger corporations, but that small and medium-sized enterprises can also realise and profit from them. A visit to the trade fair was therefore especially valuable for decision makers representing small and medium-sized enterprises in particular. Because for their businesses, it is important to develop individualised digitalisation strategies – this was also the general consensus at CeBIT, which had been held on the same trade fair grounds just six weeks previously. Exhibitor portfolios ranged from self-monitoring measuring devices for use in production with integrated web servers and industrial ethernet ports to drivers with modular automation concepts, and cloud solutions and concepts for IT security.

It was the subject of data security that generated a lot of interest amongst the trade fair visitors. Aliyev e.g. would like to work together with companies that provide 4.0 technologies that guarantee the highest level of security. In his industry – oil and gas production – particularly, this is vitally important. "In the near future new offshore platforms in Azerbaijan and elsewhere around the world



Managers from Central Asia at Hannover Messe





Ankit Gupta, an MP participant from India



Impressed by the 'technology of tomorrow'



Anatoliy Svichshev, an MP participant from Kazakhstan

► will be increasingly controlled by onshore stations. Oil companies can still lower their costs despite increasing production. Our industry needs complete digital solutions that securely connect the equipment, process controls, and IT systems.” One basic precondition for industry 4.0 is the integration of automation and IT, which offers not only opportunities, but also carries risks. By implementing harmonised connectivity between the office and production environments, the classic IT problems can migrate to the world of automation – including viruses and data spying. One horrific scenario would involve viruses or hacker attacks on vitally important systems such as water supplies or power plants. These kinds of ideas are no longer so far removed from reality ever since 2010 when the “Stuxnet” became the first virus to attack industrial steering processes. So the Hannover Messe also presented different concepts and solutions for preventing cyber-attacks on the environments of steering and automation.

#### International cooperation

The eagerness displayed by so many international guests to investigate industry 4.0 was motivated not only by an interest in future technologies, but also by a certain fear of missing out on the latest in technology and business. In this area, the Hannover Messe served as a platform for guests both from Germany and elsewhere to establish contacts with German high-tech firms. “I was mostly looking to understand future trends in production,” said Ankit Gupta, an MP participant from India. “But it was also important to me to find companies who would like to cooperate with us to help move us to the

next level of technology.” Gupta found some opportunities and will be discussing them back in India. Zhanat Amanbayev from Astana was also successful: “I was able to find companies that could deliver solutions and systems for extracting and processing oil and gas to Kazakhstan. We will be talking about doing business together as soon as possible.” Yevgen Zyablin from Kharkiv and Anton Krotiyuk from the company Azov Controls were also pleased with their new contacts and the results of negotiations in the area of measurement and steering technology. They had gotten to know new business partners and met up with some of their “old” partners as well. Maria Novokchenova from Kiev was able to establish some good contacts for future projects. Her firm sells and installs smart home products and lighting systems. Her negotiations centred on exploring possibilities for transferring the latest software solutions to already existing technologies – right in line with the general trade fair theme “Integrated Industry – Discover Solutions”.

The Hannover Messe 2016 provided visitors with a glimpse of the future. “What we saw was nothing less than a look at the future,” said the MP participant Viktoria Yakubchik from Belarus: “We were able to look at developments involving cooperation between humans and robots – without any safety zone in between. We now have an idea of how industry will be developing over the next 15-20 years.” Man-

agers from central Asia were impressed by this vision of the future: “We saw a lot of things that we would have never found out about otherwise,” gushed participants from Kazakhstan. But they kept their feet on the ground despite their enthusiasm: “In general, we have concluded that 4.0 technologies are mainly relevant for larger corporations. They’re just not yet profitable for small and medium-sized enterprises in Kazakhstan.” The main

dissuading factor was the price for equipment that would need to be specialized at the customer level. “One robot can’t always replace four local workers,” smiled the managers from Kazakhstan. What will the future really deliver? No one is able to predict it exactly, but the computer science specialist Alan Curtis Kay has said: “The best way to predict the future is to invent it.” ■



Ralf Willmes has been a marketing manager at Endress+Hauser Messtechnik GmbH+Co.KG responsible for customer-specific automation projects and the field of “Industry 4.0” since 2012. He previously worked as an engineer in process automation for almost 20 years. His work involves control-related project planning, programming controls and control systems, developing visualisation systems, linking systems to customer IT, and global implementation.

# “No Unique Recipe for Success Concerning Industry 4.0”



Luis H. Sánchez Ocampo is a project manager in the automotive industry. He has studied in Spain, Mexico and the U.S.A. Three years ago he and his father founded Metalistik, a tool making works. In the following interview he reflects on his experiences, new plans and investments in connection with industry 4.0.



Luis Sánchez

versity. We had a tour of several facilities in which they are developing 4.0 applications for different purposes such as logistics, production control, process optimisation, quality control and maintenance. We also received a guided tour around the Laboratory for Machine Tools and Production Engineering (WZL) tool shop which is a research centre that focuses on selecting the best technology available and training their partner’s personnel for tool manufacturing. Before the end of May 2016, part of the WZL team will visit Metalistik and other tool shops in Mexico to learn more about the Mexican market opportunities.

*Industry 4.0 facilitates the vision and execution of a “Smart Factory”. How could this be implemented in your day to day business?*

*GIZ: Mr. Sánchez, you took part in the BMWi Manager Training Programme in February 2016. What were the highlights for you during the training in Germany?*

**Luis H. Sánchez Ocampo:** For my commercial purpose, my highlight during the training program was a workshop meeting between Daimler Mercedes and the suppliers that are planning to install their equipment and machines in Mexico. It was a great opportunity to network and present myself to several potential customers, at the same time, as a trusted supplier with the capabilities to produce parts for them, close to their new facilities.

Additionally, I had the opportunity to meet people from RWTH Aachen Uni-

be happening, such as failures or quality issues. Using this information, we can immediately take effective action. From our database of “Lessons Learned”, the supervisor will receive the instructions through an augmented reality system.

*You started a private equity fund with your company Metalistik in Aguascalientes, Mexico to invest in industry 4.0 technology. Would you like to tell us more about your plans?*

A spin-off project might be the result of this development. We are looking forward to analysing two other industrial companies that have very similar production conditions but different types of products (types of processes and controls), this research will complement and validate the final result of our system. For the development of this project we also have strong support from Asymmetric Business Dynamics which is a consultancy and an IT developer. If the system turns out to be successful for the first companies to use it, we will consider selling it as a low cost product to other industrial companies. This will be positive news for our shareholders since we are not only solving our production control difficulties but also generating additional income.

*Modern information and communication technologies like cyber-physical systems, big data or cloud computing will help create new possibilities to increase productivity and improve quality – where are the challenges?*

Many research centres are developing technologies that can compete with and replace existing technology. Also, there is not one specific recipe for success with industry 4.0; we can see several paths and ways to implement new forms of technology.

In my opinion, one of the main challenges is to choose the correct approach for your firm’s needs. Traditional concepts such as lean manufacturing must not be forgotten in order to avoid making the wrong investments in for example, “waste automatization”. Results have to be oriented towards the competitiveness and profitability of your business.

*Thank you for the interview! ■*



## Workshop on Intercultural Marketing in Vietnam

# Understanding German Business Partners Better



Recognising the needs of target markets is the crux of international marketing. Its objective is to market products and services for different markets and target groups – across political and cultural boundaries. Export partnerships or joint ventures are the means of choice when it comes to selling a company's own products in the target markets. Anyone who wants to cooperate effectively with partners from a German cultural background needs to understand and consider the requirements and wishes of German companies. Hence, a workshop on cross-culture marketing was particularly interesting for the Vietnamese MP participants who came to the historical town Hoi An at the beginning of April 2016 for the sixth alumni meeting.



**Hoi An.** International marketing must address a key issue: can the elements of marketing be standardised or must they be adapted to cultures and regions? Cost considerations suggest standardisation; however, this is not the solution if standardisation impedes the fulfilment of the needs and wishes of the various target groups in the marketing process.

The ideal solution is to standardise whenever possible and to differentiate or adapt whenever necessary. Decisions must be taken on which marketing elements need to be adapted to the specific culture. This gives rise to the question of marketing-relevant differences between the countries of the players involved.

Until recently, it was assumed that “culture-irrelevant” products existed; today this opinion has been refuted. Players with different cultural identities, customs and lifestyles are involved in every marketing process. In cross-cultural marketing, efforts are therefore made to develop and apply knowledge about the target markets.

### An example: prices and price negotiations

Pricing and price negotiations are a sensitive area of marketing. They are therefore a particularly suitable example for explaining the significance of cross-cultural marketing.

In western industrial countries, we are accustomed to the existence of fixed prices. Discounts are only offered in very specific cases, e.g. bulk discounts for large quantities purchased or cash discounts for immediate payment. Price comparisons are easily possible and customary. Customers have clear expectations about how much a product should cost. If the marked price doesn't match these expectations, they are not interested in the product right from the start.

In developing societies, prices are still usually negotiated freely. Weak spending power increases the significance of price negotiations across all product groups and services. Price negotiations also have the social function of building trust and enabling an exchange.

The cultural background of the negotiating parties has an influence on price setting. It is therefore important in international price negotiations to keep both your own cultural preference and that of your negotiation partner's in mind.

If buyer and seller both come from industrialised, western countries, price negotiations normally begin with a competitive price that is plausible to the buyer. This is intended to indicate the seller's honesty. If sellers demand very high prices at the start of negotiations, buyers might doubt their trustworthiness and, in the worst case, no longer consider them as trading partners. If both parties assume that the seller has entered into negotiations with a “realistic” starting price, it is possible that they will reach an agreement quickly. In the western culture, this price negotia-

tion style is considered to be targeted and efficient.

In contrast, let us imagine that the same seller quotes the same “reasonable” starting price to a buyer from a culture in which bargaining is customary. The buyer and his superiors assume that prices are freely negotiable. Hence, during price negotiations they concentrate on achieving the highest possible discount. If the buyer does not receive a high discount, they cannot fulfil their goal. The focus is no longer on the actual value of the price demanded, because price negotiations would take a different course in the buyer's own culture. There the seller would quote a high starting price, the parties would come closer to an agreement through price concessions and, in the end, a realistic final price would be agreed.

If sellers – through a lack of knowledge about local customs – set their starting prices too low and have no leeway for discounts and concessions, a deal might not be closed. The price negotiations fail because both the seller and the buyer are not familiar with the ways of proceeding in the culture of the respective negotiation partner.

### Adapting to cultures throughout the marketing process

Adaptations take place throughout the entire marketing process. Global companies specifically define the aspects of marketing they standardise and those they adapt. This is already evident in the products: brand names, positioning and package design are usually retained worldwide. However, different customs and regulations make certain adaptations necessary, for example with regard to taste, package sizes or advertising regulations in the countries.

### Requirements of German partner businesses

Intercultural differences between Germany and Vietnam influence consumer behaviour and marketing processes. As a result, pricing also differs. Prices must be transparent and calculated in such a way that German partners find them fair and reasonable. But then again, the payment behaviour of German partners normally



makes it possible to grant relatively short payment periods.

The absolute functioning of products and services is of high importance right from their introduction to the market. In many Asian countries, so-called “soft starts” are customary. Here a technology is introduced to the market before it is fully developed. No-one expects everything to work right from the start but rather that improvements will be necessary for a while until the technology functions well in due time. Such soft starts are not accepted in Germany. The German standard of quality requires the manufacture of consistent quality right from the start. Proof of quality can, for example, be provided through long guarantee periods or return guarantees. Standardisation plays an important role inasmuch as more than 30,000 industrial standards (DIN standards) exist.

Products that comply with environmental standards, are healthy and felt to be “clean”, with regard to harmful substances, are accepted in Germany. This is particularly relevant for Vietnamese partners in view of the significance of the food sector for export. After all, coffee and seafood are among the most important Vietnamese export products. The demand for “clean” products also includes other important export goods such as shoes or textiles because German con-

sumers are health conscious. Moreover, ethical standards and the strict corporate compliance rules of German companies must also be taken into consideration. Products produced using child labour or unfair working conditions could evoke protests from consumers.

### Pricing and price negotiations are a sensitive area of marketing.

All market processes require smooth communication between the players. Distribution partners should therefore try to reduce language problems and ensure that they are continuously reachable online.

It is particularly important for German partners that deadline agreements are observed, especially delivery dates. Punctuality is placed on a par with reliability. A different perception of time in comparison to Vietnamese culture as well as the extensive optimisation of logistic processes make waiting periods and delays problematic for German companies. On the other hand, Vietnamese partners also benefit from the stable German transport infrastructure. ■



Professor Dr. Doris Gutting teaches at the University of Applied Management in Erding and is a cooperation partner of TDC Feldafing. She conducts seminars on marketing topics for MP alumni.



Onwards to New Heights:

# Sweets from Turkmenistan



The family business HASAR, which was founded in 2000, is a sweets manufacturer named after the highest peak in the Kopet Dag mountain range. Maysa Hojamkulyyeva, head of human resources, talks about her company's connection to the mountains and her experiences at the training programme in Germany in an interview.

*GIZ: Ms Hojamkulyyeva, why is your company named after a mountain?*

**Maysa Hojamkulyyeva:** This name is symbolic – it is meant to express our company's drive to improve continuously and keep on moving forward and upward. Right from the start, our family business had always planned on reaching the top under the direction of Merdan and Serdar Poladov. This goal has proven to only be attainable with quality people in the company. That's why I applied for the MP in 2014. I wanted to build relationships with international companies and find new partners in Germany, as well as learn as much as I could about human resource management. In Dresden I met representatives from Chocotec GmbH in Wernigerode and Winkler und Dünnebier Süßwarenmaschinen GmbH from Rengsdorf. We agreed to continue our

business relationships with both companies. I collected a lot of good ideas for team building, employee motivation and staff qualification during the company visits.

*So you learned plenty about human resources work while in Germany – was it possible to put it into practice at your firm?*

Yes, and it was quite a success! Our human resources work now focuses on education and training for our employees. The key result of these measures has been an improvement in safety at work at our company. We have also expanded the benefits package we provide our employees with. Workers who live in Ashgabat (the company headquarters is located just outside the capital of Turkmenistan) can now take a free shuttle bus that runs mornings, noon and evenings. Free meals are avail-

able to all employees at the workplace. The laws in Turkmenistan provide for employees being on sick leave when they are temporarily unable to work. Our staff receives an additional "social leave" that includes the continuation of pay. We also pay bonuses and holiday premiums.

*That sounds great! But you apparently don't plan on stopping there?*

No. I am currently planning a new organisational structure. Our firm is growing, we are buying new facilities, increasing capacity, expanding production, and improving product quality, design and packaging. All of our confections – biscuits, waffles, bonbons, chocolates and fruit gums – are produced using European machines. Most of our machines were bought in Germany, with our primary partners being Winkler & Dünnebier, Chocotec and Theegarten Pactec. In late 2015 we purchased a machine for chocolate bar production from Sollich KG.

Our executives and specialists regularly travel abroad to look for new machines so that we can expand our product range. HASAR also intends to purchase machines in Germany in 2016 because we are planning to expand our exports and to refurbish our older waffle machine systems. We have already been in contact with German manufacturers.

*In its 16-year existence, HASAR has managed to become one of the market leaders for sweets on the Turkmenistan market. Your production is ISO 9001:2008 certified. How did you accomplish all of that?*

We owe it to the smart business leadership of the Poladovs. HASAR offers a high quality and very broad range of sweets at reasonable prices. This has helped establish high demand and the company's good reputation not only in Turkmenistan, but beyond. Our distribution networks are designed to precisely calculate delivery quantities and reach anywhere in the country. We export to the neighbour-

ing countries of Afghanistan, Tajikistan, Saudi Arabia, Iraq, United Arab Emirates, Pakistan, China and Kyrgyzstan.

*What concrete steps are you taking to ensure product quality?*

All of our raw materials pass through quality control. We use classic manufacturing methods but also apply the latest quality standards to all phases of production. Only natural ingredients are used. Our success is based on high product quality, strict adherence to all hygiene regulations and painstaking quality control for all raw materials and finished products – as well as short delivery times.

*You already mentioned some of the new things you introduced in human resources after returning from Germany. Can you already see any positive effects?*

Of course! Our clearly defined production structures, improved working conditions, and social benefits for all employees are having a positive effect on competitiveness and staff retention. Our company management is making sure that our executives are able to attend training programmes in Germany, Russia, Italy and Turkey, etc. The heads of HASAR have big plans for the future: expansion of production sites, increase in finishing systems and growth of product



Biscuit production

range. All of this will benefit Turkmenistan and its people.

*Thank you for taking the time to talk to us! ■*

## German Construction Solutions for Kyrgyz Food Companies



In spring 2016, the Kyrgyz MP alumni organisation held a conference for food industry companies. Around 100 participants gathered in Bishkek to learn about food safety guidelines (HACCP) and the range of solutions offered by the German company BASF.

**Bishkek.** Floor finishes, waterproof insulation, and components for use in renovations were some of the topics that attracted representatives from Kyrgyz food manufacturers and processors to the capital on 11th March 2016. Attendees also expressed great interest in solutions for ventilation, waste water treatment and modern production facilities. MP alumni Erik Kaliev, Talgat Kachkynaliyev and Ibarat Kurbanova were the driving force behind the event. Representatives from the BASF subsidiary in Kazakhstan, employees from Kyrgyzstan's standardisation authority, and HACCP specialists provided expert input. Deputy Ambassador of Germany Anders Lundgren and Deputy Kyrgyz Minister of Agriculture Zhanybek Keymaliyev were also in attendance.

The conference focused on the Hazard Analysis and Critical Control Points (HACCP) concept, a range of preventive measures developed especially for food companies to ensure food safety.

The primary aim of HACCP is to protect consumers' health by preventing contamination and other problems that can render food unsafe for consumption. Any physical, chemical or biological property is a potential threat to food safety and can

endanger the health of consumers. Since 1993, the Codex Alimentarius drafted by the UN's Food and Agricultural Organisation has recommended the application of the HACCP guidelines. In Germany, the 1998 food hygiene law was the first to stipulate that all food companies comply with HACCP standards. EU Regulation 852/2004 requires all companies that produce, process, and sell food comply with HACCP. Since 2006, only foods produced in accordance with HACCP guidelines can be imported and sold in the EU.

Many conference participants expressed great interest in BASF's line of products. Some contracts between Kyrgyz food companies and BASF for HACCP certified construction solutions are currently in the pipeline. ■

### HACCP Principles

#### 1. Hazard analysis

Identify the hazards presented by food and measures for preventing them.

#### 2. Identifying critical control points

A critical control point is a point in a food manufacturing process at which checks can be applied to prevent a food safety hazard.

#### 3. Establishing limits for critical control points

The setting of a maximum or minimum value against which a hazard must be checked.

#### 4. Monitoring the critical control points

#### 5. Establishing corrective actions for deviations

Preventing foods that do not meet the standards set from entering the consumption cycle.

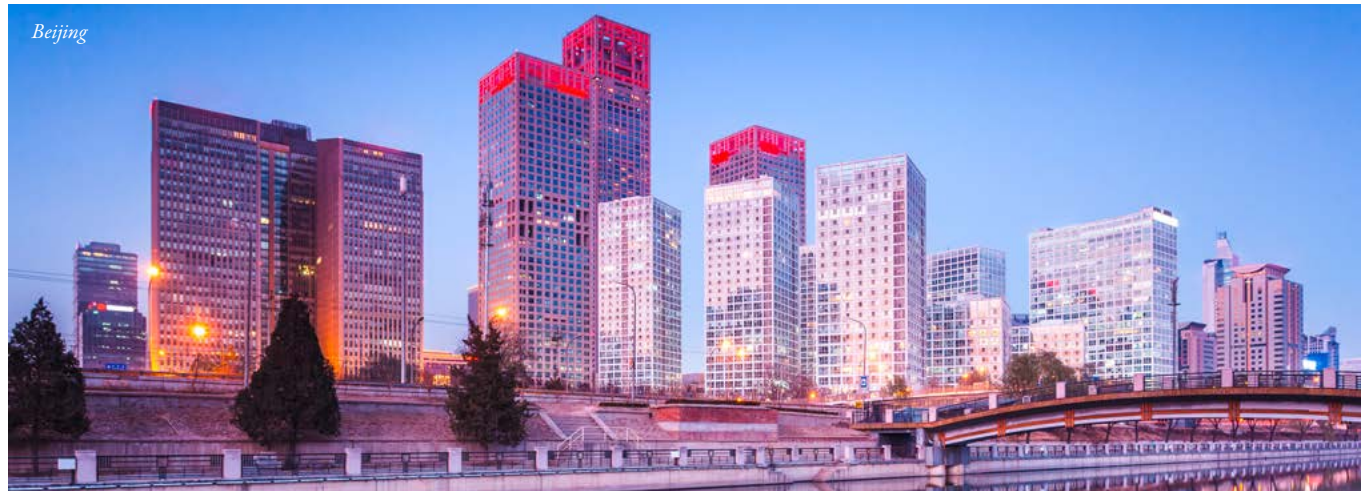
#### 6. Establishing verification procedures for the efficiency of the HACCP system currently in place

#### 7. Setting up a documentation system



Maysa Hojamkulyyeva (centre) with GIZ employees Reimut Düring and Karina Gabrielyan





Zhong De Hui:

## Three Pillars of Alumni Outreach



Established in 2015, the bilateral Zhong De Hui organisation aims to strengthen the position of Chinese and German SMEs on the international market. Three Chinese organisations have joined forces to realise this vision: The Manager Training Programme Alumni Association, a Sino-German business consulting firm, and a Sino-German investment company.

**Beijing.** The three organisations have worked well together for years, basing their cooperation on exchange and networking among Manager Training Programme (MP) alumni and other managers from SMEs. The very first MP alumni association promotes participation not just through alumni outreach by members, but also on its website. The platform serves as a virtual exchange of experience and know-how and offers a range of information on various business issues facing employees of Chinese and international companies. Sino-German Cooperation Business Consulting Co. Ltd. supports the alumni organisation's efforts with a range of services that include organising professional training programmes and promoting the organisation at exhibitions. The Beijing Sino-German Cooperation Investment Management Co. Ltd. was founded by MP alumni for the purpose of providing project financing for alumni.

The greatest challenges facing Zhong De Hui are how to increase the positive impact of the synergies generated by these three pillars and how best to integrate SMEs into a worldwide network. The first steps towards accomplishing these goals have been taken. An information

and service platform is currently being expanded and further developed. Solicitors and financial and business consultants are available to advise managers. On-site training and research projects promote mutual exchange and cooperation between German and Chinese entrepreneurs, and the organisation has designed a logo they plan to publicise worldwide to raise the organisation's international profile and recognition value.

In addition to the continual evaluation and quality control of the communication, alumni have a wealth of ideas for the future. A network for students with businesses in both countries is in the pipeline, and seminars and crowdfunding will be used to expand contacts and business relations, just to name a few examples. In 2016, Zhong De Hui plans to invite alumni from 16 MP partner countries to attend a meeting in China. A cooperation fund was set up to strengthen SMEs in both countries. The alumni view vocational training as an additional key to SME development and plan to advertise to raise awareness.

As different as the approaches may be, they complement each other in pursuit of a common goal: supporting Chinese and

German SMEs and thus strengthening the private sector in both countries for the international market. ■

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### Guide to Mergers & Acquisitions in China and Germany

The "Guide to Mergers & Acquisitions in China and Germany" (M&A Guide) was published by the Sino-German Joint Economic Commission in 2015. In two volumes, the M&A Guide offers practical information on the acquisition of shareholdings or assets in each respective country. Volume I "M&A in China" provides German investors with legal and practical information on M&A transactions in China. Volume II, "M&A in Germany", is an overview of the legal and economic requirements in Germany. Both volumes are available for download on the Germany Trade & Invest website.

[www.gtai.de/GTAI/Navigation/DE/Trade/Recht-Zoll/Wirtschafts-und-steuerrecht/mergers-and-acquisitions-in-china-and-germany.html](http://www.gtai.de/GTAI/Navigation/DE/Trade/Recht-Zoll/Wirtschafts-und-steuerrecht/mergers-and-acquisitions-in-china-and-germany.html)



## Egyptian Alumni Association Set to Start



**Cairo.** What can an MP alumni association offer its members in order to support the results of their training in Germany? Most alumni associations whose members are eager to stay in contact after the MP and to expand the knowledge gained in Germany but don't have ready ideas of how to do so, pose themselves this question. This was also the case with the newly founded Egyptian German Alumni Association (EGA). To assist the members in finding ideas, the Industrial Training Council (ITC) and GIZ invited the Egyptian alumni to a meeting in Cairo at the beginning of May 2016. Roughly 50 alumni accepted the invitation.

However, it is not necessary to re-invent the wheel each time. Utilising other associations' wealth of experience is the means of choice when it comes to the initial spark. And here the MP can refer back to ample expertise from other partner countries. Mexico, for example, where MP participants also recently founded an alumni association (see issue 7). Its head, Luis Pedraza, came to Cairo specially to share the Mexicans' first experiences, ideas and plans with the Egyptian alumni. He was able to dispel the scepticism on the Egyptian side that an association was a nice idea but not sustainable in everyday life. Pedraza described, among other things, how Mexican alumni bundle their business interests in order to utilise synergies and gain new customers. His most important argument in favour of an association was, however, the B2B events with German and foreign companies, which the Mexican alumni association organises for its members. The Mexican alumnus also considered the meeting in Cairo to



be such an event. He said it was important to keep the association open to new "generations", thus enabling it to become a representation for all former participants. And autonomously too, not under the auspices of GIZ or national partner institutes – which are, however, naturally happy to be of assistance. "We'll be there for the whole journey", Mahmoud El Sherbiny, executive director of ITC, told the entrepreneurs.

The Mexican example will catch on; the Egyptian entrepreneurs have decided that EGA should have a similar orientation. Most of them want to participate either financially or in other ways in the association's work. The first step towards international networking has also already been taken: during the event, both alumni associations signed a mutual statement on intensive cooperation.

Led by Rania Magdy Oraby, the EGA wants to support its members in their international business activities and thus to contribute to improving German-Egyptian trade relations. In addition, ITC will actively involve the association in the local implementation of the programme. EGA is to play a central role in preparing future MP participants. "The next round will be managed by you, the Alumni Association", said El Sherbiny. ■



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# Ukrainian Alumni Association Founded



30th March 2016 was the day on which MP alumni founded the alumni association in Ukraine in Kharkiv. The founding members defined their objectives and areas of activity, discussed the setting up of regional groups and approved the work schedule for 2016.

**Kharkiv.** The “Fit for Partnership with Germany” programme of the Federal Ministry for Economic Affairs and Energy (BMWi) has already been successfully implemented in Ukraine for 15 years. Now its alumni have founded their own association. The presence of the German Consul General, Dr Wolfgang Mössinger, and Tetyana Gavrysh, the German Honorary Consul in Kharkiv, reflected the strong interest of both countries in this event. Mössinger promised the Ukrainian alumni that he would also support them with help and advice in the future. More than 50 MP alumni from Kiev, Lviv, Sumy, Kharkiv and Saporoshje came to the founding event. Alumni from Odessa, Poltava, Ivano-Frankivsk and Rovno promised their support in writing.

One of the priorities of the newly founded association is cooperation with German business associations for the different industries to intensify contacts between

Ukrainian alumni and German companies. Cooperation is already developing with the Delegation of German Business in Ukraine. There are also plans to approach the German Association for Small and Medium-Sized Businesses (BVMW). In addition, the alumni want to offer training for improving management skills, and seminars with appropriate experts are already planned. Establishing international business contacts with other countries also participating in the Manager Training Programme (MP) and in which alumni associations already exist is right at the top of the association's agenda. Initial talks have already taken place with the executive committees of the associations in Moldova and Kyrgyzstan to explore the possibilities of joint projects. However, the association does not

**“We can only benefit from having more opportunities for contacts with German partners through the alumni association.”**

Ilya Dovgal, Charkovenergopribor, Kharkiv

intend to only concentrate on an exchange with MP participants in other countries but also aims to bring the more than 1,000 Ukrainian alumni together as business partners. Up to now, the latter have mainly had exchanges with those colleagues with whom they visited Germany. The alumni association sees itself as an open platform that would like to also be present in the individual regions of Ukraine. The network is intended to reach as many alumni as possible, not only from Ukraine but also from other MP partner countries.

As a next step, the association will plan its registration as a so-called social organisation. Strategy meetings will then take place, at which the most important work approaches are to be determined and specific cooperation projects with foreign partners defined.

MP alumni from three Eastern European countries (Ukraine, Moldova and Belarus) can already compare notes on Facebook, both in public and internal areas (Coordinator MP EasternEurope). In the internal area, they will also find exclusive services directed only at MP alumni from these three countries.

Alumni who would like to become actively involved in the association or to inform themselves about its events can contact the initiative group. The contact addresses are available at [www.ffp.in.ua](http://www.ffp.in.ua). ■

<https://www.facebook.com/profile.php?id=100004128645252>



Dmitry Kolchik, member of the board of the Ukrainian alumni association

## Alumna Finds IT Start-Up Accelerator

# Digital Society Arises



There is a new driving force behind Uzbekistan's digital economy. Brand.uz, a young, up and coming IT company, has followed the international market's lead and founded a start-up accelerator to mentor young tech talent. The next Twitter or Instagram might well emerge from Central Asia in the not too distant future if Yelena Seleznyova, MP alumna and Managing Director of the StartupFactory, has anything to do with it.

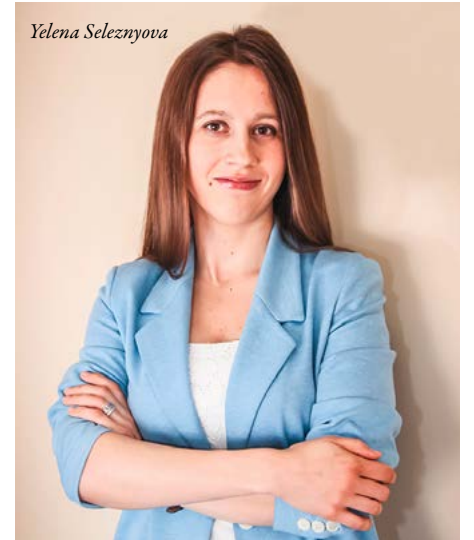
**Tashkent.** June 2015. The StartupFactory's conference room is a hive of activity. Five participants in the first start-up accelerator programme are working on innovative IT solutions for the Uzbek market and fine-tuning their business plans. They will have three months to transform their ideas into viable businesses. Tech pioneer brand.uz is leading the training seminar. The StartupFactory is the internet experts' newest project, developed by Yelena Seleznyova after she returned from training in Germany in 2014. As the subsidiary's newly appointed managing director, she has her hands full. She credits the MP with helping her achieve this latest step up on the career ladder.

She is working with her five-person team to blaze a new trail. “The start-up scene in Uzbekistan is still in its infancy. We are the first to really get behind it professionally. Our goal is to create an ecosystem for young entrepreneurs like the one in Germany,” Seleznyova visited some of Ger-

many's key accelerators, like Telefónica's Wayra start-up programme and Berlin Startup Consulting KGM GmbH, where she derived inspiration and received valuable advice. She maintains these contacts to this day.

According to Seleznyova, development in Uzbekistan trails behind Germany, where only a small percentage of the population shops online at all. The first online payment system was not introduced until 2015, and IT companies have only recently begun springing up. The country is working hard to close the gap though, and the very dynamic information and technology branch is recording double-digit annual growth rates. The MP alumna has just created a market for start-up accelerators, and others are already following her lead. “We started a trend,” Seleznyova says with pride.

The Tashkent delivery service, bumerang.uz, is the first brainchild the young IT talents



Yelena Seleznyova

launched at the beginning of 2016, and the accelerator's boss is quite pleased with the developments so far. “This is a great step forward. The realisation rate for technology start-ups from accelerators is around 15 percent,” Seleznyova says. Her firm has a stake in future profits to the tune of ten percent.

The digital marketing department at brand.uz is also enjoying great success. A new B2B product was launched at the end of 2015 and has been a hit so far. Growing Uzbek companies now receive online marketing support for their products, and the internet professionals are using search engine optimisation (SEO) and social media to market Uzbek products internally. Among their most recent achievements was helping the company Trikotash attract customers from Poland, the Baltic states and the CIS. “We help our customers find partners all over the world,” Seleznyova says.

Brand.uz plans to launch its own start-up by the end of 2016 as well, and a team has been working on developing a business plan since the new year. Five ideas, some inspired by German ventures, are ready for close-pitch selection, including some e-commerce and service innovations. “It is hard to find a niche in Germany, but there are still a lot open here,” says Seleznyova, who is already deeply involved in preparing for the next talent accelerator. ■



The inaugural meeting





MP Participant from India Cooperating with a German University

## Research and Development Across Borders



Amol Bhardwaj first heard about the MP from a friend four years ago. At the time, he hardly had any overseas business contacts apart from two German suppliers, though they carried little weight. Bhardwaj's expectations of the programme were modest: he wanted to meet with both companies in person and to also seek new technology for his medical technology company. Back then, he could never have imagined that the MP would one day bring him a development contract with a German research institute. In an interview with the GIZ, Bhardwaj proudly tells of his successful internationalisation course.

*GIZ: Mr Bhardwaj, what exactly does your company do?*

**Amol Bhardwaj:** Medicaid Systems is based in Chandigarh and is run by two families, one of which is my family. We devel-



Amol Bhardwaj

op, market and manufacture medical equipment – for use in psychiatry, for example, for magnetic neurostimulation during which magnetic fields are used to stimulate or deactivate specific parts of the brain. Neurological disorders such as epilepsy can be treated in this way. Beside psychiatry, we mainly work in the fields of neurology, cardiology and physiology. Medicaid Systems was established in 1987 and currently employs 68 people. I have worked at the company as a project manager since 2000.

*How did you find your key business contacts in Germany?*

It became clear to me during my time in Germany that I would need to revamp our website if we wanted to win international business. In particular, I improved the search function and optimised the keywords. I then received an inquiry from the Philipps University of Marburg shortly after my return to India. They were looking for someone to develop an electromedical device for the treatment of chronic pain, based on their research findings. I sent them my profile that I had optimised in Germany, as well as my MP certificate. That really helped me to win their trust.

*What was the next step?*

After I visited Germany in person, we established a business partnership with a Swiss company to manufacture the devices here in India. I selected the location and staff for setting-up the production

line. We invested 700,000 US dollars; implementation took one year. With the licence from Marburg for the new technology, I also want to set up a therapy centre for chronic pain sufferers in India and to work with the new eletrotherapy. To date, we have only sold and developed products. It would be an entirely new field of business for us.

*What does this mean for the company in figures?*

Through development of the new therapy and set-up of the centre, we anticipate growth of up to 300 percent in the coming three years. New technology sells well, even in a country like India that has a low per capita income. We anticipate turnover totalling 7.3 million US dollars in a three-year period for this therapy device. We are also currently negotiating the production of a further device for the university in Marburg that we have already developed on a trial basis. We anticipate 15 million US dollars for this project.

*What brilliant results! How in particular has our programme helped you?*

I benefitted greatly from the intercultural training. In India, the business philosophy of “We shall overcome whatever the future holds” normally prevails. In contrast, in Germany everything is first considered in great depth and discussed from all angles. An Indian must be extremely patient here (he laughs). I had these differences in business practices in mind during my preliminary contact with companies. It helped me to not get frustrated. Going into such detail was a challenge for me. Now I know to appreciate the advantages of this approach, as when a decision is finally made, everything goes smoothly and in an orderly manner.

*Thank you for the interview! ■*

## German Measuring Technology for the Belarusian Market



Kirill Filippenko's family are among the pioneers in the private sector in Belarus. Immediately after the collapse of the Soviet Union, his father established one of the first private companies in the former Soviet Union. And this “entrepreneurial gene” has been passed on to his son. Upon completing his degree in systems engineering and an MBA, he began working at his parents' company. In May 2015, he participated in the MP and signed important contracts with two key clients from Germany.



Kirill Filippenko

**Minsk.** R&D Gran-System-S LLC is a medium-sized company based in the Belarusian capital. Around 100 people, half of which are engineers, work to develop and manufacture electricity meters and other measuring devices. In Belarus, the family-run business that has been operating for almost 25 years is the market leader. The business with Germany has been an important factor for many years, constituting 15 percent of the company's total turnover, though Filippenko believes that this can definitely be increased further.

Gran-System-S has cooperated with Nuremberg-based Landis+Gyr GmbH for decades. Landis+Gyr offers solutions for the metering of electricity, water

and heat consumption. Until now, the Belarusians sold products for this strong German partner in their country and took care of a portion of production. The two companies negotiated for two years on the outsourcing of the production of an entire assembly line of heat meters to Belarus. It was reasoned that the products could then be produced and sold for considerably less, as customs duties or transport costs would no longer be payable. What's more, the markets in Russia and Kazakhstan with whom Belarus has entered into a customs union (EACU) could then also be served. While Landis+Gyr trusted the quality of the work of their long-standing partner in Minsk, they were hesitant about this step. It was only during the MP and following sever-

al meetings in Germany that Filippenko was able to convince the global enterprise – an agreement was reached to produce the heat meters in Belarus from 2016. A service centre will also be set up to take care of customer support as well as to offer service, repairs and recalibration. Filippenko has invested 250,000 euros in building his production facilities for Landis+Gyr. In the first year, he anticipates turnover totalling 1.7 million euros. This alone would double the turnover with German partners. The engineer is currently working on obtaining the necessary certification for the sale of the new products in Belarus, training his employees, and preparing a marketing plan. He also wishes to enter the Russian market. “Our Belarusian proof of origin means we are able to sell to Russia without any problems. And we have all the necessary certification for sales within the customs union,” says Filippenko. The 36-year-old has thus cleared the way for him and his German partner to establish a supply chain for the world's largest country.

The meeting with ZERA GmbH was also a success. Preliminary contact was made with the manufacturer of measuring and testing technology based in Königs-winter three years ago – though only via a subsidiary in Ukraine. Personal contact during the MP helped to further the partnership. Gran-System-S is now the official retailer for ZERA products in Belarus and is set to boost the Rhineland-based company's sales activities in the landlocked Eastern European country. Filippenko is responsible for developing the Belarusian website as well as for preparing a marketing strategy. He will also set up a service centre for ZERA, train the employees and recruit new staff.

“Due to cultural differences, situations arise time and time again where we do not understand one another. This also played a role in the cooperation with my German business partners, despite our having known one another for a long time. The MP allowed me to improve my intercultural skills. Now I understand the differences. This really helped me during the negotiations,” says the deputy managing director. ■





Florian (right) and Bernd Hees



## Business with Russia Extended



When he signed up for the “Fit for Business with Russia” programme in 2006, Florian Hees had already amassed a lot of positive experience working with Eastern European business partners. After three weeks in St. Petersburg, Russia has continued to draw him back time and time again. Meanwhile, the resulting contacts have led to a major project.

**Homburg.** From tiny screws to giant machine parts: “We supply it all,” Florian Hees says as he unlocks the lit display case in one corner of his office. It holds metal screws, nuts and connectors – some tiny, others almost the size of the palm of your hand. Larger components including sheet metal and huge bolt threads are in the Hees Handel firm’s warehouse and production halls, about two kilometres from his office.

Based in the city of Homburg in the Saarland, the medium-sized firm employs 14 people and is active in two fields: “We offer a range of technical services and serve as a wholesaler,” Hees explains, son of the founder and in charge of purchasing and sales. More specifically, Hees Handel develops machine and tool components, manufactures working parts, and sells carbide metal products, machine parts, and a range of materials resistant to rust, acid and heat. Their customer base consists primarily of large industrial firms. “Automobile suppliers, foundries, power

stations and chemical companies all buy from us,” Hees says, including names like BASF, Bosch, and Villeroy and Boch.

Some customers have standing orders, others order in bulk periodically. Over the last few years, Hees Handel has been achieving annual turnover of one million euros or more. Foreign business accounts for 50 percent of purchasing, but only around 10 percent to 15 percent of overall sales. The Hees firm develops and builds their prototypes in Homburg, and some are sent abroad for series production. Individual machine components and special tools are manufactured by partners in the Czech Republic, Croatia, Ukraine and Lithuania and are then assembled in Germany.

The Hees firm has long maintained contacts to Eastern Europe, and MP participants from Ukraine and other Eastern European countries often tour the premises. Hees has visited Russia frequently as well, even before taking part in the “Fit for Business with Russia” programme in 2006. An advert in a newspaper drew his attention to the programme. “We had had good experience with groups from the region, so I was very interested. At that time, we conducted very little business with Russia,” Hees says. “The programme sounded really great, especially since I had a bit of background information about the country and its people from my trips to Russia.”

After a preparatory course organised by GIZ in Bonn, Hees joined the new project’s pilot group and spent three weeks in St. Petersburg. Programme participants visited companies, attended seminars, and talked to Russian business people. He really enjoyed the experience: “My Russian counterparts made a huge effort to meet the needs of everyone in the group.” He was impressed by the Eastern mind-set – and learned how important it is to know your business partners personally in Russia. Since his three weeks as part of the MP, Hees has repeatedly been drawn back to the country.

Hees reports that his firm has profited from the MP in a variety of ways: “At least 85 percent of our foreign joint ventures have come about because of programme alumni who visited our firm.” And overall he views the programme as a positive way to help SMEs: “Small and medium-sized enterprises can increase their international presence without having to sink huge amounts of human resources and money into foreign business.” Hees adds that an international network is an absolute must for any small business today: “We all have to think more globally.” ■

**“Small and medium-sized enterprises can increase their international presence without having to sink huge amounts of human resources and money into foreign business.”**

Florian Hees, Purchasing and Sales at Hees Handel

## Tunisian Entrepreneur More Than Doubles Turnover

# Upgrading From the Shell to the Fruit



Anis Zelleg founded the Sotuged company based in Gabes, a large city on the Tunisian Mediterranean coast. He recently reorganised his company to produce apricot kernels for a German customer.



Anis Zelleg

*GIZ: Mr Zelleg, what does your business involve?*

**Anis Zelleg:** I can tell you what we used to do before I completed the MP: turn ground olive pits and almond shells into biomass.

*And what has changed since the MP?*

I’ll have to start from the very beginning. When I founded my company three years ago, I began selling biomass derived from almond and olive oil production waste. In Germany I hoped to find a partner to start turning this biomass into pellets. In addition to olives and almonds, Tunisia also intensively cultivates apricots, which are dried or processed into jam. I wanted to incorporate the “waste” from these processes into my pellets as well. Then I made a surprising discovery. Stone fruits are unique because they have an almond-like kernel inside the stone. You have probably seen it yourself when a stone breaks open. This kernel is very valuable to the food processing industry, since, similar to an almond, it can be processed into a paste cal-

led persipan. This is nothing new, and there are some firms in Asia that supply the global market. It was new to me though. There is not one company in Tunisia that specialises in this process. I met some marzipan producers in Germany, and one Berlin company was very interested in apricot kernels, which they had been buying in Asia up to that point. I can offer them more quickly and for less though. Selling a valuable foodstuff is much more attractive for me than pellets. I have taken one step up from recycling to upcycling, upgraded from the shell to the fruit.

*Are apricot kernels now all you sell?*

So far I haven’t sold any at all. Moll Marzipan GmbH found the idea so attractive that they immediately ordered 20 tons per month. But I could not supply that much. I went to the bank and applied for a loan to expand my production. I was approved because I could demonstrate that I was working with a strong, dependable German partner. Right now we are poised at the starting line and watching the apricots ripen. The harvest begins in June and lasts



until September. So German wedding cakes could soon be decorated with persipan made from our kernels. Right now we are bringing in around 70,000 euros per month from just our German customers, and biomass only accounts for one fourth of our operations at this point. I would like to get more German buyers on board.

*That is a truly impressive success story! Is there any advice you’d like to share with other MP alumni?*

I think it is important to remember that while the time spent in actual training modules is important, down time is invaluable as well, like when you’re sitting down to enjoy lunch or dinner. I used these breaks to establish contact with the people running the seminars and have informal, very personal conversations. These people have an incredible wealth of knowledge and experience and can give you very individual tips beyond the scope of the standardized seminar programme. This was actually how I acquired my second new business partner, Condio GmbH.

*Another buyer of apricot kernels?*

No, not at all. Condio makes additives and stabilisers for the food industry. This is actually outside my field, but demand is high in Tunisia. Our meeting went so well that we were named exclusive dealer for the family-owned company based in Werder. We have already signed supply contracts amounting to one million euros for stabilisers for yoghurt, cheese and mayonnaise, for example, with three large Tunisian dairy companies.

*Thank you for talking to us, Mr Zelleg, and we wish you continuing success in the future.* ■



## Moldovan Building Supplier Represents More and More German Firms

# Advancing into the VIP Segment

Mihai Bostan from Chişinău, who holds an MBA, comes from modest roots. Around ten years ago, he went into business for himself in the booming construction industry. His company, M&M Comert, began supplying building supply centres with domestic products. But the ambitious young entrepreneur had his sights set much higher. In 2010 he happened upon an article about the Manager Training Programme, which has turned out to be the greatest driver behind his business so far, he says.



**Chişinău.** When asked why he applied for the programme, the 37-year-old says, “I wanted to go international.” He has a hard time identifying the one thing about the MP that has helped him the most. “I think it is really the combination of everything.” In his own words, the boss of M&M Comert adds that he initially profited the most from the contacts and the excellent reputation of the programme.

Cedima GmbH, a company based in Celle that manufactures tools and machines for the construction industry, was his first

German business partner. Bostan found it relatively easy to convince the firm from Lower Saxony that he would be an effective partner, though at the time he had no international experience under his belt. “I was a completely unknown quantity, really. I think the programme’s excellent reputation was the reason people trusted me anyway,” he says. Training has provided him with the know-how he needs and enough self-assurance to approach his potential business partners with confidence.

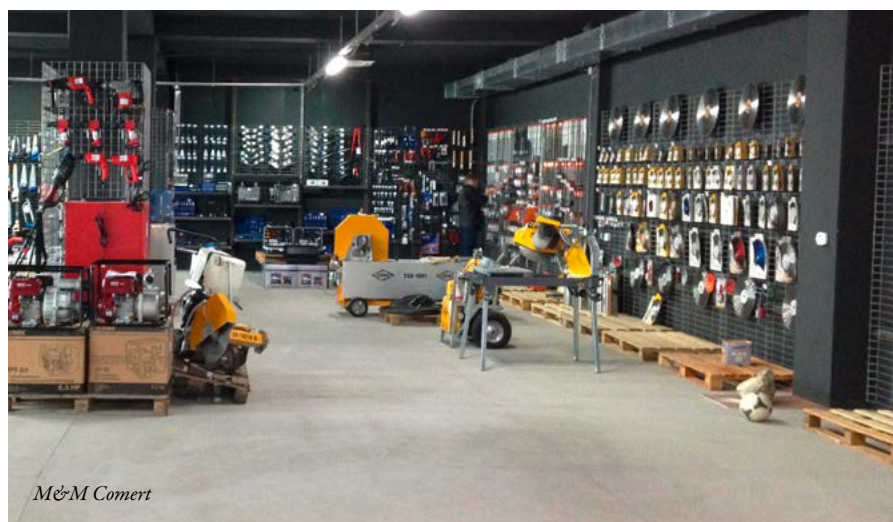
Bostan is the first address in Chişinău for anyone looking to build with made-in-Germany quality. “Discounters just don’t fit our business philosophy. We work in the VIP segment,” Bostan reports. His latest project is a 400m<sup>2</sup> showroom that features all the products available to business cus-

tomers, together worth over 400,000 euros. The range features products from Cedima, Projahn in Diezenbach and Endress, a company based in Bempflingen that makes aggregates for generating electricity. Bostan also operates a service centre for all the products he offers. “All my employees train in Germany,” he says. The personal business contacts developed there offer additional advantages, as they increase a sense of identification with the brands, according to Bostan.

The Moldovan entrepreneur works to continually expand his portfolio of German brand-name products. On average he has become the official dealer for one new business partner every year for the past seven years, to very positive effect. Since participating in the MP in 2010, he has increased turnover by 75 percent annually.

The current strained political and economic climate in his homeland has also had a palpable effect on his business, he reports. But the construction branch still numbers among the most important economic drivers with double-digit annual growth, thanks in no small part to infrastructure projects funded by the EU. The European Bank for Reconstruction and Development is currently financing a large project to the tune of 60 million euros to modernize the water supply system in Chişinău. Bostan succeeded in winning the bid for the project in a public call for tenders and is supplying joint cutters from Cedima and Endress.

Bostan has plans to conquer more foreign markets in the future. M&M Comert will soon be the official dealer for Endress in neighbouring Romania and for Projahn in Ukraine. Expanding the “Invent Moldova” alumni organisation, of which he is both the chairman and founding member, is near and dear to Bostan’s heart. He volunteers to organise international events and business forums, and enjoys sharing the knowledge he has gathered on how to do business with Germany. “I want to do my best to ensure that everyone here reaps the same benefits from the MP as I have,” he says. ■



M&amp;M Comert

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## Former Banker Now Making Organic Crisps

# Tomorrow’s Healthy Snack Innovation

In 2007, Sergiy Shakola attended the MP in Germany. The programme would ultimately change his life, as it inspired him to go into business for himself. He was able to realise this dream a few years later by opening an organic grocery shop. 2014 marked the next big change in his life when he was forced to leave his home city of Donetsk. He seized the crisis as an opportunity and started producing organic crisps.

**Kiev.** “Seeing the enthusiasm with which German firms are run and the support they have was really inspiring,” Sergiy Shakola recalls about the time he spent in Germany during the Manager Training Programme. Then the deputy head of a Ukrainian bank office, in Germany he discovered a desire to strike out on his own. A health food enthusiast, he was determined to found a firm to promote healthy lifestyles. In 2011, he was finally ready to quit his job at the bank and open an online shop for nuts, dried fruits, grains, organic laundry detergents and more. An organic grocery shop followed the year after. In his free time, Shakola organised festivals, presentations and seminars to draw attention to his favourite topic in Ukraine. At one presentation, an attendee shared his plans for developing a healthy snack and a start-up to market it. That was in 2013.

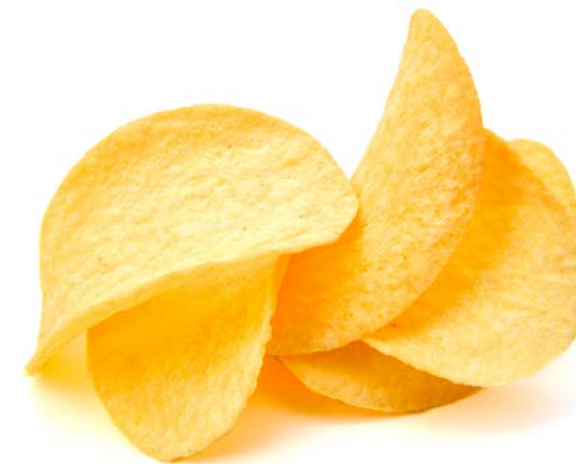


Sergiy Shakola

As it turned out, 2014 thwarted the entrepreneur’s best-laid organic plans. The armed conflict in Ukraine pulled his home city of Donetsk into the melee, and Shakola was suddenly faced with nothing but ruins. With a heavy heart, he left his home behind and travelled to Kiev with his wife and children.

In the capital, he regrouped, and contacted the person he had spoken to at the presentation the year before about healthy snack options. Shakola joined the newly founded company Futurefood, where he was soon made partner and took over running the firm as managing director. Since 2015, the company has produced “Futurechips”, crisps made entirely of flaxseed with no added chemicals. The goal was to create a healthy snack that tasted as much like potato chips as possible. Although the start-up is not even a year old, it is already generating enough income for the founders to live off and they have even hired their first employees. The crisps are sold primarily on the domestic market, in organic grocery shops and supermarkets.

The Manager Training Programme is what enabled the economist to expand his skill set and to become an entrepreneur. He is now hoping another project will help him achieve an international breakthrough. The free trade agreement between the EU and Ukraine includes an assistance programme to help agricultural companies enter the EU market, and Futurefood was



selected to participate. “The average European consumes six kilos of snacks each year, Germans three kilos, and a Ukrainian only manages half a kilo,” Shakola says. Despite the lower consumption levels, he has his sights set on Germany as the first market to conquer. “Thanks to the MP, I

**“The average European consumes six kilos of snacks each year”.**

know my potential customers. And I know my idea will be well received on the German market,” the young entrepreneur says with confidence. Over the coming months, the EU project will assist him with issues like the legal framework conditions for food imports and tips for finding a partner.

At 120,000 bags of crisps a year, Futurefood’s production is still pretty modest. “So far we have managed to get the ball rolling using only our own capital without external loans,” Shakola reports with pride. Two new flavours are scheduled to come on the market soon – herb and sweet crisps, the latter being based on dried fruits. Shakola has patented the recipe, and says the production and formula are unique on the market. His four children are his biggest fans and most loyal customers, by the way, and they can hardly wait for the new flavour sensations to hit the market. ■



## Russian Companies Investing in the Federal Republic

# “Germany, as a Technology Location, Inspires Me”

The weak ruble makes Russian goods and services more attractive abroad. Meanwhile, the sluggish Russian economy is also forcing many companies onto the export markets. Locations in Germany make popular sales bases for the European market. This is perhaps unsurprising: millions of Germans speak Russian, 350 flights connect Russia and Germany every week, and the two cultures are similar. Germany Trade & Invest (gtai) helps with establishing companies.

Germany is popular with many Russians – and not only because of the beer at Munich’s Oktoberfest or the boutiques on Kurfürstendamm in Berlin. Over 221,000 Russians live in Germany today. There are almost 100 bilingual schools across the entire country. What’s more, over six million Germans speak Russian (or at least understand the language). There are also good reasons for Russians to do business with Germany. In 2015, Russian exports to Germany totalled €22.8 billion. These goods do not sell themselves, which is why hundreds of Russian companies opened sales offices in Germany last year. These include the natural gas specialist Gazprom, oil supplier Lukoil and wood producer Ilim Timber.

One relatively new trend: Russian IT companies which have been increasing their exports for years now and which manage their entire sales for Western Europe from their offices in Germany. These include the antivirus specialist Kaspersky and software company Abbyy. Another interesting point is that it is often no longer merely sales activities, but also other aspects such as the further development and adaptation of Russian software and telecommunications services for the German and European markets that are completed in Germany.

Both Abbyy and Kaspersky have settled in Bavaria. In 2015, the 300 Russian com-

panies in Bavaria employed 4,750 people. The highest number of Russian companies can be found in Berlin – 315 in total. North Rhine-Westphalia, Baden-Württemberg and Hesse are also popular investment locations for Russian companies.

### Russian companies value Germany’s innovative power

Excellent infrastructure, strong research and a huge market – these are the main reasons why Russian investors choose Germany as an investment location. Jury Zigulya, Managing Director of Mango Office GmbH, moreover anticipates “inspiration” from his commitment to Germany. Mango Telecom with 500 employees worldwide is Russia’s first cloud-based communications service provider. The company offers customers virtual telephone systems. In 2014, Mango Telecom opened its European headquarters in Berlin, with a computing centre in Frankfurt (Main).

And not without reason. Managing Director Jury Zigulya praised Germany for its revolutionary technology. He anticipates sustained demand for cloud telecommunication solutions. “Above all among small and medium-sized enterprises, the drivers of the German economy,” says Zigulya.

Germany actually offers countless advantages: it is the largest economy in Europe

with extremely high productivity, a good education system, a highly-qualified workforce and a dense transport network. Hundreds of “hidden champions” from the Mittelstand moreover make the country what it is: the driver of the European economy. With vast innovative power. Whether automotive manufacturing, industry 4.0, renewable energies, or the pharmaceutical or chemical industries, German companies are far ahead of the competition in many areas. However, they can only achieve this with the support of strong international suppliers – which in turn represents a huge opportunity for many Russian companies. Be it in the IT, chemical or logistics sector.

### Tips for establishing a company in Germany

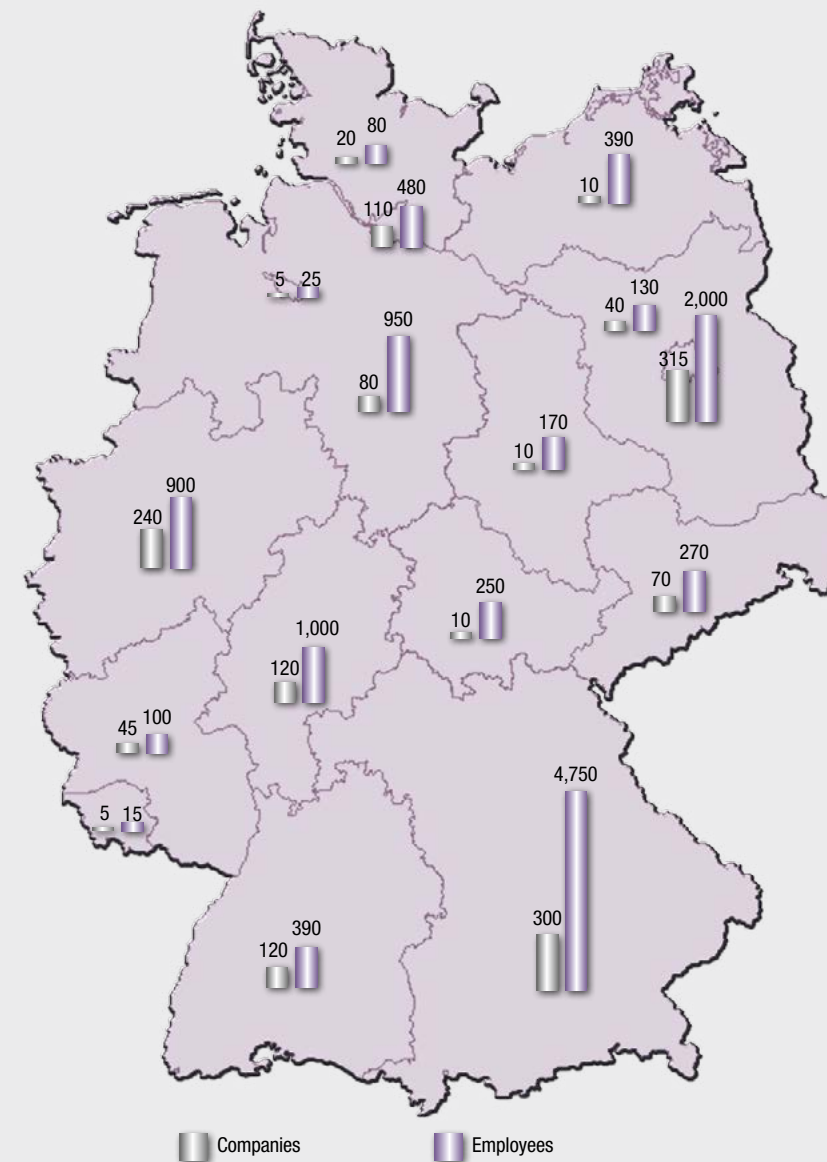
Legal certainty is also essential for a good investment location – from founding a company, through to taxation and residency matters. Particularly founding a



### Investing in Germany – With Strong Support

The first port of call for Russian companies interested in investing in Germany is the gtai office in Moscow. Russian-speaking employees will help establish direct contact with the gtai industry specialists in Germany. They will provide potential Russian investors with the latest market information and reports for different industries, namely the engineering, energy and IT sectors in addition to dozens of other key industries. The gtai industry experts can also put entrepreneurs in contact with individual federal states or regional clusters. They have information on rental prices, the costs involved in establishing a company, registration formalities, legal matters, taxation, funding mechanisms, credit options and the wages in the different locations, broken down according to the needs and industry of the respective company. NB: all of these services are entirely free!

Russian companies in Germany by federal state \*



\* Only companies listed in the commercial register.  
Source: Bureau van Dijk Electronic Publishing, Markus Database 2015

company is very straightforward. The most common corporate form under German law is the limited liability company (Gesellschaft mit beschränkter Haftung, GmbH). It is similar to the Russian “OOO” corporate form and requires share capital of at least €25,000.

Founding a company itself takes a maximum of two weeks. The first step involves drawing up articles of association. A notary must then certify these and prepare a list of the shareholders. As soon as the share capital has been deposited into the company business account, the notary can register the GmbH in the public commercial register (Handelsregister) of the responsible local court (Amtsgericht). The local court will normally then send confirmation of the entry within a few days.

The costs associated with this process are minimal: the notary fee is approx. €800 and the local court charges a flat-rate fee of €150. Costs also arise for the preparation of the opening balance sheet and the membership fee for the chamber of industry and commerce (or chamber of trades).

Regarding residency permits - Russian entrepreneurs holding a Schengen business visa are able to found a GmbH in Germany. However, an operating GmbH does not guarantee the right to reside in Germany permanently. If a Russian entrepreneur also wishes to act as the managing director of their company in Germany in person, they will need to apply for permanent residency. The Foreigners’ Registration Office (Ausländerbehörde) in the region where the GmbH is registered is responsible for

this. Not only the paperwork regarding the founding of the GmbH must be submitted. Russian entrepreneurs must also prove to the Foreigners’ Registration Office that their business plan will be successful in the medium and long term and that the financing is in place.

### Funding for Russian projects

Investors are able to apply for state subsidies for a whole range of projects from the European Union as well as from the German federal and state governments. Countless funding programmes exist, above all for research and development-intensive projects. The same applies for investment loans – these are available from state development banks, the German government-owned KfW development bank and the European Investment Bank.

One further option is the German federal government’s investment support programme. In certain regions of Germany, it will reimburse 40 percent of the costs for commercial properties, machines, equipment, intangible costs or sales costs for a period of two years. The condition for this is the creation of long-term jobs. The equipment must be used and jobs provided for at least five years. If people, who have been unemployed for a long time, are offered work, support is not only available from the local employment agency (Arbeitsamt) during the recruitment phase. The cost of training employees will also be covered for three months, along with up to half of the wage costs for the first 12 months. ■

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Bernd Hones studied political science and economics, and is a trained journalist. He has worked at the Germany Trade & Invest office in Moscow for more than eight years now. He researches and writes industry, regional and macroanalyses on Russia, and also helps Russian businesses to establish companies in Germany.



# Future-Oriented Business Management



For the MP participants from Kazakhstan and Kyrgyzstan who completed the MP in spring 2016, the questions on corporate management were closely connected with strategy and personnel management. Almost all of the participants are owners and managing directors of small and medium-sized enterprises. Hence, they were particularly interested in various aspects of employee motivation.

**Hamburg.** How do German companies achieve a high level of motivation in their employees? How can I develop my firm into a highly efficient company and promote my employees' potential at the same time? What are the biggest differences between Germany and my home country regarding corporate management and employee motivation? For two days, the MP participants from Central Asia delved into the various aspects of corporate management as well as personnel, change and innovation management. The training started with a historical review of the developmental stages of management paradigms, based on the analysis by Frederic Laloux, whose ground-breaking book "Reinventing Organisations" was also published in Russian in 2016 (Russian title: «Открывая организации будущего»).



Using small symbols within the context of a sociometric analysis, the executives from Kazakhstan and Kyrgyzstan travelled hundreds and thousands of years into the past in order to understand how the forms of management and thus motivation changed depending on the predominant world view and perception of human beings at that particular time. With every new level, it was possible

to lead a larger number of people and to deal with a higher form of complexity.

In this analysis, the participants noticed that most of their companies were at the "traditional conformist organisation" level (see table), at which achieving stability and security are most important. For this purpose, classical pyramidal hierarchies are applied in corporate management that tend to mistrust the employees and therefore strongly control them. They create "silo effects" where people only consider their own departments and are not aware of the effects their actions have on the company as a whole. These structures suppress the employees' intrinsic motivation.

This management paradigm is based solely on the assumption that external means such as money could compensate for this structural system error. This assumption made many of the participants very thoughtful.

In the opinion of their representatives, some of the Central Asian companies are at the "modern performance-oriented organisation" level, for which pyramidal hierarchies still apply but in which there are also horizontal, cross-departmental projects. This expands the outlook and enables more complex processes. At the same time, the number of work based relationships increase, making continuous control impossible. At this level, management means delegating and relinquishing decision-making power. This is a powerful lever for improving efficiency and, at



Organisation model	Historical time of formation, type of economy	Historical or modern examples	Important breakthroughs of this paradigm in comparison to the previous one
<b>Tribal, impulsive organisation</b> Continuous exertion of power by the tribal leader to maintain the loyalty of the followers. Fear ensures the solidarity of the organisation. Very reactive; focuses on the present. Thrives in chaotic surroundings.	10,000 years ago  Horticulture Simple agriculture  Nomads	<ul style="list-style-type: none"><li>• Slavery</li><li>• Tribal society</li><li>• Mafia</li><li>• Street gangs</li><li>• Tribal militias</li></ul>	Role allocation possible. This leads to <ul style="list-style-type: none"><li>• division of labour</li><li>• command authority</li></ul>
<b>Traditional, conformist organisation</b> Highly formalised roles within a hierarchy pyramid, instructions and control (what and how) from top to bottom. Stability is the highest value and is safeguarded through exact processes; the future is a repetition of the past.  Employees are "owned" by the organisation; belonging to a social class and position are decisive: "Us against the others".	6,000 years ago  Start of systematic agriculture	<ul style="list-style-type: none"><li>• Mesopotamia: Pharaonic states</li><li>• Bureaucracy</li><li>• Catholic Church</li><li>• Military</li><li>• Most government authorities</li><li>• State school system</li></ul>	<ul style="list-style-type: none"><li>• Long-term perspectives (planning)</li><li>• Formal roles (stable and scalable hierarchies)</li><li>• Processes (knowledge passed from one generation to the next)</li></ul>
<b>Modern, performance-oriented organisation</b> The objective is to be better than competitors, to make profits and to expand. Innovation makes it possible to remain at the forefront.  Management by objectives: Instruction and control of what is done; freedom of choice of method.	Beginning in the 16th-17th century  The Enlightenment  The beginning of industrialisation  Emergence of factories	<ul style="list-style-type: none"><li>• Global companies</li><li>• Private schools</li><li>• Most western companies</li></ul>	<ul style="list-style-type: none"><li>• <b>Innovation</b> The start of cross-functional projects; the pyramid becomes flatter</li><li>• <b>Reliability</b> Trust in employees through KPIs</li><li>• <b>Achievement principle</b> Realising own potential irrespective of social status; integration of women and other "minorities" into processes</li></ul>
<b>Postmodern, pluralist organisation</b> Focus on culture and empowerment within the classical pyramid structure in order to achieve outstanding motivation in employees.  Managers serve those they lead. Their responsibility is to listen, to develop, to inspire and to motivate.	Beginning in the 1960s/1970s in Western Europe and the USA	<ul style="list-style-type: none"><li>• Culture-oriented companies such as Southwest Airlines, Ben &amp; Jerry's, The Container Store etc.</li><li>• NGOs such as Greenpeace, Oxfam, Soldiers' Mothers of Russia</li></ul>	<ul style="list-style-type: none"><li>• <b>Empowerment</b></li><li>• <b>Value-oriented culture</b> Values: equality, consensus, harmony</li><li>• <b>Stakeholder model (consideration of all interested parties)</b></li></ul>
<b>Integral, evolutionary organisation</b> Abolition of old hierarchies to enable a self-organised, comprehensive and conscious way of working. More flexibility and ability to cope with greater complexity. Inclusion of total employee potential.	At the start of the 21st century  New Work	<ul style="list-style-type: none"><li>• AirBnB</li><li>• Zappos</li><li>• Buurtzorg</li><li>• Live@Work</li></ul>	<ul style="list-style-type: none"><li>• <b>Meaning, purpose</b></li><li>• <b>Integrity</b></li><li>• <b>Complexity</b></li><li>• <b>Meaningfulness</b></li><li>• <b>Self-organisation</b></li></ul>

Source: Frederic Laloux, "Reinventing Organisations", Publisher: Verlag Franz Vahlen, Munich 2015, pp. 36 – 37.

the same time, it helps to increase motivation because it shows employees that their managers have confidence in their decision-making capabilities. Following this historical analysis, a managing director said: "When I get back, I am going to get all of my department heads together and go on this journey with them too. I want us to start to break open the silos and finally trust our good employees."

During the interactive training, the participants had several further "eureka moments" regarding the close connection between trust and innovation, self-direction and the network-like organisations of the future. They were therefore able to take "tool kits" for corporate and employee management home with them, together with specific ideas. ■



Conducts seminars for MP participants in Germany.



Heike Pfitzner, co-founder of the U Hub in Hamburg (Presencing); modular training in leadership, feedback and change; project management for the training series on project and culture management in five Russian cities in cooperation with the Goethe Institute in Moscow and Robert Bosch Foundation.

Dr. Julia Moritz has been working at COGNOS International since 2009 and as head of the Akademie International in Hamburg since 2015. Within the framework of the MP, she is responsible for overall organisation and works as a trainer.



## VDMA: Engineering Playing a Key Role in the Digitalisation of Production

# Shaping Change – Industry 4.0

It is not the first time that information technology (IT) has transformed the strategies and operative processes in businesses. This has already happened twice in the past: in the 1960s–1970s with the automation of individual tasks and again in the 1980s–1990s with the rapid spread of the internet within industry and the business world. This time, the changes are even more far-reaching.

This is perhaps unsurprising, for in digitalised factories, characterised by automation and networked technology, central control will soon be a thing of the past. The new principle is decentralised self-organisation. Intelligent products actively control production processes, communicate along the entire value chain and facilitate traceability throughout the entire product life cycle. Manufacturers, suppliers and customers are linked to one another, and the innovation cycles are shortened. What's more, components of production afford smart properties that

allow them to assume new functions and services. Integrated sensors, processors, and network technology in addition to the connection to data management systems makes this technically possible.

The key outcomes are greater flexibility and individuality in production ("batch size 1"), direct and simpler reaction to changes and errors in the production process, greater resource efficiency and increased cost savings. So overall, a new performance level for the industry segments involved. In concrete figures, the

economic potential of industry 4.0 in Germany is expected to total approx. 153.5 billion euros in the coming five years according to a study by the Federal Ministry for Economic Affairs and Energy (BMWi).

### Industry 4.0: the fourth industrial revolution

The term "industry 4.0" was coined in Germany and is synonymous with the linking of production technology with information and internet technology. The term's origin is no coincidence, for Germany plays a leading role in industry 4.0 that makes the significance of the industry location as a whole clear. Unlike other classic industrialised countries, the Federal Republic of Germany did not opt for the (erroneous) path of deindustrialisation. Quite the contrary in fact – industry is firmly established here – and this is now paying off. As the world's leading industry location, Germany affords a strong position and has therefore secured itself an important basis for jobs and prosperity.

### In the midst of it all: mechanical engineering and plant construction

The German mechanical engineering and plant construction sector plays a considerable part in this success, and assumes a key role in industry 4.0 – the digitalisation of production. As the backbone of

German industry, it guarantees growth and prosperity in our society: over one million people are employed in the field of mechanical engineering – more than in any other industry. The providers and users of industry 4.0 technology are also very important, coupled with innovation and market leadership in many areas. All this obliges companies to actively help shape new developments in industrial production.

There is one further central argument for the crucial relevance of mechanical engineering: in the age of industry 4.0, it is the source of data for global intelligent production. For it compiles, understands and interprets the data.

### Transformation processes: changes must be shaped

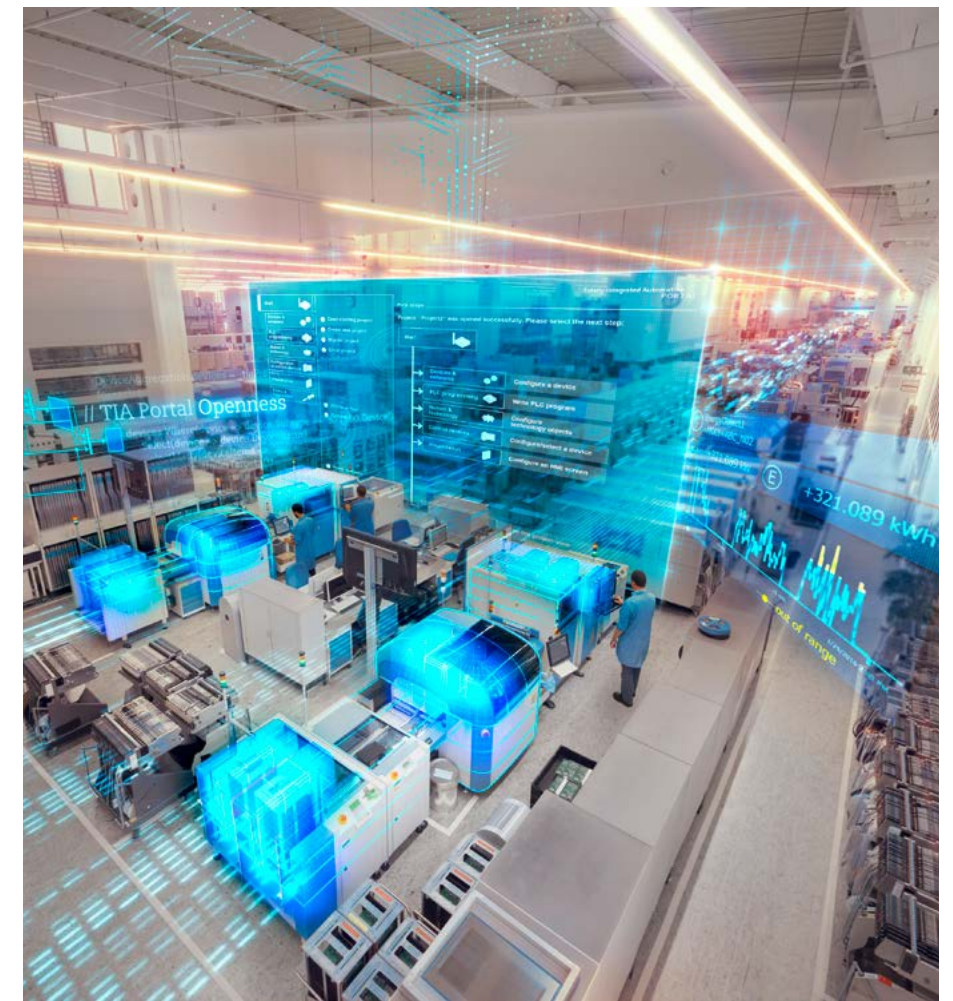
It must be remembered in all this that industry 4.0 is a development process that will not be completed from one day to the next. Rather, it is more a path that must be taken one step at a time and must actively be shaped. This undoubtedly brings challenges with it – from data security through to the matter of training in industry 4.0. The latter is particularly important, as the people must be included in the journey to intelligent production. For the focus will remain on them – as the process managers and masterminds behind industry 4.0.

Ignoring the changes associated with digitalisation is not an option. The internet has already permanently changed our personal and professional lives, and technological progress will continue – such opportunities must be grasped.

Industry 4.0 is a key issue for SMEs and major corporations alike. Particularly the Mittelstand must be included in the

### German Engineering Federation (VDMA)

The German Engineering Federation (VDMA) supports its members in the development process and bundles its interdisciplinary expertise in industry 4.0 within the VDMA Forum on industry 4.0. The aspects of research, standardisation, IT security, production organisation, legal frameworks and employee qualification are addressed, invariably keeping sight of the added value for companies.



journey towards digitalisation, for only in this way can the fourth industrial revolution succeed.

### Business models: the question of added value

The concept of opportunity goes hand in hand with that of business models addressing the disruptive changes brought by industry 4.0. They form the crux when it comes to the question of the relevance of industry 4.0 to companies active in mechanical engineering and plant construction. Thus the main challenge for all companies is to identify and implement concrete approaches for industry 4.0 solutions.

Industry 4.0 is not an end in itself and does not represent any value as such. Rather, the solutions offered by industry 4.0 enable new product innovations, product-related services, and improved production processes. Hence industry 4.0 can help to reduce production costs on the one hand and to boost turnover through products offering additional value on the other.

### Teamwork: progress requires the strength of countless stakeholders

The success of industry 4.0 will ultimately always depend on the individual case. Neither in mechanical engineering nor in plant construction (nor in any other industrial or business sector for that matter) is there a blueprint for digital production. At the same time, industry 4.0 is not a parallel universe that must be feared. Rather, the aim is to shape change together and to seize the opportunities that digitalisation brings with it. This will only succeed with teamwork through cooperation between industry, science, associations, the political sphere, and social stakeholders. The aim is to produce the future. ■



Dr Jörg Mutschler has been Managing Director of the northern regional association and the Marine Equipment and Systems working group within the German Engineering Federation (VDMA) based in Hamburg since 2005.





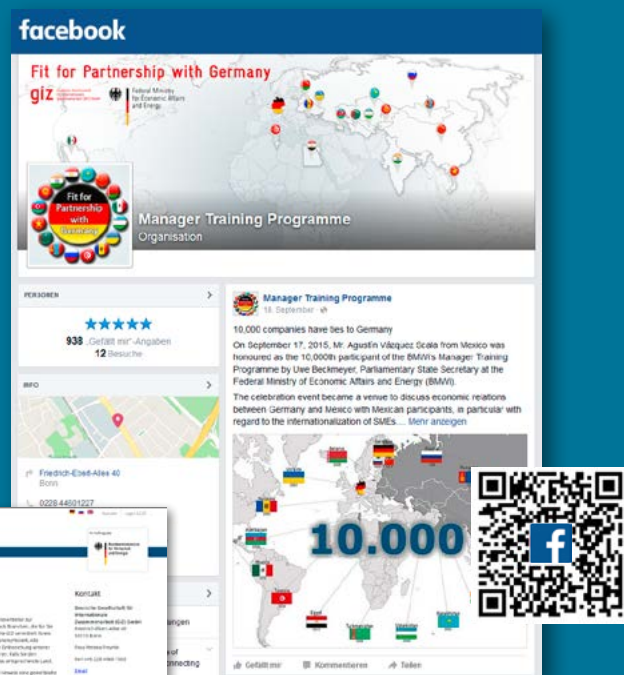
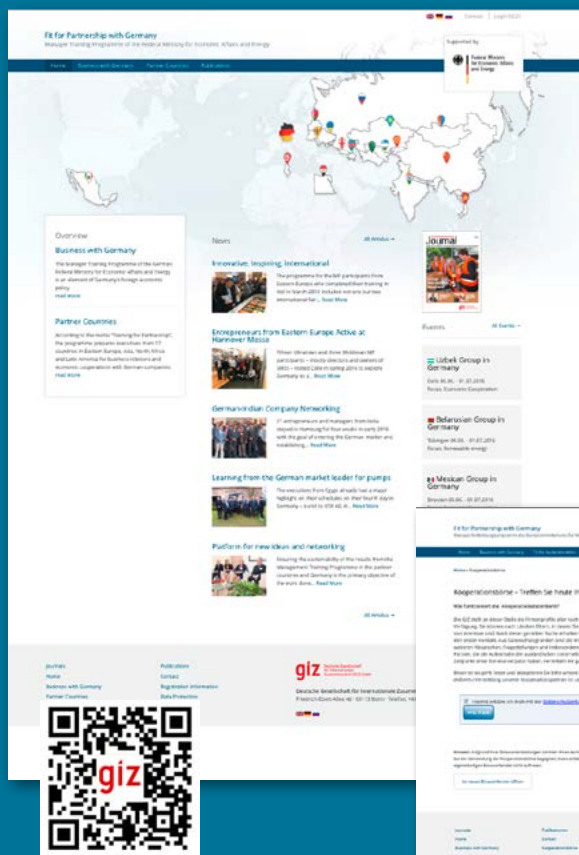
## The Manager Training Programme of the German Federal Ministry for Economic Affairs and Energy on the Internet:

Lots of information at a glance for participants or anyone interested in the programme!

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