



Education Guide

2019/20

*Partnerships and Perspectives of
Arab-German Cooperation*

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Education Guide 2019/20

Partnerships and Perspectives
of Arab-German Cooperation

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Preface

The level of education and the investments in research and development have a significant and long-term impact on the performance of every national economy. Education and Vocational Training are one of the main pillars of Arab-German business cooperation and for many years, Arab countries and Germany have been cooperating through various education projects. In addition to business partnerships, personal networks have been established.

The German Vocational Training System is an excellent model for enhancing employability combining both practical skills and theoretical know-how. Many successful bilateral projects have already been initiated, which we are delighted to present in this year's edition of the Arab-German Education Guide.

In the Arab world, rapid population growth threatens rising unemployment if job opportunities do not meet the burgeoning demand over the next two decades. Private sector provision is rapidly increasing and governments in the region are seeing the introduction of successful public private partnerships to meet the demand.

In this publication, jointly accomplished Arab-German projects illustrate the continuing intensification of cooperation between Arab and German partners. The increasing attention for cooperation is also reflected by the success of the Arab-German Education and Vocational Training Forum, which is organised by the Ghorfa for the 8th time this year. It offers a valuable platform to share information, to exchange experiences and to facilitate cooperation.

Our chamber has a powerful network, consisting of both institutional and entrepreneurial decision-makers from the Arab countries and from Germany. Next to our publications, we organize comprehensive events, annual forums and delegation visits. The working group "Education and Vocational Training" meets regularly to facilitate Arab-German cooperation in this field.

With this publication, we would like to thank the authors, companies and institutions for their valuable contributions, Ms. Tatjana Arnold for her commitment and dedication to the publication and also Mr. Fadhl Al-Romaima for layout and design. We hope you enjoy reading this book and wish you inspiration for further reference projects.



Dr. Peter Ramsauer



Abdulaziz Al-Mikhlafi



Dr. Peter Ramsauer
*President
Federal Minister ret.*



Abdulaziz Al-Mikhlafi
Secretary General

» In Germany it is taken for granted to have a functioning, modern vocational training system for the qualification of skilled workers. This is often not the case in other countries. Especially in emerging markets bottlenecks in the vocational education and training system are often a significant barrier for the development of companies and entire regions. Companies operating in these regions are facing great difficulties in identifying appropriate employees with the right skill sets for their operations.«

Muhammad Asif, Managing Director, TÜV Rheinland Arabia LLC



Vocational and Higher Technical Education and Training

Supporting Emirati Talents in Vocational Skills

BASF partners with WorldSkills and Emirates Skills to promote local spray painters

BASF

The private sector plays a key role in training Emirati talent and in supporting the UAE's diversification goals. German chemical producer BASF, which regional headquarters for the Middle East is based in the UAE, is committed to developing local talent through vocational training initiatives such as WorldSkills and Emirates Skills and is planning a permanent training facility for vehicle refinishing in Abu Dhabi in partnership with the Abu Dhabi Vocational Education and Training Institute (ADVETI).

Technical and vocational training play an important role in the United Arab Emirates' (UAE) transition towards a knowledge-based economy. According to the country's Vocational Education and Training Awards Council (VETAC), the UAE will need to train ten Emiratis with vocational skills for every university graduate to achieve a sustainable and diversified economy that is not solely dependent on oil.

While in the past, young Emiratis would not consider a vocational career track a suitable choice, Emirati enrolment

in vocational schools has surged during the past few years, signaling a positive change in the public's perception of technical education. Government and private sector companies, including German chemical producer BASF, have partnered to ensure that the number of young Emiratis who are passionate about a wide array of vocational skills will continue to grow.

"To ensure that young Emiratis take up the trade of automotive refinishing and to create a sustainable industry for

Sven Israel, Regional Business Management Middle East, BASF, talks to a visitor of the Glasurit® stand during the WorldSkills competition in Abu Dhabi. © BASF FZE





A visitor during WorldSkills tests the interactive Glasurit® demonstration tool. © BASF FZE

car painting in the UAE, we have engaged in a number of initiatives to promote vocational training,” says Sven Israel, Regional Business Management Middle East for BASF’s premier paint brand Glasurit®.

WorldSkills

In October 2017, BASF sponsored the 44th edition of WorldSkills, the greatest vocational education and skills excellence competition in the world, which took place in Abu Dhabi. During the four-day event, 1,300 participants from 77 countries competed in 51 different skills categories. BASF was the principal sponsor for the car painting competition with participants using the premium automotive refinish products of Glasurit®.

“The Glasurit® brand is approved by most of the automotive manufacturers to be used in their bodyshops in the region,” says Ryan Puckey, Technical Manager - Middle East at BASF Automotive Refinish Coating Solutions. “Our participation in WorldSkills was therefore a great way to make young talents aware and excited about the automotive spray-painting profession and allowing them to gain experience with our premium products and to use cutting-edge coating technology.”

26 up-and-coming spray painters from all around the world participated in the competition. Their task was to restore a perfect surface on a damaged vehicle and to reproduce an ideal color match to all parts of the painted vehicle, including the right shades and effects – and all this while taking the aspects of safety and sustainability into account.

Sustainability

For the first time, the WorldSkills competition included a sustainability award for the spray painting category. Glasurit and 3M granted the award jointly to lend more weight to the topic of sustainability during automotive refinishing. “A well-trained and highly-skilled craftsman does not only choose the right product” explains Ryan Puckey. “It is equally important to increase paint application efficiency in material consumption and time as well as reducing waste and reusing materials wherever possible. With the introduction of the sustainability awards, we wanted to challenge young automotive spray-painters to combine economical success with an ecological vision.”

Following the successful partnership during the Abu Dhabi edition of WorldSkills, the BASF global coatings division



Students from local schools watch the Emirati competitor Mohamad Saeed Alzabi in action during Emirates Skills held in Abu Dhabi. © BASF FZE

decided to build out the partnership and become the exclusive sponsor for automotive refinishing for future WorldSkills editions. “Our experience in Abu Dhabi showed us that the international competitions and young talent forums of WorldSkills are a great platform to contribute to counteracting potential shortages of future industry experts, not just in the UAE but also globally,” say Sven Israel.

His colleague Ryan Puckey adds: “While some people may consider repairing and repainting of cars to be a simple process, ensuring that it is done correctly with the right coatings technology, the most efficient application techniques and at the highest quality standards requires a drive for perfectionism. This is an important trait for young people across the world seeking careers in high-tech fields - where mistakes can be costly.”

Emirates Skills

Following the successful support of the WorldSkills competition, BASF also partnered with Emirates Skills, a national member of the global WorldSkills Competition, for the 2018 edition. “It was the first time that the Emir-

ates Skills organization included the automotive spray-painting competition in their national contest” says Sven Israel.

The Emirates Skills’ National Competition is an annual initiative that celebrates outstanding young Emiratis with technical and vocational skills, to encourage the brightest talent to pursue technology-based careers. The competition challenges youth across 54 skills categories in six sectors, including construction and building technology, manufacturing and engineering technology and innovation.

As the exclusive sponsor of the automotive refinishing painting category, BASF’s team guided and trained four Emirati students to compete in coating a vehicle with Glasurit®. Aged between 15 and 19, the participants were judged across several categories, including time management, paint mixing and overall finish, as they sought to be recognized as the best in a range of talents.

“The skills tested during Emirates Skills, as well as a healthy attitude towards competition, are critical to the development of future generations. With our sponsorships



Dr. Abdulrahman Jassim Al Hammadi, Managing Director, Abu Dhabi Vocational Education and Training Institute (ADVETI) shakes hand with John Frijns, Vice President Middle East, BASF after the signing of a Memorandum of Understanding. © BASF FZE

in WorldSkills Abu Dhabi 2017 and Emirates Skills 2018, we have reaffirmed our commitment to support the UAE’s Emiratisation efforts,” concludes Sven Israel.

Permanent training facility

“We are committed to continue this journey and create a bright future for Emirati youth and have just signed a Memorandum of Understanding (MoU) with the Abu Dhabi Vocational Education and Training Institute (ADVETI) to open a permanent, common training facility which underlines our long-term commitment towards enhancing car painting skills in the United Arab Emirates as well as the whole Middle East. Together with ADVETI instructors we will start training young, talented Emiratis to become professional car painters. We will open the training center this summer.”

No doubt, with the support of BASF Middle East, their Glasurit® Automotive Refinish Coatings experts and the positive feedback from UAE-based bodyshops for vehicle repair, Emirati spray-painters are set to paint a bright future for automotive refinishing in the UAE.

For more information on the National Competition and Emirates Skills, please visit: <http://emiratesskills.ae/en>

Emirates Skills:

<https://www.glasurit.com/uae/news/glasurit-support-future-through-emiratesskills-2018>

World skills:

<https://www.glasurit.com/uae/news/glasurit-official-sponsor-worldskills-abu-dhabi-2017>

Videos:

<https://www.youtube.com/watch?v=mfp94pwGRHo>



Femke Baudoin
Head of Communications
Middle East

BASF FZE



Alba opt for novel training systems. The global aluminum smelter contracted Bosch Rexroth, one of the leading specialists in drive and control technologies, to supply tailor-made workstations for its Training Centre. © Bosch Rexroth AG

Bosch Rexroth Supplies Innovative Training Systems to Alba

Bosch Rexroth

Aluminum Bahrain B.S.C. (Alba), the leading Bahrain-based international aluminum smelter, has selected Bosch Rexroth as one of the suppliers of modular training workstations for its Training Centre in Bahrain.

In line with its initiative to invest in the education and people development, Alba recently opened a dedicated Training Centre with an objective to strengthen its employees' skills and abilities for their professional and career development.

Focussed on both, technical skills and leadership development, this Centre consists of nine smart classrooms and workshops for five maintenance departments: automotive, mechanical, electrical, instrumentation and hydraulics and pneumatics.

Alba's Acting Director for Administration, Waleed Tamimi says, "At Alba, the training and development of our employees play a crucial role in sustaining our position as a leading aluminum smelter."

Alba contracted Bosch Rexroth, one of the leading specialists in drive and control technologies to supply tailor-made training workstations for hydraulics, pneumatics and sensors for the Training Centre.

For hydraulics, Bosch Rexroth provided two stations of the

WS290 training system including training courses in on/off, proportional, control and mobile hydraulics designed for eight to 12 students.

The pneumatics training workshops includes three stations, six workplaces, which fits up to 12 trainees. In addition, the sensors training includes three training kits which serves up to six trainees.

“The modular training systems from Bosch Rexroth are perfectly matched to the qualification stages of industrial and educational institutions providing hands-on experience with workstations and device sets of standard industrial components,” said Ahmad Rayyan, business development manager, Bosch Rexroth Middle East.

“All industry-relevant technologies and processes concerning hydraulics, pneumatics, electric drive and control technology, mechatronics and automation are practice-oriented. By means of the training systems, inexperienced and experienced users gradually acquire practice-oriented and technical expert knowledge,” he said.

For different learning topics, Bosch Rexroth offers workstations and device sets with corresponding project manuals

with exercises out of the industry. A device set is an assembly of standard industrial components used to carry out practical exercises.

As a leading specialist in drive and control technology, Bosch Rexroth has a unique level of technological expertise, which is used in the development of training courses, training systems and learning tools. “We are keen to pass on this knowledge, to apprentices and students and to our specialist staff and employees. At our Drive and Control Academy, we support tailored training, development and qualification of technical specialists. Our training has a practical basis, aimed at specific target groups and based on state-of-the-art teaching methods,” Rayyan added.



Ahmad Rayyan
Business Development
Manager

Bosch Rexroth Middle East

Alba opt for novel training systems. The global aluminum smelter contracted Bosch Rexroth, one of the leading specialists in drive and control technologies, to supply tailor-made workstations for its Training Centre. © Bosch Rexroth AG





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Your Service Provider with a Passion for Solving Challenges in International Education and Training

The IHK-Projektgesellschaft mbH (IHK-PG)

The IHK-Projektgesellschaft mbH (IHK-PG) is a service provider for further Vocational Education and Training (VET) at regional, national and international level. As a 100% subsidiary company of the Chamber of Commerce and Industry Ostbrandenburg - which is a sovereign governing body in matters of vocational education and training- we act as a service provider and partner to the Chamber of Industry and their member companies and cooperate with the Chamber of Crafts, different ministries and also international entities, who are involved in promoting economic development through an adequately trained workforce.

Matchmaking – how to fill a job?

Companies are looking for suitably qualified employees, their retention and further development. The challenge is to match different expectations from employers and candidates in regards to a meaningful employment and cooperation.

What does the “Specialist for HR Consulting and Recruitment” stand for?

In order to facilitate the process in finding suitable and adequate employment and especially the right candidates, we the IHK-PG developed the “Fachkraft für Personalber-



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atung und Personalvermittlung“ (Specialist for HR Consulting and Recruitment). The objective of selecting this specific certification course is to introduce this type of job profile for an employment officer. This specific job profile is to be seen as an innovative approach for many countries within the sphere of Ghorfa, suitable across all industry sectors.

Course Duration and Layout

Within the 13-week part-time training course, the curriculum “Specialist for HR Consulting and Recruitment” includes elements for career changers as employment officers. The material is available in Arabic language and will be adjusted to the country specific context; see references below.

The certification course, as laid down in the course handbook, consists of at least 160 training hours and is structured in five parts:

1. International labor market theories and country specific labor market policies
2. Country specific labor law and other relevant regulations
3. Personnel recruitment, appraisal, selection and management
4. Coaching Skills
5. Customer service, negotiation and process consulting.

Impact and sustainability

For a structural implementation and a successful impact, multiple experts are required. Therefore a good preparation of these trainers is a prerequisite, a suitable training environment is obligatory. From experience, the training preparation should start at least one month before the course starts.

Examinations are according to German standards and the Certificate, too!

This highly practice-oriented course is completed with a workshop for "A to Z" in employment services and a two-day examination. Exams include a written test, a specifically developed case example, a group work task and the development of a presentation – thus focusing on the practical application of the course content covered.

Does it work- are there any references?

At present the "Specialist for HR Consulting and Recruitment" is implemented under the National Employment Pact in Egypt and has been successfully conducted in Pakistan as well.

About us

Since 2001 we are an initiator, leader and active partner of different strategic VET partnerships at regional and national level (public institution) for continuing vocational education and training; (Level 3, 4, 5, 6). Our team consists of 67 highly qualified specialists serving companies, enterprises, institutions as well as individuals. The IHK-Projektgesellschaft mbH has established and applies a quality management system for planning, conceptualization and management of educational and international programmes, projects and services. We are regularly subject of audits and meet the requirements according to ISO 9001:2015 and are accredited according to German federal law as training provider (AZAV).



Peter Wölffling
CEO

IHK-Projektgesellschaft mbH
Ostbrandenburg





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TÜV Rheinland Academy Services at the National Industrial Training Institute

TÜV Rheinland Arabia LLC

While in Germany it is taken for granted to have a functioning, modern vocational training system for the qualification of skilled workers – this is often not the case in other countries. Especially in emerging markets bottlenecks in the vocational education and training system are often a significant barrier for the development of companies and entire regions. Companies operating in these regions are facing great difficulties in identifying appropriate employees with the right skill sets for their operations. And for governments it is crucial to further develop the educational landscape as it is the basis for any kind of modernization project.

In this regard, the Kingdom of Saudi Arabia is a special case on its own. With the publication of “Vision 2030” a bold program to develop the economy and transform the society has been defined. Be it the modernization of cities and infrastructure, the increase of value creation in the Kingdom or the development of Saudi Arabia as a logistical hub between continents, many projects envisioned for the coming years can only be realized with a clear focus on employability and qualification of a local workforce so that

the jobs created can be taken over by the young population in the Kingdom.

With the intention to solve these challenges the country is in the process to implement one of the largest reforms and educational infrastructure projects of technical and vocational education in the world. With plans to increase capacity of the vocational training system from approximately 100,000 seats in 2012 to 400,000 seats in 2024 the

country is implementing numerous projects to increase capacity on one side while quality is simultaneously being improved across the system on the other side.

This is precisely the area where TÜV Rheinland Arabia is engaged in since a couple of years. The services of our education experts range from single projects, such as the modernization of technical curricula or the qualification of master trainers up to complete solution packages.

Such a comprehensive solution is being implemented at the National Industrial Training Institute (NITI) since 2015. NITI is an independent, not-for-profit training institution, and a result of a strategic partnership between Saudi Aramco (SA) and the Technical & Vocational Training Corporation (TVTC). Back in 2015 NITI had chosen TÜV Rheinland Arabia as its international training partner for the development and implementation of job skills trainings. Since about 4 years now TÜV Rheinland is responsible for the development and implementation of numerous technical apprenticeship programs and skill certification projects. In the meantime thousands of participants have joined the vocational programs or their competence has been assessed and confirmed.

NITI is located in Al-Hasa, in the Eastern Province of the Kingdom, and intends to train and qualify young Saudis

in order to meet the market and industry needs, support community growth, help reduce unemployment and support the Kingdom's Saudization efforts. NITI is targeting high school graduates and vocational college graduates to qualify them to work mainly in the Oil and Gas, petrochemical industries as well as in other sectors like energy or maritime. NITI graduates are skilled in their disciplines, proficient in English, adept in computers & technology and armed with safety awareness, values, discipline and the desired work ethics.

At NITI, TÜV Rheinland is mainly implementing one year full time technical apprenticeship programs as well as further engineering qualification programs for the industry covering Electrical, Mechanical, Instrumentation, Metal, Welding, Pipefitting and other disciplines. Further to this, we are assessing skill profiles and certify technical competencies for major national and international companies like Saudi Aramco, Saudi Electricity Company, Sadara etc.

These respective curricula have recently been modernized according to German Dual educational principles and are meeting the requirements of EQF level 2 respectively level 3. Beside the long term qualification programs a number of specialized courses and services in professional further development have been introduced to the industry, ranging

© National Industrial Training Institute





© TÜV Rheinland Akademie

from truck driver safety trainings to the safe operations of over-head cranes or covering competence assessment projects for the Power Generation Industry.

Traffic Safety

With the target to develop Saudi Arabia as a logistical hub for the region, the question of traffic safety and safe transportation systems will play an even more prominent role in future than it is playing today already. This is an area, where our expertise is broad and deep and demonstrated in many different projects, from qualification to inspection.

Those having spent some time in Saudi Arabia are well aware of the risks involved in traffic on the highways in the country. With the transportation of goods and especially hazardous goods the risks involved are further multiplying. In order to improve the overall traffic safety situation, to reduce accidents, the loss of lives and infrastructure investment we have developed a comprehensive qualification program for truck drivers of hazardous goods.

The Hazardous Goods Driver License (HGDL) qualification program is a way to ensure that truck drivers in the

Kingdom are trained and assessed against a consistent, high standard. This program is currently rolled out at NITI in Al Ahsa and at a number of locations all over the Kingdom.

This qualification program is sensibilising the drivers to work safely and in accordance to international standards when it comes to driving skills, loading and offloading of petroleum products. The Hazardous Goods Driver License (HGDL) program is just one example taken from a broad catalogue of qualification programs we are offering in Saudi Arabia.

Competence assessment as basis for new training plans and practical delivery

In all new projects, the TÜV Rheinland training experts analyze the needs of the respective companies and assess individual competencies first. What are the professional skills an employee should have? What kind of specific technical skills are required? We then develop appropriate curricula and advice on the necessary technical equipment to guarantee a practical and professional training.

Independent of the exact learning program, the individual learning progress is continuously assessed and evaluated.



© National Industrial Training Institute

This effort is worth-while, it lures the certificate “TÜV Rheinland-certified qualification”.

Whether it is used by companies as a neutral assessment of the competence of its employees and contractors or by trainees to proof their individual skills, personal certification is proof of a successfully passed independent test and is of a huge advantage. The certificate provides a neutral proof that employees or contractors are competent in their field of expertise and meet an industry-recognized competence standard. This is regarded as evidence of employability and is particularly beneficial in those regions which do not have a fully developed system of vocational training yet.

As an international training and education partner with a presence in Saudi Arabia since more than 10 years our solutions reflect an intimate understanding of the needs of different industries, trade and commerce in Saudi Arabia.

TÜV Rheinland Arabia LLC is currently operating at five locations in the Kingdom of Saudi Arabia and is offering the full spectrum of inspection and certification services for the industry as well as a broad scope of services in workforce development like:

- Skill development and training - Broad scope of vocational training programs
- Professional training programs: HSE, Driving Safety, Engineering etc.
- Personnel certification and skill assessment
- Definition of Qualification and Assessment Standards
- Curriculum Development
- Educational Consulting: Planning and setting up a modern learning environments and operational procedures



Muhammad Asif
Managing Director

TÜV Rheinland Arabia LLC



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Dr. Manuela Gutberlet, PR Manager, German University of Technology (GUTech)



Cooperation in Higher Education



Members and alumni of the Arab-German Young Academy of Sciences and Humanities (AGYA) at the Annual Conference in October 2018 in Egypt.
© AGYA/ASRT

AGYA Breaks New Grounds in Arab-German Science Diplomacy

AGYA now in Egypt

As a paradigm of science diplomacy, AGYA celebrated the official opening of its new Regional Office at the Academy of Scientific Research and Technology (ASRT) in the Egyptian Ministry of Higher Education and Scientific Research on 25 October 2018. With its newly opened office in Cairo and an additional funding of 3.3 million euros through January 2020 by the Federal Ministry of Education and Research (BMBF), AGYA will further enhance interdisciplinary research projects and promote North-South-South scholarly collaboration.

New Impetus to Arab-German Knowledge Exchange

In 2018, the Arab-German Young Academy of Sciences and Humanities (AGYA) has expanded its presence in the Arab world with the opening of an AGYA Regional

Office in Cairo. Located within the Egyptian Academy of Scientific Research and Technology (ASRT), which is affiliated with and based at the Ministry of Higher Education and Scientific Research, AGYA is the first non-Egyptian organization to establish an office in an Egyptian governmental institution. Under the auspices

of H. E. Prof. Dr. Khaled Abdel Ghaffar, Minister of Higher Education and Scientific Research of the Arab Republic of Egypt, AGYA and ASRT festively opened the AGYA Regional Office on 25 October 2018, in attendance of over 300 distinguished guests and high-ranking representatives from a wide range of scientific institutions and policy makers from Egypt, Germany and across the Arab world. The regional focus of the office is on Egypt and Sudan. "ASRT decided to support AGYA in fostering Arab-German research exchange, particularly exchange between postdoc scholars. The AGYA Regional Office is both the consequence of our longstanding cooperative partnership and elevates it to a new level", said Prof. Dr. Mahmoud M. Sakr, President of ASRT and AGYA Advisory Board member. AGYA has been active in Egypt since its foundation in 2013 with several interdisciplinary research projects. The launch of the Regional Office at ASRT thus essentially contributes to AGYA's priority efforts to support Arab-Arab-German research cooperation.

"With this newly established liaison, ASRT and AGYA aim to foster innovative collaborative research with social impact and to raise capacities of young researchers in Egypt, the Arab world and Germany", emphasizes AGYA Principal Investigator Prof. Dr. Verena Lepper and explains further, "The new office provides a sustainable structure for Arab-German scholarly dialogue and facilitates the extension of AGYA research activities across all disciplines in this region."

BMBF Rewards AGYA`s Dynamic Development and Excellent Research Cooperation Infrastructure

On the occasion of the opening ceremony, representative of the German Federal Ministry of Education and Research (BMBF) Peter Webers announced another important milestone in the recent history of AGYA: The BMBF will support AGYA with an additional 3.3 million euros through January 2020. Peter Webers credited this decision to AGYA's "dynamic development and outstanding networking through research collaborations between AGYA members in Germany and the Arab world". Since 2013, AGYA has been supporting excellent early-career researchers from Arab countries and



Representative of the BMBF Peter Webers at the festive opening ceremony of the new AGYA Regional Office in Cairo on 25 October 2018, announcing an additional 3.3 million euros granted to AGYA through January 2020. © AGYA/ASRT

Germany who have successfully implemented more than 100 interdisciplinary research projects and collaborative initiatives in 60 cities and 30 countries from 2016 onwards. This substantial budget increase constitutes a reaction to the exceptional research projects and the high commitment of the AGYA members and will now allow them to continue their scholarly collaboration at this very high level. AGYA has also inaugurated the first Alumni, who conduct their own interdisciplinary research projects and play an essential role in the AGYA network of excellence.

Empowering Women through Science, Reinforcing Gender Equity and Improving Women`s Health

In every region of the world women still remain under-represented in research and development. As the latest figures of the UNESCO Institute for Statistics from June 2018 show, the ratio of female researchers, for instance,



Opening of the new AGYA Regional Office in Cairo at the Egyptian Academy of Scientific Research and Technology (ASRT) on 25 October 2018. F. l. t. r.: Prof. Dr. Verena Lepper, AGYA PI; German Ambassador to Egypt Julius Georg Luy; and Prof. Dr. Mahmoud Sakr, President of ASRT and member of the AGYA Advisory Board. © AGYA/ASRT

in Egypt across all disciplines is about 44%, 51% in Kuwait and even 55% in Tunisia, whereas in Germany there are only 28% women researchers. Promoting women in science has always been a key issue of AGYA. In October 2018, AGYA and ASRT hosted their first collaborative conference on “Women’s Empowerment in Science, Technology and Innovation (WE-STI 2018)” bringing together scholars, decision-makers and key societal stakeholders from Egypt, Germany and Kuwait to exchange and discuss best practices and innovative strategies for boosting women’s presence and leadership in STEM fields. Egyptian MP Prof. Dr. Marianne Azer and Dr. Sabine Behrenbeck, Head of the Higher Education Department at the German Council of Science and Humanities, presented Egyptian and German perspectives on this urgent topic. Due to the great success of this pioneering North-South-South exchange, plans were immediately made to extend this fruitful collaboration between different Arab countries.

The debate on current challenges and desiderata in the field of gender has then been taken to Morocco: At an

international and interdisciplinary AGYA conference that was held in close collaboration with the Centre for Women and Development at the International Institute for Languages and Cultures (INLAC) in Fez, AGYA members together with gender experts, lawyers and activists addressed the issue of “Gender Equality in the Arab World and Germany” discussing both opportunities and problems in establishing Gender Studies in different Arab countries as well as in Germany. The participants also investigated positive examples of how women and civil societies worldwide have faced and overcome challenges on the road to gender equality, the fifth of seventeen Sustainable Development Goals of the United Nations.

Another focus related to gender was on maternal and reproductive health issues. AGYA scholars from different disciplines teamed up with the Global Health Next Generation Network (GHNGN) and the Saint Joseph University of Beirut (USJ) to generate deeper knowledge of maternal health in Arab societies. As a neighboring country of Syria and with an estimated 1.1



Discussion of best practices and innovative strategies for “Women’s Empowerment in Science, Technology and Innovation” in Cairo in October 2018. F.I.t.r.: Prof. Dr. Zeina Hobaika, AGYA Co-President, Saint Joseph University of Beirut; Prof. Dr. Mohammed El Shennawy, Egyptian Ministry of Higher Education and Scientific Research; Dr. Nicole Elleuche, European X-Ray Free-Electron Laser Facility, Hamburg; Dr. Lobna Okashah, Kuwait Foundation for the Advancement of Sciences; and Prof. Dr. Salwa A. Elgebaly, NourHeart Inc. © AGYA

million refugees – many of whom are women and girls of reproductive age – Lebanon, in particular, is facing women’s and maternal health problems. Aiming to increase the visibility and awareness on social, medical, psychological and educational levels, international experts from Lebanon and Germany, Belgium, Canada, Estonia, Ireland, Norway, Spain, Sweden and the United Kingdom discussed the decisive role of education in gender equity as well as maternal and child health, examined advocacy tools and debated about certain strategies to develop action recommendations for the Arab region. Also, young researchers were given a voice to contribute to the current debate and offered a platform to network with regional as well as international stakeholders.

Designing Smart Sustainable Cities for the Benefit of Future Societies

The health and well-being of societies is however also decisively linked to and influenced by the urban environments they live in. The AGYA research project “Smart and Sustainable Cities” therefore addressed

growing urbanization in the Arab world and Germany, which has become a topic of utmost relevance for today’s societies. According to UN projections, future cities will account for almost 90% of global population growth, 80% of value added and 60% of total energy consumption – tackling these challenges requires innovative strategies and “green” solutions. Transforming cities into “smart cities” is one of the most promising approaches to this issue. Together in a joint project AGYA Working Groups Innovation and Energy, Water and Environment reconsidered cities and urban environments by screening existing concepts and their implementation, evaluating their potential for future solutions and identifying best practice examples for mutual knowledge exchange in the field of smart energy and environment. In order to determine promising blueprints for future developments and to design a prototype for smart energy management systems to be used in buildings in Arab countries and Germany, the AGYA members combined skills in information technology, engineering, energy economics, policy analysis and sustainability studies. The major benefits of the developed prototype are its low costs with

increased usability and the accessibility for everyone. So far the cities of Algiers, Berlin, Bremen, Casablanca, Cologne, Hamburg and Kuwait City have been included. As a result of the research project, the scholars communicated their research findings to policy makers.

Science Communication “Out of the Box”

But how to communicate science to policy makers and society? To answer this question AGYA members have approached innovative new formats of science communication: In a joint effort, they invented the figure of the so called Science Jinn – an ancient, magical being. The AGYA Science Jinn sets out to explain scientific revelations and complex topics to a wider audience. His first mission was pictured in the graphic novel “The Rise of the Incredible Salty Salicornia Power Plant”, which presents the results of an interdisciplinary and transnational

AGYA research project about the next botanic superhero of our times – the powerful Halophyte. Based on their experiences in developing a science comic and in order to help colleagues enter into the challenging field of science communication, AGYA members also published a paper on „Communicating Science through Comics: A Method“ recommending a flexible framework to translate a complex scientific publication into a comprehensible comic format. In the framework of the Annual AGYA Conference, which took place at the invitation of the Kuwait Foundation for the Advancement of Sciences (KFAS) in April 2018 in Kuwait, AGYA together with KFAS organized a Science Outreach Slam on the topic „Let`s Talk about Science!“. Hosted by the Gulf University for Science and Technology in Kuwait (GUST), the AGYA Science Slam offered a platform especially for young scholars to showcase their achievements outside of the formal constraints of a research lab.

AGYA PI Prof. Dr. Verena Lepper and AGYA Co-Presidents Prof. Dr. Ahmad El-Guindy and Dr. Jan Friesen expressing their great gratitude to the Kuwaiti partners at the Annual Conference in April 2018 in Kuwait City, which was opened by H.E. Sheikh Sabah Khalid Al Hamad Al Sabah, Deputy Prime Minister and Minister of Foreign Affairs, State of Kuwait, in a festive ceremony at the National Library of Kuwait. © AGYA/KFAS





Their Excellencies Sheikha Hind bint Hamad Al-Thani, Minister Dr. Hamad Al-Kawari and Ambassador Hans-Udo Muzel together with AGYA PI Prof. Dr. Verena Lepper cutting the ribbon to festively open the exhibition "Arab and German Tales – Transcending Cultures" at Qatar National Library (QNL) in Doha.
© AGYA/ZAK Studio

“Who does not know Cinderella?”

Exhibitions are another format of communicating science to society: The AGYA exhibition on storytelling past and present highlighted the shared cultural heritage and entanglement of Arab and German literature; it was organized within the framework of the Qatar Germany Year of Culture. The exhibition was the 1st exhibition to be opened at the Qatar National Library (QNL) on the occasion of its official inauguration. H.E. Sheikha Hind bint Hamad Al-Thani, Chairperson of QNL’s Board of Trustees, together with H.E. Dr. Hamad Al-Kawari, Minister of State and Qatar’s Vice-Prime Minister, festively opened the exhibition on “Arab and German Tales - Transcending Cultures” on 17 April 2018 in the presence of the Qatari excellencies, more than 30 ambassadors and many distinguished guests. Featuring a selection of ancient papyri, rare manuscripts, printed

books, illustrations, and other historical items, the exhibition provided an insight into the common history of Arabic and German fairy and folk tales with more than 100.000 visitors testifying to its great success. “Who does not know Cinderella? But who knows today’s Qatari oral version of this tale? Who knows that the most famous German poet Johann Wolfgang von Goethe himself was able to write in Arabic and that his most famous works of poetry were influenced by Arab authors?”, says Prof. Dr. Verena Lepper, Curator of the exhibition, highlighting the close interconnection between the Arab and German worlds. The exhibition now travels to Germany to be on display at the Egyptian Museum and Papyrus Collection Berlin. The exhibition will be festively opened on 17 April 2019 in Berlin - one year later to the day. The exhibition catalogue has been published by Kulturverlag KADMOS as one book in Arabic, German and English languages.



All participants of the international AGYA workshop on „Smart and Sustainable Cities: Between Reality and Aspirations” in October 2018 in Rabat. © AGYA

What Do AGYA Members Do?

AGYA was established in 2013 as the first bilateral young academy worldwide. It is based at the Berlin-Brandenburg Academy of Sciences and Humanities (BBAW) and at the Academy of Scientific Research and Technology (ASRT) in Egypt. AGYA aims to promote research cooperation among outstanding early-career researchers from all disciplines who are affiliated with a research institution in Germany or any Arab country. The academy provides support and funding to innovative interdisciplinary projects and collaborative initiatives in various fields of research as well as in science policy and education. AGYA, however, also offers its currently 60 Arab and German members a unique platform to actively contribute to the development of the academy. Therefore, the scholars meet twice a year in General Assemblies to report on previous events, discuss new topics, exchange ideas and decide on all matters of AGYA, for example, its constitution and regulations. In a bottom-up approach all members are thus involved in decision-making processes on research topics, project formats and the general frame of the academy. As part of the General Assembly, AGYA members also democratically elect a six-person AGYA Steering Committee of Arab and German members in equal number for the upcoming year. On behalf of shaping the future of the academy, they gather in topic-related Task Forces to actively engage, for instance, in the selection process

of new members. In thematic Working Group meetings on Arab and German Education; Common Heritage and Common Challenges; Energy, Water and Environment; Health and Society; Innovation and Transformation, the scholars discuss, develop and implement new research projects across all disciplines.

Professor Verena Lepper, AGYA Principal Investigator and Curator for Egyptian and Oriental Papyri at the Egyptian Museum and Papyrus Collection Berlin, takes a look ahead into the future of AGYA: “At a time when differences are increasingly coming to the fore, AGYA tries to emphasize the similarities. It is AGYA’s future-oriented vision to find common solutions to common problems.”



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University of Applied Sciences in the Arabic World

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Prof. Dr. Verena Lepper
Principal Investigator

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The 7th GUtech Graduation Ceremony held in December 2018 © GUtech

Building Bridges between the Gulf Region and Europe

The German University of Technology in Oman (GUtech)

Undergraduate and post-graduate study-programmes in Engineering, Computer Science, Geosciences, Urban Planning and Architectural Design, International Business and Logistics.

The German University of Technology (GUtech) is the sole German University of Technology in the entire Gulf region. The university is affiliated with RWTH Aachen University, one of the leading higher education institutions in Germany. GUtech's Bachelor and Master programmes were designed by professors from RWTH Aachen and other renowned European universities, in close cooperation with industry experts from the Gulf region and from Europe. All BSc and BEng programmes are internationally accredited by the

Accreditation Certification and Quality Assurance Institute (ACQUIN). During the winter semester 2018/2019 a total of 2172 Omani and international students are studying at GUtech in the Foundation Year Programme and in five BSc and three BEng programmes. Since 2012 a total of 451 students have graduated from the university.

Last December 183 students graduated from GUtech. The 7th Graduation Ceremony was held on the 9th of Decem-

RWTH AACHEN UNIVERSITY



Computer Science alumni Abir Al Ansari conducted her BSc thesis at RWTH Aachen University © GUTech

ber in the large amphitheatre of the campus. GUTech academics as well as members of the Board of Governors (BoG) of GUTech attended the ceremony including Prof. Dr. Ulrich Rüdiger, Rector of RWTH Aachen University and Head of the BoG, as well as Dr. Dorothea Rühland, Secretary-General of the German Academic Exchange Service (DAAD), member of the BoG. Director of GUTech, Prof. Dr. Ing. Michael Modigell, encouraged all GUTech graduates to learn continuously, to be curious and to ask questions. “You belong to the elite of the country. I am convinced that you will be successful and contribute to the development of Oman. You will always be a member of the GUTech family,” said the Rector. The Vice-Rector for Academic Affairs at GUTech, Dr. Armin Eberlein congratulated the students. “Our goal was not to give you an easy degree. We wanted you to graduate with a certificate that symbolizes quality education and that is highly regarded in the industry,” he said while stressing that GUTech offers a quality attitude and an international mind-set. More than 25 different nationalities study and work at GUTech. “Some of our graduates have benefitted from DAAD scholarships. I want to thank Dr. Rühland, as well as all

our generous supporters and sponsors, who have faithfully invested into GUTech,” said Dr. Armin Eberlein.

GUTech offers the following study-programmes:

- Foundation Year Programme (GUBridge)
- Bachelor of Science in Applied Geosciences (AGEO), Computer Science (CS), Urban Planning and Architectural Design (UPAD), Logistics (LOG), International Business and Service Management (IBSM)
- Bachelor of Engineering in Process Engineering (PE), Environmental Engineering (EE) and Mechanical Engineering (ME).

New Master programmes, will start in March 2019:

- Master of Business Administration (MBA), a double degree from GUTech and Vienna University of Economics and Business (WU).



GUTech Rectorate members and H.E. Steffen Bilger and his delegation during the official visit © GUTech

- MSc in Architecture and Urban Planning, in cooperation with RWTH Aachen University
- MSc in Industrial Production and Manufacturing, in cooperation with the University of Brescia (Italy).
- MSc in Applied Geosciences, in cooperation with RWTH Aachen University, covering hydrogeology, mineral resources and petroleum geology.
- MSc in Computer Science, in cooperation with Hasselt University (Belgium), with the option of receiving an additional degree in Transportation Sciences.

Further Bachelor and Master programmes are planned in the coming years; while PhD degrees are also considered in the near future.

GUTech promotes study and research exchange with its partner-university, RWTH Aachen University, and with other universities worldwide, such as the University of Brescia (Italy), Vienna University of Economics and Business (Austria), University of Salzburg (Austria), Hasselt University (Belgium), the University of Applied Sciences in Buxtehude (Germany), the University of Applied Sciences in Ulm (Germany), the University of Applied Sciences in Stralsund (Germany), the University of Applied Science

in Munich (Germany), Cologne Business School (Germany), Indian Institute of Technology Bombay (India) and King Mongkut's University of Technology North Bangkok (Thailand).

Conducting a BSc Thesis at RWTH Aachen University: "It has been a truly outstanding lifetime experience"

Studying abroad in different environments educates and broadens the students' horizon. A large number of GUTech students travel abroad during their summer break for internships or for their final thesis. For example last year two Omani students conducted their Bachelor theses at the Computer Science Department of RWTH Aachen University. "Considering the high recognition and exposure that I have received on an international scale while undertaking my bachelor thesis at RWTH Aachen University has been a truly outstanding lifetime experience for me. I proudly state, I have confronted the challenges and seized my dreams," said Hana Rasheed Al Raisi. She conducted her Bachelor thesis at the Chair of Communication and Distribution Systems at RWTH Aachen University where she was supervised for four months. Hana was part of an international team of researchers, analysing 'Jodel' a social network that is popular in Saudi Arabia. "I was part of a team consisting of professors and their Bachelor and Master

students. The social network 'Jodel' is heavily used in Saudi Arabia. The application distinguishes itself by a combination of unique design decisions: being local and anonymous," explained Hana.

Her study colleague Abir Al Ansari conducted her BSc thesis at RWTH University in the Embedded Software Laboratory of the Department of Computer Science. Her Bachelor thesis on the "Evaluation of the lwIP stack with respect to real-time UDP communication on resource constrained platforms" was part of a research project on mobilities in cities including self-driving cars. Abir presented her thesis at the beginning of August. She extended her stay for one more month to write the thesis report and connect with other students. "It was a great opportunity to get familiar with the research environment of the Computer Science Department and attending Bachelor and Master thesis presentations. RWTH Aachen University is one of the universities that I would choose for my MSc studies. In general, Aachen is a very nice city and suitable for students," said Abir. She is currently working as an intern at the Computer Science Department of GUTech.

Mohammed Al Balushi, a final year student in Urban Planning and Architectural Design (UPAD) conducted

two internships in Europe last summer. "I believe, the most effective way of learning is through practical experiences. I had the privilege to practice what I have learnt at GUTech," he said. In Paris he conducted an internship. "I had a very intense training experience. My task was to create an ideal city in terms of sustainable energy consumption. The challenge was to manage all aspects of an efficient city planning, including the overall energy management. This experience made me aware that urban planning is a very cooperative, participatory process, thanks to my solid background that I gained from studying in GUTech." In Barcelona (Spain) Mohammed conducted an internship with the interior design company "Roca", where he worked in a team with more than 10 different nationalities. The training also included a workshop on digital architectural photography including post-editing skills. Experiencing the city of Barcelona was exceptional for him. "The city is rich in architecture. Just by walking through the streets and reading building facades I learned a lot. All of that was under and through GUTech. I can say that I am privileged that I had such an amazing summer," he said.

From the second study year onwards, GUTech offers German language classes for all BSc or BEng students.

© GUTech





Shell Eco-marathon ASIA 2018



The GÜtech team during the Shell Eco-Marathon 2018 held in Singapore © GÜtech

Since 2009, an annual three week study-trip to Germany has been conducted in cooperation with RWTH Aachen University and the German Academic Exchange Service (DAAD) that has been funding the trips. Its main aim is to introduce the students to life in Germany and to the different faculties of RWTH Aachen University. Last August a group of 15 GÜtech students and two supervisors participated in a language and culture course held at RWTH Aachen University. Most of the participants were visiting Germany and Europe for the first time. "I like to learn more about Europe and especially about Germany. I am planning to do my Master's there," explained Huda Al Jahwari, BSc Logistics student. "RWTH Aachen University is one of the leading universities in Europe. I am very happy to receive the scholarship to attend the special language course and to get to know the university. I am planning to study my Master's in Germany," said Mustafa Mohammed who is studying Mechanical Engineering at GÜtech. "Studying the German language was not so difficult, only in the beginning," said Murooj Al Busaidi, a BSc Computer Sciences student who has studied German for three semesters.

Beside the academic study-programmes, GÜtech has an active student body and offers a variety of sports and leisure activities, for example football, basketball and badminton. Students also participate in local and regional sports championships.

Engineering Students will Participate for the 5th Time in the Shell Eco-Marathon Asia

GÜtech and Shell Oman signed again an 'Agreement of Commitment' for the university's participation in the Shell Eco-marathon 2019, one of the worlds' leading energy efficiency competition. The 2019 Shell Eco-marathon will be GÜtech's 5th consecutive year to participate. In 2015 the GÜtech team was the first team from Oman to participate in the final competition in Manila, they were fifth in the diesel category. In 2018, GÜtech finished taking third place in the prototype diesel category and a commendable 17th place out of 30 in the prototype internal combustion class. "We are privileged to have Shell's support for GÜtech's participation in the Shell Eco-marathon. The programme has made a significant impact to our teams, allowing us to

refine and improve our designs from year to year,” said Dr. Armin Eberlein, Deputy Rector for Academic Affairs.

Chris Breeze, Shell Country Chairman in Oman said, “There is a lot of growing talent and innovation in Oman and through their involvement in the Shell Eco-marathon, students are gaining experiences they may not get in the classroom, but more importantly, they are realizing the power they have to make a change and their roles as participants working towards global energy solutions. It is our responsibility as energy leaders, to not only work towards solutions amongst ourselves, but to mentor and inspire our youth, who will inherit the world, and who want to make it better.”

Al Jaziya Al Nazwani, a student in Process Engineering said: “It is a great experience for us. I learnt more about building a car and how to improve its efficiency.” Al Jaziya was involved in manufacturing the chassis, the body of the car and the steering system. The competition requires engineering students from around the world to design, engineer, and build energy efficient vehicles to be tested during the Eco-marathon, determining whose vehicle can go the distance on limited amounts of fuel. Students compete with over 100 students from nearly 20 countries throughout Asia and the Middle East.

“Perception of Shapes and Spaces” – A unique Art Exhibition at GUtech

A special student exhibition entitled “Perceptions of Shapes and Spaces” was held in the large GUtech amphitheatre in November 2018. The exhibition displayed a large number of unique art works realized by more than 60 students of the Department of Urban Planning and Architectural Design within two weeks. Students showcased different hat designs as well as other art works made of clay. “We worked for the first time with clay and plaster. For the hats we used tissues and bamboo sticks,” said Zahra Al Hasani, a research assistant in the UPAD department. “Human beings are only human when they play,” said Prof. Michael Schulze, Department of Design at RWTH Aachen University (Germany) who also gave a lecture on the importance of arts and sculptural design as an essential part of the education of architects in Germany. Prof. Schulze added that the use of different materials in a creative way is very important for future work concepts, architectural designs and even technical projects. While experiencing different materials, students are enabled to be create and to plan and design in future,” he said. “Perception is a key concept in design,” said Prof. Schulze during his talk highlighting the importance of imagination, the ability to transform ideas and to develop a work concept along with the freedom

H.E. Thomas Oppermann, the Vice-President of the German Bundestag, spoke with Omani and non-Omani members of the GUtech Student Council. ©GUtech





Dr. Aleksej Lisunkin (PSI) along with Prof. Dr. Najah Al Mhanna, Head of the Engineering Department and academic staff and students of the Process Engineering Department in the newly established PSI Training Centre © GUtech

to play with different materials like wood, glass, plaster, metal, stone, ceramic and others.

PSI trains Engineering Students in the operation of oil and gas pipelines

In the Department of Engineering, the German company PSI Software AG has started conducting training sessions for Process Engineering students. A specialized Computer Laboratory and Training Center was opened at GUtech last year, after signing a MoU with PSI Software AG. The laboratory showcases a small-scale sample industrial pipeline that is connected to an operation desk. "Our software helps to understand the fluid transportation process within a pipeline. It is a high-end tool to increase efficiency and safety of pipeline operations," said Dr. Aleksej Lisunkin, Technology Development Manager of PSI who is currently conducting the block seminar at GUtech. GUtech students who are enrolled in Mechanical, Process and Environmental Engineering as well as academic staff benefit from the software. PSI also plans to introduce a thesis writing programme for Engineering students. "Today's experiment shows the students an example of a real engineering work, where they are going to detect a leakage in pipelines. This PSI training centre is a unique centre. It will contribute to the capacity building of the Omani society. The new centre connects the simulation theory with industrial applications. The students will have the opportunity to learn an industrial soft-

ware "PSIpipelines", and they will practice the application of simulation techniques" said Prof. Dr. Najah Al Mhanna, Head of the Engineering Department at GUtech.

The PSI Software AG is the European market leader for supervision and control systems for gas, oil, electricity, heat, energy transmission and trading. PSI develops and integrates complete solutions for management of energy flows (gas, oil, electricity, heat, energy planning, transmission, and trading), production processes (mining, metals, automotive, mechanical engineering, logistics) and infrastructure for transport and safety.

Applying geosciences in the field - The Oman Drilling Project

The Oman Drilling Project (ODP) is a comprehensive international drilling programme that aims to sample the whole ophiolite sequence, from oceanic crust through to upper mantle, in a series of boreholes. The Samail Ophiolite in Oman is the largest, best-exposed section of oceanic lithosphere in the world. The ODP is funded and supported by a consortium of international institutions, including GUtech. Drilling operations started on December 25, 2016. The geoscientist, Prof. Dr. Philippe Pezard, University of Montpellier (France) has been leading the geophysical logging of the boreholes. He visited GUtech and shared his experience and information about the equipment used with students from

the Department of Applied Geosciences. Some Geosciences students along with their professor participated in one of the project's drilling sites last year. The data collection for this project includes analysis of rock core, geophysical logging, fluid sampling, hydrological measurements and microbiological sampling. The ODP will address long-standing unresolved questions and undertake frontier exploration of subsurface weathering processes that lead to natural uptake of CO₂ from surface waters and the atmosphere, and the nature of the subsurface biosphere in areas.

High-ranking visitors at GUTech: the vice president of the German Bundestag and the Austrian Minister of Foreign Affairs visited GUTech

High-ranking political and economic delegations have been visiting GUTech during their visits to the Sultanate of Oman. In October last year, the Vice-President of the German Bundestag, H.E. Thomas Oppermann, and his accompanying delegation visited GUTech. The delegation who is on a three day visit to Oman and included MP Christian Lange, Parliamentary State Secretary, MP Stefan Liebich and MP Katja Suding, all members of the

German Bundestag. The delegation was accompanied by the Ambassador of Germany to the Sultanate of Oman, H.E. Thomas F. Schneider, the First Counsellor of the German Embassy Joachim Düster and Counsellor Ingo Schendel, interpreter at the German Embassy in Riyadh. During his visit to GUTech, the delegation met with two exchange students from GUTech's partner-university RWTH Aachen University and Omani and non-Omani members of the GUTech Student Council, who represent the students. "We are the voices of the students. We act as mediators. If there is an academic problem the students can contact us," said one of the Student Council members. The students spoke about their studies at GUTech and their summer internships abroad or in Oman. Asked about their future dreams, several students expressed their wishes to conduct an internship or pursue their Master's studies at a university in Germany. "You showed me what a university is about. You are very inspiring young persons. We wish you good luck for your future careers. We will support the university," the Vice-President of the Bundestag said in his farewell address to the students. Towards the end of the visit the delegation visited the GUTech EcoHaus and the Science Centre, both buildings are located on the GUTech campus.



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During a two day visit to Muscat, the Parliamentary State Secretary of the Federal Ministry of Transport and Digital Infrastructure, H.E. Steffen Bilger, visited GUtech last September along with a small delegation. Moreover, H.E. Dr. Karin Kneissl, Federal Minister at the Austrian Ministry of Europe, Integration and Foreign Affairs visited GUtech in December 2018. Prof. Dr. Ing. Michael Modigell, Rector of GUtech gave an overview of the development of the university and its achievements in the past ten years. The Minister gave a talk on the energy transition and the growing importance of gas resources for world economies. "Oil was the main energy resource in the 20th century, gas will be the new energy resource for the 21st century," said the Minister.

History of GUtech

GUtech is a private university that was founded in December 2006 in Muscat. The first batch of 60 Omani and international students started their Foundation Year study-programme at the "GUtech Beach Campus" in Al Athaibah in October 2007. That year GUtech launched four Bachelor of Science programmes. The second GUtech campus, the so-called Airport Campus, located close to Muscat International Airport, was inaugurated in October 2010. In the same year, GUtech started with its Bachelor of Engineering programmes in Mechanical and Process Engineering. In September 2012, the university relocated to Halban (Barka), around 30-minute drive from Muscat International Airport. In 2013, the Master of Science degree programme in

Petroleum Geosciences was introduced and in 2014, the BSc programme in Logistics was introduced by the Faculty of Business and Economics.

The GUtech campus is the first Green Campus in Oman. In the past years the campus building has won international design awards and regional awards as the best commercial project in Oman and in the Middle East as well as the best "Community Building". Last year, several new buildings were inaugurated on campus such as the History of Science Centre, the Oman-Finland School as well as a building with studios for architects and urban planners and Engineering laboratories.

If your company is interested in connecting with us at GUtech, or if you would like to offer summer internships to GUtech students in different fields, kindly contact us.



Manuela Gutberlet
PR Manager

GUtech

The amphitheatre is the core of the GUtech campus building © GUtech



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» Technology plays an increasing role in our everyday lifestyle – and also in educational and training contexts. More and more training providers develop comprehensive quality content and web-based solutions making use of innovative methods and emerging technologies. [...] The practice-driven German dual system of vocational education and training can thus be enhanced, upgraded and equipped to meet the industrial challenges of the future.«

Silvia Niediek, Regional Manager for South Asia and North America, iMove



Innovative E-Learning and Blended Learning Solutions



Learning Solutions with Digital Media Leverage Industry 4.0

iMOVE: “Training – Made in Germany”

Technology plays an increasing role in our everyday lifestyle – and also in educational and training contexts. More and more training providers develop comprehensive quality content and web-based solutions making use of innovative methods and emerging technologies. Germany’s economic success is reinforced by its e-learning expertise. “Training – Made in Germany” offers the necessary know-how to meet the challenge in the field of vocational education and training.

On-site learning today is increasingly supplemented by blended learning and e-learning, providing students and trainees with easy-to-use, intuitive and interactive learning environments and scenarios. The practice-driven German dual system of vocational education and training can thus be enhanced, upgraded and equipped to meet the industrial challenges of the future.

Active role of the learner

With e-learning solutions learners are placed in an active role of discovering and exploring at their own pace. Most systems encourage collaboration with co-learners and instructors. Integrated adaptable query systems support continuous progress monitoring and status reporting. The



tools usually have a customizable design and are expandable with new functions. They are easily accessible independent of time and place, available for all sorts of mobile devices and integrate skype and social media.

Moreover, the gamification of content in virtual and augmented reality facilitates a new way of learning through experience. Realistic simulations allow for adventures that would be impossible in reality. Flying through the universe or exploring the human body from the inside places the learners in uncharted territories, creating learning experiences of a new pedagogical dimension.

In training environments, simulations bring a whole range of benefits. They enable trainees to concentrate entirely on the manual skill forming the object of practice by eliminating the sources of error which may exert an influence in the workshop environment. Learners can focus entirely on their own behaviour during the working process, something which is crucial in terms of achieving a successful outcome. During the simulation, some machines even use a coaching system to support the practical exercises being undertaken. It provides corrections and produces a comprehensive evaluation of every completed part. All

tasks can be repeated an unlimited amount of times without consuming materials.

Virtual reality for the cyber classroom

Virtual reality (VR) is a digital learning world generated with the aid of computer technology and is at the heart of the teaching and learning methods of the cyber classroom. What is special about this method is the fullest possible immersion of the user in a stereo 3D visualized reality. As many of the users' senses as possible are exposed to a wide range of stimuli via its interfaces. Depth perception means that users feel fully integrated and part of the VR learning world in the cyber classroom.

Interactive use heightens the feeling of full integration. Users are able to move intuitively in the virtual reality, and can explore and change objects. Virtual reality makes it possible to experience events in three dimensions—in reality this is unachievable as events might occur too quickly or be entirely invisible, for example air flows and magnetic fields.

Within augmented reality, additional information can be provided, processes can be analyzed, and situations can be



experienced interactively via the ingenious “augmentation” of reality. This increases understanding and contributes to a more permanent transfer of knowledge.

By superimposing real objects with digital data, AR applications provide effective opportunities, particularly in service training, for teaching the procedures required in commissioning or repair. For example, information can be positioned in an entirely new way, precisely where it is required—in the user’s field of vision. Virtual objects are embedded in real time in a recorded video image in such a way that they are correctly positioned in terms of space and perspective, and augment the actual image. This can be displayed a number of ways including via data glasses (wearables), smartphones or tablets.

Training solution for a digitalized world

E-learning solutions and learning with digital media also leverage industry 4.0. Industry of the future will be characterized by an unprecedented flood of data and by a highly complex networking of plant and company areas. This means that it will be more important than ever for employees to be knowledgeable about the structure of digital and fully automated production technologies if the

smooth operation of factories is to be ensured. Detailed knowledge of the set-up and programming of digital networks and competences in the inter-related fields of electronics, mechanics and IT will also be in demand. A fully integrated learning factory now enables people to be systematically prepared for work in digitalized and complex industrial environments. The overarching solution enables participants to gain live experience of all aspects of an automated work environment specially prepared for training purposes.

The learning factory makes it clear how production processes which normally run invisibly in the background interact with one another. This allows learners to prepare to deal with plant programming and data management and also facilitates the further development and testing of software solutions. Learning at real production facilities is dangerous and expensive by comparison.

The new learning factory is an open and flexible solution which enables various skills to be acquired and expanded. Employers themselves are able to determine which specific competences individual staff should obtain and can also decide which support and knowledge services they need to learn to use.



The iMOVE quality label for training providers from the iMOVE network © iMOVE at the BIBB

iMOVE – the gateway to the German education and training sector

Germany has a long-standing tradition in technology and enjoys a high reputation for the demand-driven and practical orientation of its qualification programs. The integration of professional, social and methodological competencies characterizes the kind of knowledge German partners can provide. The high quality of vocational education and training in Germany is not least reflected in the high quality of German products, which enjoy a high degree of esteem worldwide: innovative goods, state-of-the-art technologies and the results of solid and high-class craftsmanship that offer a high degree of precision and a long product life.

There are around 25,000 providers of initial and continuing vocational training in Germany. The range of their services includes craft trades, commercial, technical and medical training provision, occupationally-related advanced training in the field of management and also extends to encompass e-learning software and other teaching and learning tools. Business-related training areas are a particular strength of German providers.

The easiest way to gain access to German training providers is via iMOVE. iMOVE is the training export initiative of the Federal Ministry of Education and Research (BMBF). In Germany, it specializes in the precise identification of training partners for the German export industry, as well as directly for interested international parties. iMOVE services include a multilingual database which contains the business profiles of more than 200 German training providers and an interactive B2B marketplace where interested parties worldwide can publish their training demands and requests in order to find a suitable German partner. Personal guidance will be provided on demand.



Silvia Niediek
Regional Manager for South
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Press and Public Relations

iMOVE at the Federal
Institute for Vocational
Education and Training
(BIBB)



© Lucas-Nuelle

A Pioneering Success Story: The DEWA Academy Project in Dubai

Lucas-Nuelle GmbH

In Dubai, the state-operated water and power company DEWA opened its new centralized academy at the end of 2017. The approach: vocational training students and employees are to be made ready for the job with practical hands-on training. The company will use this initiative to preempt expensive re-training measures. Using this innovative concept, DEWA is now the trailblazer in the Gulf region.

Lucas-Nuelle, the German developer training solutions, has equipped the DEWA Academy with modern systems and additionally provided close support and consultation throughout the project. Over a handholding phase of several months the instructors were qualified on integration of the new systems in their curricula and teaching approach.

Innovative concept for brand new academy

The new building in the north of Dubai is very impressive. The first students only took up their studies here in the outfitted and modern laboratories of the DEWA Academy in 2017. Around 120 students were there to witness the grand



© Lucas-Nuelle

opening. Since then the number of students has increased continuously, in the medium term it is planned to have 800 Emiratis training here with considerably more in the long term.

For budding engineers, the new academy is no doubt of supreme interest. After all, the institute is pursuing an innovative concept not only for Dubai but for the whole Gulf region: Here, the practical approach to theoretical content needed later on the actual job is at the focal point of the study – and this starting on the very first day of training.

This is how DEWA will meet the constantly growing demand for qualified technicians and engineers in the United Arab Emirates. The basic premise: people who get perfect preparation for their future jobs need considerably less time to work their way in.

Practical hands-on learning in the lab is the key to success

To outfit the laboratory, the progressive didactic architects of the DEWA Academy worked closely with Lucas-Nuelle Middle East in Dubai. “We had already had the opportunity to team up with the responsible people at DEWA on previous projects on other training facilities”, said Vaizullah Sharieff, the person responsible for the project from Lucas-Nuelle Middle East. “It was at that time that we were able to successfully convince the education specialists at DEWA of our laboratory concepts.”

The reasons for DEWA’s decision were as plain as day, according to Sharieff: “The Academy’s idea and Lucas-Nuelle’s educational concept were a perfect fit.” The Lucas-Nuelle principle of practical hands-on learn-



© Lucas-Nuelle

ing in the laboratory is premised on experiment-based learning starting from the basics and also covers the theoretical elements needed later on the job. This is the common thread running through all the training systems. Modular training systems teach the content not only of in-depth material but are also much closer to real, practical applications. The extremely close proximity to hands-on skills is ultimately achieved by the student thanks to work on real components stemming from everyday industrial applications. “People who systematically work in labs equipped with systems of this kind being directly prepared for their respective jobs”, says Sharieff in summary, “and this is what DEWA also found so convincing.”

One major focus for the Academy is the “smart grid”

One subject focused on by the institute is training in the area of smart grids. In the context of intelligent power grids, it is also possible to train many other topics in

power engineering, for example, the principle and function of wind energy and photovoltaic systems, the role of pumped storage power plants or even the integration of conventional power plants within a modern industrial energy environment. “In this context, the modular design of our systems was decisive”, says Vaizullah Sharieff. The students are able to not only study individual subjects but also gain a comprehensive understanding of overall smart grid systems.

But the modular design of the training systems provides the innovative DEWA Academy with an even greater advantage: The training laboratories can be used simultaneously for further and advanced vocational training. Since each training system not only fits into the overall system but also functions as a single standalone learning subject, it is also possible for existing employees to use the lab for further education and advanced training. This way they can tackle individual subjects systematically all the while remaining within the context of the smart grid system.

What exactly is included in the smart grid laboratory?

With the smart grid lab on electrical power engineering, you can combine and configure at will a host of various equipment sets. For example, this is how energy generated from renewable energy sources can be transmitted on the transmission line model, adjusted using transformers and distributed with double busbars to a variety of arbitrary consumers. The bus systems of the various measuring devices and protective equipment can all be combined and centrally controlled and evaluated using the SCADA for Power Lab software. This means that diverse instruments are available for assembling and investigating smart grids inside the laboratory.

The comprehensive program permits abundant investigation of everything from power generation and distribution equipment to grid protection and even power consumption. Thanks to the three-phase power training system's modular design, it is possible to explore how different systems interact using step-by-step experiment methods. The various options to expand the system also allow instructors to

seamlessly integrate renewable energy sources into a conventional power engineering system. No other manufacturer on the market has such a flexible system – which can be reconfigured again and again as needed.

Learning in a safe environment using authentic software

One particular advantage is the systematic application of the 1:1000 electrical scale. This means that measurement findings obtained in experiments can immediately be compared to real life results. Realistic transmission line models of various lengths permit the deployment of conventional industrial equipment for realistic, hands-on project work in the safety of the laboratory environment.

The SCADA system is used to optimally monitor and control the experiments. This software also makes a host of options available for data evaluation. The documentation which comes in the form of multimedia courses is oriented on the needs of today's student. The overall program can be used to systematically plan the entire electrical power engineering training program so that students

© Lucas-Nuelle





© Lucas-Nuelle

learn step-by-step to come to grips with typical industrial applications.

Achieving international engineering level for graduates in Dubai

In Dubai, the students have the entire operational spectrum of the Lucas-Nuelle power engineering system available to them. In the laboratories, beginners start their vocational careers studying various subjects. Experienced employees can also receive targeted, advanced training on individual topics. "The laboratories support the objectives of the new academy and will do their part in the time-efficient and cost-effective retraining of employees who come back after graduation", says Vaizullah ShariEFF, confident of the academy's success.

Ideally the graduates will go directly on to start new jobs without having to worry about the quality of their qualifications. After all, studying at DEWA is not only practice-

oriented but designed to get the students on an international engineering level up to the master's level. To ensure such a level, the academy works with international partners and universities which verify the graduation certificates. The new laboratories are an important milestone on DEWA's way to an innovative and forward-thinking qualification.



Christoph Müssener
*Managing Director
Development*

Lucas-Nuelle GmbH



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» The main purpose of education is to ensure an active participation in society. The aim of a school is to create a space in which learners acquire skills that enable a fulfilling life with high sensitivity and responsibility for themselves and the environment. Education should encourage learners to think creatively and in a solution-oriented manner - leading them to act independently, actively and respectfully, as well as to appreciate cultural differences.«

Dirk Thormann, Head of School, International German School HCMC



Education Management



© IGS

Foundation and Management of a German International School - the world of education is undergoing substantial changes –

The German Education & Crafts foundation (SBH)

The German Education & Crafts foundation (SBH) is comprised of more than 260 educational establishments. The development of the International German School HCMC is one of their international projects, which has recently attracted the attention of some partners in the MENA Region.

One important condition of the successful development of such a school is the creation of a modern school profile, which takes into account recent changes in the learning behavior of students and the latest developments in the global society.

What is the purpose of a school?

The main purpose of education is to ensure an active participation in society. The aim of a school is to create a

space in which learners acquire skills that enable a fulfilling life with high sensitivity and responsibility for themselves and the environment. Education should encourage learners to think creatively and in a solution-oriented manner - leading them to act independently, actively and respectfully, as well as to appreciate cultural differences.

The understanding of schools is based on social consensus. Parents, students, teachers, educational authorities, school management and school owners are the stakeholders of the

school community. Differences in the perspectives of the stakeholders become apparent when discussing the impact of digitalization that is currently changing the provision of education in a fundamental way.

When starting a new school, digitalization is a variable that influences school management solutions, parent information systems, staff selection, professional training, as well as teaching methodology, school architecture and the school administration. It also has an impact, for example, on the organization of the library and resource center, security and tracking-systems for school buses, and the catering or the accounting system etc.

→ *When shaping the concept of a German School abroad, legal requirements, a good market study, and a business plan must accompany carefully deliberated decisions on factors such as: internationally recognized school-leaving certificates, curricula, languages of instruction, teaching and learning material, extra-curricular programs, forms of participation in the public arena, mission and school philosophy, as well as staffing.*

How pervasive is society's impact on learning at school?

Despite regional differences, there are some trends that affect society on a global scale: the impact of social networks on communication patterns, location-independent work places and continuous reachability, real-time-multitasking environments, or the lack of a clear work-life balance, all factors which have changed family life substantially. Often, children spend more time with their virtual peers than with their "real" friends and family – usually exploring the virtual world without the supervision of parents or teachers.

Digital algorithms, applications and technical features shape our learning behavior. Learning is becoming increasingly playful, intuitive and entertaining and we have higher expectations with regards to the speed of information processing, the presentation and the communication of those results.

For some families, it has become a challenge to spend quality time together and to provide daily routines for their kids. Some children lack sufficient development in their mother

tongue, which affects their cognitive and social development. It is not infrequent that the lack of an adequate attention span or the necessity for educational support is diagnosed.

Coordination skills and multisensory-spatial experience are the basis for adequate cognitive development. Growing up in big cities, sometimes with critical air quality or safety issues, some kids do not have the chance to climb on trees, to train their coordination and perception skills in a natural environment and do not sufficiently develop social strategies in groups with other children.

Important cognitive skills and attitudes are already acquired in kindergarten

At the International German School HCMC, we support natural science exploration as early as kindergarten level. The focus of the well-established Early Science Program is on developing perceptiveness, analytical thinking, and environmental awareness. During playtime, the kids can explore a tree house, hills, palm trees and meadows, sand boxes with water access and big roads and small roads for their Kettcars. Sports and swimming, the training of logical thinking, arts, music and theatre are core parts of the regular KG curriculum.

How do students join a German school without prior knowledge of German?

A Lateral Entrance Program allows students without prior knowledge of German to join at the age of nursery, kindergarten or preschool (1,5-6 years), or at later stages (grade 2-7). This language program for kids and students has been created by linguists and has shown outstanding results.

While the main language of instruction of the program is German; subjects such as arts, sports, swimming, ICT, or geography are taught in English. Citizens of Arab countries would additionally participate in the additional program of Arabic, Civics and Religion. Gifted students can opt for a third or fourth language.

Learning anytime, anywhere...

Today, learning can take place independent of time and place. Information access is no longer restricted to the opening



Philipp Rösler, former Federal Minister of Economics and Technology and former Vice Chancellor of Germany © IGS

hours of libraries or the timetables at university and can instantly be evaluated. Many facts no longer need to be studied by heart. With increasing frequency, interactive textbooks offer integrated solutions that allow using real-time data in the classroom.

Learning Management Systems enable the students to consolidate teaching contents or to work cooperatively on the same project without being in the same classroom. Distance learning offers direct access to state of the art education, even in remote regions or at times of inaccessibility due to weather conditions. Likewise, blended learning renders efficient options for on-the-job staff training.

Students are becoming the managers of their own learning process

Teaching no longer claims absolute truths but evaluates and prioritizes information in its context and searches for alternative solutions and perspectives. Teachers no longer function as the sole experts of their subjects but as learning facilitators. However, as opposed to online

learning platforms, in a school environment they are able to show empathy, to encourage, to inspire and to understand complex learning challenges which support the development of critical thinking, development of values and creation of meaning.

Increasingly, the organization of the classroom complies with the highly individual process that learning is. At IGS we have achieved excellent results regarding the acquisition of learning strategies by introducing the subject Learning how to learn – Methodology and Flipped Classroom Approaches.

What do schools of the future look like?

Trends change and assumptions regarding the future are corrected; we are basically passengers on a train in motion.

Schools of the future are “ecological”, “healthy”, inclusive, and offer internationally recognized certificates. Adaptive assessment programs help the learners to optimize their learning processes.



Environmental Awareness Project with Local Artists. © IGS

The assessment of learning always contains specific recommendations of how further potentials can be developed.

Teaching is cross-curricular, with a strong focus on project-based learning. Classes and age groups allow for individual transitions. The curricula are well-balanced. Schools compete globally: Heinz from Berlin competes with Ahmed from Damascus. Shireen from Muscat, or Ayoub from Amman compete for the same place in medical college.

The school of the future shows a strong focus on real-world experience. External partners support this endeavor. Adults may stand next to students pursuing the same project in this 24-hour, community-style center of learning. At the International German School, external mentors support research classes and environmental projects of local artists. For example, the school cooperates with a coffee plantation in the mountains of Vietnam and organizes internships in local companies.

One of the major success factors for any company is appointing competent personnel. Therefore, the staff

recruitment, coaching and professional development, transitional processes and a supportive alumni network are decisive factors when creating a school. An attractive working environment, spaces for recreation and flexible working hours contribute to a good work-life balance of staff and a highly motivated faculty.

The boundary between school, home and society is slowly dissolving between these previously separated worlds. Photos and personal information are published worldwide. Parents request newsletters, direct access to grades, homework, the portfolios of their children or the air quality index on campus. At the same time schools are expected to comply with provisions on data protection. In the past, such demands would have challenged the limits of capacity. Thanks to suitable online-applications, this complex flow of data is now manageable.

Modern school architecture has transcended the idea of the classical corridor schools: it contains flexible rooms linked as clusters, and supports efficient communication of the administration. The learning spaces encourage creativity,



© IGS

exploration, experimenting, social engagement and self-determined learning. Modern schools foster perceptiveness and promote concentration depth and mindfulness. For this purpose, the students use maker-spaces, laboratories, multi-level libraries and resource centers, film studios, art & craft rooms. Ed-Tech Coaches, librarians, mentors and experts in various fields, or psychologists and special needs teachers can be addressed for help.

What key areas of the school development do we support?

- Business Plan and School Concept
- School Foundation and Equipment
- School Management
- Curriculum Development

- Recruitment and Teacher Training
- Quality Management

The German Education and Crafts Foundation offers many years of experience in the fields of School Management and Vocational Training.



Dirk Thormann
Head of School

International German Schoo
HCMC



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» Modern educational systems no longer focus on a one-sided transmission of knowledge. Today, there's a greater emphasis on strengthening childhood development and competencies. Only in this way we can prepare our children for the modern world and guide them so that they are commensurate to the challenges of globalization and digitalization. This development is especially relevant in the Arab world with its growing young population. «

Reinhard Koslitz, CEO, Didacta Verband e.V. – Association of the Education Industry



Special Topics



Gulf Educational Supplies and Solutions Dubai 2017 © F&E Education

Education solutions made in Germany

Didacta Verband e.V. – Association of the Education Industry

Global markets are of growing importance to the education industry in Germany. “Made in Germany” has long been synonymous with high-quality when it comes to education concepts, innovative curriculum developments and products originating from the heart of Europe. The Didacta Association fully supports the German education industry.

Modern educational systems no longer focus on a one-sided transmission of knowledge. Today, there’s a greater emphasis on strengthening childhood development and competencies. Only in this way we can prepare our children for the modern world and guide them so that they are commensurate to the challenges of globalization and digitalization.

This development is especially relevant in the Arab world with its growing young population. The German education sector would like to extend its knowledge and experience to successfully help facilitate changes within the education systems. Together with its partners, the Didacta Association will do everything it can to ensure that education at all stages of a child’s development can be successful. We



Gulf Educational Supplies and Solutions Dubai 2017 © F&E Education





Gulf Educational Supplies and Solutions Dubai 2017 © Didacta

place great importance on our partnership with organizations such as Ghorfa, the Arab-German Chamber of Commerce and Industry, the Federal Ministry of Education and Research and the Federal Institute for Vocational Education and Training (BIBB).

didacta international

didacta international is our contribution to the global presence of German education enterprises, enabling them to penetrate new markets, also in Arab countries. We are active at many different levels to make sure that education is one of Germany's top exports.

Collaboration and alliances with foreign trade fairs, for example in Dubai, facilitate the establishment of new busi-

ness contacts and the promotion of products. Furthermore, we leverage "didacta – die Bildungsmesse" as a strong brand to initiate partnerships for further international events like "didacta Italia".

Conferences, professional workshops and discussion sessions organized to complement our partners' trade fairs increase the visibility of the German education system and generate synergies.

Expansion of the international network of the Didacta Association allows members to make new contacts with education professionals who can help "open doors" to many business opportunities.



Market information and materials such as export catalogues are also important elements for promoting a wide range of education offerings. We guide our members to new markets and make it easier for them to launch their businesses with success.

The didacta international Committee members actively shape our approaches to the international education scene and thus contribute to the successful positioning of the German education industry in various foreign countries.

For more information, please visit www.didacta.de.



With the export catalogue didacta international informs about education solutions made in Germany. Didacta members and partners are presented by business sectors.



Reinhard Koslitz
CEO

Didacta – Association of the
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Year of Foundation: 1931

Business activities & products:
developer/retailer of teaching material
Publisher of books & multimedia products
Customised training lab concepts
Seminars and workshops, train-the-trainer

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Work-based learning is a fundamental aspect of vocational and further training helping trainees to acquire knowledge and competences essential in working life.

Being active in the field of technical education for almost one century Christiani supports companies and educational institutions in providing training and qualifying personnel according to German educational standards. The brand Christiani is known for high-class and practice-oriented training and further training. Experience and know-how as well as a comprehensive offer of material for education made Christiani a reliable partner for industries and institutions worldwide. Colleges, universities, small and medium-sized companies as well as corporations trust

in our quality for their vocational training.

Christiani primarily serves the areas of mechanics, electrical engineering, automation, automotive, mechatronics and renewable energies. An extensive product portfolio covers both the hardware for training labs and suitable teaching materials. The integral approach is to offer a wide range of training systems combined with adequate multilingual teaching materials such as interactive learning programs, textbooks, project works and furthermore on-site seminars and workshops. In addition, Christiani realizes customized training lab concepts - from planning to implementation according to the specific needs of customers.

© Dr.-Ing. Paul Christiani GmbH & Co.KG





asecos GmbH Safety and environmental Protection

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Year of Foundation: 1994

Products & Services: product portfolio includes the following categories: hazardous materials storage in the workplace; extraction and filter systems; hazardous materials handling in outdoor areas; protection of non-smokers; maintenance and service solutions for all sectors.

Introducing Future Lab Visions to KSA

As part of the declared “Vision for 2030,” asecos is working with other industry leaders on the matter of safe and sustainable research laboratories. The project started already at the end of 2018 with three workshops in Jeddah, Riyadh and Dammam.

Shaping the future together

The content of the workshops, in which business leaders and entrepreneurs from the laboratory field participated, focused on current trends in the lab. The speakers – including asecos, Europe’s leading manufacturer of safety cabinets and Waldner, manufacturer of laboratory furnishings – reported on the latest options available for the safe storage of hazardous materials and sustainable, efficient lab design. The focus was on implementing process-optimised and in particular safe room concepts as the key to future success. The successful events will lead to further intensified collaboration with local laboratory experts.

© asecos



asecos – Your partner for safe storage of hazardous substances

In close partnership with lab designers and lab furniture manufacturers, asecos develops individual solutions and provides support in the planning of hazardous material storage. There are a number of design possibilities, such as space-saving safety storage cabinets, intelligent combination cabinets and under bench units for smart integration into the lab. Modern safety storage cabinets offer 90 minutes of fire resistance – a level of protection comparable to storage rooms. The cabinets also provide ergonomic support and enable to work in a safer laboratory environment.

Please visit: www.asecos.global

Info boxes

We are happy to offer individual presentations on company premises, and to provide support with our expertise in planning design.

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Ghorfa

BUILDING BRIDGES
BETWEEN GERMANY
AND THE ARAB WORLD

Ghorfa Arab-German Chamber of Commerce and Industry

Thanks to its central location in Europe, its first-class infrastructure and its excellent business climate, Germany is the perfect hub for companies entering the European market with 500 million potential customers. The strong, knowledge-driven and well-diversified German industry holds a leading position in many sectors worldwide.

About us

The Ghorfa Arab-German Chamber of Commerce and Industry is the competence centre for business relations between Germany and the Arab world. It was founded in 1976 and has been located in Berlin since August 1, 2000. For over 40 years, the Chamber has been committed to promoting business relations between Arab countries and Germany and serves as the primary centre of expertise within the Arab-German business community.

Our mission

The Ghorfa pursues non-profit goals to enhance and strengthen business relations between Germany and the

Arab world in the fields of trade, industry, finance and investment. Strategic partnerships based on mutual benefit and understanding, create new business opportunities that facilitate economic benefits for both sides. The Ghorfa, therefore, mainly focuses on networking, consulting and on providing information about relevant economic and industrial developments.

Our network

Based on its invaluable heritage and its ambitious commitment, the Chamber has a powerful network consisting of both institutional and entrepreneurial decision makers from Arab countries and from Germany. Under the umbrella of the Arab League and the Union of Arab Cham-

Delegation trip to Saudi-Arabia 2019



Johanna Wanka, former Federal Minister of Education and Research at the 7th Arab-German Education and Vocational Training Forum



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High-ranking participants at the 1st German-Arab Women Business Leaders Summit 2018 in Munich

bers, the Chamber operates and acts as the representative of all Arab Chambers of Commerce and Industry in Germany. The Ghorfa works closely with the Arab Chambers of Commerce and Industry, related governmental bodies and relevant business associations in the Arab states, as well as with Arab embassies in Germany. It is part of the worldwide organisation of Joint Arab-Foreign Chambers of Commerce and Industry. The Ghorfa cooperates with German governmental bodies on federal and regional levels and with German industrial associations. The close connections and effective collaborations with decision-makers and policy shapers enable the Chamber to deliver a broad portfolio of high-quality services to meet its members' interests.

Activities, Conferences and Events

The Arab-German Business Forum has become the most important platform for the initiation and promotion of promising business opportunities between German and Arab business partners. More than 600 high-ranking business leaders and political decision-makers from the Arab world, Germany and Europe participate in this annual conference. The Ghorfa has been organising this distinguished event since 1998 in cooperation with the Union of Arab Chambers and the Association of German Chambers of Commerce and Industry under the auspices of the Federal Ministry for Economic Affairs and Energy.

Moreover, the Ghorfa hosts conferences on different industry sectors such as health, energy, sports, and education, to bring together Arab and German professionals from respective branches. These events provide a professional setting for analysing and discussing possibilities for business expansion and serve as a place to debate future trends in

the Arab world and Germany. The Ghorfa also runs numerous country-specific events, ad-hoc conferences on arising topics as well as B2B meetings and working groups.

Networking

- Quick access to economic and political decision-makers
- Connecting with matching business partners
- Forwarding business enquiries to relevant recipients from our database of 15,000 contacts
- Participating in high-ranking events, conferences and further networking platforms
- B2B meetings with high-ranking business people through events, delegation visits and upon special request
- Exclusive member events such as roundtables and working groups
- Professional all-round assistance for trade fair participation

Consulting

- General and business-related intercultural consulting
- Specifying possible business cooperation and evaluation of potential business partners
- Country and branch-specific analysis
- Comprehensive and detailed market information
- Competent market entry assistance
- Mediation and arbitration in cases of business disputes
- Advice and guidance through the multitude of offers and competing products in the German and Arab market
- Raising the presence and visibility of Ghorfa member companies in the competitive market



Our business magazine SOUQ provides an overview on activities within the Arab-German business community

- Visa and commercial documents support

Information

- Regular reports with relevant information about economic and business trends
- Information on the latest economic developments, promising markets and sectors; legal and political background
- Quarterly bilingual business magazine SOUQ, providing an overview on cooperation possibilities and activities within the Arab-German business community
- Complimentary copy of our Business Guides, sector specific books (e. g. health, education, energy or



Panel Discussion at the 7th Arab-German Education and Vocational Training Forum

infrastructure) as well as the Arab-German Business Directory

We welcome you to become part of the high-level network that we provide for professionals and business leaders from the Arab world and Germany. Join us and share our vision of prospering Arab-German business relations. For further information concerning membership in our chamber please contact us:

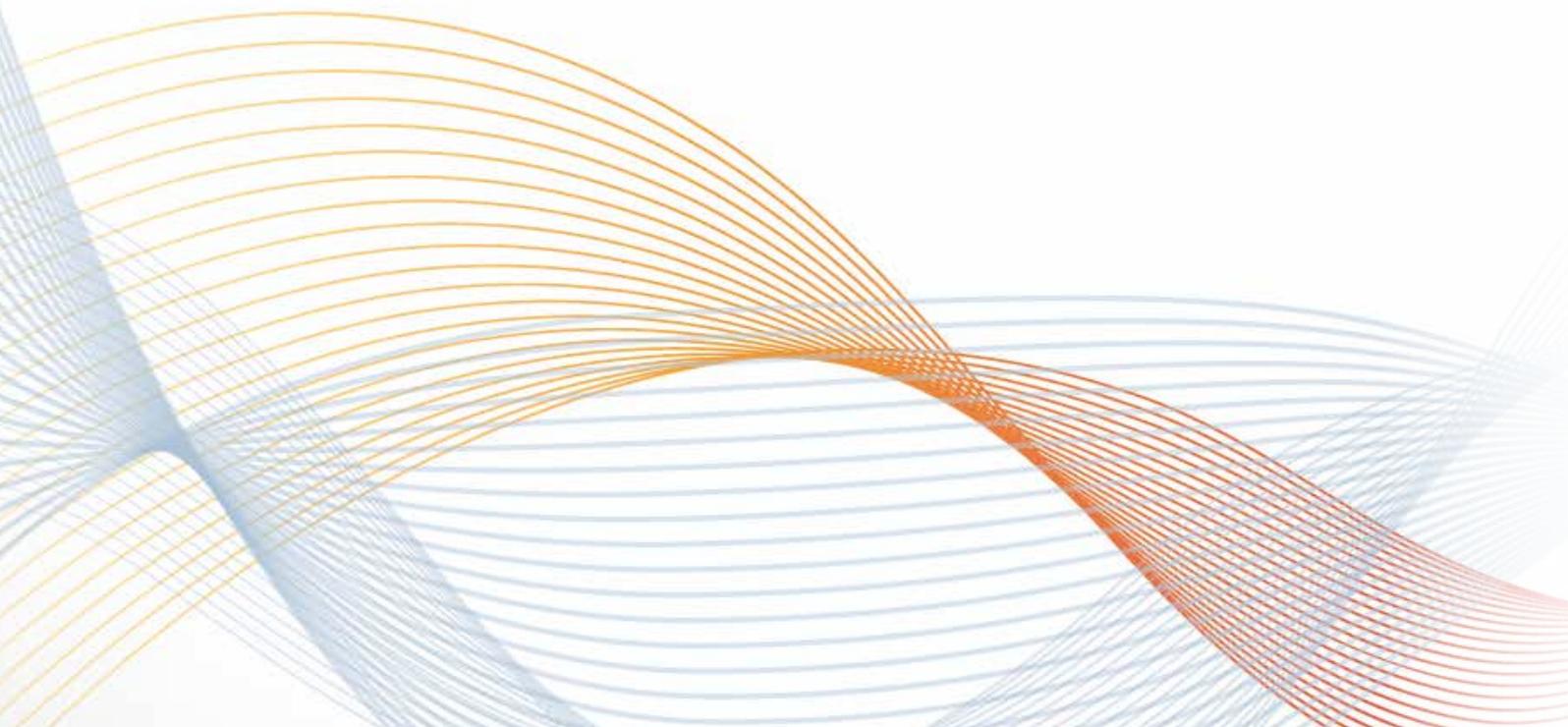
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Networking Dinner at the 11th Arab-German Health Forum 2018



CONTRIBUTING COMPANIES AND INSTITUTIONS





Arab-German Young Academy of Sciences and Humanities (AGYA)

AGYA was established in 2013 at the Berlin-Brandenburg Academy of Sciences and Humanities as the first bilateral young academy worldwide. AGYA promotes research cooperation among outstanding early-career researchers from all disciplines who are affiliated with a research institution in Germany or any Arab country. The academy provides partnership building opportunities and funding to support innovative projects of its members in various fields of research as well as in science policy and education. AGYA is funded by the Federal Ministry of Education and Research with 7.3 million Euros from 2016–2020.

Project: AGYA Breaks New Grounds in Arab-German Science Diplomacy

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Project: Introducing Future Lab Visions to KSA

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Project: Supporting Emirati Talents in Vocational Skills

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Bosch Rexroth

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As a member of the Bosch Group, with over 270 production plants located all over the world, Rexroth knows from its own experience the current needs for efficient training. Under the umbrella of Drive & Control Academy, Bosch Rexroth offers an extensive portfolio of knowledge products. The training systems allow extensive training in industrial and mobile hydraulics, mechatronics, electric drives and controls, pneumatics, linear systems, machine safety and energy efficiency. Rexroth also provides comprehensive teaching and learning media.

Project: Bosch Rexroth supplies innovative training systems to Alba

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As holistic provider for technical education Christiani supports companies and educational institutions in providing training and qualifying personnel according to German educational standards. Christiani is known for high-class and practice-oriented training and further training. The wide product range covers both the hardware for training labs and systems as well as suitable teaching material.

Project: Successful training with Christiani

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didacta

Didacta Verband e.V. – Association of the German Education Industry

Didacta represents the interest of the German education industry and promotes the application of high-quality teaching and learning aids, furnishing and equipment designed to meet the unique needs of all learning environments. Didacta joins hands with associations and organizations, political bodies, educational facilities, and the media in order to promote the German education industry worldwide.

Project: Education solutions made in Germany

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German University of Technology (GUtech)

GUtech is affiliated with RWTH Aachen University in Germany and was founded in December 2006 in Muscat. In 2016/2017 a total of 1,613 students were studying at GUtech. GUtech offers BSc Applied Geosciences (AGEO), BSc Computer Science (CS), BSc Urban Planning and Architectural Design (UPAD), BSc Logistics (LOG), BSc International Business and Service Management (IBSM), BEng in Process Engineering (PE), Environmental Engineering (EE) and Mechanical Engineering (ME). The medium of teaching is English.

Project: Building Bridges between the Gulf Region and Europe

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IHK-Projektgesellschaft mbH Ostbrandenburg

The IHK-Projektgesellschaft mbH is a service provider for further Vocational Education and Training (VET) at regional, national and international level. As a 100% subsidiary company of the Chamber of Commerce and Industry we act as a service provider and partner to the Chamber of Industry and their member companies and cooperate with the Chamber of Crafts, different Ministries and also international entities, who are involved in promoting economic development through an adequately trained workforce.

Project: Your Service Provider with a Passion for Solving Challenges in International Education and Training

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iMOVE is an initiative of the German Federal Ministry of Education and Research to promote and facilitate global business and cooperation between German training providers and international public and private organizations. iMOVE provides collaboration opportunities and helps to establish contacts with high-ranking officials and individuals from the education sector.

Project: Learning Solutions with Digital Media Leverage Industry 4.0

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Lucas-Nülle Middle East FZE

For more than 45 years, Lucas-Nülle (LN) with its headquarters in Germany has been developing and producing training systems in key technological areas such as electrical engineering and electronics, automation and automotive technology. Every system is equipped with didactical software. Three regional companies in Dubai, Shanghai and Virginia, USA focus especially on regional markets.

Project: A pioneering Success Story: The new DEWA Academy in Dubai

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The German Education & Crafts foundation (SBH)

The Education & Crafts Foundation (SBH), founded in 2001, is a non-profit foundation that is located in Paderborn/ Germany. With 16 companies and six brand names, it is closely affiliated to the leading German providers of education. Their services include consulting and brokering services as well as consulting. SBH is the owner of schools in Estonia, Poland, and Vietnam.

Project: Introducing Future Lab Visions to KSA

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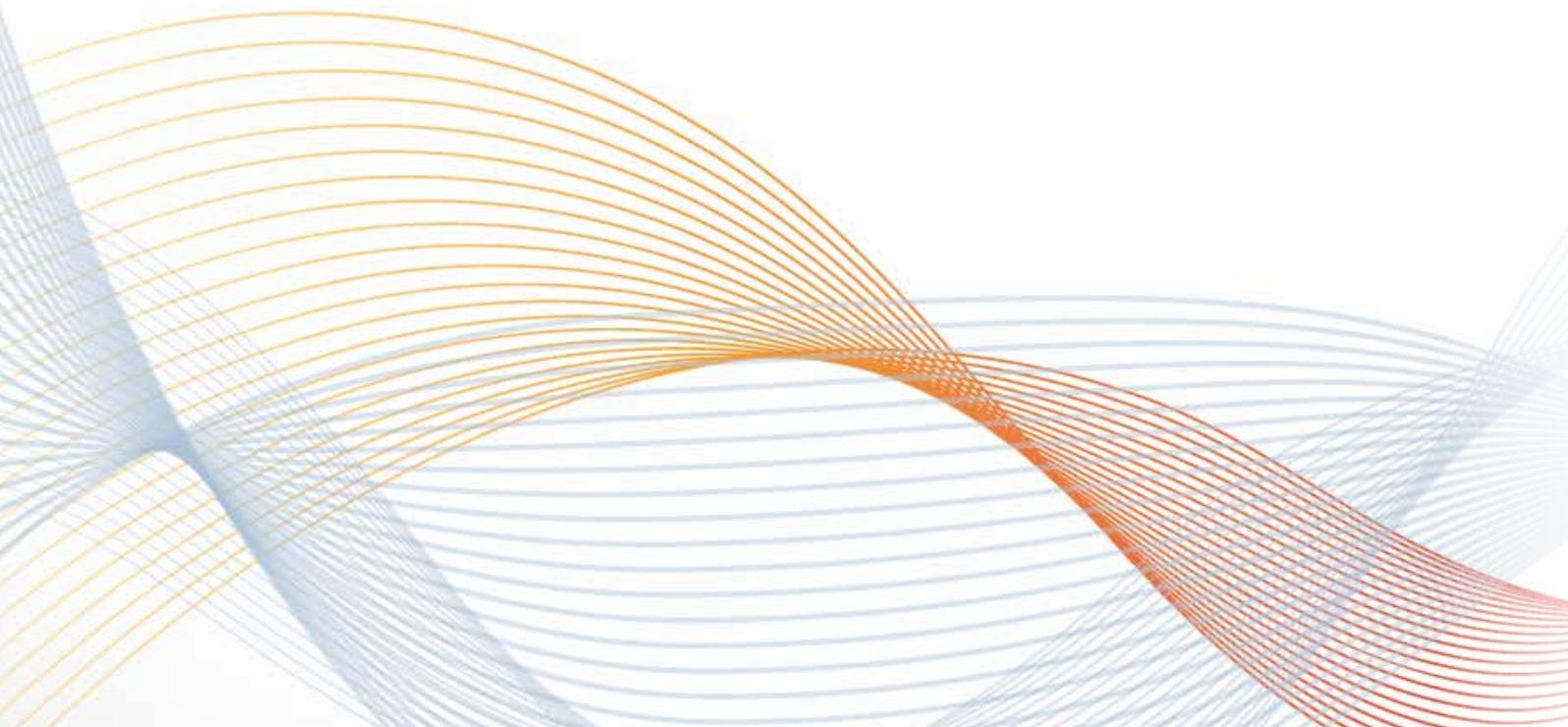
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Project: Training and Workforce Development Solutions in Saudi Arabia

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