Edition 8

Gerda Stetter Stiftung

Technik *macht* Spaß!

Annual Report 2019

What we aim for:

- ✓ Learning with fun
- ✓ Earliest possible inspiration for technology
- ✓ Fostering independent thinking
- ✓ Understanding cause-effect relationships
- ✓ Supporting children from socially disadvantaged families
- ✓ Getting more girls and young women interested in technology
- ✓ Fostering children from all nationalities
- ✓ Joint learning of young and old
- ✓ Crosslinking of schools, universities & companies
- ✓ Introducing High-Tech
- ✓ Supporting professionals on a long-term basis

„Let him who would move the world first move himself."
(Sokrates)

„The Future is digital (smart) and green“

When we did our first **Smart Green Island Makeathon** in September 2016 in Gran Canaria with about 50 participants, our vision of showing how climate-neutral, resource-friendly life could look was not taken very seriously. Since then, much has happened.

This February, we had more than **400 participants** on the Gran Canaria Makeathon. The octupling of the number of participants within 30 months shows how much our education network has grown.

The participants in this unique event came from 70 universities and 40 companies in 21 countries! As these numbers show, our perennial efforts to further nationally and internationally new education initiatives more than paid off.

But not only the fact that we promoted new types of education has boosted our **Smart Green Island project**, but also the fact that the subject of **climate change** has decisive importance for coming generations. The way the subject was put into focus, not least because of the Fridays for Future activities, manifests that our vision of resource-friendly life was not wrong.

More and more, the sustainability of our **education activities** proves a gain. We had multiple cases where **young talents** we had supported as pupils grew up to be students who now educate their juniors in smart technologies and robotics within the frame of our foundation. This self-reproducing passing-on of knowledge from young to younger motivates us a lot to not only continue but expand our previous work.

But the continuously **growing network** is branching out not just nationally, but more and more **internationally**. Starting from our Smart Green Island initiatives and the resulting personal contacts, we did a **Smart Green Makeathon in Tunisia** for the first time in September. Shortly after the start of registration, it turned out that we had four times as many prospective participants than scheduled places, and we had not 80, but **120 participants** in the end. Another result of our Smart and Green activities is the **Bamboo Solar Car for Africa** project. In that project, we developed a sustainable vehicle concept in an international team of more than 20 people from seven countries.

A deliberately very simple vehicle was developed which consisted of either sustainable material such as bamboo or of recycled scrap parts. The electrical energy is generated by **solar panels** on the roof of the vehicle. Now, this concept is pushed together with the VDMA and the government of Botswana in the project **Smart Green Botswana**.

As you can see when you browse this year's foundation report, the projects described above are just a very small part of our activities. **The usefulness of modern digital education, including the aspect of sustainability, is not questioned anymore.**

That motivates us very much for the next years.

Rainer Stetter

Dr. Rainer Stetter
Foundation & Board Member

The Foundation Members

The Managing Board:

„To be an entrepreneur also means assuming social responsibility. With our foundation, we want to push the technological education of children, students, and refugees in playful projects. For "childish" curiosity and practiced play instinct are the foundation of continuous renewal and innovation."
Dr. Rainer Stetter, ITQ CEO and the Foundation's Originator

„With our comprehensive modular education concept, we want to take countermeasures against the digital skills shortage and train technological new blood. And that with fun, joy and enthusiasm on all levels, for that is the biggest motivation for sustainable learning."
Sandra Fritsch, Head of Business Administration, ITQ

The Foundation Board:

„To contribute to achieve practice-oriented training as early as possible is my personal motivation. By playfully conveying technology, we can also contribute to an improved image of technological professions."
Andreas Baumüller, Managing Partner Baumüller

„The current rapid development in digitalization offers countless possibilities especially to children and adolescents. To utilize these effectively, p rojects are needed that give technological inspiration and are fun. To support these youths in optimally shaping the perspectives arising from technological progress is what I see as my task as board member."
Matthias Weidmann, Lawyer and Tax Consultant

The Foundation Board:

„The companies have to ensure the qualification of trainees on their own. To get youths excited about technology is the foundation for that. Industry-oriented projects with universities and higher education institutions of all kinds are suitable for getting industry and education closer together."
Paul Kho, Freelance Journalist

„Contribute to the efforts to familiarize youth with technology. This country's society will be dependent on technophile human beings – therefore we must stress the sowing of the seed."
Meinrad Happacher, Editor at Large, Computer & Automation

„Getting people thrilled about natural sciences and technology is our motivation. To convey those subjects to children in a playful and self-explanatory way, with modern and tangible learning methods, is future-oriented business thinking for me. Just do it!"
Martina Manich, Managing Partner team::mt GmbH

„Digital transformation has a huge impact on engineering education. Only with new innovative teaching concepts, we can keep up with the quick development of new technologies. By simultaneous combination of practice-oriented and character-forming competences with attractive formats, we can get students interested and prepare them for the requirements of the working world."
Prof. Dr. Peter Eichinger, Hochschule Aalen

A Story with Happy End

Hussein & Friends

Over three years ago, 17-year-old Hussein, an unaccompanied minor refugee, joined us to absolve a technology internship. That internship has now turned into a successfully completed IT specialist apprenticeship and a permanent job as a member of the ITQ team. We congratulate him on his completed apprenticeship as an IT specialist/application developer and are happy to have him on board as a permanent part of the ITQ family.

Besides Hussein, we have given two other refugees the chance to settle down in Germany and to integrate themselves culturally and professionally. Reza (25 years, from Afghanistan) started his apprenticeship together with Hussein (21 years, from Syria) as an IT specialist/application developer, and Abed (27 years, from Palestine) started his apprenticeship as an IT specialist/system integration. All three have arrived very well in the working world at ITQ because of their strong will and commitment and are an integral part of the international ITQ team. We can also congratulate Reza on his successful completion in 2019 and permanent job as a software developer at ITQ.

Successful international training team 2019: Hussein, Luis and Reza

The way from internship to successful apprenticeship was not always easy. ITQ supplied the young men with training positions and supported them in apartment-hunting and contacts with government offices. The most difficult part was mastered by those three on their own: to know and understand Germany, to be open for new ideas, and to actively utilize and shape the chance given to them.

Alas, we cannot replace their families, but we all contributed to ITQ becoming a home away from home. We thank all the employees who accompanied us on that way and supported the integration project every day with their open-mindedness and unbiasedness.

> “As Junior Engineer at ITQ, I can expand the knowledge I have gained during the IT specialist apprenticeship.

Hussein, former IT specialist apprentice at ITQ – Now Junior Engineer at ITQ, from Syria

> “A permanent job at ITQ is what I have always dreamed of. I want to pass on my knowledge to other young people.

Reza, former IT specialist apprentice at ITQ – Now Junior Engineer at ITQ, from Afghanistan

> “It is just fun to work in the ITQ team. I am looking forward to the last apprenticeship year.

Abed, IT specialist apprentice at ITQ, from Palestine

Together, they work on...

...the software of the future.

Integration through Technology

During the first week of Hussein's internship, we had the idea, together with students and employees of the TU Munich, to give a chance for a professional future not just to Hussein but also other refugees. The project Hussein & Friends was born.

Under the patronage of ITQ GmbH's Gerda Stetter Foundation "Technology Is Fun!", the project "Hussein & Friends" was launched in 2016. The goal is to introduce the refugees unto the increasingly digitized world of technology and training opportunities in technology professions. In order to reach as many young asylum seekers and technophiles as possible, Hussein, Reza and Abed were trained as technology coaches internally.

Together with our German Lego coaches and students, they have been visiting residences and integration classes since April 2016 to inspire more technophiles. Since then, the so-called technology workshops with their "Integration Islands" have got a firm position on many international fairs such as the automatica. Selected places of higher education, such as the AEC Munich North, have integrated the technology workshops into their programs and inspire children and adolescents of all nationalities.

But the integration project "Hussein & Friends" is not only to further integration, but at the same time to help companies find suitable apprentices. According to IHK, the shortage is especially great in technological professions such as mechatronics and automation.

Technology Workshops at the LASER World of PHOTONICS 2019

Cleaning Robot Workshop with Children – 05.04. 2019

- Cleaning robot workshop for children: Children playfully come in contact with technology
- Goal is to convey technology with lots of fun

Technology Workshop with Children – 01.06.2019

- Lego WeDo workshop for primary school children: Playfully lead children to technology
- Goal is to convey technology with lots of fun

Tech Days – 03.06.2019

- Lego WeDo and Lego Mindstorms workshop for School Children: Playfully lead children to technology
- Goal is to show the school children professional perspectives in the technology field

LASER World of PHOTONICS – 25.06.2019

- Technology workshop: Pupils and young refugees playfully learn technology
- Goal is to show the school children and refugees professional perspectives in the technology field

Technology Workshop with School Children – 07.07.2019

- Lego Mindstorms workshop for school children: School children playfully learn technology
- Goal is to show the school children professional perspectives in the technology field

Technology Workshop with School Children – 23.07.2019

- Lego Mindstorms workshop for school children: School children playfully learn technology
- Goal is to show the school children professional perspectives in the technology field

Girls Make Technology – 26, 27.08.2019

- Lego Mindstorms workshop for female school children: School children playfully learn technology
- Goal is to convey technology with lots of fun

Messe München International

VDI

Die Bundesregierung

Voices:

„To interest young people in technology and let them come in contact with the newest automation technologies is the aim of the foundation "Technology Is Fun!" and also of the B&R Education Network. For this reason, we love to support innovative projects such as the Smart4i Fair Demonstrator, but also Makeathons such as the one in Gran Canaria. In both cases, accompanying and supporting students when they solve innovative tasks is great fun. I am especially astonished at the students' high motivation and resulting commitment when it is a matter of finishing THEIR project in time. So, the strategy of "Technology Is Fun!" to generate enthusiasm and motivation with cool hands-on projects is exactly right for reaching out to children, adolescents and young adults. We are looking forward to the next events and projects, because this sort of motivated students is what we as a company, but also the whole field, needs."

Dr.-Ing. Patrick Haberstroh
Management Education Network
B&R Industrie-Elektronik GmbH

„Unfortunately, the skills shortage is now daily routine in industry and medium-sized businesses. To meet that problem, the Munich Fair increasingly involves itself in the area of youth development. In cooperation with ITQ GmbH, automatica, the leading fair for intelligent automation and robotics, has successfully introduced and developed the formats of Makeathon and Integration Islands. At the fair in June 2018, more than 120 Makeathon participants and 200 school children were a breath of fresh air in the sector. The subjects are "Industry 4.0" and "Smart Automation and Robotics". With their new ideas and technological understanding, young people make an important contribution to technological progress in our society. ITQ GmbH has contributed decisively to the success of automatica 2018 with their expertise in organizing international events and their passion. I am looking forward to further cooperation for automatica 2020!"

Messe München International

Falk Senger
Managing Director
Messe München GmbH

„The workshop we had with Hussein & Friends has widened the horizon of our young refugees living in the Salesianum for the opportunities and chances they will have. Interest in an exciting field and diligence make that possible. Thank you for that thrilling and empathetically supported day."

Salesianum
Begegnung erleben. Zukunft gestalten

Ingo Greß
Graduate Social Education Worker
Salesianum

„The world needs new ideas – That only works with fresh heads; today's deciders are too often hampered by their "that-is-how-we-have-always-done-it" baggage. Therefore, we gladly join when new thoughts and fresh ideas are turned into prototypes. Today's students are tomorrow's movers!"

BECKHOFF

Stefan Lorenz
Sales Manager South Bavaria Beckhoff
Automation GmbH & Co. KG

Voices:

„As an IT teacher at a secondary school, I know from experience how enthusiastic male and female pupils are about technology workshops. This school year, we had the Workshop Days again at the Secondary School "Gute Änger" in Freising, and the pupils were thrilled that the Foundation "Technology Is Fun!" did a Lego Mindstorms workshop, as in 2017/2018. Boys and girls implemented their Lego Mindstorms robots in the style of Autonomous Driving, making them follow a street and bypass obstacles. I am very happy that schools have this opportunity. Thank you for the professional support. I am looking forward to the next workshop."

Anne Distel
Teacher, Government Secondary School
Gute Änger Freising II

„Innovations and technologies forge ahead so quickly that it is a great challenge for many young people to make time and opportunities within the frame of schooling to engage with them playfully. None of us can foresee the workplaces of the future, but their foundation will be the STEM subjects and long-term promotion of training activities. Support of "Technology Is Fun!" workshops of Lego Mindstorms kits for schools can excite young people and cause them to go in for subjects such as programming, Artificial Intelligence and so on."

Ralf Kluth
Managing Director
AVURA GmbH

„Mechanical engineering is moving – Industry 4.0 and digitization demand rethinking development methods and processes. Software, simulation and intelligent data processing up to Artificial Intelligence will dominate the mechanical engineering of tomorrow. But for that, industry needs properly trained engineers. ITQ does impressive work in that area. I already had the chance to see, on the Makeathons in Germany and Gran Canaria organized by Dr. Rainer Stetter and ITQ, how young people mastered complex technological challenges within a few days using creative approaches, innovative development methods and a fair dose of enthusiasm. Mechanical engineering in Germany and Austria needs pioneers like Dr. Stetter, who bring a breath of fresh air into encrusted structures and who make young people fascinated by technology."

Philipp H. F. Wallner
Industry Manager
The MathWorks GmbH

„Digitization and Industry 4.0 are of vital importance for maintaining and strengthening the business location Germany. We are happy, especially as a medium-sized company, to be able to actively drive that change: With smart measuring instruments, innovative services, and fully networked and resource-efficient production, we do our crucial bit to digitize the water supply. During our transformation from a classical manufacturing company to an award-winning forerunner for Industry 4.0, it was and is essential to have found a strong partner with ITQ. The core competences of ITQ and the concerns of the Gerda Stetter Foundation are more important than ever."

Wilhelm Mauß
Managing Director
Lorenz GmbH & Co. KG

Our Training Concept:

Inspiring youth for technology is the basis for ensuring qualified junior staff of German companies. The teaching of technical knowledge should be prepared in such a way that young people enjoy it and discover the technology for themselves.

The Gerda Stetter Foundation is targeting a modular training concept. We want to interest children and adolescents in technological projects and shape tomorrow's technology the smart and green way. Handling technological knowledge and training with technological projects are the focus of our activities.

Our training concept emphasizes the well-tried top-down principle, where young students are guided and trained by ITQ coaches. Besides technological content, soft skills for handling children and young pupils are on the agenda. The pupils, coached by students, build robots with sensors, motors and lots of Lego stones in our Lego Mindstorms workshops. In the next step, pupils who participated in a workshop can pass on their knowledge to other primary school children. In that way, we spread early fascination for science and technology among young people and reduce anxieties about complex technology.

Another important item is better connections: With practice-oriented university projects, we want to bring industry and education closer together. Combination of cross-institute lecture concepts with practice-oriented team term papers in the industry means that students will learn independent work, efficient project management and cross-disciplinary knowledge.

With our Makeathons, we address exactly that audience: trainee engineers, developers and programmers meet industry employees, and together they process technological projects within a given time – so-called Industry Challenges. In 2019, we could implement eight Makeathons with about 700 students. We would like to give our sincere thanks to all participants and sponsors!

Modular Training Concept

Management

- The basics and meaning of systems engineering
- Understanding of mechatronical projects and processes

Trainees

- Foster fascination for technology
- Practical professional training

Engineers

- Improve knowledge about interdisciplinary work
- Enhance the use of software

Pupils

- Understand cause-effect relationships
- Foster team work and independent thinking

Students

- Soft skills and experience in project management
- Enhanced understanding of software

Children

- Learning with fun and fascination for technology
- First experience with mechatronics

Setting an Example:

In order to better spread our approach, we established the student Lego coach concept, which we had initially developed at the TU Munich, at several other universities. Within the "Soft Skills Training", we offer students the opportunity of learning and applying necessary soft skills using a real interdisciplinary development task. To deepen these skills further, the students coach pupils on their way to a robot competition. The aim of this is training motivated and well-qualified students as technology coaches who spread their new knowledge to children. With that approach, which we plan to install at as many other universities, we come closer to our goal of a comprehensive supply of schools with motivated and well-qualified coaches.

Review of 2018

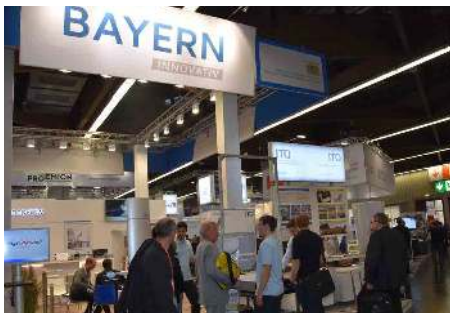
November 2018: Integration Islands

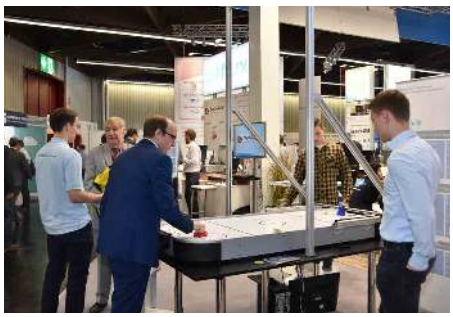
electronica 2018 - Fair demonstration “Smart Air Hockey” and “Digital Twin”, November 13-16

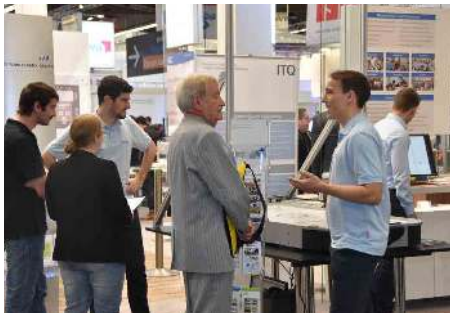
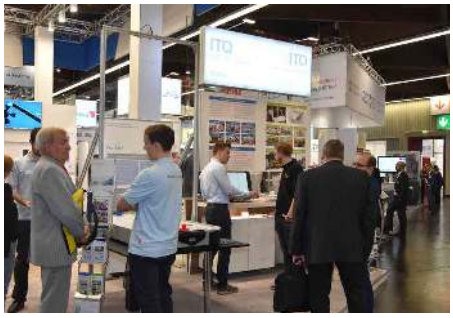



November 2018: SPS IPC Drives

Presentation of the “Smart Air Hockey Demonstrator” at the fair in Nuremberg, November 27-29





December 2018: 101-Year Anniversary ITQ

Fundraising on the 101-Year Anniversary in the FREIRAUM in Garching, December 07













2019 in Pictures

January 2019: Final Competition University Duisburg

Robot challenge and closing event at the University Duisburg, January 31









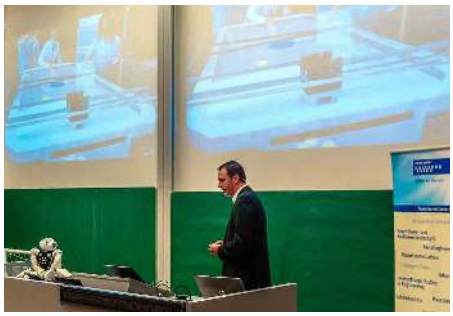






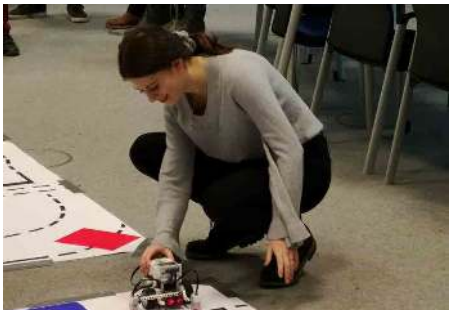
January 2019: Engineers' Night 2019 Artificial Intelligence

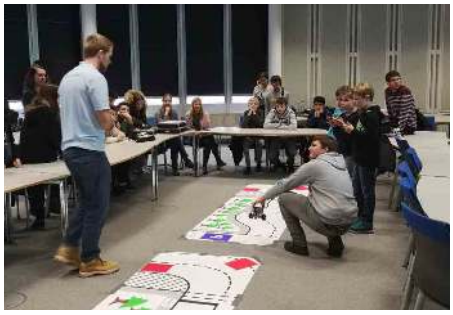
Exhibition and lecture "Machine Learning – Smart Air Hockey Demonstrator" in Duisburg, January 18

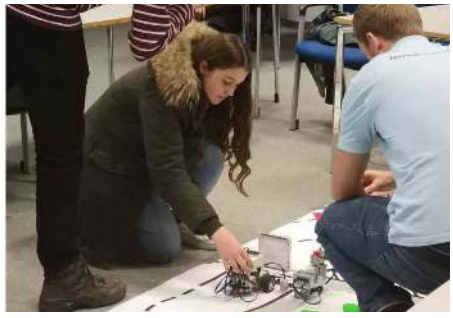




February 2019: Robot Competition Praktikum TUM

Robot challenge at the TUM in Garching, February 05





2019 in Pictures

February 2019: Makeathon in Gran Canaria

Smart Green Island Makeathon in Las Palmas, February 20-23









Spanish TV-Report
www.youtube.com/ITQInfo


February 2019: Makeathon in Gran Canaria

Smart Green Island Makeathon in Las Palmas, February 20-23











Video Smart Green Island Makeathon
www.youtube.com/ITQInfo

2019 in Pictures

March 2019: Makeathon with Pupils

1st Makeathon with pupils at the Gymnasium Höchstadt, March 09

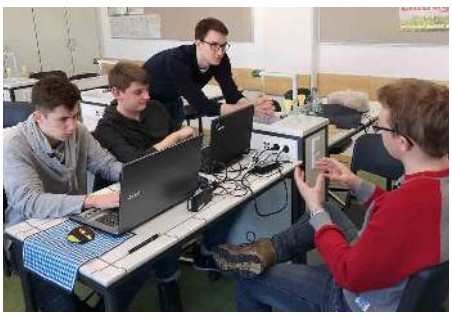












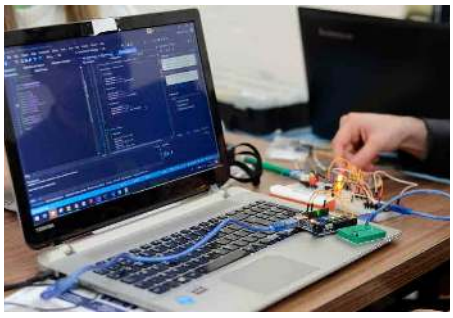
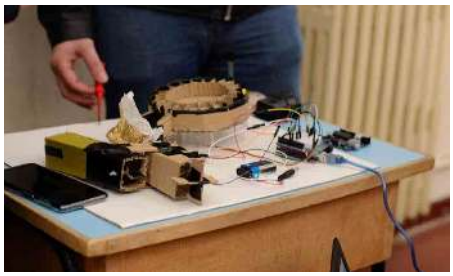
BR TV-Report
www.youtube.com/ITQInfo


March 2019: IoT-Makeathon Salamanca

IoT-Makeathon with the University of Salamanca in Spain, March 29-31







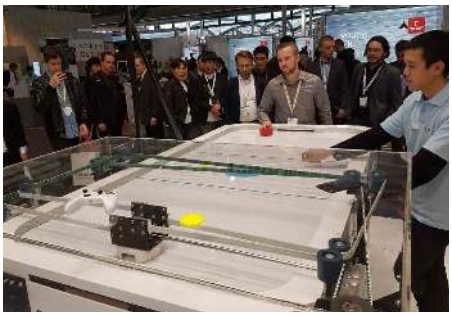
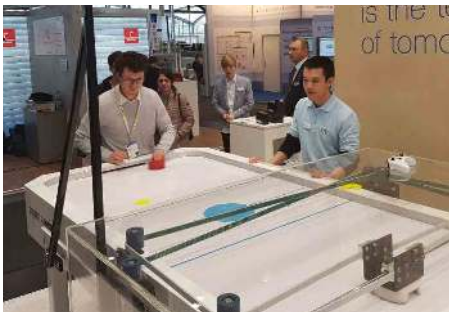


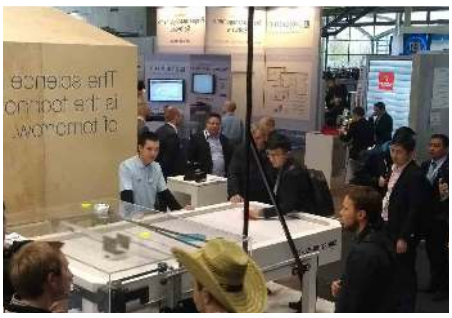


2019 in Pictures

April 2019: Hannover Messe

Presentation of the "Smart Air Hockey Demonstrator" and "MI5 Dartboard" in Hannover, April 01-05

April 2019: 5. MakeAAthon Hochschule Aalen

Students and apprentices of the Optima company develop a function prototype, April 15-17






May 2019: AEC Workshop Cleaning Robots

Cleaning robot course with children at the adult education center Unterschleißheim, May 04






May 2019: Visit from Chinese Delegation

Visit from a Chinese expert delegation "Industry 4.0" at ITQ in Garching, May 06






2019 in Pictures

May 2019: Team Challenge – Bamboo Solar Car Project

Development of prototype No. 1 Bamboo Solar Car in Aschau, May 24-26







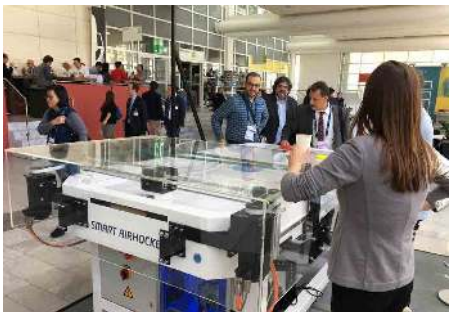




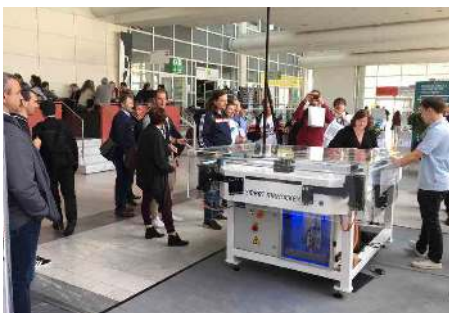
Video Bamboo Solar Car Project
www.youtube.com/ITQInfo


May 2019: Fair Texprocess Frankfurt

Smart Air Hockey Demonstrator at the VDMA joint stand in Frankfurt, May 14-17







May 2019: First Lego League World Finals Gymnasium Ottobrunn

Sponsored teams "GO ROBOT" in Detroit and "ROBOGO" in Montevideo, May 31





2019 in Pictures

June 2019: School Children Technology Workshop

Lego WeDo Workshop with the primary school St. Peter and Paul in Landshut, June 01






June 2019: NUCLEI Smart Makeathon

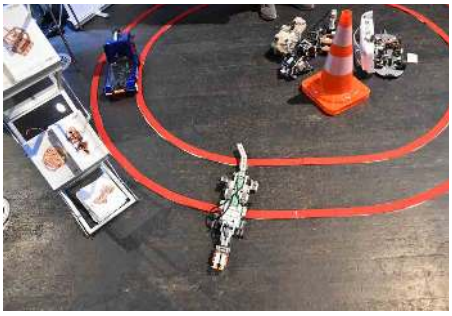
Smart Mobility, Farming, IoT and Connected Systems in Erlangen, June 21






June 2019: Munich Tech Days 2019

Exhibition "Digital Petting Zoo 4.0" and "Kinect Lego Mindstorms Robot Battle", June 03

June 2019: Visit from Tunisian Delegation

SupCom University on the subject "Education 4.0 in the Era of Industrie 4.0" in Garching, June 13

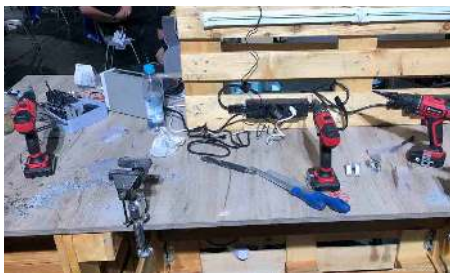





2019 in Pictures

June 2019: Makeathon – LASER World of PHOTONICS

Make Light Makeathon at the Laser World in Munich, June 24-27



Video Make Light Makeathon
www.youtube.com/ITQInfo

June 2019: Technology Workshops – LASER World of PHOTONICS

Technology Workshop stations for school children and refugees in Munich, June 24-27

Messe München International

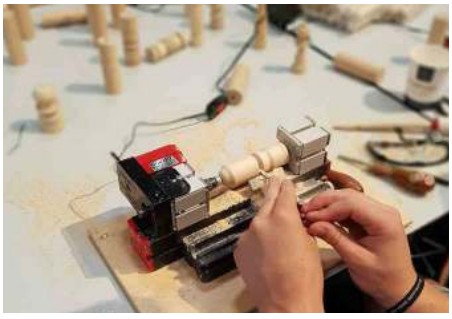












2019 in Pictures

July 2019: FIRST LEGO LEAGUE

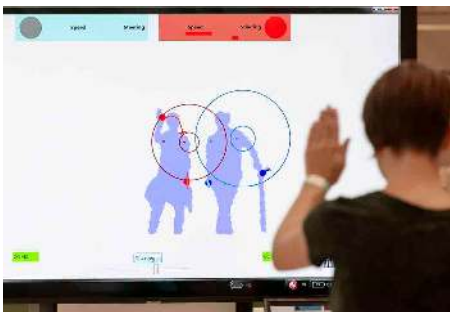
Winners' presentation Gymnasium Ottobrunn, July 04





July 2019: Family Day OPTIMA packaging group

Demonstration "Kinect Lego Mindstorms Robot Battle" in Schwäbisch Hall, July 10

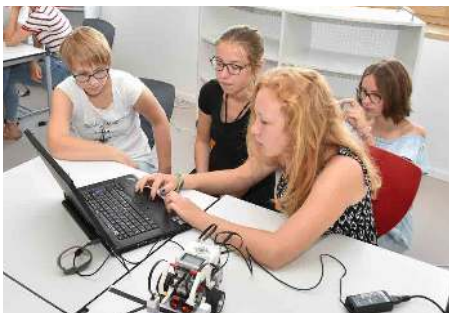


July 2019: Pupil Technology Workshop

Lego Mindstorms Workshop with pupils of the Realschule Freising, July 22





July 2019: Pupil Technology Workshop

Lego Mindstorms Workshop with pupils of the Leonhard Wagner Gymnasium in Augsburg, July 23





2019 in Pictures

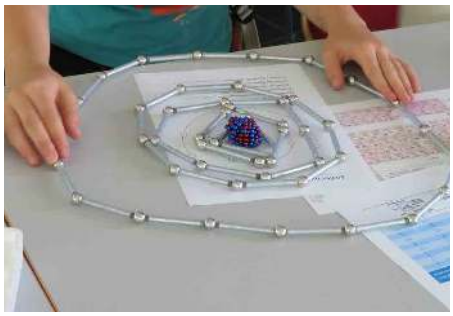
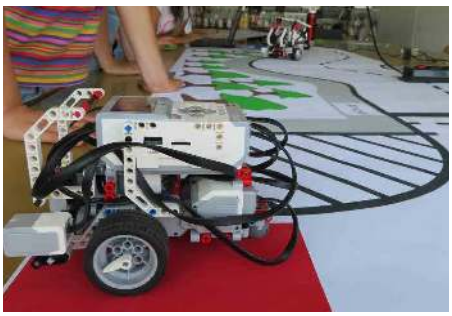
August 2019: Girls Make Technology

chen machen Technik mäd

Lego Mindstorms Workshop at the TUM in Garching, August 26-27





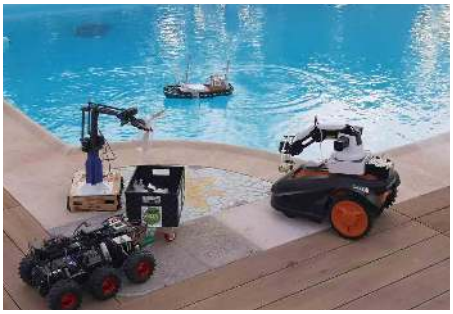
August 2019: Bamboo Solar Car Project

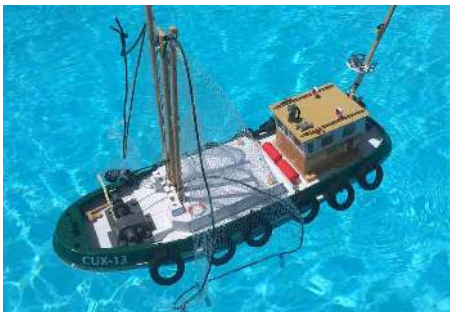
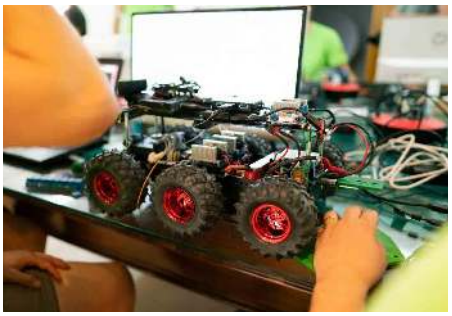
Summer Camp in Gran Canaria, August 14-21

Video Bamboo Solar Car vs Renault Twizy
www.youtube.com/ITQInfo


September 2019: PlastiX Project

Summer Camp in Gran Canaria, September 01-08







PlastiX Project Video
www.youtube.com/ITQInfo

2019 in Pictures

September 2019: Makeathon in Tunisia

Smart Green Tunisia Makeathon in Tunis, September 21-24

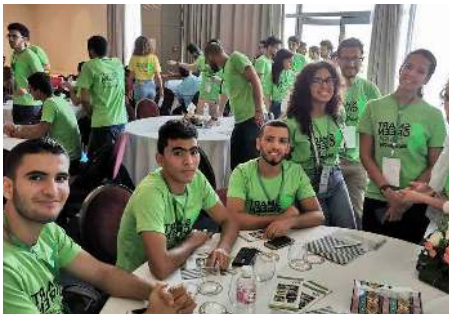








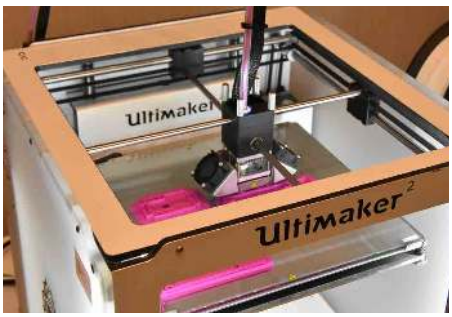


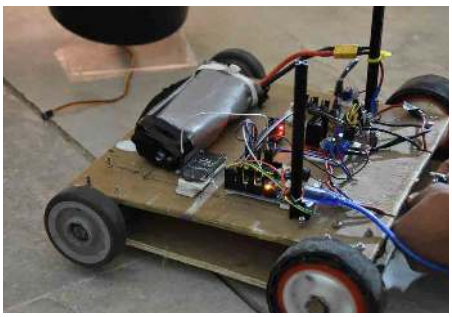



September 2019: Makeathon in Tunisia

Smart Green Tunisia Makeathon in Tunis, September 21-24









Video Smart Green Tunisia Makeathon
www.youtube.com/ITQInfo

September 2019: Maker Day – Makeathon

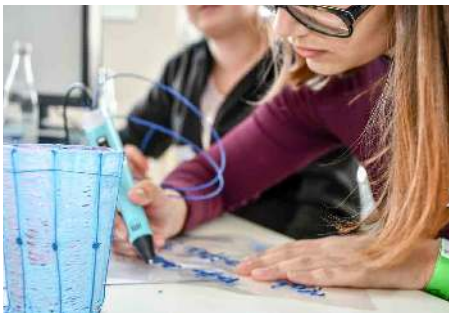
Fair "make Ostwürttemberg" in Schwäbisch Gmünd, September 28-29



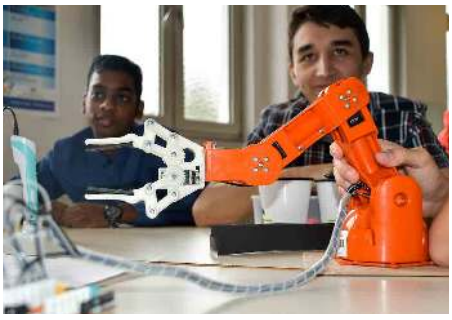











October 2019: AEC Workshop Lego Mindstorms

Lego Mindstorms course with children at the adult education center Unterschleißheim, October 19






bayern innovativ

October 2019: Mobility Congress – mobilität querdenken

Lecture "New Mobility in the Making" and demonstration "Bamboo Solar Car in Nuremberg, October 22






2019 in Pictures

November 2019: Makeathon in Botswana, Africa

Smart Green Botswana Makeathon in Botswana, November 17-21














November 2019: Makeathon in Botswana, Africa

Smart Green Botswana Makeathon in Botswana, November 17-21













Video Smart Green Botswana Makeathon
www.youtube.com/ITQInfo

Our Activities in Duisburg

JANUARY 31

LECTURES AT THE UNIVERSITY DUISBURG-ESSEN

In the course of the mechanical engineering lecture at the University Duisburg-Essen, 52 students supervised 183 school children in total, from six different schools, within their Robotics AG. On the one hand, the students learned new things from the areas of project management, soft skills, and Lego Mindstorms. On the other hand, the students had the task of arousing interest for technology and further their understanding of the logic of programming. At the final event, there was a "Robolympics" technology competition where the school children set the Lego Mindstorms robots they had programmed against each other in four different disciplines.

This event, organized by ITQ Duisburg together with the mechatronics chair, was already the fourth of its kind. Planning of the Robolympics 2020 is under way.

MAY 02

TEN YEARS ITQ IN DUISBURG

On May 2nd, 2009, Jörn Linke opened our branch in Duisburg/NRW. Ten years later, the NRW team has grown from one to 19 employees. Many young people, especially students from the University Duisburg-Essen, contribute as working students to numerous different projects and can make varied experiences in real projects. With an international team from eight nations and an average age of 29 years, we are a colorful troupe of young and young-at-heart people who want to expand the branch further soon.

Foto: Michael Dahlke

JUNE

DUISBURG TECTALK FOR DIGITAL TRANSFORMATION – EVENT SERIES

The "TecTalk Digital Transformation" is directed at managers of those companies which face the hardest demands from integrating the effects of digitization into their business models. The initiators of the "TecTalk Digital Transformation" are ITQ GmbH, the communication consultancy crossrelations, and the Förderverein Ingenieurswissenschaften of the University Duisburg-Essen e.V. With this format, they want to give a platform to the necessary multidisciplinary exchange. The participants are to gain new knowledge via keynote speeches on priority topics, and they can directly exchange ideas with each other. Knowledge growth and networking are unavoidable. This year, two such events have already happened:
TecTalk #3 "This Is How Augmented Reality Broadens the Industrial Horizon" on February 14, and TecTalk #4 "Agility Does Not Mean Lack of Planning" on June 25, with a guest lecture by Vincent Enßlin, ITQ consultant.

AUGUST

FOUNDATION OF THE CENDIQ (CENTER FOR DIGITAL QUALITY)

Together with employees of six high-tech companies and the chair for "Embedded Systems" of the University Duisburg-Essen, the Cendiq Alliance was presented at the end of August. Cendiq, the Center for Digital Quality, offers specialized services for safe and reliable software development. Among the company partners are, besides ITQ GmbH, Albellus AG, bridge4IT e.K. and QiTASC GmbH, and additionally TIOBE B.V. and tean GmbH & Co. KG. Every one of these companies specializes in ensuring digital quality – from software development via automated testing to data safety and data analysis. The alliance's aim is to support companies on their way to the digital transformation.

Our Activities in Erlangen

FEBRUARY 02 - MARCH 09
PUPIL MAKEATHON

To turn a fixed idea into a finished project – that is what 19 pupils of the Gymnasium Höchstadt and three apprentices of the Schaeffler company underwent. The Pupil Makeathon project started on February 2 with a brainstorming and generation of ideas. After a weekend with various workshops in the Kreativzentrum Sachsenmühle, two groups developed their respective ideas on five weekends and busily built, tinkered and programmed in order to implement the project. In cooperation with industry engineers and students from various disciplines, the participants got information from their "coaches" about many areas, starting with playful handling of Lego Mindstorms or Arduinos. Several consultants gave interesting input concerning programming and Face2Face software up to 3D printing. Ethical aspects of dealing with technology were also pointed out in field reports from the pool of experience at "Technology Without Borders". At the final event on March 9 in the Gymnasium Höchstadt, the pupils and apprentices could present their results to the public. The Bayerischer Rundfunk reported the pioneering education project in a TV programme. On November 08/09, the pupil Makeathon concept is present to a broader public within the STEM EC school principal conference 2019 in Dresden.
Our special thanks goes to Achim Engelhardt (Gymnasium Höchstadt) and Dr. Alexander Rüstig for their support in planning the concept. We also thank the Rotary Club Höchstadt for the financial support and Dr. Frank Neumann (Technology Without Borders), Prof. Günter Greiner (FAU), George Kaehler (Siemens) and Matthias Reinholdt (Siemens) for their technical contributions.

SEPTEMBER 26
PUPIL INFO DAY AT THE FAU

On that day, technophile pupils could find out about the manifold range of studies offered at the FAU Erlangen-Nürnberg. For seven years now, our Erlangen branch manager, Dr. Bernhard Kausler, is a fixed part of the Pupil Info Day. Every year, he gets the pupils enthusiastic about the technological fields of the University with his keynote speech "Engineers in the Industry".

MARCH 29-31
IOT-MAKEATHON BEJAR

For the second time, after a successful kickoff in 2018 in Salamanca, ITQ GmbH organized the second IoT Makeathon in Bejar (Spain) in cooperation with Fundación Bases and Aplifisa. Between 29th and 31st of March, about 125 young talents competed in an interdisciplinary challenge to develop new product ideas in the IoT area. The goal was to make a prototype within three days and present it at the end of the event. This year, for the first time, 3,000 € were offered to be distributed among the three best ideas.

JUNE 21
SMART AUTOMATION MAKEATHON IN ERLANGEN

On June 21, 2019, ITQ GmbH organized the first Smart Automation Makeathon in Erlangen within the EU project NUCLEI. About 30 participants, aged between seven and 63, could dedicate themselves to the subjects of IoT, robotics, automation and connected systems. Because the technologies on offer included Lego WeDo, Lego Mindstorms, Arduino, Raspberry Pi and divers robots, there was something for every age or prior knowledge. At the final event in the evening, young and old could present their results and learn from each other.

Our Activities in Gran Canaria

Report: Dr. Stetter ITQ 2019

2019 started with the perennial Smart Green Island Makeathon. This is the fourth time this unique event, which connects industry, research and young talents, took place. With 400 participants and 80 industry representatives, this year's Makeathon was the biggest of its kind yet. This trend is to continue in 2020 with more than 500 participants. During the 2019 event, 27 teams worked on current and innovative topics, such as Smart Mobility, Artificial Intelligence (AI), and Internet of Things (IoT) for four days, for 10,800 man hours in total, and developed numerous prototypes. With events such as the Makeathon, ITQ prepares students, but also deciders from industry and economy for the digital revolution, releases creativity in "Silicon Valley Style" and clears the way for a smart, ecological and innovative future!

Impressive basic information about Makeathon 2019:

- 400 participants, 27 teams
- 270 students from 70 universities in 21 countries
- 130 guests from research, industry and politics
- Opening speech by the President of Gran Canaria
- 80 representatives of 40 companies
- 18 sponsors – 14 international companies, 4 local ones

Makeathon Participants 2016 - 2019

Sponsors

Within the Makeathon, a series of impressive prototypes was made which can serve as a foundation for future Smart Green Island projects.

Opening Dr. Stetter ITQ Innovation Lab

After the offices of Dr. Stetter ITQ, launched in 2016 in the technology park of the University of Las Palmas de Gran Canaria, and the ITQ Smart Villa, acquired by Dr. Stetter in 2017, this year, the Innovation Lab was opened in the city center of Las Palmas, just a few steps from the legendary city beach Las Canteras. The new lab, with its fully equipped workshop, modern 3D printers and workplaces, provides our on-site developers new possibilities for developing and setting up bigger prototypes such as the Bamboo Solar Car.

By its central location, it also offers the opportunity to establish a dialogue with the local populace and to inform interested visitors about the important issues of the Smart Green Island project.

Promote Sustainable Ideas

Bamboo Solar Car – Smart Mobility

During the Smart Green Island Makeathon in February 2019, the idea of the Bamboo Solar Car was born in the field of Smart Mobility. With this low-cost vehicle made of standard components plus renewable and recycled parts, sustainable electric mobility is to be made available for everybody.
Especially in regions with limited infrastructure, mobility for the populace can be ensured. The Bamboo Solar Car as an open-source project is to be accessible for everybody, and is envisaged as a forward-looking mobility solution for Africa. After a development period of only five months by an international team, a prototype could be built – manufactured exclusively in Gran Canaria. It attracted so much attention in the local media as well as the Spanish TV station Antenna3 that exciting follow-up projects have emerged. In cooperation with the golf course in Maspalomas, a new project was started, within which Dr. Stetter wants to reconfigure the existing fleet of golf cars with solar power. We wait in suspense to find out which other exciting challenges the year 2020 holds for us.

Summercamp – PlastiX

At the ITQ Smart Green Island Summer Camp in September, the issue was one of the central ecological challenges of the 21st century, besides climate change: the removal of plastic waste from the environment. In order to solve this problem in an automated and efficient way, the concept project PlastiX was developed this week in the ITQ Smart Villa.
The mission PlastiX has devoted itself to AI-based detection and automated professional disposal of plastic waste from the environment. The concept was developed by an interdisciplinary and international team of young talents.
With the creation of the concept, of a database for training neuronal networks, and of seven robot prototypes, the foundation for a smart, innovative, and sustainable project was laid. Since ITQ stands for pioneering and sustainable projects, the project is to be continued within the Smart Green Makeathon 2020.

Smart & Green – Bamboo Solar Car

During the Smart Green Island Makeathon in February 2019, the idea for a new Smart & Green Innovation Project in the field of Smart Mobility was born, the Bamboo Solar Car. The project is being developed by an international team of students and is a further step into our innovative Education 4.0 approach.

The Bamboo Solar Car Concept

With the low-cost vehicle made of standard components as well as renewable and recycled ones, sustainable electro mobility will be available for everyone.

Thus, mobility for the population with little financial resources should be possible, especially for regions with poor infrastructure such as Africa.

Technical details of the Solar Car

The frame of the car consists entirely of bamboo canes, which are cut and glued using precise instructions. Flexibly large solar panels on the roof of the vehicle achieve an amount of energy of up to four kilowatt-hours and a range of up to 30 km.

The installation of a DC motor with an output of three to four kilowatts enables a speed of up to 40 kilometers per hour. The material costs should remain under 5,000 Euros.

The first prototype was ready to drive after 24 hours

The first prototype was created in May 2019. ITQ employees and working students built it during the annual summer event .

Under the guidance of the core team "Solar Car for Africa", consisting of 20 students from 7 different countries, a first prototype was built within 24 hours on the basis of the rendering.

Owner and Managing Director Dr. Rainer Stetter took over the maiden voyage of the Bamboo Solar Car in bright sunshine and was obviously enthusiastic about the excellent planning and creative implementation.

The first prototype followed further evaluations and optimization circles. At two Makeathons in Germany and Botswana, further models have been developed.

New prototype in Botswana

The fourth prototype was created at the end of 2019, just half a year after the project started, during a Makeathon in Botswana. Here the team faced its own challenges. While the students had brought materials such as electronics and auto parts to Botswana in suitcases, the raw material bamboo was ordered locally beforehand.

Smart & Green – Bamboo Solar Car

Unfortunately, only at the Makeathon launch it became clear that the bamboo, which was initially considered essential, could not be obtained.

The team had to reschedule the entire frame under great time pressure. In conversation with the local Makeathon participants and local companies, inexpensive resources got identified. The team received old, rusted steel pipes for the frame from a nearby recycling center.

In a night shift, the students welded and soldered together a usable car frame. In conversation with the locals it became clear that another feature was essential for African conditions: a protective tarpaulin against sand and dust.

Thanks to the good networking with the other teams and a high level of team spirit, it was possible to find a company that quickly made a tarpaulin overnight as dust and dirt protection for the solar car.

Thus, the Bamboo Solar Car became a Recycling Solar Car with a Safari Design. The engine, batteries and electronics were also sponsored by local companies, or recycled from old car parts.

First official deployment

At the next Smart Green Island Makeathon in Gran Canaria in March 2020, three fully functional Bamboo Solar Cars are going to transport participants and guests around the event location.

This is how the latest Smart & Green Innovation Project finds its way back to where it originated, the Smart Green Island Makeathon on Gran Canaria. The experience for the student teams in Botswana and on the numerous other Makeathons are priceless.

That is what Education 4.0 is all about, getting young talents around the world excited about technology!

Press Review

WAZ

Adresse dieses Artikels:
https://www.waz.de/staedte/duisburg/itq-liefert-aus-duisburg-loesungen-mit-frischem-blick-id217072433.h

WAZ+ Gratis testen

WIRTSCHAFT

ITQ liefert aus Duisburg Lösungen mit frischem Blick

Martin Ahlers

02.05.2019 - 10:31 Uhr

Lösungen entwickeln mit frischem Denken: Die ITQ-Niederlassung im Tectrum an der Bismarckstraße feiert ihren zehnten Gründungstag. Das Bild zeigt Niederlassungsleiter Jörn Linke (vorn M.) mit einem Teil der insgesamt 19 Mitarbeiter, die Absolventen oder Studierende der Uni Duisburg-Essen sind.

Foto: Michael Dahlke

DUISBURG. **Die Hälfte der Mitarbeiter studiert noch. Bei Lösungen für Mechanik, Elektrik und Software arbeitet das Unternehmen eng mit der Uni zusammen.**

Das Zusammenspiel von Mechanik, Elektrik und Software gleichzeitig zu betrachten ist die Stärke der ITQ. Die Besonderheit: Rund 50 Prozent der Mitarbeiter sind noch Studierende. Am Freitag wird der erste runde Geburtstag gefeiert: Die Duisburger Niederlassung gibt es seit zehn Jahren. „Die enge Anbindung an die Universität ist eines unserer Prinzipien", sagt Leiter Jörn Linke, mit 51 Jahren der „Senior" in einem Team mit einem Durchschnittsalter von 29 Jahren.

Resource: WAZ-Article from May 02, 2019

Win-Win-Situationen schaffen

„Unsere Leute bringen frisches Denken mit, gehen zwar sehr unbedarft ran, aber haben keine Scheuklappen auf und denken leichter quer als manche erfahrenen Ingenieure“, schildert Linke die Vorteile der Jugend. Als Einzelkämpfer begann der Elektroingenieur vor zehn Jahren, Theresia Rusch, seine erste Mitarbeiterin, kam aus einer Vorlesung, die ITQ am Lehrstuhl für Mechatronik anbietet. „Wer Lust hat, kann bei uns mitarbeiten“, hatte Linke angeboten. Rusch wollte – und ist nach bald neun Jahren immer noch dabei. „Bei den Vorlesungen lerne ich die Leute persönlich kennen und merke, ob es passt“, sagt Jörn Linke.

Jörn Linke (r.) begann als ITQ-Niederlassungsleiter vor zehn Jahren, Daniel Kohnen, Simon Lehmann, Theresia Rusch und Laura Rupprecht (v.l.) gehören zu den Mitarbeitern, die am längsten mit dabei sind.
Foto: Michael Dahlke

So praktiziert es die ITQ an allen Standorten. „Wir machen viel Ausbildung, versuchen Win-Win-Situationen für das Unternehmen, die Studierenden und die Kunden zu schaffen“, erklärt Linke. Die zahlen vergleichsweise wenig, die Studierenden sammeln wichtige Erfahrungen und das Unternehmen rekrutiert auf diesem Weg seine Mitarbeiter. „Aber natürlich müssen auch wir am Ende des Tages wirtschaftlich arbeiten“, erklärt Linke.

Messen als Kunden-Kontaktbörse

„Hier konnte ich Praxiserfahrung sammeln, die ich in der Uni nie bekommen hätte“, sagt Daniel Kohnen, der wie viele andere seine Masterarbeit in einem ITQ-Projekt geschrieben hat. „Wir sind uns für nichts zu schade“, beschreibt Simon Lehmann einen weiteren Grundsatz, den die Kunden schätzen.

Für viele Werkstudenten seien die Projekte deshalb auch das Sprungbrett für eine Anstellung bei den Kunden. Die kommen aus einem Radius von bis zu 300 Kilometern, die meisten aus der Region. Darunter viele namhafte Unternehmen und Konzerne wie Siemens oder der Krefelder Anlagenbauer Siempekamp. „Wir simulieren dort die Anlagen, bevor sie in die Produktion gehen“, erläutert Simon Lehmann. Die Modularisierung von Anlagen, die eine schnelle Produktumstellung gewährleistet, ist ein weiterer Schwerpunkt.

Digitalisierung prägt Projekte der Zukunft

Die Digitalisierung, das Internet der Dinge (IOT) werden Projekte der Zukunft prägen, ist Theresia Rusch sicher: „Da hängt der Maschinen- und Anlagenbau immer ein paar Jahre hinterher“, sagt sie. Noch eine ITQ-Besonderheit: Einen Vertrieb für die Kunden-Akquise gibt's nicht. Große Messen wie die Interpak sind wichtige Kontaktbörsen. „Da sind wir mit Demonstratoren und lernen viele Leute kennen“, sagt Jörn Linke.

>>> ITQ: 200 Mitarbeiter an vier Standorten

Die ITQ (steht für IT und Qualität) wurde vor 21 Jahren von **Dr. Rainer Stetter** in München gegründet. Weitere Standorte sind Erlangen, Gran Canaria und Duisburg. Info: www.itq.de

In der **Duisburger Niederlassung** im Tectrum an der Bismarckstraße arbeiten derzeit 19 Mitarbeiter, sie rekrutieren sich aus der Uni Duisburg-Essen.

Zum Tüftler-Treff nach Gran Canaria

Bei „Makeathon“ ist erstmals auch ein Team der Uni Duisburg-Essen dabei. Talente aus 21 Ländern entwickeln gemeinsam innovative technische Lösungen

Von Martin Ahlers

Ab dem morgigen Mittwoch wird Gran Canaria zum Treffpunkt für den technologischen Nachwuchs. Beim vierten „Smart Green Island Makeathon“, ausgerichtet vom Münchener Unternehmen ITQ, geht erstmals auch ein Team der Universität Duisburg-Essen an den Start. Gemeinsam mit 260 jungen Talenten von 70 verschiedenen Universitäten aus 21 Ländern geht es für die jungen Tüftler darum, in drei Tagen in internationalen Teams Aufgabenstellungen für innovative technische Lösungen zu entwickeln.

„Es geht darum, gemeinsam Lösungen in einem internationalen Team zu entwickeln.“

Jörn Linke, ITQ-Niederlassungsleiter

Mechatronik und Software-Lösungen – dafür steht die ITQ. Auch in der 2009 gegründeten Duisburger Niederlassung mit derzeit 17 Mitarbeitern geht es darum, Mechanik, Elektronik und Informatik als gemeinsames System zu entwickeln für die Kunden. Die Nähe zur Uni Duisburg-Essen (UDE) ist mit dem Sitz im Tec-Center an der Bismarck-Straße nicht nur geografisch. „Ungefähr die Hälfte der insgesamt 200 Mitarbeiter von ITQ sind Studenten, die ihr Studium noch nicht abgeschlossen haben. Häufig haben sie Werkstudenten-Verträge oder absolvieren ein Praktikum“, erklärt Niederlassungsleiter Jörn Linke.

Entwicklen, präsentieren, umsetzen

Der „Makeathon“ beruht auf der These, dass es im Zeitalter von Industrie 4.0 nicht nur neuer Unternehmensideen, sondern auch innovativer Ausbildungskonzepte bedarf. „Die Entwicklung von Lösungen im Team ist durchaus eine Stärke deutscher Ingenieure“, sagt Linke. „Wo könnte man das besser üben als bei einem solchen internationalen Wettbewerb.“ Erstmals sind deshalb bei der vierten Auflage im ITQ-Team auch sechs Master-Studierende der UDE dabei.

Weniger die Aussicht auf sonnige Tage als die Verankerung im Lehrplan mit Credits für den Makeathon erleichtere es, Teilnehmer zu finden, berichtet der ITQ-Niederlassungsleiter.

Dabei werden die Duisburger in einer Messehalle auf der Kanareninsel allerdings nicht gemeinsam unter der ITQ-Flagge antreten. „Alle werden aufgeteilt in internationale Teams“, erläutert Linke. Die Technik-Talente können sich für eine Aufgabe entscheiden, die auch von den Sponsoren des Makeathon gestellt werden. Im vergangenen Jahr ging es etwa um das „Hotelzimmer der Zukunft“ oder um ein Gerät, das am Strand den Müll einsammelt.

Drei Tage lang geht es dann darum, sich im Team zu finden, eine Idee zu entwickeln, zu präsentieren und technisch in einem Prototypen umzusetzen. Elektronische Bauteile, Baumaterial und 3D-Drucker werden von den Organisatoren gestellt, weiteres Material stellen die Sponsoren.

Warum Gran Canaria? „Die Insel ist für alle internationalen Teilnehmer gut zu erreichen, in der Nebensaison gibt es außerdem günstige Flüge“, erklärt Linke. Die Entscheidung habe sich auch für die ITQ als Glückgriff erwiesen. Ein Student der örtlichen Universität fand über den Makeathon Kontakt zum Unternehmen, das war vor drei Jahren die Keimzelle für die Gründung einer eigenen Niederlassung in Las Palmas, die mittlerweile 20 Mitarbeiter zählt. Ähnlich lief es in Sevilla – in der andalusischen Metropole startete vor einem Jahr die jüngste ITQ-Tochter. „Es gibt dort viele talentierte und hoch motivierte Nachwuchs-Ingenieure, aber wenig Möglichkeiten, einen Job zu finden“, sagt Linke.

Makeathon gibt’s auch als Angebot für Unternehmen

- Gründer und Eigner der ITQ ist der Münchener Ingenieur **Dr. Rainer Stetter**, die bayrische Landeshauptstadt ist seit 21 Jahren auch Hauptsitz des Unternehmens und der Dr. Stetter-Gruppe, weitere Niederlassungen gibt es in **Erlangen und Duisburg** (seit 2009).
- In Duisburg organsiert ITQ die **„Robolympics“**, einen Programmier-Wettbewerb für Schülerteams.
- Der „Makeathon“ hat mittlerweile Ableger in einigen weiteren Städten. In München soll es auf dem Messegelände im kommenden Jahr einen **Makeathon mit 1000 Teilnehmern** geben. „Das ist aber noch eine Vision“, sagt der Duisburger Niederlassungsleiter Jörn Linke. Auf Wunsch organisiert das Unternehmen auch einen Makeathon für Firmen, die auf diesem Weg **neue Ideen und Produkte** entwickeln wollen. Info und Kontakt: www.itq.de

Auf zum Makeathon nach Gran Canaria: Jörn Linke (ITQ Duisburg), Torben Weißkopf, Robin von Mallinckrodt, Philipp Schnadhorst, Dr. Niko Maas (UDE, vl..n.r.). Vorn: Christoph Jeziorek, es fehlt: Jan Gosedopp. FOTO:FABIAN STRAUCH

Resource: WAZ-Article from February 19, 2019

SONNE, STRAND... UND **TOLLE TECHNIK**

Ende Februar tobten sich über 270 Studenten aus 21 Nationen auf dem Smart Green Island Makeathon auf Gran Canaria aus. Was für ein exotischer Name! Doch was steckt dahinter?

Autor: Meinrad Happacher | Redaktion: Christina Deinhardt

WIE LÄUFT DER MAKEATHON AB?

» Die Einführungsphase: Zu Beginn wird den Teilnehmern erklärt, was ein Makeathon ist und was weiter passieren wird.
» Challanger-Phase: Die sogenannten Challenger präsentieren die zu bearbeitende Herausforderung der Öffentlichkeit.
» Ideenbildungsphase: Die ganze Gruppe fängt an, Ideen zur Bewältigung der jeweiligen Herausforderung zu entwickeln, die für die gesamte Gruppe notiert werden.
» Ideenauswahlphase: Jeder Teilnehmer muss sich entscheiden, an welcher Idee er während des Makeathons mitarbeiten möchte. Dabei ist die Fokussierung auf erreichbare zeitbegrenzte Ergebnisse wichtig: Eine echte Rakete für eine Monderkundung ist für die kurze Zeit nicht umsetzbar, aber eine virtuelle Rakete könnte machbar sein.
» Teambildungsphase: Für jede Idee werden Teams gebildet, die ausgewogen aufgestellt sein sollten – so sollten zum Beispiel nicht alle technischen Experten in einer einzigen Gruppe arbeiten.
» Implementierungsphase: Nach der Auswahl kann die eigentliche Arbeit beginnen! Durch das verfügbare technische und nichttechnische Fachwissen („InnovateMates") wird den Teilnehmern Hilfe angeboten.
» Präsentationsphase: Am Ende des Makeathon werden die Ergebnisse präsentiert: Die Gruppen erklären, wer was und warum erarbeitet hat.
» Nachbereitung: Der Gastgeber der Veranstaltung präsentiert einige abschließende Bemerkungen.

Ein Makeathon ist eine Abwandlung des Hackathon. Der Hackathon ist in der Regel ein Programmierwettbewerb zwischen unterschiedlichen Teams, wobei eine Jury die besten Ideen auslobt. Der Schwerpunkt liegt auf der Umsetzung einer Idee, nicht auf dem Prozess selbst. Beim Makeathon liegt der Schwerpunkt dagegen auf dem Prozess der gemeinsamen Entwicklung von Dingen. Sprich: Es geht mehr um den Prozess als um die Endergebnisse. Beim Makeathon stellen sich Nachwuchskräfte der Herausforderung, funktionierende Lösungen für ihre Industrien

Nach der Teambildung geht es los mit der Umsetzung des Projekts. (alle Bilder: ITQ)

Die Abschlusspräsentation am vierten Tag: vor allen Teilnehmern präsentieren die Teams ihre Ergebnisse.

zu erarbeiten - unter Real-LifeBedingungen und einem begrenzten Zeitrahmen. Die Teilnehmer sind konkurrierende Teams, die sich unter anderem aus jungen Software-Entwicklern, Mechanikern, Mechatronikern, Designern und Business Developern zusammensetzen. Ihr Publikum sind Vertreter der jeweiligen Industrie, die hier die Innovatoren von morgen kennenlernen. Zum Teil arbeiten während des Makeathon sogar die Firmenvertreter Hand in Hand mit den Teilnehmern an den technischen und nicht-technischen Herausfor-derungen. Der Smart Green Island Makeathon in Las Palmas hat fast schon Tradition. Zum ersten Mal fand er im Februar 2016 statt und zählte insgesamt 46 Teilnehmer. In den vergangenen drei Jahren stieg die Teilnehmerzahl kontinuierlich - und in 2019 trafen sich unter der Sonne von Gran Canaria 400 Teilnehmer - darunter auch 270 junge Talent aus 20 Nationen und von 70 Universitäten. Der Makeathon ist für Nachwuchs-Recruiting die perfekte Plattform, da sich Teilnehmer und Firmen in lockerer Atmosphäre näher kennenlernen können. Zahlreiche Sponsoren unterstützten das Event und waren mit Vertretern von über 40 Unternehmen extra angereist, um sich live vor Ort ein Bild über das Veranstaltungsformat zu machen. Wie auch schon im vergangenen Jahr eröffnete der Präsident von Gran Canaria, Antonio Morales Mendez, den Makeathon. Mendez unterstützt die Vision von Dr. Rainer Stetter - dem Initiator des Makeathon: ,,Gran Canaria ist mit seiner Nähe zum Festland Europas, seiner exzellenten Infrastruktur und seiner guten politischen Lage ein perfekter Ort, um Innovationen voranzutreiben und hier eine Smart Green Island zu erschaffen." Dementsprechend erwarten die Teilnehmer des Makeathons neben der freien Themenstellung auch sogenannte „Industry Challenges" der Sponsoren, die aktuelle Themen rund um Digitalisierung, Industrie 4.0, Smart Horne, Smart Production, Smart Mobility und Green Energy behandeln. Zudem hatten die Teilnehmer auch die Gelegenheit verschiedene Workshops zu den Themen Robotics, Green and Autonomous Cars sowie Industrie 4.0 zu belegen. Als besonderes Highlight waren dieses Jahr zwei innovative Fahrzeugkonzepte vertreten: Teamvertreter des Brennstoffzellen-betriebenen Hydro2Motion-Teams aus München und zwei weitere Solarfahrzeuge haben hierfür den weiten Weg auf sich genommen, um am Makeathon teilzunehmen. Mit einer Sondergenehmigung durften sie sogar die Insel befahren - eine ganz besondere Werbung für alternative Fahrkonzepte und innovative Ausbildung.

Resource: neo-Magazine from April 28, 2019

TeldeActualidad

Gran Canaria - 06/05/2019

El 'Smart Green Island' congrega a universitarios y expertos en el desarrollo sostenible de tecnologías

Más de 400 estudiantes y profesionales de 21 países participan estos días en el evento que se celebra en Infecar

Durante cuatro días trabajarán en equipos para desarrollar prototipos relacionados con la innovación sostenible (Foto TA)

TELDEACTUALIDAD

Las Palmas de Gran Canaria.- Robots, impresoras 3D, mecatrónica, softwares e inteligencia artificial serán algunas de las tecnologías que más de 200 estudiantes de todo el mundo desarrollarán en el *Smart Green Island Makeathon*, un evento que promueve la tecnología sostenible en Gran Canaria.

El objetivo de este encuentro, que acoge hasta este viernes el Recinto Ferial de Canarias (Infecar), es "fomentar el desarrollo sostenible de la isla" y que los jóvenes "aprendan a trabajar en equipo en proyectos tecnológicos", ha destacado el ingeniero mecánico Rainer Stetter, quien es también el impulsor del evento y propietario de la empresa organizadora, ITQ.

Esta isla "es un lugar en el que normalmente hay sol y viento, en la que se puede producir mucha energía verde", ha añadido el doctor Stetter.

'Smart Green Island' pretende "combinar el avance tecnológico y las energías renovables para crear proyectos sostenibles que ayuden al medio ambiente", ha definido Javier Mérida, estudiante de robótica de la Universidad de Sevilla.

Resource: Online-Article www.teldeactualidad.com from April 06, 2019

Ms Neo Mahube (middle) - Director Seza

SMART GREEN BOTSWANA MAKEATHON 2019: AMONG THE TOP HIGHLIGHTS OF THE YEAR.

THE Smart Green Botswana Makeathon caused quite a stir and started conversations regarding our readiness as a Country to usher in the 4th Industrial revolution-4IR. Hosted at the University of Botswana, from the 17th to the 21st of November 2019, the event brought together some of the Country's brightest and creative young minds for gruelling hours of a prototyping and design competition. The competition was spearheaded by the Special Economic Zones Authority and the Ministry of Investment, Trade and Industry, with technical support from the University of Botswana (UB) and the Botswana International University of Science and Technology (BIUST).

A Makeathon is an innovative educational event where students are challenged to create functional solutions for industries under real life conditions and within a set period of time. The idea is to bring together designers, creators and developers from different fields under an environment such as innovation labs where they can transform their ideas into functioning prototypes that can eventually become tangible products for the market.

Industry representatives are usually invited to sit in the audience and provide expert advice, which enriches the learning process. "Makeathons are about having fun while creating solutions, learning on the go and increasing network reach by interacting with fellow innovators and industry experts," said SEZA Director and Event Coordinator for the Makeathon, Neo Mahube.

The makeathon was set to develop solar powered innovative prototypes that provided solutions to the business challenges in areas such as smart home, smart farming, smart mobility, internet of things, smart production, connected systems, automation, and smart health. The Theme for the makeathon was "Propelling Botswana in the Fourth Industrial Revolution".

Makeathons also encourage collective thinking for innovation, which is about team work, collaboration and learning from one another. Collaboration is important for Industry 4.0 (fusion of digitalisation with traditional industrial processes) because the Internet of Things has enabled creation of smart factories and cross-linked production processes in which international teams collaborate across the

Resource: Excellence-Magazine Botswana from December 16, 2019

globe within immersive virtual environments. Digitalisation of education has also made learning more collaborative.

The "Smart Green Botswana Makeathon 2019" was the first in southern Africa and the second in Africa after the Smart Green Tunisia Makeathon, which was attended by students from Botswana. Botswana has also sponsored students to attend makeathons in Spain and Germany. The "Smart Green" Botswana Makeathon 2019 is part of the Africa Startup Summit, Afric'Up, which is dedicated to Innovation, Digitalization and Education 4.0.

To deliver the makeathon, the ministry roped in two international partners, Dr Stetter ITQ and VDMA. Dr Stetter ITQ is a Spanish company that believes that makeathons are a fast and effective way of getting new ideas and producing first prototypes fast. The company has hosted makeathons around Europe involving students and senior engineers from multinationals. Dr Setter ITQ is especially concerned about education, which is the reason they regularly organise events and workshops for both local and international students.

The Mechanical Engineering Industry Association (VDMA) represents more than 3,200 member companies in SME-dominated mechanical and systems engineering industry in Germany and other European countries. With 1.35 million employees, VDMA's mechanical and plant engineering sector is Germany's largest employer and the backbone of the German economy. VDMA is the largest network organisation for mechanical engineering in Europe. The association represents the common economic, technological and scientific interests of this diverse industry. Its technical expertise, industry knowledge and straightforward positioning make it a recognised and valued point of contact for companies as well as the general public, science, administration and policy makers.

Speaking at the official closing ceremony of the "Smart Green Makeathon" and unveiling of a solar powered car at the University of Botswana on November 21st, 2019, UB Vice Chancellor, Professor David Norris, said they were honored to be the second African country after Tunisia to host the event.

"We are privileged to be the second country in Africa after Tunisia to be hosting the "Smart Green Makeathon", said Professor Norris. He said the idea to host the event was conceptualised following a trade and development mission to Germany through an invitation of the German government to attract German investors including electric car manufacturers to set up manufacturing plants in Botswana. Students came from different fields of technology and engineering. The aim, he said, was to build capacity and development of technical skills to ensure the students were ready when electric car investors come to Botswana as announced by His Excellency, President Mokgweetsi Masisi.

The Vice Chancellor also said in addition, potential German investors had also expressed the need to develop industry skills and it was through such discussions that the "Smart Green" Makeathon was introduced to Botswana.

"This is a concept that has been developed

Resource: Excellence-Magazine Botswana from December 16, 2019

over the years in some countries to build engineering and innovation skills among university students and graduates," observed Professor Norris.

He added that by hosting the "Smart Green" Makeathon, the aim was to achieve the two objectives of training students. Firstly, to embrace innovation and creativity as a way of life in the advent of the fourth industrial revolution and secondly, to build capacity and develop technical skills that would be required by the electric mobility industry as it sets investment in Botswana.

"In recognition of our role as a higher institution of learning responsible for education and training, the University of Botswana has taken robust steps to ensure that Botswana is not left behind as the fourth industrial revolution marches on," said Professor Norris.

Therefore, he explained that the university had set up a Think Tank to lead exploratory discussions on how it could leverage its human resources and infrastructure towards propelling Botswana to be a key participant in the fourth industrial revolution.

In addition, he said the University of Botswana was working towards playing a significant role in the national innovation system by establishing an innovation centre that would incubate staff and students' research and ideas into products and services. The centre will be open to all those with innovative ideas as well, he concluded.

Resource: Excellence-Magazine Botswana from december 16, 2019

Get on Board!

Become a Technology Sponsor:

When we established the Foundation in 2011, we had the ambitious vision that every school and every kindergarten in Germany should have a technology AG by 2021. Much has happened since then in the age of digitization, but there is still a lot of work to do until we reach that goal. With our Lego Mindstorms project, we already are in many institutions, imparting technological interdependencies to the pupils in a fun way and awakening their interest in science and technology.

Our concept intends to lead teams of pupils playfully towards technological problems. Organization and technical lead of those teams are in the hands of students chosen and schooled by us. Fun and games are never lost sight of, but they are not everything. In order to ensure goal-oriented and focused work, the Foundation supports selected teams with their participation in challenges such as the First Lego League or the international robot competition World Robot Olympiad. This year, we supported teams of pupils in five national and international competitions, and we could even send two teams from the Bavarian Gymnasium Ottobrunn to the World Finals in Detroit and Montevideo.

To further this concept, we are always on the lookout for companies to build and support new school teams, alone or together with us, and to enable them to participate in specially organized competitions.

If you want to support the activities of the Gerda Stetter Foundation, as a sponsor, as a company or as a private person, with financial resources, material donations, and your networks of influence, please contact us.

On behalf of a new technophile generation, we are happy about every commitment!
If you want to donate money, we will happily give you a donation receipt. The Foundation is recognized as a non-profit organization by the government of Upper Bavaria (Stiftungs-Nr. 12.1-1222.1 M/T 24).
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Edition Review - What we did so far

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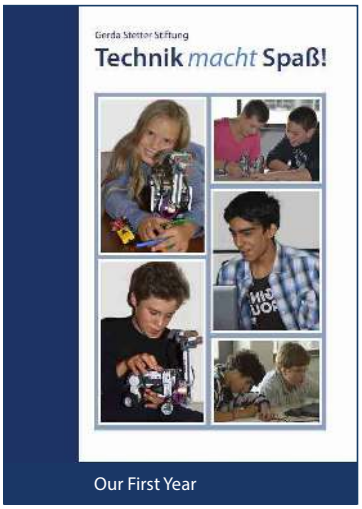
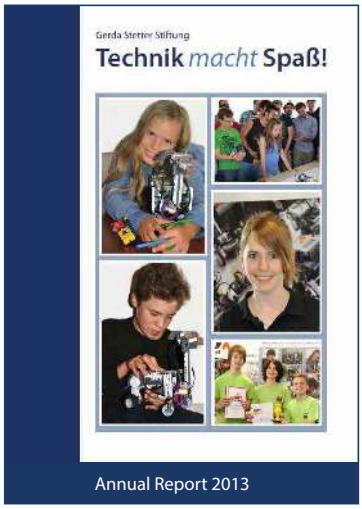


Our First Year



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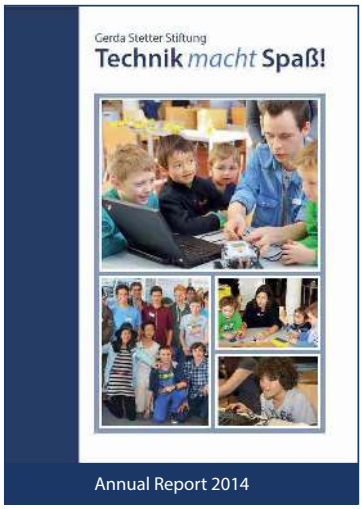

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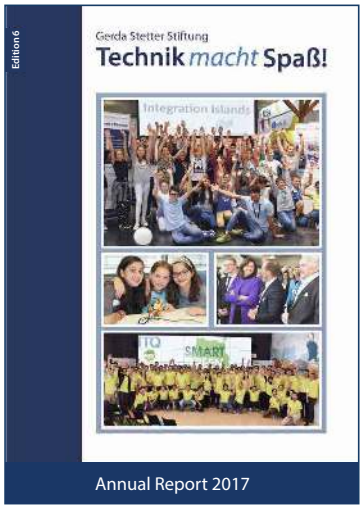
Front Cover - Highlights of Events 2012 - 2015

Networking 2012 - 2015

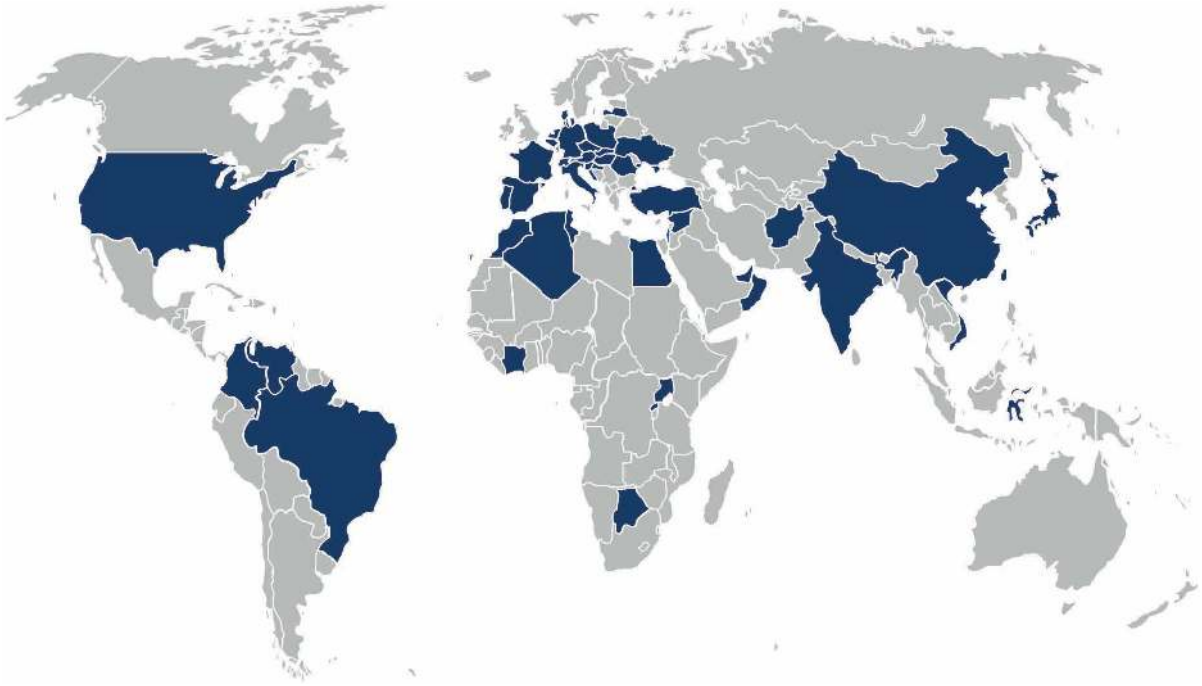
... and we have already achieved a lot



Front Cover - Highlights of Events 2016 - 2019

Networking 2016 - 2019

Our Network:



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