Edition 9

Gerda Stetter Stiftung

Technik *macht* Spaß!

Annual Report 2020/2021

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

"All obstacles and difficulties are steps on which we climb up."

(Friedrich Nietzsche)

„2020/2021 – Everything different“

In the last two years, it has become apparent that disruptive changes are not only possible around digitalization, but also that biological "novelties" can completely unhinge the world. Like everything in life, every bad thing has its upside. With the requirement to meet in person as little as possible due to the pandemic situation, it became clear that digitalization could (at least) maintain the ability to communicate with each other.

At the same time the Covid crisis also made clear that our school system is not yet up to the new requirements in large parts. Whether digital instruction works in the classroom is essentially a matter of the extent to which the respective teacher can handle the new digital media, and less a matter of whether our education system is already equipped to meet the demands of digitalization.

This "wake-up call" has led to the point that it is no longer necessary to spend much time in discussions promoting new ways of educating young people. Rather, we have been and continue to be asked more and more often what can be done and how. In the course of this, we have organized and held several – mostly hybrid – events over the past 18 months. For example, in cooperation with the VHS (adult education center), we digitally hosted the cleaning robotics courses.

Due to Covid, the digitalization crisis and the increasingly loud voices calling for measures to counter climate change, it became apparent that our now more than 10 years of efforts to advance not only the type but also the content of knowledge transfer were often ahead of time and the right thing to do. Thus, our idea to build a technology demonstrator in Gran Canaria to illustrate how a smart and green world could look like is gaining more and more attention. We feel this every day. We are constantly receiving more and more inquiries about how the SMART GREEN ISLAND MAKEATHONS and associated projects are progressing. After all, nearly 600 participants from 34 countries and 82 universities registered for the MAKEATHON 2020.

We are very motivated that our ideas, which were often observed with frowns in the past, are now no longer regarded as completely crazy, but as ground-breaking. As a result, we have already begun to intensify our contacts again in various places around the world or to establish new ones. Therefore, we have recently had initial talks with high-ranking representatives in France, Morocco, and Nigeria. Of course, we are also working in Germany to move things forward by exchanging ideas intensively with the VDMA and the vbw and by considering what measures we can initiate.

As the feedback from various discussions shows us, we are well equipped for the future thanks to our long experience around the topics of digitalization and climate change. It is not only our content that is perceived as pointing the way forward, but also our philosophy of international networking, because as life has shown recently, we don't solve global problems by thinking locally.

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. After all, "childlike" curiosity and a freely lived play instinct form the basis for constant renewal and innovation."

Dr. Rainer Stetter, CEO and the Foundation Founder, ITQ

"With our comprehensive, modular training concept, we want to counter-act the shortage of digital specialists at an early stage and thus sustainably promote and train young technical talent. And we want to do this in a fun, joyful and enthusiastic way at all levels, because that's the greatest motivation for sustainable learning."

Sandra Fritsch, Head of Business Administration, ITQ

The Foundation Board:

"Contributing to the earliest possible practice-oriented training is my personal motivation. By teaching technology in a playful way, we can simultaneously contribute to improving the image of technical professions."

Andreas Baumüller, CEO, Baumüller

"The current rapid development in digitalization offers countless possibilities especially to children and young people. In order to make effective use of these, projects are needed that inspire enthusiasm for technology and are fun. I consider it my task as a member of the Foundation Board to support these young people in optimally shaping the prospects arising from technological progress."

Matthias Weidmann, Lawyer and Tax Consultant

The Foundation Board:

"Companies have to take responsibility for training the next generation of employees. Getting young people excited about technology is the basis for this. Industry-related projects with universities and colleges of all kinds are suitable for bringing industry and training 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

"Our motivation is to inspire enthusiasm for science and technology. For me, bringing children closer to this in a playful and natural way, using modern and tangible learning methods, means thinking and acting in an entrepreneurial, future-oriented way. Just do it!"
Martina Manich, Managing Director, team::mt

"Digital transformation has a huge impact on engineering education. Only with new innovative teaching concepts, we can keep up with the rapid development of new technologies. By simultaneously teaching practice-oriented and character-building competences with attractive formats, we can inspire students to study and prepare them well for the demands of the working world."
Prof. Dr. Peter Eichinger, University of Applied Sciences Aalen

Impressions of our Network

Voices:

"Recruitment and employee retention are an important part of my tasks that keep me busy and motivated every day. By working with interns and student trainees, we are in contact with the young talent of the future and can benefit from this potential throughout the Optima Group of Companies. "Young people should get to know Optima as early as possible and become enthusiastic about technology," wishes Dr. Georg Pfeifer, Managing Director of Optima nonwovens GmbH. Participation in the Makeathon events is very close to our hearts and I have supported them from the very beginning. Another goal is to get students excited about technology at a young age. Optima actively promotes the "Robotics-AG" at five schools in the Schwäbisch Hall district. ITQ's annual Makeathon event is a motivation for Optima students. The appeal of developing something "new and exciting" in teams and being able to contribute to certain topics of the future spurs the newcomers to top performances and releases creativity. It is great and exciting to observe the creativity and motivation of our participants. The results from the events speak for themselves and together with our young talents we can be very proud of them. The future can come!"

OPTIMA

Nilüfer Dalman
Human Resources Development
OPTIMA packaging group GmbH

"In today's rapidly changing world, the classical engineering sciences have tasks that go far beyond the classic disciplines. Getting young people excited about technology and its application in this equally multidisciplinary and multi-perspective environment is part of the core business of an engineering faculty. In addition, there is the challenge of introducing young people to skills such as working together in teams, self-organization, developing enthusiasm for one's own performance, but also communicating one's own knowledge to others. Innovative teaching formats and projects in which these skills are taught are an indispensable part of this. For us, the cooperation with the ITQ Foundation makes a valuable contribution to achieving this goal. We are pleased, also on behalf of our students, about the further cooperation with the foundation and ITQ GmbH."

UNIVERSITÄT DUISBURG ESSEN

Prof. Dr.-Ing. Dieter Schramm
Chair of Mechatronics
University of Duisburg-Essen

"The goal of Kempten University of Applied Sciences is to prepare students as optimally as possible for real life in companies. On the one hand, this requires the theoretical basics, and on the other hand, they must be able to apply it. The events organized by ITQ, such as Makeathons, on both a national and international level, are an ideal opportunity for students to apply their technical skills in an innovative and international environment, while at the same time enhancing their skills in teamwork, presentation and agile development methods. These projects thus provide an optimal platform to enable students to quickly gain a foothold in and successfully support companies facing dynamic competition."

Hochschule Kempten
University of Applied Sciences

Prof. Dr.-Ing. Dirk Jacob
Vice President
Teaching and Continuing Education
University Management Kempten
University of Applied Sciences

Voices:

"Making is like wanting, just „crasser"! Now more than ever we need "makers" in our society and at the SMART GREEN ISLAND MAKEATHON this ideal is demanded and promoted. It is inspiring to see how this event creates energetic, multicultural teams from international individuals who see, analyse and solve problems together. We were happy to be there in a supportive role to help this new generation of tomorrow's makers with their ideas and visions and to convey new automation concepts."

Andreas Manseder
Technical Manager / Head of TechLab
German Industry 4.0 Campus GmbH

"One of the goals of general education schools in STEM subjects is to get children interested and enthusiastic about these topics at an early age. In the field of robotics, this is achieved very successfully through the cooperation with the "Technik macht Spaß!" (Technology is Fun!) foundation. Thus, every year, pupils from the robotics project course at the Saarn Comprehensive School in Mülheim take part in the Robolympics with great commitment. In addition to the particularly motivating competition situation, the preparation, which is carried out by students, is also great fun for the pupils and arouses their interest in courses of study and careers in this field."

Mark Bienk
MINT-Coordinator, Comprehensive School Saarn, Mülheim

"As a packaging machine cluster, we set out in spring 2020 to make an active and constructive contribution to the Covid 19 situation. During the deliberations in the course of a task force, the idea of holding a decentralized MAKEATHON by Dr. Stetter prevailed in the end. In just five weeks between the decision and the date of implementation, we then jointly launched an event that everyone involved was very enthusiastic about and that took us a big step forward as Packaging Valley Germany. Without the know-how, the experience and the great commitment of Dr. Stetter and his team, all this would never have been possible."

Martin Buchwitz
Managing Director
Packaging Valley Germany e. V.

"The digital manufacturing revolution means that everyone has easy online access to modern, industrial tools that allow them to realize their ideas and developments in a reasonable amount of time and at very affordable prices. This empowers citizens and encourages creative entrepreneurship. What interests me most about the Makeathon is that it aims to make the island environmentally friendly with the help of digital transformation."

Raúl García Brink
Technical Coordinator of Economic Development, Energy Sovereignty, Climate and Knowledge
CABILDO DE GRAN CANARIA

Our Education Concept

Modular Education Concept:

Getting young people excited about technology is the basis for ensuring a qualified future workforce in German companies. Technical knowledge should be taught in a way that makes it fun for young people to discover technology.

The Gerda Stetter Foundation has set itself the goal of a modular training concept. We want to get children and young people excited about technical projects and thus help shape the technology of tomorrow in a smart and green way.

The focus of our activities is the handling of technical knowledge as well as the practice on technical projects. With this we already start at kindergarten age with our technology workshops in a very playful way. Our Lego Mindstorms projects, which teach initial programming skills, are designed to get as many young people as possible excited about science and technology at an early age.

Furthermore, they serve to reduce the fear of complex technology. The pupils are coached by students and build autonomous robots consisting of sensors, motors, and lots of colourful Lego bricks as part of the project. The foundation operates according to the top-down principle, i.e., students supervise projects in which they pass on their knowledge to schoolchildren. Consequently, elementary school students are guided by the students who have been trained in a Lego team.

Management	Engineers	Students
		
■ Basics and importance of systems engineering ■ Understanding of mechatronical projects and processes	■ Improve knowledge about interdisciplinary work ■ Enhance the use of software	■ Soft skills and experience in project management ■ Enhanced understanding of software

Another important point is better dovetailing, as the networking of disciplines and know-how will play an increasingly important role in the future.

Since the company was founded, we have maintained a comprehensive and cross-industry as well as international network consisting of leading industrial companies, partners, schools, and universities. We are very involved in research and education and are pleased to have many successful collaborations and research projects with German and international companies as well as universities. By combining cross-departmental lecture concepts with practical team semester work in the industry, students learn to work independently, gain efficient project management as well as interdisciplinary knowledge and how to acquire important soft skills.

In addition, we place great emphasis on promoting innovative capability and creativity and have therefore been organizing our MAKEATHONS at national and international level since 2016. The name "MAKEATHON" forms a pun from "MAKE" and "MARATHON" and is an innovative & creative educational event, where several teams consisting of young talents develop innovative prototypes as well as technological concepts in an agile and interdisciplinary way in a very short time. Thus, we bring together companies, universities and students who have as a common denominator the fun of designing, constructing, and programming.

Trainees

- Foster fascination for technology
- Practical professional training

Pupils

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

Children

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

Digital Education – Technology Workshops

Technology Workshops – Getting tomorrow's Youth excited about Technology

How do you get young people excited about technology?

That's a question many companies have to deal with these days. To get our young people excited about science and future technologies in a playful way as early as possible, we have been offering numerous innovative technology workshops for children and young people for many years.

We are particularly committed to promoting the technical education of girls. With our workshops, we want to help children and young people overcome their fear of complex technology. Whether it's a smartphone or a game console, technology is now part of many everyday objects that children and young people are confronted with at a very early age.

In addition, the speed of technological change continues to increase. This makes it even more urgent to have experts who research, develop and are informed about future technologies. Our technology workshops help children and students of all ages learn basic technical skills that will be required in their future careers, using do-it-yourself mini robots, LEGO Education, woodturning and soldering stations.

BENEFITS
How to benefit from our workshops

- Early promotion of young talents
- Learn technology interactively, and playfully
- Use of various technologies
- Networking with schools, universities, institutions, and companies
- Practice-oriented and innovative learning concepts
- Teaching technology to children and young people
- Know how and knowledge transfer
- First introduction to high-tech
- Coaching and support

TECHNOLOGY WORKSHOPS OVERVIEW
We teach technology with a lot of fun!

Getting young people, and girls in particular, enthusiastic about technology is the basis for securing qualified young people in German companies. Technical knowledge should be prepared in such a way that young people have fun discovering technology for themselves.

150 Workshops
With over 4500 Participants
In 3 Countries
With 50 Schools, Institutions
10 Trade Shows
With 15 Companies

Securing the next generation of the future with the right technology workshops!

Playfully learning Technology

We focus on creativity and fun in dealing with technology. Children and students are presented with technical challenges in a playful manner and learn to develop solutions independently. This process contributes to lifelong learning, as this enthusiasm for technology is stimulated from an early age and maintained into adulthood.

Since 2011, we have been arousing the interest for technical projects of children and young people of all ages in kindergartens, schools, or educational institutions worldwide with our technology workshops. With our cleaning robot, we succeed in motivating even the very young ones. In this kit, a robot is assembled by the children, from the wiring to the mechanics, and then moves across the floor driven by an unbalance. With the help of our specially trained technology coaches, we can reach a wide range of young people with simple technical means and encourage them to tinker, develop and program.

Our training concept is based on cooperation with various German universities. In recent years, we have trained more than 500 students as technology coaches. These in turn have been able to teach more than 4500 children about technology in a playful way in workshops, at trade fairs or in schools.

TECHNOLOGY WORKSHOP HIGHLIGHTS

MUNICH

INGOLSTADT

DUISBURG

NUREMBERG

REGENSBURG

BERLIN

LANDSHUT

SPAIN

CHINA

Digital Education – LEGO Workshops

LEGO Workshops – Playfully learning Technology

When it comes to promoting key skills for the 21st century, we offer versatile technology workshops with our LEGO Education training concepts. Whether for schools, educational institutions, training centers, universities or for introducing adults and companies to technologies – with LEGO Mindstorms EV3 or LEGO WeDo Edcuation, programming as well as future technologies can be taught in a playful way.

Almost everyone knows the colourful Lego building blocks as toys, but the small bricks also have great potential for education. With our technology workshops, we can use the action-oriented learning concepts of LEGO Education to teach schoolchildren and students of all ages basic technical contexts that will be required in their future careers. With practical teaching concepts, learners are encouraged to think for themselves and work creatively on innovative solutions.

By experimenting and trying things out for themselves, children and young people learn to grasp complex topics, to question them critically and to develop their own creative ideas and approaches to solutions. In education and training, the learning system is also suitable for modeling, analyzing and programming industrial processes.

BENEFITS
How you benefit from our cooperation

- Training of qualified future employees
- Learning programming skills
- Use of future technologies
- Networking with schools, universities, institutions, and companies
- Practice-oriented and innovative learning concepts
- Teaching technology to children and young people
- Know how and knowledge transfer
- First introduction to high-tech
- Coaching and support

LEGO WORKSHOPS OVERVIEW
We teach technology with a lot of fun!

Getting young people, and girls in particular, enthusiastic about technology is the basis for securing qualified young people in German companies. The transfer of technical knowledge should be prepared in such a way that young people have fun discovering technology for themselves.

300 Workshops
With over 900 Participants
In 5 Countries
With 150 Schools, Universities
35 Competitions
With 40 Companies

With our innovative education concepts, we secure the young talents of the future!

Innovation through Education 4.0

With our LEGO Education learning concept, we inspire not only children and young people, but also specifically girls for technical projects worldwide. Our education concept is based on the well-proven top-down principle, in which young students are guided and trained by our ITQ LEGO coaches. In addition to technical content, the program includes soft skills for dealing with children and young pupils.

The pupils, who are coached by students, assemble robots with sensors, motors and many colourful Lego bricks in our LEGO Mindstorms workshops. To help us spread our approaches even further, we developed the concept of student Lego coaches for pupils initially at the Technical University of Munich and since then we have established it at several other universities. In the context of soft skills events, we offer students the opportunity to learn and apply necessary soft skills using a real interdisciplinary development task as an example. To further deepen these skills, students coach pupils towards a robotics competition.

This approach, which we want to introduce to as many other colleges and universities as possible, brings us closer to our goal of providing schools with a broad supply of motivated coaches.

LEGO WORKSHOP HIGHLIGHTS

MUNICH

DUISBURG

NUREMBERG

HEIDENHEIM

AUGSBURG

CHINA

SPAIN

URUGUAY

USA

Digital Education – MAKEATHONS

MAKEATHONS – Securing our Future with Innovation Festivals

Innovative minds secure the future of companies – but how do you find them? In particular, skilled workers who bring knowledge from the fields of IoT, robotics, artificial intelligence, smart automation, smart mobility or smart green energy are in demand.

That's why we organize innovation festivals (MAKEATHONS) with the aim of training Young Talents to become innovative and creative professionals and bringing them into direct contact with companies to develop creative, technical projects together. The name "MAKEATHON" forms a pun from "MAKE" and "MARATHON" and is an innovative & creative educational event, where Young Talents (students, trainees, and apprentices), consisting of several teams create and develop innovative prototypes as well as technological concepts in an agile and interdisciplinary way in a very short time.

The practical requirements (Industry Challenges) often come from companies that want to develop a suitable software or hardware solution for their own problem.

We bring together companies, universities and students who have as a common denominator the fun of designing, constructing, and programming. The results are remarkable, and it always amazes us how quickly the Young Talents turn their creative ideas into reality.

BENEFITS
How you benefit from our cooperation

- Development of new innovative ideas and concepts
- Recruiting of qualified Young Talents
- Establishment of technology cooperations
- Elaboration of your Industry Challenge
- Initiation of new business models
- Knowledge and know how transfer
- Networking with companies, universities, and students
- Part of a national and international innovation community

MAKEATHONS OVERVIEW
We "MAKE" on a national und international level

We have already shown it many times, what new ideas for a digital future can look like or how recruiting talented developers in the competition for talented professionals can work.

30 MAKEATHONS — **With over 3000 Participants**

In 6 Countries — **With 350 Universities**

Over 1000 Ideas — **1100 developed Prototypes**

Be part of our innovative MAKEATHON Community!

Innovation through Education 4.0

There is a lot of talk these days about Education 4.0 and innovation. However, there is usually more talk than action, which is why we have been working for years on developing new concepts and formats to promote Young Talents and bring them into contact with companies.

Our idea to organize a MAKEATHON was born in Munich in 2016, where it immediately proved to be an excellent educational concept. Since then, we have been constantly developing the event and it has already taken place in many other countries. By now, we connect companies, industry associations, universities, institutions, and schools not only in Germany, but worldwide.

Due to Corona, we had to initiate new ways and flexibly adapt our concepts in spring 2020. As a result, we were able to host our first hybrid Makeathon at the end of June 2020, just a few weeks after the first relaxations of the lockdown.

This new format digitally connects small, locally operating teams via the "network" and thus makes it possible to react quickly and flexibly to external conditions.

This can be seen in the organization of an event with completely new partners from industry, associations and universities and a total of almost 100 people in less than five weeks.

MAKEATHON HIGHLIGHTS

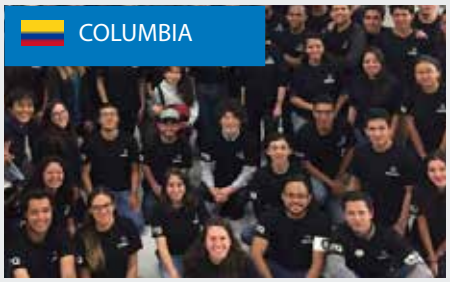
GRAN CANARIA

BOTSWANA

TUNISIA

ITALY

COLUMBIA



CHINA

MUNICH

SALAMANCA

NUREMBERG

Smart & Green – Our Vision

An Island as Demonstrator

The world is undergoing a massive upheaval. Technological, social, and climatic conditions are changing at a steadily increasing rate. A virus has made it very clear how fragile our system is. Entire industrial sectors, such as the pharmaceutical industry, but also the automotive industry, are changing with incredible speed. Climate change seems to be accelerating more and more, with hot weather periods with temperatures above 40 degrees celsius alternating with severe storms.

Although there are many discussions, talks and protests, responsibilities are usually only shifted back and forth. Determined and joint activities, however, do not emerge. To counter this perceived self-paralysis, we launched the "Smart Green Island" project at the end of 2016.

Within this project, we want to work together with motivated minds from different disciplines, generations and nations to develop technically smart concepts and solutions to demonstrate how a (green) life in harmony with nature is possible. Our vision is to demonstrate, using the island of Gran Canaria as an example, how a closed loop between energy production and use can be created in a smart way while at the same time preserving the existing natural resources.

However, with this project, we do not only want to show how energy can be used in an intelligent way. In fact, almost all areas of daily life need to be addressed to provide a comprehensive picture of how life and work can take place in harmony with people and nature.

The needs of the world' s countries in terms of environmentally compatible living are very different due to different economic and climatic constraints. In order to be able to run through as many different scenarios as possible in a geographically compact and thus resource-efficient manner, Gran Canaria was chosen. This almost round island with a radius of about 45 km is practically a continent in miniature due to its unique geographical location with a total of 14 climate zones. On this island, both sub-tropical and desert-like conditions as well as scenarios in an urban or rural environment can be played out simultaneously.

Digitalization and Sustainability

The proximity of Gran Canaria to Africa and its location in the Atlantic means that solar and wind energy is available in almost unlimited quantities. This energy could be used to desalinate water, which is needed for daily life and agriculture. At the same time, sustainable living and emission-free mobility could be realized. Furthermore, the intelligent and digital connection of the different areas can open up further ecological and economic opportunities.

To put these objectives into action, we have been organizing our SMART GREEN ISLAND MAKEATHONS on Gran Canaria since 2016. Through these events, we can build a global network of motivated individuals. At these innovation festivals, several hundred students from different universities around the world, as well as numerous national and international sponsoring partners from industry, come together on Gran Canaria. For four days, students work together with companies on climate-friendly technologies and develop first innovative prototypes. Five of these innovation festivals have been held in the period from 2016 to today, with a total of more than 1,000 participants from over 30 countries and 100 universities.

Complementing the MAKEATHONS, other "Smart & Green" projects have been carried out on the island to deepen and expand the knowledge gained from the events. For example, in previous years students were able to develop climate-friendly projects, such as the PlastiX project, during the Smart Green Summer Camps. In addition, students can make optimizations as well as further developments to the existing prototype during long-standing projects, such as the Bamboo Solar Car - a solar-powered vehicle with a frame made of bamboo.

The Corona pandemic did not stop at live activities either and therefore, numerous events had to be cancelled or adapted and held with a changed concept. However, the ITQ Group used the months of the lockdown to develop new and innovative concepts. Together with the Rhine-Waal University of Applied Sciences and ITQ GmbH, Dr. Stetter ITQ S.L.U. is planning to set up a "Green Lab" on the island.

Young Talents will have their own location on the island to work on their green projects. This already started this summer with the interdisciplinary student project "Future Technologies for Smart Green Islands" of the Rhine-Waal University of Applied Sciences. During the seminar, students develop their first innovative and sustainable projects, which are then to be continued on Gran Canaria.

In order to advance our vision of the Smart Green Island, we want to offer our students a professional working environment on Gran Canaria. Therefore, we are looking for a suitable location on the island to get closer to our goal of developing Gran Canaria into a European demonstrator for a smart and green way of life.

Smart & Green – MAKEATHONS

SMART GREEN ISLAND MAKEATHONS – History

In September 2016, we held the first SMART GREEN ISLAND MAKEATHON with more than 40 participants, advancing future "digital" and "climate-friendly" innovations. Just 30 months later, we were able to increase this number ten-fold and already attract 400 participants to our event. Four years later, in 2020, there were even more than 500 registrations. Accordingly, the SMART GREEN ISLAND MAKEATHON has established itself as a successful, innovative, and international success model. With each additional MAKEATHON, the vision of a SMART GREEN ISLAND is realized a bit more and Gran Canaria becomes an exemplary climate-neutral island.

KEY FACTS

During our MAKEATHONS, new ideas and solutions are constantly being developed by Young Talents regarding topics such as Smart Home, Smart City, Smart Production, Robotics, AI, IoT, Smart Mobility, Smart Farming, Smart Health and Smart Green Energy.

- **5 MAKEATHONS**
- **Over 1000 Participants**
- **With 30 Nations**
- **With 150 Universities**
- **Over 200 Ideas**
- **250 Prototypes**

SMART GREEN ISLAND MAKEATHON IMPRESSIONS

2020

2019

2018

2017

2016

Bamboo Solar Car: Sustainable and innovative Mobility

During the Smart Green Island Makeathon in February 2019, the idea for a new Smart & Green innovation project in the Smart Mobility sector was born – the Bamboo Solar Car – a solar-powered car made of bamboo.

This low-cost vehicle made from standard components and renewable and recycled parts is intended to make sustainable electromobility available to everyone. The focus here lies on countries and regions with a weaker infrastructure and many hours of sunshine, as the Bamboo Solar Car uses a solar cell on the roof to generate energy for movement. The car's frame is made entirely of bamboo tubes, which are cut and glued together using precise instructions. The flexibly sized solar panels achieve an energy output of up to four kilowatt hours. After just one day of sunshine, the car battery is half charged, and after two days it is fully charged. In this case, the car has a range of about 30km, which it can cover at a maximum speed of 40km/h.

A first prototype was already created in May 2019 during the ITQ summer event. Within only 24 hours, the ITQ team succeeded in developing this first prototype.

Through the globally established network of Dr. Stetter ITQ S.L.U. with international universities and colleges, exciting follow-up projects could be realized. Consequently, 4 project teams were formed at different locations, which were digitally connected with each other.

The student teams from Germany, Gran Canaria, Tunisia, and Botswana incorporated their know how and worked energetically on the optimization. Between March and October 2019, a total of three prototypes of the Bamboo Solar Car were built.

2. Prototype, Laserworld of Photonics, June 2019

1. Prototype Bamboo Solar Car, ITQ Event May 2019

3. Prototype Bamboo Solar Car, Gran Canaria

Solar Car Botswana: Recycling Car in Safari Design

The fourth prototype was created at the end of 2019 – during a makeathon in Botswana. Here, the team was faced with its own unique challenges. The German students imported suitcases full of materials such as electronics and car parts to Botswana; only the raw material bamboo was ordered locally in advance. However, at the beginning of the MAKEATHON it turned out that the bamboo – which was initially considered to be essential – could not be procured. As a result, the team had to redesign the entire car body under great time pressure. In discussions with local MAKEATHON participants and companies, local, low-cost resources were found. The team obtained old, rusted steel tubes for the frame from a nearby recycling yard.

Within one night shift, the students welded and soldered together a sturdy car body. Through exchanges with locals, it became clear that another feature was indispensable for the African conditions: a protective tarpaulin to protect against sand and dust. Thanks to good networking and a high team spirit, a company was found that quickly made a tarpaulin overnight to protect the solar car from dust and dirt. Thus, the Bamboo Solar Car became a recycled solar car in safari design.

The organization of projects like the Bamboo Solar Car in connection with Makeathons offers young people an ideal platform to network with each other and gives them the opportunity to generate innovative ideas and develop prototypes in a short time. In addition, such projects and events draw the attention of companies to the young talents and their skills.

Our vision behind the Solar Car Botswana project, is very diverse and easily applicable for global educational purposes. We are particularly keen to promote young talents within the framework of innovative educational events, to provide creative training, and to generate enthusiasm for technology and future topics in the fields of digitalization and sustainability.

With Education 4.0, we manage to develop innovative solutions for the problems of our time. The focus is on promoting education beyond national borders and thus supporting the young generation worldwide and getting them excited about future topics such as Smart & Green Technologies. In doing so young people are given the opportunity to shape their own future and that of their country.

International student team Solar Car Botswana

Solar Car Botswana

Solar Golf Car: Smart Golf Mobility

The idea for this project was born in cooperation with a local golf course, which is neighbouring to the Dr. Stetter ITQ Smart Villa on Gran Canaria. The operators of the course became aware of our activities like the SMART GREEN ISLAND MAKEATHON and the Bamboo Solar Car, after doing test drives near their golf course. Thereupon, the operators approached us and the idea to equip their golf cars with solar panels was quickly developed.

The goal of the Solar Golf Car is to develop a concept to make golf more sustainable in terms of Smart & Green Mobility. With the installation of solar panels and the use of solar energy, the CO2 footprint of golf can be reduced.

With the Solar Golf Car Project, we want to advance solutions in the sector of Smart & Green Mobility. The project is a good example to show that even with small means and innovations an effective and sustainable contribution can be made to our environment, as well as achieving great things in total. It combines ecological and technological innovation. In addition, the Solar Golf Car is perfect for a student project to give young people the opportunity to help shaping their own future. Moreover, in this process their skills in terms of international and interdisciplinary cooperation as well as practical project management could be expanded. These aspects are also essential and indispensable in the context of Education 4.0. After the first prototype, two optimized versions of the Solar Golf Car followed in 2020. These included improvements such as a cloud-based data storage space with dashboard visualization, an improved sensor technology and a simplified hardware architecture.

Furthermore, the students worked on a new connector design (fiberglass connecting parts) between the solar panel and the golf car to make it safer and more aerodynamic. To ensure an efficient and cost-effective manufacturing of this connector, the team developed a reusable wooden form to easily build these connectors. This also leads to faster, more resource-efficient and more accurate reproducibility of the connector. In this effort the ease of assembly and repeatability of their construction was very important to the students to ensure that this solar innovation can be more easily adopted for other Solar Golf Cars, respectively future versions of the Solar Golf Car. Further steps in the project are to continuously improve the Solar Golf Car mobile app and to develop a new Solar Golf Car design.

Besides that, we want to make a further contribution to the transformation of Gran Canaria into an innovative Smart Green Island. Due to the climatic conditions with a lot of sun and a lot of wind it is perfect as a showcase for innovative Smart & Green Mobility solutions.

Sandwich-Robot: Learning with industrial Robots

The Sandwich Robot Demonstrator was developed during a two-month Summer Internship Program. Involved in the development process was an international and interdisciplinary team of 5 students from the University of Cambridge and the University of Las Palmas de Gran Canaria.

The special feature of the Sandwich Robot project is that the demonstrator consists of several devices and hardware from different companies. The materials were sponsored as part of this educational project. Thus, the Sandwich Robot is composed of a Robot Arm and Delta Robot from the company igus, an XTS Rail from the company Beckhoff, a Delta Robot from the company B&R and Phoenix Contact which acts as one unit.

With the help of the existing industrial hardware, which was provided by the participating companies, innovative solutions can be realized by the students. They can directly program the PLC's of different manufacturers and thus bring the plant to life. By using the latest technologies like the OPC UA protocol, the hardware of different manufacturers can be used, and the plant can communicate beyond its interfaces.

For the user of the Sandwich Demonstrator to receive a finished product, they must customize the sandwich before the manufacturing process. Using an app made specifically for the Sandwich Robot, the operator can first select their own preferred type of bread. Then they can choose their individually desired toppings, as well as the sauce(s). As soon as the user has assembled the sandwich via the app, the Sandwich Robot starts preparing it. In the first step, the igus Robot Arm brings the bread to a rail fixture of the XTS rail, which forwards the bread to two Delta Robots. The Delta Robots then prepare the sandwich with the selected ingredients. Now the sandwich can be removed and eaten by the operator.

With our Sandwich Robot Project we created an opportunity to better prepare young talents for future technologies and to get them excited about technology. In addition, the project is meant to encourage young people to show initiative in solving problems and to develop innovative solutions and ideas in the field of Smart & Green Technologies. Furthermore, such real projects or demonstration plants can be used to make topics such as automation, batch size 1 manufacturing, IoT and robotics more tangible and learnable within a very short time. This way, young people will be able to make their own contributions in the future and develop real smart machines and systems, which in turn will benefit the participating companies.

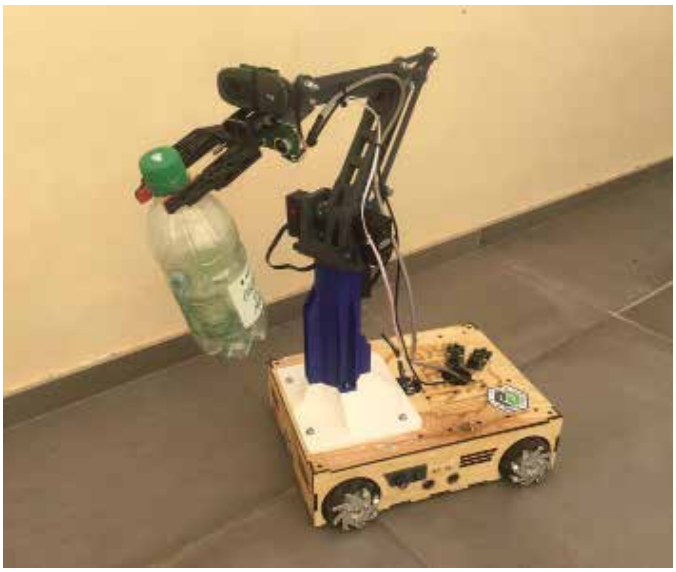
PlastiX: Artificial Intelligence against Plastic Pollution

Besides the climate change, removal of plastic waste from the environment is one of the key ecological challenges and problems of the 21st century. Therefore, we decided to start a project whose main goal is to find suitable and innovative solutions against plastic pollution. During our SMART GREEN ISLAND Summer Camp in September 2019, we developed concepts to solve this problem in an automated and efficient way. This laid the foundation for a smart, innovative, and sustainable project – the so-called PlastiX Project.

The PlastiX mission is dedicated to AI-based detection and automated professional disposal of plastic waste from the environment. The project was developed by an interdisciplinary and international team of 10 young talents. As part of the project a concept of a database for training neuronal networks was created. In addition, the project team developed the first robot prototypes. A total of 7 robots were developed that could be used for various purposes.

With the further developed robot "roBottle", a new mobile robot has been developed to autonomously collect already existing and improperly disposed waste e.g., at the beach or in the forest etc. In addition, the mobile robot will use modern infrastructure and IoT technologies to act autonomously and efficiently with the help of Artificial Intelligence (AI). AI algorithms ensure that the robot can perceive the environment like a human. For this purpose, a camera at the front end of the gripper serves as an eye, with the help of which it can recognize and collect plastic bottles and other environmentally harmful objects. What sounds easy for a human is hard work for a robot. The robot must be able to recognize bottles as such and navigate to them. The collected waste should then be transported to a station that can recycle all or a part of the waste. The robot's chassis was made of plywood and the components of its robotic arm were made of environmentally friendly and compostable PLA. In addition, the robot was equipped with Swedish wheels. After the kinematics were solved, the robot was able to move without mechanical constraints.

Our vision within the PlastiX Project is to unite the topics of digitalization and sustainability and to find efficient solutions regarding the problem of plastic pollution. In order to achieve this goal and to realize our vision, the prototypes of the young talents, which were developed with the help of artificially intelligent systems, should and must be turned into reality in the future. Furthermore, above all our intention is to sensitize young people worldwide to the topics of digitalization and sustainability and to encourage them to actively deal with the problems of today, as well as to find and implement effective innovative solutions for the future in such projects.



Gardenbot: Precision Agriculture of the Future

Our Gardenbot Project is based on a Columbian Smart Farming Project called "FarmBot". It was developed during our first SMART FARMING MAKEATHON 2017 in Bogota, Columbia. This project was realized with the help of an international student team in collaboration with the Columbian University of Los Andes.

The aim of the Gardenbot Project is to investigate various cultivation and management strategies. In addition, we want to better protect plantations from external influences, bad weather conditions and pests in the future, as well as control growth. So with this, a new solution was created that can not only be useful for agriculture, but it can also be used for private households. Farmers and consumers can automatically and intelligently manage, monitor, and control their fruit and vegetable beds.

To make this possible, a small test bed was created for the project and the Gardenbot robot was attached to the bed. The attached controller can move autonomously within the bed and carry out processes such as sowing, watering and moisture measurement. Thus, the planting and treatment of the bed can be automated without human labour, so that the consumer only harvests their own crops.

Via an open-source web app, it is possible to keep better track of the harvest. The web app can be downloaded to any computer, tablet, or smartphone with a modern web browser, allowing the user to customize, adjust and control their own plantation at any time and from anywhere. In addition, the user can use the manual control elements to move the Gardenbot and operate its tools and peripherals in real time.

Thus, as an innovative Smart & Green Technology, our Gardenbot has the potential to advance Agriculture 4.0. This technology will increase the earnings of fruits and vegetables while conserving resources. For this reason, Agriculture 4.0 is also named as the new precision agriculture of the future. With the help of digitalization and artificial intelligence, technological advances can be made possible in agriculture and innovative concepts can be developed.

In addition to developing effective problem-solving approaches, projects such as the Gardenbot help students to link their theoretical knowledge with practice and thus expand their technological know how with real projects. The practical implementation enhances an intensive examination of the subject matter and, above all, raises the awareness of young people for global themes such as digitalization and sustainability.

November 2019: SPS IPC Drives

sps ipc drives

Education Activities 4.0 at the Trade Fair in Nuremberg, November 26-28















November 2019: VHS Workshop Cleaning Robots

Course with Children at the Adult Education Center (VHS) in Unterschleißheim, November 30















The Year 2020 in Pictures

January 2020: Final Competition University of Duisburg

Robot Competition and closing Event at the University Duisburg, January 31

UNIVERSITÄT DUISBURG ESSEN












February 2020: Final Competition TUM Internship

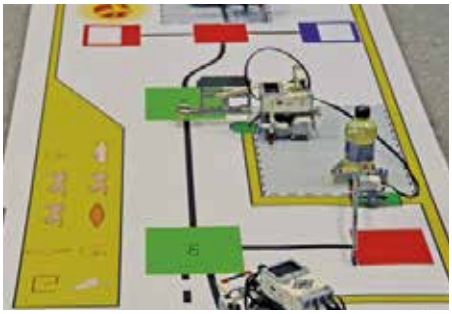
Robot Competition at Quantum TUM in Garching, February 05









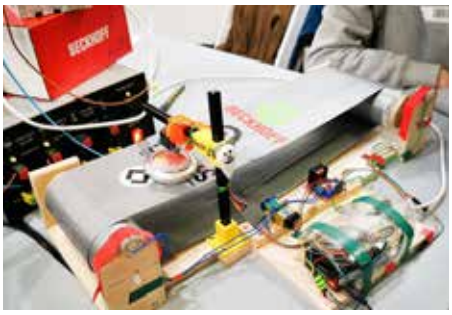






The Year 2020 in Pictures

March 2020: MAKEATHON on Gran Canaria

SMART GREEN ISLAND MAKEATHON in Las Palmas, March 04-07



Video SMART GREEN ISLAND MAKEATHON
www.youtube.com/ITQInfo

March 2020: MAKEATHON on Gran Canaria

SMART GREEN ISLAND MAKEATHON in Las Palmas, March 04-07

The Year 2020 in Pictures

March 2020: VIP Event on Gran Canaria

VIP Event at the SMART GREEN ISLAND MAKEATHON in Maspalomas, March 06














March 2020: VIP Event on Gran Canaria

VIP Event at the SMART GREEN ISLAND MAKEATHON in Maspalomas, March 06















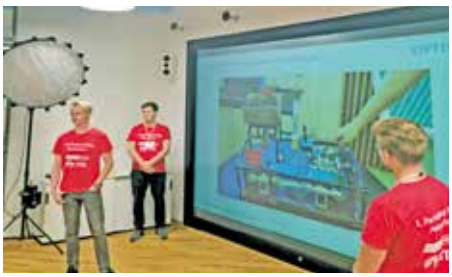
The Year 2020 in Pictures

June 2020: 1. Packaging Valley Remote Makeathon

First joint MAKEATHON with Packaging Valley e.V., June 25-26









Video Packacking Valley Remote Makeathon
www.youtube.com/ITQInfo

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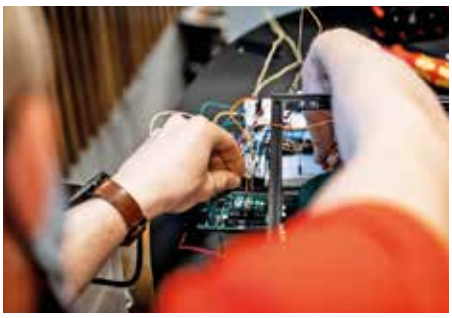
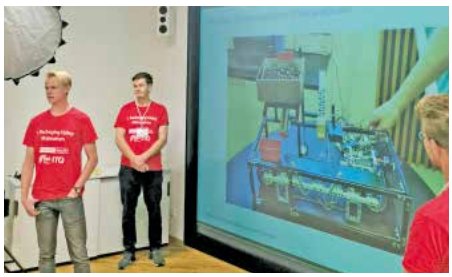
First joint MAKEATHON with Packaging Valley e.V., June 25-26









The Year 2020 in Pictures

August 2020: Solar Car Project Duisburg Makeathon

Student Project Solar Car in Duisburg, August 13-21



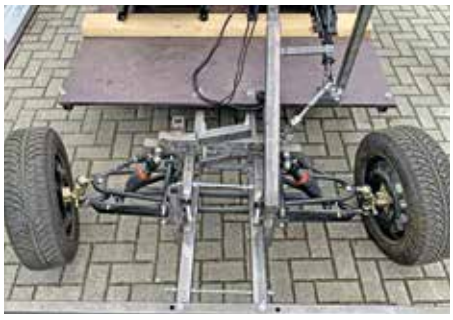











August 2020: Solar Car Project Duisburg Makeathon

Student Project Solar Car in Duisburg, August 13-21









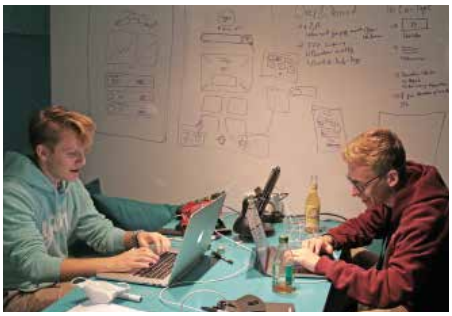




The Year 2020 in Pictures

September 2020: Slash Hackathon Berlin

One of the leading Student Hackathons with ITQ in Berlin, September 26-27



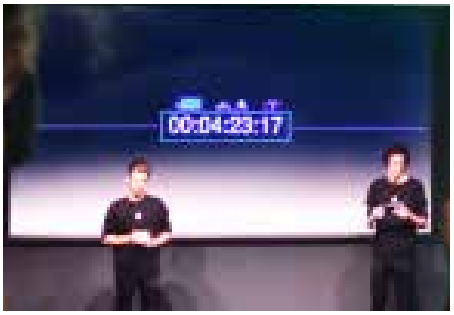
Video Slash Hackathon Berlin
www.youtube.com/ITQInfo

September 2020: Slash Hackathon Berlin

One of the leading Student Hackathons with ITQ in Berlin, September 26-27






The Year 2020 in Pictures

October 2020: Regional Garden Show Kamp-Lintfort

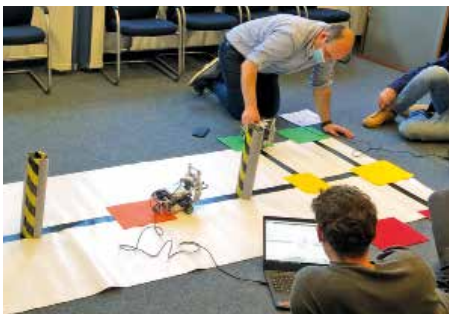
LEGO Robot Battle in Kamp-Lintfort, October 01

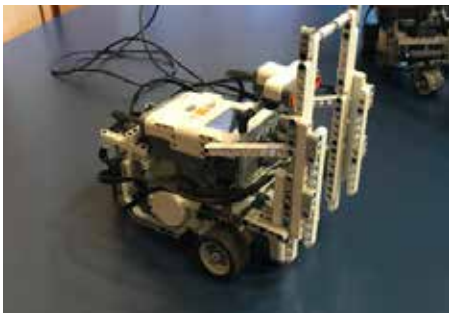




October 2020: LEGO Workshop University of Paderborn

LEGO Mindstorms Workshop with Students in Paderborn, October 28



The Year 2021 in Pictures

April 2021: VHS Cleaning Robot Workshop

First Digital Cleaning Robot Course with Children, April 24





June 2021: Solar Golf Car Project on Gran Canaria

Student Project with Maspalomas Golf Course of Gran Canaria, June 11



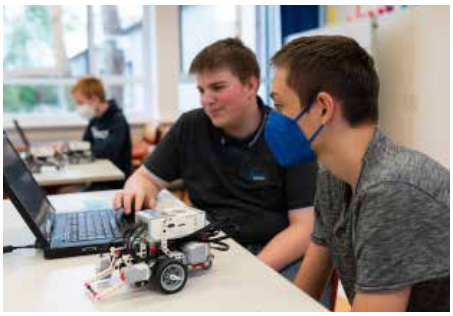



The Year 2021 in Pictures

July 2021: LEGO Mindstorms Workshop

LEGO Mindstorms Workshop at the Hermann Hedenus Middle School in Erlangen, July 01





July 2021: VHS LEGO Mindstorms Workshop

LEGO Mindstorms Workshop at the Adult Education Center (VHS) in Unterschleißheim, July 10





Juli 2021: Summer Camps on Gran Canaria

Coaching of ITQ employees at the Dr. Stetter ITQ Smart Villa in Gran Canaria, July/August



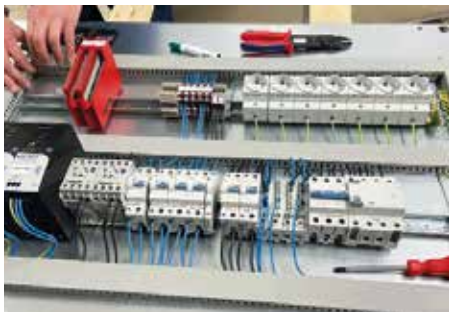


August 2021: Grillbot Project Duisburg

Student Project with ITBB and Students of the Rhine-Waal University of Applied Sciences, August 02



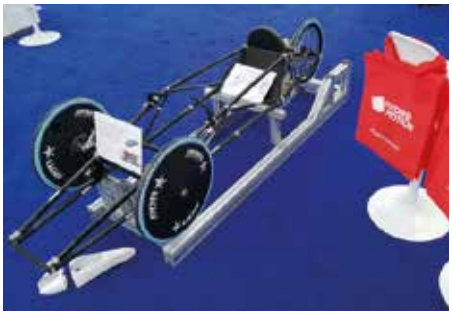


The Year 2021 in Pictures

September 2021: Hydro2 Motion Team at IAA Munich

Presentation of current Vehicle Concept of the Munich University of Applied Sciences, September 09



September 2021: Smart Shipping Prototype Presentation

Mechatronic Product Development in Duisburg, September 13-17

September 2021: Maker Day with the city of Duisburg

Maker Event Day all about Digital do-it-yourself in Duisburg, September 25

This year we had the pleasure of participating in the Duisburg Maker Day for the third time, having already taken part in 2019 with small LEGO Mindstorms workshops and in 2020 with a contribution on the topic of ITQ MAKEATHONS.

At the initiators' request, we from ITQ were allowed to present an input on the topic of Digital Engineering with a focus on Digital Twin and Augmented Reality in mechanical engineering. The contribution met with great interest and stimulated a lively exchange with other contributors on site. The aim was to give the participants an insight into digitalization topics in industrial practice.

The project presentations were recorded and streamed live for the audience at home. Experts from universities and associations, project groups from Duisburg schools, and employees from leading Duisburg IT companies presented their diverse ideas and solutions in 15-minute presentations.

The target group of the Duisburg VHS format is primarily young people, who are invited to participate and create, while at the same time being shown career prospects. The 6th Duisburg Maker Day will focus on 3D printing/scanning, smart home solutions, programming and DIY projects, among other things.

We had a lot of fun bringing the topic of digitization closer to the participants and we will be very happy to take part in the event again next year.

The Year 2021 in Pictures

October 2021: VHS LEGO Mindstorms Workshop

LEGO Mindstorms Workshop at the Adult Education Center (VHS) in Unterföhring, October 09






October 2021: Mechatronic Summer School

Event with Bayern Innovativ at ITQ in Garching, October 14

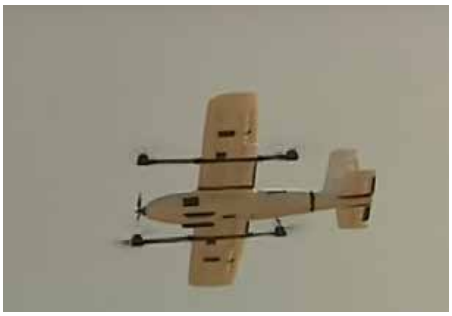





October 2021: Drones Prototypes Flight on Gran Canaria

Student Project Wildfire Protection on Gran Canaria, October 20-21









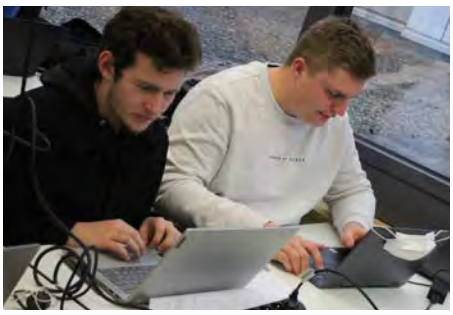




Video Drones Workshop
www.youtube.com/ITQInfo

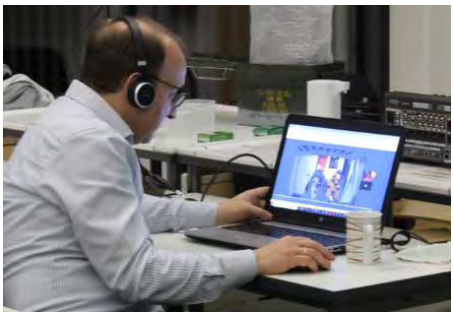
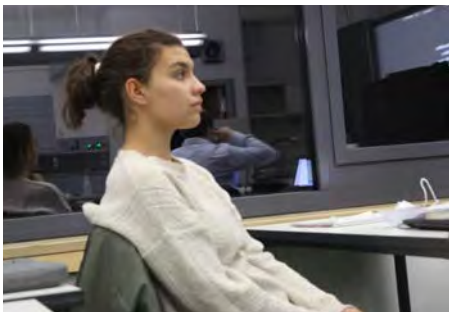
November: Höchstadt meets Washington

Pupils MAKEATHON at the Gymnasium Höchstadt in Erlangen, October 30 – November 06







Three Maker groups participated in the 2nd Student Makeathon at Gymnasium Höchstadt. Half of these groups are made up of students from Höchstadt High School and half from the German School in Washington. During this year's fall break, the groups met for the first time, got to know each other online, generated ideas together, split up into groups and drafted their project idea including story, team division, system structure and material list. In spring 2022, these project ideas will be implemented. The coaches and students from Washington will come to Höchstadt High School to construct the following three prototypes within one week:

Waste separation system "Better bin"

A universal waste separation system that sits above the trash bins and automatically separates the trash thrown in.

Board robot "Board bot"

Through image recognition as well as file conversion and digital file output, prepared board notes are to be digitized and sent to the students. This is to be realized by means of a relatively small and inexpensive attachment to the board.

Intelligent backpack "Evoscan"

The Evoscan should receive the digital timetable via WLAN and show the students which materials are needed. The recognition and allocation is done by sound signal or via a small LED screen.

November 2021: 2. Packaging Valley Makeathon

Second joint MAKEATHON with Packaging Valley e.V., November 09-10






Press Review

In Rekordzeit zur Müllsortieranlage

Beim Smart Green Island Makeathon werden Ideen Wirklichkeit: In drei Tagen entwickeln Studenten eine funktionsfähige Müllsortieranlage

AUTOR: **DOMINIK BECHLARZ**

Foto: ITQ

Der internationale Entwicklerwettbewerb Smart Green Island Makeathon musste in diesem Jahr etwas umdisponieren. Corona brachte auch hier die Planung etwas durcheinander. Organisiert wurde das Event von der ITQ GmbH. Als Bühne diente hier eine der spanischen Kanarischen Inseln: Gran Canaria.

Der diesjährige Makeathon widmete sich voll und Ganz dem Thema Nachhaltigkeit. 550 registrierte Teilnehmer, Partner und Sponsoren aus 34 Ländern und 85 Universitäten: das war der ursprüngliche Plan. Dennoch war es möglich, mit entsprechenden Hygienemaßnahmen 255 Teilnehmern eine Plattform für ihre Ideen und Entwicklungen zu bieten. Mit dem Makeathon sollen junge Menschen für Automatisierungstechnik begeistert werden, den Kerngedanken „Nachhaltigkeit" jedoch stets vor Augen haben.

Mit dabei war auch ein interdisziplinäres Team aus Studenten

entsprechenden Komponenten. Die Studenten konnten hier auf Hard- und Software aus dem Hause B&R zurückgreifen. Die Hochschule Kempten steuerte zudem eigens entwickelte, 3D-gedruckte Roboter bei. Genug Material also, um die Vision Wirklichkeit werden zu lassen. Die Roboter ließen sich dann auch ohne Probleme mit einer B&R-Steuerung betreiben. Möglich machte es der offene und flexible Roboterkern des B&R-Systems.

Als das Projekt schließlich vollendet war, sortierten drei Roboter unterschiedlicher Bauart mithilfe von Sensoren den eingeworfenen Müll. Das Team vertraute dabei auf das plattformunabhängige Kommunikationsprotokoll OPC UA. ■

www.br-automation.com
www.itq.de

Foto: YoutubeITQ

SMART GREEN ISLAND MAKEATHON: Der internationale Entwicklerwettbewerb auf Gran Canaria brachte viele tolle Ideen und Innovationen hervor.

Foto: ITQ

IDEENSCHMIEDE: Mit passenden Hardwarekomponenten entwickelten Studenten aus einer Idee eine voll funktionstüchtige Müllsortieranlage.

der Brno University of Technology, der Hochschule Kempten, der Technical University of Ostrava, der Hochschule Bremerhaven und der Universität Erlangen-Nürnberg. Die 13 Studenten entwickelte in lediglich drei Tagen eine Anlage, die mit Hilfe von Robotern Müll sortiert. Unterstützt wurden sie vom österreichischen Automatisierungsspezialisten B&R.

Wenn Ideen beflügeln

Zu Beginn des Makeathons erhielt jedes Studententeam eine entsprechende Aufgabe. In nur drei Tagen musste dann aus einer Idee, ein funktionierender Prototyp entstehen. Nicht ganz einfach. Das weiß auch Prof. Dirk Jacob von der Hochschule Kempten zu berichten. Er war einer der Betreuer des Teams. „Das war eine sehr große Challenge, aber ich bin stolz, dass unser Team gemeinsam die Müllsortieranlage innerhalb dieser kurzen Zeit entwickelt und zum Laufen gebracht hat".

Doch um eine Idee auch umsetzen zu können, bedarf es der

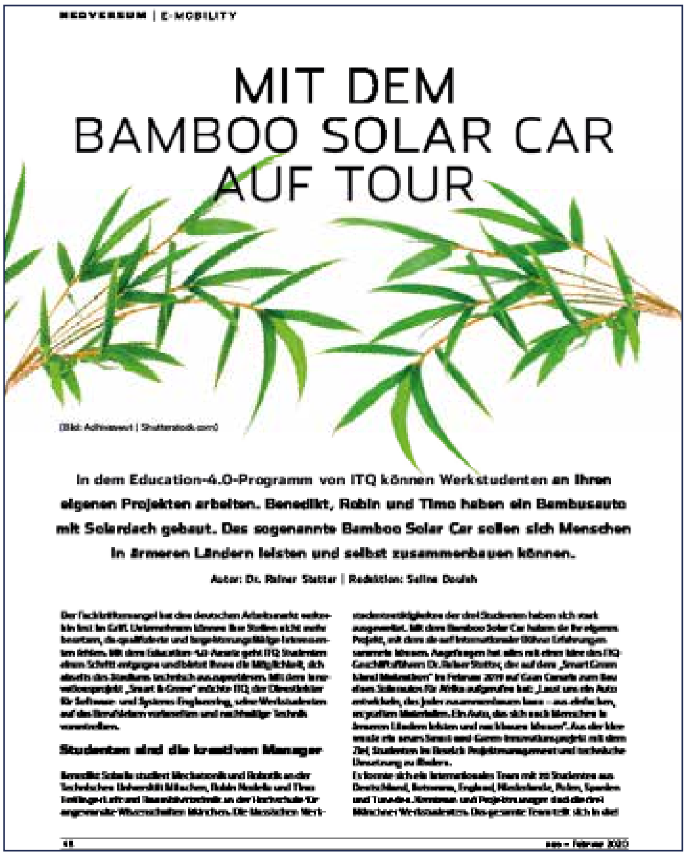
1. PACKAGING VALLEY MAKEATHON

Die beiden Verpackungscluster Packaging Valley Germany und Packaging Excellence Region Stuttgart (PEC) veranstalten gemeinsam vom 25.-26.06.2020 den 1. Packaging Valley Makeathon. Erst aus den Überlegungen heraus entstanden, wie die beiden Verpackungscluster gemeinsam konstruktive Lösungsbeiträge in der Corona-Krise leisten können. Die Corona-Situation hat in vielen Bereichen von Wirtschaft und Gesellschaft den tatsächlichen Stand der Digitalisierung schonungslos aufgezeigt. Auch Verpackungsmaschinenhersteller wurden durch die Situation der Reisebeschränkungen, Maßnahmen zur Vermeidung der Ausbreitung des Virus und den Einschränkungen bei Inbetriebnahme und Service auf eine neue Art und Weise herausgefordert. Gleichzeitig werden die Produkte und Dienstleistungen der Branche massiv benötigt, um die Versorgung der Bevölkerung u.a. mit Lebensmitteln und pharmazeutischen Produkten sicherstellen zu können. Im Rahmen des Packaging Valley Makeathon steht die Frage im Mittelpunkt, welche Weiterentwicklungspotenziale sich der Branche im Bereich von Digitalisierung und Mechatronik bieten, welche Konsequenzen sich aus der Corona-Krise diesbezüglich ableiten lassen und wie nachhaltige Verpackungstechnik durch die Digitalisierung und Mechatronik vorangetrieben werden kann. Daraus ergeben sich die Aufgabenstellungen, für die im Rahmen des Makeathons Lösungen gesucht werden, wie zum Beispiel das Ausschöpfen der technologischen Möglichkeiten bei vorbeugender Wartung und Fernwartung, den Einsatz der künstlichen Intelligenz (z.B. Daten von laufenden Maschinen auswerten, um neue Maschinen zu optimieren) oder den Einsatz von Cloud Technologien, um Produktion und Bedarf von kritischen medizinischen Gütern besser in Einklang zu bringen.

Der 1. Packaging Valley Makeathon unter der Schirmherrschaft von Packaging Valley Germany e.V. und Packaging Excellence Region Stuttgart e.V., mit Unterstützung der Fa. ITQ, wird aufgrund der Corona-Situation dezentral stattfinden. An verschiedenen Orten treffen sich Studenten, Fachkräfte aus Unternehmen und Technologiezentren, um gemeinsam an Lösungen für Digitalisierung und Nachhaltigkeit im Verpackungsmaschinenbau zu arbeiten, zu entwickeln und zu arbeiten. Über digitale Plattformen sind alle Beteiligte miteinander vernetzt und präsentieren

Reference: K-Newspaper, August 04, 2020

Reference: www.packaging-valley.com, June 25, 2020


NEOVERSUM | E-MOBILITY

MIT DEM BAMBOO SOLAR CAR AUF TOUR

In dem Education-4.0-Programm von ITQ können Werkstudenten an ihren eigenen Projekten arbeiten. Benedikt, Robin und Timo haben ein Bambusauto mit Solardach gebaut. Das sogenannte Bamboo Solar Car sollen sich Menschen in ärmeren Ländern leisten und selbst zusammenbauen können.

Autor: Dr. Rainer Stetter | Redaktion: Selina Doulah


NEOVERSUM | E-MOBILITY

DR. RAINER STETTER


E-MOBILITY | NEOVERSUM

Reference: Elektronik NEO, February, 2020

Reference: WAZ Article, August 25, 2020

Get on Board!

Become a Technology Sponsor:

When the foundation was established in 2011, we had the ambitious vision that every school and kindergarten in Germany would have a technology club by 2021. Much has changed in the meantime in the age of digitalization, but there is still a long way to go before we reach our goal. We already offer our "Lego Mindstorms" project in many institutions and teach the students technical contexts with a lot of fun to get them excited about science and technology at an early age.

Our concept is to introduce teams of pupils to technical problems in a playful way using the high-tech Lego Mindstorms construction kit. The organizational and technical leadership of these teams is taken over by students selected and trained by us. Fun and play are never neglected. To ensure that the teams are not just "playing" but are actually working in a focused and concentrated manner, the foundation repeatedly supports selected teams in their participation in competitions such as the First Lego League or the international robotics competition World Robot Olympiad. This year, we supported pupil teams in five national and international competitions and were even able to send two teams from the Bavarian Ottobrunn High School to the World Finals in Detroit and Montevideo.

To push this concept further, we are always looking for companies that, together with us or on their own initiative, build up and support further school teams and enable them to participate in specially organized competitions.

If you as a sponsor, company or private person, would like to support the activities of the Gerda Stetter Foundation with financial means, donations of materials and its influential network, please feel free to contact us.

On behalf of a new technophile generation, we are happy about every commitment!
If you want to donate money, we will give you a donation receipt.
The Foundation is recognized as a non-profit organization by the government
of Upper Bavaria (Foundation-Number: 12.1-1222.1 M/T 24).
HypoVereinsbank, Transfer Reference „Technik macht Spaß", IBAN DE03700202700010181498, BIC HYVEDEMMXXX.

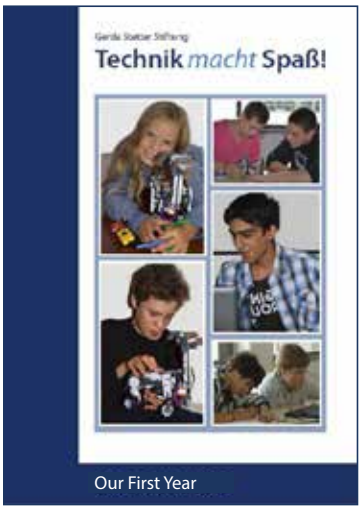
THANK YOU!

Summary of our list of Sponsors:

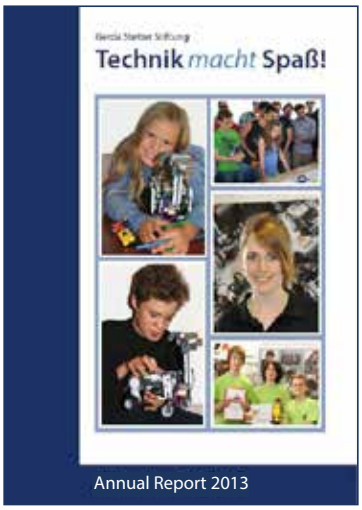
Edition Review – What we did so far

Our goal is to teach Education 4.0 with a lot of enthusiasm ...

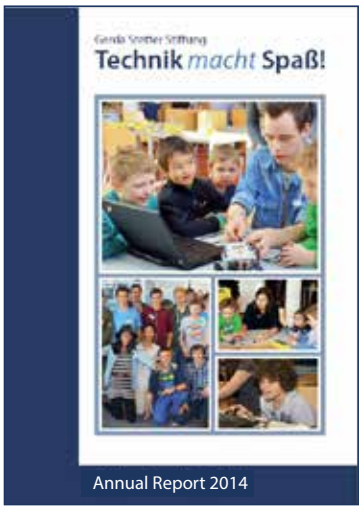
Front Cover – Event Highlights 2012 – 2020/2021



Our First Year



Annual Report 2013



Annual Report 2014

Annual Report 2015

Annual Report 2016

Annual Report 2017

Annual Report 2018

Annual Report 2019

Annual Report 2020/2021

... and we have achieved a lot so far

Network 2012 – 2020/2021

Our Network:

igus · HONDA · Infineon · WAGO · B&R · TRUMPF · BECKHOFF

MULTIVAC · MAT · Klinik Judendorf Strassengel · Ayuntamiento de Las Palmas de Gran Canaria · spegc · Gobierno de Canarias

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zdi 2013 Roboterwettbewerb Nordrhein-Westfalen · Universität Duisburg Essen · FH Aachen University of Applied Sciences · OPTIMA · SIEMENS · FAPS

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