



## Editorial

Dear members, dear friends and dear facilitators of **Technology without Borders**,

At the end of the year, events are crowding in. In this respect, today's editorial will address two important topics - the new **DSGVO and changes in the association**.

**But first:** The entire board would like to thank all members, friends and sponsors for their commitment and good cooperation in the past. We don't take it for granted that she/he will get involved with us. Only with your engagement can we make the world a little better! We wish you all a Happy Holidays, a Happy New Year and look forward to working with you in 2019 on "**projects and solutions applied together**".

### The new Basic Data Protection Regulation (DSGVO)

All those who hoped that the ubiquitous flood of privacy notices would finally abate will read the following paragraphs with disillusionment: TeoG, too, has recently been dealing with the issue of data protection. In particular, we have implemented the rules of the new European Data Protection Basic Regulation (DSGVO). In the course of this I (Maximilian Martin) would like to introduce myself as your data protection officer for the TeoG association.

TeoG provides its members with a couple of online services (OwnCloud, E-Mail, Wiki, ...). Our working group IT runs most of the server infrastructure independently, so that we can keep full control over these systems. Whenever third-party services are used, we were provided with warrants to assure that our data will be treated confidentially. These corporations are located in the European Union and therefore comply with the strict GDPR. We do not use services from outside the EU. And of course, we do not sell your data to any third party.

We also adapted our membership application form. Old forms have been replaced. We have defined a transition period until February 1, 2019. Afterwards, old-style applications will be rejected.

We will anytime provide information about your data saved by us. If you do not agree with us saving and processing your data, we will delete or alter your data or limit the processing respectively.

In case you have any questions or remarks, feel free to contact me: [datenschutz@teog.de](mailto:datenschutz@teog.de)

I wish you all merry Christmas and a happy new year!

*Maximilian Martin, regional group Erlangen*

### Changes in our Association: Is Technik ohne Grenzen e.V.(TeoG) / Technology without Borders (TwB) a living and learning organization?

This is a question we ask ourselves again and again in the board of directors and the upcoming events give the answer to what we are. When we founded the country group / subsidiary Ghana almost four years ago, we assumed that we could simply transfer our German association model to Ghana. At our last board meeting, however, we clearly came to the conclusion that this is not the case. The past has shown that in Germany also students travel to the annual general meetings. In Ghana it turned out that this is much more difficult, if not impossible, especially for students. The annual general meetings obviously took place only once and the resulting conclusions and information only came to the attention of the German board in this one case. Furthermore, we never achieved the transparency about goals, measures and projects that we had imagined.

For this reason, the German Executive Board planned a joint meeting with the Ghanaian Executive Board last year. Unfortunately, this meeting did not take place because the longer, but of course in the sense of a high-quality, international education very welcome stays abroad of Ghanaian board members were not accompanied by a clear successor arrangement. So the three German board members travelled to the regional groups and the remaining board members in Ghana to discuss projects and perspectives with them. This contact with our Ghanaian members, regional groups and remaining board members **was extremely successful** in our view. Nevertheless, it has shown us that the demands we place on our country group cannot be achieved with the conditions in Ghana. Therefore, at our last board meeting on 30<sup>th</sup> November 2018, we came to the conclusion that the founding of the country group in Ghana did not improve the cooperation with our important local partners, but in some cases further obstacles arose. However, as our focus is particularly on the implementation of successful development aid projects, we consider the final decision of the German Executive Board to dissolve

the country group at the end of the year 2018 to be an important step towards fulfilling our actual goals.

At this point we would like to thank all members of the Board and the Advisory Board for their work. We would like to express special thanks to Rahim Shaibu-Issah and Danny Owusu, as they have supported the association with their commitment over a long and difficult time.

How do we proceed now? The new way is called "Partnership without borders"© between the regional groups. In the past, despite the difficult situation in the country group, many excellent projects have been carried out in and by the regional groups. This has often resulted in a very close partnership between a German and a Ghanaian regional group and even friendships between the members. We will continue to strengthen and expand these partnerships in the future. This is where we see the future for our international cooperation!

Back to our question at the beginning: **Yes, we are a living and learning organization!**

In this sense, the entire board would like to thank all members, friends and supporters for their commitment and good cooperation in the past.

Your board of directors

F. Neumann	F. Regler	R. Schullan	N. Nguyen	M. Stephan	V. Birk	D. Schaffert
			Ch. Zeidler		M. Huber	J. Fasnacht

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## Micro off-grid Photovoltaic Workshop for Indonesian NGOs and Entrepreneurs

**In order to support renewable energy programs in Indonesian rural areas, we worked together with a local NGO, Rumah Ilham. We jointly organized a training event on micro scale off-grid Photovoltaic system. The goal was to assure that the participants can implement their own solar energy projects soon.**

At the moment there are still more than 13.000 villages in Indonesia which are not yet connected to the main electricity network. In those areas people are still using Kerosene lamps and Candles for lighting purposes. The best solution is the utilization of photovoltaic solar-home-system so that the danger of fire declines and respiratory diseases can be avoided. Florianus Josopandojo and Florian Letzgus had the idea of giving a workshop for local entrepreneurs and NGOs on how to design and install a small scale off-grid photovoltaic system.



Florianus (2.left) and the Team

On the first of September they flew to Jogjakarta and began to build a small photovoltaic training plant which was used for demonstration, visualization and exercises. During the second week they began with the theoretical and practical training for the first workshop group. This took 4 days in total. During the third week they carried out the same training for the second group. At the end of the week all participants took a writing, oral and practical tests as a requirement to receive a certificate of completion. In total there were 21 persons who participated in our workshop. 4 of them were from our partner-NGO, the other 12 were from other NGOs, another 4 were micro entrepreneurs and one intern from Rottenburg University. 17 out of 21 persons have successfully passed the given tests and ready to implement photovoltaics projects in their hometown.

*Florianus Josopandojo and Florian Letzgus, RG Rottenburg*

## Teaching Computer Basics (TCB) in Germany

**In summer 2018 we provided six refugees with basic computer skills. They are now ready to pass on their knowledge.**

Computer skills are an integral part of our everyday life. Although they are often taken for granted, they are not self-evident. Following the train-the-trainer principle, we trained six refugees from six different countries. They will now pass on their knowledge to other refugees. To make the workshop as relatable as possible, we split the contents into three areas of application:

- looking for an apartment
- applying for a job and
- sharing knowledge.

The topic "looking for an apartment" for example, ranges from the question "Where can I find Internet?" to the creation of a budget sheet with Excel. The participants did not only learn the contents, but also got a basic understanding of how to lay out a practical lesson. The workshop continued in November: An Arabic-speaking refugee is currently teaching five other Arabic-speaking refugees.

The project was developed in close cooperation with the city of Erlangen and the AWO integration consultancy Erlangen. In order to be able to hold the workshop in the best possible way, the city provided us with six laptops and a projector. Thanks to everyone for the successful cooperation!



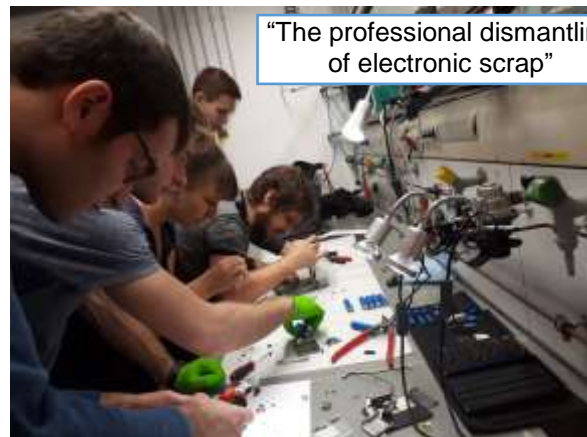
The team in front of the "Erbavil-

*Lena Augustin, RG Erlangen*

## Our first E-Waste Maker Space Container in Ghana

**Many disused electronic devices finally end up at a large electronic dump in Ghana where they are disassembled under environmental harmful conditions to access value raw materials, such as copper or gold. Our organization plans the establishment of environmental friendly dismantling processes in autonomous Maker-Space containers in cooperation with the *Gesellschaft für Internationale Zusammenarbeit (GIZ)*. The first container for disassembly processes is currently prepared at the University in Tarkwa.**

Large quantities of broken or disused electronic devices from Europe are legally but, in some instances, also illegally exported to development or emerging nations. One of the worldwide largest electronic dumps is located in Agbogbloshie - a district of Accra (Ghana) where around 10.000 people work in the informal sector to "earn" their living. They gut old electronic devices, such as televisions, fridges and computers and burn cables, plastic covers and tires on the field to earn money with the obtained raw materials. The unsound recycling leads to large health and environmental damage by heavy metals as well as long-living toxic organic compounds, such as dioxins. Even children work at the dumpsite instead of going to school.



"The professional dismantling of electronic scrap"

Since the foundation in 2010 our organization regularly follows the development in Agbogbloshie. Meanwhile, due to the high membership number in Ghana in five regional groups we start a project for the improvement of working and environmental conditions. However, the break-up of the informal structures at Agbogbloshie is very challenging. Furthermore, we want to avoid collisions with other organizations. For that reason, we looked for a cooperation partner and got into conversation with the GIZ. We will closely coordinate all activities in Agbogbloshie with them.

First activities in our project will take place outside Agbogbloshie at the Universities of our Ghanaian regional groups. We plan to establish autonomous Maker-Space containers for the sound and environmental friendly disassembly of electronic devices and to provide tools and the knowledge. We aim the dismantling into homogenous fractions to get higher profit compared to unsound recycling. The received raw materials shall either be sold or be used for the fabrication to new commodities. The energy supply shall be ensured by solar panels.

The regional groups in Bayreuth and Tarkwa currently work on the assembly of our first container for the dismantling of PCs and laptops. The container recently arrived in Tarkwa and will be further designed by regional members, e.g. by installing windows. Simultaneously, the RG Bayreuth



The first Maker Space Container



disassembled a laptop to learn the process, create training material and identify the constituents. The process realization in our container in Tarkwa by a joint German-Ghanaian Team is planned in February 2019. Additionally, a second tandem team of the regional groups in Erlangen and Kumasi work on the dismantling of cables as our second process in a further container. After establishment, we plan to transport the containers to Agbogbloshie and to incorporate them into the local recycling industry in close cooperation with the GIZ.

Last month we could already win iFixit as sponsor. They will donate toolkits for our containers. Furthermore, we will cooperate with the company MAIREC which is one of the largest electronic waste recycler in Germany. They will support us with expertise in recycling and customers for electronic waste.

We will continuously report on the project process in the following newsletters.

*Jannik Mechau & Matthias Stachowski, RG Bayreuth*

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## Clean drinking water for Ecuadorians affected by last major earthquake

**A student group from Aachen is coping with Ecuadorian administrative struggles to guarantee stable drinking water supply for habitants of regions affected by the earthquake 2016.**

A student group from Aachen is trying to find a way to guarantee a stable drinking water supply for the inhabitants of the coastal regions in Ecuador, who were affected by a major earthquake in 2016. Even though it has been more than two years since then, the local administration still struggles to assist these rural villages with proper care.

The goal of "Technik ohne Grenzen e.V." Aachen is to enhance the decreasing assistance and infrastructure of these regions in Ecuador set the enhancement of the assistance and infrastructure in these regions. More specifically, their project's aim is to improve the currently very precarious drinking water supply systems, focusing on the more isolated villages on the northern coast of Esmeraldas and Manabí.

The team, conformed mostly by students has, along with the organization's internal network, their German partners and the Ecuadorian foundation "Tierra Viva", elaborated a concept to guarantee the affected villages a reliable clean water source.

This young project has gotten more attention in Aachen over time thanks to popular concerts and promotional events which they organize regularly. Additionally, they have obtained money from donations and further activities. The money raised will be put in buying the necessary materials for the implementation of the project, for example groundwater analysis gear, which is planned on starting by summer 2019.



Ecuador after the earthquake

Two members of the team will coordinate the project personally on site and ensure that the locals will be able to take over for long-term operations. Many villages in the mentioned regions are still facing serious freshwater shortages.

Without any aid from their government the coastal residents (called "Costeños") are forced to consume contaminated water, and the few who can afford drinking water buy it from private trucks sent to the countryside. Nevertheless, they are owned by companies who see a benefit in the helplessness of the people and the government malfunction.

The "Costeños" do not want to give up their homes and land, even though they feel disappointed and let down by the local administration. Healthy and clean drinking water from the tap – for lots of "Costeños" now something unimaginable. Or is it possible?

For further information, don't hesitate to get in touch with the team in charge:

[max.moersfelder@hotmail.de](mailto:max.moersfelder@hotmail.de)

*Max Mörsfelder, RG Aachen*

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## Organic farming in South India

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## The regional group in Munich has set itself the task of training Indian farmers and residents in sustainable agriculture.

The The Toranam project, which has been running since 2017 as part of TeoG e.V., is still in full swing and is constantly being further developed. In August of this year, the focus was on environmental education and awareness raising. A five-day workshop was held at a girls' college in Madanapalle, where the young students received input on environmental topics such as organic farming, soil and waste management and used their knowledge and creativity to plan their own projects on these topics. The young women also received a guided tour of the already established agroforestry field, gained valuable practical insights into organic farming (especially in agroforestry systems) and helped with the further development of the field.

Another workshop was held with smallholders from the Madanapalle region, with a particular focus on organic farming. There was also a guided tour from the field followed by a panel discussion where the farmers expressed their problems and (most of) their willingness to do organic farming - under certain conditions. In addition to environmental education, the project site (including arable land) was also further developed. A composting post was erected and an inventory and further maintenance of the field was carried out. The long-term development and organization of the project was also discussed and planned with the local NGO.



Guided tour and discussion with the farm-

It is planned to directly involve more small farmers in the coming year through individual support and monthly farmer network meetings. There will also be more workshops and the farm building will be renovated in an environmentally friendly way. More and more locals are interested in the project and want to participate, which convinces us of the importance and the continuation of the project.

*Franziska Weißörtel, RG München*

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## Short Messages

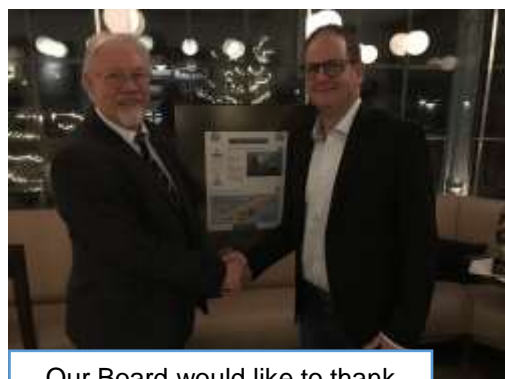
### Donate-minded Rotarians in Rotary Club Höchststadt an der Aisch



Our board thanks Robert Schullan

The roughly 60% share of the financing for our projects comes entirely or partly from Rotarian sources. One of the reasons for this is that 4 of our founding members are Rotarians, 3 of them even Past Presidents of their respective clubs. This includes our chairman of the board, who always supplies his own club, RC Höchststadt an der Aisch, with news from our work. As a result, two members of RC Höchststadt donated to Technik ohne Grenzen on the occasion of their significant birthday this year. On the one hand there was our TeoG- and 3rd board member Robert Schullan, who dedicated his donation to the project "Regenerating Wells", in which he co-worked in his mission in Ghana.

The second round birthday celebrated the Höchststadter Rotarian Dr. Gerhard Baumüller, and at the same time the family doctor of our chairman. He not only asked to donate to Technik ohne Grenzen instead of gifts for his birthday, but also planned that this year all patients who "want to give something to their doctor for Christmas" should rather donate to Technik ohne Grenzen. He has asked that these donations be turned to the project "e-Waste Maker Space Container in Ghana". In total, about 3000,- € have been donated to the association through these two birthdays. We would like to take this opportunity to express our gratitude to both jubilees.



Our Board would like to thank Dr. Gerhard Baumüller

### Visit of the company MAIREC

On November 30, 2018, five TeoG members visited MAIREC in Alzenau through the introduction of our TeoG members Henning Kaul, retired MdL and RG leader Dr. Uli Pütz. The company MAIREC

was founded about 15 years ago by Dipl.-Ing. Thomas Maier and makes now an annual turnover of about 330 million € with recycling. From the very beginning the company has specialized in the recycling of car catalyts and electronic scrap, which makes this company an excellent cooperation partner for our e-waste project in Ghana. When disassembling laptops and PCs, most of the precious materials are hidden in the motherboards, which are mechanically and partly also chemically separated into individual components at MAIREC in order to obtain the pure metals. The company owner and the technical director Dipl.-Ing. Florian Sauer spend a lot of time for us and so we passed many bags with broken motherboards while visiting the company premises.



Due to a lack of industry in Ghana, it is difficult to completely dismantle pure metals on site. Thus, after dismantling the main boards in Ghana, the components that cannot be recycled on site could be returned to Germany and recycled at MAIREC. In the longer term, both MAIREC and Technik ohne Grenzen are interested in realizing the entire recycling process on site and only managing it with local customers and companies.

(f.l.t.r.) M. Stachowski, F. Neumann, U. Pütz, F. Sauer, T. Maier, J. Mechau und K. Schlesi-

*Jannik Mechau & Matthias Stachowski*

### Project manager workshop as pilot with new design presentation - PL WS 3.0



From the 7th to the 9th of December the last project leader workshop of the year took place in Erlangen. As we had actively supported the Waldleibnizzentrum in setting up a bird call panel (see Newsletter 2018 III), we were able to use the rooms free of charge. At this workshop Erlanger, Rottenburger, Bayreuther, Hamburger and Berliner Teog members

are represented and all are preparing for a project abroad in the near future. Once again the focus was on building up knowledge, exchanging experiences and networking and there was also plenty of fun in the "Energizer".

*The PL Workshop Team*



Annika motivates to „Energizer“

### Changes in our association

This newsletter began with the question if we are **living and learning organization**? We have already answered this question with a clear "yes". But life also means "coming and going". This year 2 new regional groups have been founded - but we will also take 2 regional groups out of service. At the last board meeting of the year, the board decided to close the regional group Nuremberg at the end of 2018, because there are currently not enough members in Nuremberg for a statutory association work.

The Bamberg Regional Group, which was originally founded for the activities of "Recycle Up!", will be taken out of service at the end of the year, as the Recycle Up! Team both in Germany and in Ghana has each founded its own association. Any remaining members from both regional groups will either be taken over by a nearby regional group or managed by the main association.

*The Executive Board*

### Currently running and completed projects:

[www.teog.ngo](http://www.teog.ngo)

V.i.S.d.P. Dr.-Ing. Frank Neumann, Ina Reichmann

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