Dear reader,

we could start the year 2018 with a bang. As a German finalist of the WeWork Creator Awards, we were invited to attend the global finals in New York. Nice, we thought, a little networking, meet other creative minds with great ideas and enjoy the party after the award ceremony. More was not planned, contrary to ideas and projects from all over the world with some years of preparatory phases, our presented project "Mobile Hospital" did not look promising for us. Everything came differently ...

We came in second in the judging panel. Suddenly there were many unbelieving glances within the team, we were EUR 420,000 richer and stood in front of the question: And now? Everything as before was no longer possible, so we had a long weekend for reflection in March, indulge in ideas and plans forging. Our mobile concept has proved its worth in Iraq but should be significantly streamlined and modular. We finally wanted to turn our workshop into a place where ideas and implementation are only meters apart. Longer-term, secure work perspectives for our employees were a particularly urgent wish. Stay flexible and innovative, close to the needs of local people and develop solutions together with them, was and still is our claim. With the "nest eggs" strengthened, suddenly many things seemed possible, which would have seemed absurd in December 2017.

We have been able to implement many of them this year. We had to react to some projects faster and more flexibly than we thought, others we could plan ahead and continue with a lot of advance. Overall, the year 2018 was another milestone for us towards more stability and continuity. Our projects for Syria and Iraq have been continued or completed, the simple workshop at “Holzmarkt” became Europe’s first Crisis Response Makerspace of a humanitarian aid organization during the summer, and cooperation with various universities helps us to be even better positioned in our project work.

Of course, our work in the field of emergency humanitarian aid is not free from setbacks. But with mature structures and a steadily broadening base of supporters from around the world, we are better off than ever to turn those setbacks into opportunities. Also - and above all - thanks to you! Therefore, we look forward to the next year, big events cast their shadows ahead.

Sebastian Jünemann
CADUS - Redefine Global Solidarity

What is CADUS?
CADUS is a non-profit and independent aid organization based in Berlin. In our work, CADUS e.V. supports people affected by crisis. We understand crises as a broad term. It includes emergency situations such as Sudden Onset Disasters and Crisis related to conflicts and wars and humanitarian crisis due to flight and migration. Furthermore, we also see political and environmental dynamics as an integral part which causes different type of humanitarian crisis. Therefore, a crisis is a multilayered phenomenon with complex underlying social and ecological dynamics.

Our work is mainly driven by three principles.

Flexibility and Mobility
CADUS e.V. as a humanitarian organization wants to work in areas where most other aid agencies are not able to be active. Our work is based on modular and flexible systems which allow us to react fast and effective to quickly changing crisis situations. Challenges to the modern humanitarian system, such as asymmetric conflicts or targeted attacks on humanitarian actors can be tackled by our approaches.

Transformation of knowledge and technology
For us, humanitarian work is not a one-sided transfer from "western" highly professionalized organizations towards "needy", "passive" victims. Together with local communities, we want to develop new and innovative projects that are both adapted to local conditions and also actively shaped by recipients of humanitarian aid. Therefore, it is essential to assure the exchange between CADUS e.V. as a humanitarian organization and those directly affected by crises. At the same time, this transfer also means interdisciplinary. People from various backgrounds, such as students, hackers or technicians have specific expertise, which can have great potential, once brought together. This creates the opportunity to develop new and sustainable solutions to humanitarian problems.

Innovation and development
In order to find solutions, we need creative thinking. Innovation should arise through interdisciplinary action. Organizations and individuals should be given the opportunity to implement humanitarian solutions, especially when structural disadvantage or lack of financial resources prevents active participation in humanitarian work. Additionally, we do have the principle to provide all of our solutions as blueprints and as open source.

In short, our goal is a reflected way of working within the field of humanitarian aid. This includes a focus on engaging local communities. We want to think about the causes and not just fight the symptoms. In addition, when implementing our projects, we try to look at them from different angles and take all dimensions into account. This means that we include technical, social, economic and environmental aspects. For us this approach is essential for effective and sustainable humanitarian work.

The three humanitarian principles are the basis for our work. Despite modern challenges and rapid changings within the humanitarian system these guiding principles still remain essential for our work.
Nevertheless, it is important to discuss these principles in order to clarify our interpretation and position.

**Impartiality**

Human rights apply to everyone, no matter what a person might have done before. As humanitarian helpers, we are neither judges nor enforcers. The way we treat people is based on their needs and not according to whether they belong to an "ethnic", religious or political group.

**Independence**

It’s a utopia to claim that humanitarian work is completely detached from financial constraints. For us it is important to deal with these monetary constrains transparently and openly. We clearly oppose funding that is linked to the interests of any political or religious party. We would like to be able to finance our projects purely from private donations. However, this is almost impossible due to the extremely high costs of medical emergency humanitarian aid. That is why we are partly financed by funds from international institutions, which also are committed to humanitarian principles (such as the Institutions of the United Nations). In addition to private donations, we also accept funds through foundations and from the private sector. We only accept these funding under the condition that they under no circumstances influence our work and the way we carry our work. Additionally, companies and foundations that support us must not contradict our values and principles.

**Neutrality**

In our missions we do not differentiate among the origin of people, their political or religious affiliation. Humanitarian aid means that every human being has the right to help and support. We want to openly criticize structures and policies that cause this suffering, as these ultimately make our work necessary. Our goal is clear: basically, we want to make ourselves superfluous. This will only work if we are in solidarity with the people who are in crisis and depend on support. It is this solidarity that drives us to act as humanitarians. For us, humanity does not only mean a short-term approach in the combat against suffering, but to work together with those affected to avoid this suffering.

**Who are we and what are our goals**

Many of us did work in the humanitarian field before. What we had in common is a dissatisfied with various things. On the one hand, we have started our own organization because we wanted to be able to address and re-think precisely this dissatisfaction openly and unencumbered. On the other hand, we have come together from a completely different context that brings a very special drive into our work. Most of us are familiar with the organization of small, large and big events from the musical (sub-) culture.

When organizing, for example, major festivals, you also know exactly what is needed in the crisis intervention in humanitarian aid. Namely many trades around the daily life: power supply, water supply and disposal, food supply for very large groups. That means there are specialists for all the areas we need in humanitarian aid.

On the other hand, there is something that we have often missed in humanitarian aid. Also in the organization and execution of large events always unforeseen things occur, planning does not work as expected. You must be able to find extremely fast solutions to unthinkable or unprecedented problems. Here we are experiencing an innovation that we have missed in the humanitarian context.
By founding CADUS e.V. we wanted to bring this joy of innovation, this joy of finding new ways and finding solutions into the humanitarian context.

**Who is behind CADUS**

CADUS e.V. is a non-profit association registered in the district court of Charlottenburg in Berlin. CADUS is officially represented by the four board members: Matthias Grott, Simone Schrempf, Anna Sauwerwein and Jonas Grünwald. Rather, we are a colorful bunch of people from different social backgrounds and different skills in our team. We are, for example, paramedics, graphic artists, biologists, engineers and fundraisers. But we all share the goal of making humanitarian aid unconventional and critical.

The Chief Executive Officer is Sebastian Jünemann. Sebastian has successfully graduated in biology, education and organizational psychology, but his heart has always been on emergency medicine. On a regular basis he has been involved in humanitarian aid for various organizations since 1999 and throughout his studies has worked in a senior role in rescue services. In 2014, he and some friends sparked off the founding of CADUS.

Verena Lauble has been the Deputy Managing Director of CADUS since the beginning of the year and also the Head of Operations. Verena studied International Business and Relationship before moving to Project Management in Mexico in 2011. Following her work abroad, she received a Master’s degree in Peace and Conflict Studies and various project assignments in Greece and Serbia before Verena joined our team in September 2017.

**Supporter**

Our work would not be possible without the large number of supporters. Only in this way we are able to implement the high workload and the various projects despite our small team size and the limited financial framework. Our supporters are as diverse as our fields of activity. From hackers to doctors to technicians, a wide variety of people are part of CADUS, who have spent so much time and energy making CADUS what it is today. In recent years, we have been able to evolve from a small group with an idea into an international humanitarian organization, pursue new approaches to humanitarian work and save hundreds of lives in Iraq.

**How we work**

As a small project with a tangible and comprehensible distribution of tasks, our focus was always on the personal freedom of all employees and supporters. In recent years, we have grown steadily and were faced with the associated challenges.

Today we have a structure based on collegial cooperation based on common values and goals. We divide our responsibilities into five areas within which we structure our work. These five departments are in regular exchange with each other. This exchange and the associated results are coordinated, guided and evaluated by the management as the interface of all work areas.

The day-to-day management of CADUS is the responsibility of the CEO and Deputy CEO. They act as the interface of all work areas and are primarily responsible to the board. CADUS is divided into the following five departments: Finance and Accounting, External Communications, Operations, and the newly created Human Resources and Crisis Response Makerspace divisions. The task area "Operations" represents our largest department with the most subgroups involved in it. These include above all the project management and the "Safety and Security" area. Research and
development is now taking place both in our own rooms in Makerspace and in universities throughout Germany and has moved thematically into the Department "Crisis Response Makerspace". The work area "Human Resources" includes the preparation and training for volunteers and co-workers, the co-ordination of further education and the constant extension of our pool of specialized personnel, from the technician over the translator to the internist. The communication department includes both public relations and fundraising.

Our projects

**Syria - Mobile Hospital**

Following the completion of the mission in Iraq, which was completed by a joint project between the University of Mosul and CADUS to finance the new University Library. We continued to face the challenge of moving our mobile hospital to Syria. At the beginning of February, it was finally time; after countless hours of preliminary work, discussions with institutions and a partial re-equipment all permits were together, and the border crossing could take place. Due to the military escalation around Afrin, there was a lack of clarity as to where the mobile hospital could be put to good use and also how the cooperation between CADUS and the Kurdish Red Crescent would have to look like. Together, we agreed at the end of March to donate the mobile hospital including equipment and urgently needed consumables for use as a dream stabilization point directly to the Kurdish Red Crescent. At the beginning of May, the mobile hospital arrived at Qamishli in Syria and was handed over to our partner organization after several days of technical instruction. In June, the public transfer took place following a medical briefing, before the mobile hospital, now officially run by the Kurdish Red Crescent, headed for the refugee camps around Tal Rif’at.

The camps in and around Afrin in the area held by the SDF units (Syria Democratic Forces) were formed during the Turkish occupation. Since the summer of 2018, the mobile hospital has provided the population in the camps with general medical, pediatric and emergency medical care. This completes our first big project for us. In 2015, we approached this idea with the idea of providing the population in the Rojava political project with more than just medical aid deliveries. Our benchmark was to develop a sustainable solution adapted to the wishes and circumstances of our Kurdish partner organizations, to deploy them and leave them there. We have implemented this after many detours. If our project was still under the impression of a front position against the IS in 2016, the parameters have shifted in 2018. General medical care for particularly vulnerable groups (people on the run) has replaced the acute trauma care immediately behind the battle line. Both are immensely important, especially when a conflict gets out of the headlines, unfortunately, there is often a lack of permanent medical care for people who often can not return to their homes. We are therefore very happy that our mobile hospital is now operating in this scenario, and through the work of our partner helps to provide medical care for people on the run.

**Syria - Primary Health Care Raqqa**

The widespread settlement of the conflict in large parts of Northeastern Syria fortunately has made acute trauma care, as we did in Iraq in 2017, less necessary. General medical care, especially in the highly contested major cities such as Ain Issa, Tabka and Rakka, was and still is precarious after the end of the fighting. Many health facilities are destroyed or not usable by house fighting and bombardments, consistent access for all social classes was not given under the so-called Islamic state. With this in mind, we were approached by UN agencies earlier this year to present the
establishment of a medical care center in the recently reconquered areas of northeastern Syria. After an assessment, the joint election on Rakka, which was destroyed at this time in parts of the city center to over 80% and still housed just under a quarter of a million inhabitants. For the implementation of this project, we have decided for the first time on a new concept: working with local implementation partners. In plain language, CADUS takes care of administrative work, procurement, coordination with donors, and strategic planning of the overall project, while local healthcare professionals carry out medical work. This saves costs due to the loss of personnel transfer from abroad, ensures continuous work in the area of operation and enables people to provide for themselves again instead of relying on assistance. Especially in areas recovering from conflicts, a factor that should not be underestimated.

Established as a "Primary Health Care Station", the clinic is best compared to a German general medical practice. Everything that can be treated on an outpatient basis is treated. For special interventions, referral is made to specialist clinics within Raqqa. From April to December, an average of nearly 100 people were cared for per day, accounting for 17,000 cases or 7% of the total population over the entire period. Most of our patients were children (54%), predominantly illnesses were internal (40%) and emergency medical care (17%). At the time of writing, talks on the continuation of the project will continue until the third quarter of 2019, depending, among other things, on UN funding and access across the Iraqi-Syrian border. Together with our project partners, we hope to be able to support and expand the urgently needed medical care in Raqqa in 2019.

Emergency Response Balkan
The situation at the European external border keeps us busy at CADUS - as well as directly in our project in Bosnia. In addition to our projects in Syria and Iraq, Bosnia may not seem like a logical place for the work of CADUS. But the current European migration policy prevents people fleeing war, violence or hunger from crossing the borders of the European Union - which means that more and more people are trapped in Bosnia. At the beginning of October, we had a small assessment team on site to get an idea of the situation. This assessment has shown us that there are shortcomings in the medical care of the refugees and that these problems will not be eased by the approaching winter. Bosnia-Herzegovina as a country that has experienced the horror of the war itself not so long ago, is one of the poorest countries in Europe. There are very few resources here to provide for the passing people on the run.

For use in Bosnia, a van was converted into a mobile treatment room in our Makerspace in October. In addition, our pick-up was provided with a structure to transport the required material. In mid-November we launched our "Emergency Response Balkan" with these two vehicles. Shortly after our arrival came the first cold spell, which brought the first severe cases of frostbite and made clear how urgently our work in Sarajevo was needed.

By the end of December, our team conducted 1088 consultations and laid a solid foundation for the continuation of the project in the early months of 2019.

Crisis Response Makerspace
The workshop at "Holzmarkt", which was so central to the conversion of our two trucks to a mobile hospital, has greater potential in our opinion. In keeping with our motto of technically improving and developing much of the project area, 2018 was all about creating a space in which various civil
society groups, universities and NGOs come together and develop ideas. We have created a place where we can quickly build concepts such as mobile clinics or pickup structures on their own, in which there is room for experimentation and, above all, think and work on projects with like-minded people. In the future, Crisis Response Makerspace will be able to take up our needs from fieldwork in a hands-on manner through networked work, but at the same time become the place where new project ideas are created. That's why there was and is an open day every week, where building projects are implemented, plans are forged, and contacts are made.

The equipment with the necessary machines was a long way, meanwhile we are able to carry out both metal and woodwork ourselves. Welding, sawing, milling, drilling - everything possible.

We have implemented a great deal this year, albeit not in the size of our mammoth project "Mobile Hospital". We have designed and built frames for pickups, which allow our equipment to be relocated from the large unit to smaller, all-terrain vehicles. As a result, our on-the-job teams are able to move with exactly the things they need in an area they really need. We also had a refrigerated truck converted to a shower truck and finished it in our Makerspace. Together with the mobile medical transporter, this vehicle will soon be on the European external borders, for example. deployed in the Balkans to provide fleeing people with basic sanitation.

Furthermore, in the course of the EMT 1 classification (see above), the revision of our hospital system was put to the test. Much of what we already thought and planned must be adapted, made smaller and more mobile. Some areas such as water supply, wastewater and hygiene are being completely redeveloped. Our claim is to work as high quality as possible while minimizing the amount of material. Other organizations have almost unlimited storage and transport options, but also take longer to build. Our small size should become our strength, we want it handy, highly mobile and quickly set up. This also means that almost everything has to fit in boxes that can be moved by a maximum of six people.

**AERU - Airborne Emergency Response Unit**

In the AERU project, CADUS, together with the Swiss Humanitarian Pilots Initiative (HPI), has developed an Airdrop system for emergency medical aid. For this purpose, used emergency parachutes are used, whose application has expired for people. At these parachutes a box is dropped, which is equipped for the damping of the impact with a special absorption layer.

The HPI has taken over the belt system for the parachute and attachment to the box. CADUS had the task to develop a suitable damping layer.

A suitable material for absorbing the energy of the trap could be found quickly with the so-called honeycomb paper (honeycomb cardboard). In case tests with different weights and impact angles, the impact area and the required material properties could be determined more accurately.

With the help of these tests, a physical approach was developed, with which the impact acceleration, the cross-sectional area as well as the layer thickness of the material can be estimated. Thus, the damping layer can be adapted to the drop weight of the box and a safe discharge even high-quality and sensitive medical devices can be realized.

In September 2018, together with the HPI pilots, CADUS carried out the first test blasts from a propeller aircraft in Switzerland. The Swiss Federal Office of Civil Aviation has supervised and granted
these discards. As a result, CADUS is now listed as an organization with civil airdrop capacity in Switzerland.

With this civil Airdrop system, aid organizations such as CADUS should in future improve medical emergency care in cut-off regions, such as after earthquakes or floods. By air, doctors and paramedics then quickly get into the field by regular parachute jump.

In order to test the system under real conditions and to know the occurring accelerations, however, further test discharges are to be carried out and examined by measurement. Also interesting are the accelerations that show up when the parachute opens.

Remo²hbo
The research project remo²hbo, which was based at the universities of Applied Sciences HTW Berlin and Beuth University Berlin, was born from the experience we gained from our first training sessions in northern Syria in 2015/16. The result was a desire to make medical technology available to the local population even in economically weaker regions, away from traditional sales markets. After the project start last year and the considerations on the requirement profile of the measuring devices, these considerations could now be implemented practically. In accordance with the requirements profile, the components of a vital parameter measuring device were designed and tested at the Beuth University of Applied Sciences, while the software development was distributed at the Center for Biomedical Image and Information Processing (CBMI). During the year, the project was presented at science symposia and is in the final test series before production as a prototype at the end of the year. As soon as the first measuring instruments have been manufactured and presented at trade fairs, we hope to have a small series produced together with our project partners and to test them in our projects.

Collaboration with Universities and research projects
Building on the research project for the construction of robust vital parameter measuring instruments, various other projects at HTW have started this year. In cooperation with the study program "Industrial Design", a practical final thesis was developed, which dealt with a modular transport box for humanitarian missions. The "Emergency Box", which can be integrated into other transport modules and innovatively designed, was designed at HTW and built as a model in CADUS "Makerspace. It represents the first completed technical project in cooperation with universities in whose development, conception and production CADUS plays a leading role. As part of our "Mobile Hospital 2.0", it will become a core element of our logistics after series production. For the first time, a teaching project of CADUS was established at the HTW this year. As part of the "General Studies Supplementary Courses" (AWE), which are compulsory for all students, a practical seminar was offered, which focused on innovative solutions for humanitarian disaster relief. Together with the students, problem areas were analyzed, solutions were designed and implemented in the makerspace. This seminar resulted in a mobile toilet solution for field use and a geo-mapping app designed to provide access to information and humanitarian services in crisis regions. Another thesis from the Department of Computer Science dealt with the improvement of our crewing platform. Content weaknesses were analyzed, a simpler user guide developed and programmed, and finally integrated into the existing app. In this way, we want to make it even easier to register volunteers in our internal database in order to efficiently fill up the necessary pool of emergency services. The close cooperation with universities enables us to realize a long-cherished wish: needs that we see in our missions can be discussed promptly with research and industry, and in the best case, new
concepts can be created that can be used again on site. So we want to be a small motor of innovation and at the same time focus on actual needs of those affected.

**EMT classification**

In October 2018, CADUS began the process of classification by the WHO (World Health Organization) as Emergency Medical Team (EMT) Type 1 mobile. This classification is a relatively recent process by which WHO seeks to ensure the quality of humanitarian aid in the event of disasters and crises. In the future, only those organizations should be given access to disaster areas that have passed the classification process successfully.

In 2017, during a field visit by the WHO in our Trauma Stabilization Point in Mosul, their representatives suggested that CADUS be involved in the procedure and thus be requested by the WHO for humanitarian aid in the future. We then requested the inclusion in the process. In September 2018, the contract was signed between WHO and CADUS, which agreed on a one-year mentorship through a team of mentors until the 2019 classification day. The first visit by our mentor took place in October. There was an "inventory" made: in which areas is CADUS ready for classification and where is there still need for rework?

We then went to work on human resources, technical solutions and medical standards, reviewing our guidelines, equipment and practices and, if necessary, improving and expanding them. For CADUS, the mentoring program represents a chance to further improve our structure and working practices in order to more effectively meet our own aspirations for high quality humanitarian assistance in the future.

In addition, the EMT initiative has been an opportunity to expand our network and engage with other emergency medical teams and humanitarian aid stakeholders. CADUS is a founding member of the D-EMT initiative, which aims to network German EMTs and their cooperation. In this context, our participation in an earthquake emergency exercise in Armenia in December 2018 also brought interesting new contacts, as well as suggestions for other areas of responsibility.

**E-learning and Telehealth platforms**

By the end of 2015, crossing the border into Syria became extremely difficult for CADUS. The medical training for first aiders on site that we had initiated had to be discontinued. We reacted by developing an E-learning platform in 2016, which we expanded further throughout 2018.

The project aims at the education of local paramedics who will be able to provide first aid. Even without a steady Internet connection, content is made available on mobile devices via our platform. Participants may use their respective local servers as a library and download all desired content to their devices or use the server as a digital classroom for local training classes. The platform minimizes the prerequisites for educating medical staff and enables simple knowledge transfer, thus allowing for uninterrupted teaching regardless of political circumstances.

The learning materials of the e-learning platform were expanded in terms of content and graphics in 2018, as well as didactically revised. The technical side of the platform has been further developed by the operator and has solved technical problems.

The project of crowd-based telemedicine was conceptually revised in 2018 and new partners were recruited for its implementation. The aim is to reduce the (temporary) shortage of experienced health care professionals in a particular area, e.g. To counteract Syria and to network specialists from
various medical disciplines online. Medical cases can be uploaded to a platform, and networked, geographically dispersed physicians can take care of them according to their capacities and specialization. The platform is designed to allow medical staff to receive telemedicine support from around the world in real-time in an emergency. In addition to acute emergencies, it is also possible to diagnose and treat a medical condition that is rarely found in one geographical area by doctors from other areas where there is more experience with the disease.

The year 2018 was marked by the expansion of medical equipment for the telemedicine project. As a result, new cooperation partners affiliated with university clinics could be won. An intensive test phase was initiated at the end of the year.
Finances
In 2018, CADUS was able to significantly increase its realized funds. Overall, the total financial volume amounted to EUR 1,236,689. The largest inflows resulted from a large one-off payment in the course of a prize money, which amounted to around EUR 405,000. In addition, the institutionally funded project-related funds increased by a multiple in 2018. These were acquired primarily in connection with our activities in northeastern Syria. In addition, CADUS received in 2018 medium funding from foundations. In addition, the number of regular small donors was further expanded, and new permanent donors were generated.

As a result of the expansion of activities and project work, expenditure also increased to a total of around 1,057,411 euros. This includes around EUR 188,000 in staff costs. This illustrates the professionalization that CADUS completed in 2018. In 2017, a large part of the work was done on a purely voluntary basis. In 2018, a large part of the work was also financially remunerated. At the same time, a reduction in travel costs compared to 2017 can be observed. Costs such as rent and ancillary costs will remain at a constant level of around EUR 39,400 in 2018. In total, direct project-related costs of around EUR 126,700 were incurred. As a result of project-related cooperation, funds totaling EUR 417,700 were paid to our local implementation partners. Only 0.6% of our output went to public relations and representation, a total of about EUR 6,900. EUR 41,10, or about 3.4% of revenue, went to the administration, excluding rents and salaries. Relating these items to an incurred 2018 cost of EUR 268,500, which reflects about 22% of revenue.