

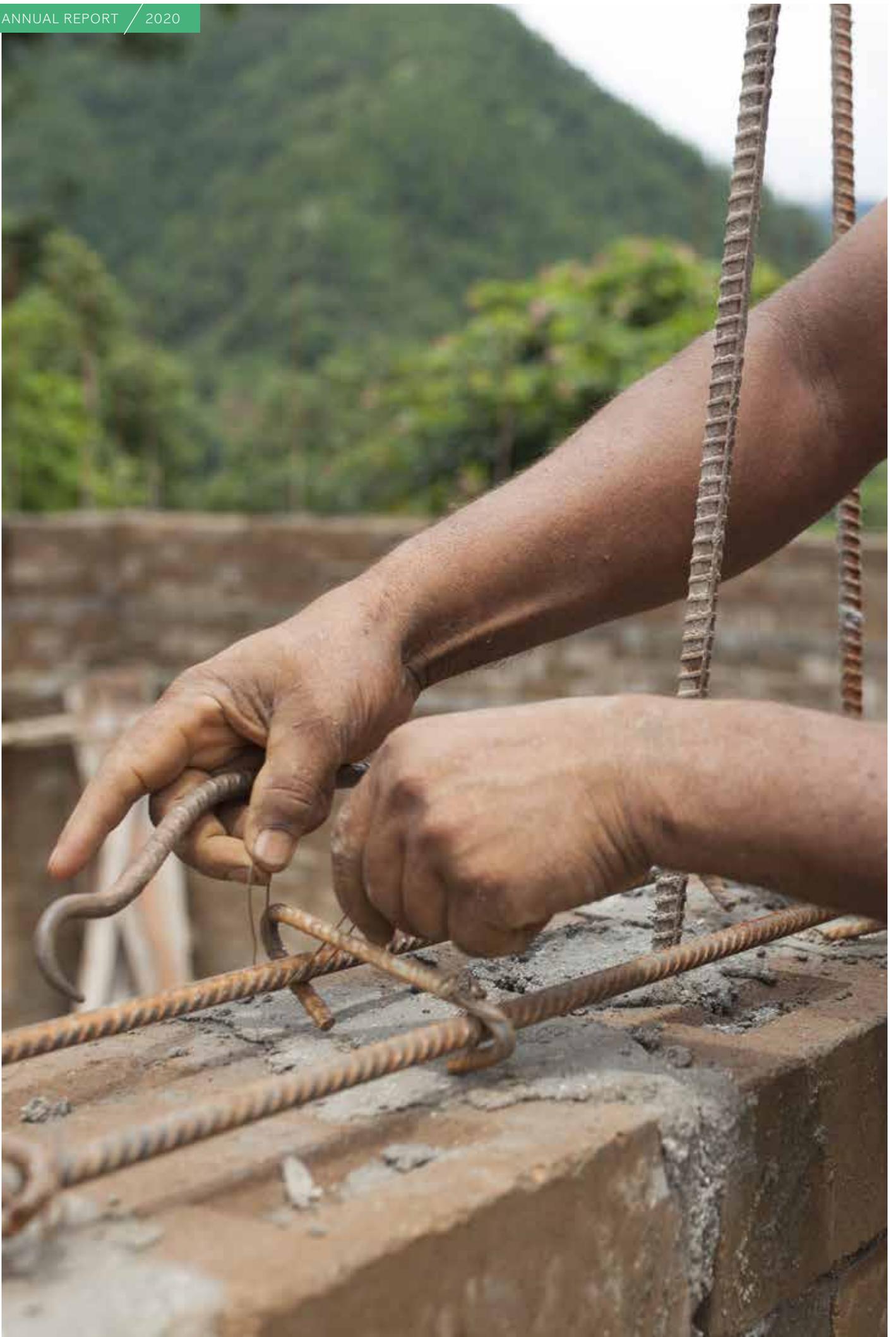


# EMPOWERING COMMUNITIES IN CHALLENGING TIMES

ANNUAL REPORT 2020



**engineers  
without borders**  
SWEDEN



# HUMANITARIAN ENGINEERING IN CHALLENGING TIMES



Looking back, 2020 was certainly a year like no other for the globalized society we live in. The pandemic has shattered the world as we know it. We all have had to adapt in our day-to-day activities and relationships, while worrying for our loved ones and the global situation.

As we still navigate the challenges and implications of Covid-19, stepping up for the people and communities that are already the most vulnerable in Sweden and around the world is crucial. The global challenges we face have persisted, and fulfilling access to food, healthcare, education and other essentials is the first line of defense in this time of crisis.

**Humanitarian engineering makes a difference by delivering innovative solutions and access to essentials –not only by limiting the spread of the virus, but by giving hope in these unprecedented times.**

For us, it is critical to continue to provide support to the marginalized groups that are the heart of our mission and engagement. All year long, we have worked to maintain all that we do, adapting the ways we make it happen. As a result, we managed for instance to pro-

vide 6,000 children with water at six Tanzanian schools and installed renewable electrical power systems at learning centers and hospitals in both Rwanda and Cameroon. We accomplished all this—without being able to travel to implementation sites—by developing a deeper collaboration with organizations across the world. By transitioning from physical to online events, we have maintained the scope of our domestic activities to youth, newly arrived engineers and students, and we have contributed to the implementation of successful digital hackathons with more than 40,000 participants.

Thanks to our community of supporters, we have grown as an organization and are proud of all we have achieved. Yet the challenges are still ahead of us, and we rely on everyone's commitment to keep empowering communities and delivering humanitarian engineering.

*Caroline Bastholm*  
Secretary-General

*Jan Byfors*  
Chairperson



**THROUGH HUMANITARIAN ENGINEERING,  
WE ENGAGE, INSPIRE AND UNITE PEOPLE  
TO BUILD A SUSTAINABLE FUTURE.**

## VALUES

Our work is based on a number of core principles. They are reflected in all our activities and guide us wherever we engage.

### CURIOSITY

- We challenge ourselves and welcome new ideas and initiatives from our members, local groups or others.
- We want to understand our society and our impact on the world, as an organization and as individuals.
- We know that we always have more to learn.

### INCLUSIVITY

- We are strengthened by our differences.
- We achieve excellent results through collaboration based on local initiatives.

### SUSTAINABILITY

- Our work is long-term and sustainable.
- We view our knowledge and experience as our most valuable resource, which we are happy to share.
- We acknowledge our mistakes, correct them and learn from them.

### EQUALITY

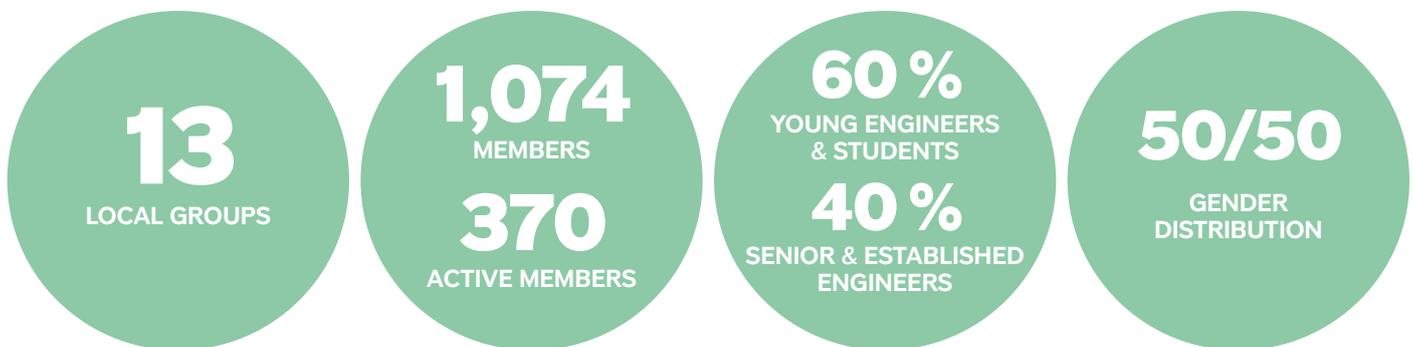
- We believe that everyone should be entitled to a safe life and an opportunity to reach their full potential.
- We believe in people's intention to develop and to do right.

# ENGINEERING FOR HUMANITY

Engineers Without Borders Sweden (EWB-SWE) is a value-driven organization working to address social and developmental challenges through humanitarian engineering. In line with the UN Sustainable Development Goals (SDGs), we aim to support the communities we engage in with sustainability and long-term thinking as guidance.

We believe that everyone has the right to improve their standard of living. Through collaboration and joint commitment, we are active both in Sweden and internationally to power innovative solutions and solve challenges related to inequality and global development.

## WHO WE ARE



## WHERE WE WORK

We use our engineering expertise to create a future that is more sustainable and equitable. In 2020, our members were active in nine countries located in Europe, Africa and South Asia. Our work extended from delivering water tanks and giving technical input on renewable energy solutions abroad, to providing CV reviews to newly arrived engineers and organizing study aid to youths in Sweden.



# TOWARD THE GLOBAL GOALS

We are dedicated at EWB-SWE to address the global challenges we face and to make the SDGs adopted by the United Nations a reality. We work strategically toward Agenda 2030 to ensure that we act as a sustainable organization and that our activities advance the Global Goals.

Humanitarian engineering is the core principle driving our engagement. We aim to integrate all 17 goals within our scope and to ensure that our activities do not hinder any of them. Our work towards Agenda 2030 can be divided into 3 categories:

## WHAT WE DO

As an engineering organization, our means of making change directly contribute to the following global goals.



## WHY WE OPERATE

Our activities are based on humanitarian needs, and our way to select projects and partnerships is strongly influenced by our aim to constantly foster these goals.



## HOW WE OPERATE

Collaboration is a prerequisite for successfully sustaining the long-lasting and impactful partnerships at the heart of our operation.



## AGENDA 2030



In 2015, all United Nations Member States agreed to 17 Global Goals, also known as the SDGs. Intertwined and indivisible, they seek to balance the three dimensions of sustainable development: the economic, social and environmental. With the Global Goals as guidance, we at EWB-SWE, along with governments, businesses, civil society, and the general public in all countries, work together to create a better life for everyone, now and into the future.

## SUSTAINABILITY AT HEART

Sustainability is at the heart of everything we do and serves as a guideline to our activities. In 2020, we reached important milestones regarding sustainability as an even more integrated strategy in all our work. Our efforts particularly concerned putting a specific structure in place and updating our guidelines to establish long-term sustainability within our activities.

### Launch of the Sustainability Council

The purpose of our Sustainability Council (SC) is to critically examine our national and international activities, to ensure long-term sustainability throughout the organization. This includes climatic, economic, environmental, ethical as well as social sustainability.

### Start-up of the Climate and Environment Data Group

The Climate and Environment Data Group is a group of researchers and students making Life Cycle Analysis (LCA) calculations on climate impact from our activities. One of its first tasks is to focus on evaluating the positive and negative impact within our Solar Cooking Diffusion Project in Kenya.

### Evaluating our Partnership Guidelines

Our guidelines for partnerships were reviewed and updated in order for them to be more transparent, comprehensive and in line with our values.

## MEASURING OUR IMPACT

As part of our process to improve our impact measurement, we have joined the organization Effektfullt. Our collaboration offers valuable guidance and strengthens our ability to measure, analyze and make visible the impact of our activities on people and the environment. This ongoing process will allow us to better report project outcomes, evaluate our domestic and international activities in relation to the SDGs, and build on the result to further develop as an organization.



effektfullt

# 2020 IN REVIEW

OVER  
**24,000**  
HOURS  
VOLUNTEERED

OUR INTERNATIONAL  
PROJECTS DIRECTLY  
SERVED

**35,000**

PEOPLE IN  
NINE COUNTRIES

WE COLLABORATED WITH

**17**

LOCAL PARTNER  
ORGANIZATIONS

**30**

ACTIVE INTERNATIONAL  
PROJECTS AND 12 NEW  
PROJECTS FOR A  
TOTAL PORTFOLIO OF  
4,5 MILLION SEK

**4**

PROJECTS EXTENDED  
AND REPHRASED TO  
LIMIT THE SPREAD AND  
EFFECTS OF COVID-19

WE DELIVERED STUDY  
AID TOWARD

**1,195**  
YOUTHS

**20**

EVENTS SUPPORTING  
NEWLY ARRIVED  
ENGINEERS

**4**

CODING EVENTS AND

**16**

INSPIRATIONAL  
LECTURES ORGANIZED  
TOWARD 500 CHILDREN

**8**

EVENTS TO  
REFLECT ON THE  
COVID-19 CRISIS,  
CLIMATE & HEALTH,  
SUSTAINABILITY &  
DIGITALIZATION

**40,000+**

PARTICIPANTS IN  
DIGITAL COVID-19  
THEMED HACKATHON  
'HACK THE CRISIS'

# EMPOWERING COMMUNITIES - NOW MORE THAN EVER

The current pandemic poses a real challenge for achieving the SDGs by 2030. For the first time since 1990, global poverty is at risk of increasing, and billions of people are pushed into further distress in terms of access to food, healthcare, education and other essentials (UN-WIDER, 2020).

As the concerns for the marginalized and vulnerable communities around the world rise, advancing humanitarian engineering is key. Since 2007, we have worked continuously to make a long-term impact in the countries in which we operate. Internationally, we have

delivered engineering expertise to over 100 projects in 12 countries. Domestically, we have inspired youth with role models and facilitated the integration of newly arrived engineers in Sweden. We have explored the role of engineers and raised awareness of our responsibility to build a sustainable society, and facilitated innovation through digital solutions to societal challenges.

Now more than ever, we continue to deliver sustainable change one project at a time, empowering these communities today and ensuring their resilience tomorrow.





## DELIVERING HIGH-IMPACT INTERNATIONAL PROJECTS

Our international projects strive to achieve sustainable and long-term positive impact for local communities in low-income areas and the earth as a whole. In close collaboration with local partner organizations, we aim to provide the means and infrastructure that change lives and empower communities to meet their basic human needs. Inclusivity, knowledge sharing and sustainable technical solutions are at the heart of our vision.

In 2020, we have been active in a range of projects in sub-Saharan Africa and South Asia, providing technical and project management competencies by leveraging expertise from our members and partners. Clean water and sanitation, sustainable energy, construction, digitalization in education and sustainable food production and processing are the key areas in which we are active. By working particularly with schools, hospitals and community centers, our projects have a direct effect on learning environments and health services. They bring wellness and dignity, safety and security, and have a cascading impact on reducing inequalities, promoting gender equality and empowering local development.

# 150

MEMBERS  
VOLUNTEERING  
FROM SWEDEN



AREAS OF EXPERTISE

# 650

DAYS ON PROJECT  
SITES IN TANZANIA  
AND NEPAL  
(JANUARY-MARCH)

## COVID-19 RESPONSE

The current pandemic is disrupting our daily lives and threatening livelihoods on an individual level and for society as a whole. At our organizational level, both domestic and international activities have been affected. Within our international projects, we have extended and rephrased our plans to help our partner organizations limit the spread and impacts of Covid-19 on the local communities.

Water, Sanitation & Hygiene (WASH) projects are the first line of defense against Covid-19. Three of our response initiatives to the current pandemic are directed towards this outcome, while a fourth one targeted food supply for a hospital:

### Water supply to a health station - Tanzania

Reframe of a 2,2 km water pipeline extension to a health station transformed into a hospital for Covid-19 patients in Tanzania, serving 30-40 patients per week, with a catchment population of 10,750 people.

### Water tank at an educational center - Kenya

Installation of a 10,000 liters water tank and water treatment facility at an educational center in Nairobi, serving over 300 learners daily and over 200 people from the community.

### Water buckets and soap for primary schools - Tanzania

Extension of our existing water projects in schools to provide water buckets and soap at 13 primary schools, impacting 13,000 students, their teachers and families.

### Nutritional garden at a hospital - Zimbabwe

Establishment of a nutritional garden from which the hospital harvests around 30 kg of vegetables per week to provide their 110 in-house patients with a more balanced diet as well as prepare for an increase of patients due to the pandemic. The garden has reduced the hospital's food expenses and thus made it possible for funds to be channeled to other hospital costs, including the purchase of protective clothing and equipment for preventing the spread of the virus.



# IMPROVING ACCESS TO CLEAN WATER

Access to safe and clean water, adequate sanitation facilities and sufficient means of keeping a high hygiene level is critical. Yet 2.2 billion people lack access to safe drinking water, and half of the global population doesn't have access to safely managed sanitation facilities. In the midst of a global health crisis, 3 billion people still lack access to the most efficient method of Covid-19 prevention—basic hand-washing.

We have a long tradition of engaging in WASH projects, particularly supporting schools, hospitals, health facilities and communities. Our projects directly contribute to better health by increasing and improving access to clean water. By making water available at schools, they also reduce the burden on children to fetch water from distant sources and directly contribute to improved education as they can attend their lectures. And by ensuring adequate sanitation facilities and hygiene, we address gender-related inequalities as young women are enabled to attend school during their menstruation.

In 2020, our WASH projects contributed to better water access in six countries. In a co-partnered project in northwestern Tanzania, to systematically address access to water and toilet facilities in 131 primary schools, our efforts led to the construction of 6 additional water tanks serving 6,000 children. In Zimbabwe, we conducted a water assessment study to identify effective ways of improving the water supply within a specific area. Our work includes availability and functionality assessment of existing water supply systems, possibilities for rainwater collection and storage, and mapping of existing well capacity.

# 13

WASH PROJECTS  
IN SIX COUNTRIES

SIX WATER TANKS  
CONSTRUCTED  
SERVING

# 6,000

CHILDREN

I would like to sincerely thank EWB-SWE for the initiative that will go a long way in making water available and also helping to control the spread of Covid-19 as they will be able to wash their hands with soap and thereby save lives.

*Samuel Odhiambo, Manager,  
Asulma Centre, Kenya*

# “



I had never in my life gotten a chance to sit on a desk that has a computer on it and I will never forget this moment where it is now possible through Journey House Actions and EWB-SWE solar project that gives us the electricity.

*Evode Mazimpaka, Head of Poultry Project, Former Child Beneficiary, Journey House Actions, Rwanda*



## EXTENDING SOLAR POWER ACCESS

Ensuring access to affordable, reliable and sustainable modern energy opens a world of opportunities for billions of people in terms of improved education, health, economic growth and empowerment of women and children. At the same time, the choice of energy sources and technologies has a significant impact on the environment and climate.

In line with our commitment to the SDGs, our projects target electricity access at hospitals, schools and community centers, as well as thermal energy for cooking and food processing. We operate in areas where communities may completely lack electricity, rely on unstable central grids with extensive power cuts, or rely on outgrown and malfunctioning systems. Already decreasing our physical presence in the implementation of projects prior to the pandemic, our on-site presence focused on carefully mapping energy needs, understanding the capacity and availability of equipment among local companies, and establishing relationships at hospitals, at schools, and with local contractors. The technical solutions we implement are selected to be environmentally sustainable in the long term, adapted to the local financial and knowledge-based capacities to operate, maintain and repair the systems throughout their lifetime.

Thanks to this well-established way of collaborating, we were able to deliver our technical expertise from a distance in Zimbabwe, Tanzania, Cameroon and Rwanda. In the latter, a solar power system was installed in a village to provide a cooperative of 50 women, 250 children and an English club of 143 young adults with renewable energy. In Cameroon, a new solar installation provides electricity for computers, sewing machines and lamps at a girls' school hosting around 100 students. In both cases, the local contractor conducting the installation delivered the hands-on training and training materials about the chosen system.

OVER  
**540**  
PEOPLE SERVED BY  
OUR SOLAR PROJECTS

## INCREASING SOLAR COOKING USAGE

Two billion people in the world lack access to safe, nutritious and sufficient food on a regular basis. The vast majority of staple foods need to be cooked before they are eaten, which in many cases is done by using inefficient and polluting cooking practices. As a result, millions of people die every year from illness related to household air pollution.

Improvements in access to safe and sustainable food production and processing are necessary to preserve the environment and human health. Our work in this area focuses on expanding the use of solar cooking. This method offers renewable and non-polluting alternatives to traditional solutions by decreasing fuel costs, avoiding the inhalation of toxic smoke, diminishing deforestation and lessening the use of fossil fuels. Our approach is also to encourage local entrepreneurship through the sale of solar cooking devices, doubling our impact by both contributing to the expansion of sustainable cooking solutions and creating new opportunities in the job market. We also encourage the use of more efficient cooking devices in schools and restaurants and advocate energy-saving stoves and so-

called fireless cookers to help reduce fuel consumption and smoke release.

Besides our Covid-19 response project, we supported two entrepreneurs to help expand solar cooking technology in Kenya. The project also targeted two master students at Nairobi University to follow up on the effects of the projects. Similar activities were initiated in Ghana, and we also played a key role in the formation of a transnational network on solar cooking, including participants from 14 organizations. By inviting external speakers to share their insight and present on related topics, the network aims to organize webinar discussions on how to increase solar cooking diffusion.



The nutritional garden came at a point when the hospital was in great crisis, and its implementation helped in cutting costs while improving our meal diversity and planning. Due to the unstable economy of Zimbabwe, we have been facing challenges in purchasing vegetables for the kitchen, consuming a lot of funds. Now that the garden is functional and offering fresh vegetables daily, funds are being channeled to other crucial departments.

*Hospital Administrator, Zimbabwe*

**ESTABLISHING A  
SOLAR COOKING  
NETWORK WITH 25  
PARTICIPANTS FROM**

**7**

**COUNTRIES**

**ASSURING FOOD  
ACCESS TO**

**110**

**IN-HOUSE PATIENTS  
AT A HOSPITAL IN  
ZIMBABWE**



It is rewarding as a volunteer to be able to address problems reported by entrepreneurs and communities and see the real impact of the activities to the villagers. During my last visit, I was heartened to see the handle improvements on the Auram machine from my visit in 2016, still being used in Majhigaun years later.

*Matthew Holland, EWB-SWE Volunteer, Nepal*

“

## STRENGTHENING OUR SUPPORT FOR CONSTRUCTION

Resilient infrastructures are critical for achieving equitable economic and social opportunities. Investments in durable construction solutions improve living standards, enable individual as well as societal development, and ultimately reduce poverty. Constructions are key to advancement, while offering great potential for sustainable decisions in terms of environmental impact, safety, and design.

Our work on construction projects stretches over several areas including project management, design, surveys, calculations and verifications, whether to build a school, hospital, or water tanks. These infrastructures make momentous changes to people's lives facilitating good healthcare, education, and improving access to water. They also allow for durable decisions from selecting materials to building according to specific concerns. During the year, we have significantly expanded our capacity to support our international construction projects, holistically and systematically, by establishing a construction competence group. The group works to improve construction site safety, establishing routines and best practices to ensure that our projects are completed as safely as possible.

Thanks to a strong collaboration with on-site partners, we can support our ongoing construction projects from a distance. In Tanzania, we contributed to the construction

of a new building for reproductive and child health care at a hospital serving 25,000 patients per year, and started the extension of a secondary school for girls. In Ghana, we supported the establishment of a family center, and in Nepal, we contributed to major improvements on manual Earth Bricks manufacturing machines. Our work affected 75 local entrepreneurs in their daily work and over 1,000 people who now live in efficiently built and secure houses. In the same area, we supported five particularly vulnerable families living in temporary shelters since a major earthquake in 2015 building them new homes.

CONSTRUCTION OF A HEALTH CARE FACILITY IN TANZANIA WITH A CATCHMENT POPULATION OF  
**200,000+**  
PEOPLE

**75**  
LOCAL ENTREPRENEURS AFFECTED BY IMPROVED MACHINES IN NEPAL

## SHAPING DIGITAL FUTURES

Computer illiteracy prevents children from competing in the modern economy. Since computer literacy is seen as a foundational skill for employment today, the opportunity of and access to a digital learning environment is crucial. In central Africa, the ratio of people with access to a computer ranges from 0-15%, meaning that a single computer lab at a school can make a significant difference.

*Computers for Schools* is our effort to reduce the digital gap in access to—or quality of—technology between countries by introducing and improving the use of computers in the school environment. The project aims to install computer labs at schools in rural as well as urban environments, and to train teachers at the school in foundational computer literacy and educational software. Ensuring teachers feel confident and competent in their digital literacy is crucial for the success of the project, and the training of the students in today's digital world. Not only do our projects improve computer literacy among staff and students, but they also give access to a vast network of digital books, research, news and information to the communities.

In Tanzania, we equipped a classroom with 15 computers, a server doubled as a teacher's computer, and networking equipment. The computer lab serves 300 students at the school and gives them an opportunity to learn technical skills, which multiplies their future career options. The faculty of 15 staff received a four-week training course from our volunteers. Thanks to the course, all teachers are now able to teach basic computer skills to their students, while some also use the computer lab as a tool in their teaching. This project served as a spring-board for further work in digitalized education, and we are already working on the next steps for similar projects in several other schools in the region.

The computer lab is bringing the students together and giving them the opportunity to learn through digital ways which makes the learning process much easier. It also offers technical skills and broadens their choices in terms of career decisions. For us teachers, it gives easier access to teaching and learning materials, shortens the time for preparation and minimizes paperwork.

*Teacher at Mavuno School,  
Tanzania*



15 COMPUTERS  
INSTALLED, SERVING

300  
STUDENTS

15

STAFF MEMBERS  
TRAINED IN BASIC  
COMPUTER USE

## WHY I VOLUNTEER

“I volunteer with EWB-SWE because of my interest in combining sustainability, engineering and people. By volunteering, I get to develop this passion and use it to improve the lives of people in less fortunate parts of the world. The organization offers many opportunities to learn and a lot of room to grow while contributing to significant development in the areas we operate in.

I have been involved since 2017 and active in our local chapter in Lund. In late 2019, I joined our International Projects team and had the opportunity to visit our partner organization Mavuno in Tanzania, and I have now taken on the role as International Project Secretary. During my time at the Mavuno Secondary School for Girls, I could see firsthand the development we have contributed to so far. One of our *Computer for Schools* projects was implemented at the same time and I will never forget the day we opened the doors to the computer lab for the students. Seeing that passion, that excitement - it was breathtaking!”



*Emma Sandén, Master of Science in Industrial Engineering and Management, International Project Secretary at EWB-SWE*



“I moved to Sweden from Bangladesh when I was 7 years old. Every time I visit the country, I see the conditions people live in due to the lack of good sanitation, electricity, food, drinking water, etc. My passion to help people in need

arose from there and volunteering with EWB-SWE has been a path to follow it.

Since I joined the organization, I have had the opportunity to inspire people to make a difference, coordinate several international projects, and meet inspiring and competent people. I am now leading a project I initiated, which aims to improve the water quality and health in a village in Bangladesh. Bringing happiness and joy to people who are in need is the reason I volunteer with EWB-SWE.”

*Salman Rahman, Master of Science Civil Engineering in Water and Environmental Technology, Project Leader & Coordinator at EWB Uppsala*

“I volunteer with EWB-SWE as I believe that each minute of engagement counts and makes a difference. In line with my professional background, I want to be part of the energy transition in the world. Since I joined the organization, I have been involved in different projects linked to energy access and with our partner Mavuno in Tanzania. These include solar projects at the boarding school and an orphanage. I am also a part of our most extensive project at the moment: the extension of a secondary school currently under construction. EWB-SWE is a fantastic platform where we together with limited means can make a huge difference for people and the planet, and I am proud to be part of our community.”



*Hillevi Priscar, Country Manager Sweden at OX2, Project Coordinator Mavuno at EWB-SWE*



## FACILITATING INCLUSION OF NEWLY ARRIVED ENGINEERS

Equity in the labor market and society as a whole is fundamental in order to achieve a sustainable and inclusive future. Yet, segments of the population get unequal opportunities to enter the job market in Sweden, particularly the recently arrived foreign-born people whose academic expertise is not fully used in the labor market. Supporting equal employment opportunities and encouraging diversity in the engineering industry is a central part of our work.

Through our platform *Engineer to Engineer* (E2E), our goal is to empower the social and economic inclusion of newly arrived engineers and to create more equal opportunities in the labor market. By connecting foreign-born engineers and scientists with companies and providing them with the necessary tools to enter employment, we facilitate their integration and their journey to find a job in line with their background in Sweden. Our activities range from network-focused events, such as recruitment fairs, to skill-oriented events.

Throughout Sweden our local groups conducted 20 events, moving from face-to-face to digital activities as the pandemic rose. The year started off at a rapid pace with a range of successful events such as a series of Guidance Cafés in Malmö, participation in two integration fairs in Linköping, and a “Case Night” together with our gold partner Vattenfall in Uppsala. Later in the year, pivoting to online events led to several interesting improvements in our activities. Focusing on fewer participants, we managed to deliver high-quality events and create an impact. One of the most favora-

ble enhancements was the trial of a “five-step-event-series” in Uppsala, including an inspirational lecture by a former E2E-participant, an evening where the participants “Walked In a Recruiter’s Shoes”, a CV workshop, an interview training session, and a networking event. Between each event, all participants were personally contacted to investigate and alleviate the remaining hurdles for them entering the labor market.

Aiming to help more newly arrived academics find work in Sweden and to help companies access undiscovered talents through a well-rounded program, our social initiative *StepIn* also tried out its prototype online during the year. Developed around 3 steps, the project offers courses designed to accelerate integration, followed by an internship to gain hands-on experience and contribute to the operations of the partner organization. As a final step, a certificate serves as proof of the participant’s commitment and the organization’s effort toward increasing diversity and inclusion in the labor market. After completing many key steps, the project is now ready for the next stage.

## WHY I VOLUNTEER



“I decided to become a member of EWB-SWE to use my spare time for something good and have a positive impact on the world. Besides my regular job as a CAE engineer, I manage Engineer to Engineer in Gothenburg professional group since October 2020. This commitment is important to me because we work toward equality, and we strive to give everyone the same opportunities and possibilities. I believe that everyone should have the same opportunities regardless of where you are born. I have met a lot of people who have been forced to move from their country to try to create a better life for themselves and their children, and I think everyone should have a fair chance of doing so. I am happy to contribute to this together with the other great and amazing people part of the EWB-SWE community who want to do good.”

*Elina Vaez, CAE Engineer at ALTEN, Head of E2E at EWB Gothenburg*

“I joined different events organized by the local group at my university. Generally speaking, they had a really positive impact on me and my fellow participants. I found the team competition on sustainable trash organized with Knightec to be the most rewarding one. We were asked to reflect, innovate and design the most efficient sorting trash can suitable for modern-day homes. This event really brought out each participant’s talents and opened up my entrepreneurial mindset.”

*Venkata Suravarapu, Participant in E2E-events in Uppsala*

**20**  
EVENTS TO EQUIP  
**180**  
NEWLY ARRIVED  
ENGINEERS

**40+**  
ACTIVE VOLUNTEERS IN  
5 LOCAL GROUPS



# ENHANCING COLLECTIVE CONSCIOUSNESS

Engineering has the ability to shape the development of our society and to create positive effects on the environment and people's lives. By incorporating everything they know about sustainability, as well as including a local and global perspective on the impact of their work, engineers help build a sustainable society that benefits humanity.

The aim of *The Reflective Engineer* (TRE) is to explore the role engineers play in today's society and to increase engineers' knowledge of and commitment to a sustainable future. Through seminars, workshops, case nights and similar activities, we engage engineers and future engineers in events focused on critical thinking, knowledge sharing and an awareness of the responsibility to build a sustainable society. We strive to broaden our participants' perspectives on how to make a positive impact in our fields of competence and inspire them to take action. In that sense, the past year has been in many ways symbolic of some of the ideas behind TRE's goal – in our interconnected world, we need a holistic approach to engineering to provide resilient solutions.

Throughout the year, we have continued to discuss subjects connected to engineering, health, sustainability, ethics, and responsibility, online or on campuses. During the first months of the year, we conducted

several in-person events including Reflective Pub Night, pub quizzes and a series of lunch lectures at KTH Royal Institute of Technology as part of the local group's TRE Week. Each day, over 50 participants attended the events, including an innovative and informative lecture on space and sustainability by Christer Fuglesang.

Our online events focused on additional key topics. Our first national panel discussion considered how an engineer can help out most efficiently in the Covid-19 crisis, while another event hosted together with AstraZeneca addressed sustainability and digitalization. In further TRE events, Transition Design, the right for products to be designed to be repairable, and "climate shaming" as a tool in combating climate change, were discussed. In line with our climate commitment and discussions, we have also co-hosted Linköping Global Week 2020 edition on climate and health.





## WHY I VOLUNTEER

“As an ecology and environment student aiming to become a biologist and scientist, joining Engineers Without Borders Sweden might seem a bit far from the usual volunteer profile, but I was warmly welcomed. The organization’s interdisciplinary approach has given me a chance to both learn from my engineering academia fellows, as well as spreading my own knowledge, perspective and niche in our activities, creating a broader and more holistic view to solve humanitarian issues and sustainable development. In my role as Head of TRE at Linköping University, I am collaborating with fellow students from several engineering studies, and have gotten a better understanding of how an engineer thinks, where our similarities and differences lie, and how we could better work together to achieve great things. I am about to start my master thesis, and thanks to my year at EWB-SWE I have a larger network and a better understanding to further adapt my research for engineers, so they can contribute their skills to create even more holistic solutions, for us all.”



*Oliwer Schultz, Master of Science in Ecology and Environment, Head of TRE at EWB Linköping University*

“Being invited to talk at the TRE event by EWB-SWE was an honor. The event was so well organized, crowded with interested and committed students asking questions and making comments. They are the ones leading toward a socially-minded education and professional agenda. I saw there both the results of a long-lasting engagement and the seeds for a better world—starting from our university.”

*Marco Armiero, Associate Professor in Environmental History, KTH, Lecturer TRE Week*



# INSPIRING THE NEXT GENERATION OF ENGINEERS

Engineering has a key role to play in many of the Sustainable Development Goals. Nurturing young people's interest in engineering and acting as role models is central to ensure that future generations of engineers are able to take on contemporary challenges.

Engineering studies offer diverse and exciting career options, yet there is a need to increase the visibility of engineering to young people. Through *Inspire Youth* (IY), we motivate them to seek higher education, especially in engineering, and to achieve their full potential. We aim to promote engineering as a creative, fun and interesting subject, and to encourage diversity among engineers as a group.

As part of our commitment to inspiring the next generation of engineers, we organize activities such as study aid, inspirational lectures, and coding workshops to help young individuals become aware of their true capabilities. As the pandemic emerged, we initiated a process of reflection to adapt and find new ways to reach youths despite the circumstances. After the summer, this led to a reconfiguration of our projects with a further focus on online events, such as digital study aid, in collaboration with other organizations and digital interactive

lectures. This process has also led to a diverse set of new activities and digital content that will be used to keep empowering youths in the future.

Throughout 2020, we ran four coding events and 16 inspirational lectures at schools and delivered study aid to 1,195 youths. Among them, the coding workshops run in collaboration by students and working professionals in Linköping and the inspirational online lectures held in Gothenburg received the most positive response from students, teachers and student counselors. The aim of the latter was to open the minds of 60 students in ninth grade to the possibilities for everyone to become engineers, no matter their social background. Participants learned more about the engineering profession in general, EWB-SWE as an organization, and how to contribute to a better environment at home through a "sustainability case" workshop.





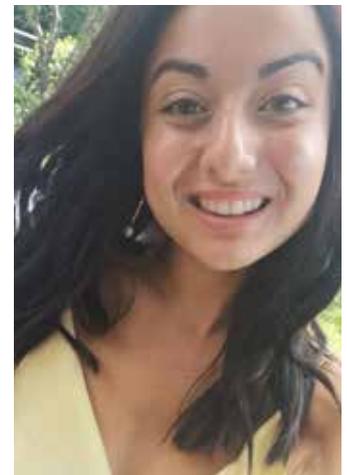
**“It was really an educational experience to hear from engineering students what it means to be an engineer. Great work!”**

***Eldina Burazerovic, Teacher at Hjällboskolan, Gothenburg***

## WHY I VOLUNTEER

“My biggest passion lies in humanity and to contribute to a better world. I also have a big interest in technology and the creativity that comes with it. By combining these areas I believe we can overcome challenges the society is facing today, and I volunteer with EWB-SWE based on these shared purposes and values. I chose to enrol with the belief of making a valuable change together and this is what I intend to do in my role as group leader and Head of IY. I didn't have obvious role models growing up, and I really want to broaden the children's perspective and view of the world, and act as one of those role models for them. I believe in introducing technology to youths and especially girls in their early stage of life to help set their path for a promising future with endless possibilities.”

*Caroline Tonojan, Bachelor in Social Science and Degree in Engineering within Manufacturing and Innovation, Group Leader & Head of Inspire Youth at EWB Örebro*



**50**

**VOLUNTEERS  
DELIVERING  
STUDY AID**

**4**

**CODING  
EVENTS**

**16**

**INSPIRATIONAL  
LECTURES**

# CODING FOR HUMANITY

The achievement of the UN SDGs is dependent on the collaboration of multiple actors and their ability to innovate. In a digital arena, people all over the world have the opportunity to gather innovative ideas and contribute to the mission of finding collective solutions to global challenges.

Openhack is a social company and collaborative community where ideas are exchanged and expanded to solve pressing societal challenges. Through open-source development and joint collaboration with key stakeholders, openhack aims to enable citizen-driven innovation within humanitarian and social development.

Throughout the year, openhack made important breakthroughs both nationally as well as internationally in connecting participants and partners from communities all over the world. Initially designed as a physical event, Hack the Crisis hackathon (organized in collaboration with Hack for Sweden and Swedish Digital Agency DIGG) was carried out digitally as the pandemic hit. This resulted in an extended scope of 7,000+ participants who generated over 500 ideas and concepts, setting the grounds for further participation in other covid-19 themed events, such as GlobalHack and EUvsVirus. Hack the Crisis also led to 11 real-life projects receiving support from the West Coast Hack for Impact initiative, of which seven went into the pilot phase or were even launched before the end of the year.

Openhack organized and co-partnered in several other national and international online hacking events with great success and many participants, such as openhack GBG2020, openhack STHLM2020 and Kids Hack the Crisis for UNICEF. In the latter, 1,200 children from 70 countries gathered digitally to create the sustainable solutions we need to tackle global challenges. The event was the first assignment for the Swedish Institute after a multi-year agreement for organizing international hackathons was reached during the summer.

Despite the challenges of the year, openhack reached new heights in gathering and empowering people with creative ideas on how to solve global challenges through collective hacking.



**40,000+**  
PARTICIPANTS IN DIGITAL  
COVID-19 THEMED HACKATHONS

PROVISION SERVICE TO SWEDISH  
INSTITUTE FOR UNICEF 'S KIDS  
HACK THE CRISIS GATHERING **1,200**  
CHILDREN FROM **70** COUNTRIES

**“It feels overwhelming to have been able to experience the fantastic support from all sectors of society and the creativity that this intense weekend with Hack the Crisis has produced. It also feels as fun that so many of the solution proposals are actually being implemented.”**

*Anna Eriksson, Director General DIGG, on Hack the Crisis*



# MUTUALLY BENEFICIAL COLLABORATIONS

As part of our efforts to drive sustainable change, we develop mutually beneficial and long-term collaborations with partners in the corporate world. Through the support of our partners, we extend our work and strengthen our capacity to engineer for humanity. They support us with financial contributions, expertise, knowledge-sharing and hands-on volunteering.

## MEET OUR PARTNERS

### MAIN PARTNER



Sandvik is a global engineering group with operations within mining and rock excavation, metal-cutting and materials technology. As our main partner since 2018, our collaboration is in line with the company's community involvement and ambition to create value for society through engineering and innovation. Already supporting our projects in Tanzania to

improve the energy access and sanitation situation conditions, Sandvik is now further involved in our efforts to digitize schools and their learning environments in the country. Its support resulted in the implementation of our Computer for Schools project in Karagwe earlier in 2020. Sandvik also helps our organization to grow through mentorship programs for our employees, board members and group leaders.

### GOLD PARTNER



Bengt Dahlgren is a long-time supporter of EWB-SWE, particularly involved in our projects in Tanzania, sharing knowledge and offering extensive employee engagement. As a privately-owned technical consultancy company active within the field of civil engineering, they provide qualified engineers in a variety of disciplines, including installation, fire & risk, building & property, and energy & environment.



Rambøll is one of the leading social advisor companies combining local experience with a global knowledgebase to create sustainable cities and societies. Through its foundation, Rambøll financially supports our humanitarian engagement, and more specifically toward two international projects to provide safe healthcare and opening the doors to higher education to girls in Tanzania.

## GOLD PARTNER

### VATTENFALL

Vattenfall is a European energy company committed to attain a life free from fossil fuels within one generation through innovation and cooperation. As part of our collaboration, the company participates in activities toward our local groups, and employees support our capacity building by lending their expertise within our group on partnership assessment, competence groups in energy and construction, but also in risk management and policies evaluation.

### HEIDELBERGCEMENT

HeidelbergCement initiated a collaboration with us aiming to create a better life for people in vulnerable communities through the development of infrastructure. This partnership has led to employee engagement in our international projects and in our sustainability work. As one of the world's largest suppliers of building materials, HeidelbergCement has extensive knowledge in community building and production of building materials.

## SILVER PARTNER



ALTEN is one of the largest consultancy companies in Europe within technology and IT. In Sweden, our collaboration has resulted in valuable support in expertise towards our international projects during ALTEN Days and more specifically in our project to install solar power panels at an orphanage in Tanzania. Alten is also behind our visual identity launched in 2019.

## BRONZE PARTNER



WSP is a globally recognized professional services firm, which strives to lead the way in the built environment sector by taking responsibility in multi-disciplinary projects and general consulting assignments. Since 2016, active employee engagement in our competence groups in construction and as project managers and team members of international projects supports our organization with capacity building.



Symetri supports innovative companies in the building, infrastructure and manufacturing industry to optimize their working methods and increase the quality of their projects. The company has been particularly involved from start to implementation of a solar energy project in Rwanda, through hands-on volunteering and financial support.

### Norconsult

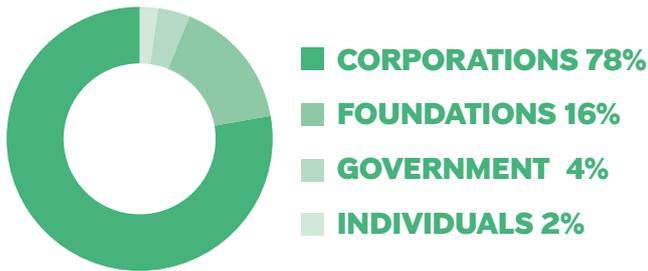
Norconsult is one of the leading multidisciplinary consultancy firms in the Nordic region. Owned by its employees, its services include social planning, engineering design and architecture for all phases of projects. Consultants from Norconsult have been particularly involved in our WASH projects, including an assessment study of the water and sanitation situation at health facilities in Tanzania.



RISE is Sweden's research institute and innovation partner. Through collaboration programs with industry, academia and the public sector, it ensures the competitiveness of the Swedish business community on an international level and contributes to a sustainable society. As a recipient to its Sustainability Fund on two calls, the institute supports our international work in Nepal through employees' expertise and specific funding.

# FUNDING OUR AMBITIONS

As a self-dependent organization, we rely on funding from corporations, foundations, government and individuals to realize our mission. In addition to this, a large part of our invisible funds is contributed through pro bono services from support organizations and resource hours donated by our members.

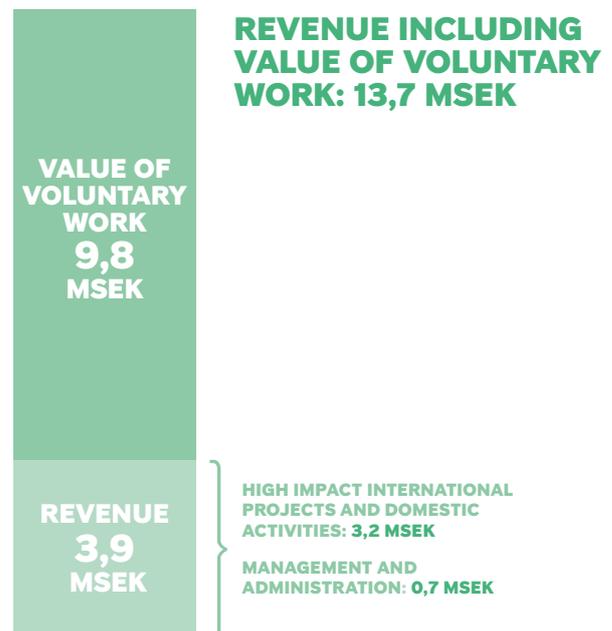
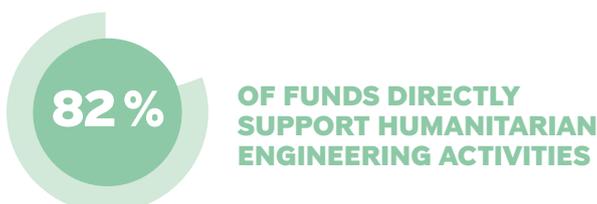


## HOW IS OUR WORK FUNDED

As many non-profit organizations in the world, funding our mission has been particularly critical this year. Yet the needs for financial support remain crucial as ever for us to enable long-term engagement and to plan and prioritize our activities. We are grateful for the strengthened and deepened collaboration with our corporate supporters. Thanks to them, we were able to keep up our work and demonstrate continued commitment throughout the year.

## HOW WE USE OUR REVENUE

We work hard to ensure that our resources reach the projects as effectively as possible and to secure the greatest impact for the communities we engage in. Throughout 2020, as much as 82% of raised funds were directed toward our activities in Sweden and abroad, while the remaining 18% accounted for management and administration. This share comes down to only 5% of our revenue if we include the estimated value of the volunteer work carried out at our local groups, within our international projects and as Board members. By contributing 24,400 hours of highly skilled work to our projects, the commitment from our volunteers makes a tremendous difference and brings our revenues up to 13,7 MSEK.



## FINANCIAL TRANSPARENCY



Engineers Without Borders Sweden is approved by the Swedish Fundraising Control as a 90-account organization. As such, our entire operations are monitored on a regular basis, and we follow the established rules for fundraising activities.

# GOVERNANCE

Our Board is composed of volunteer members, elected during our annual meetings. In line with our agreed principles and mission, the Board is responsible for setting our policies and strategy, operational guidelines, budgets and funding decisions. In addition, each Board member contributes to a specific area of responsibility. The national management of our activities also relies on our team of staff.

## MEMBERS OF THE BOARD (FROM APRIL 2020)



Jan Byfors  
Chairperson,  
Finance & Fundraising



Marianne Grauers  
Vice Chairperson



Jan Burenus  
Vice Chairperson,  
OpenHack & Fundraising



Aron Fransson  
Head of Internal  
Coordination & Innovation



Carl Johan Casten Carlberg  
Head of E2E &  
The Reflective Engineer



Jonny Blomberg  
National Coordinator  
Inspire Youth



Gustav Isaksson  
International Contacts  
& Head of WASH



Cecilia Larsson  
Head of HR

## TEAM OF STAFF (FROM APRIL 2020)



Caroline Bastholm  
Secretary-General,  
Head of International Projects



Noemie Gonzalez  
Head of Corporate  
Partnership & Fundraising



Amanda Lindén Guiñez  
Head of PR & Communication  
(part-time)



Barbro Ellerbrock  
Business Administrator  
(part-time)

During the year, an Advisory Board was established with the objective to provide strategic advice, knowledge and an extended network, but also to support and guide our efforts to develop and scale impact in our commitment to humanitarian engineering and sustainability.

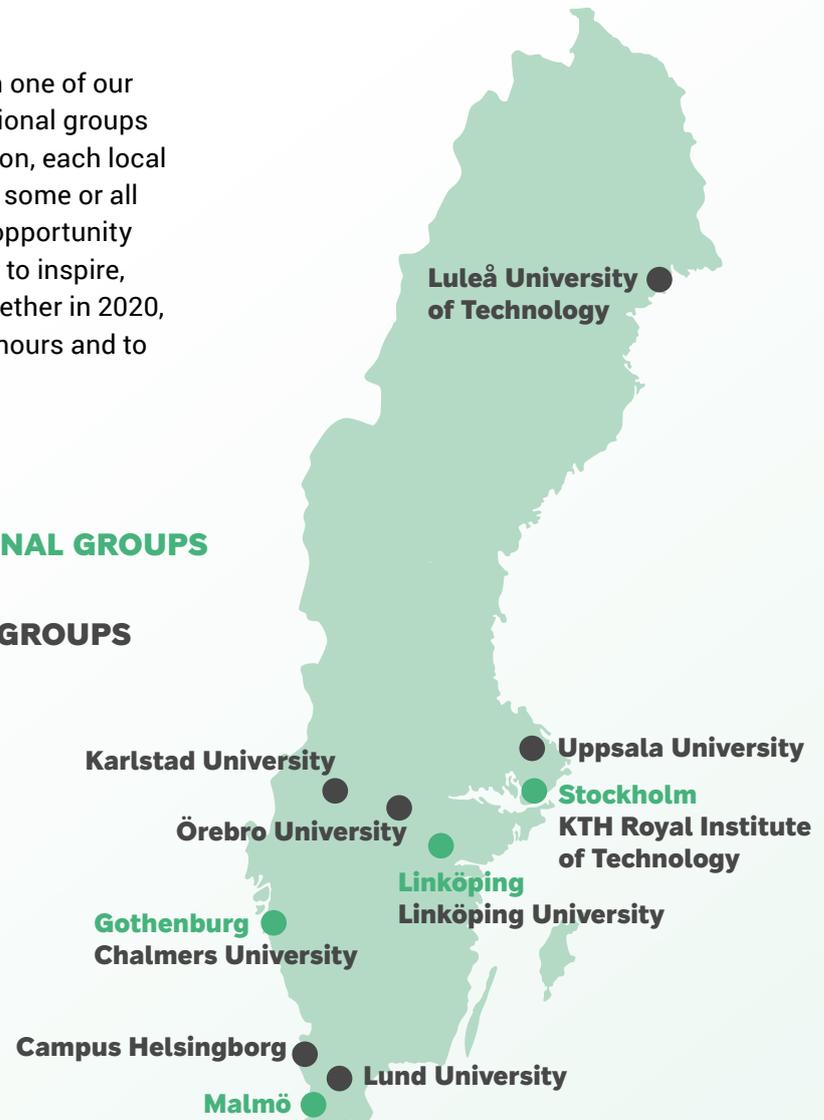
# LOCAL ORGANIZATION

Situated across Sweden, our local groups consist of nearby volunteers that work together in engaging the local and national engineering community to achieve our mission. They play a key role in our work to engineer for humanity by acting upon all our thematic areas and forming a national network of like-minded engineers.

Most of our volunteers are engaging through one of our nine student groups or four working-professional groups across the country. Driven by a shared mission, each local group is unique and focuses its work toward some or all of our activities. Joining a local group is an opportunity to participate in various projects and events, to inspire, reflect and act upon our common goals. Together in 2020, they have contributed to 2,250 volunteering hours and to advance our mission.

## ■ PROFESSIONAL GROUPS

## ■ STUDENTS GROUPS



## WHY I VOLUNTEER



"I started volunteering for EWB-SWE as I was intrigued in the problem solving related to executing International Projects. As a Group Leader I have had the opportunity to develop my leadership skills, business skills and to some degree acquired technical knowledge aside from getting to be part of the large network of volunteers nationally as well as locally in KTH and Stockholm."

*Victor Babakhani, Master of Science in Mechanical Engineering,  
Group Leader at EWB KTH*



# LOOKING FORWARD

Engineering plays a pivotal role in accelerating the delivery of each of the 17 UN Sustainable Development Goals and addressing the pressing challenges facing humankind and the planet. We as an engineering organization are at the forefront to use our knowledge and expertise to deliver projects that benefit all.

Guided by the 2030 Agenda for Sustainable Development, we work to enable everyone's right to basic needs and to create a sustainable future. As this report shows, we managed to make a difference in these challenging times, and we are proud of all that we have achieved. By altering the way we deliver our activities to engage online and support further from a distance, we have maintained our impact. We have also increased our capacities by establishing an Advisory Board, new support functions and by extending our office by adding a new employee.

Looking forward into 2021, we aim to continue building our organization for sustainable and long-term positive impact by: monitoring our performance and effects, extending collaboration with organizations sharing our goals and values, and providing humanitarian engineering services to local communities in low-income areas and the earth as a whole. In Sweden, we hope the year will bring new opportunities to inspire potential future engineers and scientists in face-to-face events and to shake hands with newly arrived engineers.

None of our work in 2020 would have been possible without the valuable commitment from all of our volunteers, members, supporters and donors. Thanks to your engagement and expertise, we are able to engineer for humanity and empower communities in challenging times, day in and day out.

## THANK YOU!



# ENGINEERING FOR HUMANITY

 Ingenjörer utan gränser

 @ewb\_swe

 Ingenjörer utan gränser

 [www.ewb-swe.org](http://www.ewb-swe.org)



2020 in Review video

