Annual Report 2021

KÜHNE FOUNDATION
“The Kühne Foundation has dedicated itself to education and research as well as science in the field of logistics – including humanitarian logistics. Another focus is our medicine funding through research, therapy and training for allergology and cardiology. In Davos we operate our own Hochgebirgsklinik, a renowned rehabilitation hospital, and various research institutions. In the area of culture, we support leading opera houses and concert halls in Europe.”

Prof. Dr. h.c. Klaus-Michael Kühne
Distribution of Kühne Foundation’s funding of around CHF 30 million

- 50% - Funding Area Logistics
- 11% - Funding Area Humanitarian Logistics
- 11% - Funding Area Culture
- 28% - Funding Area Medicine
The Kühne Foundation considers itself as an operative foundation and primarily implements its own projects. Therefore, it has established a number of subsidiaries. These are presented in coloured boxes in the following organigram. The second presentation provides an overview of the Kühne Foundation's multi-year cultural sponsorships.
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Preface by the Founder

Dear friends and partners of the Kühne Foundation, dear readers

For the Kühne Foundation the year 2021 was characterised by a wide range of activities and good developments in the funding areas – and this despite the continuing restrictions caused by the Coronavirus crisis. The joy of what has been achieved outweighs the often difficult circumstances on the way to the goal. My wife and I would like to thank all employees and partners of the Kühne Foundation for their extraordinary commitment, their flexibility and their creativity, with which we were able to lead a whole series of projects to success. We would also like to thank the members of our Board of Trustees and the management for their valuable contributions.

The Kühne Logistics University (KLU) in Hamburg, an important focus of our logistics funding, was able to further strengthen its position in the German university landscape in 2021, as evidenced by a very good rating in the international university ranking “U–Multirank 2021”. According to this, it is one of the 15 German universities that achieved the most top marks. The fact that KLU has also made a name for itself in research is reflected in the large number of projects, nine of which were newly funded in the reporting year alone.

I am very pleased that KLU is strengthening its cooperation with other areas of my Foundation. For example, it established a research center for humanitarian logistics and regional development with our subsidiary HELP Logistics AG. Academic research on supply chains in combination with training in developing countries will help to support social and economic progress in these countries. On the other hand, an “African Centre of Excellence” is being established, funded by the German Academic Exchange Service (DAAD). It combines research and training in the field of resource management and food supply. In addition to the cooperation with two universities in Kenya and Tanzania, the KLU is supported in practical implementation by the LEED programme (Logistics Education – Emerging and Developing Countries) of the Kühne Foundation.

Under challenging conditions, HELP Logistics AG significantly expanded its support of governmental institutions and international aid organisations in emerging and developing countries. In various regions, the effectiveness of aid measures was increased by improving logistics know-how. To name just one example: in 2021, HELP Logistics supported health ministries in East Africa to improve the efficiency of vaccine logistics with a comprehensive Standard Operating Procedure (SOP) and thus made an important contribution to the professional handling of current and future vaccine deliveries.

On the grounds of the Hochgebirgsklinik in Davos Wolfgang, clinic operations, research and medical training form a single unit under the umbrella company Medizin Campus Davos AG. The owner of the Hochgebirgsklinik is the Kühne Real Estate AG, which is affiliated with my Kühne Foundation. The expansion and modernisation measures in the core area of the clinic were continued in 2021 and made it necessary to temporarily transfer the clinic operations to a nearby hotel. The smooth continuation of clinic operations as well as the timely relocation back in August 2022 is due to the great commitment of all those involved.

The Christine Kühne - Center for Allergy Research and Education (CK-CARE), initiated by my wife and established by the Kühne Foundation in 2009, is dedicated to allergy research and treatment as well as the education of medical professionals. In the year under review, CK-CARE’s already extensive database and biobank were further expanded. In this way, more and more important findings on allergy diseases and atopic dermatitis in particular can be obtained. Some of the results are also supplied to the pharmaceutical industry by Davos BioSciences AG, which was founded for this purpose, and support the development of new medicines.

With the Cardio-CARE programme, we added a further focus to our commitment to medicine funding in 2019 and are supporting the largest research programme to date on genetic decoding in the German speaking area. The aim
of the cooperation between the Kühne Foundation, the University Hospital Zurich (USZ) and the University Medical Centre Hamburg-Eppendorf (UKE) is to gain a better understanding of the causes of cardiovascular diseases (heart failure, heart attack, cardiac arrhythmias) in order to open up new diagnostic and therapeutic possibilities. In 2021, the sequencing was completed and the data processed, so that the first analyses can be expected in the spring of the current year.

The Kühne Foundation’s cultural funding is dedicated primarily to classical music. We belong to the main sponsors of the Salzburg Festival, the Lucerne Festival and the Elbphilharmonie in Hamburg. We also support the Philharmonic State Orchestra at the Hamburg State Opera and projects at the Zurich Opera House. Cultural events were able to take place again in the second half of 2021, albeit for a limited period of time in some cases.

In view of the growing importance of the Kühne Foundation, I am very pleased that we have been able to win our long-standing member of the Board of Trustees, Dr. Jörg Dräger, for the newly created position of Executive Director of the Board of Trustees as of 1 April 2022. With his diverse experience in science and business, he brings with him the best prerequisites for successfully further developing the Foundation’s activities. Together we will focus on the future prospects and long-term objectives of the Kühne Foundation.

With best wishes

Your

Klaus-Michael Kühne
President of the Board of Trustees
“Entrepreneurial success should go hand in hand with the promotion of the common good. The Kühne Foundation fulfils this task. With a variety of support programmes and projects the founder and the Kühne Foundation also assume their socio-political responsibility.”

Prof. Dr. h.c. Klaus-Michael Kühne
Independence
The non-profit Kühne Foundation was established by the Kühne family in the year 1976 in Switzerland. The Board of Trustees is responsible for the execution of its duties. The Kühne Foundation should not be influenced by third parties. Its own assets form its economic base, along with the earning power and assets of the Kühne Holding AG.

Internationality
With headquarters in Switzerland, the Kühne Foundation’s programmes and projects are devoted to the idea of living in a globally networked world and crossing boundaries. Almost all funding projects are therefore of an international nature.

Creative Foundation
The Kühne Foundation mainly works as an operative foundation. It pursues its goals less by promoting third parties; instead primarily initiating, steering and implementing its own projects and programmes, sometimes with partner organisations. This approach is particularly important in its two major funding areas, logistics and medicine. The Kühne Foundation deploys lean structures to manage its projects in a creative and sustainable manner, while keeping a close eye on costs and budget.

Efficiency
The Kühne Foundation strives for excellence in all its projects. It is important for it to focus on the desired outcome of its operational programmes and to work in a highly efficient manner. Among other things, this means defining targets for projects and funding lines, as well as monitoring the results and effects. This approach also serves to continuously develop the programmes and select new projects.

Priorities
The Kühne Foundation owes its financial strength to the success of one of the world’s largest logistics companies, the Kühne + Nagel Group. It should never lose sight of these roots and the associated responsibility. The Foundation Charter defines a series of funding priorities that are intended to extend over a long period of time and are economically secure:

Logistics
The Kühne Foundation is convinced that logistics and logistics expertise as well as free trade support the global economic and social development.

Medicine
The Kühne Foundation is convinced that personalised medicine provides significant innovative impetus for therapy and prevention. It therefore specifically funds projects that are committed to this approach.

Culture
In particular, the Kühne Foundation funds outstanding classical music projects in collaboration with a number of European festivals, opera houses and concert halls.
Board of Trustees

Prof. Dr. h.c. Klaus-Michael Kühne (President)

Following a commercial apprenticeship and several years of thorough education, Klaus-Michael Kühne joined the family business Kühne + Nagel in the early 1960s. In 1963, he was appointed general partner, in 1966 Chairman of the Management Board. From 1975 onwards, he was Chief Executive Officer and later on appointed Chairman of the Board of Directors at the company’s international head office in Switzerland. Since 2011, Klaus-Michael Kühne has been Honorary Chairman of Kühne + Nagel International AG. The Kühne Holding AG, established by Klaus-Michael Kühne in 1993, is the majority shareholder of the Kühne + Nagel Group and holds an over 30 per cent stake in Hapag-Lloyd AG, one of the worldwide leading container shipping lines. In addition, the Kühne Holding AG owns real estate and is engaged in the luxury hotel segment. Together with his parents, Klaus-Michael Kühne established the Kühne Foundation in the year 1976. The deed of the Foundation is support for training, further education, scholarships and research in the fields of transport and logistics. The Kühne Foundation is also heavily involved in the area of medicine. It has established a Medicine Campus in Davos, Switzerland, supporting there two major research projects in the fields of allergology and cardiology, and runs the Hochgebirgsklinik. In the area of culture, the Kühne Foundation supports primarily festivals, opera and concert halls in Europe.

Christine Kühne

Christine Kühne is married to Klaus-Michael Kühne and supports him in all projects of the Foundation. On her initiative, the Christine Kühne – Center for Allergy Research and Educations was founded in 2009 in order to make a lasting impact on research into allergies. Christine Kühne is the patron of the award for the best children’s and youth book author, presented during the Harbour Front Literature Festival in Hamburg. She is also committed to support young singers.

Dr. Thomas Staehelin (Vice President)

Dr. Thomas Staehelin holds a PhD in law and has been a partner of Fromer Advokatur und Notariat based in Basel since 1981. His expertise includes international mandates, corporate law, mergers and acquisitions, tax law, contract and commercial law as well as banking and stock market law. Dr. Staehelin is a member and/or President of the Board of Directors of several Swiss and international companies.

Michael Behrendt

After studies in law, Michael Behrendt joined VTG Vereinigte Tanklager und Transportmittel GmbH in 1985 and became Managing Director in 1994. In 1999, he was appointed Chief Executive Officer of VTG Lehnkering AG. Michael Behrendt became Chairman of the Executive Board of Hapag-Lloyd AG in 2002; and has taken over as Chairman of the Supervisory Board of Hapag-Lloyd AG in 2014. Furthermore, he is President of the Übersee-Club e.V. in Hamburg and board member of the non-profit science organisation Stifterverband für die Deutsche Wissenschaft e.V.

Dr. Jörg Dräger

Dr. Jörg Dräger studied Physics and Economics in Hamburg and New York. After his graduation, he worked for Roland Berger Strategy Consultants in Frankfurt/Main. He returned to Hamburg as CEO of the Northern Institute of Technology. From 2001 to 2008, Dr. Dräger took office as Hamburg’s (independent) Minister of Science and Research. In addition, he was a member of the Standing Conference of Ministers of Education and Cultural Affairs and a deputy member of the German Bundesrat. From 2008 till the end of 2021 he was a member of the Executive Board at the Bertelsmann Foundation. In April 2022 Dr. Dräger joined the Kühne
Foundation as its Executive Director of the Board of Trustees.

**Karl Gernandt**
Karl Gernandt started his career with Deutsche Bank after graduating with an MBA in business administration at the University of St. Gallen. He moved on to A.T. Kearney, focusing on strategic financial services projects, then to Alsen AG und Holcim, most recently as CEO of the Region Western Europe. From 2009 to 2011 Karl Gernandt was Delegate and from 2011 to 2016 Executive Chairman of the Board of Directors of Kühne + Nagel International AG, and has been Vice-Chairman since 2016. Furthermore, he is Executive Chairman of the Kühne Holding AG and Deputy Chairman of the Supervisory Board of Hapag-Lloyd AG as well as a member of the Supervisory Board of SIGNA Prime Selection AG.

**Prof. Dr. Lino Guzzella**
Dr. Lino Guzzella has been full Professor at the Department for Mechanical and Process Engineering at ETH Zurich since 1999. After working in the field of industrial research (Sulzer and Hilti) he became Assistant Professor at ETH Zurich. Between 2012 and 2014, Prof. Guzzella was the Rector of ETH Zurich and from 2015 to 2018 its President. He is a fellow of IEEE and IFAC and a member of the Swiss Academy of Engineering (SATW). He is also active as a member of the Board of Directors of German and Swiss industrial companies and a consultant in the area of start-ups and innovation.

**Dr. Wolfgang Peiner**
Following the completion of an apprenticeship at Kühne + Nagel Hamburg, Dr. Wolfgang Peiner studied business administration in Hamburg and Kansas/USA. Thereafter, he worked as tax consultant and auditor at Arthur Andersen & Co., the Werner Otto Group and as Director, later on as Chief Executive, of the Gothaer Group. During those times, Dr. Peiner was a member of the Board of Directors of the Treuhandanstalt and its successor organisation BvS, Kühne + Nagel International AG as well as a member of the Supervisory Board of Deutsche Lufthansa AG and Friends Provident. From 2001 to 2006 Dr. Peiner was Senator of Finance of the Hamburg state government, at the same time, he was Federal Treasurer of the CDU party. In the years 2010 and 2011, he was founding president of the Kühne Logistics University. Since 2008, Dr. Peiner has been a member of the Board of Directors of Kühne Holding AG.

**Dr. Jörg Wolle**
Dr. Jörg Wolle holds a PhD in engineering sciences. In his roles as CEO and President, he formed and led DKSH AG from 2000 to 2017, most recently reaching net sales of CHF 11 billion and employing 35,000 staff in Asia. The company was created through the merger of three traditional Swiss trading houses in Asia. Since 2010, Dr. Wolle has been a member of the Board of Directors of Kühne + Nagel International AG, since May 2016, he has been Chairman of the Board. He is Chairman of the Board of Directors of Klingelnberg AG and member of the Board of Directors of Olam International Limited, Singapore.

**Prof. Dr. Gregor Zünd**
Prof. Dr. Gregor Zünd has been CEO and President of the Executive Board of the University Hospital Zurich since 2016. Prior to his appointment as CEO, he was Director of Research and Education and in this function already a member of the Executive Board of the University Hospital Zurich as well as Managing Director of the Center for Clinical Research. Prof. Zünd is a specialist in cardiac and thoracic vascular surgery. He completed further trainings at the University Hospital Zurich. In addition, he spent several years at the Harvard Medical School in Boston and at the Texas Medical Center in Houston. He is a professor at the University of Zurich.
Logistics

Logistics forms the backbone of the modern economy and lays the foundation for international trade and exchange. The Kühne Foundation links research institutions working on new developments and supports training and further education for managers who take on new challenges. Furthermore, the Kühne Foundation is involved in the field of Humanitarian Logistics and supports with its subsidiary, HELP Logistics AG, humanitarian organisations and governments in the implementation of efficient humanitarian responses. With its Education Programme LEED the Kühne Foundation contributes to the extension of logistics competence in emerging countries.

Kühne Logistics University (KLU)

Whereas classes at Kühne Logistics University had been held online for the previous several months, in the second half of 2021 roughly 80 per cent of all bachelor’s and 60 per cent of all master’s students were able to return to classroom teaching at KLU. This was also made possible by the COVID-19 vaccination programmes offered on campus, which were well received. Online courses, offered as an alternative, were primarily used by international students facing travel restrictions.

KLU’s excellent performance in the international university ranking “U-Multirank 2021” was very pleasing: KLU was one of 15 German universities to receive top marks in the most categories. In the category “International Orientation”, KLU made it to the top 4 in Germany and the top 25 worldwide.

There are currently 27 professors engaged in research and education at KLU, including four new additions in 2021.
Kühne Logistics University (KLU) is an internationally renowned private faculty with the right to confer PhD degrees and proven practical orientation. In terms of research and teaching, digital transformation, sustainability and innovative value creation are the key competence areas in the disciplines of transport, global logistics and supply chain management. One Bachelor and three Master courses, a structured Doctoral programme and a part-time MBA provide excellent study conditions and perspectives for about 400 students from 60 nations. An international team of 27 professors conduct teaching in English at its modern campus in Hamburg HafenCity. Management seminars for specialists and executives complete the syllabus.

Focus on research: nine more projects and a new center
In the course of the year, KLU participated in 29 research projects — nine of which were successfully funded in the reporting year, e.g. those on the topics “weaknesses in business processes” (German Research Foundation), “urban production” (Federal Ministry of Defence), “resilience during pandemics” (UN) and “cargo transport in rural areas” (Federal Ministry for Digital and Transport). In addition, the KLU research group on food supply chains secured funding for a new project on food safety (Federal Ministry of Education and Research).

There was also news regarding the research centers: the collaboration with HELP Logistics was reinforced with the newly founded “Center for Humanitarian Logistics and Regional Development” (CHORD). The Center combines academic research on supply chains with training offered in developing countries in order to promote social and economic progress in low-income countries.

The “Center for Shipping and Global Logistics” (CSGL), supported by Hapag-Lloyd AG, bid farewell to Academic Director Prof. Dr. Michele Acciaro and welcomed Prof. Dr. Gordon Wilmsmeier as his successor. Wilmsmeier has previous ties to KLU as the holder of a Logistics professorship at the Universidad de los Andes in Bogotá, Colombia, a position financed by the Kühne Foundation. The CSGL is currently engaged in e.g. the EU-funded project WASP, which focuses on the viability of wind-assisted propulsion systems in shipping.

In the category “International Orientation”, KLU made it to the top 4 in Germany and the top 25 worldwide.
Beyond research, KLU is also focusing on sustainability with regard to the further development of its curriculum. Accordingly, the master’s degree programme in Global Logistics & Supply Chain Management was supplemented with courses on globalisation and environmentally friendly behaviour. The topic was also a major priority in KLU’s Executive Education programmes. The certificate programme “Sustainable Management and Operations” equips top managers to make their companies more sustainable in terms of supply chains and management. The master’s degree programme accreditation is expected in 2022.

Sustainable transformation of logistics and supply chains
KLU is accompanying the sustainable transformation of logistics and supply chains in all of its activities. Accordingly, the “Center for Sustainable Logistics and Supply Chains”, financed by Kuehne + Nagel, released two prominent studies on how both corporations and middle-sized enterprises can contribute to CO2 reduction. The highlight of the public interest in sustainability was the UN Climate Change Conference in Glasgow in autumn 2021, which KLU representatives attended.
DAAD Centre under construction: African Centre of Excellence
The “African Centre of Excellence”, successfully funded in 2021 and supported by the German Academic Exchange Service (DAAD), combines research and training on sustainable business in the areas resource management and food supply chains in Africa. The Centre is being jointly established by KLU and the Universities of Nairobi, Kenya, and Dar es Salaam, Tanzania. Further support with practical implementation is provided by the Kühne Foundation’s LEED (Logistics Education – Emerging & Developing Countries) programme. Planned measures include master’s degree programmes in business studies at the African universities, a Ph.D. scholarship programme, summer schools, student exchange programmes and visiting lecturers.

Global Student Satisfaction Award: 4.8 out of 5 stars
The Kühne Logistics University received the “Global Student Satisfaction Award 2021” in the category “Overall Satisfaction”. In a global comparison, students rated KLU as the best university with English-language degree programmes. The award is granted by the global study choice platform Studyportals. In the category “Overall Satisfaction” students were asked the question “How would you rate your study experience on the whole?” and gave KLU an average rating of 4.8 out of 5 stars.
Since early 2020, COVID-19 has turned the world on its head. How has the crisis impacted the international innovators’ scene in the logistics sector? During the virtual KLU Logistics Innovators Day on 4 and 5 February 2021, young logistics innovators from Africa, Asia, Europe, North and South America shared their answers to that question. The roughly 1,000 international guests included students and other participants from the research community and industry.

Did you know? KLU research in brief

- Small and medium-sized transport companies account for 99 per cent of all companies in European road freight transport, and therefore play a key role in the decarbonisation process (Moritz Toelke and Prof. Alan McKinnon, Ph.D.).
- In road freight transport, using two drivers per truck can be more efficient and even more affordable than using just one (Prof. Dr. Asvin Goel).
- Focusing on rapid responses to catastrophes and a lack of planning can, in the long term, harm communities and the planet alike. Prof. Maria Besiou investigated the close ties between humanitarian measures and sustainable development.
- Crowdfunding can boost employee loyalty and innovativeness at large companies (Prof. Christina Raasch).
- Top managers are less likely to suffer from burnout than the middle management (Dr. Jennifer Korman, Prof. Dr. Niels Van Quaquebeke and Prof. Dr. Christian Tröster).
Endowed Chairs
The Kühne Foundation has been funding logistics chairs and educational institutions in logistics and business administration for over 25 years. The main objective is to strengthen logistics as a scientific discipline, while ensuring that highly qualified logistics specialists are able to attain leading positions in the economy.

Competence Centre International Logistics Networks at the Logistics Department of the Technical University (TU) Berlin

The International Logistics Networks Competence Centre (ILNET), which shifted in coordination with the Kühne Foundation the focus of its activities to Africa in 2019, expanded its cooperations with Addis Ababa University and the University of Rwanda in 2021. The overarching goal of the cooperations is to strengthen the role of logistics in the context of international supply chains, with a focus on increasing value and creating jobs in Africa.

In 2021, the practice-oriented training at the partner universities included an analysis of the effects of the COVID–19 pandemic on international logistics networks with students in Kigali. Several local case studies were conducted, which can be integrated into the training as well as used for other formats of the Kühne Foundation’s network. Amongst others, there are case studies on efficient cold chain logistics, coffee supply chains, multimodal transport systems and technology-based tracking of raw materials.

A workshop was held in Kigali with the logistics industry and local start-ups to assess the potential for innovation in urban logistics. A benchmark analysis developed for Ethiopia revealed cost structures and performance gaps and provided insights into current logistics structures in Africa.

Cooperation with African start-ups will be expanded in 2022 to digitally improve logistics performance in Africa. Together with the Pan-African Mobility Alliance of the Federal Ministry for Economic Cooperation and Development of the Federal Republic of Germany, concrete projects to increase value creation and job generation through efficient logistics will be supported in industry workshops.

Technical University (TU), Berlin
The TU Berlin is a globally recognised university with a long tradition in the German capital. With around 35,000 students and approximately 350 professors, the TU Berlin is one of the largest universities in Germany. The subject of logistics is in high demand in the Bachelor’s and Master’s programmes as well as a technical specialisation of various fields of study, especially industrial engineering. Approximately 200 students from the TU Berlin and international study programmes are trained each year in winter and summer semesters with a range of more than 30 semester hours per week in topics of holistic logistics at international universities and additionally numerous managers in various executive formats. For many years, the Kühne Foundation has supported the Competence Centre International Logistics Networks, which is headed by Prof. Dr. Frank Straube.
Research at the Chair is oriented towards current problems in Colombia and Latin America. The main topics include sustainable maritime transport and seaport development, which includes port policy and port regulation as well as sustainable management of logistics infrastructure, sustainable value chains and “first-mile logistics”, digitalisation and innovation in the logistics sector, and sustainable road freight transport.

In 2021, the Chair intensified research in the port sector, focusing primarily on the topics of “sustainability” and “transparency and integrity”. In a project on the consumption of energy and water as well as the productivity of terminals, the team around the chair holder Prof. Gordon Wilmsmeier worked closely with the ministries of transport in Colombia and Chile. It was particularly relevant that both countries implemented the data collection methodology developed by the Chair of Logistics. In Colombia, the team collected data from over 40 terminals together with the local ministry. These are currently being evaluated and the presentation of the results is planned for spring 2022. As part of this collaboration, the National Planning Department and the Colombian Ministry of Transport will also be advised on the preparation of a new strategy paper on port development.
2021 was another challenging year for many organisations across the humanitarian sector. A globally disrupted supply network with significantly increased transport costs and lead times, a growing number of people in need of humanitarian assistance worldwide, and limited operational funding created a very difficult environment.

The Kühne Foundation has been providing support with its humanitarian logistics programme (HELP Logistics) since 2010, helping to improve the effectiveness, efficiency and professionalism of logistics processes in emergency and development aid. Despite the ongoing challenging conditions caused by the pandemic in 2021, HELP provided over 1,350 days of technical support across 39 projects and gave more than 4,000 participants from over 100 countries access to online learning programmes in Arabic, English, French and Spanish languages.

HELP Logistics
Since 2014, HELP Logistics AG has been registered as a non-profit organisation in Schindellegi, Switzerland. HELP Logistics provides technical advice and training to aid organisations and governments in strengthening their logistics competence and improving humanitarian operations’ effectiveness and efficiency. Seventeen dedicated full-time logistics and supply chain management professionals operate from regional offices in the Middle East (Amman), Africa (Dakar and Nairobi) and the Asia-Pacific region (Singapore).

HELP Logistics builds strategic partnerships and it transfers logistics and supply chain management knowledge to support the Agenda for Sustainable Development Goals (SDG) adopted by all United Nations Members. HELP Logistics focuses on four strategic pillars in particular: strengthening health system supply chains, optimising food supply chains to support small farmers, contributing to local training, education and research to increase professional logistics talent as well as solidifying supply chain preparedness and transport system resilience for supporting in emergencies and ensuring sustainable development aid.
Online medical logistics training

West Africa is regularly affected by life-threatening epidemics. A fast and efficient supply chain of protective equipment for medical staff and medication for the affected population are some of the most crucial tasks in these situations. Therefore, specific logistics knowledge is needed. HELP Logistics provided training in 26 countries in West Africa with its Medical Logistics in Pandemics (MLP) online course.

Standardised procedures for successful vaccination logistics

As in other parts of the world, frontline health workers in East Africa have worked non-stop throughout the pandemic. After a long wait, urgently needed vaccines arrived in the region, but distribution did not go smoothly. A strictly temperature-controlled cold supply chain is needed to transport the vaccines to the clinics and vaccine centres from the airport. An unbroken cold chain is essential to maintain the efficacy of the vaccines. If not, thousands of vaccines would become waste or dangerous for patients. HELP Logistics developed a suite of Standard Operating Procedures (SOP) for vaccination logistics to support several Ministries of Health facing similar challenges. These procedures provide essential guidance on the effective management of temperature-sensitive vaccines, from the reception at the port of entry to warehousing, transport, distribution and waste management. The SOP suite is an essential free resource for managing vaccination logistics now and in the future. HELP also developed a new module on “cold chain management and vaccination logistics” and made it available through its blended online MLP training.

“...
Rethinking logistics for smallholder farmers

Bugala Island is the second-largest island on the Ugandan side of Lake Victoria. Yet, despite laying claim to untapped resources, the rural economy struggles. Like most rural Uganda, it has an insufficiently developed infrastructure and offers limited employment opportunities. Together with the International Fund for Agricultural Development (IFAD), HELP Logistics designed a livelihood empowerment project that integrates agronomy and food logistics. The recommendations and training focused on harvest planning and improving transportation and warehousing processes. This resulted in sustainable optimisations that the entire supply chain could benefit from, particularly local palm oil farmers, see picture.

Ensuring the distribution of relief aid in crises

World Vision International (WVI) assists vulnerable children and their families in Laos by providing all kinds of relief aid. When the coronavirus pandemic arrived in Laos, supply delays and interruptions made sourcing this aid locally difficult, bringing support projects to a standstill.

HELP Logistics came on board with Thammasat Business School (TBS) to investigate how WVI could prepare better for the future. A more robust framework was developed based on a better understanding of local markets and revised sourcing strategies. WVI can now identify what and where critical risks are in their upstream supply chain to ensure a reliable supply of relief aid in times of crisis.

Return on investment in humanitarian supply chains

The Philippines continuously cope with typhoons, earthquakes, volcanic eruptions and political conflict. In recent years, HELP Logistics has been working with the Philippine Red Cross (PRC) and the International Federation of Red Cross and Red Crescent Society (IFRC) to maximise emergency response
It is vital to optimise transport processes, warehousing and information systems, and improve the interaction between the aid organisations, their suppliers, and other involved parties.

One focus in 2021 was to establish a regional task force with the aim of cross-border deployment in the Asia-Pacific region in the event of a disaster. This approach is more sustainable than flying in a task force from other parts of the world. A comprehensive revision of the PRC Logistics Management System (LMS) manuals was another significant milestone ensuring the optimisation and standardisation of operations across the country. Framework agreements with crucial custom brokers will increase operations responsiveness, resulting in an estimated saving of 15 days during importation processes.

On the basis of detailed analyses of the changes, the goal is to replicate these investment strategies and supply chain improvements across other regions and organisations to spread the return-on-investment approach and mindset in the humanitarian sector.

After a decade of successful collaborative project work, HELP and the Kühne Logistics University (KLÜ) established a joint Center for Humanitarian Logistics and Regional Development (CHORD). The new center aims at bringing together academic research and education with operational training and consulting excellence in the area of humanitarian supply chains. In its first year, the CHORD team implemented applied research projects with the World Food Programme, United Nations Population Fund, International Committee of the Red Cross, Médecins Sans Frontières and Action Against Hunger. The research topics covered “Environmental sustainability in humanitarian operations”, “The impact of pandemics on health systems”, and “Success measurement for humanitarian investment programmes”. CHORD conducted one of the most comprehensive surveys in the humanitarian logistics community. There were more than 600 respondents. On a bi-annual basis, future trends and developments in the humanitarian sector will be recorded, collating valuable knowledge to support strategic-level decision-makers.

“Thanks to HELP Logistics, the Thammasat Business School, and regional WVI office, my team and I have been exposed to a new way of work to manage our ten critical items and their suppliers. We hope to mitigate associated risks as much as we can before the next disasters.”

World Vision Supply Chain Manager
The programme “Logistics Education – Emerging & Developing Countries (LEED)”, initiated by the Kühne Foundation, addresses sustainable capacity building in teaching and research with universities in Sub-Saharan Africa. As a result, LEED has developed a total of 12 university collaborations across East and West Africa, and in 2021, it was involved in the development, revision, and implementation of 37 degree programmes related to logistics and supply chain management.

LEED provided partial scholarship to 21 PhD candidates to enable them a co-supervision by an international professor, and a visiting research period abroad in Europe. Additional support activities comprised train-the-trainer courses and co-authoring of publications. Despite the challenges caused by the corona pandemic, LEED was able to implement two training seminars in Rwanda and Nigeria, and supported the 3rd annual “African Conference on Operations and Supply Chain Management” (ACOSCM) in Kigali with a total of 115 participants.

A particular success story can be reported from Nigeria. Despite a population of over 200 million people, the country has not yet accredited a Bachelor degree programme in logistics and supply chain management predominantly due to the lack of qualified academics. In December 2021, LEED together with the Government of Kaduna State supported 17 academics and logistics professionals to graduate with a Master in “Global Logistics and Supply Chain Management” from Heriot-Watt University, Edinburgh. The qualified faculty is now capable to deliver the newly accredited Bachelor at Kaduna State University, and can act as role model for others to follow.
The Hanns R. Neumann Foundation, the Max and Ingeburg Herz Foundation, the Rossmann Foundation and the Kühne Foundation established the “Foundation Alliance for Africa” in 2021. The goal of the innovative cooperation of the four non-profit foundations is that each contributes its special knowledge and experience from different areas of development work to joint projects in order to improve living conditions in rural and urban areas of the project countries in Sub-Saharan Africa.

The first project was launched in Ethiopia in May 2021, where the life prospects of farming families are to be improved, especially in rural regions. To this end, agricultural production processes are being optimised and family planning and health care measures are being taken. The Kühne Foundation is contributing its logistics expertise and is also establishing a training academy in Addis Ababa, where supra-regional training courses are held on topics such as agricultural logistics and entrepreneurship.

The project is being implemented in close cooperation with and with the support of the Federal Ministry for Economic Cooperation and Development (BMZ) of the Federal Republic of Germany. The total budget amounts to EUR 12 million for an intended duration of four years. The coronavirus crisis as well as the military and political conflicts in Ethiopia have so far overshadowed and partially delayed the start of the project. The project is nevertheless being pursued and implemented.
The European Green Deal: A milestone towards sustainable globalisation

Climate change is one of the key challenges of our century. In response to the associated existential threat, the European Commission has launched the so-called European Green Deal in December 2019, which attempts to transform the European economy and make Europe the first climate-neutral continent globally by 2050.

As a first step, the EU Member States have committed to reducing net emissions by at least 55 per cent by 2030, compared to 1990 levels. In 1990, total emissions from all greenhouse gases in the EU reached around 4,714 million metric tons of CO₂. Since then, the level has been reduced by 26 per cent. Further actions are needed to achieve a 55 per cent reduction by 2030 (see Figure).

In July 2021, the European Commission therefore presented the so-called “Fit for 55” package. The core element is a significant strengthening of the EU emissions trading system (ETS), which sets an annual limit for greenhouse gas emissions from particularly emission-intensive sectors. For example, the EU Commission has proposed to further reduce the emissions cap and extend the ETS to additional sectors.

Researchers from the Kühne Center have examined the effects of the European Green Deal on international trade. They concluded that the Green Deal marks a milestone towards sustainable globalisation, and will significantly transform European trade. This project is related to a reorientation of the Kühne Center.
The researchers of the Kühne Center for Sustainable Trade and Logistics expect trade patterns within the EU to shift significantly.

which is now increasingly working on questions at the intersection between trade and environmental protection.

The researchers of the Kühne Center for Sustainable Trade and Logistics expect trade patterns within the EU to shift significantly. Specifically, production and export volumes will likely move towards greener countries, greener sectors, and greener transport modes over time, as a higher carbon price penalizes emission-intensive activities.

A steep increase in ETS prices would shift production from relatively highly polluting Eastern European countries such as Poland, the Czech Republic, Romania, or Slovakia towards greener Western European economies like Germany, Italy, France, or Spain. It will therefore mainly benefit the biggest EU economies and, without adequate compensation mechanisms, exacerbate the polarisation within the EU.
Allergy prevention with personalised atopic dermatitis treatment

Atopic dermatitis is the most common chronic inflammatory skin disease. It generally starts in early childhood and has a significant impact on the quality of life of patients and their families. Affected adults experience considerable limitations in their workplace productivity, incurring high socioeconomic losses for society in general.

Atopic dermatitis is a complex, multi-factorial disease. In recent years, it has become increasingly clear that this disorder is not only a skin disease, but must be considered as a disease affecting the person as a whole, including, for example, mental health. The most important factors are an altered skin barrier and a changing immune system, both of which can be traced back to a genetic context. Data from large population-based studies clearly show that the environment plays a central role in both the occurrence and the progression of the disease.

In recent years, large-scale international research efforts have improved our understanding of the fundamentals of atopic dermatitis and also contributed to allergology. CK-CARE research has played a pivotal role, particularly in the clarification of underlying molecular and cellular mechanisms. There is growing interest in far-reaching phenotyping, which would classify the different types of atopic dermatitis.

The overarching objective here is the curing and prevention of allergies – in particular through sustainable treatment of atopic dermatitis as it is one of the most significant risk factors for the development of allergies. The ambitious goal of preventing allergies can only be achieved by a multidisciplinary team of researchers from medicine, biology, IT, and environmental and nutritional sciences, as found at CK-CARE.
In 2021, artificial intelligence tools were developed for a central study to facilitate the analysis of large volumes of data and the complex relationships between different factors. This enabled a precise, comprehensive characterisation of the observed features and behavioural traits of the identified patient groups. It also allowed the characterisation of the phenotype and potential risk factors of adolescent and adult patients with atopic dermatitis according to the severity of the disease.

The key findings of this study include the discovery of critical age groups. A patient who develops atopic dermatitis after the age of 12 is more likely to experience a severe progression. If atopic dermatitis is diagnosed in mid or late adulthood, a moderate course is to be expected. Equally, disease onset in early childhood is most often associated with mild atopic dermatitis. This indicates that there are different disease-induced changes to bodily functions and immunological mechanisms in childhood, adolescence and mid to late adulthood.

Since 2009, the Kühne Foundation has supported the “Christine Kühne – Center for Allergy Research and Education” (CK-CARE), today located in Augsburg, Bonn, Davos, St. Gallen and Zurich. The cornerstones of the initiative are highly qualified, well-connected research activities in allergology (particularly atopic dermatitis), and the training of medical specialists based on the latest scientific findings. With CK-CARE, one of the largest private initiatives in allergology in Europe was launched. Its focus today is a database and biobank collecting information and biospecimens from patients and healthy volunteers. This facilitates the analyses that contribute to the development of treatments and drugs in the field of precision medicine. The objective is to establish treatment methods that can take into account the very specific individual conditions and reactions of each patient.
triggered by psychosocial factors and critical life events.

Another key finding from international research efforts suggests that atopic dermatitis is associated with a significant psychological burden and comorbidities. Comorbidities are diseases that occur in parallel to a main disease where it is likely that there is a causal relationship. The identification of atopic dermatitis comorbidities is essential for the effective treatment of many patients. Cardiovascular comorbidities have been identified in older patients with atopic dermatitis. Collaboration between CK-CARE and Cardio-CARE aims to provide a better understanding of the molecular justification for such comorbidities.

**COVID-19: Even mild cases lead to organ damage**

Research is increasingly focused on the serious consequences of COVID-19 illness. There is also increasing awareness that Sars-CoV-2 can leave its mark even on those who experienced milder forms of infection. This is thanks to the findings of a large study by researchers from Hamburg-Eppendorf University Hospital (UKE) and Cardio-CARE, which showed that slight medium-term damage to the heart, lungs, kidneys and leg veins can be observed even with mild to moderate cases.

This study involved 443 people from the Hamburg area aged between 45 and 74 years who were proven to have been infected with coronavirus during the first and second waves of the pandemic in 2020, when no vaccine was yet approved. The infection was, on average, 9.6 months prior. All patients had experienced mild to moderate illness. A total of 1,328 participants in the Hamburg City Health Study (HCHS) started in 2016 were used as the control group.

**Cardio-CARE AG**

In 2019, the Kühne Foundation expanded its commitment to medicine to include cardiology with the founding of Cardio-CARE AG. It is funding what is currently the largest research project on human genome decoding in the German-speaking world. The goal of the cooperation between the Kühne Foundation, Hamburg-Eppendorf University Hospital (UKE) and Zurich University Hospital (USZ) is to improve the understanding of the causes of cardiovascular diseases in order to take full advantage of new diagnostic and treatment possibilities. Whole genome sequencing of 9,000 specimens is being carried out at USZ. Data analysis is done by biostatisticians and bioinformaticians at Cardio-CARE in Davos, in constant communication with cardiologists at UKE.

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The same participants were used for the large-scale Cardio-CARE project, which carried out the whole genome sequencing of 9,000 people. The HCHS cohort was representative of the general population. At the time of their previous medical examination, the HCHS participants were not infected with coronavirus. They underwent the same seven-hour examination as the 443 previously-infected patients. Each coronavirus patient was allocated a HCHS participant, matched for age, sex and education.

This revealed that the ventricular function (pumping power of the heart) of previously-infected patients was, on average, roughly 2 per cent lower than that of the control group. Overall lung volume was also roughly 3 per cent lower on average than the control group. Airway resistance had increased on average by 8 per cent, which could indicate that there was a slight decrease in airway elasticity. Fortunately, the study found no indications of brain damage or neurocognitive impairment. Coronavirus infection also had no negative impact on patients’ medium-term quality of life, according to the interviews.

It was particularly surprising that signs of prior deep vein thrombosis on ultrasound were two to three times more frequent in patients previously infected with coronavirus. This was previously known to be the case for severe progressions with hospitalisation, but appears to be much more common than previously thought for mild cases.

**Davos BioSciences AG (DBS)**

The CK-CARE database and biobank is at the heart of the Kühne Foundation’s translational medical research. Establishing such a biobank and database is a lengthy, costly process – not least of all due to strict medical ethics, data protection and data security requirements. The possibilities for analysis are therefore not limited to the needs of CK-CARE and Cardio-CARE research. Research-oriented pharmaceutical companies can also contact the database and biobank for matters relating to drug development and for clinical trial support.

Davos BioSciences AG (DBS) was founded by the Kühne Foundation in 2019 to act as an interface between CK-CARE and pharmaceutical companies. Following the first successful projects in 2020, collaboration with pharmaceutical companies has since been stepped up with positive results. DBS has relied on the expertise of the CK-CARE research network, and Cardio-CARE provides increasing support to the project with the required skills in highly complex data analysis. DBS also manages the CK-CARE biobank and database, and was certified by the Swiss Biobanking Platform in 2021.
Developments at the Hochgebirgsklinik Davos Wolfgang

Despite the COVID-19 pandemic, the Hochgebirgsklinik (HGK) has continued to provide its full range of rehabilitation services and has succeeded in all aspects of infection control in its usual operations. The multidisciplinary care covering cardiology, psychosomatics and dermatology is of great benefit for post-COVID rehabilitation. Individual sports and therapy programmes complete the range of available treatments and offer the ideal conditions for recovery in the mountain climate of Davos.

The expansion and modernisation work on the core area of the hospital started in autumn 2020 and required the temporary relocation of all operations to the neighbouring AlpenGold Hotel (previously Hotel InterContinental) in April 2021. This was a unique experience not only for patients, but also for the HGK team. Thanks to the enormous commitment shown by all personnel, hospital activities continued running seamlessly and the additional logistical burden of relocation and then returning to the usual site was concluded as expected in August 2021 to the satisfaction of all concerned.

Since the end of August 2021, bed capacity for adults at HGK is enlarged to the number of 163. The increase in size of the main building has led to 14 new rooms, and all others were given a modern makeover. The extension to the main building for gastronomy and treatment will be completed in autumn 2022. New hospitality and treatment concepts can then be implemented.

The SWISS REHA certification for in-patient rehabilitation for cardiac and psychosomatic rehabilitation awarded in December 2021 confirm the quality of the personnel, processes and multidisciplinary cooperation at HGK in these

Hochgebirgsklinik (HGK) Davos

Hochgebirgsklinik Davos is a leading Swiss rehabilitation hospital specialising in cardiology, pneumology, dermatology, allergology and psychosomatics for children, adolescents and adults. The patient’s individual requirements are the focus of any stay – ensuring optimal treatment. At Medicine Campus Davos, diagnosis, research and treatment go hand in hand. The Davos mountain climate and an expert team of doctors and nurses provide the best conditions for rehabilitation and recovery in a unique location.

The Hochgebirgsklinik is owned by Kühne Real Estate AG, associated with the Kühne Foundation. The Kühne Foundation itself acquired the clinical operations, which have been continuously expanded over recent years.
areas. The aim is to achieve additional certification for pneumology in the current year.

The coronavirus pandemic has presented a major challenge for HGK in 2021. Occupancy rates have suffered due to referring hospitals delaying many surgeries to reserve capacity for COVID-19 patients. In addition, many patients dispensed with inpatient rehabilitation due to the pandemic.

Since the end of August 2021, bed capacity for adults at HGK is enlarged to the number of 163. The increase in size of the main building has led to 14 new rooms, and all others were given a modern makeover.

Cardiac rehabilitation plays a mayor role at HGK
Classical music projects are the main focus of the Kühne Foundation’s cultural funding activities. It supports a number of renowned festivals as well as opera houses and concert halls in Europe.

Since 2019, the Kühne Foundation has been one of the main sponsors of the Salzburg Festival. In summer 2021, the contract was extended for another three years, until 2024.

Lucerne Festival is considered one of the leading organisers in the field of classical music. There, too, the Kühne Foundation has been one of the main sponsors since 2020 and supports the Lucerne Festival Orchestra in particular. For the 2021/22 season, the Kühne Foundation deepened its long-standing partnership with the Elbphilharmonie in Hamburg and is now one of its principal sponsors. Furthermore, it supports the Philharmonic State Orchestra at the Hamburg State Opera in a demanding multi-year programme and projects at the Zurich Opera House.

While the corona pandemic continued to significantly restrict cultural activities in the first half of 2021, cultural events were able to take place again from the summer onwards, albeit under heavy restrictions and often in a smaller format.

With 163 performances in the summer of 2021, the Salzburg Festival offered a...
The varied programme and once again delighted its audience. Already since 2013, the Kühne Foundation has supported the Young Singers Project, a top-class platform for the promotion of up-and-coming singers. In 2021, it was possible for the international participants to present themselves in a final concert where they delighted the audience.

Under the slogan “crazy”, the Lucerne Festival offered a diverse programme with renowned orchestras, ensembles and international stars. The Kühne Foundation supported both the opening concert with the Lucerne Festival Orchestra and an impressive concert evening with works by Wolfgang Amadeus Mozart and Robert Schumann.

In Hamburg, the Elbphilharmonie and the Philharmonic State Orchestra returned to a rich concert life after the summer break. The Music Summer on Lake Zurich, launched in 1996, attracts more and more audiences every year. The Kühne Foundation sponsored an opera gala in the church in Feusisberg, Schwyz, in 2021, as it did before the pandemic, and helped to bring about a small premiere: for the first time, young singers from the International Opera Studio at the Zurich Opera performed at the “Music Summer”, which also received support from the Kühne Foundation there in 2021.
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