To get its guests including more than 50 young professionals and students from 25 countries in the mood for the Global LafargeHolcim Awards hand-over in Mexico City, the LafargeHolcim Foundation and Holcim Mexico organized a visit to a construction-site that had the potential to break all records until 70 per cent of participants of a referendum voted in favor of cancelling the USD 13 billion project midway through its construction (cover picture). The new Mexico City International airport was expected to begin operations by 2020, almost doubling the current capacity to 75 million passengers annually through its main terminal, 96 gates and three concurrent runways.
Global LafargeHolcim Awards Gold

Hydropuncture:

Global LafargeHolcim Awards Silver

Legacy Restored:

Global LafargeHolcim Awards Bronze

Grassroots Microgrid:
Community-driven neighborhood planning, Detroit, USA. Page 5.

Global Ideas Prize

Cooling Roof:
Prototype for an evaporative roof for radiant cooling, Cherry Valley, CA, USA.

This project by Georgina Baronian is a research investigation on how to cool large-scale structures using water on the roof as a thermal insulator and solar reflector, including a prototype in Cherry Valley in California, USA.

The study culminates in a design of a big box structure that is as reduced in its formal manifestation as it is beautiful in its aesthetic simplicity.

Global Ideas Prize

Refrigerating Jar:
Shea butter storage for Nyingali community, Karaga, Ghana.

Fostering the production of shea butter as an important local trade, the striking towers of the storage units are designed for passive cooling and allude to traditional local architecture. Designed by Wonjoon Han, Sookhee Yuk, Gahee Van.

By storing the nuts and processing them incrementally, the community will be able to sell processed shea butter when it commands a higher price.

Global Ideas Prize

Territorial Figure:
Tidal energy landscape, Punta Loyola, Argentina.

Addressing the potential ramifications of human-induced climate change on the natural environment, the authors Stefano Romagnoli, Juan Cruz Serafini and Tomás Pont propose an infrastructure for the use of tidal energy in Río Gallegos estuary at Punta Loyola in Argentina.

The project merges infrastructure, landscape, and architecture in a magnificent natural setting.
Demonstrating the impact of sustainable design and construction

The winning projects of the Global LafargeHolcim Awards 2018 from Mexico, Niger and the USA showcase how innovation in design, construction, and materials deliver sustainable infrastructure that excels in social, ecological, and economic performance. The competition’s top prizes were handed-over in Mexico City, where the Gold winning project is under construction and reiterates the importance of water as a resource in urban contexts.

Rodolfo Montero, CEO of LafargeHolcim in Mexico, welcomed the guests from more than 25 countries. He highlighted “uno a uno”, an initiative launched by LafargeHolcim in Mexico following the massive earthquake in 2017. Employees invested more than 1500 hours to rebuild communities, and their financial donations were matched by the company. Reconstruction of houses and infrastructure also address issues of sustainability – building the bridge to the LafargeHolcim Awards that stand for innovation and excellence in sustainable construction.

The projects at the pinnacle of the world’s most significant competition for sustainable design were selected from more than 5,000 submissions to be implemented in 131 countries. “Both Gold and Silver are masterful illustrations of what sustainable design in construction can achieve; and Bronze is a community-driven initiative that opens a new path,” said Alejandro Aravena (Chile), head of the jury of the Global LafargeHolcim Awards.

High level of participation and success by next generation of professionals

The level of interest in the competition by young professionals and students continued to grow. Roland Köhler, Chairman of the Board of the LafargeHolcim Foundation, emphasized that more than half of all entries were submitted by individuals and teams with authors below 30 years of age. “It is exciting that the Awards competition has been embraced by so many representatives of the next generation,” said Köhler.

An enthused audience at the Global LafargeHolcim Awards 2018 prize handover included the entire team behind the Gold winning project “La Quebradora Hydraulic Park”, and more than 50 young architects and engineers from 25 countries who had participated in the international LafargeHolcim Next Generation Awards Lab hosted by Universidad Iberoamericana (IBERO) on the previous day.
Experiencing innovation in design and construction materials
The guests of the Awards ceremony were introduced to the construction site of Mexico City’s new International Airport. Designed by architects Lord Norman Foster and Fernando Romero, it could be the world’s most sustainable airport, serving 75 million passengers per year. Holcim Mexico, the local company of LafargeHolcim, is one of the providers of building materials and has been supplying high-performance concretes from four on-site batching plants. The concretes are designed to withstand aggressive sulfate conditions and chloride attack, and obtained US certification for sustainability to meet the requirements of LEED Gold and Platinum certification to which the airport aspires.

Congratulating the Global LafargeHolcim Awards Gold 2018 winners (l-r): Rodolfo Montero, CEO of Holcim Mexico; winners Loreta Castro, Taller Capital, and Manuel Perló, Universidad Nacional Autónoma de México (UNAM); with members of the Board of the LafargeHolcim Foundation Roland Köhler, Enrique Norten, and Maria Atkinson.

Gold for a decentralized water management park in Mexico City
A project team led by architect Loreta Castro of Taller Capital and researcher Manuel Perló from Universidad Nacional Autónoma de México created urgently needed water infrastructure in the eastern periphery of Mexico City. “La Quebradora Hydraulic Park” is nearing completion and improves conditions in the dense urban fabric of the city by forming a greenbelt that doubles as water management infrastructure. Enrique Norten, Principal of TEN Arquitectos (USA/Mexico) and member of the Board of the LafargeHolcim Foundation, explained that the project strengthens the social fabric of the community by integrating green courtyards and public buildings into urban infrastructure. “The project demonstrates a comprehensive understanding of the issues involved, from construction detailing to long-term maintenance after completion. This infrastructure is given a parallel life as a civic space that functions on many scales,” said Norten.

Engaging people & public space to create water culture: the first Hydrourban Acupuncture
La Quebradora Hydraulic Park is part of a larger plan, born from research, to build a parallel alternate sustainable water system for Mexico City by transforming public spaces into soft water management infrastructures through a strategy of Hydrourban Acupunctures. The project directly engages people with water by understanding its cycle and the potentialities that the landscape has to regulate storms and treat wastewater. The program is developed together with the surrounding community through a participatory-design model. This and the design strategy are replicable by adjusting to site specific conditions aiming to create water culture.

Guests of the LafargeHolcim Foundation on the construction site where the passenger terminal buildings of the new airport of Mexico City could have been in operation from 2020.

Loreta Castro guided the guests through La Quebradora construction site, explaining the ongoing work and the benefits of the project for the community.
Winners of the Global LafargeHolcim Awards Silver 2018 (l-r): Yasaman Esmaili, studio chahar, Iran, and Mariam Kamara, atelier masomi, Niger, congratulated by Bernd Eitel, Head of Group Communications, LafargeHolcim; Stuart Smith, Director of Arup, United Kingdom and member of the Board of the LafargeHolcim Foundation; and Jens Diebold, Head of Sustainable Development of LafargeHolcim and member of the Board of the LafargeHolcim Foundation.

Silver for creating a place for all in a community in Niger
The Silver winning project is a religious and secular complex in Niger that reinterprets traditional local construction for a new mosque and a community center. The “Legacy Restored” project was designed by architects Yasaman Esmaili, studio chahar (Iran), and Mariam Kamara, atelier masomi (Niger). Stuart Smith, Director of Arup and member of the Board of the LafargeHolcim Foundation, explained how the project creates a civic space open to all in the village of Dandaji, supporting the education of women and strengthening their presence within the community. “The design strategy champions local artisanship, traditional building techniques and sustainable materials produced on site,” said Smith.

Knowledge as a means of social inclusion and economic advancement
Dandaji is a Hausa village in arid western Niger with a very young population of 3000, low literacy rates, and high economic vulnerability. The local middle school serves children from five surrounding villages with plans for a high school underway. The new library will be impactful by providing books, a computer lab, and quiet study spaces to improve reading and vocabulary skills for the community and to increase graduation rates. By involving women’s groups in the project, additional spaces for literacy, accounting courses, and workshops were added. As a mosque, women never used the current building, preferring to pray at home. The library and its proximity to the new mosque will positively engage them and the youth with these religious spaces as productive members of the community.

The two buildings and the site between them form a complex where the religious and the secular co-exist. While the old mosque is transformed the new construction makes a strong statement through its flexible spatial organization.

Winners of the Global LafargeHolcim Awards Bronze 2018 (l-r): Eric Mahoney and Constance Bodurow, studio[Ci], USA, congratulated by Bernd Eitel, Head of Group Communications, LafargeHolcim; Jens Diebold, Head of Sustainable Development of LafargeHolcim and member of the Board of the LafargeHolcim Foundation; and Marc Angélil, Professor of Architecture & Design, ETH Zurich, and member of the Board of the LafargeHolcim Foundation.

Bronze for energy, food and civic engagement in Detroit, USA
The community-driven neighborhood planning project “Seebaldt Street” won Bronze for re-imagining empty lots as collective infrastructure for energy and food production as well as for civic engagement in Detroit, USA. Marc Angélil, Professor of Architecture & Design at the Swiss Federal Institute of Technology (ETH Zurich) and member of the jury, noted how the interdisciplinary team of authors led by Constance Bodurow, founding director of studio[Ci] (USA), enables a neighborhood to reach energy autonomy through micro-infrastructure. “The project leverages vacancy as an asset and creates a new economic paradigm for community renewal,” said Angélil.

Leveraging vacancy, climate and passion to form a neighborhood armature of energy avenues
The design proposal for a neighborhood in Detroit repositions infrastructure as a civic project, under the name of The Seebaldt Pilot. Building on long-term community engagement, the large group of collaborators proposes a pilot project for local energy and food production, water and waste management, and community empowerment. Solar photovoltaic canopies, rainwater collection, geothermal wells, and community gardens are stitched through the existing neighborhood on currently empty lots. The collectively owned and managed infrastructure is both a gathering point and a new revenue stream for additional community services and an enhanced public realm.
Advancing tomorrow’s sustainable construction solutions

50 Next Generation 2017 Awards winners from around the world met at the Universidad Iberoamericana (IBERO) in Mexico City to encourage progress towards sustainability in building and construction. The Lab provided a platform to further develop cutting-edge projects and exchange ideas in concurrent workshops across scales from micro to macro – from innovative materials and individual buildings, through to regional and global impacts. Representing 25 countries, the young professionals exchanged experiences and ideas on the future of sustainability in building and construction. Introductory lectures by acclaimed Mexican architects Tatiana Bilbao and Michel Rojkind, and IBERO Director of Architecture, Urbanism & Civil Engineering, José Luis Gutiérrez, inspired the participants.

The Next Generation Awards Lab participants had previously been selected as prize-winning teams of the five regional LafargeHolcim Awards competitions in 2017. The Lab offered a platform to further develop cutting-edge projects and exchange visionary ideas on the future of sustainable construction. The concurrent workshops across scales from micro to macro were moderated by members of the Academic Committee (AC) of the LafargeHolcim Foundation, supported by the Global LafargeHolcim Awards winners 2018, faculty members of IBERO, and members of the Board of the Foundation.

“’It’s not about building, but about interaction and having a positive impact on society,” explained Michel Rojkind. He showed the example of Foro Boca, a concert hall in Boca del Río, Veracruz in Mexico that reconnects a formerly neglected area with the community. “We went beyond the standard program of design and experimented with innovation to achieve social reconstruction by creating open spaces and possibilities for interaction,” he added.

Tatiana Bilbao showed how an interdisciplinary team proposed and realized a large number of small architectural interventions for the botanical gardens in Culiacán, Sinaloa in Mexico. The project is the embodiment of “doing more with less” to create areas to rest and for encountering the space, engaging people by combining art, recreation and education. She also explained her current research work on “the house”, mentioning how important it is for architects to create a platform for people to live their own lives and not imposing their personal ideas upon them.
The S-Lab – Material/Detail Scale was moderated by Dirk Hebel, Professor of Sustainable Construction, Karlsruher Institut für Technologie in Karlsruhe, Germany. As the saying goes: “small is beautiful”. Whereas the S-Lab primarily focused on the role of construction details, it nonetheless addressed the ramifications of material choices at much larger scales, acknowledging that, as Mies van der Rohe suggested, it is indeed “God who is in the detail”.

The M-Lab – Architectural/Building Scale was moderated by Marilyne Andersen, Professor of Sustainable Construction Technologies, Swiss Federal Institute of Technology (EPFL) in Lausanne, Switzerland. To be in middle, as argued by philosopher Gilles Deleuze, is a very good place to be. Operating from the middle ground of the architectural scale, the M-Lab addressed the role of buildings both in their larger context as well as in terms of their construction at the scale of the detail.

The L-Lab – Urban/Regional Scale was moderated by Harry Gugger, Professor for Architectural & Urban Design at the Swiss Federal Institute of Technology (EPFL) in Lausanne. Recognizing that society has been entirely urbanized, as provocatively argued by sociologist Henri Lefebvre in The Urban Revolution, the L-Lab explored sustainable strategies for developments that are normally unsustainable, whether at the scale of cities or regions.

The XL-Lab – Planetary/Territorial Scale was moderated by Marc Angéll, Professor of Architecture & Design, Swiss Federal Institute of Technology (ETH Zurich). Beyond a certain scale, as enticingly argued by Rem Koolhaas, architecture acquires the properties of “bigness”. The XL-Lab accordingly explored the mutations required for the disciplines at work in the production of territory at the all-encompassing scale of the planet.

The 25 teams were grouped into four Labs based on the scale of their project: small, medium, large, and extra-large (S, M, L, XL). Each team introduced its project in a condensed presentation, followed by a discussion on the future of sustainability moderated by internationally renowned experts. The four Labs then came together to exchange their findings.
Holcim Argentina honors global Ideas prize winner in Córdoba
The team from the Universidad National de Córdoba (UNC) that won the regional Next Generation 1st prize in Latin America with their “Tidal Energy Landscape” project was also a recipient of a Global Ideas prize selected by the Global LafargeHolcim Awards jury 2018. The operational company of LafargeHolcim in Argentina celebrated the winning team at an event with customers, representatives of professional organizations and authorities, as well as the media.

Carlos Espina, CEO of Holcim Argentina, emphasized the overall importance of sustainability in the building industry and the according commitment of LafargeHolcim on global and local levels. Mariela Marchisio, Dean of Architecture, and Alejandro Cohen, architecture professor at UNC, both expressed their pride in the international success achieved by their students.

Angelo Bucci, head of the LafargeHolcim Awards jury for Latin America in 2017 and architecture professor at the University of São Paulo and Massachusetts Institute of Technology, discussed the global prize-winning student project as well as the differences between building codes and regulations in Brazil, Argentina and Switzerland based on examples from his architecture practice. By invitation of Holcim Argentina, Bucci also lectured at Palermo University and at the Professional Council of Architects & Urbanism in Buenos Aires – highlighting the contribution of the LafargeHolcim Awards to promoting sustainable design along the entire value chain of the industry.

Holcim Switzerland celebrates sustainable construction on archeological site
Holcim Switzerland invited key stakeholders representing business, politics and authorities to the archeological site of Augusta Raurica (Canton of Basel-Landschaft), the best-preserved Roman city north of the Alps that attracts some 150,000 visitors per year.

The gathering at this site was to celebrate the Lafarge-Holcim Awards prize for a project described by the jury as “Radical Archaeology.” The design by Ünal Karamuk and Jeannette Kuo, Karamuk Kuo Architects (Zurich), was recognized as one of the eleven best submissions in the European Awards competition 2017. “This project has grown close to our hearts,” said the two architects about the archaic, yet handsome structure that enables many uses to be housed together.

Nick Traber, CEO of Holcim Switzerland, and Dennis Schneider, regional manager for North Western Switzerland, enthused on how pleased they are to be associated with the prize-winning project. A massive concrete slab will in one support the lightweight structure of the building and protect the historic remains in the ground below it. The Roman archaeological site and open-air museum Augusta Raurica is 20km east of Basel and the oldest known Roman colony on the Rhine.
Certificates for the achievement of the Global Awards Finalists

There can be only one winner for each of the Global LafargeHolcim Awards Gold, Silver, and Bronze. But each of the 14 teams that qualified for the Global competition can be proud of their achievement. That’s why they each receive a Global Awards finalist certificate. The first handovers have already taken place, further handovers are planned.

From Indonesia...
How does sustainable construction support the Indonesian government to improve the quality of education? This was the question addressed by two LafargeHolcim Awards winning teams at an event hosted by Holcim Indonesia at the Jakarta Design Center. Daliana Suryawinata from the architecture firm SHAU presented the LafargeHolcim Awards Silver Asia Pacific 2017 winning project “Microlibrary”. The project is part of a series of “Microlibrary” learning centers that aim to raise literacy by offering attractive spaces for reading. Following her presentation, she received a finalist certificate from Oepoyo Prakoso, Sustainable Development Manager of Holcim Indonesia.

Andi Subagio of SASO Architecture Studio presented the project “School Hub” with which he and his team won a LafargeHolcim Awards Next Generation prize 2017. The project provides a building for teaching and learning, and also improves the quality of life for the community by offering a hub and connection point.

...to Brazil...
“The international recognition of the LafargeHolcim Awards has motivated us keep on fighting to make our project become a reality,” said Sol Camacho and Jonathan Franklin as they received their finalist certificate from Juliana Adrigueto and Bruna Mattos, representing LafargeHolcim in Brazil. The design for a mixed-use civic hub with durable, low-maintenance architecture and long-term financing in the neighborhood of Paraisópolis in São Paulo, Brazil, had received the Awards Silver for Latin America in 2017. “Community Capital” in Brazil will turn a large part of a centrally located 7,000 square-meter plot into desperately needed public space. The underlying idea is as simple as it is sustainable. The retail space will generate rental income and bring goods into the informal neighborhood that is home to the more than 100,000 inhabitants of Paraisópolis, the rest of the spaces will be open to the public.

...to Singapore
Sim Choon Heok and Richard Hassall of WOHA architects in Singapore received a finalist certificate for “Floating University”, on behalf of Mun Summ Wong, main author of the project. The Bronze Awards Asia Pacific 2017 winning design for BRAC University’s new campus in Dhaka, Bangladesh, remediates a neglected area that has become a heavily polluted sewage dump, and opens it back up to residents of the city. The approach allows both the university and the public to inhabit the site. The low-tech design of the 13-storey university campus for 10,000 students rises above a drainage basin that is to become a healthy, remediated lake.
The first LafargeHolcim Research in Practice Grant (RPG) recipients were announced in Mexico City. Three project teams each received a two-year LafargeHolcim Research in Practice Grant of USD 75,000 based on the evaluation of their project by the Academic Committee (AC) of the LafargeHolcim Foundation. The core aim of the RPG program is to mentor and financially support emerging professionals to conduct leading edge, practice-related research in the field of sustainable construction. The grants are a vital support for developing the knowledge needed to proactively meet the challenges facing the materials industry and the built environment.

A grant was conferred upon Heidi Boulanger, University of Pretoria (South Africa), to pursue her research on integrating production facilities for construction material into rural communities, creating new urban nodes. Stefano Romagnoli, Juan Cruz Serafini, and Tomás Pont, Universidad Nacional de Córdoba (Argentina), will use their grant to advance an infrastructure-landscape project for the generation of electric power by harnessing tidal currents. Nada Nafeh, American University in Cairo (Egypt), will further develop an approach to improve living conditions in informal settlements; her vision has the potential to transform architecture from the “design of products” to the “design of processes.”

The grant recipients must regularly present the progress of their research to the AC. The first intermediate evaluation will take place at the 6th International LafargeHolcim Forum (see back cover).
The Board of the LafargeHolcim Foundation at Casa Luis Barragán in Mexico City (l-r): Stuart Smith (United Kingdom); Jens Diebold (Switzerland); Maria Atkinson (Australia); Harry Gugger (Switzerland); Enrique Norten (Mexico); Marilyne Andersen, Marc Angélil, Roland Köhler (all Switzerland). Not pictured are Alejandro Aravena (Chile), Jan Jenisch (Switzerland), and Brinda Somaya (India).

Board of the Foundation inspired by Casa Luis Barragán

The members of the Board of the LafargeHolcim Foundation met in Mexico City so their meeting would coincide with the Awards Lab and the Global Awards hand-over in the city. Enrique Norten hosted his fellow Board members and invited them to visit the Luis Barragán House and Studio (Casa Luis Barragán), a UNESCO World Heritage site since 2004.

Barragán (1902-1988) was an internationally renowned Mexican architect and engineer. His work influenced contemporary architecture visually and conceptually, and is particularly known for its distinctive scheme of colors that are inspired by Mexican artisanal tradition. The Board was photographed on the enclosed roof garden.

Casa Luis Barragán was built in 1948 and represents one of the most internationally transcendent works of contemporary architecture. It is said to be a masterpiece in the development of the modern movement that merges traditional and vernacular elements, as well as diverse philosophical and artistic currents throughout time, into a new synthesis. Luis Barragán’s influence on global architecture continues to grow; and his house, faithfully kept just the way it was when inhabited by its designer, is one of the most visited sites in Mexico City by architects and art connoisseurs from around the world.

The museum includes Barragán’s residence and studio, and is property of the Government of Jalisco and the Fundación de Arquitectura Tapatía Luis Barragán.
Sustainable infrastructure as prerequisite for unmanned air cargo transportation

Droneport hubs to unlock the lower skies for mobility and development in Africa

The impressive vaulted Droneport prototype of low-carbon compressed earth and cement Durabric developed by LafargeHolcim is welcoming visitors at the north entrance to the Arsenale in Venice since 2016. It was initiated by Jonathan Ledgard and designed by Lord Norman Foster.
Eight kilos of payload would be ideal,” explained Jonathan Ledgard, initiator of the Droneport concept for unmanned air cargo at the first-ever international symposium on drones and their possibilities in Africa. The (European) drone companies participating in the Lake Victoria Challenge (LVC) in Mwanza, Tanzania, demonstrated that drones are low-cost, fast, futuristic and multifunctional — but still restricted to a payload of about one kilo. This limitation is set to rapidly transform to an industrial scale against the backdrop of Droneport hubs being built in Eastern Africa. The World Bank estimates the global demand for drone infrastructure will surpass USD 130 billion in the near future.

The LafargeHolcim Foundation for Sustainable Construction is linked to the initial Droneport concept since Jonathan Ledgard and architect Lord Norman Foster presented a prototype shell suitable to serve as “the smallest airport in the world” (Ledgard) at the 15th International Biennale of Architecture in Venice. Commissioned by the LafargeHolcim Foundation, the LafargeHolcim Research Center in Lyon (LCR) developed customized compressed Durabric earth tiles to build the self-supporting structure engineered by OBD and Block Research Group at the
Swiss Federal Institute of Technology (ETH Zurich). The Biennale concluded with a panel discussion organized by the Foundation including its Board member Alejandro Aravena, curator of the Biennale 2016, and Jonathan Ledgard.

**Encouraging first experiences in East Africa**

Sustainable construction across environmental, social and economic areas is at the heart of the Droneport concept. The approach leapfrogs transport infrastructure development in rural areas of Africa where access can be challenging, time consuming and sometimes dangerous. Durabric and other locally produced building materials of LafargeHolcim and 14Trees are well suited to meet the demands of the infrastructure hubs for drones to be constructed in Eastern Africa and beyond.

Based on UNICEF-driven drone testing in Malawi, the LVC conference enabled some 150 attendees to take a glimpse into the future. The advantages of air-borne logistics are multi-faceted: medical cargo can be flown from local clinics via the closest hub in time to save lives, crop samples can be returned from rural areas to be analyzed in the nearest city. The operational range of drones currently extends as far as 100 kilometers one way, the possibilities for goods to be transported stretch from emergency deliveries for health care and mechanical repairs to official documents, blood samples or cash in exchange for goods. Drone tests including traditional drone flights for mapping, search and rescue support are successfully taking place in Burundi, Namibia, Rwanda and Tanzania.

**Social and environmental impact of Droneports**

The hubs to receive the drones in remote areas are not single Droneport objects, but describe a place to be developed alongside the introduction of unmanned air-borne transportation. It must include means to produce solar electric power which is needed to fuel the batteries of the drones and could enable additional innovative approaches such as digital manufacturing labs. These could print urgently required (spare) parts in real-time and at a fraction of the cost of traditional import, such as connection pieces for water irrigation systems or pumping equipment. Droneports will create the need for enhanced education and skilled jobs such as drone pilots or digital lab operators – increasing productivity and the social and economic impact of the civic Droneport hubs. They could include sanitation facilities, medical care centers, repair workshops, market spaces and in any case offer lighting, shelter and public spaces and are to be built with locally available materials by locally trained artisans and cause the lowest possible carbon footprint over their lifetime.

**Opportunity to realize future-driven construction projects**

Jonathan Ledgard is convinced that Africa will pioneer the fourth industrial revolution by making use of digital fabrication and robotics in daily applications. “Retail will not develop here like in the rest of the world,” he said. Many goods will not be available in stores, but ordered by mobile phone and delivered by drones using the latest technology and, hence, “bringing the city to the people” whilst reducing the pressure of migration to urban regions. “14 kilos of payload will be a reality in only a few years,” he added optimistically – researchers at the Swiss Federal Institute of Technology (EPFL Lausanne) are already developing cargo drones with a capacity of up to 100 kilograms per flight.

Led by Jonathan Ledgard and Aerial Futures, possible blueprints for functional, sustainable and scalable Droneport infrastructure hubs are being designed. The first hubs are planned to be built for a drone connection between the city of Mwanza and Juma Island in Lake Victoria in preparation for the second LVC to take place in mid-2019. In parallel, the outcome of the working groups on drone technology, regulations and flight control are being prepared for this meeting which will again be enabled by the World Bank and supported by numerous international governmental and non-governmental organizations as well as local authorities, to unlock the lower skies as a resource for mobility and development and offer ample opportunities for future-driven infrastructure projects to be realized in Africa.

Text and photos: Edward Schwarz
Civic infrastructure and medical help to improve the lives of people on Juma Island

The inaugural Lake Victoria Challenge (LVC) symposium took place in Mwanza, the second largest city of Tanzania. It is located on the shore of the Lake Victoria basin – the world’s most densely populated rural area with 30 million inhabitants. About 10,000 of this population live on Juma Island, separated from the mainland by a boat trip of several hours using the simple vessels that are available. The island’s income is generated by selling the daily fish catch to brokers who then sell to the markets in the city.

Life, housing, and health care in the villages is very basic and at a subsistence level (images above). Except for rowboats, mobile phones and the odd TV are the only connection to the mainland – powered by car batteries that are charged by improvised solar devices. The first drone connection in the lake region is planned to connect Mwanza with Juma Island and be ready to receive goods in 2019. The Medical Store Department in the city has expressed great interest in having a direct link to exchange medicine and blood samples with the only medical services point on the island.

Jonathan Ledgard and Andrés Ramirez (Aerial Futures) introduced a group of LVC participants to Juma Island and the possible location of a drone receiving hub in the triangle between the medical clinic, playgrounds and the school (image below). Based on earlier field research and the results of the site visit, design is in progress to meet drone and local needs with construction of “specific architectural value,” as Jonathan Ledgard put it. This trial hub is to be operational in time for the second LVC and trigger broad interest to promote the Droneport concept beyond boundaries. A BBC TV crew, a team from The New Yorker magazine, and other media were on site reporting on Jonathan Ledgard and the evolution of his ideas that started in Switzerland when he was director of the Future Africa program at the EPFL Lausanne.
Re-materializing Construction
American University in Cairo, April 4–6, 2019

Marilyne Andersen
Marc Angélil
Christine Binswanger
Philippe Block
Norman Foster
Harry Gugger
Guillaume Habert
Dirk Hebel
Anna Heringer
Laila Iskandar
Mitchell Joachim
Francis Kéré
Anne Lacaton
Karen Scrivener
Werner Sobek
Rolf Soiron
Simon Upton

and 60 further outstanding thinkers, researchers, and policy makers

Seeking radical solutions in the use of building materials