iCon

Humanizing the city

2nd Edition
Humanizing the city

Making people part of our future

Welcome to our second edition of iCon, which stands for ‘innovation in construction.’ We hope you enjoy the magazine and that it fulfills its objectives of knowledge sharing and best practices across our industry, an industry today that faces enormous challenges in the development of the built environment.

This issue is broadly themed on how we can and should ensure our cities are sustainable for the people who live in them, since the majority of Indonesians are now urbanites, an irreversible trend as evident in many other parts of the world.

As sheer pressure mounts on Indonesia’s largest cities, the issues are starkly familiar, from chronic road congestion and the need for more public transport to the intense competition for space. Overcrowding, soaring real estate and rental costs, lack of greenery, air quality, care for pedestrians and the management of waste are issues, but also opportunities. We believe there is plenty of scope if we apply our minds and work together in collaboration to make urban places more human friendly – so that cities and businesses can grow and prosper and indeed our economy depends on it!

Please give us your feedback and comments – all part of the process of making the next iCon better as we seek continuous improvement.

Nina Melisa
Branding and Innovation Head

The iCon Editorial Team

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iCon, 2nd Edition
Cityscapes are for people

Iwan Prijanto, Chairman of IABHI (Ikatan Bangunan Hijau Indonesia/ the Indonesian Institute of Green Building), draws on a professional background in architecture and master planning. Formerly heading the Planning and Business development division of PT Mass Rapid Transit Jakarta, he is a co-founder of the Green Building Council of Indonesia and a regular lecturer, speaker and authority on sustainable city development. He argues passionately for city environments and facilities that enhance the lives of citizens.

A more human city

Iwan Prijanto, sees a great opportunity to radically change the prevailing mindset in city and transport planning. As one of several expert guest speakers at a recent workshop with Dinas Bina Marga to make Jakarta a more ‘human’ city, he suggested the most important ingredient has been overlooked – the user. Iwan harbours a dream for a people-centred city and not an inefficient, costly sprawl, lacking control and direction, overwhelmed by sheer pressure of numbers.

Iwan contends the actors involved are missing the big picture, “Their minds are focused elsewhere” he says. The transport authorities predictably concentrate solely on how to develop mass transit systems to specific capacities. That translates to carrying as many passengers as possible, as efficiently as possible, for the lowest development and operating costs. The mindset of the engineer is to deliver a construction project to budget and on time, but with little consideration for the wider surrounding context. And the developer is focused on optimising return on capital invested versus...
the utility of the space available. What’s missing is the realization that at either end of the journey, a passenger becomes a pedestrian – and a human being.

Former executive at Jakarta’s MRT corporation, Iwan has been involved in promoting Transit oriented development (TOD) since 2008. This focuses on land use around a transit station or corridor, characterized by pedestrian orientation and typically extending to a radius of five to seven minutes walking time. It gives people more choice in transportation, involves high quality design and a mix of land uses with reduced parking space. The rationale is driven by increased demand for environmentally friendly neighbourhoods and answers to the problems of growing traffic congestion and higher energy costs. Iwan maintains, “the sprawl outwards to ever-larger suburbs with longer daily commutes is simply unsustainable”. Time lost in travelling and energy consumed is both uneconomic and a drain on productivity, placing Jakarta – indeed Indonesia – at a competitive disadvantage. Cities such as Hong Kong, Amsterdam and Munich have demonstrated the effectiveness of TOD in creating thriving city centres with a higher quality of life.

Creating ‘people’ places

‘TODs’ are destinations and places in themselves, the interchanges of several types of transport, with drop off areas for taxis or ojek services, the confluence of light rail, busway and the underground MRT station. They include key public buildings, retail and entertainment space and open areas for citizens to meet, share a coffee, a lunch break or dinner. And ultimately of course they are a link to nearby high-rise homes whose occupants need never own a car, because they can walk, ride the subway or busway to work, to school, university, even the airport.

A broader perspective needed

If the solution requires a change of mindset among the actors involved, equally important is the need to take a holistic view. Currently transportation authorities are, by necessity, restricted to fulfilling transport budget utilization. A broader approach to planning and budgeting is needed, to accommodate the complexity, scale and level of investment required for modern concepts such as ‘transit hubs’ and ‘place making’ within the urban context. Iwan observes that countries from Cambodia to...
Lifting the commuter’s burden

Spending several hours a day getting to and from the workplace is a drain on productive and useful lives. Time lost, never regained. Apart from this it is costly, driving up fuel consumption in traffic jams, while idling engines over long journeys pump out significantly more CO$_2$ contributing to global warming and damaging air quality for city dwellers. Mass transit systems are still a far off dream for most Jakarta commuters but, among delayed public transport plans, TransJakarta’s busway is in fact a reality. Holcim Indonesia has become a part of the success story in recent times by winning city contracts to repair and resurface bus-lanes by application of Holcim’s SpeedCrete™ solution, an early-strength and high performance concrete product which hardens within a few hours of application. The short setting time allows repair work to be accomplished overnight, while the use of specialized equipment provides a smooth and even camber. It’s a combination that significantly reduces traffic congestion, provides a comfortable ride for passengers and contributes to reducing long term wear and tear on the buses themselves.

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Mobility and space

Jakarta’s traffic issues reflect not only the 1,000 new vehicles registered every day in Indonesia, but the relatively small area of space devoted to road networks – just 6% versus other major cities in the region and beyond.

Making best use of the available surface and underground space gives the city a unique opportunity in the next few years. These range from expanding TransJakarta busway capacity and newly-regulated mobile application based public transport operators in motorbikes and cars today, to improvements in light rail and the first 13 station underground line from Lebak Bulus to Hotel Indonesia, as part of Jakarta’s IDR 23 trillion MRT system due in 2019.

For more information please contact: www.iabhi.or.id iwan.prijanto@gmail.com
Governor of Jakarta, Basuki Tjahaja Purnama (Ahok) is fiercely proud of his city and ambitious to see it become recognized as capable of providing visitors and citizens alike, a modern, well-connected and pedestrian-friendly environment. One obvious area for improvement is in the city’s sidewalks. Early in 2016 the Governor was on hand with Yusmada Faizal, Head of Dinas Bina Marga (the City Highways Agency) to officially open a workshop for the city’s planning officials, exploring ideas to make the capital more pedestrian friendly.

Providing expertise and insight on the day were the Urban Guerilla group of designers (see ‘The story of UGG’), IABHI, the Indonesian Institute of Green Building professionals and a team from PT Holcim Indonesia. Sandy Harsanto from Holcim noted, “The concept of a city focused on pedestrians rather than vehicles requires collaborative, innovative thinking through exposure to some outside influences and knowledge”. Holcim’s innovative solutions - including SpeedCrete road repairs and ThruCrete, free draining concrete pavement to prevent surface water - were practical applications to help stimulate creative ideas in the workshop groups.

Eminent guest speakers included Iwan Prijanto, former MRT executive, representing IABHI, and Sofian Sibarani, a leading designer with a major multinational consultancy in Jakarta. Both shared case studies from leading cities overseas to demonstrate successful outcomes from a change in perspective towards pedestrians, as well as best practices in applying contextual design.

Workshop participants were divided into groups to examine and develop ideas for improving the pedestrian experience in the Tanah Abang sub-district of the city, exploring strategies to improve connectivity to surrounding districts including Kebon Sirih, Slipi and as far as Taman Anggrek. Tools and map overlays were supplied for conceptualization and problem solving and a series of formal keynote presentations emerged, using effective sectional...
diagrams. The core task under discussion was how to encourage pedestrians by providing wide, more pleasant sidewalks offering green shade and good lighting at night. There were other issues to address: to persuade building owners to open up their frontages giving more room for pedestrian access and underground space for cabling and other utilities. Room for permanent public bus stops, safe segregation from motorcycle traffic and dedicated places for vendors also helped avoid sidewalk overcrowding.

Pak Yusmada noted the workshop had been a good start and after collating the ideas, the real challenge was to turn them into executable plans within an overall framework for improving pedestrian access around the city. Governor Ahok described his enthusiasm for the positive energy and change being shown at the workshop, noting the technical capability and funding was available, and that everyone involved needed to sustain the desire for change.

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ThruCrete: part of the pedestrian solution

One of the short talks at the workshop was to introduce ThruCrete a pervious yet strong concrete paving solution that allows rainwater to pass through, keeping pedestrian sidewalks flood free and ultimately recharging Jakarta’s water table.

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Since 2004 the region has seen the development of green building councils in several countries, including Indonesia, Malaysia and Singapore, with related activities in green building codes among other regional capitals.

Indonesia’s Green Building Council (GBCI) established since 2009, is affiliated with the World Green Building Council with Holcim Indonesia as one of the founding members. ‘Greenship’ is the name given to the green building tool developed by GBCI. It is appropriate for both local conditions and international standards and subject to review and refinement to ensure it remains rigorous and market relevant.

GBCI has certified some 200 buildings already and recently the rating concept has been extended to encompass areas of the city, beyond single buildings. This is known as the Greenship Neighborhood standard and it can be applied to areas and developments already in existence or nearing completion, as well as those still in the planning and design phase. Rating tools cover new as well as existing buildings, the type of development, and interiors. A total of 46 different criteria are measured in order to qualify for the standard and, whether renovated or new, all building projects must be integrated with the existing area.

### Greenship NH Criteria

The Greenship Neighborhood standard addresses the importance of energy and water, an assessment of ecological and environmental conditions in respect of community health, how to minimize development impacts, the provision of access to safe pedestrian paths, movement and connectivity, waste management and enhancements that protect and improve living conditions and livelihoods.

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**Collaborative solutions**

The efforts of multiple stakeholders have been crucial in establishing the collaborative and responsible approach that underpins the success of GBCI’s rating tools. Its Technical Advisory Group (TAG) draws on multidisciplinary expertise for developing rating criteria. "As one among many GBCI stakeholders Holcim has played a specific role in this process," says Sasha Media. "We provide value added solutions relevant to Greenship rating tools and appropriate to the challenges of dynamic change in sustainable urban development. Examples include an Indoor Climate Solution thermally active concrete cooling system, SpeedCrete™ road repairs and ThruCrete™ for sidewalk paving and water conservation."
iCon caught up recently with Pak Djoko Kirmanto, former Minister of Public Works for his views on the status of green building development. With global population headed for 9 billion in another 30 years he has concerns that mankind’s ecological footprint is reaching a point beyond which there are doubts about the capacity of the earth to sustain it. Pak Kirmanto suggests society has to think green in every aspect. For example, green space in the capital at just 10% of the city land area should be extended to 30%. He believes there is a commitment to green building, Government having embraced the green city concept, attaining certification under platinum green standards and already having a regulatory policy framework in place. Projects occupying land in excess of 5,000 square metres are obligated to demonstrate conservation of energy, water and resources through their design, build and operation.

In Djoko’s eyes stronger participation was needed across both public and private sectors to embrace green building codes.
In celebration of its 489th birthday in June, Jakarta is recognizing those who inspired us in the past and the aspirations of generations to come through the establishment of Taman Pandang Istana.

On a semicircular site occupying 1,000 square metres of parkland in the north-west corner of Monas, Central Jakarta, TPI features landscaping, trees and plants among some interesting architectural features. It is a place for conversation and contemplation, as well as debate. Large blocks spell out, ‘Berbeda, tapi satu’ (We are different, but we are also one). Visitors can view the sayings of famous Indonesians past including Muhammad Hatta on the freedom of reading, Gus Dur on pluralism, YB Mangunwijaya on homeland, the heart and love and Hamka who never underestimated a brilliant mind.

The team representing Jakarta Parks and Cemeteries, see the park project as a collaboration between the Provincial Government of Jakarta and the private sector, including Holcim Indonesia and other leading companies. Together they share the ideal of creating public space for citizens to enjoy, to seek exchange and to express their aspirations. During the day citizens and visitors can enjoy the shade and the exhibits. At night the park, its aphorisms and anatomy will be illuminated with bright lights.

TPI is very much a human space – a universal playground appealing to both young and adult, to the proud citizen and the curious visitor. As such it also celebrates a shared tradition among leading cities worldwide as a place of free speech, a speaker’s corner (see inset next page).

For the team at Jakarta Parks and Cemeteries who manage 2,000 parks across the city, TPI is also part of a bigger vision to create quality recreational space for the citizens of the capital city. A JP&C member sums up TPI succinctly, “It’s a place where differences are respected and diversity is recognized as the wealth of our society.”

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When art meets concrete

TPI is a place for every citizen to share aspirations and ideas creatively, as a token of appreciation for art, design, and cultural diversity. It is a public collaboration space to celebrate ‘Unity in Diversity’. The Exhibitors include:

- **Holcim ThruCrete** – an environmentally responsible approach to sustaining the city. Porous concrete pavement reduces the risk of surface water and flooding in the city. It also serves to maintain the groundwater levels for city inhabitants.

- **Holcim EzyfloCrete** – demonstrates the flexibility required for high-rise buildings and complex infrastructure solutions. Cities of the future will rely increasingly on building upwards to accommodate more demand for homes and office space. EzyfloCrete is effective construction material suited to high rise structures as it is easier than standard concretes to pump up to 70 storeys. EzyfloCrete is ideal for usage in highly reinforced structures and complex formwork.

- **Holcim Mortar** – an instant mix solution, the Holcim range of mortar products provides instant results which harden to high strength, yet subtle wall finishes with minimal risk of fractures.

- **Holcim Colored Concrete solutions** add life and a sense of creativity in the look and feel of public spaces and recreational areas.

- **Conwood** decorative products are made from 70% to 30% cement and cellulose fibers that offer a sustainable, environmentally friendly, fire and termite resistant wall and floor applications, without consuming native timber.

**Freedom of Expression at Jakarta’s Speakers Corner**

Today, leading cities across all continents celebrate the right to an opinion, and a place to give it. London’s Speakers Corner began at Hyde Park in 1866, with public meetings of the Reform League demanding the right of every citizen to vote. By 1872, an act of parliament set aside this corner for public speaking and the many famous opinions that followed, from Karl Marx and Vladimir Lenin to author George Orwell. It is still active every Sunday – just 5 minutes walk from the Indonesian Embassy. In 2016 Jakarta joins this tradition shared by many other great cities including Sydney since 1878, Singapore’s Hong Lim Park in the 1950s, KL’s Padang Kota Lama since 2010. And this year Lucknow’s Janeshwar Mishra Park also joins this distinguished club.

**Collaborators:** the Provincial Government of DKI Jakarta, Holcim Indonesia and CARAS - the organization supporting public open space for the arts, creative activities and open space for the community.
Community driven solutions

The story of UGG

The Urban Guerilla Group is a voluntary community of designers, planners and architects. It is a movement of young professionals, dedicated to research, observation, critique and design on a variety of subjects relating to urbanism. The goal is to provide innovative yet practical solutions through interactive methods that engage communities, academia, and practitioners, combining the theoretical with practical applications in urban design. In addressing their concerns about city environments they are willing to take time out from busy careers to stimulate change and have already accomplished an impressive track record of projects in Bandung, Solo, Surabaya as well as the capital city.

In Bandung UGG hosted a workshop involving students, planners and architects to develop ideas for more accessible and lively streets without compromising the arterial function of key roads. In Surabaya they completed a study assessing water sensitivity for an urban park near the Kalimas river. Rolling up their sleeves for soil sampling UGG members also shared their experience with a landscape team from the park on how best to improve water retention and since the workshop have continued to monitor progress. A similar exercise has been conducted for the Ciliwung river, Jakarta, drawing on project experience from the establishment of a 7 kilometre promenade project on the banks of the River Klang in Kuala Lumpur, Malaysia. In Solo, UGG conducted a workshop for an elementary school on how to protect and maintain the historical heritage of this ancient city. The team gave third and fourth graders some planning tools to help them express their ideas for a better access to and the improvement of the urban environment, as well as going together on a city tour to promote better understanding on the importance of protecting the heritage of this historic city.

LOCATION: SURABAYA

‘Let’s create a better city life together’
With such productivity, it is hardly surprising that megacities such as Jakarta are also super producers of waste in solid, liquid and gaseous form – from municipal waste to the industrial type. And to see the impact one only has to visit the vast landfill site of Bantar Gebang in Bekasi, which receives most the waste generated by the inhabitants of our capital city. There are a range of sobering issues to consider, from finding the space to handle this waste to a range of studies indicating health issues for waste pickers and communities living nearby. The latest study, from Italy, points to toxic air borne pollutants from landfill sites as raising the risk of developing lung cancer by 34 per cent, and increasing the risk of hospital admissions by five per cent for those living 5 kilometres or nearer to waste dumps.

More positively there are plenty solutions at source for example the elimination of plastic shopping bag use. In 22 cities including large parts of Jakarta the policy of charging customers for plastic bags, according the Ministry of the Environment, has reduced usage by as much as 30% since the scheme was launched early in 2016. The sorting of household and commercial waste is another: to recover and recycle as much as possible, and a third solution is to use waste as fuel to create power. But there is still one step that is literally even more constructive - to capture not only energy otherwise ‘lost’ in a landfill but also utility – by using waste as an alternative component in the cement manufacturing process.

The Geocycle team at Holcim are specialists in managing waste from a wide variety of sources and provide a complete end to end service from surveying waste situations to prescribing customer site solutions, handling government permits, removing, transporting, pre and co-processing the waste and, as a final step, providing customers with a certificate of treatment.

The worlds 35 mega cities - Jakarta included among the top 3 with over 31.5 million in the metropolitan area - are dominant not only in demography but in economic terms, contributing in many cases as much as one third of national GDP.
In our increasingly consumptive societies the increase in consumer and industrial waste is becoming a financial burden – as high as 15% of a city’s annual budget plus the cost of establishing and operating landfills. Channelling even a portion of these waste streams into the manufacture of cement for affordable homes and better roads would help address the city’s burden.

Other costs are more visible, such as Jakarta’s garbage-blocked waterways and the ensuing costly flooding of low-lying neighbourhoods each rainy season. Not least is the cost to human health and the contribution of GHG – not just CO₂ but the much more harmful methane that emanates from landfills.
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PHOTO: COURTESY OF FAJAR PAPER
Worn out and weather damaged railway crossings can be a big problem. They slow traffic and cause delays. Even worse, their very presence is disputed: to preserve the integrity of rail, ideally there should be flyovers or underpasses at every intersection. However, in reality, they are practical and hundreds of crossings, both registered and unregistered are being used daily. The actual crossing area is owned by Transportation Ministry, while the land either side belongs to the Government of DKI Jakarta, and of course rail service maintenance falls under KAI (Kereta Api Indonesia).

The Holcim Beton team rose to this multi-dimensional challenge. They designed a concept and presented it to the Transportation Ministry. Holcim Beton engaged Prof. Iswandi from ITB and with feedback from KAI the design was refined using concrete panels.

A pilot project was agreed within routine KAI maintenance work, Holcim Beton to be in action from 12am to 5am each night. Managing a few surprises on site, the team persevered, sustained their commitment to high safety standards at all installations and achieved excellent results. KAI and Bina Marga management were happy with the speed and accuracy of Holcim’s installations and the operable results, including the ability to easily lift concrete panels for essential track maintenance. This avoided the costly exercise of having to demolish and re-lay expensive asphalt. Moreover, using concrete gives a more durable surface for a longer life under heavy traffic. A rival supplier was only able to the job if the track had been closed for 3 days, a logistics nightmare. Holcim, in contrast, was able to upgrade every crossing in a matter of hours. TraCrete is now included in the city’s e-catalogue – meaning the Jakarta authorities have a fast solution available virtually on demand to keep traffic flowing at crossings all over the city, and whenever needed.

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In line with a growing interest in the game, golf course developments around city perimeters are growing. As they constitute change in land use, it is vital that they are properly drained using a base of aggregates. Undulations and depressions forming part of the course terrain can easily become waterlogged after heavy rain. Use of quality drainage 6mm gravel aggregate across a typical 50 hectare course is ideal within 100mm of the surface, topped with sand.

For more information please contact: joan@lafargeholcim.com
The 5th International LafargeHolcim Forum

Franciscus Supartono, CEO of Partono Fondas Engineering Consultant and Etienne Turpin, Co-Director of Peta Jakarta, an applied research project to map flooding and water infrastructure in Jakarta, attended the Forum from Indonesia.

Over a three-day symposium 300 participants from 40 countries examined how to deliver long-term infrastructure that is aligned with sustaining human habitats.

“A critical topic for our future,” was the message from LafargeHolcim global CEO Eric Olsen opening the Forum. “Today our industry is much more aware of the impact that the construction lifecycle can have on individuals, on communities and our environment and on the planet itself.” Eric Olsen shared the LH corporate intent under its 2030 sustainability plan, to reduce CO₂ per ton of cement by 40%, based on 1990 levels and to help customers cut CO₂ by 10 million tons per annum annually using innovative low carbon concrete and cement, thermal mass solutions and insulating products as well as waste derived resources. Other key group objectives were affordable housing and sanitation for 75 million people around the world and to generate a third of business turnover from sustainability enhanced solutions.

Eric focused on global urbanization and global warming. “We must be able to rise to these two great challenges”, he said, “but we can’t do it alone”. He stressed the need for everyone to go beyond our fence-lines, collaborating to unlock opportunities and solve problems. He was proud of the LH Foundation and events such as the Detroit Forum, as platforms for sharing. “It’s only by working together that we can address these challenges”.

Detroit: from insolvent to revenant

Detroit witnessed economic decline and suffered a falling population from 1.8 million in 1950 to 700,000 today. In the biggest municipal bankruptcy in American history, city finances became a $20bn hole through uncontrolled borrowing and poor tax collection. But today the city is a leader in urban regeneration and redefining itself around its people.

For more information please visit: www.lafargeholcimfoundation.org
Detroit, ‘Motor City’ proved a good choice for the Forum: 70 years ago the city sacrificed its public tram system to make way for the car. In the ensuing years from boom times to decline and de-population, it has witnessed dramatic change. Iconic buildings left vacant are now being renovated, filled with investment start-ups, coffee bars and a developing art scene. And 70 years later – they are building a tram system.

Solutions for urban poor: Researcher and designer Julia King presented a decentralised sanitation system in New Delhi, India, significantly improving hygiene and strengthening social cohesion within the local community by involving 1,500 residents throughout the process.

Functional recycling: Michigan Building in Detroit - a shadow of its former self as a 4,000-capacity movie theater is now more effective as a car park.

Feeding our cities: The organic Earthworks Urban Farm, covering 2.5 acres was part of the Detroit mobile workshop exploring infrastructure’s capacity for community-building.

Eric Olsen provided examples: in London how LH supplied the 200-hectare 2012 Olympics Park with ready-mixed concrete and aggregates, through sustainable transport, 90% of material being moved by rail or river barge with extensive use of recycled materials. In India, how LH is providing local masons with training (as is done in Indonesia). And in DuraBric, compressed earth blocks using local soil, cement and water for affordable, weather resistant building blocks. This is technology that minimises natural resource consumption and avoids burning and deforestation to make building materials.

The 5th LafargeHolcim Awards now open for submissions until March 21, 2017

Holcim Indonesia, as part of the LafargeHolcim Group supports the LafargeHolcim Awards a triennial regional and global competition to identify and recognize excellence in sustainable construction. The 4th International Awards attracted more than 6,000 entries, (including 423 from Indonesia) for construction projects and visions in 152 countries on all continents with 62 projects at regional level honoured with Awards, Acknowledgement or Next Generation prizes. In 2015, Global Awards Gold, Silver and Bronze were conferred to projects in Colombia, Sri Lanka and the USA.

Sustainable construction

The construction industry can have a big impact on global sustainability. Over their lifetime, buildings account for nearly 40% of global energy use. LafargeHolcim approaches sustainable construction as meeting present day needs for housing, working environments and infrastructure without compromising the ability of future generations to meet their own needs in times to come. LH seeks to incorporate economic efficiency, environmental performance and social responsibility with close attention to architectural quality, technical innovation and transferability.

Prizes

A total of US$ 2 million in prize money is awarded in every three-year cycle on regional and global levels to innovative projects as well as future oriented concepts of the Next Generation. The competition is in two stages, a regional phase for each of five regions, including Asia Pacific, and the top three winners from each region are judged to find global gold silver and bronze awards. In addition, Holcim Indonesia will stage a local awards competition for the best Indonesian entries.

Find out more about the Awards winning projects at www.lafargeholcim-awards.org

For more information in Indonesia: www.holcim.co.id
How the LafargeHolcim Awards are judged

The LafargeHolcim Foundation has defined “target issues.” The adjudication process assesses all entries from a holistic perspective on this basis:

**Progress – Innovation and transferability**
Projects must demonstrate innovative approaches to sustainable development, pushing the envelope of practice and exploring new disciplinary frontiers.

**People – Ethical standards and social inclusion**
Projects must adhere to the highest ethical standards and promote social inclusion at all stages of construction, from planning and building to community use and servicing.

**Planet – Resource and environmental performance**
Projects must exhibit a sensible use and management of natural resources (including material and energy) throughout their entire life cycle as an integral part of the design philosophy.

**Prosperity – Economic viability and compatibility**
Projects must be economically feasible and able to secure financing while having a positive impact on society and the environment - avoiding wasteful consumption of material resources.

**Place – Contextual and aesthetic impact**
Projects must convey a high standard of architectural quality, with space, form and aesthetic impact of utmost significance for a positive and lasting contribution to the physical, human and cultural environment.

“The LafargeHolcim Awards have become in many ways the standard bearer of the values of sustainability across the globe.”

Mohtasen Mostafavi, USA, Dean of the Graduate School of Design at Harvard University, Head of the Global LafargeHolcim Awards jury 2015.

5th International LafargeHolcim Awards for sustainable construction projects. Prize money totals USD 2 million.

“Competition open till March 21, 2017.”

Renowned technical universities lead the independent juries in five regions of the world. They evaluate projects at an advanced stage of design against the “target issues” for sustainable construction and allocate additional prizes for visionary ideas of young professionals and students. Find out more at www.lafargeholcim-awards.org

The LafargeHolcim Awards is an initiative of the LafargeHolcim Foundation for Sustainable Construction and is supported by LafargeHolcim, the world leader in the building materials industry. The Group has a well-balanced presence in 90 countries and is represented in Indonesia by PT Holcim Indonesia Tbk.