

BACK TO GREEN



Cubesystem

Arch. Rowland Agullana and The Imperative of Sustainable Architecture Ar. Michael John V. Espiritu, ASLA & CREARIS Environmental Design

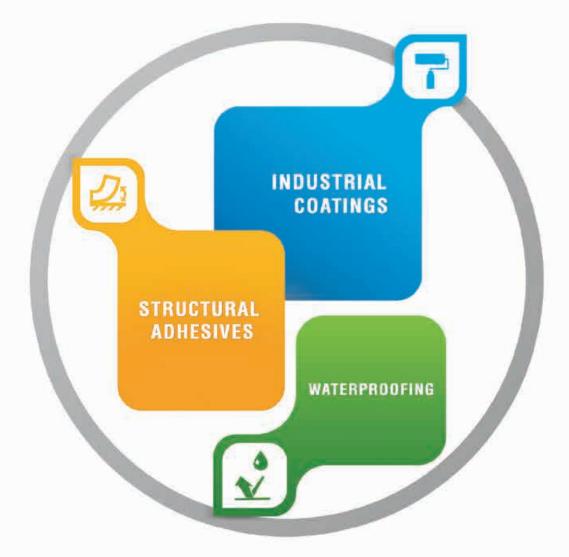
Ultra Violet is Pantone Color of the Year for 2018 WORLDBEX 2018

Italpinas Development Corporation Topcon and Bentley Systems announces Constructioneering Academy

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OFFICIAL ANNOUNCEMENT



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to give way to the 31st ASEAN Summit.

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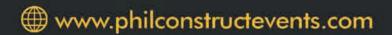














♠ ★ PHILCONSTRUCT EXPO

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Back to Green



You Say You Want A (Green) Revolution

Lush and verdant, these facades invoke memories of ivy crawling and spider-webbing across the sides of your family home. They're a slice of wilderness in the heart of the city, a splash of viridian in the concrete canyons of Makati, Taguig, and Quezon City. You think of sustainable architecture, and this vision immediately comes to mind.

Cover Story

words by John Ravino Duanan



Ar. Michael John V. Espiritu, ASLA and CREARIS Environmental Design

Creating Oasis

How will our cities adapt to rising demand of nature? How can we build places that are more just? It points the way toward creating healthy and productive habitats for modern humans whose features can reduce stress, enhance creativity and clarity of thought, improve our well-being and even expedite healing.

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words by Engr. Emilson C. Gole Cruz



Italpinas Development Corporation

Development of Secondary Cities will be the Future of the Philippines

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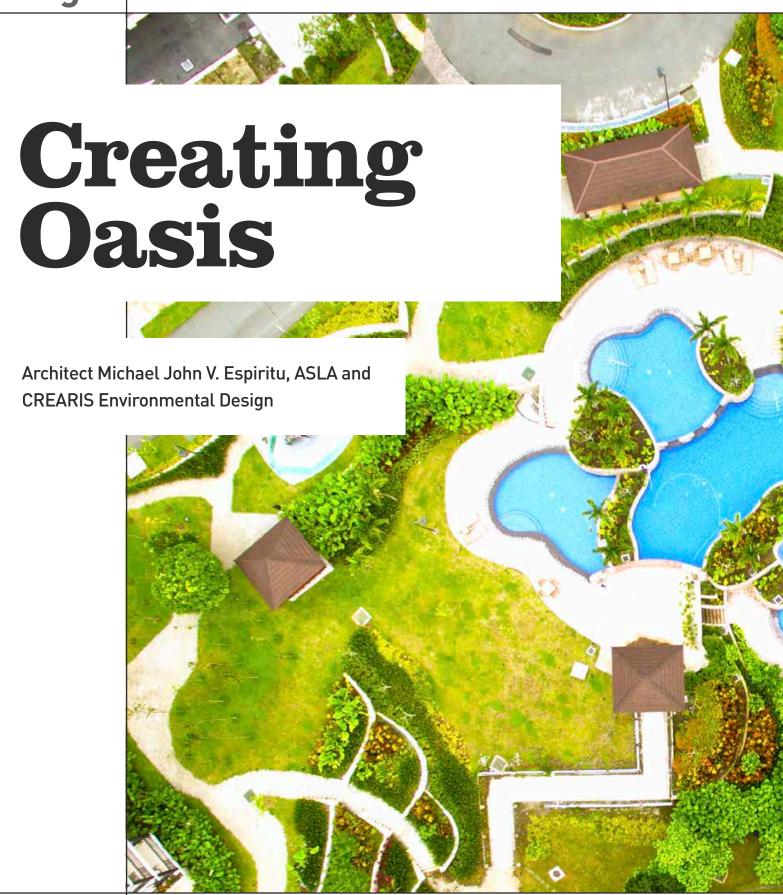


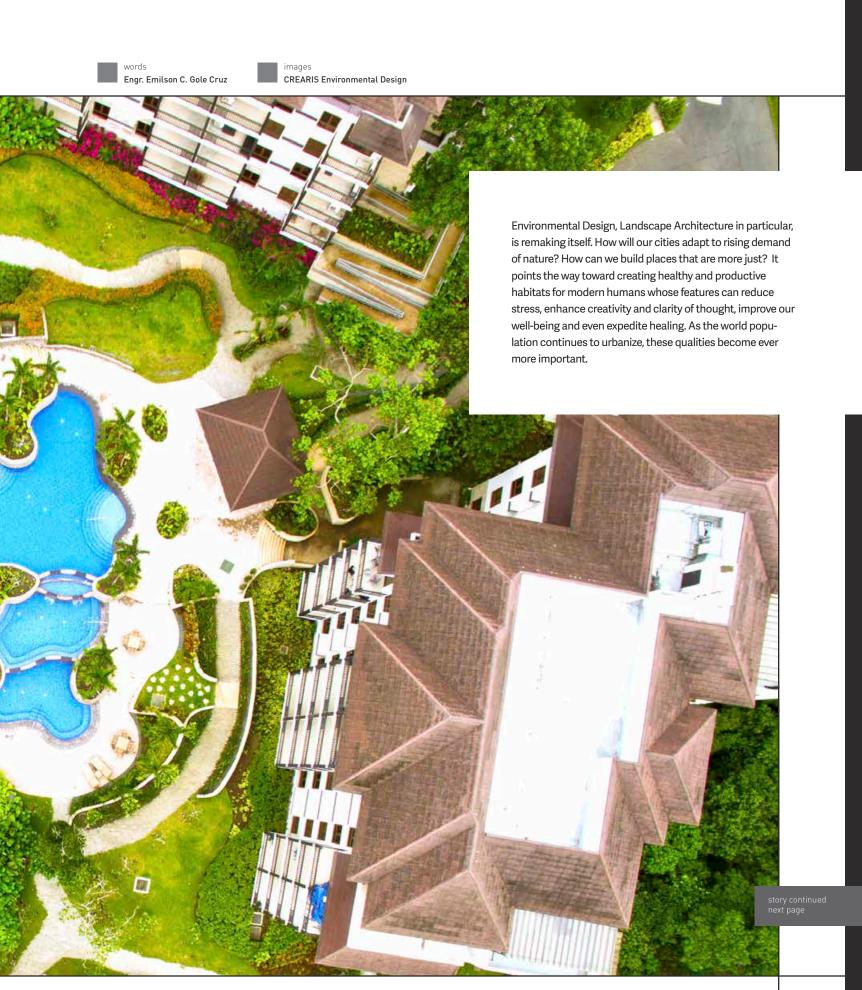






Spotlight





Established in 2009, CRÉARIS is a comprehensive design consultancy firm that covers landscape architecture, master planning, and environmental graphics. A play on the word "créar", which is Spanish for create, its name represents the firm's belief that quality of life can be uplifted through the design and creation of meaningful places. CRÉARIS began its practice at full stride. It has already compiled an impressive collection of projects that ranges from suburban residential communities, high-rise condominiums, and commercial centers.

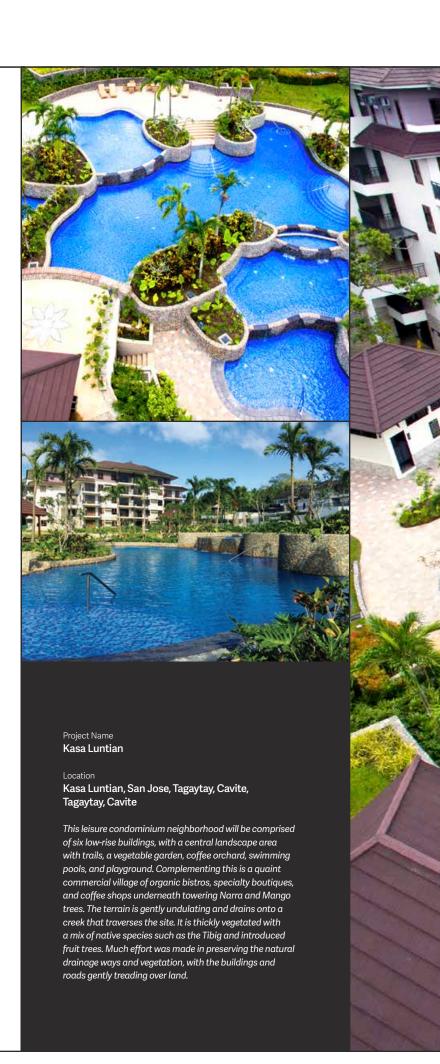
At the core of CRÉARIS' studio is a highly collaborative team of architects, landscape architects, graphic designers, and environmental planners. They tackle each project with the aim of improving the state of our built environments through fresh and innovative solutions with their own process of planning and design – listening and interacting with people, researching and testing new materials, adopting and shaping classic and new ideas to give form to their creations. In addition to valuing creative thinking and professional expertise, CRÉARIS also place a premium on technology, combining knowledge and talent with the latest computer hardware and software specifically tailored to our services.

CRÉARIS continues to disseminate a vision of excellence and to forge relationships with their clients in tandem with sustaining the environment.

Leading the Team

At the helm of CRÉARIS' young and dynamic team is Founder and Managing Director, Michael John V. Espiritu, ASLA. Educated and trained in California and a full member of the American Society of Landscape Architects (ASLA), Michael began his career at the office of the late Emmet L. Wemple while completing his Bachelor of Science degree in Landscape Architecture at Cal Poly Pomona, California where he graduated in 1994. Michael continued his career in Hong Kong, China where his immersion into the Asian culture, combined with his western education and experience enabled him to develop a unique approach in tackling large, complex projects that require both technical expertise and design innovation. Inspired to rediscover his roots, Michael went back to the Philippines and obtained his Master's degree in Urban and Regional Planning at the University of the Philippines, earning the Dean's Medallion and placing first in his class in 2007. Soon after, he topped the licensing board exams for Landscape Architecture.

As Managing Director of CREARIS, Michael brings with him nineteen years of experience and travels, and a passion to help improve the quality of the built environment in the Philippines. He strongly believes in designing in context, using the historical and cultural milieu as his inspiration, and is equally passionate about using sustainable approaches in design.







January - March 2018 Spotlight

Project Name
The Bayleaf Hotel

Muralla St, Intramuros, Manila, Metro M<u>a</u>nila

The LPU Cavite campus, with its distinctive architecture and landscape design has become a landmark in Trece Martirez, Cavite. When seen from above, the siting and configuration of the buildings and open spaces resemble the shape of a bay leaf. TVA&P, the architecture firm who designed the buildings wanted to honor the founding family of LPU by representing their surname, Laurel, and known locally as bay leaf.

How did CREARIS start? What is your overall objective and vision for the company?

Ar. Michael John V. Espiritu: Firstly I wish to thank D+C Magazine for this honor of an interview. It gives me once again the chance to talk about my life long's passion – Landscape Architecture.

"For more than fifteen years of practicing the art & science of landscape Architecture and Planning in different offices, here and abroad, starting my own office seemed a logical path if not a foregone conclusion at a crossroad in my professional life. Against a backdrop of political uncertainties and economic ambiguities but nonetheless brimming with informed confidence of my knowledge and foresight of better times are around the corner, CREARIS was born in 2009.

Then and now, our overall objective and vision, is to help bring an awareness of the power and influence of Landscape Architecture in uplifting the overall quality of human life through functional, creative, and innovative design solutions of the built communities and environment that become truly livable and meaningful.

Approaching nine years since our founding, we continue to be challenged with our founding philosophy which governs each and every project we are fortunate to work on, which hopefully will guide and propel us to become one of the preeminent Landscape Architecture firms in the Philippines and in Southeast Asia."

What is the most significant project that you have been involved with? How about the most challenging project?

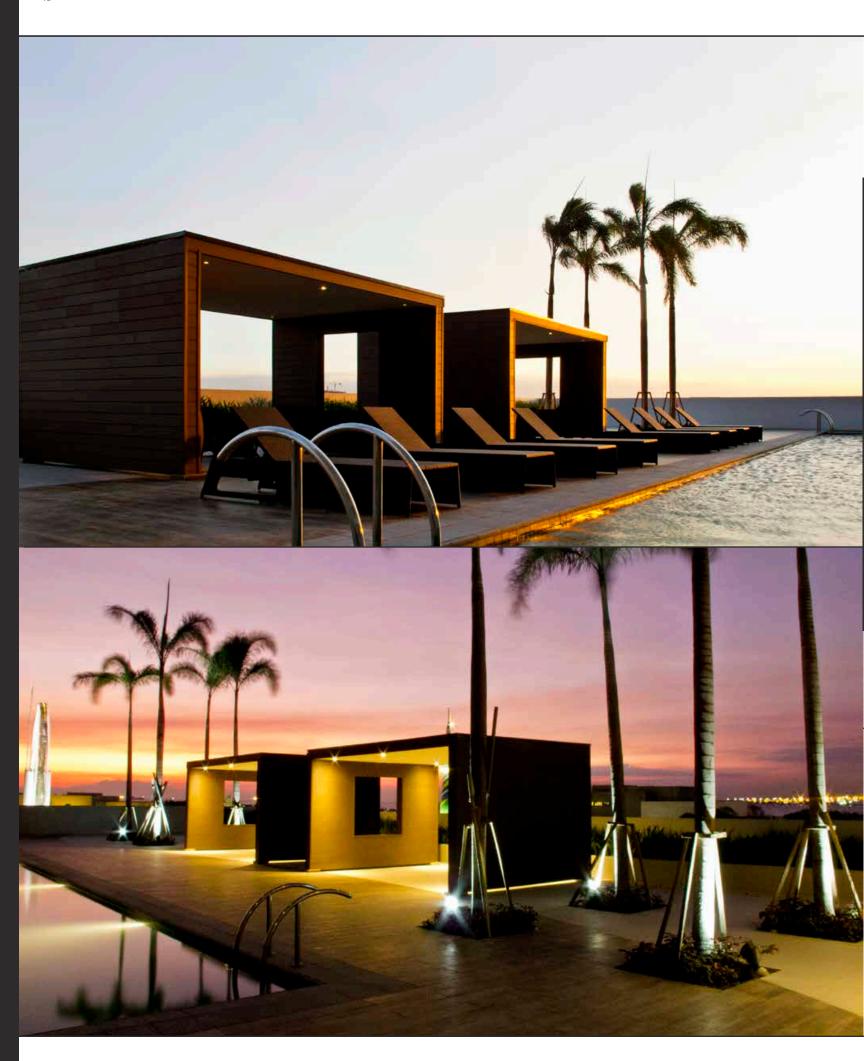
Ar. Espiritu: "All our projects regardless of size, type, or complexity are given equal significance and attention.

Of course there are also projects that stand out because of their size and magnitude. The preliminary Planning for the Metro Manila Bus Rapid Transit and Greenways Project with The Institute of Transportation and Development Policy (ITDP) and the Asian Development Bank (ADB) comes to the fore. CREARIS' role was to assist in the Design of the Bikeway Routes that directly tie in with the BRT system, creating a new intermodal transport network for greater Metro Manila. This project is at once significant and important as a successful implementation, could can finally help solve mitigate our burgeoning traffic woes. In tandem, it will also promote bicycling as a safer transport mode that is healthy, convenient and environmentally friendly. A master planned system of interconnected bicycle lanes throughout greater Metro Manila would be highly desirable and achievable.

As for the most challenging project, it is oftentimes the ones that go beyond our comfort zone as a design firm. It also goes hand in hand with our ability to convey innovative ideas and convince our clients and team of consultants the value of communication and working together as a unit to produce the best and ideal solutions.

Currently we are an integral part of a voluntary multi-disciplinary team working on the redevelopment of a marginalized community in Quezon City. Working together with numerous stakeholders coupled with the fact that we are working with a culturally diverse, densely populated community and with limited funding makes this project an enormous challenge for us all. But by working closely with the design team and the community, we are confident CREARIS can contribute to these challenges."

story continued



Project Name Breeze Residences

Location

6 Service Rd, Pasay, Metro Manila

Breeze Residences is a 37-storey highrise residential tower that offers an unobstructed view of Manila Bay and its world famous sunsets. Located along Roxas Boulevard in Manila, it is a stone's throw away from landmarks such as the World Trade Center, SM Mall of Asia, and the CCP. Conveniently located at the ground floor are commercial establishments that provide for the day to day needs of the residents and guests. At the 8th floor is the amenity landscape with it's three swimming pools that wrap around the residential towers and vanish into the Manila Bay horizon. Play areas and ample outdoor lounges provide spaces for social activities amidst lush tropical landscaping.



Are there any future projects that you are looking forward to?

Ar. Espiritu: "We always look forward to projects that directly tackle our current social and environmental issues. Our dream is to take part in the creation of more public open spaces in our towns and cities and improve the quality of the ones we already have.

We are looking beyond just parks, but also our protected areas, heritage sites of cultural and natural significance, waterfronts, streetscapes, and plazas. As landscape architects, we made an oath to be stewards of land, and working more on these types of projects leads towards this aspiration."

What important factors do you consider in creating your works?

Ar. Espiritu: "Many factors are considered for each project commencing with getting to know the client, his vision, goals, budget, and objectives for the project. His track record, integrity of completing projects, and overall commitment to quality of design and project implementation. In this initial process the client also gets to know us.

An inventory of existing site conditions including environmental, cultural, and social factors for analysis and assessment, defining its opportunities and constraints, are all important determinants.

Based upon the factors above, CREARIS can now commence with alternative planning and design concepts."

Is there any CREARIS trademark feature that you always incorporate in all of your projects?

Ar. Espiritu: "At the start, an open communication with the client and his consulting team followed by a comprehensive analysis and research of all relevant data give CREARIS a strong foundation upon which we create informed alternative solutions. Towards the end this process help CREARIS feature a discernible quality of excellence in design and execution sustained by our objectives of creating functional, innovative, and sustainable projects.

It is not a conscious effort for us to have a trademark feature in all our projects. However, if excellence in our projects is a trademark, then repeat clients have discerned it and also rewarded us new clients."

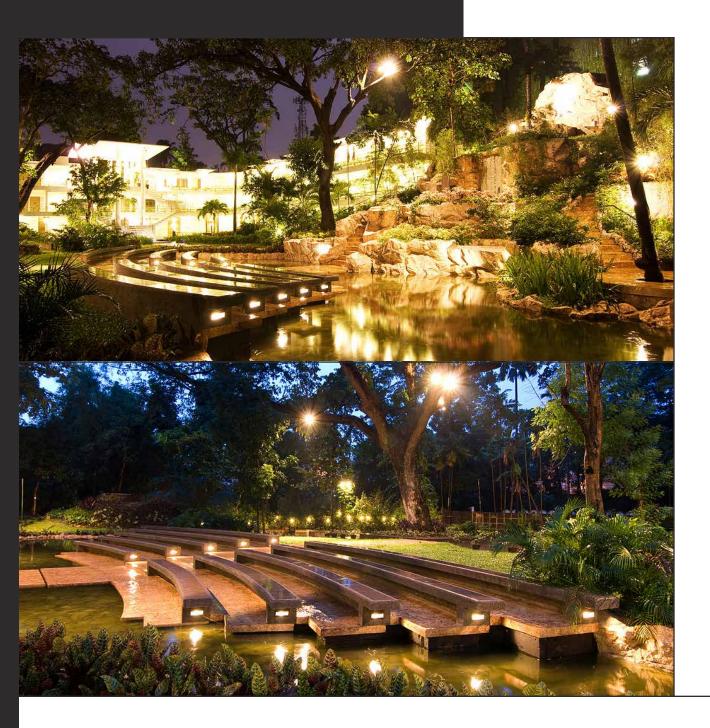
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Project Name

Garden of Divine Word

Location E Rodriguez Sr. Ave, Quezon City, Metro Manila

The Garden of Divine Word is a columbarium development located within the SVD Seminary in Quezon City. It is set within a centuries old garden and cemetery sheltered by majestic narra and rain trees. The chapel, offices, and niches are housed in a three-storey structure along the perimeter of the site, with corridors that open onto the central garden. A statue of the Virgin Mary on an elevated grotto overlooks the site, and is reached through a series of steps within the $\,$ terraced garden. The sound of a spring-fed cascading waterfall further enhances the experience, eventually emptying into the lagoon that surrounds the outdoor $% \left\{ 1\right\} =\left\{ 1\right\} =\left\{$



In Philippine setting, what is most important factor to consider in landscape architecture?

Ar. Espiritu: "The most important is to help educate and disseminate the capability and value of the profession of landscape architecture. Landscape architects have the expertise for creative, functional, and sustainable solutions of our land environment. Our broad education, knowledge, and experience of projects qualify us to be the lead role of consultants among architects, engineers, and planners. While Engineers lead in projects such as water bodies (lakes,rivers, streams), rehabilitation, stormwater management, and streetscape design, Landscape Architects also provide myriad solutions among others, preservation, enhancement, sustainability, aesthetic and functionality components."

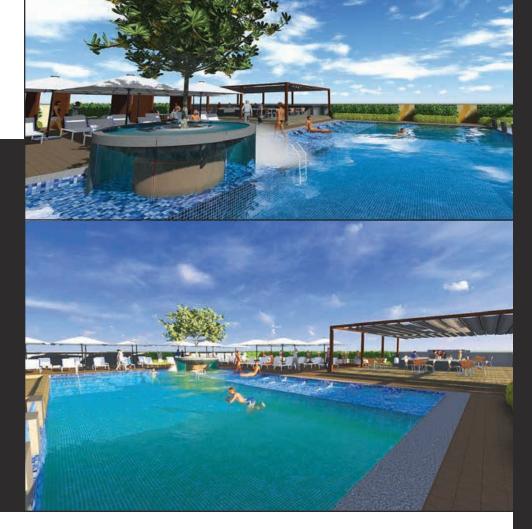
How important is it, in your view, to build green?

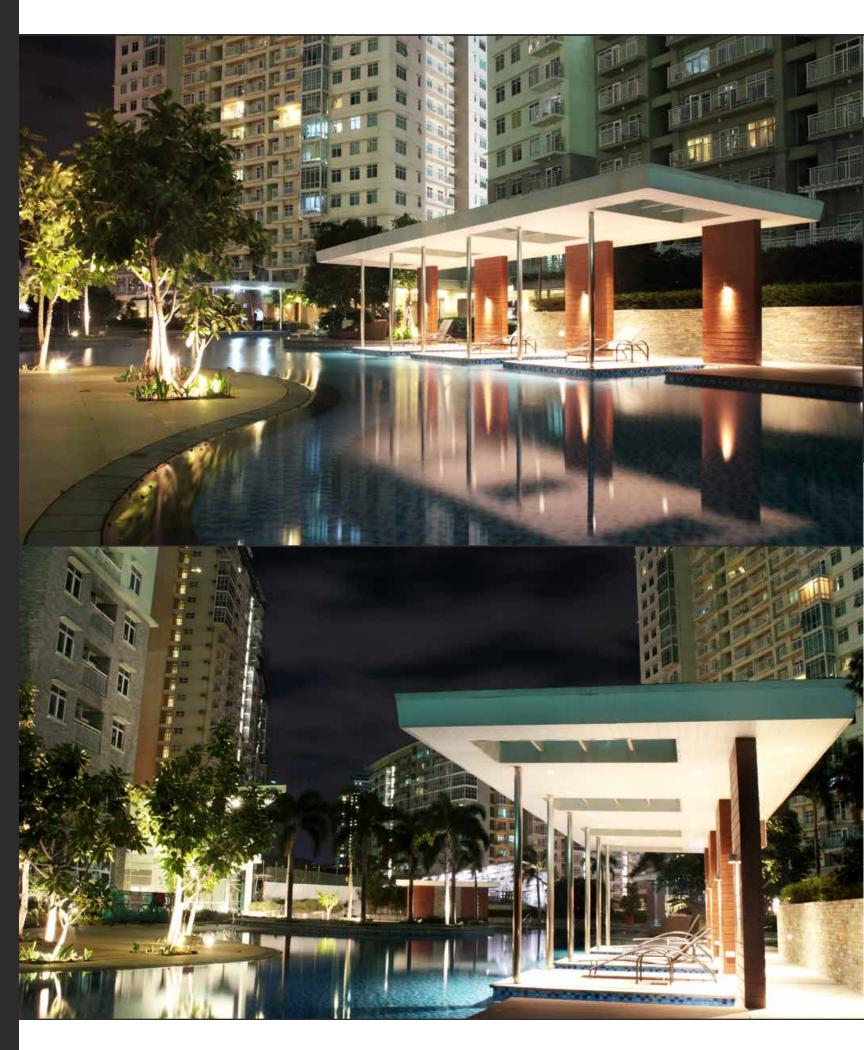
Ar. Espiritu: "Building green, green buildings, and green environments, have been the planning and design buzzwords for the past decades and continue to the present. An increased global awareness in all sectors, has been a boon to sustainable development. However, we have to be mindful of "greenwashing", which is a marketing buzzword as well that coats products or services with misleading green labels. Too, we need not be over-reliant on certifications. There are situations wherein more sustainable solutions are called for, but are overruled because it does not comply or does not earn points with the certification guidelines.

story continued next page



The Marriott Hotel Clark is located within the Widus Hotel and Casino Complex in Clark, Pampanga. It is the third of three hotel towers that complement the casino, and will become part of a larger expansion that includes a new casino wing, a fourth hotel tower, retail center, and a water park. The Marriott brand's goal to create "Places full of light, life, and energy where you can work, play, mix & mingle, and connect & relax" is achieved through amenities and programs designed to provide a balance of relaxation & refreshment with business & recreation making guests desire to stay, hesitate to leave, and want to return again.





Project Name **Two Serendra**

Location 1634, McKinley Pkwy, Taguig, Metro Manila

A development that prides itself with being 60% green, Two Serendra has become the benchmark in residential development within Bonifacio Global City. Four distinctive towers make up Two Serendra, with each having its own lifestyle concept. At the center of everything are the leisure, party, bubbler, and children's pools surrounded by ample decking, pavilions, and lush tropical planting.

Landscape architecture is a green profession and in our opinion, no matter how you look at a particular project's green compliance, it cannot honestly be called green if there is no landscape. Oftentimes the best solution is not to build at all, whether green or not. Leave nature alone and let it take its course – e.g., protecting, preserving and enhancing nature parks and wildlife.

But in today's rapidly increasing global population in a limited land, educating people and slowly but surely implementing a thoughtful green revolution will help mitigate the waste and deterioration of our world."

What piece of advice can you give to those who would like to pursue Landscape Architecture?

Ar. Espiritu: "I wish to be able to speak to an audience of outgoing high school seniors and incoming freshman students at Schools and Universities to talk about a choice that's not readily known.

I would like to tell them all about the art and science of landscape architecture. I will tell them of an exciting relatively new profession in the Philippines which has grown in leaps and bounds in Europe and the US. I will tell them the broad and diverse projects available to landscape architects, the great Landscape Architects, current and past pioneers, their various work, influence and impact to the world. From these gatherings I hope I will be able to generate a great interest for the profession that would lead them to enrol.

story continued next page





Project Name
Venare at Nuvali

Location

Venare, Nuvali, Calamba, Philippines

Epitomizing Nuvali's vision of sustainable living, Venare showcases 27.5 hectares of parks and open spaces that were conceptualized with the latest sustainable principles in mind. Amounting to about 37% of the total land area, Venare's open spaces include a streetscape with generous landscaped verges of walkways and bike lanes, a 2-hectare central park, three satellite parks, and several pocket parks and greenways. Sustainable storm water management was central to the landscape design since the whole of Nuvali is situated within the Laguna Lake watershed that currently has less than 10% tree cover. Ornamental landscapes using indigenous species are complemented with productive orchards of tropical fruit bearing trees. Landscape amenities include a botanical garden, vegetable garden, nursery, and green house. Other outdoor amenities include cascading adult swimming pools, children's pool, soccer field, four play areas, and two basketball courts.

So, now you have decided in landscape architecture. Research the schools and Universities and inquire about their programs and curricula. Seek out landscape architects in practice and in academia including current students who have had at least a couple of years in school. Pick their brains about their studies and the profession. Don't forget a great resource as the internet. Here you can avail of audio-visual presentations and seminars and view outstanding projects all over. I would encourage also taking part in a summer employment.

Pay for your own senior year tuition fees. Your parents will love you dearly for it and you will learn to appreciate the value of your education. Choose your first job carefully because it will heavily influence your career. I believe that after commiting yourself to Landscape architecture, patience, hard work, perseverance, humility and an open mind, the profession will be very rewarding in so many ways.

And yes, eventually return the favor of being a successful landscape architect. Disseminate, teach, practice the profession with a passion. And remember, down the line be a mentor to young landscape architects." D+C



Ideas + Inspiration

words

IDr. Peaches de Guzman-Grey

EASYWAYS TO GOOREEN AT HOME



Greening your home has a lot of financial, health, and environmental benefits. It doesn't require spending a lot of money and getting fancy gadgets. Here are some simple ways on how to have an environmentally responsible home that saves you money, promotes better health, and saves the earth too!



When building your home, go for bamboo flooring as bamboo is the one of the fastest growing plants in the world. It is quicker to replenish than most timber trees used as hardwood flooring.



Strategically place your windows to let more natural light in. It is also best to open your windows to promote cross-ventilation.

Keep your home cool by overhauling your roof. Dark colored roofs soak up heat thus making your home and its surroundings hotter. Better to go for white or reflective roofs, or invest in installing solar panels on your roof.









Save energy by investing in Light-Emitting Diode or LED lighting systems. LED lights consume up to 90% less power, and last up to 25 times longer than incandescent lights. It is the most energy and cost efficient type of light.

In the kitchen, do not let your fridge work double time to keep cool. Place your fridge away from sunlight, and as far away as possible from your oven and stove. It is also advisable to have about 7.6cm space between the fridge and the wall to ensure proper airflow.



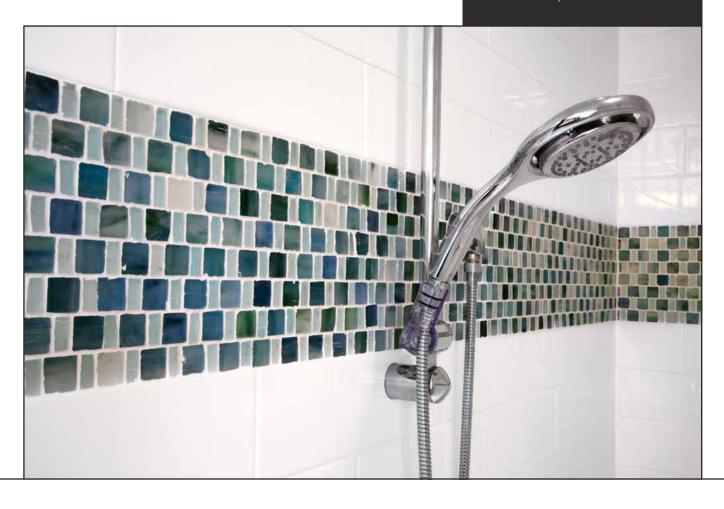


Use low-energy appliances and energy-efficient cookware. Look for "energy star-qualified" appliances as they use about 10%-50% less energy that other models. For your cookware, use glass or ceramic dishes in the oven because they reduce the required cooking temperature, thereby saving more energy.



In the bathroom, turn off the water when not in use. Use a cup for gargling when brushing your teeth, and a cup of warm water to rinse your razor when shaving.

To save on your water consumption, install a low flow water closet, as flushing the toilets accounts for 30% of total indoor water used. A low-flow showerhead will also be helpful as a family of 4 can save as much as 160,000 liters of water annually.





In the bedroom, sleep on organic sheets such as organic cotton, or sustainable bamboo instead of cotton linens.

Cotton linens account for 25% of the world's insecticide

Place indoor plants to improve the quality of air in your home.

These tips may just be small things but they can make a big difference. D+C





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Development of Secondary Cities will be the Future of the Philippines

The future of the Philippines looks rosy as the economy continues its growth, being the fastest not only in the ASEAN region but also in the world. The World Bank has forecast that this will still continue even till 2019, with more than 6% growth every year since 2013. In 2016, growth was 6.8%, even surpassing that of China.





"We are seeing a transformation to a stronger, more developed economy," said Frederic Neumann, co-head of Asian economic research at HSBC Holdings Plc in Hong Kong, based on a report from Bloomberg. "Recent administrations worked hard to ensure macroeconomic stability which serves as its anchor."

The economic resurgence started during the administration of President Benigno Aquino in 2010. Revenues were raised, corruption curbed and the country's first investment grade credit ratings upgrade bagged. With this momentum, the Asian Development Bank has forecast that at the end of this decade, the Philippines will have achieved an upper middle class income economy with the per capita income hitting \$4,126, almost at par with China, Malaysia and Thailand.

This is a highly encouraging development considering that the country has always been labeled as the 'sick man of Asia.' A World Bank study in 2015 on East Asia's changing urban landscape identifies Manila as one of the region's largest and densest megacities. The study identifies the Manila Urban Area as contributing around 50% of the Philippines's gross domestic product. This is an agglomeration of not only Metro Manila but also the urban areas of surrounding provinces that identifies the urban footprint at around 1,300 sq km.

This comes at a cost. The traffic and pollution situation in Metro Manila is horrendous. A Japan International Cooperation Agency study found that Metro Manila is losing as much as 3 billion pesos per day due to traffic. The global firm, Boston Consulting Group, in a recently released study last November found in a survey, sponsored by ride sharing company Uber, that Metro Manila has the third worst traffic in Southeast Asia. This doesn't augur well if the country wants to continue its growth momentum.

Fortunately, while Metro Manila continues to heat up, many of the Philippines's secondary and even tertiary cities are growing fast. The trend now is to develop these cities to mitigate the flow of more migrants and workers from the provinces to Metro Manila. The regional cities of Cebu, Cagayan de Oro and Davao has for some time have become alternative areas of expansion not only for local businesses but multi national as well. The emergence of BPO companies setting shop even in cities like Dumaguete, Iloilo and Naga attests to the viability of these smaller urban areas. Perhaps what it lacks in population and size compared to the national capital is compensated with a better way of life without the traffic and pollution but still enjoying the amenities and lifestyle of highly urbanized cities.

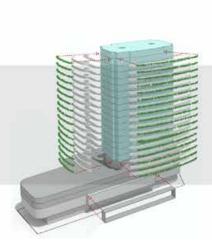
Project Name

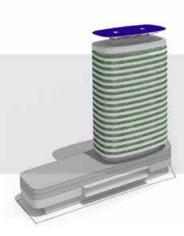
Miramonti Green Residences

Miramonti is a mixed-use development set against the dramatic backdrop of majestic Mt. Makiling in Sto. Tomas, Batangas. Located in the south of Metro Manila, Sto. Tomas is easy accessible from South Luzon Expressway and surrounded with Light Industry and Science Park III. Miramonti will guarantee its residents a fresh urban setting away from the busy environment in the metro.



Passive Green Design IN PERFECT HARMONY WITH NATURE





Shading

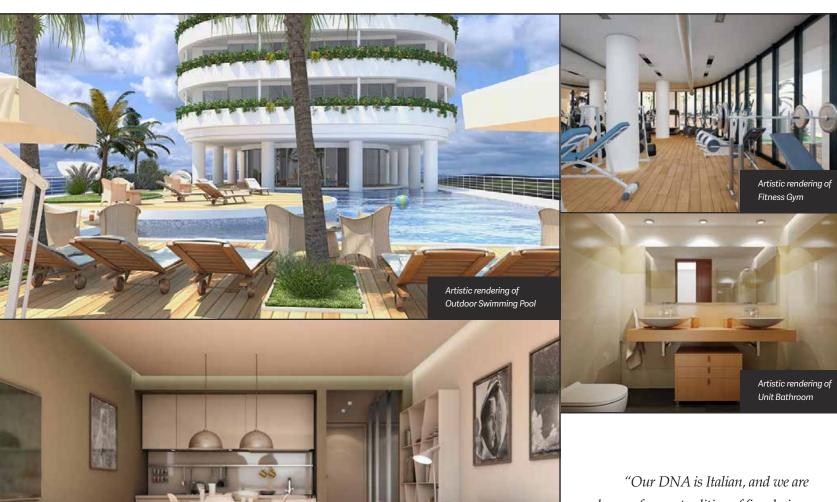
Inputting the exact coordinates of Miramonti's location on the earth surface, IDC accurately models the angle and direction of the sun's rays through each day of the calendar year. With this data, precise dimensions for the unit's external balconies are generated, assuring optimum shading of the building's surface to allow natural light while minimizing heat from direct rays. The use of flower planters provides and additional cooling and shading effect.

Ventilation

Further studies have determined from which direction the prevalent winds blow. The shape and orientation of the building is then designed to maximise natural ventilation. This effect is accentuated within the building itself as internal ducts channel airflow to achieve natural cooling. This reduces the frequency of air-conditioning use, and creates savings for each household.

Solar Panels

Rooftop solar panels generate energy for use in all common areas, contributing clean electricity for lighting, elevators, pool equipment, and other functions. This use of solar power decreases dependence on electricity bought from the grid and creates savings for the community. The total area of the solar panels will be around 900 sqm. and it will produce around 120,000 kw/h per year of clean energy.

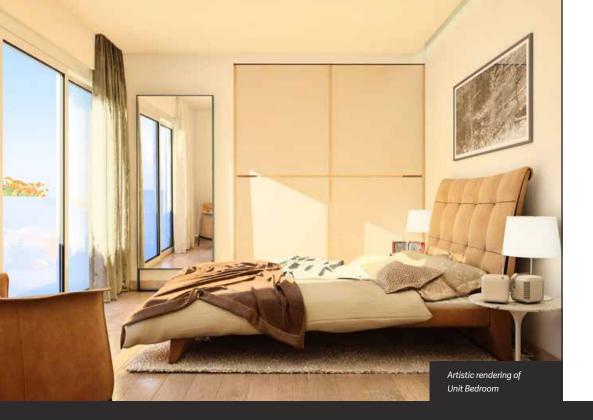


Artistic rendering of

Living Room

"Our DNA is Italian, and we are known for our tradition of fine design and capability. Our design skills, together with our understanding of the Filipino culture and taste make us unique in the Philippine Real Estate industry. This is the reason behind the fast growth of the company. In IDC, we believe that green buildings should not be expensive, they should be accessible in terms of price and location."
- Architect Nati

This is the reason why Italpinas Development Corporation (IDC) has chosen a different tact. The company, founded by Italian green architect, Architect Romolo Nati and environmental lawyer, Atty. Jose Leviste is a design driven developer of sustainable properties in the Philippines's emerging cities. Rather than compete in well served areas, IDC has chosen the first mover strategy, targeting cities with significant growth prospects and robust demographic profiles.

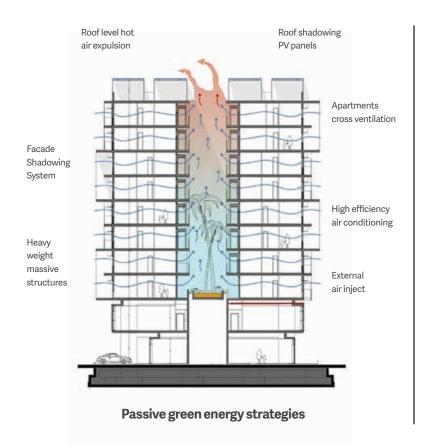


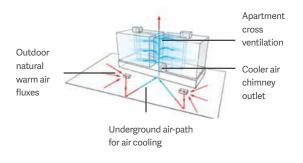
Project Name

Primavera Residences

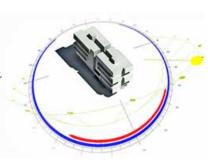
Primavera Residences is a twin-tower, mixed-use development located in Pueblo de Oro Business Park, one of the booming districts in the city of Cagayan de Oro. It is also an eco-friendly, Italian-inspired property constructed along the principles of sustainable architecture, such as generating its own energy, minimizing power usage, and maximizing natural light and ventilation.In 2015, Primavera Residences was given the EDGE (Excellence Design for Greater Efficiencies) certification awarded by International Finance Corporation as the first completed condominium project in East Asia.

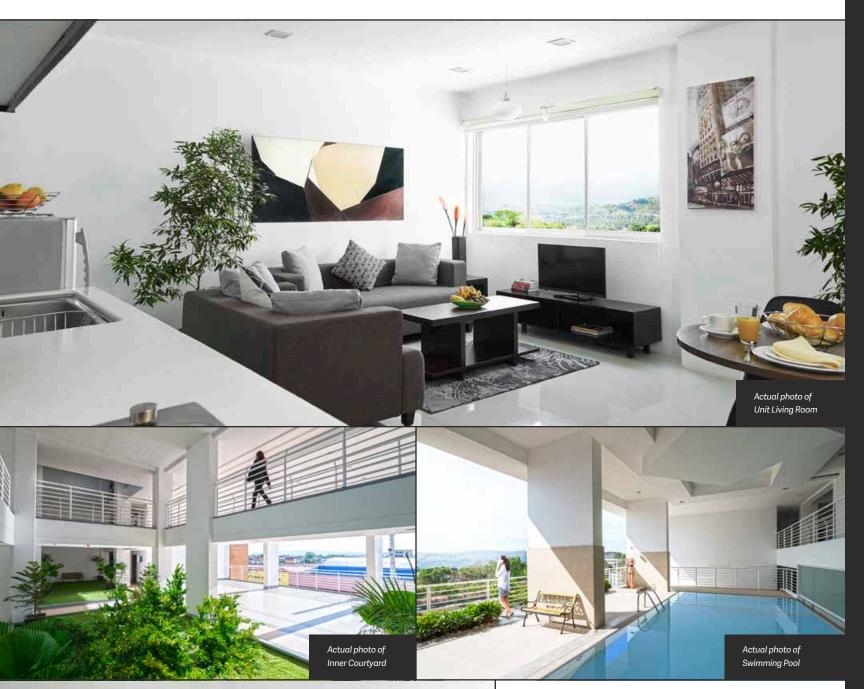






During the hottest hours of the day the sun's radiations don't hit the window surfaces directly. The Shelters, which surround the entire facade of the building, protect the window surfaces producing shadows on them. Thus the internal unit temperature decreases.







The city of Cagayan de Oro is the gateway of North Mindanao and is one of the fastest growing cities in the country. With its promising future, IDC has built Primavera Residences, its first flagship project in 2010 followed by Primavera City in 2016. The former consists of residential condos in two towers while the latter, to be constructed in phases, with the first one as a mixed used condominium, the second a potential BPO development and the last one envisioned to host a branded hotel and luxury apartments.

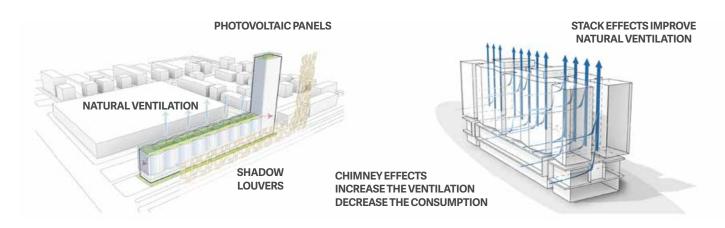
Closer to Metro Manila, IDC has started the development of its Miramonti property in Sto Tomas, Batangas, the new beltway of economic growth between highly urbanized Metro Manila and the port of Batangas connected by a world class expressway. The project is a mixed used residential-commercial development.

Project Name

Primavera City

Primavera City is the follow-up project after the success of Primavera Residences by Italpinas Development Corporation. It is a seven-tower mixed-use development with residential, office, parking and commercial spaces. Some of its first class amenities will be a sky garden, and a swimming pool on the roof deck. Primavera City is the winner of Best Mixed-use Development in the Philippines 2017.





Energy Savings

STANDARD PROJECT APARTMENT

- Total cooling energy consumption 231 k\Nh/sqm
- Service hotwater (electric boiler) 137 k\Nh/sqm
- Lighting an appliances 28 k\Nh/sqm

Total Energy Consumption 396 kwh/sqm

Natural Ventilation

THE REVOLUTIONARY CHARACTERISTIC

Maximize passive effects for low energy consumption.

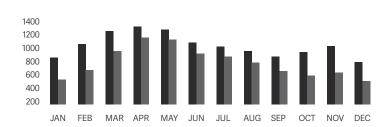
The building shape increases the ventilation and decreases the energy use.

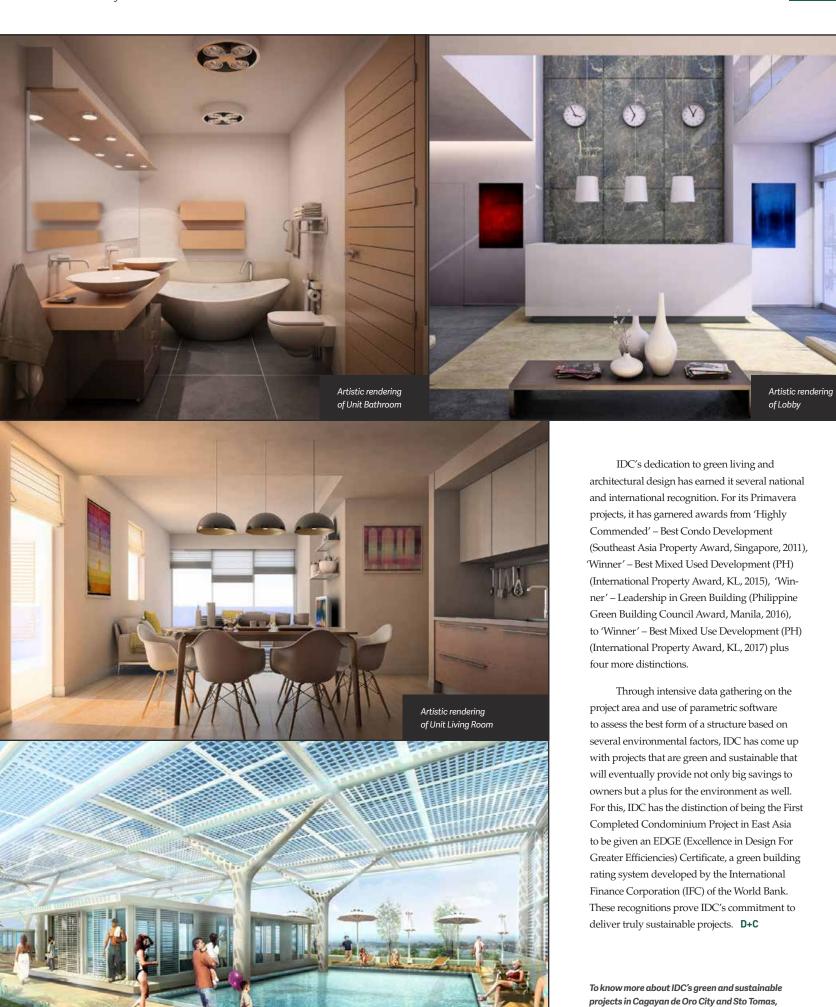
- Breeze hitting the facade
- Balcony shadowing windows
- Blinds cooling facade
- Inner courtyard acting as a chimney

REFERENCE CASE PROJECT APARTMENT

- Total cooling energy consumption 167 Kwh/sqm
- Energy saving contribution
- Bioclimatic passive cooling strategies 64 Kwh/sqm
- High efficient equipments 23 Kwh/sqm
- Photovoltaic panels energy contribution 24 Kwh/sqm

Total Energy Consumption 285 kwh/sqm





Artistic rendering of Pool and Amenities Batangas, visit www.italpinas.com

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YOU SAY YOU WANT A (GREN) REVOLUTION

Arch. Rowland
Agullana and
The Imperative
of Sustainable
Architecture

CUBESYSTEM

Cover Story



words

John Duanan



You see them in a lot of urban spaces nowadays. Lush and verdant, these facades invoke memories of ivy crawling and spider-webbing across the sides of your family home.

They're a slice of wilderness in the heart of the city, a splash of viridian in the concrete canyons of Makati, Taguig, and Quezon City. You think of sustainable architecture, and this vision immediately comes to mind.

hese structures are unpretentiously known as 'green walls.' A green wall is a wall partially or completely covered with greenery that includes a growing medium, such as soil or a substrate.

To preserve freshness, most feature an integrated water delivery system. A testament to modern sustainable engineering, green walls pull double duty as decoration and temperature regulator.

The Podium green wall is the largest constructive undertaking of its kind in the Philippines. To mark the revitalization of a well-traveled and established mall, the Podium decided to opt out of the gray drabness that characterizes most malls in the city. Thus, the green wall was born. Comprising of 65,000 separate plants across 2,700 square meters, the green wall immediately draws your eye. It's as if the forest has reclaimed a spot in Ortigas. Varying hues of green and purple create a quilt of nature's beauty to draw the eyes of motorists and pedestrians. Of course, there are explicit considerations to accomplish such a feat. And there was one man who made this vertical garden possible. His name is Architect Rowland Agullana of Cubesystem/Green Cube.

An architect by trade, but a landscape designer by experience, Arch. Rowland is a man who understands the relationship between the natural and artificial. Fresh from architecture school, he was mentored by the esteemed landscape architect Efren Aurelio. Despite his credentials, he is still a stickler for the fine print. During our interview, Arch. Rowland attests he is not a landscape architect, "Essentially, I cannot design landscape, so now what I do is more of construction." Having worked a myriad of construction projects in Singapore, Arch. Rowland's oeuvre runs the gamut from landscape master planning to residential condominiums. His stint in Singapore—a place he describes as the "hub for sustainable architecture"helped him discover his calling. Arch. Rowland recalls constructing his first green wall and green. "We had some successes, and we had some failures, but afterwards, we perfected our system." He now brings his system to the Philippines in an effort to minimize the footprint of our building stock.

You Got a Real Solution

Arch. Rowland runs me through the highlights of constructing the Podium green wall, focusing on certain challenges and the design solutions he and his team have come up with. The first was providing that many plants. 65,000 is a whole lot of plants. Most nurseries don't carry that many, so Cubesystem had to paint their thumbs green and cultivate that number themselves. "We had to grow them by the thousand, by hand." Arch. Rowland shares. To fulfill the needs of the client and to closely curate the quality and health of the green wall components, Cubesystem keeps an offsite nursing facility to propagate the flora that they need.

Instead of soil, the green wall uses a substitute composed of peat moss, pumice stone, coco peat, and recycled coffee grounds. "You can actually use coffee grounds for 20% of the plant media." Arch. Rowland has done his research: as coffee grounds decompose, they release nitrogen, potassium, phosphorus, and other minerals that support plant growth. For a lot of cafes, used coffee grounds are just another bag in their biodegradable garbage pile. For plants, however, they are essentially a superfood.

Another concern was the structural system. The entire irrigation grid is automated and can function at the tap of a smartphone screen. When more area-specific care is required, like pruning or rearrangement, windows allow access for more delicate work. To ensure the safety of mallgoers and pedestrians, Arch. Rowland with his team of engineers had to compute the structural design to determine the best structural solution. "One square meter is 60 kilos," he shared, stating the necessity of a sturdy and fool-proof structural make-up.



CUBESYSTEM TEAM is a group of dynamic Architects, designers, engineers, sales & marketing bonded together to spearhead design solutions for building sustainability

But the most difficult problem he and his team faced was the market's acceptability. While green walls are still new and exciting in this country, many contractors are still feeling out the steps. Arch. Rowland insists that a willingness to learn is integral, "You can't just buy plants somewhere and stick them on a wall.

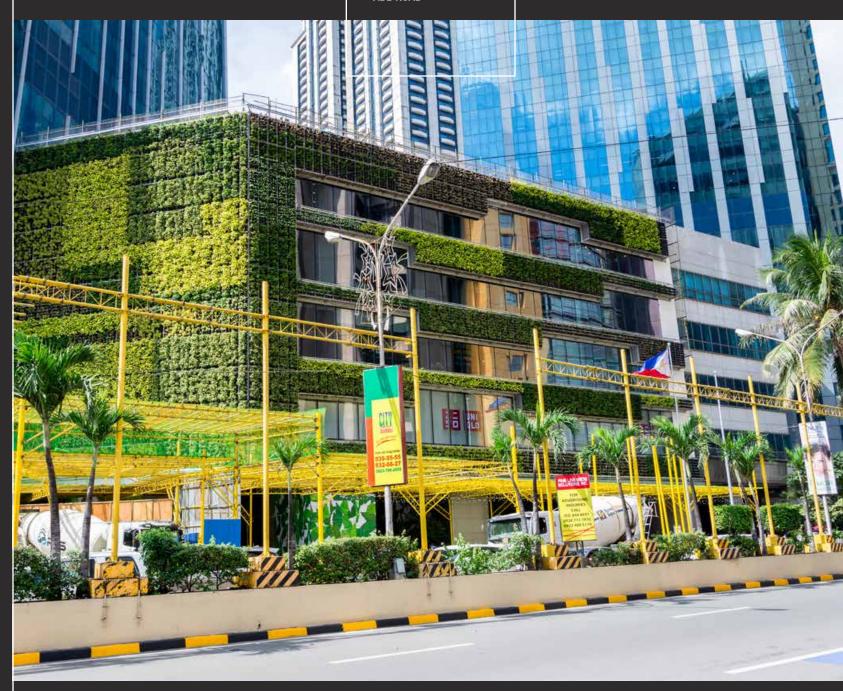
Installing a green wall has numerous benefits. Aside from the overall aesthetic effect, the photosynthesis from the multitude of plants can produce enough oxygen for 17 people every 24 hours. The green wall can reduce ambient temperature, thus reducing the costs and carbon footprint of air-conditioning. It also reduces the 'heat island effect', a phenomenon caused by light and heat bouncing off the glass windows of skyscrapers. The 'heat island' is responsible for warm days and even hotter nights due to the walls retaining the morning heat. Green walls absorb the heat, greatly minimizing the impact of this effect. The foliage blocks most of the noise pollution from the honking cars outside.

FEATURED PROJECT

THE PODIUM AT ORTIGAS

VIEW ALONG JULIA VARGAS

VIEW ALONG ADB ROAD





INSTALLATION OF FRAME WORKS



January - March 2018 Cover Story





INSTALLATION OF POTS

NIGHT SCENE





ARTIFICIAL GREENWALLS

When designers dreams of having an indoor or outdoor greenwall that has site limitations whether there's not enough sunlight, no water & electrical supply, budget constraints, we give them a greenwall that has very minimal maintenance and even weather tested for outdoor use. Artificial greenwalls serves as a compliment to nature, it is not created to replace nature. It gives the same "BIOPHILIA" as natural greenwall would.

SCAPE AT MACAPAGAL

ARTIFICIAL GREENWALL - supply & installation of artificial greenwall

BOTANIKA RESIDENCES

ARTIFICIAL GREENWALL - supply & installation of artificial potted plants





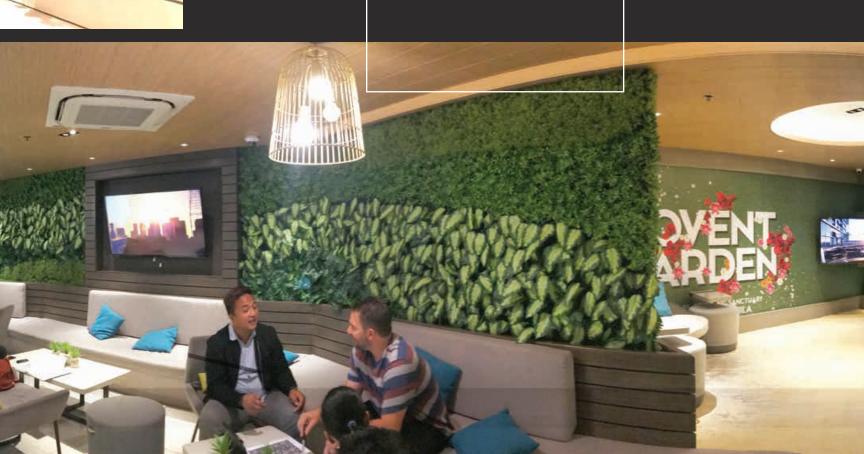


CLINIC AT PAGADIAN CITY

ARTIFICIAL GREENWALL
- supply & installation of
artificial plants at signage

COVENT GARDEN SHOWROOM

ARTIFICIAL GREENWALL - supply & installation of artificial greenwall



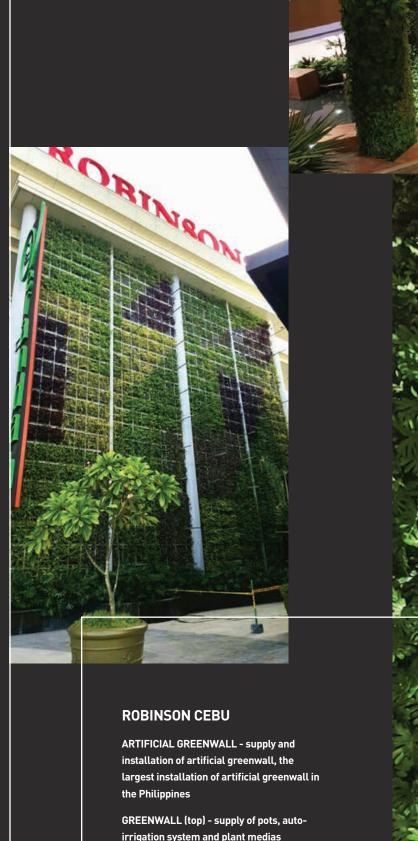


SHANGRI-LA MALL EDSA

ARTIFICIAL GREENWALL (top) - supply & installation of artificial plants at planter box

GREENWALL - revamping of existing outdoor landscape, supply and installation of shrubs





irrigation system and plant medias

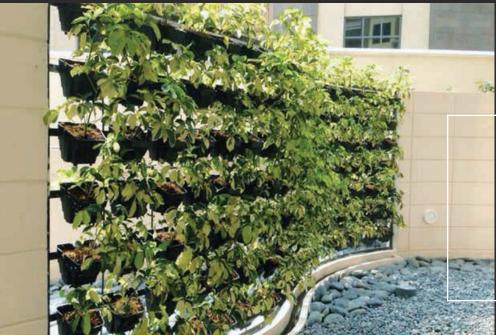


GREENWALLS

PRIVATE RESIDENCE

GREENWALL - supply and installation of pots, plant media and shrubs.





MARRIOTT HOTEL MANILA

GREENWALL - supply and installation of pots, auto-irrigation system, plant media and shrubs



CHANGI AIRPORT T4 SINGAPORE

GREENWALL - done our urban greenery partner Uniseal Singapore.

We All Want to Change the World

Green walls are one of the more recognizable examples of the sustainable architecture movement. But what exactly is sustainable architecture? One can argue it's the art of retrofitting plants on a roof to promote better air circulation and insulation. Or maybe the science of aligning your building just at the right angle to catch the light as a way to minimize lighting costs. According to Arch. Rowland, however, sustainable architecture is much more than simply concessions to be kinder to the environment.

"Sustainability's meaning is very deep. In simple terms, it's building something in which nature will not be compromised." It's simple, but not easy. The very definition of sustainability completely opposes the practice of architecture, where nature has to frequently yield to cheap and environmentally harmful building decisions. To ease this dissonance, Arch. Rowland insists that sustainability should be more than a trend. "It should be a part of the system. Just because it's popular nowadays, we should ask why are we even doing this? What is the purpose of this? Is this just aesthetics?"

To fully illustrate the extent of his environmental advocacy, Arch. Rowland was armed with graphs, presentations, and the kind of confident rhetoric reserved for the truly passionate. "Architects have a critical role in preventing climate change. According to the 2007 McKinsey report, the cheapest way that could impact climate change is through the building industry." Since the industrial revolution, carbon emissions been ratcheting upwards instead of going through previously recorded warming-cooling seasons. Arch. Rowland scoffs at the recent crop of climate change skeptics. In the face of overwhelming statistics and massive shifts in weather patterns, there should be no doubt: climate change is real, and we as a people need to do something about it before it's too late.

According to the report Arch. Rowland cited, the largest contributor to climate change is carbon fuel emissions. This should not come as a surprise even to the most rabid of skeptics-smoke from cars and other industries are the biggest contributors to climate change. However, abatement of carbon emissions beyond "business as usual" shows that building insulation are measures that can best improve energy efficiency. But if you stop and think about it, it makes a brutalist sort of sense. Buildings utilize numerous air-conditioning systems to cope with the sweltering heat, contributing to massive carbon emissions. These, in turn, play a factor in the greenhouse effect, which raises ambient temperate significantly and further necessitates the need for air-conditioning. It's a tragic cycle, but Arch. Rowland believes that green walls and similar sustainable movements such as rainwater-harvesting, green roofs, and recycled materials can break that, "Architects must be educated. [Sustainable architecture] should be put into the system."

But sustainable architecture cannot be truly 'sustained' without government intervention, according to Arch. Rowland. He described Singapore's massive push towards green architecture, "[The Singaporean government] will subsidize for half of your total expenses. And they will give you tax incentives." Since this kind of architectural crusade is still fairly new on our shores, Arch. Rowland hopes that when the government does its part, all the architecture firms will follow. "It has to be compulsory." Arch. Rowland shares his dream for Manila to be a garden city, flourishing with flora and bustling with progress. He understands the pursuit of a better world is bigger than himself, "Eventually, if I'm going to die, I want my legacy to be pushing the boundaries of green architecture. This green wall [I'm building] will last longer than my life if it's fully automated. I will pass this on to next generations."



ASYA OFFICE

GREENWALL - the 1st of its kind, a medley of real plants, preserved moss, artificial plants and artificial moss.



It's Gonna Be Alright

For Arch. Rowland and Cubesystem, the Podium green wall is an important step towards their dream of a truly sustainable Philippines. Arch. Rowland has his sights trained on bigger game: city planning. "I'm working on bigger developments. It's hard to bring green roofs, green walls, and other sustainable items, because most of the buildings are already built." With Arch. Rowland at the helm, one can imagine how much the skyline and cloud cover of Manila will change. "If we can have all of these items (i.e. rainwater harvesting for irrigation, recycled paper to prevent flooding, reclaimed wood for construction) at the beginning of the development phase of a bigger city—like Clark Green City—then they will be even more fruitful. Because you can use them to benefit the city."

Sustainable architecture should not be the future of architecture—it must be the present. Preserving the beauty and habitability of our Earth must be our top priority. The mission of Arch. Rowland and Cubesystem is more than just a reiteration of their goals, it is a clarion call. Through Cubesystem's structural solutions and Arch. Rowland's educating, they hope to spark a revolution of environmental accountability in the architectural world. For them, sustainability is more than just a movement, it's a state of mind. D+C

DESIGNER PLANTS

Aside from greenwalls, CUBESYSTEM also revolutionize the way of housing indoor and outdoor plants through sculptural designer planters which carries a story of each specific project. Some designs are complex but complimentary to each space, sophisticated in form, contemporary or very clean modern lines contrasting with the soft lush green and elegant textures of the selected plants.

SHANGRI-LA MALL design and build of indoor planters with real plants









DESIGNER PLANTS

Luxurious private condominium in Makati









OZEN RESORT, MALDIVES

MASTERPLAN - The design of the resort uses plants that are available within the region to help reduce Carbon Footprint.









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Trends + Stories

words

Lean Panganiban

Ultra Hue

PANTONE 18-3838 Ultra Violet is Pantone Color of the Year for 2018



Pantone, the famed pioneer and provider of the design world's color language standards and digital solutions, announced PANTONE 18-3838, Ultra Violet, as the Color of 2018. A dramatically provocative blue-based purple shade, Ultra Violet communicates originality, ingenuity, and visionary thinking that points us towards the future.

Naturally contemplative and royal, this year's color seeks to inspire the desire to pursue a world beyond our own. It suggests the mysteries of the cosmos, from the vast and limitless night sky, to all the possibilities of our beautiful and complex world. According to Leatrice Eiseman, Executive Director of the Pantone Color Institute, intuitive Ultra Violet lights the way to what is yet to come as it "explores new technologies and the greater galaxy, to artistic expression and spiritual reflection."

Mixed with other colors from recent years, Ultra Violet easily cross over fashion, beauty, product and graphic design applications.























Ultra Violet in Fashion

Various shades of purples have long been symbolic of counterculture, unconventionality, and artistic brilliance. The world saw how famous musical icons like Prince, David Bowie, and Jimi Hendrix brought shades of Ultra Violet to the forefront of pop culture as personal expressions of individuality. Nuanced and full of emotion, the depth of this color symbolizes experimentation and non-conformity, spurring people to imagine their unique mark on the world, and push boundaries through creative outlets.

Ultra Violet also lends itself to unique color combinations in fashion and is easier to pair with all colors. Coupled with golds or other metallics, Ultra Violet adds luxury and dazzle to any ensemble; combined with greens or greys, this mysterious color evokes natural elegance. In accessories, Ultra Violet reflects the complexities of natural gems, textures, and florals.







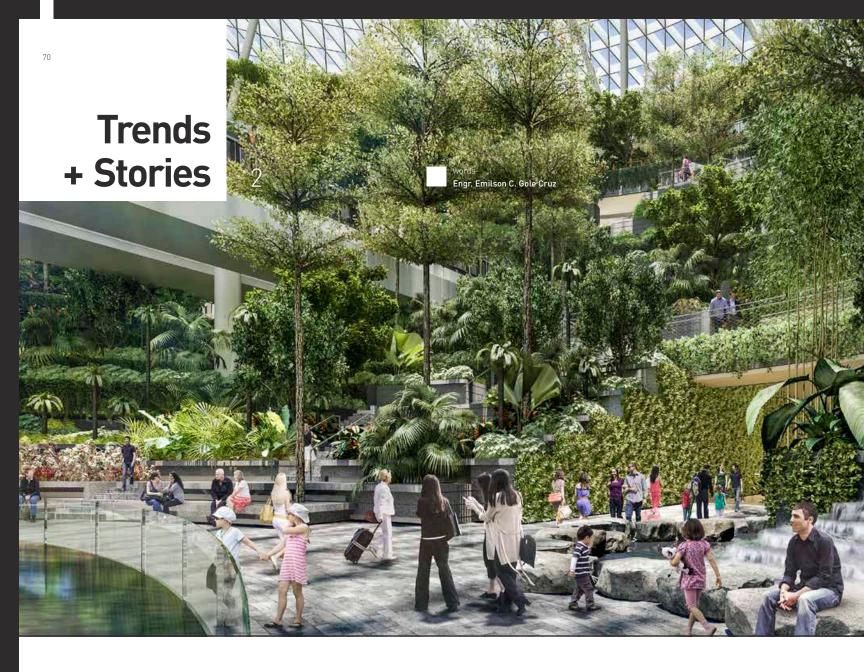


Ultra Violet in Home Décor

In interiors, Ultra Violet transform the space into doors to the cosmos. Ultra Violet makes a statement in any space, whether it's one of tradition and elegance or unexpected boldness. Adding iridescence and lightness, Ultra Violet can call attention via a stark wall art, a tufted couch, or a striking piece of art. In hospitality, we are seeing purples like Ultra Violet take center stage in interior spaces as large and small hotels harness color and design to entice travelers and stay relevant.

Ultra Violet in Graphic Design

On the palette for every design medium, purple shades complements and emboldens every other color, adding complexity and mystery. As seen in packaging and graphic design by forward-looking brands in the CPG, luxury, and beauty worlds, this color reflects our desire for uniqueness and originality through its multi-dimensional feeling. $\ensuremath{\, {\rm D+C}}$



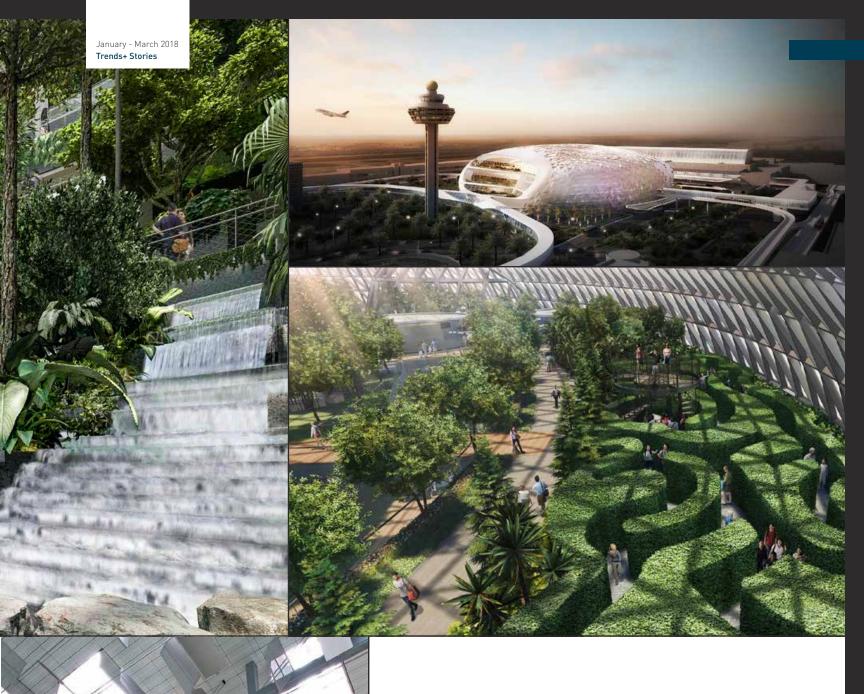
What's inside the World's Best Airport?

Explore Singapore Changi Airport: An Airport worthy of being a Destination in Itself

Singapore's main airport is an experience not to be missed, and there are too many reasons why it's consistently ranked as the best in the world. Changi Airport combines outstanding functionality with modern interior design and architecture.

Travellers know how this little country nurtures such massive diversity of culture and how it celebrates both treasures of the past and the innovation of the future. With a record 13.11 million international visitors in 2016, representing 8.8 per cent growth, Singapore remains a top global destination for both leisure and business.

May it be a vacation or just a few-hour layover, air travellers won't need to go out of their way to experience the multitude of shopping, dining, and entertainment experiences that Singapore can offer. Upon arrival, the airport itself is worthy of being a destination in itself.



Singapore Changi Airport

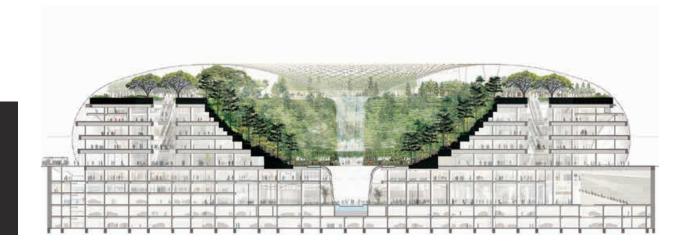
Located on a 13-square-kilometre (5.0 sq mi) site in Changi, at the eastern end of Singapore, Changi Airport is the primary civilian airport for Singapore. It is one of the largest transportation hubs in Southeast Asia and is one of the world's busiest airports by international passenger and cargo traffic.

Changi Airport has four main passenger terminals arranged in an elongated inverted 'U' shape. Currently, the airport has a designed total annual handling capacity of 66 million passengers.

The future Terminals 1 is set to be one of the largest airport terminals in the world. Together with Terminals 1 to 4, Changi Airport will have the ability to handle 135 million passengers per annum. The project includes the implementation of a three-runway system at Changi Airport, as well as the development of cargo complexes and other supporting aviation and ground transport infrastructure. It will be built on reclaimed land to the east of the present terminals. The entire project is scheduled for completion in the late 2020s.

Jewel Changi Airport, set to open in early 2019, is a multi-use structure interconnecting Terminals 1, 2 and 3. Part of this project will help expand Terminal 1 to handle 28 million passengers per year.

Jewel Changi Airport cross section through retail and gardens





World's Best Airport

Changi Airport has been voted the World's Best Airport by air travellers at the 2017 World Airport Awards for the fifth year in a row. Changi Airport clinched the top spot this year ahead of Tokyo's Haneda Airport and South Korea's Incheon International Airport. In all, this is the eighth time that Changi Airport has picked up this top international title at the World Airport Awards since it was introduced in 2000.

The 2017 SkyTrax World Airport Awards are based on 13.82 million customer nominations across 105 nationalities of air travellers, with 550 airports worldwide taking part. The SkyTrax World Airport Survey describes itself as a quality benchmark for the world airport industry. The survey evaluates customer satisfaction across various key performance indicators for airport service and product - from check-in, arrivals, transfers, shopping, security and immigration, through to departure at the gate.

Mr Lee Seow Hiang, CEO of Changi Airport Group, received the Skytrax World's Best Airport Award from Mr Edward Plaisted, CEO of Skytrax, at the Passenger Terminal EXPO in Amsterdam, The Netherlands, on March 14, 2017.

Mr Lee Seow Hiang said: "Winning the Skytrax World's Best Airport Award for the fifth consecutive year is immense encouragement to our 50,000-strong airport community at Changi Airport, every one of whom is passionate about delivering the most memorable airport experience to our passengers."

"This recognition affirms our service belief which we have held steadfast all these years - putting passengers at the heart of all we do. While we expand our facilities to serve more passengers in the coming years, we will continue to work closely with all our airport partners to further enhance the Changi Experience."

Mr Edward Plaisted said: "To be voted the world's Best Airport for the fifth consecutive year is a remarkable achievement for Changi Airport, and underlines the airport's popularity with international air travellers. Changi Airport continues to innovate product and service facilities for customers, and is making the travel experience at the airport enjoyable and relaxing. This award is very much a collective recognition for all staff at the airport who contribute to the success of Changi Airport operations."

Changi Airport was also recognized as having the world's best airport leisure amenities, a title it has held since 2009. It was also awarded the title of "Best Airport in Asia."



Kinetic Rain

Made of 1,216 bronze droplets, the two Kinetic Rain sculptures in Terminal 1 are the latest addition to Changi Airport's collection of art installations and displays. Measuring 9.8 metres by 4 metres, each sculpture can form 16 different shapes ranging from abstract art forms to recognisable patterns including an aeroplane, a hot air balloon, a kite and even a dragon. The design element in each shape shows the movement of flight through slow, fluid movements.



Cactus Garden

The Cactus Garden features more than 100 species of cacti and arid plants from the deserts and dry areas of Asia, Africa and America. This roof garden is a popular place for visitors to stretch out and bask in the sun. With a bar within the garden, you can enjoy a drink or two as you relax.

Notable plants featured in the garden include various forms of Cycads – a tenacious survivor of the dinosaur era – and other surreal plants like the Golden Barrel Cactus, Oldman Cactus and the giant Ponytail trees. Visitors to the garden can also see edible Apple Cactus (Cereus spp) and Prickly Pear Cactus (Opuntia spp) and other economically important arid plants from different parts of the world.



Enchanted Garden

Be captivated by this interactive and decorative Enchanted Garden as it "magically" comes to life with sight and sound while you weave through the garden. Motion sensors trigger sounds of nature and blooming flowers while fibre-optic and LED lighting, embedded in the undulating pathways, form a fascinating carpet of sparkling lights. Evoking a Shangri-La-like atmosphere, the centrepiece of the garden comprises of four giant glass bouquet sculptures decorated with a mosaic of reflective and shimmering stained-glass. Nestled within these glass bouquets are a dazzling variety of freshly-cut flowers and soft ferns.



Swimming Pool with Jacuzzi

Take a dip in this rooftop pool. Located at Aerotel Airport Transit Hotel at Terminal 1, there's also a jacuzzi, poolside bar and shower facilities. Travellers are invited to relax and enjoy these facilities while waiting for their next flight.



Orchid Garden

The Orchid Garden features more than 700 orchids of 30 species grouped by their various colours and shapes, representing the 4 elements of nature – Earth, Water, Fire and Air. White orchids displayed with floating glass bubbles represent 'Air', while rare brown and green orchids displayed with tree root sculptures represent 'Earth'. Floral columns simulating giant candles represent 'Fire' while clustered blue and violet orchids represent the 'Water' element.

Sunflower Garden

Tucked away from the hustle and bustle of the shopping and dining areas of the Transit Hall, is the Sunflower garden. The garden features several varieties of sunflowers grown in Changi Airport's very own nursery. Catch a healthy dose of Vitamin D with the bright sunflowers by day or see the garden transformed with special lighting by night. Admire the majestic view of the runway and aircraft parking bays from this rooftop haven.



Petalclouds

The centerpiece of T4, Petalclouds, is a grand-scale kinetic sculpture. It consists of six structures suspended 200m across the Central Galleria and it can be seen from the Departure Check-in Hall, Transit Area and Arrival Hall. Its movement is synchronised to animated lighting and music. Petalclouds is a complex amalgamation of art, music and science and delivers an enthralling and magical experience to its audience.



Steel in Bloom

Steel in Bloom explores the interactions of humans with Nature. The garden's 6m-high centrepiece features intricate botanical motifs modelled in steel. This structure is juxtaposed with plants that have inspired its design, creating a sense of contrast in harmony. Enhanced by bright, multi-coloured lighting, this display is perfect for photographs and selfies.



Butterfly Garden

The world's first Butterfly Garden in an airport is designed as a tropical butterfly habitat with a profusion of flowering plants, lush greenery and a 6 metre grotto-waterfall. You will see about 1,000 tropical butterflies from as many as 40 species during the different seasons of the year. Educational corners and individual enclosures let you witness the breeding and feeding of butterflies at close range.



Immersive Wall

Located at the Centralised Security area, the LED display entertains passengers waiting at the security screening queues. This 70m by 5m LED display showcases Singapore's skyline and Changi's connectivity to ASEAN destinations.



The Travelling Family

"The Travelling Family" is an aluminum sculpture by renowned Swiss artist, Kurt Lawrence Metzler. Mr Metzler is well-known for combining elements of the figurative and abstract to create opinionated sculptures depicting everyday life such as reading, doing business or people travelling.#



Changi's Newest Terminal

The airport's fourth terminal (T4) is promising passengers an improved travel experience with the innovative use of technology and an interior that embraces a boutique approach.

The new terminal features start-to-end self-service systems, allowing travellers to check in, deposit their baggage and even go through immigration via automated systems.

From a 70-meter-long LED screen keeping you occupied with beautiful visuals while you're passing through passport control and security, to colorful funky chairs, T4 is aiming to make transiting through the terminal surprisingly fun.

Every traveller will surely be in owe to see amazing little robot "housekeepers" roaming the lounge, dog-shaped chairs, and a "heritage" zone featuring the architectural evolution of Singapore's traditional shop houses (from the 1800s to the 1950s).

Changi Airport's Terminal 4, which opened on October 31, 2017 welcomed its first arriving and departing flights operated by Cathay Pacific - CX659 from Hong Kong arrived at 5.40am and CX650 departed Singapore for Hong Kong at 6.50am.

The construction of T4 involved two multi-storey car parks that will provide 1,700 parking spaces, a two-storey taxi holding area, as well as three vehicular and pedestrian bridges. A 68-metre high ramp control tower has also been built to enhance air traffic controllers' management of aircraft movements in the apron and taxiways around the terminal, the airport said. Since the terminal was completed last December, more than 100 trials involving 2,500 airport staff and 1,500 volunteers have been conducted, to ensure that opening day goes on without a hitch.

At 225,000 sqm, Terminal 4 is only about half the size of Terminal 3, making it Changi Airport's smallest terminal. But it will be able to handle 16 million passengers a year - about 70 per cent of T3's handling capacity. The opening of Terminal 4 could boost Changi's total passenger capacity to around 85 million per year by 2020, up from 58.7 million last year. Changi Airport said that it is on course to handle a record 60 million passengers this year. When Terminal 5 opens in the late-2020s, the airport is expected to be able to handle up to 135 million travellers per year.

The focal point of the airport, visible from both floors, is a hypnotic installation of six kinetic sculptures by Germany's ART+COM Studios, which span 200 meters at the center of the terminal.

Called Petalclouds, it's inspired by the petals of Singapore's national flower, the orchid. The artwork will provide a one-hour choreographed "ballet" on a loop, moving gently to a classical tune composed by award-winning composer Olafur Arnalds.

The petal theme resonates throughout the terminal, from the skylight to the marble flooring, carpet, air-con binnacles and even the dustbins and fire extinguishers, and other artworks are peppered throughout, "all curated around the theme of flight and travel," explains Daniel Foo, who was part of the Changi team selecting the art.

State-of-the-Art Technology

The new terminal is utilizing serious technologies to offer a faster end-to-end travel approach, offering passengers a choice of self-service options. Passengers will be able to check in at a kiosk and print their luggage tags electronically through a facial recognition system that bypasses the need for manual identity checks.

For travellers using T4, moving through the departure gate will now be a centralized experience with an automated two-in-one approach (boarding card and passport check in one go).

The final security check should also prove faster, with passengers no longer needing to remove electronic equipment from their bags thanks to the use of CT scanners — a first in an airport.

The final boarding will also take place through automated gates equipped with the facial recognition system.

This end-to-end automated approach will not only help expedite the flow of passengers through the terminal with improved efficiency, but will also help alleviate the city-state's manpower shortage.

Over the long term, Changi Airport expects 20% manpower savings with this automated approach. **D+C**



The Slide at T3

Race down The Slide@T3, Singapore's tallest slide and the world's tallest slide in an airport. At 12 metres high (4 storeys tall), scream your way down while reaching speeds of up to 6 metres per second.

Free Singapore Tour

You may just be passing through this tiny island-state, but let Singapore's sights and sounds, colours and beats, energy and electricity captivate you on the Free Singapore Tour. If you have at least 5.5 hours (or at least 6 hours for City Sights Tour) to spare till your connecting flight, join one of our free 2.5 hours guided tours with 2 short stopovers. The Heritage Tour runs 4 times daily and the City Sights Tour runs 2 times daily.

Movie Theatre

If you have time to spare at Changi Airport, you don't have to worry about a lack of entertainment. Die-hard movie fans will find the Movie Theatres in Terminals 2 & 3 the best place to spend their time when transiting at Changi Airport. You can enjoy movies of different genres at both Terminal 2 and Terminal 3. These screenings are available free-of-charge for your viewing pleasure and these entertainment hubs are open 24 hours daily.

Trends + Stories

3

words

Engr. Emilson C. Gole Cruz

Making the Switch to LED:

Energy-Efficient Lighting for a Brighter Sustainable Future

With our today's life full of demands, we cannot deny the fact that having a good source of light in every household or business is no longer a luxury, rather a necessity. Proper and sufficient lighting spells a whole world of difference in many areas of our lives and its role in communities - from streets and public places to every home - only continues to evolve as urbanization continues to advance as well.

Lighting a home or a commercial space, however, is not as cheap as one might think. For instance, on average, lighting accounts for 20 to 30 percent of a Philippine household's monthly electric bill. We also spend millions of money on lighting equipment alone. Further, according to the International Energy Agency, of all the energy consumed worldwide, about a fifth (19 percent) comes from lighting, accounting for about 1.9 billion tons of carbon emissions every year. This number is about 70 percent equivalent to the emissions of passenger cars globally.

These figures indicate not only the level of energy consumption attributed to inefficient lighting, but also the amount of opportunity we have through cost-effective and energy-efficient lighting solutions, to counter the negative effects, we as consumers, have brought to the environment.

Making the Switch to LED

The global discussion on energy-efficient lighting has moved governments, including the Philippines, to craft legislation to limit energy consumption and carbon emissions, both of which are heavily impacted by lighting decisions.

The Green Building Code (GB Code) for example, a Referral Code of the National Building Code (Presidential Decree No. 1096), was launched on June 25, 2015 by the Department of Public Works and Highways (DPWH) to protect the people from the harmful effects of climate change. It seeks to improve the efficiency of building performance through a framework of standards that will enhance sound environmental and resource management to counter harmful gases throughout the building's life cycle. The framework includes efficient use of materials, such as lighting and wiring fixtures, site selection, planning, design, construction, use, occupancy, operation, and maintenance, without significant increase in cost.

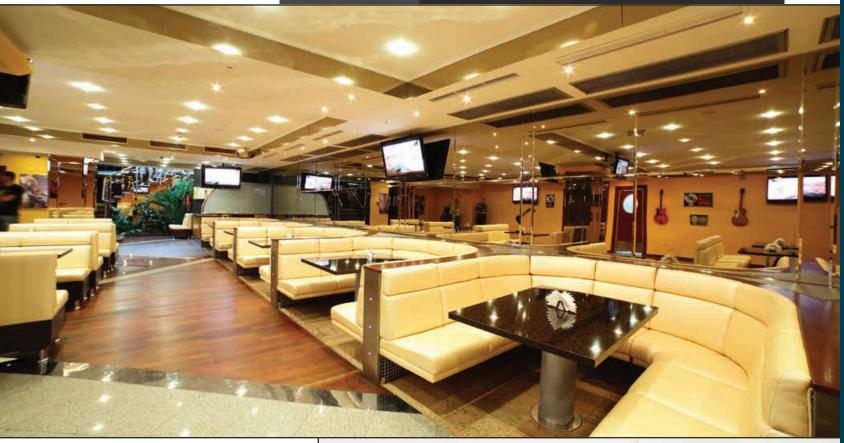
Consequently, this increasing awareness about climate change, as well as the rise of energy demand brought by the rapid pace of urbanization, have paved the way for the growing adoption of sustainable and environment-friendly initiatives. In the field of lighting, the world is slowly beginning to make the switch to adopting the LED technology, though the use of old lighting technology, such as incandescent bulbs and compact fluorescent lamps, is still predominant in several countries, including the Philippines.

continued next spread



OMNI LED Recessed Circular Downlights

A great general lighting alternative for homes and workplaces. Every downlight is mercury-free, has less heat emission and is equipped with SMD LED technology. Round and encased in a durable plastic casing, it has a matte white finish that can easily match any interior, decor, or ceiling design.





OMNI LED Globe Lamps

Ideal options for illuminating wide spaces, these globe lamps allows you to save up to 80% of your energy and lights up instantly compared to traditional compact fluorescent lamps.



The use of Light Emitting Diodes, or more popularly known as LED, offers many benefits. For consumers, it means lower costs and better quality of light, while for the environment, it means lower emissions of unwanted substances. LED lighting delivers on CO2 emission reduction targets by up to 1400 million tons per year, by replacing a uniform approach to lighting with tailored technology that is fit for use and cuts unnecessary energy consumption. Switching to LEDs not only signifies potential energy cost savings of up to 50 percent but also improves lighting quality and mitigates environmental impact by reducing energy usage, as well as greenhouse gas emissions.

LED also allows for flexibility in lighting that has not previously existed. For instance, with a programmable lighting system, local governments are able to take advantage of smart lighting systems in the event of an emergency and be able to assist in its swift resolution.

Also, unlike its predecessors, LED light bulbs produce far less heat and consume far less energy. Heat is what causes traditional light bulbs to shine (incandescence), whereas electrical voltage itself makes LEDs shine (electroluminescence).

The rising demand for LEDs

In the Philippines, the demand for LED lights has shown a consistent rise since its introduction in the country, and the said trend is expected to continue at least for the next several years.

President Rodrigo Duterte has envisioned a plan called "Golden Age of Infrastructure" expected to be majorly financed by the influx of money from China and Japan. With an estimated investment of USD 168 billion on 5,000 developmental projects across the nation within the next six years, these infrastructure projects are expected to raise the demand for LED lightings. Also, the penetration among the residential customers is expected to rise in the coming years due to sustainability concerns.

As society continues to evolve, there is a greater need to understand the contribution of light and sustainability in technologies in the urban context. No doubt, the collaboration of design and implementation of sustainability and light technologies will bring the best results across all facets of public lighting design and safety. **D+C**



ABOUT OMNI ELECTRICAL AND LIGHTING:

OMNI is a local company that brings safe, eco-friendly and high-quality electrical and lighting solutions to the Filipino market. Designed for the discerning consumer in the new millennium, OMNI products conform to the global concept of sustainable development.

Each OMNI product is produced with the consumer's safety in mind and it is the company's mission to continue delivering affordable world-class products through innovation, state-of-the-art manufacturing facilities and superior workmanship.

OMNI's product line range from LED lights to wiring devices and appliances.

For inquiries about OMNI electrical and lighting products, you may send it to info@omni. net.ph or call (02) 567-00-00.





Light for life.

• ENERGY-EFFICIENT

Omni LED lighting products consume up to 90% less energy than typical incandescent or hallogen bulbs and compact-fluorescent lamps.

• LONG-LASTING

Designed for reliability and with SMD LED Technology, OMNI LEDs lasts 20 times longer without losing their brightness, giving an excellent return on investment.

• ENVIRONMENT-FRIENDLY

Omni LED lights are all mercury free, have less heat emission and are 100% recyclable.

Visit us at : http://www.omni.net.ph

Email us at : info@omni.net.ph



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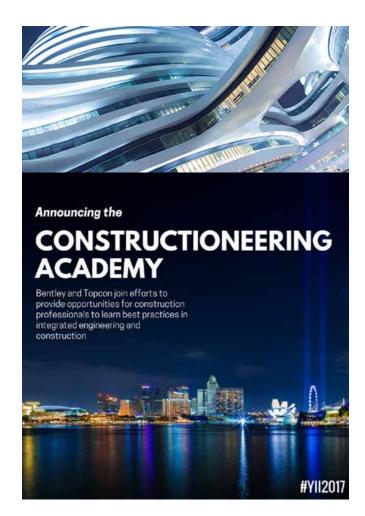
Trends + Stories

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Topcon and Bentley Systems announce kick-off of Constructioneering Academy

Topcon Positioning Group and Bentley Systems announce the kick-off date of their collaborative Constructioneering Academy initiative. The first session is scheduled for February 13, 2018 in Livermore, California.

Topcon and Bentley have joined efforts to provide opportunities designed to allow construction industry professionals to learn best practices in constructioneering, a process of managing and integrating survey, engineering, and construction data, to streamline construction workflows and improve project delivery."The courses are designed in a dialogue format to allow Topcon and Bentley personnel to interact directly with attendees to cater the experience for their specific questions and demands," said Ron Oberlander, senior director of Topcon Professional Services. "The future of construction automation continues to move forward with constructioneering digital workflows, which make the work of surveyors, engineers, and construction professionals automated, continuous, and continuously more valuable, throughout project lifecycles and beyond completion."



Constructioneering Academy

OBJECTIVES

- Optimize digital insights to improve project outcomes
- Advance constructioneering technology, methods, and best practices
- Streamline asset lifecycle workflows, by integrating surveying, engineering and construction data
- Create knowledgeable constructioneering leaders
- Transform design-build performance, enhancing project efficiency and reducing costs

COURSE

- Pursuing and Winning Civil Design Build Projects
- Capturing site and existing facility information
- Developing Concepts and Estimates for client proposals
- Designing for Construction
- Executing the design in the field
- Executing the design with Machine Control
- Monitoring construction performance and progress
- Turning over as-built records



"Topcon and Bentley's federated constructioneering technologies enable firms to gain unprecedented digital visibility and insights into their project outcomes, as compared to traditional construction workflows. Attendees of our Constructioneering Academy will learn how their organizations can improve project delivery by leveraging constructioneering technology, methods, and best practices to execute their projects more efficiently, monitor construction performance and progress, and reduce project costs," said Vinayak Trivedi, Bentley Institute vice president.

The Constructioneering Academy will continue with additional sessions throughout learning centers located worldwide designed to reach industry professionals with handson training in real-world scenarios and workflows. **D+C**





Topcon Positioning Group is headquartered in Livermore, California, U.S. (topconpositioning. com). Its European head office is in Capelle a/d IJssel, the Netherlands. Topcon Positioning Group designs, manufactures and distributes precision measurement and workflow solutions for the global construction, geospatial and agriculture markets. Its brands include Topcon, Sokkia, Tierra, Digi-Star, RDS Technology, and NORAC. Topcon Corporation (topcon.com), founded in 1932, is traded on the Tokyo Stock Exchange (7732).

Trends + Stories

5

Myanmar's Historic Secretariat Building to be Restored by Pomeroy Studio



Award-winning Singapore-based Interdisciplinary sustainable design firm Pomeroy Studio have been appointed to restore The Secretariat building in Yangon - one of the largest Colonial buildings in Southeast Asia. Their multiple appointment for conservation architecture, interior design, landscape design, lighting, wayfinding and branding will see the sensitive restoration of the abandoned 120-year-old former colonial government office - turning it into a cultural complex containing museums, galleries, cultural event spaces, lounges and offices for creative industries. These functions will be complimented by an array of heritage, retail, and food and beverage spaces set within lush, landscaped gardens.

The Secretariat is recognised as one of Yangon's most important heritage buildings, and has been the scene of the most defining moments of Myanmar's modern history. This includes the assassination of General Aung San, which paved the country's path to independence. Restoring this grand colonial building to its former glory and reinvigorating its internal spaces with a programme of arts-related functions, seeks to both preserve Yangon's cultural past, and cultivate Myanmar's creative future" said Prof. Jason Pomeroy, Founding Principal of Pomeroy Studio.

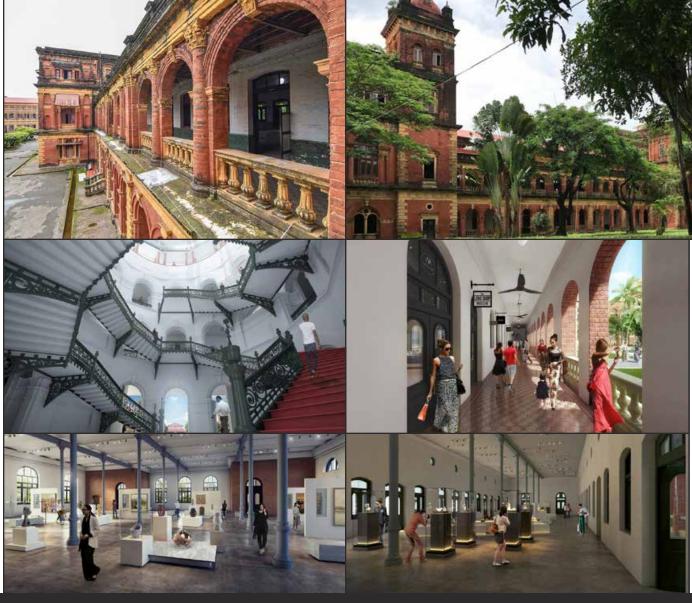
The Secretariat complex occupies approximately 16 acres in the South of Yangon, and was designed by British architect Henry Hoyne-Fox (1855-1905) as the epicentre of Rangoon (present day Yangon), the first South-East Asian garden city. Work started in 1890 on the central building, with the Eastern, Western and Northern wings added in subsequent years.

continued next spread



The restoration of one of the most important buildings in Myanmar, The Secretariat, reflects a drive to preserve heritage buildings in the face of rapid economic development

The project will see one of the largest Colonial buildings in Southeast Asia restored to its former glory and adaptively re-used as a cultural complex



Pomeroy Studio is an award-winning international team of designers and thought leaders of sustainable built environments. The studio comprises of master planners, landscape architects, architects, interior and graphic designers, as well as sustainability consultants and academics. The studio is led by Prof. Jason Pomeroy, the award-winning architect, academic, author and TV personality at the forefront of the sustainable built environment agenda. www.pomeroystudio.sg

from previous

However, an Earthquake in 1930 laid many of the Secretariat's iconic features, including its turrets and central dome, to waste, and the building was left to fall into disrepair post-independence.

The restoration forms part of the Yangon Heritage Trust's aim to restore and preserve the city's architectural heritage in the face of break-neck development and modernisation, a heritage that is deemed of world importance.

Restoration and Reinterpretation

Pomeroy Studio are working with heritage and conservation expert Prof. Luigi Croce, of Architetti Croce, who has worked closely with Pomeroy Studio in design and research projects in Europe and Asia. The Padova, Italy-based firm are taking a careful restorative approach that seeks to preserve the exterior and key internal areas of historical significance and reinstate the original building's details that were of architectural merit. The extensive settlement, an earthquake and the general dilapidation that took place over decades of neglect presents acute challenges in the restoration.

A counterpoint to the restoration of the British colonial structure was the careful reinterpretation of Burmese cultural elements. A striking feature is the new roof structure that caps a lofty cylindrical atrium space, replete with grand wrought - iron staircase, which was once crowned by a heavy brick dome. Given settlement and structural issues, a lightweight and sustainable solution was needed. Pomeroy studio thus created a unique reinterpretation of the 'Pathein' (Traditional Burmese Umbrella) that sought to perform the very same tasks of counteracting direct glare from the sun; protection from the rain and acting as a heat vent - albeit at building scale.

Burmese culture was brought further into the interior spaces by reinterpreting Pan Se Myo' (ten traditional arts), that range from stone carving through to lacquerware. These techniques sought to sensitively complement the original shell and core of the 19th century building whilst also employing local craftsmen and their skills.

Environmental rehabilitation

Colonial Rangoon was once heralded as Asia's first garden city; yet urbanisation has seen the gradual erosion of green open spaces in modern Yangon. Pomeroy Studio were also appointed for landscape design with a particular emphasis on rehabilitating the greenery and restoring the parklands, quadrangle and grand lawns to their original condition.

The cultural celebration of Martyrs' Day through a central memorial, coupled with sensitive lighting will be the focal point of the new landscaped quadrangle, which will provide a welcome respite from the busy and bustling city outside of its walls, and thus create a much-needed green open space for the south of Yangon.

Given that the buildings themselves were designed before the advent of electricity, the original high ceilings and large windows / skylights will continue to optimise natural light and ventilation, with the careful use of new smart technologies and modern conveniences to enhance the user experience and, reduce overall energy and water consumption. Locally sourced materials, crafted locally and expert supervision by restoration experts from Italy seeks to further ensure the overall sustainability of the development.

The history of Myanmar in one building

The Secretariat holds a unique place in Myanmar's history, being the location for some of the most important moments in its colonial, independence and postindependence history. Fully completed in 1905, The Secretariat was the centre of British colonial administration in Burma, and was the pre-eminent structure associated with the government during this period. The building was also the place where Myanmar's first steps towards independence happened. The diarchy (Legislative Council) was established at The Secretariat in 1923, giving Burma a limited measure of self-rule. It was the location where Burma formally separated from India in 1937, and where the largest anti-colonial student demonstration at the time occurred in 1938.

After the Second World War, independence negotiations began, and by 1947 an agreement had been reached with the then independence leader, General Aung San. On 19 July 1947, however, Aung San and eight other cabinet members were assassinated in the west range of The Secretariat, a murder that has since been commemorated every year on 'Martyrs' Day'. Independence from Britain was finally marked in the quadrangle of The Secretariat complex's main courtyard in 1948, a key event in Burmese and British history. It continued to be the centre of postindependence governmental administration until the capital was relocated from Yangon to Naypyidaw in 2005.

Anticipated completion is 2019.



You think its wood?



Ideal for Main Door, Bedroom Door & Back Door

Security Door Benefits

- Elegant designs & finishes
- Easy to install
- Environment-friendly
- Safe & secure
- Durable & termite free
- Fire-resistant up to 2 hours



Size: 900mm x 2100mm, Included: Lockset, deadbolt, door viewer & hinges Size: 800 x 2100mm. Included: Lockset & hinges





The PLAYPOINT Design Studio is a special unit within the PLAYPOINT ASIA Group (Philippines Branch) that focuses on creating new, innovative outdoor - indoor play structures and landscape architectural streetscape park designs that are tailor-made to meet the specific requirements of our clients. This special task force, consisting of Designers, Engineers, Architects, Landscape Architects and other specialists with extensive specializing experience in the design industry, are engaged in adding creativity and play value to customized development solutions.

The PLAYPOINT Design Studio utilizes acquired knowledge through research and physical assets of a network of specialists. It is the premiere Landscape Play Design Studio in Southeast Asia and is gearing towards expanding into creative public streetscape parks and theme park designs.



Industry News

Be Inspired Awards 2017

Bentley Systems, Inc. on Advancing the World's Infrastructures



BIM Advancements in Reality Modeling

Winner

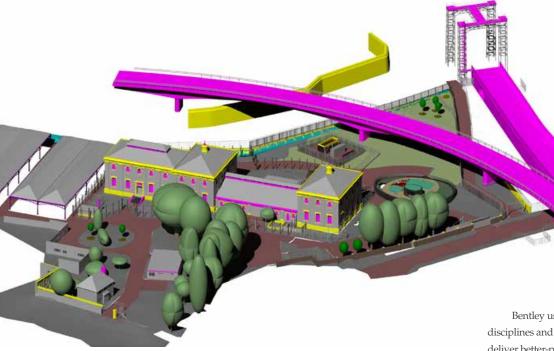
CEDD-AECOM-The Earth Solutions – Development of Anderson Road Quarry Site Hong Kong **Bentley Systems, Incorporated,** a leading global provider of comprehensive software solutions for advancing infrastructure, honors the extraordinary work of Bentley users advancing infrastructure design, construction, and operations throughout the world. Around the world, engineers, architects, and contractors are using Bentley's software solutions to accelerate project delivery and improve asset performance for the infrastructure that sustains our economy and our environment.

BIM Advancements in Utilities and Industrial Asset Performance

Winner

BP – Khazzan Central Information Store Khazzan Field, Block 61, Ad Dhahirah Governorate, Oman





BIM Advancements in Project Delivery

Winne

Mott MacDonald and the Costain, VINCI Construction Grands Projets, Bachy Soletanche Joint Venture – East Section of the Thames Tideway Tunnel – London, England, United Kingdom

Bentley Systems, Incorporated

Bentley Systems, Incorporated, is an software development company that develops, manufactures, licenses, sells and supports computer software and services for the design, construction, and operation of infrastructure. The company's software serves the building, plant, civil, and geospatial markets in the areas of architecture, engineering, construction (AEC) and operations. Their software products are used to design, engineer, build, and operate large constructed assets such as roadways, railways, bridges, buildings, industrial plants, power plants, and utility networks. The company re-invests 20% of their revenues in research and development.

Bentley users leverage information mobility across disciplines and throughout the infrastructure lifecycle to deliver better-performing projects and assets. Bentley solutions encompass MicroStation applications for information modeling, ProjectWise collaboration services to deliver integrated projects, and Asset Wise operations services to achieve intelligent infrastructure – complemented by worldwide professional services and comprehensive managed services.

Bentley Systems is headquartered in Exton, Pennsylvania, United States, but has development, sales and other departments in over 50 countries. Founded in 1984, Bentley has more than 3,000 colleagues in over 50 countries, more than \$600 million in annual revenues, and since 2008 has invested more than \$1 billion in research, development, and acquisitions.

With their broad product range, strong global presence, and pronounced emphasis on its commitment, Bentley is much more than a software company as they are engaged functioning members of the global community. Bentley's successes are determined by the skills, dedication, and involvement of extraordinary Bentley colleagues around the world.

The Year in Infrastructure 2017 Conference

The *Year in Infrastructure Conference* is Bentley's annual global gathering of leading professionals in the world of infrastructure design, construction, and operations. It features a series of presentations and interactive workshops exploring the intersection of technology and business drivers, and how they are shaping the future of infrastructure project delivery and asset performance.

The Year in Infrastructure 2017 Conference was held from October 10-12 in Singapore at the Marina Bay Sands Expo and Convention Centre, one of the most iconic buildings in Asia. The structural design of Marina Bay Sands was done by Arup and was Bentley's 2010 Be Inspired Award winner for Innovation in Structural Engineering.

This year's conference included several forums like The Buildings and Campuses Forum, The Digital Cities Forum, The Industrial Forum, The Rail and Transit Forum, The Roads and Bridges Forum, The Utilities and Water Forum, and the Alliance Partner Pavilion and Sessions.

There are some meetings, as well, which are by invitation only like The Project Delivery Summit, The Infrastructure Asset Performance Summit, and the The CIO Summit. Pre-conference Learning Academies were also held which includes BIM Advancement, Construction, and Reality Modeling.

The Year in Infrastructure 2017 Conference was supported by its Platinum Sponsor, Microsoft and Gold Sponsors like ARC Advisory Group, BNP Media, Engineering News-Record, Informed Infrastructure, New Civil Engineer, PennEnergy, Reliabilityweb.com, SPAR 3D, and Water & Wastewater International.

Be Inspired Awards 2017

The annual Be Inspired Awards, a competition recognizing BIM advancements in infrastructure, is an integral part of The *Year in Infrastructure* Conference, which brings together infrastructure professionals and members of the media from around the globe to share innovative practices in infrastructure project design, engineering, construction, and operations.

Since 2004, the *Be Inspired Awards* program has showcased excellence and innovation in the design, construction, and operations of infrastructure projects around the world. The *Be Inspired Awards* program is unique – the only competition of its kind that is global in scope and comprehensive in categories covered, encompassing all types of infrastructure projects. The program has recognized more than 3,000 of the world's most outstanding infrastructure advancements. In the awards program, which is open to all users of Bentley software, independent panels of industry experts select finalists for each category.

For the 2017 *Be Inspired Awards program*, ten independent jury panels comprising distinguished industry experts selected the 51 finalists from more than 400 nominations submitted by organizations in more than 50 countries.

Bentley acknowledged 17 $\it Be\ Inspired\ Awards$ winners and six Special Recognition Awards winners.

BIM Advancements in Municipal Operations

Winner
Huadong Engineering
Corporation Limited,
PowerChina – Application
of BIM Strategy for
Shenzhen Qianhai
Municipal Infrastructure –
Shenzhen City, Guangdong

Province, China





Winner

Morphosis – Bloomberg

Center Project – New York,
New York, United States







Be Inspired Awards Winners for 2017



BIM Advancements in Bridges

winner Long Jian Road & Bridge Co., Ltd. Heihe-Blagoveshchensk Heilongjiang River (Amur River)

Road Bridge Project Heihe City, Heilongjiang Province, China

finalists **AECOM for Pearl Harbor Memorial Bridge** New Haven, Connecticut, United States

Arcadis-WSP/PB Joint Venture for Citylink Tulla Widening Melbourne, Victoria, Australia

BIM Advancements in Buildings and Campuses

winner Morphosis – Bloomberg Center Project New York, New York, United States

finalists Shalom Baranes Associates - Cannon House Office Building Renewal Washington, District of Columbia, USA

WSP - 1 Blackfriars, London London, England, United Kingdom

BIM Advancements in Construction

winner Leighton Asia – Hong Kong Boundary Crossing Facilities Hong Kong-Zhuhai-Macao Bridge, Hong Kong

finalists China Construction Sixth Engineering Division, Tianjin University of Technology, Tianjin Tianhe-Cloud Building Engineering Technology Co., Ltd.

Sanya New Airport Reclamation Project, Sanya, Hainan, China

JMC2 – Heaven Sent Simi Valley, California, United States

BIM Advancements in Environmental Engineering

winner NJS Engineers India Pvt. Ltd. – JICA Assisted Ganga Action Plan II Varanasi, Uttar Pradesh, India

finalists Raymond Vogel Landschaften AG – New Landscape for New Hydropower Plant in Hagneck Hagneck, Canton Bern, Switzerland

Stream Environment Sdn. Bhd. – Automated Waste Collection System for Changi Airport Terminal 4 Singapore

BIM Advancements in Construction

Winne

Leighton Asia – Hong Kong Boundary Crossing Facilities, Hong Kong-Zhuhai-Macao Bridge – Hong Kong

BIM Advancements in Manufacturing

winner Satria Technologies Sdn. Bhd. – Sustainable Solutions for Control & Protection Systems Klang, Selangor, Malaysia

finalists CPC Corporation, Taiwan - Talin No.12 Topping Unit Project Kaohsiung, Taiwan

PJSC Giprotyumenneftegaz – Central Production Facility, Novoportovskoye Field Tyumen Region, Yamal-Nenets Autonomous District, Russia

BIM Advancements in Mining and Offshore Engineering

winner Offshore Oil Engineering Company Limited - Field Jacket Design and Development of 'Fixed Offshore Structure Design Tool' Tianjin, China

finalists AMEC Foster Wheeler - Gruyere Project South Dorothy Hills, Western Australia, Australia

Volgogradnefteproekt, LLC - Design of Electro-Technical Solutions and Systems for Control of the Conductor Supported Platform of Filanovsky Field Caspian Sea, Russia

BIM Advancements in Municipal Operations

winner Huadong Engineering Corporation Limited, PowerChina - Application of BIM Strategy for Shenzhen Qianhai Municipal Infrastructure Shenzhen City, China

finalists AAM Group - Creating Singapore's National 3D Map Using Mobile Mapping Singapore

Tianjin Municipal Engineering Design & Research Institute - Construction and Design General Contracting of Retrofit Project Sanya, Hainan Province, China

BIM Advancements in Power Generation

winner China Water Resource Pearl River Planning Surveying & Designing Co., Ltd. - Wugachong Reservoir Project in Pu'an County of Guizhou Province -

Pu'an County, Qianxinan Buyei and Miao Autonomous Prefecture, Guizhou Province, China

finalists COBA - Engineering and Environmental Consultants - Kholombidzo Hydro Power Electric Plant District of Blantyre, Malawi

PowerChina ZhongNan Engineering Corporation Limited - Digital Delivery of Qiongzhong Pumped Storage Power Station Qiongzhong County, Hainan Province, China

BIM Advancements in Project Delivery

winner Mott MacDonald and the Costain, VINCI Construction Grands Projets, Bachy Soletanche Joint Venture – East Section of the Thames Tideway Tunnel

London, England, United Kingdom

finalists A Natural Gas Company – Implementation of a Comprehensive Technical Records & Information Management Program Powered by ProjectWise Canada

Ghafari Associates, LLC – General Motors Productivity Improvement Program Various Locations, Michigan, United States



BIM Advancements in Mining and Offshore Engineering

Winner
Offshore Oil
Engineering Company
Limited – Field
Jacket Design and
Development of 'Fixed
Offshore Structure
Design Tool' – Tianjin,
China

BIM Advancements in Rail and Transit

winner Mass Rapid Transit Corporation Sdn. Bhd. – Klang Valley Mass Rapid Transit Project - Sungai Buloh-Serdang-Putrajaya Line

Kuala Lumpur, Malaysia

finalists China Railway Eryuan Engineering Group Co. Ltd.; Yungui Railway Yunnan Co. Ltd. - Application of BIM Strategy for Dali to Ruili Railway Project

Baoshan, Yunnan Province, China

Jacobs/Zephyr UAS - Mapping 42 Miles of California High Speed Rail Corridor Utilizing UAVs

Burbank to Los Angeles to Anaheim, California, United States

BIM Advancements in Reality Modeling

winner CEDD-AECOM- The Earth Solutions – Development of Anderson Road Quarry Site Hong Kong

finalists The Pennsylvania State University, Department of Architectural Engineering – Virtual Penn State Campus University Park, Pennsylvania, United States

The Sanborn Map Company, Inc. - Sanborn3D HD Maps for Autonomous Driving: Santa Clara County, California, United States

BIM Advancements in Roads

winner CCCC First Highway Consultants, Co., Ltd. - Application of BIM Strategy on the Transformation of Meiguan Expressway to Urban Road Design Project

Shenzhen City, Guangdong Province, China

finalists AECOM - Road Design and Inter-disciplinary Coordination of the E10 Avvakko-Lappeasuando Project Gällivare kommun, Norrbottens län, Sweden

CH2M Fairhurst JV – A9 Dualling - Glen Garry to Dalraddy Dalwhinnie, Highlands, United Kingdom

BIM Advancements in Road and Rail Asset Performance

winner Highways England - Network Occupancy Management System (NOMS) Strategic Road Network, England, United Kingdom

finalists New Jersey Department of Transportation (NJDOT) - NJDOT / Public Private Partnership of a Bentley-Hosted SUPERLOAD System for Oversize

Trenton, New Jersey, United States

Oregon Department of Transportation - TransInfo - A Connected Data Environment for Transportation | Salem, Oregon, United States

BIM Advancements in Utilities and Industrial Asset Performance

winner BP – Khazzan Central Information Store Khazzan Field, Block 61, Ad Dhahirah Governorate, Oman

finalists AES Indianapolis Power and Light – T&D Implementation of Asset Risk at Indianapolis Power & Light

Indianapolis, Indiana, United States

North Caspian Operating Company N.V. – Kashagan Oilfield Corrosion and Inspection Management

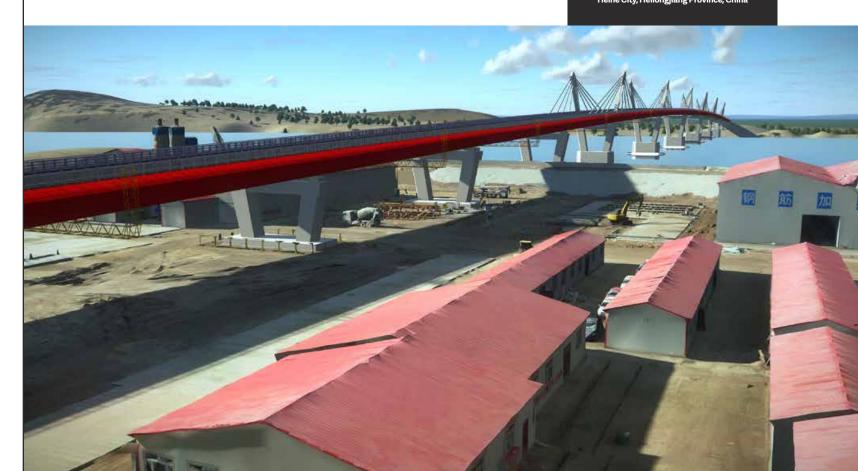
Project in the North Caspian Sea and Bolashak Operating Production Facility

Atyrau Region, North Caspian Sea, Kazakhstan

BIM Advancements in Bridges

Winner

Long Jian Road & Bridge Co., Ltd. – Heihe-Blagoveshchensk Heilongjiang River (Amur River) Road Bridge Project – Heihe City, Heilongjiang Province, China



BIM Advancements in Power Generation

Winner

China Water Resource Pearl
River Planning Surveying
& Designing Co., Ltd. –
Wugachong Reservoir Project
in Pu'an County of Guizhou
Province – Pu'an County,
Qianxinan Buyei and Miao
Autonomous Prefecture,
Guizhou Province, China



BIM Advancements in Utilities Transmission and Distribution

winner Pestech International Berhad – Automation and Integration of Substation Design Project Kratie and Kampong Cham, Cambodia

finalists Hubei Electric Power Survey and Design Institute – Macheng Caijiazhai Wind Farm Project Macheng, Hubei Province, China

Pacific Gas & Electric Company - Reality Modeling in Bentley Substation San Francisco, California, United States

BIM Advancements in Water Networks

winner AEGEA - AEGEA Prolagos Sewerage Master Plan 2041 Região dos Lagos, Rio de Janeiro, Brazil

finalists Manila Water Company, Inc. - Manila Water Natural Calamity Risk Resiliency and Mitigation Masterplan National Capital Region, Rizal Province, Philippines

Enorsul - Sanitation Services - Optimization of Water Distribution System and Reduction of Losses Olinda, Pernambuco, Brazil

Asset Information Management Advancement

winner Oregon Department of Transportation – TransInfo —

A Connected Data Environment for Transportation

Salem, Oregon, United States

Inspectioneering Advancement

winner SEIKEY Enterprise Drone Solutions -

Cell Tower Inspections 4G and 5G –

Caronno Pertusella, Varese, Italy

Conceptioneering Advancement

winner HNTB Corporation – I-94 Modernization Project

Detroit, Michigan, United States

Comprehensive BIM Advancement

winner Guangdong Hydropower Planning & Design Institute

- Guangdong Pearl River Delta Water Resources Allocation Project

Guangdong Province, China

Constructioneering Advancement

vinner China Construction Sixth Engineering Division, Tianjin University of Technology, &

Tianjin Tianhe-Cloud Building Engineering Technology Co., Ltd.

Sanya New Airport Reclamation Project – Sanya, Hainan, China

Operationeering Advancement

vinner Outotec - Design for Reliability Project in Counter Current Decantation (CCD)

Helsinki, Finland

SUSTAINABLE INNOVATION FOR WOLRDBEX 2018

Living up to its reputation as the country's biggest and most attended construction and design trade show in the country, the Philippine World Building and Construction Exposition or simply WORLDBEX was met by another astounding success when it held its 22nd installment earlier this year. Housing over 1,000 exhibiting companies, the event attracted over 170,000 visitors from across the globe – attesting to its relentlessly growing ascendancy in the industry.

Following this triumphant streak, Worldbex Services International is more than thrilled to announce the return of WORLDBEX on March 14 to 18, 2018 at the World Trade Center and the SMX Convention Center Manila. For its 23rd year, WORLDBEX will be working towards the goal of inspiring industry practitioners of the construction and design trade

to unite and pursue the common vision of "Shaping

Innovations toward Sustainability".

Bound to be the biggest convergence of the industry's most influential players, the upcoming WORLDBEX 2018 is expected to host over 20 participating countries including Austria, Australia, Belgium, Brunei, China, Finland, Hongkong, and Germany in its bid to strengthen the ties between the local and international sector.







Furthermore, WORLDBEX is gearing up to showcase another round of its much-anticipated event highlights which include the Architect's Gallery, a hub that features the unique design perspectives and adaptations of the latest trends of the country's leading practitioners.

Trade show participants will also be delighted to know that WORLDBEX 2018 will once again offer its Business Matching Services to assist participating companies and trade show visitors who are seeking to establish business connections and investment opportunities with ease and accuracy. There is also the WORLBEX Seminars, which will bring in leading practitioners in the field for a series of insightful and informative talks and workshops.

For over two decades, WORLDBEX has led at the forefront of nurturing the growth of its industry. This year, it continues its plight towards realizing its aspiration as it returns for its 23rd edition. Take part in building tomorrow as "WORLBEX 2018: Shaping Innovation towards Sustainability" happens this March 2018!

For more information, visit www.worldbex.com or contact info.worldbex@gmail.com.

Industry News

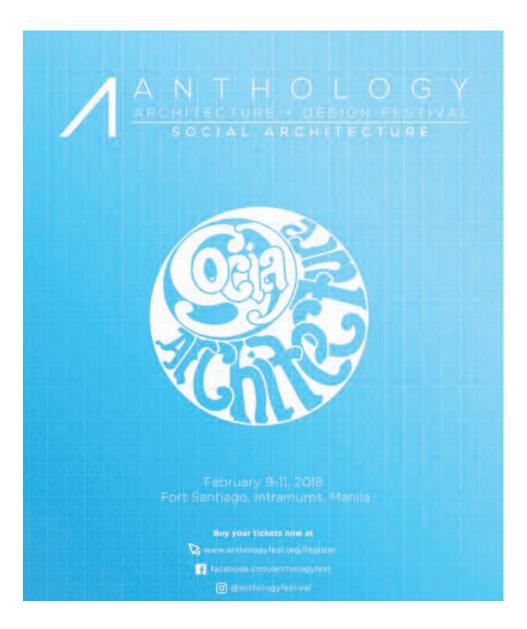
Anthology Architecture and Design Festival 2018

Gathering top architecture and design professionals worldwide in celebration of Social Architecture

Anthology Architecture and Design Festival 2018 brings together top architecture and design professionals from all over the world in search of developing an architecture that promotes a network of inclusive barrierfree spaces that engage communities and their people. This celebration comprising of lectures, workshops, seminars, competitions, and exhibitions will be held on February 9-11, 2018 at Fort Santiago, Intramuros, Manila.

Joining the festival this year are prominent figures in the industry including Kai Uwe Bergman of Bjarke Ingels Group, Chris Bosse of Laboratory for Visionary Architecture (LAVA), Lyndon Neri or Neri & Hu, Takashi Niwa of Vo Trong Nghia Architects, Billy Kwan of One Bite Design Studio, Rachaporn Choochuey of all(zone), Raymond Hoe of Scott Brownrigg, Ben Duckworth of HASSELL, Erico Abordo of Architects of Accessibility, Twitee Vajrabhaya of Department of ARCHITECTURE Co., Dominic Galicia of DGA, Tobias Guggenheimer of SoFA, Chris Precht Fei Yi of House of Penda, Jinky de Jesus of Light Plan Inc., Yifei Li of Shenzhen University School of Art and Design, Florian Heinzelmann and Daliana Suryawinata of SHAU, Ivy and Cynthia Almario of Atelier Almario as well as World Architecture Festival 2018 winners Alexander Furunes, Sudarshan Khadka Jr. of Project Tagpuro, and Edward Ng of Chinese University Hong Kong among others.

Anthology Architecture and Design Festival is an annual three-day event that showcases architecture and design within the Philippines and the Southeast Asian region. The festival serves as a platform to bring together various practitioners and stakeholders and aims to increase awareness about the relevance of architecture and design in our urban societies. We anticipate the attendance of over 100 leading local and international practitioners to lead the lectures, workshops, talks, design competitions and dialogues for an audience of over 6,000 architects, designers, developers and students.



Anthology began in June 2016 with over 2,000 guests in dialogues on "Stories About Architecture"; it was hosted by 65 leading built environment practitioners from seven countries including the Philippines, Hong Kong, South Korea, France, The Netherlands, United Kingdom, and Canada. On its second year, Anthology 2017 saw an exponential increase of attendees with over 4,000 guests and 83 lecturers, speakers and exhibitioners from eleven countries, now including Japan, Singapore, China, Thailand, Belgium, Denmark, and Vietnam. The festival was rooted in the theme "Context and Intent", with lectures, dialogues and design competitions simultaneously taking place, resulting in rich multi-disciplinary and multi-cultural discourse which seek to explore new and better ideas.

The festival is organized by WTA Architecture and Design Studio and is made possible by OMNI Electrical and Lighting, Rapid Steel Builders Inc., TOSOT Philippines, Pacific Paint (Boysen) Philippines, Metrobank Foundation Inc. as Festival Partners; Landlite Philippines Corporation, World Home Depot, Atlanta Pipes and Fittings, ABC Innovative Building Materials as Festival Sponsors; and Intramuros Administration, City of Manila, Embajada de España en Filipinas, Instituto Cervantes, Embassy of Denmark Manila, Escuella Taller de Filipinas Foundation Inc., Manila Biennale, Kaya ng Pinoy, and Philippine Heritage Mapping as Cultural Partners. **D+C**

Anthology Architecture and Design Festival is an annual non-profit event organized by WTA Architecture + Design Studio. Proceeds shall be used to sponsor projects of the Intramuros Administration and a chosen charitable institution within the area.

For more information, please visit www.anthologyfest.org or facebook.com/AnthologyFest or contact Arch. Dianne Naval, Festival Manager (dianne.naval@wtadesignstudio.com, info@anthologyfest.org) or Arvin Pangilinan, Press Manager/Project Organizer (arvin.pangilinan@wtadesignstudio.com) **D+C**



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