FUTURARC

The Voice of Green Architecture in Asia-Pacific

3Q 2022 | volume 78

GREEN REINTERPRETATION AWARDS

MCI (P) 002/01/2022 PPS 1786/04/2013(022947)

Hong Kong HKD72 RMB80 **Indonesia** IDR150,000 **Malaysia** MYR39 **Philippines** PHP500 **Singapore** SGD15 **Thailand** THB290 **Vietnam** VND190,000

SOUTHEAST ASIA + HONG KONG + INDONESIA EDITION

BCI Asia

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Published by **BCI Central Singapore Pte Ltd**
Printed by **PT Gramedia Printing**
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LETTER FROM THE EDITOR

Dear *FuturArc* readers,

"God is in the details."

This famous quote by Mies van der Rohe aptly illustrates this cycle's FuturArc Prize (FAP) First Place winner's entry.

Chai Yi Yang's proposal is one that has been meticulously thought out and painstakingly drawn up.

I will not give away too much here for the beauty of his work must be personally appreciated in detail—similarly for the rest of the winning and merit entries of FAP 2022.

Dedicated to the spirit of the competition, this issue celebrates the creative dynamism of fresh ideas and energy.

Reinterpretation was the brief of the 2022 competition cycle opened to students only. The jury meeting was held online for the first time in FAP's 14-year history, plus a rigorous round-table discussion—read the in-depth content in The FuturArc Interview.

"To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advance in science." Albert Einstein.

This is indeed true to the extent of relooking at current states of one's built environment and see how disused/underused assets could be reinvigorated to become better natural, social and human spaces.

On realising the potential of each of these ideas, the jurors have raised important points that while most of them definitely have high actualisation possibilities, they need other key elements such as sound financing and collaborative expertise to make the leap from plan to fruition.

And it is in this light that an insight from a well-versed practitioner in this field is relevant—he proposes a framework that will better help young architects and industry professionals bring their designs to life in the face of an ever-changing, complex network of hardware and software.

"If you have built castles in the air, your work need not be lost; that is where they should be. Now put the foundations under them." Henry David Thoreau.

We hope this issue will inspire more creative, meaningful ideas with strong foundations that will be gentle to Nature and strict on ourselves.

CONTENTS

FUTURARC PRIZE 2022

Vietnam,
Ho Chi Minh City

THIRD

Malaysia,
Selangor

FIRST

Indonesia, Jakarta

SECOND

Vietnam, Ho Chi Minh City

Merit

Merit

Vietnam, Hanoi

Merit

Merit

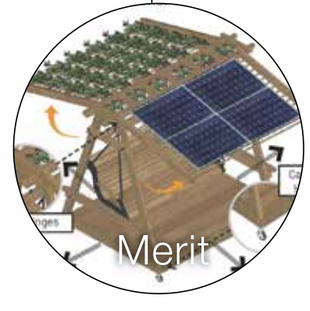
Singapore, Toa Payoh

Merit

Indonesia, Jakarta

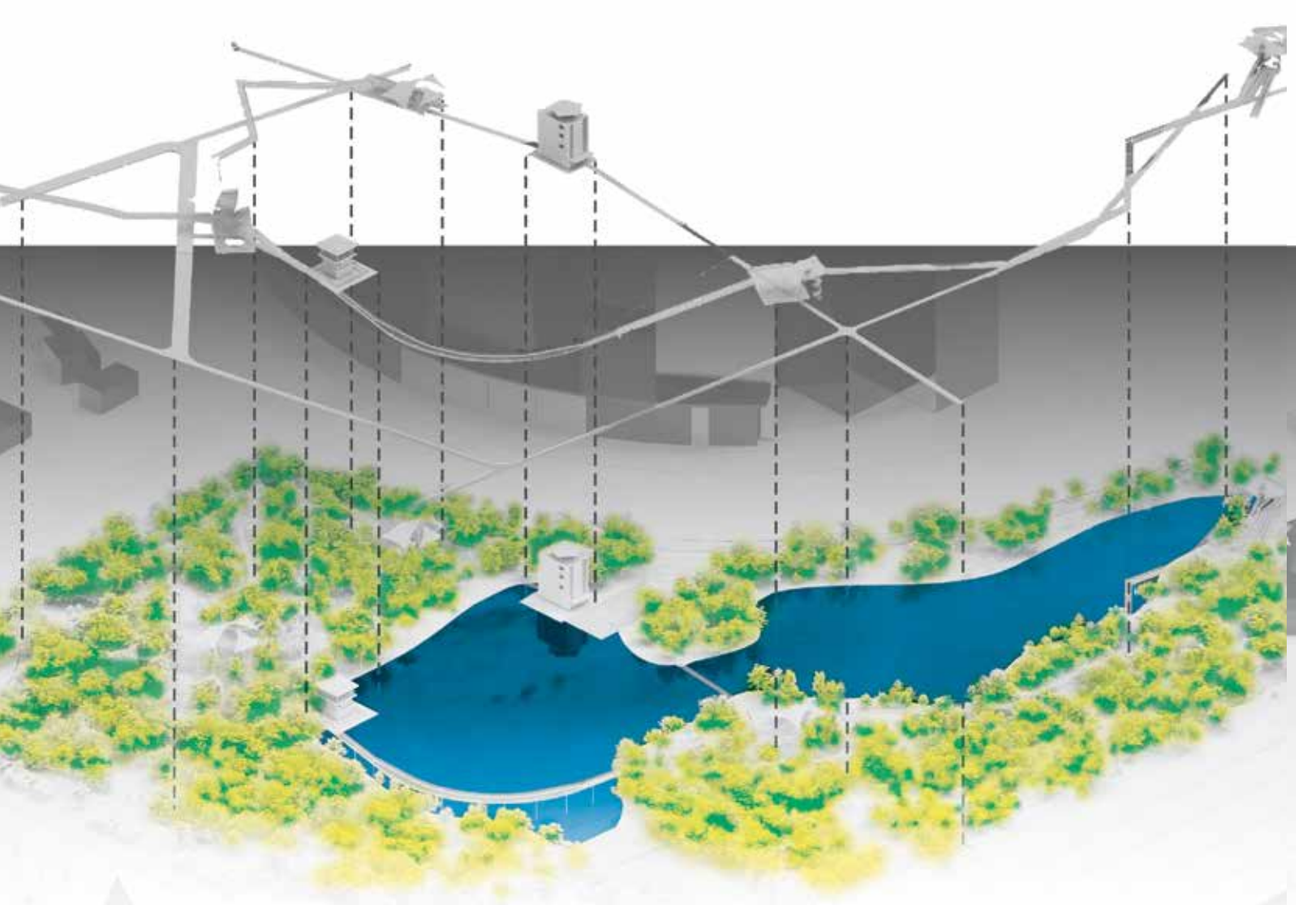
Merit

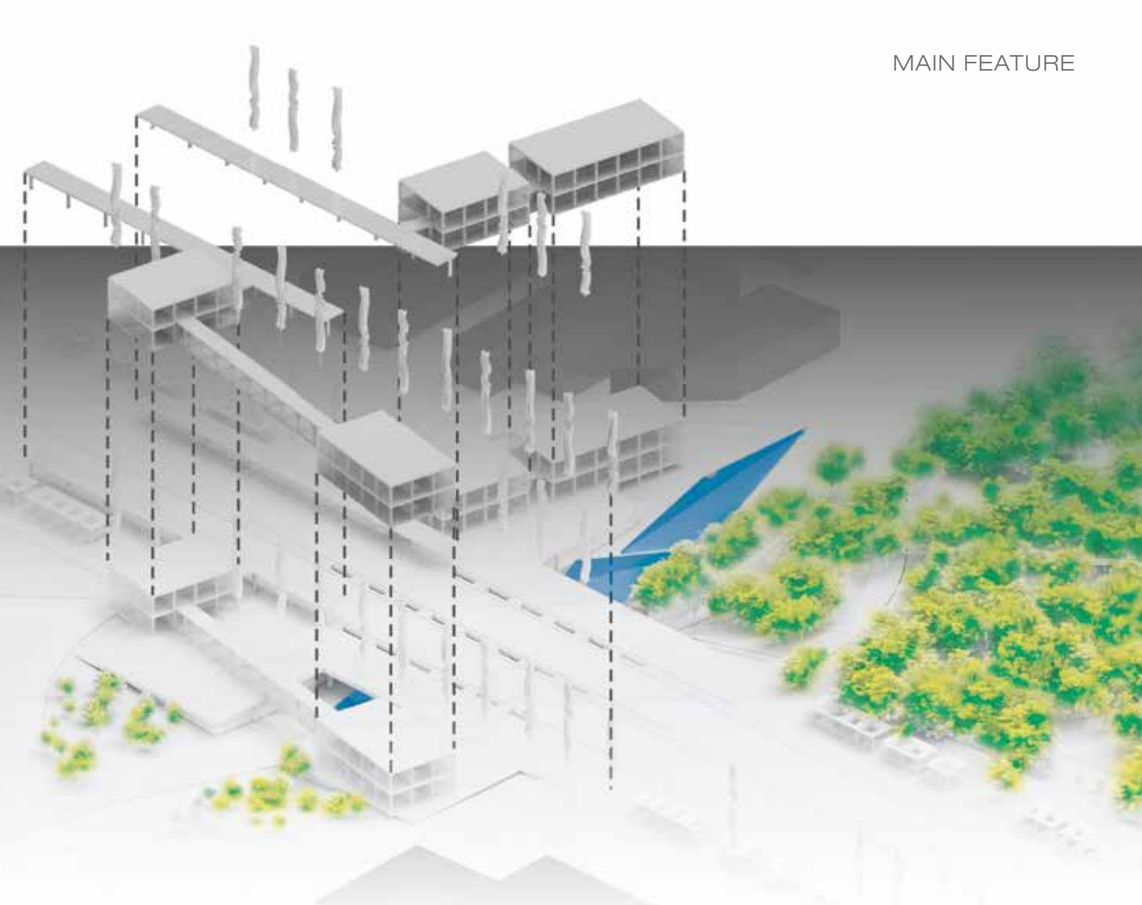
Indonesia, Jakarta



Merit

Sophie McAulay/Shutterstock.com





FUTURARC PRIZE 2022: REINTERPRETATION

After a year of hiatus, FuturArc Prize (FAP) 2022 has returned to reignite the spark of creativity. From November 2021 to March 2022, this cycle's students-only participation turned its lens to the next generation of architects to present their ideas for a brief—one with the highest realisation potential in FAP's 14-year run—that could pragmatically improve Asia's built and living environment in the near future.

FAP 2022 asked students to reinterpret existing corporate/private/state-owned entities in Asia to transform them into civic/public spaces that give back to the community—that are good, inviting, safe and sustainable. This challenge was set in the hope that the visions proposed could one day be transformed into reality.

TASK

- Pick a city in Asia. This may be a city where entrants live or one that they are familiar with.
- Choose a current project with a site area of up to 100,000 square metres (10 hectares), with an existing underutilised/empty building. At the point of submission, this must be the case and entrants should provide the actual images of the site or the geographical coordinates. Both private and government-owned project sites are acceptable.
- Understand the potential impact of reinterpreting this project on the community and the environment—this means firstly understanding the project's current architecture and structure before evaluating the motivation for reinterpreting it with a new function.
- Decide on reinterpretation and type of intervention. Propose new elements and networks that will help achieve the project's new goals.

It was made clear that the challenge cannot be solved with ad hoc addition of greenery and water to an existing development. It also cannot be solved by architecture alone. Entrants were encouraged to consult a sociologist, a biologist or an ecologist where possible, or at the very least, make inroads into available knowledge on social sciences. The creation of safe, sustainable and equitable community public spaces can only be reached if there is an understanding of how social and urban systems can be integrated. Thus, each approach should illustrate a win-win solution for both social needs and physical contextuality.

EVALUATION CRITERIA

The jury looked for solutions that are plausible, rooted in local conditions and are cross-disciplinary. Decisions that are made on scale and delineation of site boundaries must be clearly explained. Entrants must also explain context in terms of why a particular current development has been selected, what the community needs are and the known impact on the environment. The submission must be presented clearly as a proposed reinterpretation of a private project to a public one with relevant reimagined natural and social layers as well as their contributions or purposes to the greater good.
Judging was based on a clear explanation of the following guidelines corresponding to the task:

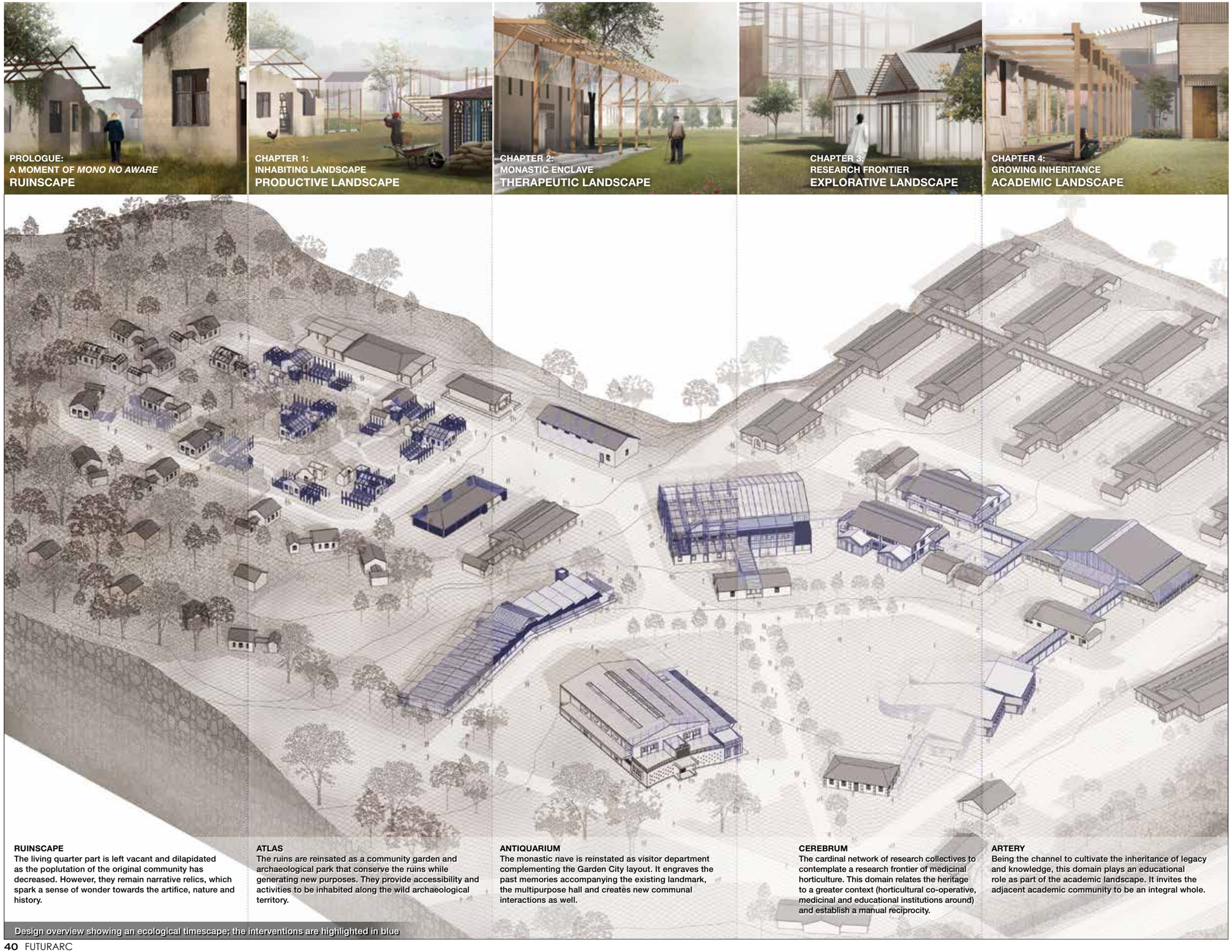
- Reinterpretation: The intervention in terms of design and functions
- Integration: Layers of interacting natural and human-made systems
- Impact: How a proposed solution affects community and the natural environment
- Replicability: How a proposed solution might be replicated across the city or to other cities

The competition received over 290 registrations and over 100 submissions; and finally 78 entries were qualified, having met the brief requirements, that were judged by the jury panel.

This issue's Main Feature is dedicated to highlighting FAP 2022 winning and merit entries, as well as the awardees. For a closer look at the original submission panels, please access FuturArc's digital version of this issue (visit www.futurarc.com for details).

FIRST PLACE

A CHRONOGRAPHIC BLUEPRINT: REINSTATING THE VALLEY OF HOPE



RUINSCAPE
The living quarter part is left vacant and dilapidated as the poplutation of the original community has decreased. However, they remain narrative relics, which spark a sense of wonder towards the artifice, nature and history.

ATLAS
The ruins are reinsated as a community garden and archaeological park that conserve the ruins while generating new purposes. They provide accessibility and activities to be inhabited along the wild archaeological territory.

ANTIQUARIUM
The monastic nave is reinstated as visitor department complementing the Garden City layout. It engraves the past memories accompanying the existing landmark, the multipurpose hall and creates new communal interactions as well.

CEREBRUM
The cardinal network of research collectives to contemplate a research frontier of medicinal horticulture. This domain relates the heritage to a greater context (horticultural co-operative, medicinal and educational institutions around) and establish a manual reciprocity.

ARTERY
Being the channel to cultivate the inheritance of legacy and knowledge, this domain plays an educational role as part of the academic landscape. It invites the adjacent academic community to be an integral whole.

Design overview showing an ecological timescape; the interventions are highlighted in blue

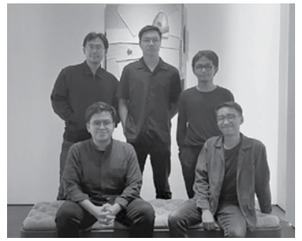
Chai Yi Yang is an architectural designer born and raised in Kuala Lumpur, Malaysia. Recently, he completed both his Master's Degrees of Architecture (RIBA Part II/LAM Part II) in University of Malaya. His passion lies among the various aspects of art and design creation in architecture. His architectural projects span across various scales: from urbanism, place-making, sustainability to heritage conservation, community building, single dwelling; as well as sometimes speculative or provocative schemes.

Aerial view of site

Current site image

SECOND PLACE

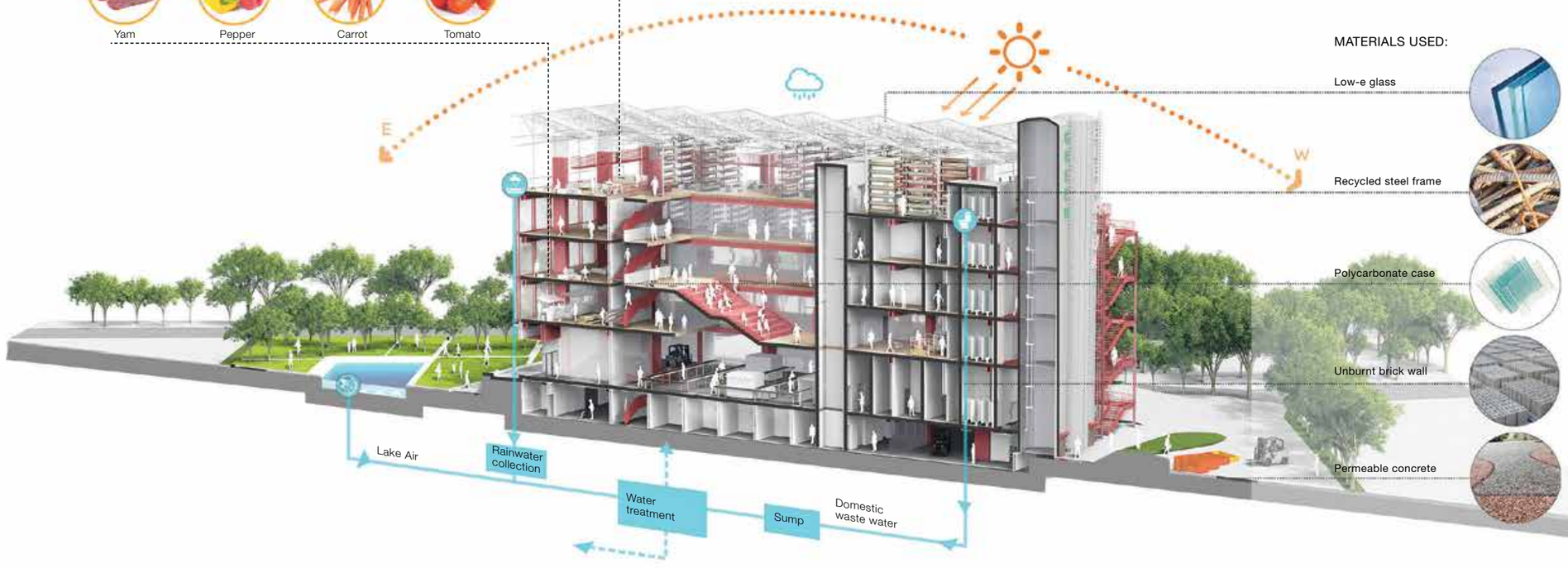
BIODIVERCITY: A STORY OF FLIGHT



Favian Rifqi and **Ahimsa Sirait** are fresh graduates, while **Eistein Benedito**, **Aldrianta Pribadi** and **Gevin Timotius** are final-year students at the Parahyangan Catholic University Bandung. The team was formed out of their common vision and interest in public spaces, especially in Jakarta, their city of origin. With their distinct characters and ideas, the team shares perspectives on how to envision better public spaces in the capital, and challenge themselves to come up with creative solutions for an improved living environment.

THIRD PLACE

REVIVAL WASTE: PROPAGATING PERMACULTURE

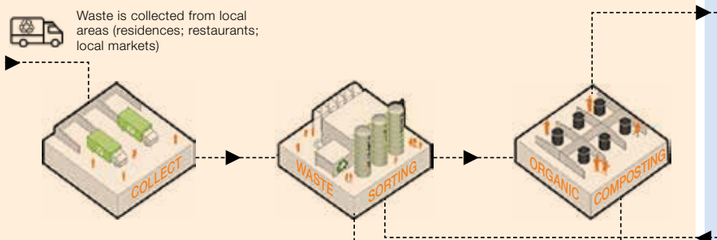


ROOF SECTION:

Roof to collect rainwater

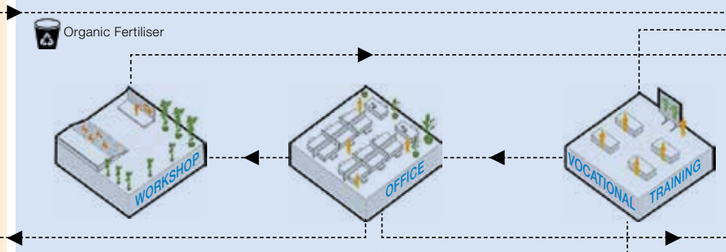
Roof for ventilation and lighting

MATERIALS USED:

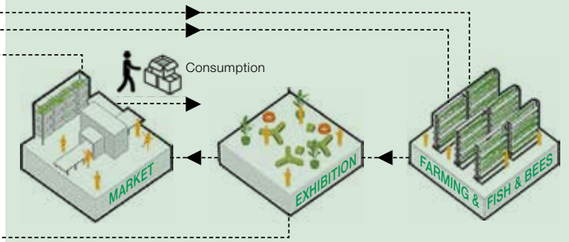


PRODUCTION ZONE
Production zone plays a core role in the operation cycle of the project. It treats and recycles organic waste back to agricultural resources, minimising pressure on waste factories

Different types of recycleable waste are transported to treatment factories



EDUCATION ZONE
Educational space helps connect people with Nature, spreading environmental awareness



PUBLIC ZONE
Public spaces act as community spaces, organising social activities that attract people and displaying products at the on-site greenhouse

Operations diagram

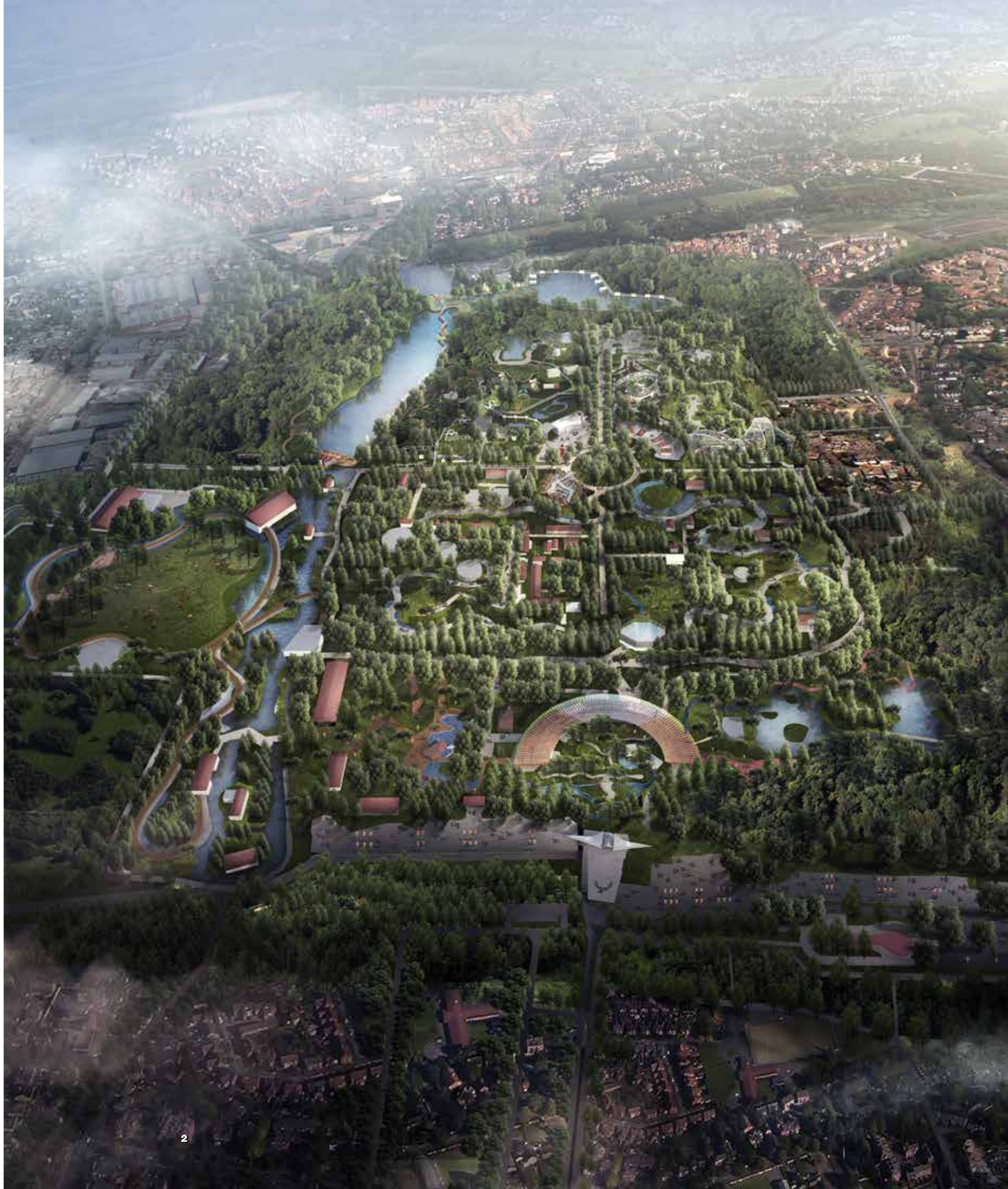
Nguyen Tien Huy, **Nguyen Thanh Lam** and **Nguyen Quang Linh** are fourth-year students while **Han Phung Van Trang** and **Tran Thanh Tung** are third-year students at Hanoi University of Architecture. Gathering for this first project, the group shares the same vision of sustainable development of the city and believes in the role and impact of architecture in improving people's spiritual and social life.

Aerial view of site

Current site image

Master Plan of Ragunan Bio Park: A Nature-based update of Indonesia's oldest zoo

1



2

AND NOW THE REAL WORLD

by **Anshuman Roy**

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How can students, researchers and practitioners of architecture harness new-age technology to address real-world application pain points?

Student projects often explore abstract, even utopian ideas at the levels of philosophy, form and functionality. This is based on what we are encouraged to do in architecture school—to push the envelope with regards to the meaning of a project, its dynamics with its context and the environment. While this continues to be the creative architect's primary currency as they transition to practice, real-world application and execution take place at a far more intricate resolution. In transitioning from a closed, peer-reviewed constructs of an academic setting, the practising architect functions within a complex stakeholder matrix, where the potentials and constraints presented thereby must inform every aspect of the design process.

Terms like Web 3.0/the metaverse; gamification; mixed-reality architecture; generative design; open-source design; and robotic/intelligent automation are increasingly finding their way into an evolving architecture, engineering, construction and operation (AECO) industry vocabulary. And it is evident that boundaries between disciplines will only continue to blur as we nurture deeper cultures of cross-collaboration.

The early inculcation of a practice-facing worldview into the fabric of architectural pedagogy will teach students to view projects from the lens of real-world application pain points, and in time, prepare young architects to tackle them using higher-fidelity technology that will be at their disposal. If a project is interpreted as a sequence of co-dependent life cycles, each with its unique workflows, opportunities and constraints, then a fluid brand of specialisation, agnostic solution-making can be encouraged, i.e., aggregated from or across a spectrum of disciplines. This will allow a student to approach a brief from an object-oriented perspective, innately attuned to deciphering potentials that technology can bring to a project at every life cycle—from feasibility to design to construction.

THE FEASIBILITY LIFE CYCLE

An architectural feasibility study investigates the potential of a site or building, towards helping an investor/developer understand the viability of their development goals for a property.[1] Studies ranging from site sourcing, financial feasibility modelling, environmental, social and governance (ESG) frameworks and generative design studies can pre-inform potentials, constraints and projected performances towards helping to define and manage expectations of a project.

Developers and landowners tend to fall into two general camps when it comes to land feasibility assessments. The first camp is willing to go through a complex process involving a myriad of consultants, architects and surveyors to understand a development opportunity—a process that takes significant time and is resource- and cost-intensive. The second camp would usually attempt to fast-track this process owing to time/budget constraints, basing decisions on broad-strokes risk quantification.[2]

The PropTech or LandTech research industry is hyper-focused on balancing this divide—on developing efficient, faster outcome-driven assessments to evaluate how land deals stack up under different barometers of importance, ranging from geological analyses to economic and environmental impact studies. The goal is to empower landowners and developers to move away from static spreadsheets and onto intelligent, automated systems driven by data modelling.

Mathematical forecasting tools like ARGUS EstateMaster and financial appraisal tools like Aprao leverage intricate fiscal modelling and data analytics to understand the risks involved in a project and the potential opportunities.

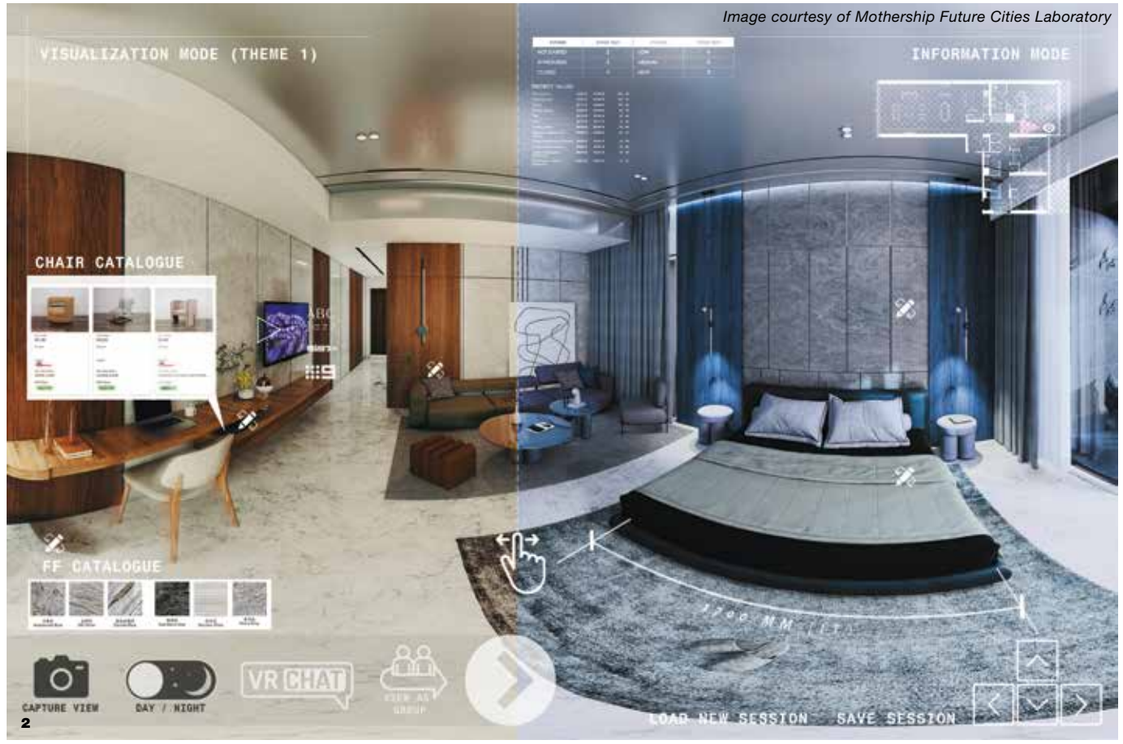
ESG frameworks define comprehensive sustainability targets that are being integrated into policymaking, public sector investment and certification prerequisites. Tools like One Click LCA (life cycle assessment) and Ramboll's GreenScenario help cities reduce their environmental impact and plan climate adaptive developments. They do so by using software-augmented planning workflows that combine analysis and simulation, and facilitate cross-process collaboration.

In India, there are a number of private-government sector collaborative efforts underway towards simplifying and organising sourcing and potential evaluation of land onto consolidated 'for public' platforms—across a diaspora of geographies, state lines, climates and local dialects that make a country of 1.4 billion people. These endeavours, many under the umbrella of the government of India's Smart Cities Mission, also have the effect of smart infrastructure injection into villages and smaller towns in need of development and upscaling. India is home to a number of start-ups in this domain of geo-intelligence technology. Some, like DimensionI GIS, conduct geographic information system (GIS) mapping and information cataloguing to answer vital questions like pattern, condition, trends, modelling and location of any region. Others, like GCRS (Geo Climate Risk Solutions), focus on innovations and spatial platforms to address the issues of climate change, disaster risk reduction, integrated water resource management and other developments.

The more these technologies are explored by architects, the bigger the impact they can have by driving early massing decisions. This will in turn give developers a better chance of achieving ESG goals, for cities to provide a better life for its citizens. The ability to base early design decisions on a wider range of considerations, will also facilitate better prepared workflows that lead to optimised execution.

1 Web 3.0/the metaverse; gamification; mixed-reality architecture; generative design; open-source design; and robotic/intelligent automation are increasingly finding their way into an evolving architecture, engineering, construction and operation (AECO) industry **2** The ongoing gamification revolution could be leveraged to bring higher visual fidelity to front-end presentations and reduce wasteful practices by embedding layers of real-time information into architectural proposals

Image courtesy of Mothership Future Cities Laboratory



2

Samsung DVM S2: Built on Revolution

Samsung DVM S2 (Variable Refrigerant Flow System) outdoor air-conditioning unit works with indoor units to provide 'WindFree Cooling' everywhere without the discomfort of direct cold airflow when indoors. This new innovation of comfort, design flexibility and energy efficiency is compatible with Samsung indoor units, including one-way, four-way cassette and wall-mounted models. It can operate effectively in many different environmental conditions, including amidst the most extreme temperatures. In addition, artificial intelligence (AI) technology will adjust refrigerant pressure to help speed up cooling and reduce energy usage[1].

AI capabilities for smarter, faster cooling

The DVM S2 detects indoor climate conditions to deliver optimised cooling and heating performance. AI Low Pressure Control learns the patterns of cooling operation and reaches the target temperature more rapidly, ensuring users in the room feel more at ease at the desired temperature. Meanwhile, AI High Pressure Control maintains the optimal high pressure by making adjustments based on the installed environment. This Active AI Pressure Control[2] intelligently adjusts the condensing pressure, reducing the energy consumption by 15 per cent[1].

Cost-effective and flexible design

With efficient piping, it uses 25 per cent less refrigerant[3] as it can use a slimmer liquid pipe[4], thus reducing installation and maintenance costs while improving design flexibility.

More powerful performance, less space

With a 34HP super capacity in a compact form, this unit gives users an exceptionally powerful performance while using less space. It is the first outdoor unit to offer super capacities of 32HP and 34HP in a single unit. Their compact design saves up to 18 per cent space[5] and helps reduce the cost and effort of installation, and can be used for other purposes without compromising on performance.

Maximised efficiency minimises waste of energy

The DVM S2 has been redesigned to cut the cost of cooling with energy-efficient technologies. The enlarged Heat Exchanger has a much greater transfer area to exchange heat faster. An optimised refrigerant path also matches the air flow speed to improve the transfer of heat. An aerodynamic Multi-serration Fan generates more air flow while consuming less electricity as it minimises air turbulence. With a 7th-generation insulated gate bipolar transistor (IGBT), which switches current and frequency to suit the system, it reduces the loss of conducted electricity.

'WindFree Cooling': WindFree™

1 Based on internal testing with an AM080AXVGGH/EU outdoor unit connected to AM083NN4DBH1 and AM145NN4DBH1 indoor units with 25 metres of piping, using the cooling operation in Auto mode for 4 hours, with an external temperature of 30°C of and a set temperature of 22°C. Results may vary depending on the actual installation and usage conditions, such as the piping length, elevation and external temperature.

2 Optionally available depending on the installation conditions. For detailed information, please refer to the installation manual.

3 Based on internal testing compared to both Samsung DVM S2 and DVM S, when a slimmer pipe, instead of a normal pipe, is used for the Main Liquid Pipe on the same capacity of air conditioning system, the amount of refrigerant to be charged can be reduced by 25 per cent on average.

4 Optional. A slimmer pipe can be used for the Main Liquid Pipe, between an outdoor unit and the first branch of indoor units. The diameter of the slimmer pipe will vary depending on the diameter of the pipe that is normally used. Not available on the 22.4kW and 28kW models. It may not be available in certain installation conditions, and is not compatible with the AI functions of outdoor units. Please contact Samsung's technical professionals regarding its availability and for more detailed information.

5 Based on internal testing compared to both Samsung conventional outdoor units and those of other brands.

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Signify Commercial Indonesia, PT	+62 21 808 60400	-	id.b2b@signify.com	www.specifierclub.signify.com	Page 26
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