ASPAC NEWS

QUARTERLY NEWSLETTER OF FIDIC ASIA PACIFIC

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INSIDE STORIES

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FIDIC ASPAC

CONTENTS

EDITORIAL

Dear Friends,

It is gratifying to receive appreciation letters from readers for the first issue of the newsletter from across the ASPAC region. The Editorial Team feels invigorated to make this second issue more informative and attractive. We request all our readers to be participative and make this Newsletter an effective vehicle for communication across the region that continues to be the platform for the maximum development activities ever happening in our world.

In this issue, we include the profile of Indonesia and Vietnam, two of our members, for adding to the collective knowledge base of FIDIC ASPAC. It is the thinking of the Editorial Board to bring out a folder containing the profile of all our members, together with their Development Potential as being published progressively, to make this a handy reference document. We welcome suggestions from our readers to make this truly useful.

We are adding new sections like Important News Flash across the region and Introducing our talented participants, to make the Newsletter an attractive feature for the readers.

We take this opportunity to request all our Member Associations to join in the efforts to make this publication a tool for coordination among the development-oriented populace in the region. We are certain that our appeal will be responded.

On behalf of the Editorial Board,

Amitabha Ghoshal

Chairperson-Editorial Board

EDITORIAL BOARD

Amitabha Ghoshal, India, Chairperson

Samarjit Chatterjee, India

Jitendra Kumar Singh, India

Noppadol Jaisue, Thailand

Dilini Gamage, Sri Lanka

PROFILES of Member Associations from FIDIC Asia Pacific Region

INDONESIA

Organization	**The National Association of Indonesian Consultants (INKINDO)** is an Association of Consultant Services Companies in Indonesia which was established on June 20, 1979 in Jakarta, INKINDO is a fusion of **the Indonesian Consultants Association (IKINDO)** which was established on February 10, 1970 and **the Indonesian Association of Engineering Consultants (PKTPI).**
Members	At present INKINDO has 5,489(five thousand four hundred eighty-nine) members of the National Consulting Services and Affiliated / Foreign companies spread across 34 Provinces. As an Association of Employment Services Companies with national and international working areas, INKINDO has an important role in controlling consultancy services in construction services for construction services and non-construction services.
Key Activities and Plans	**INKINDO** Has a Roadmap Towards INKINDO Gold 2030 which is a form of INKINDO's efforts in facing challenges at the age of 50 years in 2029. The INKINDO Gold 2030 Roadmap is a blueprint and grand design that becomes a strategic road map in the form of a time-based plan that defines the existing conditions of the current INKINDO organization, in the direction of the ideal goals for the intended conditions in the time perspective, and how to achieve these objectives. The roadmap will be a visual representation that organizes and presents important information related to INKINDO's future plans.
Vision and Mission	**Vision –** **Revitalization of INKINDO in order to promote the quality of Indonesia's development programs** **Mission-** **1. Boosting and consolidating the unity and union of INKINDO** **2. Reorienting INKINDO by establishing a network in order to promote national and international markets** **3. Improving the professionalism and quality of human resources of its members.**
Span of Activities	**18 Consulting Services offered by INKINDO** 1. Politics, (Political Culture, Organizations, Elections, Communication, Political Development, management, etc.) 2. Economics; (macro, finance and banking, accounting, environment, industry (ISIC), management, etc.) 3. Education (pre-school, elementary, middle, high, outside school, management, etc.) 4. Health; (disease, medicine and food, environment, psychology, nutrition, and services, management) 5. Social (gender, youth, empowerment, military, territoriality, resilience, management) 6. Religious (management service) 7. Culture (language, art, behavior, science, technology, management)

	8. Defense (military, territorial, resilience, management) 9. Security; (law enforcement, order, territorial, security and safety systems, management) 10. Territorial and Spatial Planning (geography, spatial planning, rural, urban, marine, management) 11. Living environment; (Ecology, sustainability, environmental impact, management) 12. Infrastructure; (Construction, energy, Transport and communications, management) 13. Government; (state governance, governance, organization and management) 14. Law (State Administration, Civil, Legal Drafting, non-litigation and arbitration, management) 15. Aerospace (across all fields) 16. Marine (across all fields) 17. Management; 18. And other fields (which have not been covered either now or in the future) **Fields of Consultancy Services** **Construction** 1. Architectural Planning 2. Engineering Planning 3. Spatial Planning 4. Agricultural Supervision 5. Engineering Supervision 6. Spatial Control 7. Specialist Consulting 8. Other Consultancy **Non- Construction** 1. Agricultural and Rural Development 2. Transportation 3. Telematics 4. Industry and Commerce 5. Mining and Energy 6. Finance 7. Education 8. Health 9. Population 10. Industrial Engineering 11. Survey Service 12. Study Services 13. Management Consulting Services 14. Special Services 15. Tourism Consultancy Services
Contact Details	**SEKRETARIAT DPN INKINDO** **JL. BENDUNGAN HILIR RAYA NO. 29** **JAKARTA 10210 – INDONESIA** **HOTLINE : +62 813-1528-9207** https://www.inkindo.org E mail- inkindo@inkindo.org Social Media - @benhil29

Kehadiran Gubernur DKI Bpk. Joko Widodo dalam acara MusProv INKINDO DKI Jakarta di Gedung Balai Kartini, 2014

VIETNAM

Organization	Vietnam Engineering Consultant Association (VECAS) had been established on 13th December 1995 by the Ministry of Construction with the acceptance of the Prime Minister of Vietnam.
Members	• The official members of VECAS are the Consulting Corporations, Investment Consulting Companies building construction industry leaders of ministries, sectors, provinces, and cities throughout the country, the Boards of Management of projects and Research Institutes and also Individuals, who may provide engineering services complying with the legal framework. • The Associate Members of VECAS are including the Vietnamese companies and companies with foreign capital providing services and technology products, whose activities are related to the construction sector, who have demand to joint VECAS complying with the Regulations of VECAS. • VECAS has a Center for Consulting Development and Training. • Most of VECAS's members are consulting enterprises, who have experiences and capacities, under Ministries, Sectors and People's Committee in all economic field such as civil, industry, transportation, irrigation, aviation, engineering, cultural, tourist, communication, water supply, technical infrastructure. All VECAS's members always have been assigned by Government, Ministries, Investors to carry-out many key and important projects of country. Many members of VECAS have been awarded by State and Government.
Key Activities	**Guiding principles and purposes** Vietnam Engineering Consultant Association is a Social-Professional Organization for assembling the Individuals and Organizations practicing in Engineering and Construction Consulting field in Vietnam according to legal frameworks of the Vietnamese Laws, it was seft-established with the purpose to concentrate, mobilize all Members and protect their legal rights and interests and cooperate each other in professional practice with high results for eco-social development of the country. **The activities of Vietnam Engineering Consultant Association** are complying with the Regulations approved by Ministry of Home Affairs of the Socialist Republic of Vietnam: 1. Protecting the legal rights and interests of members according to Guiding principles and purposes of the VECAS and the legal Regulations; 2. Concentrating, uniting member: setting, combining the activities among members for the rights of VECAS: implementing Guiding principles and purposes of VECAS in order to develop the sectors relating to VECAS's activities and contribute the support and development of the Country. 3. Popularizing and training members, setting up the professional services according to legal frameworks, providing Professional Activities Certificates as qualified according to regulations of the Laws. 4. Participating with the State management agencies in building mechanisms

	and policies of the State, recommend to the Government Authority about policies and regulations relating to VECAS's activities complying under the laws 5. Establishing and publishing the regulations of ethics of the VECAS 6. Issuing Construction Practice Certificates Personals of VECAS Members. 7. Participating into respective International Organizations and signing, implementing international agreements according to Vietnamese Legal Frameworks.
Current Activities	(1) Consolidating and expanding Members; (2) Participating with the State management agencies in building mechanisms and policies of the State: - Giving comments on legal documents and policies to Government, National Assembly, Ministry of Construction, Ministry of Planning and Investment: establishing Laws, Decrees, Guidance Circulars and Decisions relating to construction activities; standards and codes, construction investment project management, tendering, cost norm, quality control; construction practice; economic-technical norm. - Conducting scientific-technology research at Ministerial level placed by Ministry of Construction In order for the Ministry of Construction to issue new regulations and policies (3) Organizing conferences, seminars and professional training: - Organizing training courses on tendering, contract management, technical and scientific matters; - Organizing training courses on the construction FIDIC Contract Models in Vietnam. The Training Programmes are FIDIC standards Modules. Attending the training course were state management experts in construction and bidding, engineers, architects, lawyers, leaders and experts from consulting enterprises inside and outside the Association, belonging to Investors, project management boards, economic groups, Vietnamese and international construction contractors, law firms, auditing companies, other organizations working in Vietnam and abroad. At the end of the training, participants received a Certificate of completion of the training course issued by FIDIC and Vietnam Engineering Consultant Association; - Organizing translation and coordination for publishing FIDIC Contract Models. FIDIC authorizes VECAS to translate and publish the FIDIC Contracts documents on the territory of Vietnam in Vietnamese and in bilingual languages English and Vietnamese and the books are also used for the Training. - Organizing seminar FIDIC Asia-Pacific Contract Users - Organizing The FACE Roundtable Discussion on Professional Engineers in ASEAN, regulations of ASEAN countries on foreign consulting individuals and organizations when practicing in these countries. It brings opportunities for exchanging and sharing experiences to engineers in consulting field in ASEAN.

	(4) Issuing of Construction Practice Certificate - VECAS is allowed by the Ministry of Construction to issue Construction Practice Certificates - class 2 and class 3 to architects and engineers of VECAS Members. - Participating into Examination Boards for granting Construction Practice Certificates of the Ministry of Construction and provinces. (5) International activities: - In order to have opportunities for co-operation and approach to International professional rules, VECAS has participated and became an official member of International Federation of Consulting Engineers (FIDIC) since 1997; an official Member of FIDIC Asian Pacifique (FAP) since 2001; and an official Member of Federation of ASEAN Consulting Engineer (FACE) since 2007; - With Federation of ASEAN Consulting Engineers (FACE): End of the year 2015, the ASEAN Community was formed, along with investment in goods and services, including engineering consultancy services are operated freely within ASEAN and with high competitiveness. VECAS will work with the engineering consulting Association of ASEAN countries to protect interests of consulting Organizations and consultants in the region. - Participating into Monitoring Committee of Vietnam for implementing Mutual Recognition Arrangement on engineering services among ASEAN countries.
Contact Details	Office: No.1 Ton That Thuyet Street, 6th Floor, Cau Giay District, Hanoi Vietnam Website: http://www.vecas.org.vn

Events from Last Quarter

India	• Workshop on "City Road User Concerns: Priorities & Solutions" – 7th May 2022 • Seminar on "Multi Modal Integration for Transport Network" – 27th May 2022 • Webinar on "'Ethics And Integrity – Stepping Stones to Success and Sustainability'" – 3rd June 2022
Thailand	• May 30, 2022 - Meeting about FIDIC Contract with Thailand Development Research Institute • June 2, 2022 - Meeting to promote BIM with Thai BIM Association • June 22, 2022 - Participate "The Digitalization in the Construction Industry" by FIDIC Asia Pacific • June 29, 2022 - Participate FIDIC Town Hall event • July 1, 2022 – Participation in BIM Contract Technical Hearing

Development Potential of ASIA-PACIFIC Regional Countries

This article attempts to bring upon an overview of the development gaps, potential and key initiatives from individual governments of few of the Asia Pacific countries. Most of these information have been obtained from Country Partnership Strategy documents of Asian Development Bank. The readers will get similar insights for the other countries from the region in the upcoming newsletters.

Jitendra Kumar Singh

Mongolia

Key Development Gaps and Potential

Municipalities in Mongolia have limited financial capacity and autonomy. Weak infrastructure reduces economic activity and investment in urban areas. Traffic congestion is a major problem in the capital, Ulaanbaatar, which needs an inclusive, efficient, and safe public transport system. One-third of urban residents live in *ger* areas that suffer from high pollution, inadequate sanitation, and poor living conditions. Decentralizing Ulaanbaatar through targeted development of *ger* areas is needed to ease congestion in the city and improve services in *ger* areas. Subnational urban areas face similar challenges, but the lack of services available in these areas also constrains economic development in neighboring rural areas, preventing job creation. This creates a vicious cycle where rural inhabitants are forced to migrate to Ulaanbaatar to seek economic opportunities, which exacerbates stagnation in rural areas and puts pressure on the capital's infrastructure.
Poor road maintenance, a disconnected rail network, and inefficient logistics increase the costs for the transport of goods, damaging trade competitiveness. Border

Mongolia needs a mix of strategies to support an energy sector transition that maximizes the use of its vast unexploited renewable energy potential. More needs to be done on the modernization of district heating networks and renewable energy solutions. Mongolia is rich in natural resources, including vast steppe grasslands, high per capita water availability, forests, wetlands, and mineral deposits. Natural capital must be protected to support green development.

Government Strategy

The Government Action Plan aims to overcome the challenges created by COVID-19, ensure human and social development, and improve environmental management. It places a strong emphasis on private sector development and gender equality and contains ambitious infrastructure plans. The Comprehensive Plan for Health Security and Economic Recovery, announced in February 2021, complements this with a focus on economic revitalization and job creation. Mongolia's Vision–2050 targets sustainable economic growth, the development of agriculture, light industry and tourism, and environmental sustainability. These plans support Mongolia's commitment to meeting the Sustainable Development Goals and underline the importance of increasing the middle class population and economic opportunities for all.

Pakistan

Key Development Gaps and Potential

Urban centers in Pakistan, large and small, are deficient in clean water, sanitation, and solid waste management. Lack of drainage exacerbates the impact of perennial flooding—as shown by the 2020 monsoon floods that submerged major parts of Karachi and other areas. Green spaces and parks are largely absent. Cities are plagued by traffic congestion and air pollution because urban transport systems are poorly developed. Compliance with quality standards is poor, and too little is invested in the operation and maintenance of existing transport and other urban infrastructure.

The energy sector's high-cost structure, accentuated by supply chain inefficiencies, inflicts substantial costs on the economy.

Pakistan's transport sector is challenged by rapid urbanization, which is increasing demand for urban transport services. Rural connectivity remains low. The underdeveloped local logistics industry fails to provide cost-effective and modern services. The railway network is underutilized and inefficient. Aviation is constrained by unsafe and poor-quality infrastructure and services. Weak hinterland connectivity limits the potential of Pakistan's ports.

Government Strategy

Under Vision 2025, Pakistan aspires to achieve upper middle-income status and provide quality jobs to its growing labor force while making the economy more competitive.Vision 2025 also articulates increasing the domestic savings rate and the tax–GDP ratio by mobilizing domestic resources. The 12th five-year plan, is to focus on (i) balanced and equitable regional development; (ii) sustainable, inclusive, and export-led growth; (iii) improved governance; (iv) human resource development, social protection, and poverty alleviation; (v) food, energy, and water security; (vi) local, regional, and global connectivity; and (vii) a green and knowledge-based economy.

The government also prioritizes the SDGs, in particular the goals related to poverty, stunting and malnutrition, water sanitation, and climate change. Its 2019 voluntary national review of SDGs stressed the importance of partnerships and collaboration with the private sector, civil society, media, and development partners.

In 2019, the government launched *Ehsaas*, a comprehensive social protection and poverty alleviation program, which also continues the ongoing social safety net program Benazir Income Support Program (BISP). *Ehsaas* plays a central role in protecting the poor and vulnerable women and men from the detrimental impacts of the COVID-19 pandemic.

Philippines

Key Development Gaps and Potential

Current levels of public and private investment in infrastructure are insufficient to meet the government's goal of reaching upper middle-income status by 2022. Infrastructure gaps are major bottlenecks for foreign investment and higher economic growth. The World Economic Forum's Global Competitiveness Report (2017–2018) ranked the country's infrastructure competitiveness 97th out of 137 countries surveyed, well behind regional peers Malaysia (22nd), Thailand (43rd), and Indonesia (52nd). This situation is the result of historically low public infrastructure investment and insignificant private participation in infrastructure, making Philippine public capital stock one of the lowest among the members of the Association of Southeast Asian Nations (ASEAN) at 35.0% of GDP in 2013, against the ASEAN average of 72.0% of GDP.12 Spending has picked up strongly since 2013, but remains insufficient for the Philippines to sustain economic growth and catch up with regional peers in infrastructure competitiveness.

The Philippines is one of the world's most disaster-prone countries and one of the most likely to be economically affected by disasters. Up to 60% of the total land area is exposed to multiple natural hazards and 74% of the population is vulnerable to natural hazards. Disaster risk modeling indicates that the country faces annual average losses of ₱43.5 billion from earthquakes and ₱133.2 billion from tropical cyclones. Damage from these disasters has contributed to poverty and the poor's persistent vulnerabilities.

Government Strategy

The government successfully launched AmBisyon Natin 2040. National Economic and Development Authority's formulation of AmBisyon Natin 2040 aims to ensure strategic continuity across government administrations for key programs addressing growth, development, and poverty reduction. It states: "By 2040, the Philippines is a prosperous middle class society where no one is poor. People live long and healthy lives and are smart and innovative. The country is a high-trust society where families thrive in vibrant, culturally diverse, and resilient communities."

The PDP, 2017–2022 is the first medium-term plan anchored on AmBisyon Natin 2040 and aims to lay a strong foundation for inclusive growth, a high-trust society, and a globally competitive economy. It focuses on raising the country's potential growth trajectory and reducing poverty incidence and income inequalities. Its objectives will be achieved by accelerating investments in building climate-resilient infrastructure and regional connectivity; promoting environmental sustainability; strengthening governance; promoting domestic competition; and improving access to quality education, health, financial services, and transformative social protection.

Thailand

Key Development Gaps and Potential

Until the early 1990s, Thailand was one of the world's fastest growing economies, with growth averaging 8%–9% per year during 1986–1995 and significant poverty reduction.
The Asian financial crisis of 1997 changed the course of Thailand's development. Growth slowed to a lower range with high variability because of global economic shocks, disasters triggered by natural hazards, sociopolitical tensions, and relatively low domestic investment.
In 2014, Thailand's economy hit a low of 1.0% growth, but began to grow over the following years, reaching 4.2% in 2018.

Thailand's most recent macroeconomic transformation program, known as Thailand 4.0, plans to accelerate long-term growth to 5%–6%. It initially aims to upgrade five existing business clusters: the next generation of automobiles, smart electronics, medical and wellness tourism, agriculture and biotechnology, and food for the future. These are expected to evolve into five new industries: robotics, aviation and logistics, biofuels and biochemicals, digital technologies, and medical technologies.
Thailand's Eastern Economic Corridor initiative is a pilot project under Thailand 4.0. It targets B1.7 trillion ($43 billion) in public and private investment during 2020–2024 to upgrade infrastructure and industry in Chachoengsao, Chonburi, and Rayong provinces.

However, the COVID-19 pandemic has caused a deep economic contraction in 2020, from a lower base in 2019 as the country suffered from the global economic slowdown. Economic recovery is Thailand's most significant COVID-19-related challenge and is likely to remain sluggish in coming years.

Government Strategy

Thailand has a 20-year national strategy covering 2018–2037. Its vision is to lift Thailand to higher value-added, technologically advanced sectors and activities in an increasingly innovative, knowledge-based economy to achieve upper-income status by 2037. To achieve this vision, it presents six broad strategies focused on key structural, economic, and social reforms: (i) competitiveness enhancement, (ii) ecologically friendly development, (iii) public sector development, (iv) human capital, (v) social equity, and (vi) national security. Near-term objectives, targets, and implementation arrangements are presented in 5-year national economic and social development plans (NESDPs), with the 12th NESDP covering 2017–2021.The 13th NESDP will be prepared in 2021–2022 and will likely continue the same strategies as its predecessor.

An article from website of Association of Consulting and Engineering, New Zealand

BIMSafe NZ – Taking Health and Safety to Another Dimension

How can a 3D model save lives on the construction site?

By allowing people to visualise risks more easily and communicate these earlier, says **Paul Duggan, General Manager of the Canterbury Safety Charter and Project Lead for BIMSafe NZ**.

BIMSafe NZ is a three-year $1.7 million joint venture between the Canterbury Safety Charter and the University of Canterbury (UC) Building Innovation Partnership.

Funded by ACC and MBIE, BIMSafe NZ aims to change the way risks are identified, managed and communicated on construction sites – using the visualisation and communication powers of 3D computer models.

What is BIM?

Building Information Modelling (BIM) is used by architecture, engineering and construction firms to document, visualise and develop the designs behind infrastructure.

"A BIM model is a digital 3D representation of a project, which then becomes the single source of truth for all of the project's information, throughout its entire lifecycle," says Paul.

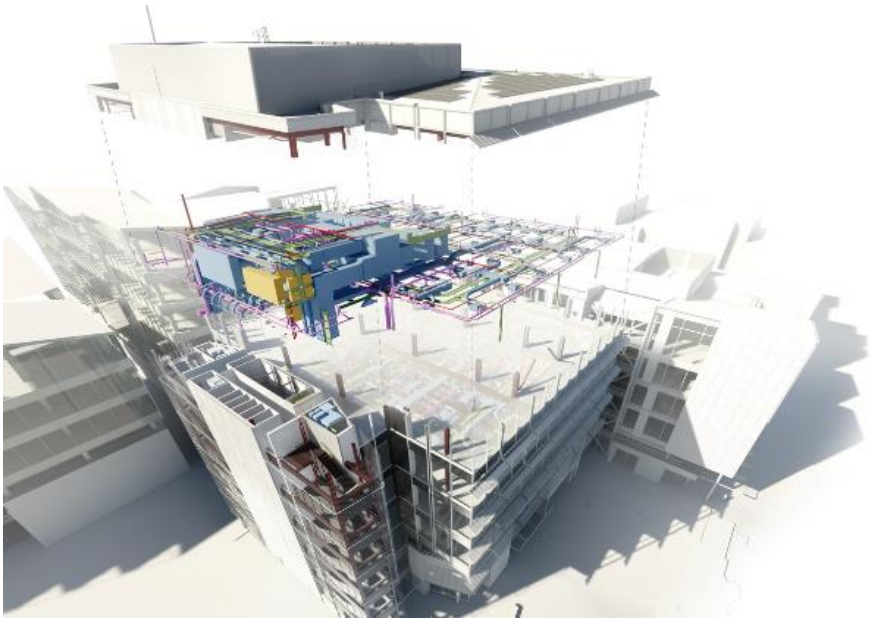
"Architects and engineers – civil, structural and service – work collaboratively on a single model in the design stage, rather than in their traditional silos.

"It has the potential to be a game changer in the way risks are identified, managed and communicated on construction sites."

Tackling health and safety by design

When it comes to health and safety, the more you can do earlier in the piece, the greater effect you will have – for the least cost, says Paul.

"Using BIM models really simplifies the health and safety by design process. Everybody can get together, look at a model, identify risks and then solve them by improving the design.



“It’s also much easier to visualise potential risks in a 3D environment, than on paper.

If you can see it, it’s real.”

Thanks to their visual medium, BIM models can also help break down language and geographical barriers, says Paul.

“People can be sharing and looking at these models from anywhere in the world, and the information is presented much more clearly than the traditional risk assessments that can get lost in screeds of other documents.”

There’s also a democratic element to BIM, says Paul.

“It allows end users to have input into the design of the building, in terms of health and safety.

“For example, a designer may want to put an electrical switchboard in a hard-to-reach place. But they’re not aware until a maintenance person points out that they can’t access it safely.”

Riding the BIM wave

BIM models and processes are more common in design and construction projects than they were just a couple of years ago, says Paul. Especially now all government contracts worth more than $5m need to have a BIM model associated with them.

“Large firms understand BIM as government clients require it, and it’s slowly trickling down to horizontal contracts between medium and smaller firms too.

“It’s eventually going to change from the architects and the engineers pushing BIM, to the clients requesting it.

“We want to ride this wave and help people understand how health and safety can be wrapped into the process.”

BIMSafe NZ will produce best practice guidelines for incorporating health and safety information into BIM models, says Paul.

“Any process that benefits from prior planning benefits from BIM. Once people can see how – the why becomes apparent.”

BIMSafe NZ in three stages

The BIMSafe NZ project has three main stages.

The first is developing best practice guidelines for integrating health and safety information into BIM models. These are set to be published in mid-2024.

The second is trialling these guidelines in a case study. This will be the construction of the Ōtepoti building, home to ACC’s new offices in Dunedin.

It’s been designed by Warren and Mahoney, with Ngāi Tahu Property and the ACC Investment Fund as the client.

The final stage will be to promote the project outcomes and encourage organisations to adopt the guidelines as a way to reduce accidents and injuries on construction sites.

This will be done by a series of video resources and a nationwide roadshow in late 2024.

“The success of the BIMSafe NZ project relies on industry input and uptake,” says Paul.

“Designers, architects, contractors and sub-contractors collaborating using this common platform have an exciting opportunity to bring about meaningful industry change, and literally save lives.”

RECORD RAIN AND FLOOD IN SOUTH KOREA

Torrential rain has caused flooding and landslides in South Korea where 9 people have lost their lives and 6 others are missing.

Flood damage in Seoul, South Korea, August 2022. Photo: Government of Seoul

The worst affected locations are the capital Seoul, the nearby port city of Incheon, surrounding areas of Gyeonggi Province and parts of Gangwon Province.

According to the Ministry of the Interior and Safety (MOIS), 5 people have died and 4 area missing in Seoul. Three fatalities, two missing and nine injured were reported in Gyeonggi Province, while one person died in a landslide Hoengseong, Gangwon Province.

Around 800 buildings have been damaged by floods, landslides or walls collapsing from the heavy rain. MOIS reported 936 people have been evacuated to safer housing, including 580 in Seoul and 309 in Gyeonggi Province. A total of 88 people required rescuing from flood waters.

Some railway services were suspend due to flooded tracks in around 8 locations mostly in Seoul and Incheon. Roads have also been damaged or flooded, disrupting traffic including on the busy Dongbu Expressway in Seoul.

Torrential rain has been falling since 07 August. According to the Korea Meteorological Administration (KMA), the accumulated precipitation for 48 hours to 09 August is 496.5 mm in Seoul; 450.9 mm in Yangpyeong, Gyeonggi Province; 439.5 mm in Yeoju city in Gyeonggi Province; 338.5 mm in Incheon; and 279 mm in Hoengseong in Gangwon Province. Dongjak District in Seoul recorded 381.5 mm of rain

in 24 hours on 08 August, which is thought to be the highest since modern records began in 1907. More heavy rain is forecast.

Flood damage in Seoul, South Korea, August 2022. Photo: Government of Seoul

(Source: https://floodlist.com/asia/south-korea-floods-august-2022)

INAUGRATION OF PADMA BRIDGE IN BANGLADESH

On June 25, Prime Minister Sheikh Hasina inaugurated a bridge over the Padma River. The longest bridge in Bangladesh, the 6.15-km-long Padma Multipurpose Bridge marks an important milestone in independent Bangladesh's history, as it is a symbol not just of Bangladesh's resolve but of its growing economic capacity and development.

Speaking at the inauguration of the Padma Bridge, Hasina said: "This bridge is not just bricks, cement, iron, and concrete This bridge is our pride, a symbol of our capacity, our strength and our dignity. This bridge belongs to the people of Bangladesh."

The Hasina government's original plan was to build the Padma Bridge with external funding from the World Bank, Asian Development Bank (ADB), and the Japan International Cooperation Agency (JICA). However the World Bank suddenly withdrew from funding the project in 2012, citing corruption of government officials. This result in other funders pulling out of the project too. It seriously impacted the image of the country and of the ruling party, the Awami League. It was a setback for the people of Bangladesh as well. This prompted Hasina to opt for self-funding the project despite economists and

opposition politicians warning against it. So the completion of the Padma Bridge has become a symbol of national pride and dignity.

Constructed at a cost of nearly $3.87 billion, the Padma Bridge is one of the largest projects Bangladesh has ever undertaken. It connects 21 districts in southwest Bangladesh with the capital, Dhaka, by road and rail and cuts travel time substantially.

While the global economic situation is gloomy and countries in the region are experiencing negative growth, Bangladesh's economy is growing. Apart from this project, Bangladesh has also extended support to Maldives and Sri Lanka by providing them with loans worth $400 million. Bangladesh's funding of the mega Padma project will now add to its reputation as a rising economic power in South Asia.

The Padma Bridge's biggest contribution will be to Bangladesh's economic growth. Economists say that it will provide a 1.3 to 2 percent boost per annum to the country's GDP. When the railway component of the bridge is completed, the project will contribute another 1 percent to the GDP. The bridge project's contribution to Bangladesh's GDP is expected to rise to 5 percent by 2055.

The Padma Bridge will cut travel distance by 100 km for around 27 percent of Bangladesh's population to boost business and agriculture, thereby impacting the country's GDP.

Other experts confirm that the bridge will help alleviate poverty, boost trade, tourism, and industry, and create opportunities for employment in the southwest of the country.

The Padma Bridge has regional implications as well. It will improve connectivity. Bangladesh, Bhutan, India, and Nepal signed a Motor Vehicle Agreement for the Regulation of Passenger, Personal and Cargo Vehicular Traffic in 2015.

(Sources:
https://thediplomat.com/2022/07/bangladeshs-padma-bridge-built-against-all-odds/

and
https://en.wikipedia.org/wiki/Padma_Bridge#/media/File:Padma_Multipurpose_Bridge.jpg)

Upcoming Events

FIDIC	• FIDIC Federation Program September 2022 (details on next page)
Australia	• Join us on R U OK? Day for There's more to say after R U OK? with Mandy Scotney, CEO, Third Collective, on 8th September 2022 • 'Role of the Superintendent' on 14th September 2022 • 'Contracts for Consultants' on 15th and 16th September 2022 • Strategic Online Discussion with Craig Doyle, Chief Executive Officer for Northern Australia Infrastructure Facility (NAIF) on 15th September 2022
Hong Kong	• 45th Anniversary Seminar (online Webinar) on "New Normal-Embracing Engineering for Better Tomorrow" on 8th September 2022
India	• Webinar on "Reimagining Future Ready Climate Resilient City and Reaching Net Zero" on 25th August 2022. • Conclave on 'Exploring Business Opportunities Abroad' on 2nd September 2022
Malaysia	• Webinar on "Road Ecology, Transportation Infrastructure and Wildlife Conservation" on 23rd August 2022 • Webinar on "Manmade and Natural Geo-hazards" on 25th August 2022 • Luncheon Webinar on "Electrical Power Factor Correction" on 5th, 12th, 19th and 26th September 2022 • Luncheon Webinar on "Railway Assets Management and Port & Harbour" on 6th, 13th, 20th and 27th September 2022
Thailand	• July 26-27, 2022 - FIDIC Module 4 Training • August 10, 2022 - Electronic Document Management System (EDMS) Training • Meeting for BIM Contract on every other Friday. • Meeting for Government procurement law on every other Friday. • Meeting with other engineering and architectural associations every other month.

International Federation of Consulting Engineers
The Global Voice of Consulting Engineers

FIDIC FEDERATION PROGRAMME September 2022

08.30 – 18.00	**FIDIC Board Meeting (Day 1 + Day 2)** Thursday 08 and Friday 09 September 2022
13.00 – 17.25	**FIDIC Future Leaders Management Certificate courses (Day 1 + Day 2)** Friday 09 and Saturday 10 September 2022
09.00 – 13:00	**FIDIC DNS Meeting** Saturday, 10 September 2022 **FIDIC DNS Meeting** Open to Director and Secretaries of FIDIC Member Associations **Moderator: Chris Campbell, South Africa (FIDIC DNSAC Chair)** **Speakers: FIDIC Member Association Directors and Secretaries**
13:30 – 14:30	**FIDIC Presidents Meeting** Saturday, 10 September 2022 **FIDIC Presidents Meeting** Open to Presidents and elected leaders of FIDIC Member Associations *FIDIC Governance and Strategic direction* **Moderator: Anthony Barry, FIDIC President** **Participants: FIDIC Member Association Presidents and Chairpersons**
19:30 – 22:30	**FIDIC DNS Dinner** Saturday, 10 September 2022 Only MA reps and accompanying persons
11:30 – 13:00	**FIDIC Committee Chairs Meeting** Sunday, 11 September 2022 **FIDIC Committee Chairs Meeting** Open discussions among Chairs and Vice Chairs of FIDIC Committees and invited speakers **Introduction: Dr Nelson Ogunshakin OBE, FIDIC CEO** **Moderator: Catherine Karakatsanis, FIDIC Vice President and Chair of the FIDIC Chairpersons Meeting** **Speakers: FIDIC Committee Chairs and Vice Chairs** **Participants**: FIDIC member association representatives, associate members, affiliates, committee members, staff working in member firms, regional group representatives, FIDIC Board members and Past Presidents.
13:30 – 14:30	**FIDIC Future Leaders Symposium** Sunday, 11 September 2022
14:45 – 15:15	**FIDIC Recognition of Participants FLMC Programme** Sunday, 11 September 2022
19:00 – 22:00	**Welcome Reception** Sunday, 11 September 2022
09:00 – 17:00	**FIDIC CONFERENCE DAY 1** Monday, 12 September 2022 **Welcome & Opening Remark**
19:00 – 23:30	**Gala Dinner & Awards Ceremony** Monday, 12 September 2022
09:00 – 16:30	**FIDIC CONFERENCE DAY 2** Tuesday, 13 September 2022
17:30 – 18:30	**FIDIC GENERAL ASSEMBLY MEETING 2022 (GAM)** Tuesday, 13 September 2022 Event online - ZOOM
	Open to FIDIC Member Association delegates only Observers can attend upon registration (Past Presidents, MA staff, FIDIC Associates and Affiliates) Registration is required on ZOOM
19:45 – 23:00	**FIDIC Local Colour Night** Tuesday, 13 September 2022

Meet a Future Leader

DILINI GAMAGE

Dilini Gamage is a Chartered Civil Engineer employed in Ceylon electricity Board, Sri Lanka. She has obtained BSc degree in Civil Engineering from University of Moratuwa and Master's degree in Geotechnical Engineering in University of Peradeniya, Sri Lanka.

Throughout last 10 years in her professional life, she has been working as a Structural Engineer and a Geotechnical Engineer. She is well experienced in design of structures in concrete and steel using FEM software and manually. She has designed diverse structures such as buildings, earth retaining structures, silos, chimneys, flap gates and pre-stress poles. She possess experience in testing bored piles for quality assurance and geotechnical stability tests as well.

She has been the secretary of Young professional forum of Sri Lanka in 2018/2019 session and has been an active member up to date. Dilini has been the leader of Newsletter subcommittee for 2019/2020 session and currently is the chairperson of FIDIC Asia Pacific Future Leaders' Executive Committee. She also is a cooperate member of Institution of Engineers, Sri Lanka.

As an Engineer she favours sustainable concepts. She enjoys reading books, travelling, mindfulness meditation, yoga and creative design. She is a nature lover and a pluviophile. Her life quote is "Live in the present moment!"

Making India Aatmanirbhar (Self Reliant) in Infrastructure Sector

Harshita Jain
Director
Consulting Engineers Group Limited

'Atmanirbhar' which means Being Self-Reliant is a word used and popularised by Indian government in the recent past in relation to the country's economic development plans. The concept has emerged prominently and delivered very good results during the Covid-19 pandemic era. This article focusing the salient features of Self Reliance in Infrastructure Sector is being shared for benefit of learned Asia-pacific readers.

-Editor

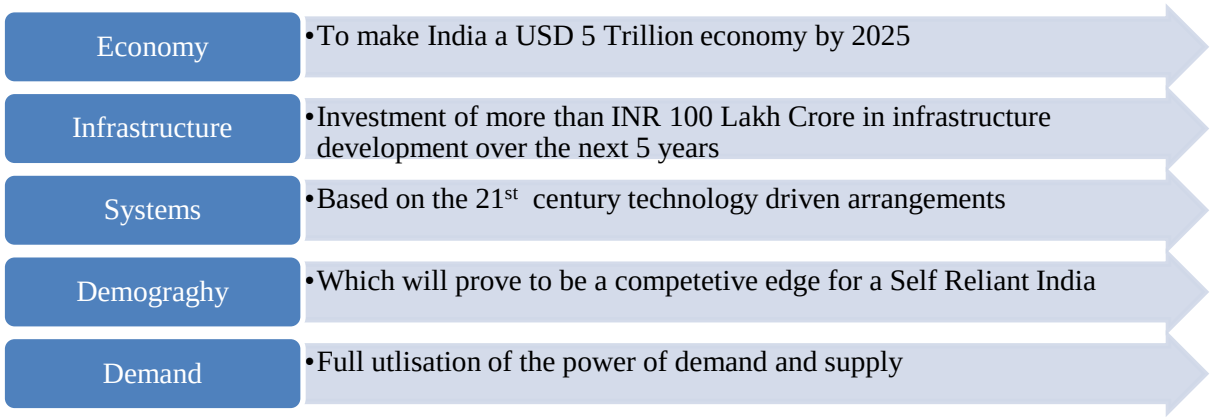
1 INTRODUCTION

The world has witnessed the pre and post Corona pandemic scenarios and the global systems that were affected. Looking at the two periods from India's perspective, it seems that the 21st century is the century for India. At a time when the world was suffering from a deadly pandemic, India planned to convert the crisis into an opportunity by strengthening its fight by becoming Aatmanirbhar or Self-Reliant and the Aatmanirbhar Baharat campaign was announced by the Prime Minister of India, Shri Narendra Modi.

The vision is to make the country and its citizens independent and self-reliant in all senses to ensure economic freedom. That entails making all the citizens capable of gainful employment, self or otherwise, for a decent livelihood so that all rise above poverty and hunger. The income derived and/or complemented by public provisioning would ofcourse help to ensure healthy lives and wellbeing for all, of all ages, ensure inclusive and equitable quality education for all children, access to all the basic amenities for good living, and above all stem environmental degradation.

When launched, Aatmanirbhar Bharat was mainly in the context that the things which were imported before the pandemic, be manufactured in India not only for internal consumption but also for export. The Self-Reliance India mission is based on five pillars viz. Economy, which brings in quantum jump and not incremental change; Infrastructure, which should become the identity of India; System, based on 21st century technology driven arrangements; Vibrant

Demography, which is India's source of energy for a Self-Reliant India; and Demand, whereby the strength of the internal demand and supply chain should be utilised to full capacity.



2 IMPACT OF THE MISSION

The Aatmanirbhar Bharat Mission has kickstarted a Self Reliance revolution in the country and is expected to be a game-changer for the Indian economy in the coming decades. Promoting the production of commodities and services in India lie at the core of the mission. Besides making India the front runner for export of goods and services, it will also generate employment for millions and boost the nation's exports. It will also help the industry develop beyond the larger cities and decentralise industrialisation. With more industries and employment opportunities in smaller towns and rural areas, people would not be forced to migrate to larger cities, thus decongestion of the big cities and leading to improvement in the quality of life, easing pressure on infrastructure, and help the environment recover. The Mission will also prepare India for any future global disruptions like the Covid-19 pandemic. However, as big and ambitious the mission is, equally humongous are the requirements to achieve it.

3 INFRASTRUCTURE: THE AATMA OF AN AATMANIRBHAR BHARAT

The Covid-19 outbreak and the subsequent lockdown took a heavy toll on the global economy. Despite having strong fundamentals and huge domestic demand, the Indian economy could not escape the impact of the pandemic as almost all the economic activities ceased during that period. However, as the nation gradually unlocked, the Government of India started taking firm steps to revive the slowing economy and the efforts have paid off.

As a step towards the Aatmanirbhar Bharat, the Indian government launched the National Investment Pipeline (NIP) where more than ₹100 lakh crore is envisaged as investment in the infrastructure sector until 2025 where since it continues to play a key role in achieving the country's economic aspirations. Sectors such as roads (about 20 % of the total investments); urban and housing (16 %), railways (14 %); conventional power (12 %); and renewable energy (9 %) account for over 70 % of the total investments.

4 STEPS TAKEN BY GOVERNMENT FOR THE INFRASTRUCTURE SECTOR

The Government has currently launched three stimulus packages under the Aatmanirbhar Scheme. The first stimulus package (Special Economic and Comprehensive package) of ₹20 lakh crore - equivalent to 10% of India's GDP was announced in May 2020, the second in October 2020 and the third of ₹2.65 lakh crore on November 12, 2020. The steps under Aatmanirbhar

Bharat 3.0 taken to create a climate of investment and business and to boost domestic demand in the infrastructure sector are:

i. A National Infrastructure Pipeline (NIP) of ₹111 lakh crore for 6,835 investible projects in the infrastructure sector was launched in December, 2019, which is to be implemented by 2025; (increased to 7,400 projects in the Budget 2021).

ii. An equity infusion of ₹6,000 crore has been approved by the Cabinet on 25-11-2020 in the National Investment and Infrastructure Fund (NIIF) Infrastructure Debt Financing Platform, so as to enable it to attract both debt and equity investors for infrastructure.

iii. A Bill for setting up of a Development Finance Institution (DFI) to provide, enable and catalyse infrastructure financing for long-term infrastructure projects has been approved by the Union Cabinet on 16-03-2021. An amount of ₹20,000 crore has already been allocated in Budget 2021 to capitalise the institution.

iv. A "National Monetization Pipeline" of potential brownfield infrastructure assets has been announced as a financing option for new infrastructure construction.

v. To give a push to social infrastructure and to provide support to core sector infrastructure, an updated Viability Gap Funding (VGF) scheme "Scheme for Financial Support to Public Private Partnerships (PPPs) in infrastructure" has been notified in December, 2020.

vi. A ₹12,000 crore interest-free 50-year loan to given to the States for spending on capital projects.

vii. Announcement of LTC cash voucher and festival advance scheme for employees.

viii. Support for the Construction Sector: relief to companies working in the infrastructure sector by reducing locking up of capital and cost of BG. Performance Security on contracts were brought down to 3% from the current industry standard of 5-10%. That was also extended to current contracts and expanded to Public Sector Enterprises. The Bid Security Declaration has replaced the current system of EMD for tenders.

ix. ₹3,000 crore released to EXIM Bank for promoting export projects through lines of credit under the IDEAS scheme

x. An additional outlay of ₹10,200 crore towards Capital and Industrial expenditure.

5 CHALLENGES FOR IMPLEMENTATION OF THE AATMANIRBHAR BHARAT 3.0 IN THE CONSTRUCTION INDUSTRY

It has been mentioned by the Hon'ble Finance Minister in the Budget speech that many of the measures under the Aatmanirbhar Bharat 3.0 would take up to three years to be fully established. The real challenge, as is known, lies in the grassroot level implementation of those schemes. Even though the Aatmanirbhar Bharat 3.0 aims at providing a thrust on infrastructure development, there are many unresolved fundamental and structural issues hindering the growth of the infrastructure sector. These are discussed below.

Dependency on Banks

Banks during the COVID period have become increasingly reluctant in lending money to infrastructure players. That has resulted in severe shortage of cash-flows and working-capital, thus putting the whole contracting ecosystem under stress. Steps should be taken by

the Government to ensure that banks are more proactive while lending and do fair evaluation of the firms. Government should allow the use of Surety Bonds by insurance companies instead of PBGs that would, in turn, reduce an infrastructure firms' dependency on banks for BGs.

Proper Contract Enforcement

Contract enforcement remains a key challenge in construction sector. As projects are moving from Item-Rate to EPC contracts, clients are systematically transferring all project risks to contractors. That is evident from the fact that while India is continuously improving in the World Bank's 'Ease of doing business' ranking, it performs poorly on 'Enforcing contracts' parameter (163rd of 190 countries in 2020).

Arbitration Process

Slow arbitration process also remains a major challenge for the sector. Many project authorities do not honor NITI Aayog's guidelines of releasing 75% of arbitral award against BG. Besides, as per the original guidelines once a BG is submitted and 75% of the award amount is released, the matter is supposed to get closed in 12 months' time, if the matter is in the court. However, after withdrawal of money as per the guidelines, even after say 4 years, cases are not getting closed, thereby blocking the BG limit. The Government could consider introducing an amendment stating that within 12 months if the court has not disposed off /settled with the client, the BG needs to be released to the contractor and the amount which was released would remain in the hands of the contractor. The authorities can look at accepting a Corporate Guarantee as a security, if within 12 months the matter is not closed in the court or through amicable settlement.

Client Capacity Development

With increasing scale and complexity of infrastructure projects, it is observed that many clients are not upgrading their skills that are required to manage such large projects. That often results in delayed decision making and increase in project disputes. For fast implementation of projects, the government should ensure that any project above ₹5000 crores value cumulatively should be implemented by an SPV. The SPV should be only for the purpose of project implementation. Once the project is completed, the SPV could be closed.

Prices of Raw Materials

Another recurring challenge faced by the infrastructure sector is the steep increase in price, noticed within a span of one year, of important raw materials like cement, steel and others. Since October 2020 till date, the price of steel has increased by around 45%. That is hampering the country's growth at a time when the economy is in a revival mode, considering that steel is one of the key sectors of the manufacturing ecosystem. The issue needs to be addressed by the Government. Hon'ble Minister of Road Transport and Highways Shri Nitin Gadkari has also expressed his concern over this.

Removal of EMD clause

To support the infrastructure sector, the Government has removed the requirement of EMD for bidding of new tenders. While that was a welcome step, it has also negatively impacted the industry as many non-serious players have started participating in tender bidding, thus

hampering bidding of projects at workable rates and prices and thus at times forcing the Government to go for rebidding. It has been seen time and again, that after getting low rates/ prices, works may not be executed due to capacity constraint of smaller contractors who win projects based on low cost. Ultimately, that mean that most of contracts would be rebid/ renegotiated and the country would lose precious time and money. All projects should incorporate requirements of bidding capacity based on net worth or cash reserves of the bidder and there should be restriction based on the number of projects which can be undertaken by any company; albeit that would vary from company to company.

6 RECOMMENDATIONS FOR FURTHER BOOST THE AATMANIRBHAR BHARAT IN INFRASTRUCTURE SECTOR

Re-invigorating the Public-Private-Participation (PPP)

There is a need to review risk allocation in PPP projects to ensure a more favorable ecosystem for private players as well as financing institutions. There is a need to review the entire PPP regime so as to identify the interventions required for offering flexibility in development of new facilities and/or upgrade the existing facilities. Suitable and attractive incentives should be provided to the private sector to invest in public utilities with a balance of risk sharing between Government and the developer.

Reduce Delays in Infrastructure Projects and Cost Overrun

Issues related to land acquisition, environmental clearances, rehabilitation and resettlement, removal of encroachment, accurate site data, shifting of utilities and availability of linkages to be given special focus while planning and preparing projects for being executed.

Accelerating Dispute Resolution

Availability of liquid finance has been significantly affected on account of large claims, disputed by the owner being stuck in litigation by way of arbitration proceedings or court cases. Delays in arbitral award and more so, inability to enforce the arbitral awards, have diminished the role of alternate dispute resolution in India. The delay added on due to the pandemic have stressed the situation further hence reforms for speeding resolution of disputes is a pressing concern.

Reviving the Demand Cycle

Some of the actions to revive the demand would be to fast-track award pf projects and also their implementation; clear pending bills to suppliers of goods and services by the Government, Public sector organisations and other bodies. Moving forward, the GST data should be used to track timely payment of Government dues to the industry.

Attract Long Term Financing for Infrastructure

Develop long-term Infrastructure bonds and also attract long term finance for Infrastructure through sovereign, insurance and pension funds. That is essential to ensure steady capital flow.

Prioritize Cost Reduction

Prioritize Cost Reduction through Process Optimization/ Simplification.

Increase Digitalisation

Given the time consumption and also the risks associated with physical document-based processes, complete digitalisation is critical for business continuity in the post-pandemic world. For seamless interface and end to end solution, on-boarding of all stakeholders including the authorities, financial institutions, consultants, contractors, vendors, etc. on a common digital platform is crucial. It would obviate time delays, traceability, accountability and responsibility for action to be taken and tracking of delay, etc. The benefits will be immense.

7 CONCLUSIONS

The thrust by the Government on Atmanirbhar Bharat and to increase investment in infrastructure development is commendable since it has strong forward-backward linkages, to shore up the economic recovery. The emphasis on providing basic necessities like highways, railways, water supply and sanitation (both in urban and rural areas) for all, power to all, housing for all, etc. will not only open opportunities for infrastructure companies, but go a long way in improving the economic activity on the ground and employment generation. However, it is imperative that Efforts should be made to ensure that these initiatives materialise in a timely fashion. The industry is optimistic that in the near future, the Government will take the required steps in resolving the challenges faced by the infrastructure industry and put the sector on a growth trajectory not only domestically but also for it to spread abroad.

Lastly, while the need for greater infrastructure investment is clear, the need to sustainably manage such investments is more important. The success of the Aatmanirbhar Bharat in the infrastructure sector be measured not by the funds invested, but by how much the sector contributes to India’s economic, social and environmental objectives sustainably.

HIGHLIGHTS OF THE WEBINAR ON "THE DIGITALIZATION IN THE CONSTRUCTION INDUSTRY"

-Dilini Gamage

The webinar on this timely topic has been held on 22nd June 2022 via Zoom online platform. It was organized by FIDIC Asia Pacific and was hosted by Vietnam Engineering Consultant Association (VECAS).

The vice president of VECAS Mr Tu Duc Hoa moderated the session. Ms Nguyen Thi Duyen, the president of VECAS remarked the importance of the topic stating "Digital transformation is no longer an opportunity, but has become a mandatory in the industry" as she welcomed the gathering. Mr Sudhir Dhawan, the president of FIDIC Asia Pacific made opening remarks highlighting the main objective of the webinar series which is to enhance the engagement of member associations in FIDIC Asia Pacific activities.

Ms Nguyen Thi Duyen
President of VECAS

Mr Tu Duc Hoa
Vice President of

Mr Sudhir Dhawan
President of FIDIC Asia

Mr Anthony Barry, president of the FIDIC made the inaugural speech. He presented a brief account about FIDIC, global trends and how digitalization fits in. He explained the objectives of FIDIC, its stake holders, board committees, business model, global drivers, trends, opportunities and FIDIC activities designed to align with sustainable goals. Further he remarked the activities that are influenced

Mr Anthony Barry, president of FIDIC making the Inaugural speech

by the digitalization and emphasized the benefits and impacts of digitalization in the industry.

Dr Ta Ngoc Bing, explaining national strategy of Vietnam for digitalization in Construction industry

Dr Ta Ngoc Binh, Head of Department Institute of Construction Economic – Ministry of Construction in Vietnam, demonstrated the national strategy and plan for digitalization in the construction industry of Vietnam. He explained the national programmes related to digitalization implemented in Vietnam since 2016. The major programmes are sustainable smart city programme, digital transformation in construction industry, national BIM programme, digital database for cost management and digital government programme. He highlighted the objectives of those programmes such as providing quality service to serve society and optimize operations of state agencies.

An interesting session was presented by Mr Nopppadol Jaisue, Vice President – Technical of CEAT, Thailand under "AI for delay resolution". He described the causes and results of delay and explained approaches for managing delays in construction projects. Further mentioned how to filter causes, how resolutions are suggested and how to develop AI to recommend solutions for causes with 90% accuracy. Mr Jaisue demonstrated "AI Delay Resolution System", a software which is being developed.

Mr Nopppadol Jaisue, Vice President – Technical of CEAT presenting "AI for Delay Resolution"

Two young professionals from FIDIC Asia Pacific future leaders Executive Committee (AFLEC) embellished the webinar. Mr Masao Yamakawa, the vice chair of the committee shared a fresh perspective on "things to keep in mind to get along with digital transformation". In his presentation he brought to notice the points to consider while adapting digitalization such as infrastructure, rules of use and security.

Mr Dinesh Manoharan, a member of FIDIC AFLEC presented a view of digitalization through connected construction. He emphasized in the use of cloud construction and its application in connecting the project lifecycle, in planning, design, building and operating stages. Moreover, Mr Manoharan elaborated on the benefits of cloud construction in terms of cost, quality, safety and time.

Mr Dinesh Manoharan, member of FIDIC AFLEC expressing the view of Future Leaders

Mr Masao Yamakawa, vice president of FIDIC AFLEC expressing the view of Future Leaders

Dr Nelson Ogunshakin, CEO of FIDIC making the keynote speech

The Keynote Speech of Dr Nelson Ogunshakin, the CEO of FIDIC was done under the topic "digital disruption and the evolution of the infrastructure sector". He shared his perspective on the risk associated with digital disrupters based on a data analysis and examples.

Mr Quang Do Thieu, deputy director of specialized construction investment project management board - MOC from Vietnam presented his views on "BIM and digital construction challenge in Vietnam". He

specialized construction investment project management board-MOC from Vietnam

explained on the applicable law and categorized the main activities of construction into the possible level of digital transformation in a scale of low-medium-high. Moreover, he made an analytical presentation on the challenges in digital transformation of construction industry.

Mr Pravinchandra Shadu, Chief Information Officer and Head-digital of Tata Consulting Engineers Limited

Final presenter of the day was Mr Pravinchandra Shadu, the Chief Information Officer and Head-digital of Tata Consulting Engineers Limited. He shared an overview of emerging trends with respect to digitalization in construction industry.

He explained five major trends shaping construction industry which are higher-definition surveying and geolocation, next generation 5D building information modelling, digital collaboration and mobility, the internet of things and advances analytics and future proof design and construction. Further, he shared how digitalization has been adapting at Tata Consulting Engineers.

The panel of speakers answered the questions raised by the audience at the latter part of the webinar.

Finally, Mr Widhoon Chiamchittrong, the chairperson of event committee, FAP presented a summary of the event while thanking all the parties for making a fruitful webinar.

Mr Widhoon Chiamchittrong, the chairperson of event committee, FAP *summarizing the event*

FIDIC Asia Pacific will keep arranging webinars for the benefit of members while strengthening the interactions within the region.