

**Opening Address by**

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“Construction Beyond 2020”**

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Members of the media  
Distinguished guests  
Ladies and gentlemen

Assalamualaikumwarahmatullalhiwabarakatuh, Salam Sejahtera and a very good morning to all of you here today.

1. It is indeed an honour for me to welcome all of you to the International Construction Transformation Conference (ICTC) 2019 today. I'd especially like to extend a *Selamat Datang* to our counterparts and distinguished speakers who have travelled from abroad to join us.
2. Before I begin, I wish to take this opportunity to commend industry players from both the public and private sectors who have come together to accelerate the advancement of the construction industry in Malaysia. Your support is crucial in order for the nation to utilise our available resources for maximum value, so that the industry is ready for the future.
3. This is the second edition of the ICTC, after the resounding success of its inaugural edition in 2018 which was also held in conjunction with CIDB's International Construction Week then. Recognising that markets around the world are being disrupted by new construction technologies, the ICTC sought to bring together world-class experts and industry captains from Malaysia and around the

region to provide thought leadership about how technology and innovation can have much needed positive impact on the construction industry's productivity levels.

4. Judging by the warm response to the ICTC this year, CIDB is seriously considering to make it a premier annual regional conference, providing the platform for industry players around the region to learn from success stories and gain inspiration for their own companies' evolution and transformation in the shifting marketplace.

Ladies and gentlemen,

5. The International Construction Transformation Conference 2019, or ICTC, is very timely as Malaysia strives to achieve better quality, productivity, environmental sustainability and global competitiveness through technology and innovation. The ICTC's theme of "Construction Beyond 2020" is also spot on. With new materials being invented and innovated, new energy sources discovered and advancements in digitalisation and construction technologies, the construction industry needs to re-look, re-think and re-strategise the way we build beyond 2020.

Ladies and gentlemen

### **The need for transformation in construction**

6. The construction industry is a key economic driver in both developed and developing nations. It creates new jobs, drives economic growth, and provides solutions to address social, climate and energy challenges. Construction's impact on GDP and economic development goes well beyond the direct contribution of construction activities. Its close links to other sectors ensures its multiplier effect which significantly impacts GDP and overall economic development.
7. However, the construction industry today is facing numerous challenges on several fronts: quality delivery, competition, productivity, and environmental

sustainability. To remain a resilient and sustainable industry, there needs to be a radical sector-wide transformation.

8. While several other industries have radically modernized, the construction industry is still one of the most stagnant in the world. Where once, construction was on the forefront of innovation – think of the Roman engineers who revolutionised architectural design with the invention of the arch, or the lost Egyptian technology of how to build the great pyramids - some of the current practices has changed little since the 19th century despite the plethora of innovations available. As a result, productivity is falling and the construction workforce is shrinking.<sup>1</sup> The construction industry is no longer as sexy as it used to be!
  
9. Governments and stakeholders around the world are cognisant of this urgent need. The World Economic Forum established the Future of Construction initiative in 2015 as a platform for all stakeholders to collaborate and to find innovative solutions to support the industry's transformation to achieve higher productivity, greater sustainability and enhanced affordability. <sup>2</sup> The UK government has launched a Transforming Construction programme. <sup>3</sup> Our neighbours down south have recently launched their Construction Industry Transformation Map. Many more countries have embarked on their own transformation programmes as well.

Ladies and gentlemen,

### **Transformation – the Malaysian experience**

10. Malaysia's own Transformation roadmap began in 2016, with the Construction Industry Transformation Programme 2016-2020, or CITP. Although, technically I would say it actually began in 1994, with the enactment of Act 520 which established the Construction Industry Development Board or CIDB Malaysia.

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<sup>1</sup> <https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/construction-the-next-great-tech-transformation>

<sup>2</sup> <https://www.weforum.org/projects/future-of-construction>

<sup>3</sup> <https://blog.plangrid.com/2019/01/building-for-the-future-taking-steps-towards-a-sustainable-construction-industry/>

11. Besides being the industry regulator and advisor to the Federal and State Governments as well as other stakeholders, CIDB's primary mandate is to develop the capacity of the Malaysian construction industry, with the aim of building up the Malaysian construction industry towards global competitiveness. The CITP was developed within this context. The ambitious 5-year plan was introduced to transform the Malaysian construction industry into one that is highly productive, sustainable and world-class by 2020.

12. The CITP is driven by the Ministry of Works through CIDB Malaysia, which collaborates with all stakeholders to address the industry's issues. It is a detailed programme that approaches transformation holistically through its four strategic thrusts:

- a. Quality, Safety and Professionalism;
- b. Environmental Sustainability;
- c. Productivity; and
- d. Internationalisation & Competitiveness

13. Each strategic thrust has a set of core initiatives which have been identified as key leverage points needed to leapfrog the Malaysian construction industry into the 21<sup>st</sup> century and beyond. Under these initiatives, CIDB has created a comprehensive suite of programmes in close collaboration with the various stakeholders in the private and public sector, which involve the overall transformation of the construction value chain through digital infrastructure, industry capacity building, education, retraining, certification and more. These measures are intended to shepherd the industry towards adopting a world-class mindset and practices.

14. Allow me to give you a very brief snapshot of how the CITP is redefining the Malaysian construction industry.

### **Quality, Safety, Professionalism**

15. The first strategic thrust of the CITP is Quality, Safety, and Professionalism. These traits are primary prerequisites towards transforming construction into a highly-developed industry. High accident and fatality rates, limited integration of health and safety aspects in the work culture, poor quality buildings and collapsing infrastructure, and delays in approvals of construction permits were some of the major issues in the industry that affect the general public, businesses, workers and consumers.
16. Among the measures taken to address these issues include the introduction of the **Quality Assessment System in Construction, or QLASSIC**, which assesses contractor workmanship, as well as providing broader quality assurance for construction of buildings. The CITP also recommends the implementation of independent QA and QC assessments, to include assessing all aspects of construction such as materials used, practices and processes, and workmanship.
17. The CITP also recommends greater adoption of the **Safety and Health Assessment System in Construction (SHASSIC)**, which assesses the safety and health performance of a contractor in a project. Programmes are also being rolled out to train certified safety officers (**SHO and SSS**) and third-party OSH inspectors, towards the goal of making it mandatory to have at least one SHO/SSS at each construction worksite.
18. The CITP also seeks to reduce regulatory obstacles in obtaining construction permits by expediting key processes and resolving current roadblocks. The CITP is also supporting the further enhancement of contractors' professionalism, by introducing **SCORE**, a special programme co-developed by CIDB and SME Corp to assess the capacity and capability of local contractors in Malaysia across seven key areas.
19. CIDB had also introduced the **Malaysian Standard Method of Measurement for Civil Engineering Works, or MyCESMM**, which standardises categories of works, descriptions, specifications, units of measurement, billing, arrangements

and such, for Contract Documents, Bills of Quantities, Schedules of Works and Specifications, and other documents. Adopting MyCESMM eliminates confusion within the industry and saves time and resources for everyone.

20. These are just some examples of the programmes enacted in the effort to ingrain quality, safety and professionalism in the culture of the industry. But the key to the success of any industry-wide change is to get the buy-in of all stakeholders. Towards this end, the government is actively engaging with the industry to gain their feedback as well as to collaborate on developing the measures needed to be implemented.

21. The ultimate aim is to create a more quality-conscious construction industry, which will ensure higher levels of quality in the built environment, reduce worksite accidents and thus remove the need for regulatory constraints.

### **Environmental Sustainability**

22. The second strategic thrust of the CITP is Environmental Sustainability. Sustainability is one of the most pressing issues in the world today. We are already witnessing the results climate change with extreme weather occurring around the world. We owe it to ourselves, and especially our children and grandchildren, to enact change now to ensure they have a future of their own.

23. Malaysia aims to become a low carbon, sustainable building and infrastructure hub. Efficient waste management will propel Malaysia's infrastructure to be more resilient and sustainable, while aiding environmental protection and ensuring the people's living standards are of high quality. This requires compliance to environmentally sustainable practices.

24. The CITP's aim is to exceed sustainability requirements and 4 MT of CO2 reduction per annum in 100% of large infrastructure and building projects by 2020. To achieve this, it is important to have in place a comprehensive suite of sustainability measures. As much of the construction industry is driven by the

private sector, the CITP aims to encourage environmental sustainability as an important market driver.

25. As such, one of the sustainability tools introduced under the CITP is the **Malaysian Carbon Reduction and Environmental Sustainability Tool or MyCREST**, a unique rating tool to quantify a built environment's carbon footprint and environmental impact. MyCREST ratings will enable stakeholders – including property buyers – to have a more holistic view of the built environment's life cycle and sustainability. MyCREST integrates socio-economic considerations into the built environment and urban development as well.
26. CIDB has also developed the **INFRASTAR** assessment tool, which evaluates the sustainability measures adopted by infrastructure projects, primarily at both design and construction stages. INFRASTAR has been implemented in five pilot projects and will be rolled out nationwide this year to rate all infrastructure projects, including roads, railways, pipelines, plane runways, waterways, treatment plants and network connections.
27. However, in these challenging economic times, it is easy to de-prioritise sustainability. I can understand why most firms are reluctant to adopt sustainable construction practices - with pressures such as labour supply, reduced government spending, increasing regulation, wage adjustments and other challenges. However, we have to prioritise sustainability now as the Earth approaches the tipping point.
28. As such, the government is proactively pursuing sustainable practices in its public works projects. Sustainability requirements will be implemented in procurement specifications and the Bill of Quantities, in line with sustainability rating tools. To promote private sector take-up, the CITP encourages the disclosure of sustainability certifications and practices for company listing and annual reporting. Banks and financial institutions will also be encouraged to recommend sustainability to their clients as a condition for financing. Training for project managers on the new standards and requirements is also being provided.

## Internationalisation

29. The third strategic thrust of the CITP is Internationalisation. The CITP envisions the emergence of Malaysian construction champions that will lead the charge locally and globally.
30. As Malaysia approaches developed nation status, Internationalisation is becoming an increasingly important avenue for Malaysian companies and workforce to capture growth beyond the domestic market. The benchmark Global Construction 2030 report by Global Construction Perspectives and Oxford Economics anticipates that the global construction industry will grow at an average rate of 3.9% to 2030, outpacing global GDP by over one percentage point, driven by developed countries recovering from economic instability and emerging countries continuing to industrialise.<sup>4</sup>
31. In order to successfully capture these opportunities, the Malaysian construction industry will need to be able to compete at international level. This means they must change in order to keep in step with emerging trends in the world construction industry, including the increasing demand for environmentally-friendly construction, adopting building information systems for efficient building management, and deploying new building systems and materials to enhance the lifespan of structures.<sup>5</sup>
32. Internationalisation does not just involve companies seeking new business abroad. With market liberalisation, foreign companies are also increasing their presence in the Malaysian market, bringing with them their technologies and expertise. The local construction industry needs to adapt and respond effectively to this changing environment.
33. One of the key factors for successful internationalisation is the consolidation of the various specifications and standards used in Malaysia today, including for quality, material standards, safety, environment, and methodology, among others,

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<sup>4</sup> <https://www.pwc.com/vn/en/industries/engineering-and-construction/pwc-global-construction-2030.html>

<sup>5</sup> <https://www.researchandmarkets.com/reports/4439921/growth-opportunities-in-the-global-construction>

in order to reduce discrepancies, uncertainty and fragmentation of the industry. The endgame is to level of the playing field for local players against foreign competition bidding for Malaysian projects.

34. A key component to this end is ensuring that Malaysian companies comply to international standards. This entails first establishing world-class Malaysian systems and standards such as QCLASSIC, SHASSIC, SCORE, MyCREST, INFRASTAR, MyCESMM, and others which I have already mentioned earlier. Secondly, we need to ensure compliance to such standards. This is currently being done through engagements with industry stakeholders, close collaboration with identified industry champions, eventually working towards mandating such standards across the industry.

35. CIDB also facilitates the Malaysian construction industry players to undertake, execute projects and render services overseas. To this end, CIDB has led delegations to explore opportunities overseas, which will help enhance the export of Malaysia's construction services.

## **Productivity**

36. The final strategic thrust of the CITP is Productivity. Productivity is the key to achieving Malaysia's target of becoming a high-income nation, as construction is one of the primary engines of economic growth. Despite being a significant sector, the construction industry one of the least productive in the economy. This is indicative of the limited adoption of new technologies and practices and the reliance on low skilled workforce. As such, **workforce, technology and processes** key have been identified as key drivers of productivity in the construction industry.

37. Productivity is a key thrust in the CITP as we head towards 2020, and even beyond. The aim is to double the productivity level of the industry, with corresponding increase in wages. To do this within the 5-year time frame of the CITP requires a radical transformation of the construction industry, not just an

enhancement of current practices. Technology has to be the main driver of transformation as only through digitalisation and new tools that provide higher efficiency can we achieve the CITP's targets.

38. One of the key factors is mandating the adoption of **Industrialised Building System, or IBS**, which is the prefabrication of building components. By adopting IBS, the industry can benefit from shorter project completion timelines and enhanced quality of work, resulting in a more cost-efficient construction sector.
39. To encourage take up, the economics of IBS adoption are being improved, such as lowering the cost of IBS machinery, offering higher plot ratio incentives for developers, and facilitating short-term loans for IBS component procurement. Training programmes and assessment tools have also been developed to ensure the quality of IBS work in the country.
40. The government is championing the adoption of IBS in the country, by mandating that projects worth more than RM10 million are required to adopt IBS and achieve a score of 70% and above. In the private sector, projects RM50million and above are required to achieve an IBS score of 50% and above.
41. However, in the Malaysian context, IBS is still about component manufacturing whereas in many other countries IBS is being applied to volumetric construction which allows companies to achieve much higher cost and time efficiencies. As such, Malaysia still has a lot of catching up to do despite all the measures already taken towards IBS adoption.
42. The next great innovation coming over the horizon is 3D printed construction. In July 2018, a family in France became the first in the world to move into a fully-livable, four-bedroom 3D-printed house. Let me show you a video of what that the future of construction looks like.

**"The world's first family to live in a 3D-printed home" by BBC**

<https://www.bbc.com/news/technology-44709534>

43. The house took just 54 hours to print and cost 20% cheaper than normal. If the prototype can achieve such groundbreaking results, think of the possibilities as the technology matures.

44. Another key initiative is the adoption of **Building Information Modelling, or BIM**. This is one of the important new technologies, which accurately represents the built environment on computers and for sharing of information. Through BIM, efficient and effective life cycle management of the built environment can take place.

45. To facilitate the adoption of BIM, several measures have been taken. These include the setting up the myBIM Centre as a one-stop reference, support, services and capacity building centre. Technical trainings are regularly conducted, and partnerships have been established with several universities to train up the next generation of construction personnel.

46. To illustrate the point, let's take a look at how adopting digital practices such as BIM can help in construction projects.

"What Is Building Information Modeling (BIM)?" By AutoDesk

<https://www.youtube.com/watch?v=gsm15cawHbY>

47. Together, IBS and BIM can provide unprecedented economies of scale. This is no longer a theory but a disruptive market reality. I am sure you have all heard about China's Broad Group erecting a 57-storey skyscraper in 19 working days. The world record construction time was made possible with IBS and BIM.

Ladies and gentlemen

48. The technologies to disrupt the construction industry are ready and available for mass market adoption. The question is, are we ready to adopt? Because if we

are not, then we will be left behind in the wake of those who are. This is the reality we are facing today.

49. CIDB, as the body mandated to transform the construction industry in Malaysia, has to keep our focus squarely on the CITP's intended outcomes at all times. This means that we cannot rest on our laurels. We are constantly reviewing not only our performance, but more importantly the impact we are having on the industry.

### **CITP Mid Term Review**

50. Up until the second quarter of 2018, the CITP's 115 KPIs had excellent results with an overall achievement of 98%. However, the CITP's goal is not the achievement of KPIs but the transformation of the industry. Upon examination, it was found that actual industry performance does not seem to be in tandem with the performance of the CITP. As such, the CITP underwent a midterm review last year to evaluate all KPI performances.

51. The resulting was a slew of proposed enhancements to our current activities, categorised into 8 Key Focus Areas that correspond to the CITP's four strategic thrusts. They are:

- i. Quality
- ii. Safety
- iii. Professionalism
- iv. Sustainability
- v. Skills Training
- vi. Technology
- vii. Exports
- viii. Competitiveness

52. Following the review, the CITP is now more streamlined, with a sharper focus on the goal of closing the loop between KPIs and the actual outcomes envisioned by the CITP. CIDB continues to develop programmes and platforms for the benefit of

the industry as a whole, as well as engage with all stakeholders to ensure that the intended outcomes of the CITP are achieved by 2020.

53. Thus, the CITP has set the platform for transforming the Malaysian construction industry towards 2020. However, life is never static and we have to now plan for what lies beyond 2020. This is an urgent and timely issue that affects construction sectors around the world and that is why the theme “Construction Beyond 2020” was selected for ICTC 2019.

## Conclusion

54. In conclusion, the construction industry is badly in need of a renovation. There is a McKinsey report<sup>6</sup> bluntly entitled, “The Construction Industry Is Ripe For Disruption.” Forbes magazine have published several articles to that effect as well.<sup>7</sup>

55. I would like to show you a video by McKinsey that really underlines why it’s crucial for the construction industry to take action to change now.

“Navigating digital disruption” by McKinsey

<https://youtu.be/CtWZnr3AuWY>

Ladies and gentlemen,

56. We must be mindful of the developments that are occurring on the fringes of the construction industry. We have already seen some of the disruptive technologies that are addressing the needs and weaknesses of the construction sector today.

<sup>6</sup>

<https://www.mckinsey.com/~media/McKinsey/Industries/Capital%20Projects%20and%20Infrastructure/Our%20Insights/Imagining%20constructions%20digital%20future/The-construction-industry-is-ripe-for-disruption-infographic.ashx>

<sup>7</sup> <https://www.forbes.com/sites/johnmcmanus/2018/09/25/6-reasons-housing-construction-is-ripe-for-disruption-in-the-fall-of-2018/#7b03599d7b27>

57. The adoption of such innovations and new technologies is a necessity for companies to remain competitive and be able to deliver on projects in a timely and cost-effective manner. And this change needs to happen quickly and at scale.

58. As Jack Ma said, “**Adopt and change before any major trends or changes.**” I believe he knows what he is talking about, as one of the greatest disruptors in the world today.

59. Thank you, and have a productive week ahead at ICW 2019!

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