OPENING KEYNOTE ADDRESS BY

YANG BERHORMAT
TUAN BARU BIAN
MINISTER OF WORKS, MALAYSIA

"BUILDING A BIG DATA COMMUNITY FOR CONSTRUCTION IN MALAYSIA"

STATISTICS, INDICES IN CONSTRUCTION AND AUTOMATION (SICA) FORUM 2018

14 AUGUST 2018
BERJAYA TIMES SQUARE HOTEL, KUALA LUMPUR

Distinguished Speakers,
Tan Sri, Dato' Sri, Datuk-Datuk, Datin-Datin,
Ladies and Gentlemen,

Salam Sejahtera and *Selamat Datang*

A warm welcome to all of you here today.

1. It is with great pleasure and honour for me to be here with you today to deliver the Keynote Address for the **"Statistics, Indices in Construction and Automation Forum 2018",** otherwise known as the **SICA Forum 2018.** This is the fourth year that this Forum has been held, organised by the Construction Industry Development Board, Malaysia (CIDB).

2. The theme for last year's forum was ***"Capitalising Big Data, Optimising Productivity"*** where we explored the need for the construction sector to re-think, re-look and advance traditional business intelligence solutions, in order to enhance business. As we all know, the ability to extract useful insights with Big

Data Analytics revolutionised the society. For example, it enables focal micro-targeting to intended audience. This enables key messages to be delivered towards the 'right-fit' audience. This is changing the way mass communication works, and indirectly, changing how society interacts and responds to these messages.

3. In this digital age, technological disruption is happening all around us. We only have to look back on the past five (5) to ten (10) years and we will see many examples of how the speed of technology had caught once-mighty industries off guard and taken away a significant chunk of their market. We saw this in retail and media in recent times, with the meteoric rise of sites like Alibaba, and social media such as Facebook, Twitter and Instagram. Today, we are seeing technological disruption happening in very well-established industries such as food services and even finance.

Ladies and Gentlemen,

4. Please allow me to share with you a vision of how Big Data could change the face of the Malaysian construction sector for the better.

5. Let me begin by saying that the construction industry is no stranger to technological disruptions. New technologies throughout the ages have enabled builders to construct bigger and better buildings with higher quality and efficiency. Today, technologies such as 3D printing, building information modelling (BIM), and integration of design and off-site component-based assembly - such as the Industrialised Building Systems (IBS) - are evolving fast and coming of age.

6. With Big Data technologies, companies can turn the mountains of data they have accumulated over the years to come up with better cost estimates and predict future outcomes on projects. This would allow them to make strategic decisions through data driven decision-making, increase productivity, improve jobsite safety and reduce business risks, among other benefits.

Ladies and gentlemen,

7. Our theme today is **"Building A Big Data Community For Construction In Malaysia".** The two forums today will focus on the topics of "Leveraging Big Data In The Construction Industry" and "Identifying Construction Trends With Data Analytics".

8. These are important topics that have ramifications for the future direction of the Malaysian construction sector. I am confident that, from these discussions, all participants here will be able to take away many insights on how Big Data can benefit your business.

9. I would like to give you an overview of the topics we will be covering today.

Leveraging Big Data In The Construction Industry

10. In the context of the construction industry, Big Data refers to the large quantities of information that have been generated in the past and continues to be collected today. Each stakeholder - whether government agencies, regulators, contractors, or consultants - deals with large volumes of data on a daily basis, whether on a project basis, company basis or industry basis.

11. The idea is to collate and process the data from these sources to gain more insights in order to make better decisions. However, Big Data by itself isn't useful. The wealth of information contained within the disparate sources of industry data are like nuggets of gold buried in the ground. There needs to be a process to extract, filter, and analyse them into useful forms. This is where the industry needs to be heading towards.

12. The ability to harness the insights as valuable output through Big Data anaytics is set to be an industry game changer. Let me give you a simple example: Let's say you are seeking to improve worker productivity. You may invest in some tracking technology to monitor worker movement throughout the day.

13. Big Data analytics could be applied to provide information into how workers move about and interact with the site. With these insights, you could develop a solution to raise the efficiency on the worksite. For example, relocating tools and materials to make them more accessible and thus maximise man-hour productivity. As you all know, this can potentially translate into hundreds of thousands of Ringgit in savings, due to reduced accident risks, reduced unproductive movements and higher work efficiency.

14. This is just one small example of what can be achieved with a relatively simple data set. Imagine what can be accomplished with accessibility and integration of more data sets. What industry practices and processes could be made more efficient with insights gained from Big Data collated from stakeholders across the construction industry?

15. Unfortunately, what normally happens is that when a data collection exercise has been completed, the data is simply filed away. To benefit from the data that stakeholders have within their archives, there is a need for preemptive, standardized and centralized of data creation and data management across stakeholders. This allows data accessibility to users.

16. Another issue is data in our industry is produced in silos. While insights from Big Data Analytics can enable meaningful industry-wide improvements, the value of analysis depend on the variety of big data inputs – the more sources the better. We need to eliminate data silos in order to unlock the true potential of Big Data.

17. For this to happen, companies need to be willing to share data with other stakeholders prior to the alacrity of applying and investing in big data analytics in their organization.

18. As such, it is time for stakeholders to seriously take a look at how we can collaborate to create an effective data-sharing ecosystem for the construction sector, with the goal of enabling industry-wide Big Data Analytics, so that stakeholders can formulate business strategies and decisions that are more accurate, timely, competitive and cost-effective.

19. I am pleased to note that the industry is making significant progress in the use of big data, adoption of modern technologies such as BIM as well as increase use of IBS in the industry.

20. However, I do understand that there are concerns among stakeholders regarding data sharing, especially security and confidentiality issues. However, I believe, where there is a will, there is a way. I believe, as an industry, the various stakeholders can work this out in order to achieve this mutually-beneficial goal.

Ladies and gentlemen,

The theme of our second forum of the day is **Identifying Construction Trends With Data Analytics.**

21. In this day and age, construction companies seek consistent, real-time financial and project information update; want to be warned when specific situations occur; and want accurate forecasting to better prepare for best and worst-case scenarios. All these valuable business insights can be readily available with Big Data analytics solutions.

22. There are some efforts in this area already, but they are generally piecemeal. What I would like to see is the Malaysian construction sector coming together to develop a comprehensive Big Data ecosystem that will propel the Malaysian industry forward and enable it to thrive on a global stage beyond 2020.

23. What value does Big Data bring to construction industry? Let us consider some examples in the context of the design-build-operate lifecycle of a project.

24. **At the <u>Design</u> stage:** Big data sources include the building design, environmental data, stakeholder input and social media discussions. These can then be used to determine ***what*** to build and also ***where*** to build. Historical data can be analysed to identify past patterns and determine future probabilities to improve the processes of new projects to reduce risks and increase efficiency.

25. **At the <u>Building</u> stage:** An analysis of traffic data, community data and business activities data can provide the basis of a construction schedule that minimises public disruption. Data from machinery usage and idle time can be processed to inform buying and leasing decisions to maximise cost-effectiveness.

26. **At the <u>Operation</u> stage:** Big data from sensors built into buildings or infrastructure makes it possible to monitor the performance of the construction and alert of potential issues before it arises. Energy consumption in buildings can be tracked to ensure it conforms to stated goals. Such data can also be fed back into building information modelling (BIM) systems to schedule maintenance activities more efficiently as well as can be maximized to guide future mechanical installation tailoring the user consumption preference.

Ladies and Gentlemen,

Labour Productivity Performance and Construction Industry Transformation Programme 2016-2020

27. The Malaysian construction industry needs to make major changes to improve its productivity levels. According to the latest **Productivity Report**[1] produced by the Malaysian Productivity Corporation (MPC), in 2017, the **construction industry experienced the lowest productivity level of RM40,242** per worker compared to the **agriculture sector at RM51,988**, **services sector at RM73,030**, while **mining** remained as the sector with the highest productivity level at **RM1,210,832.** I believe more can be done for the construction sector to close this gap.

28. Therefore, raising the productivity level of the construction industry is a high priority in the Construction Industry Transformation Programme (CITP) 2016-2020 which comprises of four strategic thrusts: Quality, Safety and Professionalism; Environmental Sustainability; Productivity; and Internationalisation.

[1] Malaysian Productivity Corporation (MPC), 25th Productivity Report 2017/2019: https://drive.google.com/file/d/1k-UuTX4GJISLRo9vhoE7RX-t7FpC0eBK/view

29. Digitisation, integration and automation of construction methods and practices are key areas of focus under the Productivity strategic thrust of the CITP, which seeks to double the productivity levels of the construction sector, with matching higher wages by 2020. To this end, it is crucial to have access to reliable data in order to develop effective data maximization plans and policies in specific to the construction industry.

30. In fact, four out of the six key initiatives that make up the Productivity strategic thrust contain elements of digitalisation and the use of big data to spur productivity levels in the industry. With knowledge and evidence-based decisions, we will be able to steer the construction industry towards increased productivity and efficiency as envisioned under the CITP.

Ladies and Gentlemen,

31. In order to make the idea of creating an industry-wide Big Data ecosystem a reality, the Ministry of Works, through its agencies will be taking the lead to spearhead this effort.

32. I am made to understand that CIDB, in collaboration with other government agencies and professional bodies, has been making great progress in this direction already. I am glad to see this happening as collaboration and smart partnerships between government agencies and the private sector is crucial for the industry's development.

33. In terms of cross-agency data sharing, CIDB, during SICA Forum 2016, have entered into strategic collaborations, through the form of a Memorandum of Understanding (MoU) with Khazanah Research Institute (KRI) and a Memorandum of Agreement (MoA) with the Royal Institution of Surveyors (RISM) respectively. **CIDB and KRI** is collaborating to promote the use of updated construction data amongst industry players as well as to develop capabilities and capacities in data analysis. Whereas, on the **MoA between CIDB and RISM**, CIDB provides RISM members with updated construction cost

information updated on a quarterly basis, which will allow industry members to make informed decisions, taking into account the current construction landscape.

34. In addition, CIDB has entered into a collaboration with the Department of Statistics Malaysia (DOSM) to develop, maintain and share updated statistical data on construction material prices. CIDB's **National Construction Cost Centre or MyN3C Portal** is a free-to-use online platform that provides comprehensive information on construction costs to all industry stakeholders. The value of the MyN3C Portal as a Big Data resource is seen through KRI's "Making Housing Affordable" Report that was developed using information from MyN3C.

35. CIDB's latest effort to create an industry-wide Big Data ecosystem is the development of the National Construction Industry Information Centre (NCIIC) which is targeted to be launched in 2019. The NCIIC will be a one-stop information centre for all construction related data, which will be available to all stakeholders

36. I strongly encourage you to utilise these platforms and embrace the use of big data in your respective business strategies and solutions.

Ladies and Gentlemen,

The Way Ahead For The Construction Industry

37. The construction sector is a key engine in driving the country's economic growth, consistently recording a higher GDP growth year-on-year as compared to the national GDP since 2012, surpassing the performance of many other economic sectors in the country. As a key component of the economic well-being of the nation, the industry needs to be resilient to challenges for both today and tomorrow, especially when faced with technological disruptions.

38. As such, I urge all of you here today - the industry stakeholders - to adopt modern technologies and processes, such as big data analytics, to ensure continuous growth trajectory and sustainability of the construction sector.

Ladies and Gentlemen,

Conclusion & Moving Forward

39. Over the past several years, construction companies are beginning to realise that big data, predictive analytics and real-time data sharing can unlock deep insights into construction practices and the market to enable better project management and strategic business decision-making. Big Data analytics has been proven to have highly successful outcomes in other industries, and there is no reason to believe the construction industry cannot reap similar benefits.

40. In light of the technological disruptions overtaking many well-established industries, it is no longer an option but a necessity to adopt the latest technological advances to ensure our nation remains on track to be a developed nation by 2020. I believe we all want to see the Malaysian construction industry be at par with other developed economies.

41. If we want to survive and thrive in the Fourth Industrial Revolution, or Industry 4.0, it is imperative to embrace digitisation and technological disruptions to transition from being a labour-driven industry to a knowledge-driven one.

42. The Ministry of Works is committed to advancing the use of Big Data analytics in the construction industry as we recognise that it will certainly benefit the industry and its entire value chain. With data-backed strategies and decisions, I am confident the industry will be able to lift itself to be one that is known for its high quality, safety, environmental sustainability and high productivity.

43. Before I conclude, let me once again express my appreciation to all of you for your support and presence here today. I welcome and applaud the organisers of SICA Forum. It is indeed a platform where we can openly discuss issues with the aim of improving the construction industry in Malaysia and ensuring its continued prosperity in the future.

44. I wish all of you a fruitful day ahead. Thank you.

######