

Minister of Works
Opening Speech
Construction Industry Research Achievement International Conference
(CIRAIC) 3 NOVEMBER 2009

1. I would like to thank CIDB for inviting me to the **Construction Industry Research Achievement International Conference (CIRAIC) 2009**. I consider it an honour to be given the privilege to address a group of intellectuals made up of researchers, scientists, professionals, academicians and practitioners who are gathered here to share their knowledge on construction-related issues. The diversity of experts at this conference will, I am sure, contribute innovative ideas that will help to enhance the construction industry, as envisaged in the Construction Industry Master Plan (CIMP) 2006-2015.

2. We all value innovation, but we recognise that translating R&D into something tangible in the market is a challenge. In Malaysia, it is quite normal to expect less than five percent R&D results to reach the market. We can avoid this if the value chain of R&D is appropriately managed in order to reap the full benefit of R&D investment. The value chain of R&D stretches from ideation and conceptualisation, through R&D, to technology development, to commercialisation and marketing; and includes the support activities and the linkages. The process is less complicated if all activities are within one's control as in the case of R&D in a high-tech company. However, when it involves R&D on an industrial level such as the construction industry, the problems of coordination is multiplied due to the fragmented nature of the construction industry.

3. The 2nd CIRAIC highlights R&D initiatives in synergizing the effort to realise CIMP's vision as mentioned in its seven strategic thrusts stipulated in the plan. The conference also highlights Construction Research Institute of Malaysia (CREAM)'s R&D deliverables that have potential to be commercialised and

applied to the industry. I urge all participants here to use this platform to network, initiate collaboration and leverage on their R&D efforts to make their products marketable.

4. The construction industry is a very competitive and volatile industry. It is also an established industry with many deep-seated and culturally-embedded practices. One reason that structurally makes construction averse to R&D is the very competitive nature of the industry itself. With a competitive profit margin, and with everyone trying to outbid each other, and with demanding clients, there is little room for experimentation. Designers, contractors, and project managers hesitate to try untested methodologies and are forced to adhere to traditional or even archaic methods mainly because they are well tried and tested and produce the results that meet the demand of the industry.

5. An example that illustrates this is the case of IBS, which we have been trying to promote since 2003. Without economies of scale, the price fluctuation can vary from a reduction of 5 percent to a cost overrun of 20 percent. Although the IBS programme can help to reduce dependency on foreign immigrant labour and cut down on outflow of funds, this cost-factor is retarding our efforts. It put us in a catch-22 position where we cannot achieve economies of scale if IBS do not catch on in the market, and without economies of scale we cannot bring down the price of using IBS, and without competitive prices we cannot encourage more to use IBS, which finally prevents us from achieving economies of scale. One way to overcome this is to allow for a level playing field where IBS is made mandatory for construction of certain types of buildings. But in this case the client must be willing to pay slightly higher at least for the early part of the programme.

6. Since 2008, government buildings under JKR set a target of achieving an IBS Score of 70. It means that, 70% of components and systems used in a building must utilise IBS. Despite familiarity with conventional practices and slight difficulties that we faced to achieve this score we have recorded encouraging

results. From our experience, there is consensus of opinion that IBS requires advance planning, management of supply chain and development of technical capability among others. A strategy has to be formulated to help conventional contractors to use IBS. Research needs to be done to identify best practices and the Critical Success Factors (CSFs) in IBS which will eventually guide our contractors to utilise the system. Therefore, I would like to see CIDB to facilitate with relevant parties like Real Estates and Housing Developers' Association Malaysia (REHDA), Master Builders Association Malaysia, The Association of Consulting Engineers Malaysia (ACEM), manufacturers and contractors to establish a clear IBS standard for Malaysia.

7. R&D could leverage and support the government's construction related strategy. In the Budget for next year, Prime Minister Dato' Sri Najib Tun Abdul Razak had stated that we need a strong foundation in research, development and commercialisation activities if we want to shift towards a high income economy. New approaches like the concept of partnering, whole life cycle costing, sustainable, green and lean construction is a prerequisite that needs to be taken on board. For R&D to receive the support it deserves there must be closer working together in partnership between industry players and academia. R&D and construction practices have to work in tandem and not in isolation.

8. For this to be realised, the construction value chain has to be revisited and viewed in a holistic approach i.e. in light with Whole Life Cycle Costing concept. There must be collaborative interaction among professionals within the industry fraternity right from project initiation. Sharing of knowledge and information, technology transfer will be expedited through the interaction of this team of knowledge workers. The issues of collaboration, intellectual property rights and mutual understanding also have to be addressed and acknowledged.

9. The concept of Revaluing Construction should take into consideration:

- The promotion of the full value delivered to society by construction.

- The industry, far from being old, slow and fragmented, is in fact dynamic, responsive and highly adapted to the diverse and turbulent environment in which it operates.
- Maintaining the good image must come through partnership of experts of the industry that dynamically develops holistic solutions for clients and users within reasonably stable, professional frameworks.
- This would over time improve the environment, enhance credibility, under which the sector labours.

10. One main factor that is critical to the success of R&D in enhancing economic activity is the cultural endorsement of entrepreneurial activity. This is usually manifested by the financial support provided by the venture capitalists. In Malaysia, although venture capitalists do play a role, these are usually in areas other than construction. To capitalise on the values of R&D in the construction industry it is imperative that we breach the gap between the knowledge-generating R&D institutions, the technology developers and the technology end-user. This would require a two-prong approach. From the industry side, there must be a realization that R&D can bring benefits to the business performance. Industry appears to be of the opinion that they know best on what is needed on the ground and that most R&D results are out of touch with the realities and needs of the market. The researchers and academia must take steps to reach out to the technology consumers and interact more with the market in order to fully understand the real needs of the market.

11. CIDB has set up the Construction Research Institute of Malaysia (CREAM) to cater for the needs of R&D in construction, and to oversee the full R&D value chain in order to bring the research results to the market in the form of an applicable technology. CREAM is a Research Foundation with a Governing Board made up of members of organizations with interests in the construction industry. Initial funding comes from CIDB but the Institute is expected to be self-supporting over time through members' contributions that qualifies for double tax

exemption, and from combined ownership of Intellectual Property between CREAM, the specific R&D organization, and the private institutional sponsor, if any. The structure was set up taking into consideration the various gaps that are inherent in the current research value chain. Although research has been conducted by CIDB since 2001, CREAM has been in existence for less than three years. As such, the effectiveness of such an arrangement in bringing research results to the markets cannot be assessed as yet. But with 6 R&D results filed for patent, and 3 ready for commercialization out of 39 research projects undertaken since 2001- the signs are indeed encouraging.

12. Apart from CREAM, the Government through the Ministry of Works and its agency, CIDB has established a full scale heavy structural laboratory. This newly built laboratory called Makmal Kerja Raya Malaysia, situated in Cheras, Kuala Lumpur, is part of the continuous effort by the Government to promote, encourage and stimulate the growth of R&D works particularly in the construction sector.

13. Makmal Kerja Raya is fully equipped with the latest testing facilities and equipment to support R&D works related to IBS component, structural elements and building materials. Some of the facilities such as “reaction wall” are relatively new to this country and not available elsewhere in Malaysia. I believe that with these facilities, Makmal Kerja Raya shall benefit not only researchers in Malaysia but the construction industry at large. In the long term, we can minimize our dependency on foreign facilities and expertise, thus reducing costs and producing more local experts in construction field.

14. So as to make full use of the facilities, Makmal Kerja Raya shall not limit itself to R&D works alone. Specialized testing works on other structural component such as structural frame, full scale single storey building, bridges or girders can be performed. At the same time, the laboratory is in the midst of getting itself

accredited and thus, enables Makmal Kerja Raya to provide reliable testing and calibration services.

15. On top of that, Makmal Kerja Raya can help CIDB to certify IBS components that are fabricated locally by conducting performance tests and verification procedure. The principal objective of implementing certification is to improve productivity in the building industry and at the same time maintain the quality and integrity of the industry.

16. Product Quality is of utmost importance in the construction sector today. We have recently witnessed shortfalls that have significantly affected public perception of the construction sector. Product design and construction value creation for buyers will still fall short if the implementation and product delivery do not meet expectations.

17. We must not only improve the quality of work at the construction phase through more effective supervision but ensure utilisation of appropriate technologies. We must also be more stringent in identifying the contractors to deliver the job. Without appropriate experience and expertise, the client and the public will be left bearing their inefficiencies.

18. Relevant parties such as engineers, consultants and contractors need to work together to monitor and control the quality at every stage of the construction process. Comprehensive monitoring can help ensure reliable quality finish that meets client demand. There is also an urgent need to ensure our rules and regulations are able to bring to task errant parties, who compromise product quality and public safety.

19. The partnership between CREAM, UiTM, Universiti Malaya, University of Salford and The International Council for Research and Innovation in Building and Construction (CIB) in organizing this conference is indeed an example of

smart partnership that will allow all parties to benefit from the research results undertaken individually. I congratulate all parties involved in forging this relationship between academia and industry and I am certain such relationships will allow both the academia and the industry to capitalise on the strength of the other. Construction-relevant R&D output from universities can be harnessed by CREAM to reach the market. With sustained collaboration, these parties can even be the Center of Excellence on issues pertaining to the management needs of the construction industry while CREAM focuses on becoming the Center of Excellence in areas such as IBS and other industrialization matters such as robotics.

20. I sincerely hope that, through this conference, researchers, academia and construction players would discuss at length and share their experiences in dealing with the built environment issues. I also wish this conference will give pragmatic and fruitful ideas that are translated into the construction industry. Finally, I would like to thank the organising committee again for your successful efforts in hosting the 2nd CIRAIC, 2009. To all foreign delegates, I welcome you to Malaysia and I trust that you will enjoy our hospitality and taste our diverse cuisine while witnessing our varied culture. At the same time I hope to hear positive outcome from this conference. With the lafaz **Bismillahirrahmanirrahim** I declare the '**Construction Industry Research Achievement International Conference 2009**' officially open. Thank you.