



# ATTRIBUTES OF FUTURE ENGINEERS

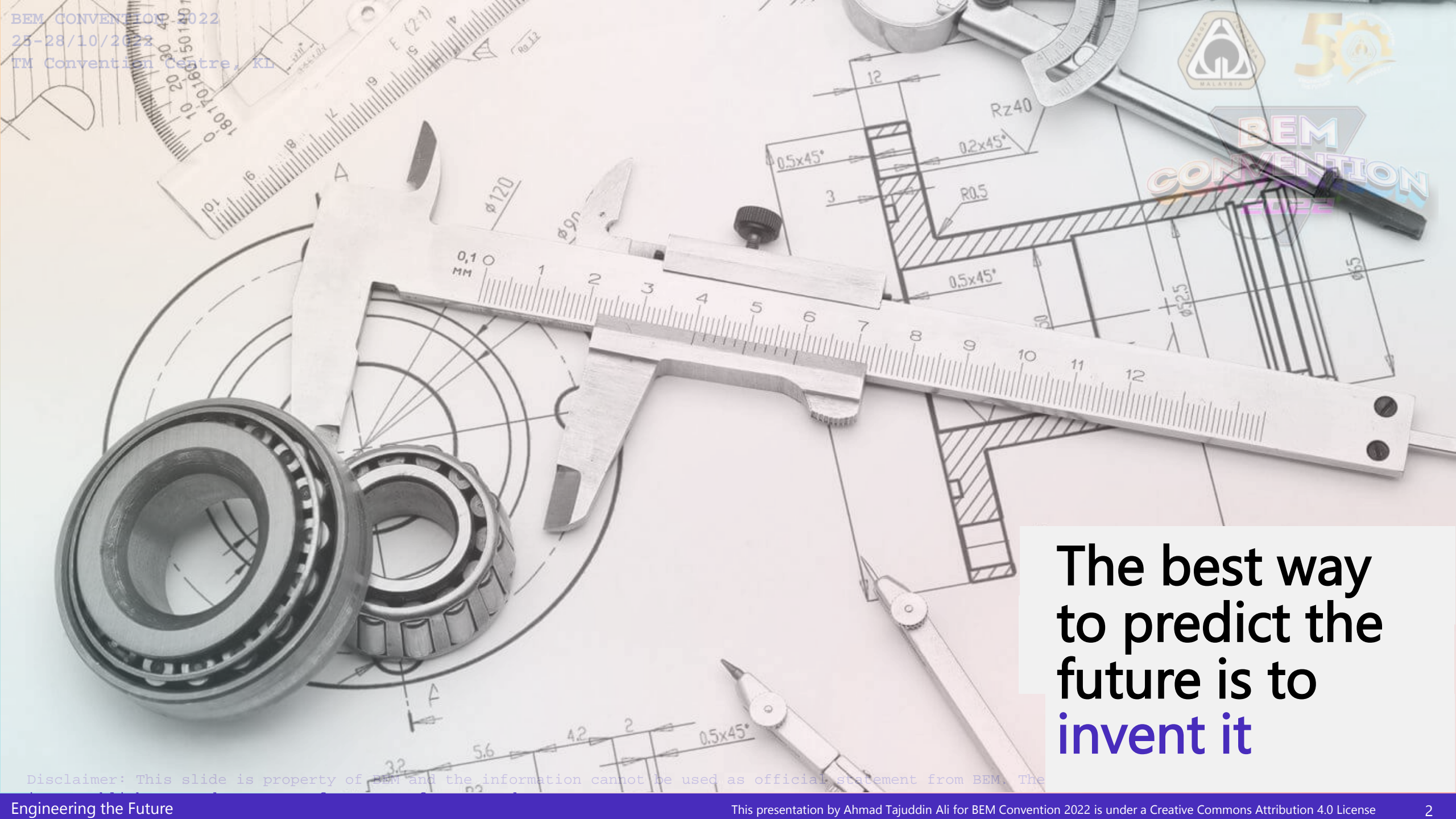
Moderator: Ir. Mohd Noramil bin Mohd Daril

Panelist:

Dato' Ir. Dr. Nor Hisham bin Mohd Ghazali

Ir. Dr. Lim Phaik Leng

Ir. Azizi bin A Hadi



The best way  
to predict the  
future is to  
invent it

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# Forum 1: What Is the Future For Engineering Career



Prof. Ir. Dr. Norlida  
Buniyamin

What is the Future for the Engineering Career?

The Future is very bright.

We are moving from inventions

To

Systems



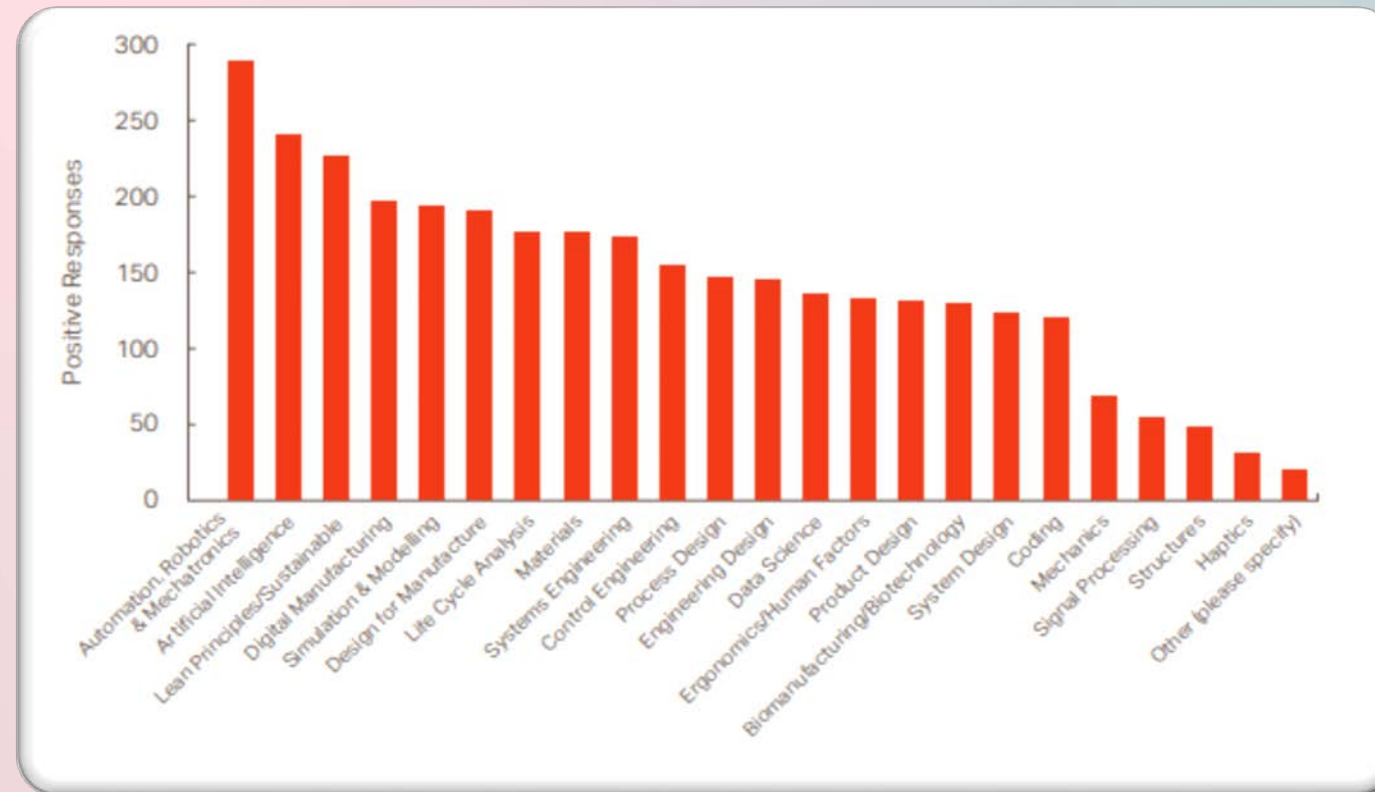
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# The Emerging Engineering Technologies In Manufacturing



What is to us as engineers? What acquire skills does one needs?

- Automation, robotics and mechatronics
- Artificial Intelligence
- Lean Principles/ Sustainable manufacturing
- Soft skills:
  - Communication skills
  - Creativity
  - Design thinking



By: Ir Bernard Lim, Vice President/ Managing Director of Appscard Group AS Page 4



# The Emerging Engineering Technologies In Construction



By: Ir Prem Kumar, Member of WG on Cluster Emerging Technologies

Page 5

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# Forum 1: What Is the Future For Engineering Career



ENGINEERING  
THE FUTURE

25-28/10/2022  
TM Convention Centre, KL



## Outline of Presentation

Technology: Industry 4.0

Sustainable Development

Interconnected World



Prof. Dr. Khairiyah Mohd  
Yusof

Page 2

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# Skills required in 4IR

## Soft Skills



Creative Thinking

Collaboration



Persuasion



Time Management



Critical Thinking



Focus on emotional quotient

Adaptability



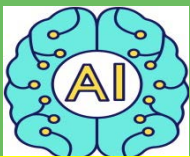
Social media skills

## Hard Skills

Cloud Computing



Blockchain



Artificial Intelligence



UX Design



Mobile Application Development



Video Production



Data Science



Social Media Marketing

Animation



Digital Marketing







# INTERNATIONAL ENGINEERING ALLIANCE (IEA)

GRADUATE ATTRIBUTES	PROFESSIONAL COMPETENCY
Engineering Knowledge	Comprehend and apply universal knowledge
Problem Analysis – complexity of analysis	Comprehend and apply local knowledge
Design/development of solutions – solutions not previously identified or codified	Problem analysis
Investigation – breadth and depth of investigation & experimentation	Design and development of solutions
Tool Usage – understanding of the appropriateness of technologies & tools	Evaluation
The Engineer and the World – responsibility for sustainable development	Protection of society
Ethics – understanding and level of practice	Legal, regulatory and cultural
Individual and Collaborative Team Work – Role in and diversity of team	Ethics
Communication	Manage engineering activities
Project Management and Finance	Communication and Collaboration
Lifelong learning	CPD and Lifelong learning
	Judgement
	Responsibility for decisions





# ENGINEERS' ROLE IN NATION BUILDING

- 
- **FRAMEWORK & POLICY**
  - **MANAGEMENT**
  - **DESIGN & INNOVATION**
  - **COSTING & BUDGETING**
  - **PLANNING & MONITORING**
  - **SUPERVISION & QUALITY CONTROL**
  - **CONTRACTS ADMINISTRATION**
  - **BUILD & CONSTRUCT**
  - **MAINTENANCE & REPAIR**

The illiterate of the 21st Century  
will not be those who cannot  
read or write,  
but those who cannot  
learn, unlearn  
and relearn.

Alvin Toffler



# THANK YOU



Committed to Engineering Excellence

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