GROUP 3

NEWSLETTER

IR4.0 : A MALAYSIA PERSPECTIVE

Sunday, 2 November , 2021

The recent Industrial Talk provided an insightful look into the role of technology and information systems in today's digital era. The session featured **Sarah Khadijah Taylor, Strategic & Project Manager, Digital Forensics Department from CyberSecurity Malaysia** , who shared valuable knowledge about the impact of modern technologies on industries.

The talk emphasized how emerging technologies such as Artificial Intelligence (AI), Cloud Computing, the Internet of Things (IoT), and Cybersecurity are transforming businesses and daily life. The speaker highlighted real-world applications of these technologies and the challenges companies face in adopting them.

IR 4.0 CYBERSECURITY MALAYSIA

The Fourth Industrial Revolution (IR 4.0) is transforming industries through intelligent automation, data-driven decision-making, and interconnected systems. In Malaysia, the adoption of digital technologies is accelerating, making cybersecurity a crucial element in ensuring a safe and resilient digital ecosystem.

TECHNOLOGIES ADVANCEMENT SUMMARIES

Enabling Technologies highlight several key advancement powering digital transformation in industries.Artificial Intelligence (AI) is developed using machine learning and is utilized by CyberSecurity Malaysia for facial recognition to identify suspects. Big Data Analytics is crucial for predicting trends and market movements, enabling businesses to align their strategies accordingly. Augmented Reality (AR) plays a significant role in delivering information and is widely used in training pilots and firefighters. Additive Manufacturing focuses on producing new materials, while Advanced Materials involve the creation of innovative substances, including applications in 3D printing. Other than that , Internet of Things (IOT), Cloud Computing, Autonomous Robot, Cybersecurity and System Integration also play important roles in enabling technologies. These technologies collectively contribute to industrial progress and enhanced security measures.

CyberSecurity Malaysia (CSM) plays a vital role in strengthening national cybersecurity by focusing on three key areas. First, people, by enhancing cybersecurity awareness and training skilled professionals. Second, processes, by establishing strong governance, policies, and risk management frameworks. Third, technology, by implementing advanced security solutions to combat cyber threats and protect sensitive data.

The key transformation drivers of IR 4.0 include Artificial Intelligence (AI), the Internet of Things (IoT), Cloud Computing, and cybersecurity measures. These technologies enable businesses to improve efficiency, drive innovation, and enhance security in an increasingly digital world. By embracing IR 4.0 and prioritizing cybersecurity, Malaysia can build a more secure and competitive digital economy. Cybersecurity is a fundamental enabler of IR 4.0, ensuring that digital transformation efforts remain secure, reliable, and efficient. Without strong cybersecurity measures, the benefits of IR 4.0 such as automation, smart factories, and AI-driven decision-making would be at risk. Organizations must invest in cyber resilience, risk management, and advanced security technologies to fully realize the potential of IR 4.0.

IOT

IoT plays a crucial role in IR 4.0 by enabling smart factories, predictive maintenance, supply chain optimization, and remote monitoring. IoT devices, such as smart sensors and connected machines, continuously collect and analyze data, helping industries improve efficiency and reduce costs.

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ARTIFICIAL INTELLIGENCE

Software that enable machines to perceive thier environment and use the learning and intelligence to take actions that maximize their chances of achieving defined goals.

CLOUD COMPUTING

- Public Cloud

allows users to access data and applications over the internet

- Private Cloud

cloud computing environment that's dedicated to single organization

- Hybrid Cloud

combines a public cloud with a private cloud, or on premises data center

THE NEEDS TO EMBRACE

- Global value chains and geographic of production are continuing to shift
- Quality of labour and higher productivity but not low labour cost.
- New technologies are disrupting and fostering a technology-based model production

FRAMEWORKS

Malaysia aims to expand its role in the global digital economy through tech-driven transformation, focusing on AI, automation, and cybersecurity. Collaboration with international tech leaders will further strengthen its position, driving growth and innovation.

MALAYSIA'S ISSUES AND CHALLENGES

Malaysia faces significant challenges in its digital transformation journey, with rising cyber threats posing risks to national security, businesses, and critical sectors like healthcare, finance, and government services. A lack of cybersecurity awareness and a shortage of skilled professionals create vulnerabilities, leaving the nation exposed to cyberattacks. Economically, Malaysia must navigate intense global competition, particularly from China, while addressing concerns over automation-driven job losses and foreign talent dependency, which impact local employment and industry specialization. The slow adoption of digital technology among SMEs and gaps in digital infrastructure, especially in rural areas, further hinder nationwide digital transformation. Additionally, weak data protection regulations and insufficient digital forensic capabilities complicate cybercrime investigations, while outdated legal frameworks struggle to address modern threats such as fraud, hacking, and misinformation.

Addressing Industry Challenges

The Malaysian Ministry of Investment, Trade, and Industry (MITI) is leading the charge in addressing industry challenges through a structured, top-down approach. This strategy focuses on Attract investments and expertise. Create sustainable industry solutions. Transform the ecosystem for long-term impact.

DIGITAL FORENSICS

Digital forensics is vital for investigating cybercrimes in Malaysia, but challenges like slow legal processes, limited expertise, and evolving cyber threats hinder progress. To strengthen its digital defenses, Malaysia must invest in AI-driven tools, enhance training for forensic experts, and collaborate internationally for intelligence sharing.

REFLECTIONS

This industry talk make me realize that changes in technology go hand in hand with cybersecurity awareness and education. Organisations and individuals should be more proactive in protecting digital assets and ensuring data security while adapting to the newest cyber risks. In the years to come, secure digital practice coupled with strong cybersecurity frameworks will be the way to progress through the digital era.
- NUR ANISAH SOLEHAH BINTI MOHD HAMIM A24CS0157-

The industry talk was an eye-opening experience that highlight the risk of cyber threats, especially with the rise of IR 4.0. I now understand how important it is to be aware with safeguarding a digital valuble information. Cybersecurity is no longer optional but a critical necessity in today's interconnected world.It motivates me to stay inform about cybersecurity trends and the best ways to stay safe. It also made me think about how industries can step up their security and protect themselves better in today's digital world.
-ALLISYA MAISARAH BINTI SURAIZAL A24CS0044-

The industry gave me insights and awareness about issues and challenges that malaysia faced about sudden transformation regarding its digital journey. I learn that we need to have at least basic knowledge about technologies. This is because we can prevent from getting cyberattacks ourselves. With that being said, the cybercrimes rate in Malaysia will significantly decrease.
-MOHAMAD FARHAN BIN MOHAMAD HARIRI A24CS0114-

This industry talk helped me understand Malaysia's key challenges in cybersecurity, economic transition, and digital transformation. I learned about evolving cyber threats, the need for better emergency management and the importance of stronger laws and funding. It also sparked my interest in cybersecurity, especially forensic analysis and automation, which offer great career opportunities in Malaysia and globally.
-MINDY NG YU FANG A24CS0267-