NEWSLETTER

EXPLORING TECHNOLOGY BEHIND JOHOR PORT

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JOHOR PORT BERHAD

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Source of photo: https://www.mmcports.com.my/johor-port/

Getting to Know Johor Port ICT

Student were introduced to key business applications such as JPBI, ERP-RAMCO, PAMS, and application development, which demonstrated how technology keeps the port's operations efficient and seamless. They also gained a behind the scenes view of the ICT infrastructure, from the MetroCluster to robust cybersecurity measures and the data center with disaster recovery systems, which highlight the technology that keeps port operations secure, resilient, and reliable.

The visit concluded with snacks and a guided tour of the port area, giving students a closer look at Johor Port's daily operations. Overall, the session provided a clear understanding of how ICT plays a key role in port management, showing how technology and practical solutions work together to keep operations smooth, secure, and efficient.

Photo: Briefing the overview of Johor Port by Ts. Mohamad Taufik Abdul Razak

Photo: https://www.mmcports.com.my/johor-port-and-ptp-welcome-an-inaugural-official-visit-by-deputy-minister-in-the-prime-ministers-department-economic-affairs/

INSIDE JOHOR PORT: TECHNOLOGY

Information & Communications Technology (ICT) is vital to the ports and logistics industry in ensuring customers' and users' needs and support efficient operations. At Johor Port, ICT enables fast, interactive, user-friendly services and integrates planning with daily management, making it an essential business tool.

Efficient information processing tools :

- Johor Port Container Terminal System (JCTS)
- Multi-Purpose Terminal System (MPTS)
- Vessel Clearance System (VCS)
- Marine Services System (MSS)
- Port Access Management System (PAMS)
- Advanced Marine Resource Management System (MarineM)

Application of Technology

VMT

Technology system that manage truck movements in and out of the port to reduce congestion, improve security, and speed up cargo handling. It covers truck pre-registration by recording vehicle, driver, and cargo details. It also covers Gate Entry Control using RFID, Vehicle Tracking to ensure trucks move only to assigned terminals or warehouses, and Exit Verification to confirm cargo movement before departure.

JPBI

Serves as the main portal for accessing Johor Port's strategic applications that connects Container Terminal, Bulk & Break Bulk Terminal, and Marine Services (MSIS). Simplifies access and improves efficiency.

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METROCLUSTER

To ensure uninterrupted data availability, Johor Port has implemented a Metrocluster solution designed for zero unplanned downtime. This system enables transparent failover and protects against hardware, network, and environmental failures. It also allows non-disruptive upgrades for both hardware and software, ensuring smooth operations without service interruption. With simplified deployment and improved system performance, the solution supports end-to-end availability in a fully virtualized environment.

Cybersecurity & Data Center Infrastructure

JohorPort Berhad ensures its activities remain secure through cybersecurity perspectives. The organization provides advisory support to departments, promotes awareness, and ensures protection via 24/7 SOC monitoring and regular vulnerability assessments. Its data center strategy employs an active-active redundancy design, integrating virtual and physical environments with backups both on-premise and in the cloud. Connectivity is further strengthened by extensive 4G LTE coverage and strategically deployed WiFi hotspots.

Cross-Border Connectivity Challenges

Cross-border network interference is a challenge because Johor Port is very close to Singapore, and some systems interact with shipping, customs, and logistics networks that span both countries. As a result, internet routing or firewall settings from Singapore's network can slow down JPBI access or cause temporary interruptions.

- Sometimes the portal slows down or goes offline, and users may experience system errors when uploading documents or submitting cargo.

- These interruptions can also delay real-time data synchronization, such as vessel schedules, cargo tracking, or manifest updates, which may affect operational efficiency.

- Poor internet connectivity or incompatible devices can further worsen these issues, while strict security or firewall settings may block certain JPBI functions.

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Our Takeaways

The industrial visit to Johor Port's ICT department was both insightful and inspiring. It gave students a firsthand look at how technology drives efficiency and safety in a large-scale operation like a port. Seeing applications such as JBPi, ERP RAMCO, and PAMS in action demonstrated how innovation helps people manage complex tasks with ease, reducing errors and saving time. The infrastructure, including cybersecurity systems and disaster recovery measures, highlighted how technology protects both data and operations, ensuring smooth and reliable services for everyone who relies on the port.

This visit motivated students to appreciate the role of ICT in improving human life, especially in areas where speed, accuracy, and safety are critical. It was a clear example of how innovation doesn't just make work easier for employees but also benefits the wider community by keeping goods, services, and operations running efficiently and securely. Overall, it showed that technology is not just about machines or software, but it's about creating solutions that support people and improve daily life.

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