

# Port Klang's Sustainable and Automation Developments

*By:*  
*Port Klang Authority*

# Sustainable Developments

- 17 sustainable development goals (SDGs) identified by the United Nations (UN)
- World Ports Sustainability Program (WPSP) initially implement the UN SDGs along 5 themes :

- 1) Resilient infrastructure
- 2) Climate & energy
- 3) Community outreach & port –city dialogue
- 4) Safety & security
- 5) Governance & ethics



# Sustainable Developments

A sustainable port :

- delivers economic prosperity through trade and maintains a healthy environment
- give equal weight to environmental, economic and social concerns.

# Initiatives and Programmes

- Buildings and infrastructures
  - energy efficient lighting systems (i.e LEDs, prismatic technology) for internal lights, street lights & high mast lights
  - transparent roofing for natural lights
  - rain water harvesting
  - eco-friendly building materials
- Equipment and maintenance
  - electric-powered RTGs (E-RTGs)
  - variable speed and hybrid RTGs
  - Euro 4 emissions standards for terminal tractors (TTs)



# Initiatives and Programmes

## ■ Operations

- marine water quality monitoring
- ambient air and emissions monitoring
- designated waste water treatment facility
- electronic procurement (E-Proc) systems
- paperless transactions (eGate pass)



## ■ Energy

- energy management
- energy audit
- carbon footprint monitoring



# Initiatives and Programmes

## ■ Waste

- scheduled waste management
- recycling hydraulic oil
- hazardous waste and e-waste segregation

## ■ Nature conservation

- green awareness programmes
- mangrove replanting and protection programmes
- garden and green landscaping in the port
- community educational programmes



# Automation Developments

Port Automation :

- the use of integrated technology to develop intelligent solutions for efficient control of port operations thereby increasing port capacity and port efficiency.

# Automation Developments

- E- Gate Pass
  - eliminates the use of paper-based delivery orders and the presence of forwarding agents
  - issued instantly without the need to collect it from the port
  - forwarding agents are able to collect import containers more quickly



# Future Planned Initiatives

## Sustainability :

- To increase the use of photovoltaic (PV) solar panels system and other source of renewable energy (i.e wind, wave etc.) in the port with the aim of achieving carbon neutral status
- To pursue green building index certifications
- Embedded green and hybrid technology consideration for new and future purchase of equipment

# Future Planned Initiatives

## Automation :

- Semi automation?
- Full automation?
- Artificial intelligence (AI) towards developing a Smart Port?
- A healthy mix of human and technological contribution is a must in all process.
- The strength of technology augmented by human intelligence may help design effective solutions for enhanced port automation.