



TRENDS AND CHALLENGES OF PORT DIGITILIZATION II

13th REGULAR MEETING OF THE
INTER-AMERICAN COMMITTEE ON
PORTS OF THE ORGANIZATION OF
AMERICAN STATES

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June 9, 2023

Roatan, Honduras

A LONG WAY FROM...



1950's -1960's

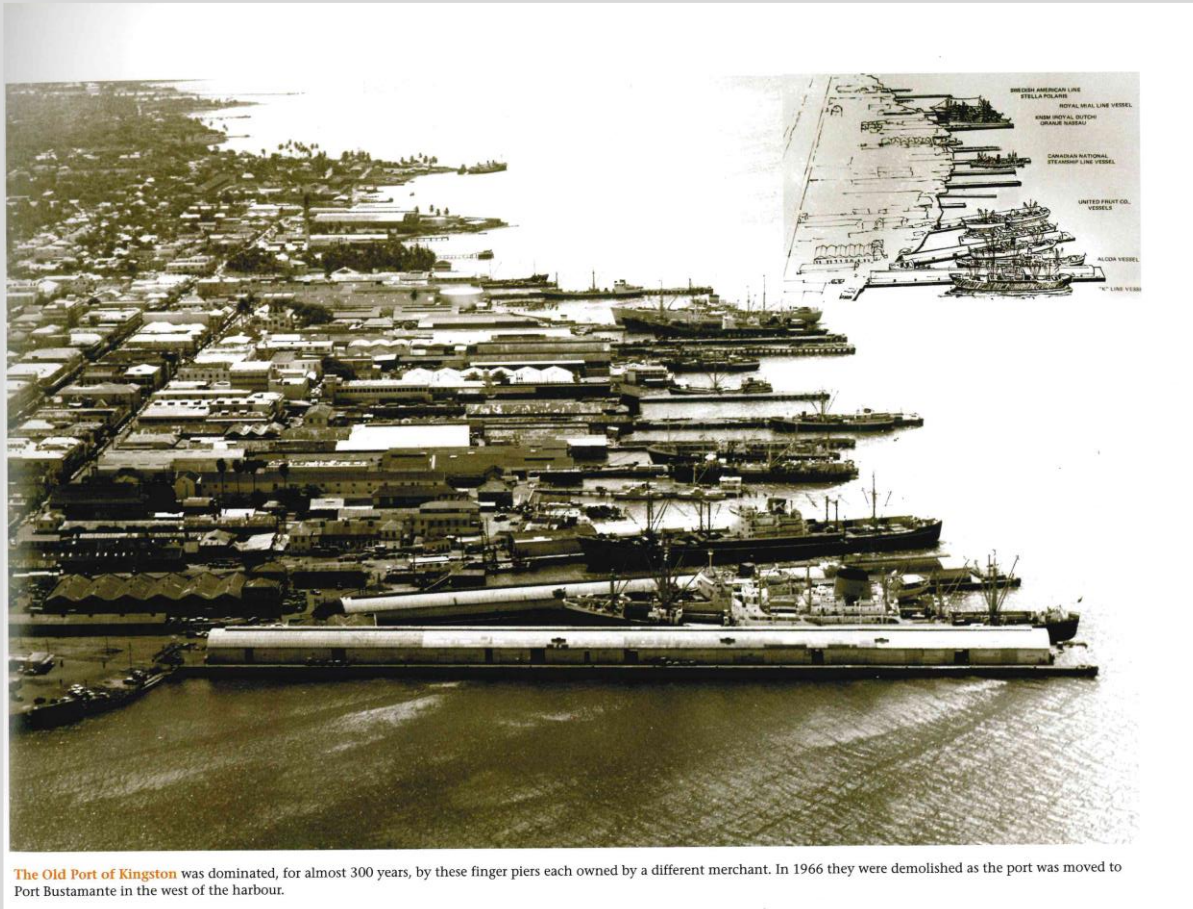


Manual labour on port

3

Image Source: Alamy

JAMAICA 1950's

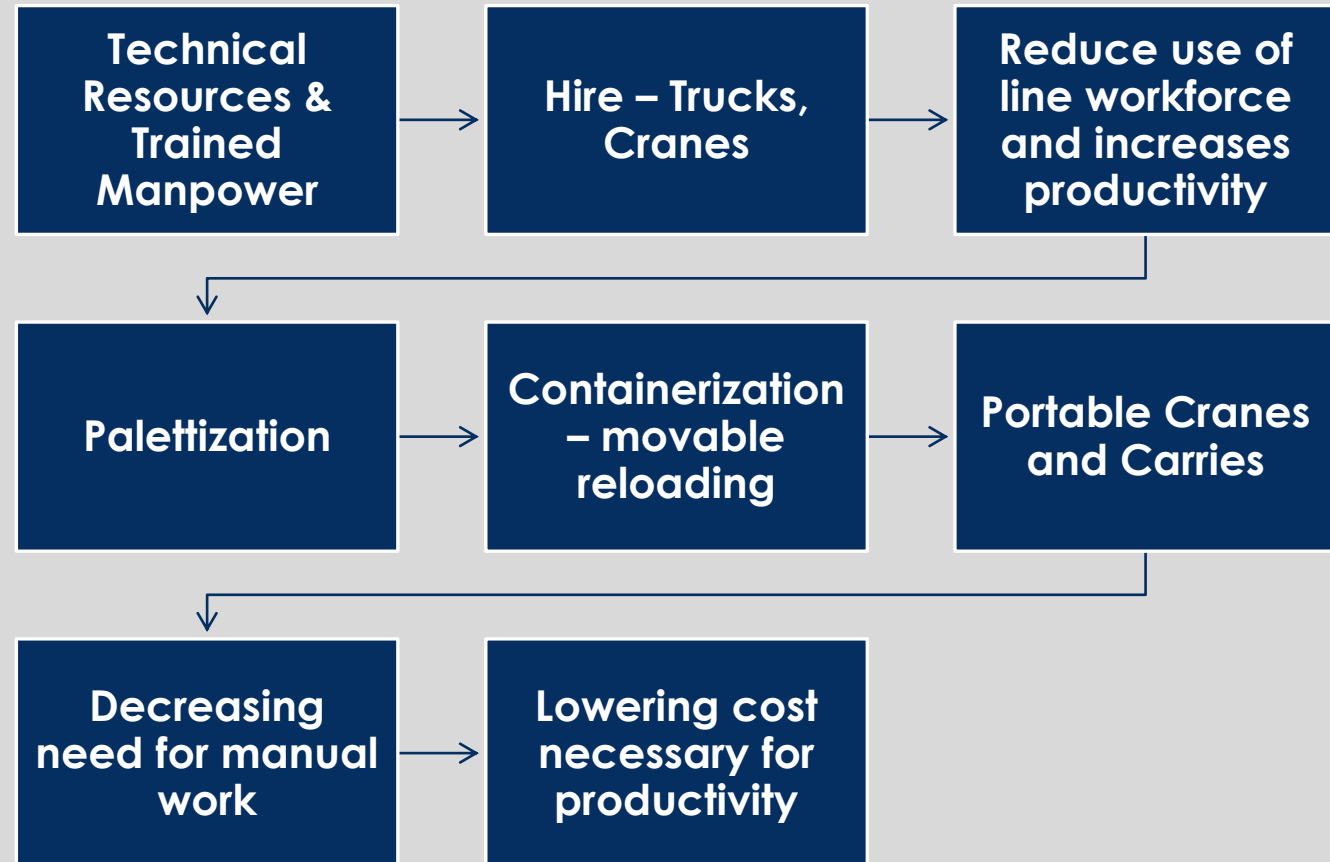


- Industrial Unrest in shipping industry
- Kingston was seen as unregulated and a congested port with many shipping lines.
- Jamaica was considered to be dropped from the schedules of these lines.

Source: Port of Kingston, souvenir 1820-2006
Anthony S. Johnson, page 33

1970'S -1980'S

MECHANIZATION



1990'S – 2000'S



AUTOMATION

The beginnings of certain
remarkable
achievements



2000'S AND BEYOND

DIGITILIZATION

Source: Namirial Magazine – Namirial Global “Digital transformation and digitalization of companies

TRENDS AND CHALLENGES OF PORT DIGITILIZATION II

TRENDS & CHALLENGES

COVID-19 PANDEMIC

Impact Business Community

- This affected every facet of today's business community

Divest Legacy

- Thinking and embrace new ways to doing things

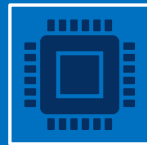
PORT DIGITILIZATION



Internet of Things (IoT)

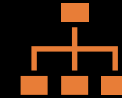


A connection of physical devices to the internet that allows different devices to communicate with each other over the internet



The components of the smart port include:

**Smart infrastructure
Smart traffic flow
Smart logistics**



Managing the business and environment operations.



Technologies shifting to the cloud
collaborative technology by data



Millennial workforce - new attitudes, expectations and ways of working
Globalization

Top 10 Smart Ports

1. Port of Shanghai; i.e., the WORLD'S BUSIEST & LARGEST CONTAINER PORT
2. Port of Singapore; i.e., BUSIEST TRANSSHIPMENT PORT IN THE WORLD
3. Port of Rotterdam; i.e., LARGEST EUROPEAN PORT
4. Port of Hamburg
5. Port of Antwerp
6. Port Le Havre Haropa
7. Port of Los Angeles; i.e., LARGEST CONTAINER PORT IN NORTH AMERICA
8. Copenhagen Malmo Port
9. Port of Valencia
10. Port of Barcelona

The Port of Shanghai

Dubbed the **"SMART GIANT SEAPORT"**
or **"THE MAGIC TERMINAL"**

Why?

- There are no people working in the container terminal area
- Everything is automated
- Cranes are no longer driven by operators; they are controlled remotely
- Trucks are replaced with Automated Guided Vehicles (AGVs)



JAMAICA



Kingston Freeport Terminal Limited (KFTL)



ONE OF THE MOST AUTOMATED /DIGITALIZED TERMINALS BY THE STANDARD OF THE CARIBBEAN



- ▶ Operations equipped with:
- ▶ Information Security – High Digitalization Security System
- ▶ Electronic Defenses against attack on electronic systems
- ▶ ID electronic access
- ▶ CCTV Monitoring & Control Center

Focus on DGPS

What is DGPS?

- Differential Global Positioning System
- DGPS is part of the IoT (Internet of Things) transforming the way containers are handled in a terminal
- DGPS-based Container Tracking and Management System (DGPS software) is a complex software package that is designed to completely determine a container location by its four parameters, block, slot, row and level.

Why DGPS?

- Improve Container inventory accuracy
- Reduce human error by automating Job promotion
- Eliminate risk of lost containers
- Eliminate risk of illegal moves
- Avoid misplacement of containers
- Help with CHEs routing and optimize dispatch of WI



JAMAICA  CS

Port Community System

Digitization, Automation & Technological Transformation

A photograph of a large container port at sunset. In the foreground, there are many stacks of shipping containers, mostly red with the ZIM logo, and some blue and yellow ones. In the background, several large gantry cranes are visible against a sky with orange and purple hues. The text "THANK YOU" is overlaid in a white box in the upper right corner.

THANK YOU