MMC PORTS DIGITALISATION & WAY FORWARD

ASEAN Ports & Shipping 2022
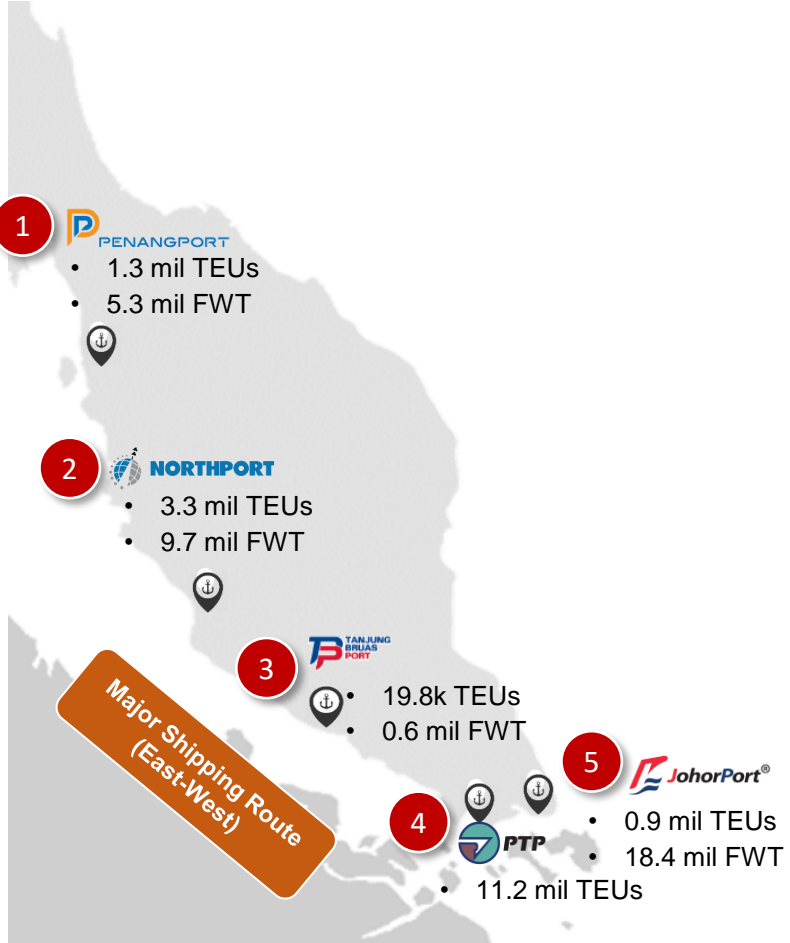
Ports & Logistics • Energy & Utilities • Engineering • Industrial Development
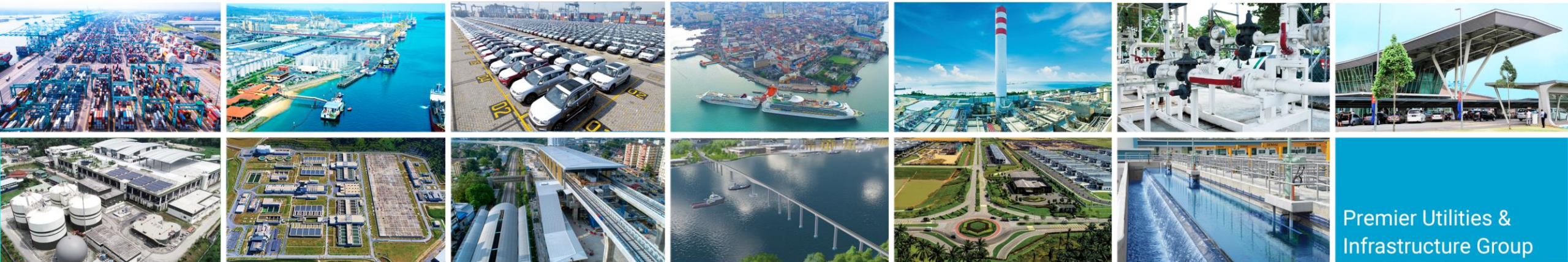
Premier Utilities & Infrastructure Group

MMC Ports

Key port operator along Straits of Malacca – 5 seaports

1 — PENANGPORT
- 1.3 mil TEUs
- 5.3 mil FWT

2 — NORTHPORT
- 3.3 mil TEUs
- 9.7 mil FWT

3 — TANJUNG BRUAS PORT
- 19.8k TEUs
- 0.6 mil FWT

4 — PTP
- 11.2 mil TEUs

5 — JohorPort
- 0.9 mil TEUs
- 18.4 mil FWT

Major Shipping Route (East-West)

2021 Figures

16.7* million TEUs
of container throughput
* Malaysia container handling – excluding RSGT

33.8 million FWT
of conventional throughput

~11,000 strong
manpower across the Group

Container Volume (million TEUs)

5-Year CAGR: 6.3%

2017	2018	2019	2020	2021
13.0	14.2	14.3	14.9	16.7
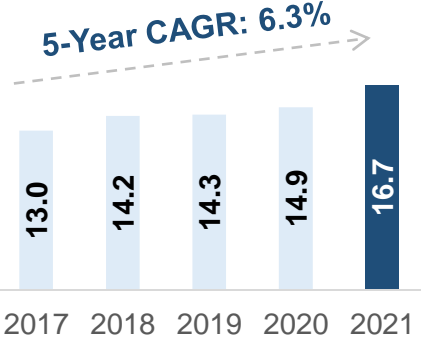
>55% market share
of Malaysia's containerized cargo

Amongst the Top 10 largest port operator in the world

PORTS & LOGISTICS

ENERGY & UTILITIES

ENGINEERING
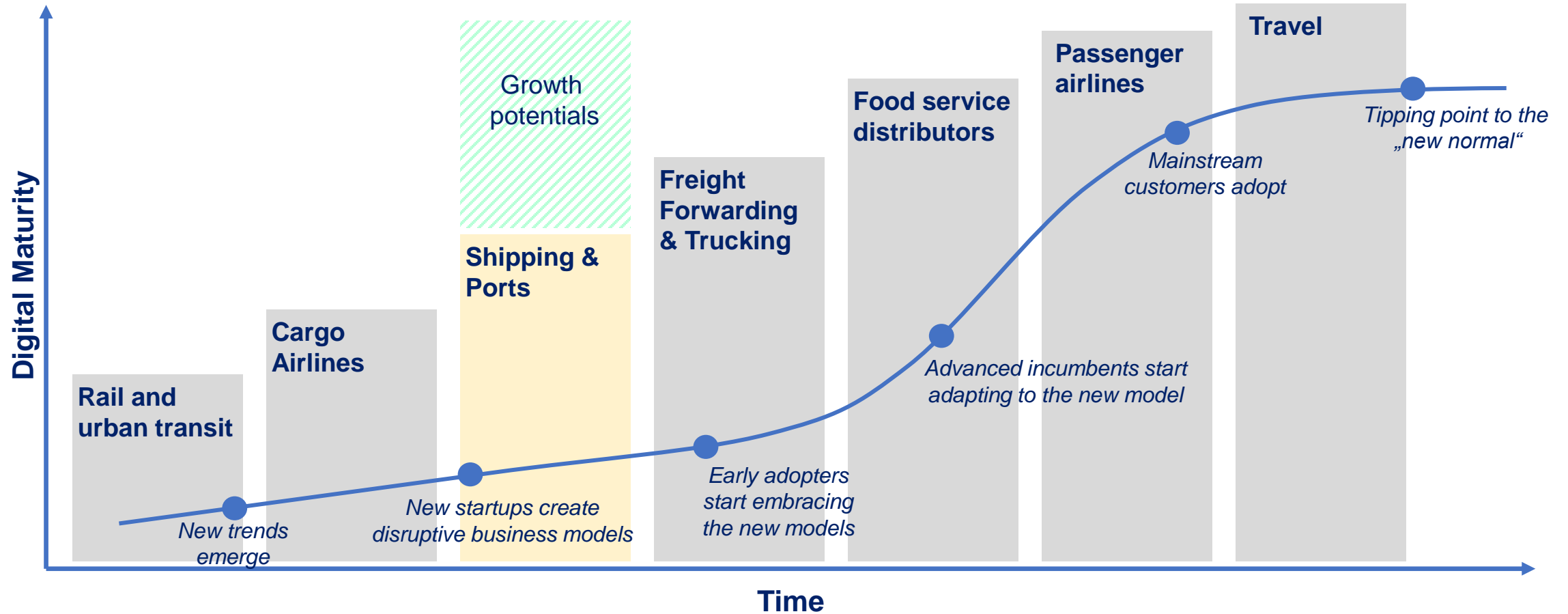
INDUSTRIAL DEVELOPMENT

INDUSTRY & DIGITALISATION KEY FACETS

Why Digitalisation is Key?

Shipping and Ports industry has significant growth potential, at large

Travel, transport and logistics industry digital maturity curve

Digital Maturity (y-axis)

Time (x-axis)

- Growth potentials
- Rail and urban transit
- Cargo Airlines
- Shipping & Ports
- Freight Forwarding & Trucking
- Food service distributors
- Passenger airlines
- Travel

New trends emerge

New startups create disruptive business models

Early adopters start embracing the new models

Advanced incumbents start adapting to the new model

Mainstream customers adopt

Tipping point to the „new normal"

Credit: HPC

Key Facets of Digitalisation

Focus revolves around these interconnected aspects

Real-time decisions and predict trends

Uncover hidden patterns, correlations & insights

Future ready

Enables data-driven services

Data

Cloud

Internet of Things

Cybersecurity

Connecting devices to the internet

From Data to generating insights

IOT makes better AI

Protecting critical systems and operations

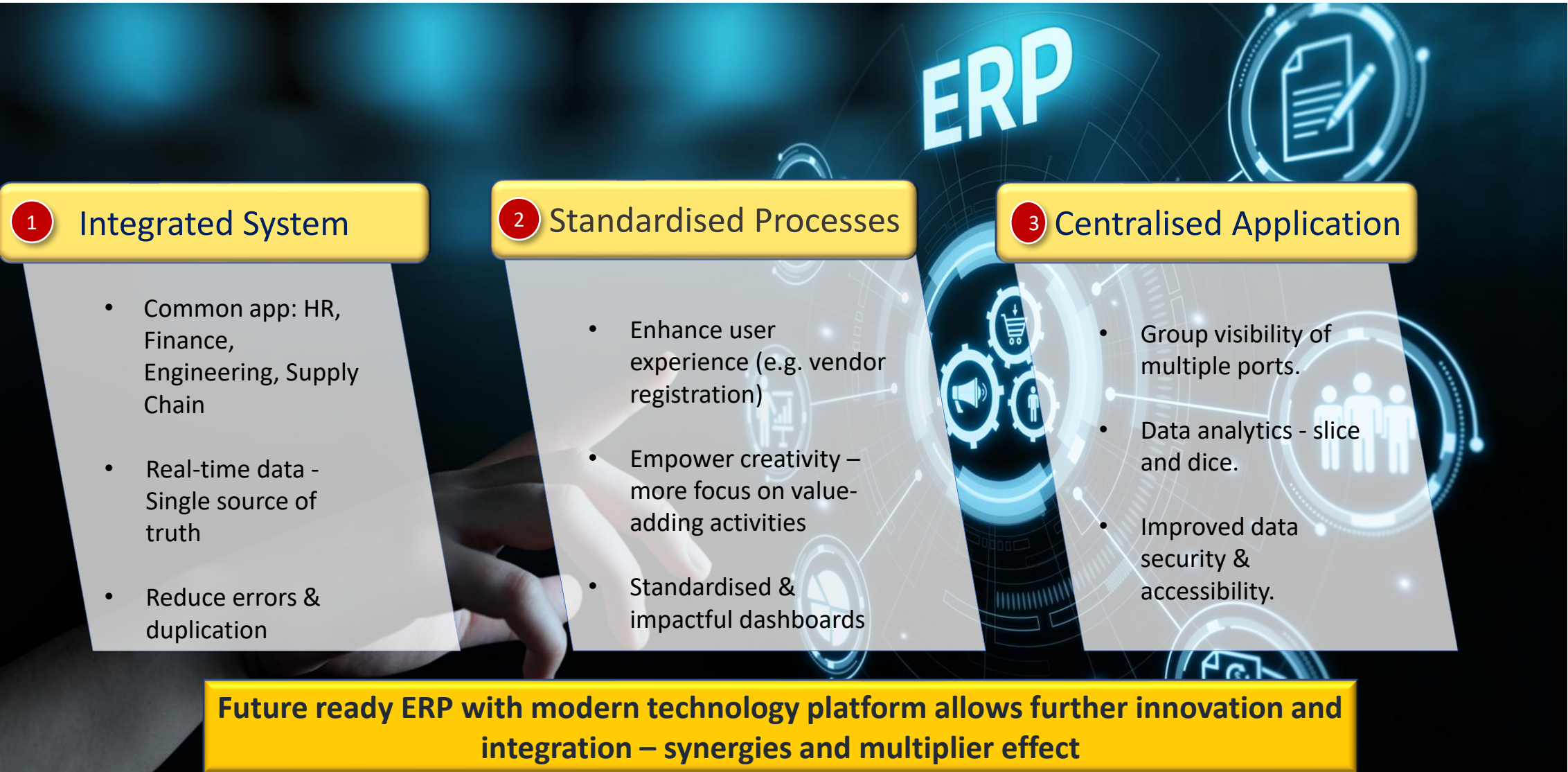Secure and reliable communications

Image credit: Analytics Insight

**MMC PORTS
DIGITAL TRANSFORMATION**

Key Business Application Transformation

Enterprise Resource Planning – Integrated Back-End Application

ERP

1 Integrated System

- Common app: HR, Finance, Engineering, Supply Chain

- Real-time data - Single source of truth

- Reduce errors & duplication

2 Standardised Processes

- Enhance user experience (e.g. vendor registration)

- Empower creativity – more focus on value-adding activities

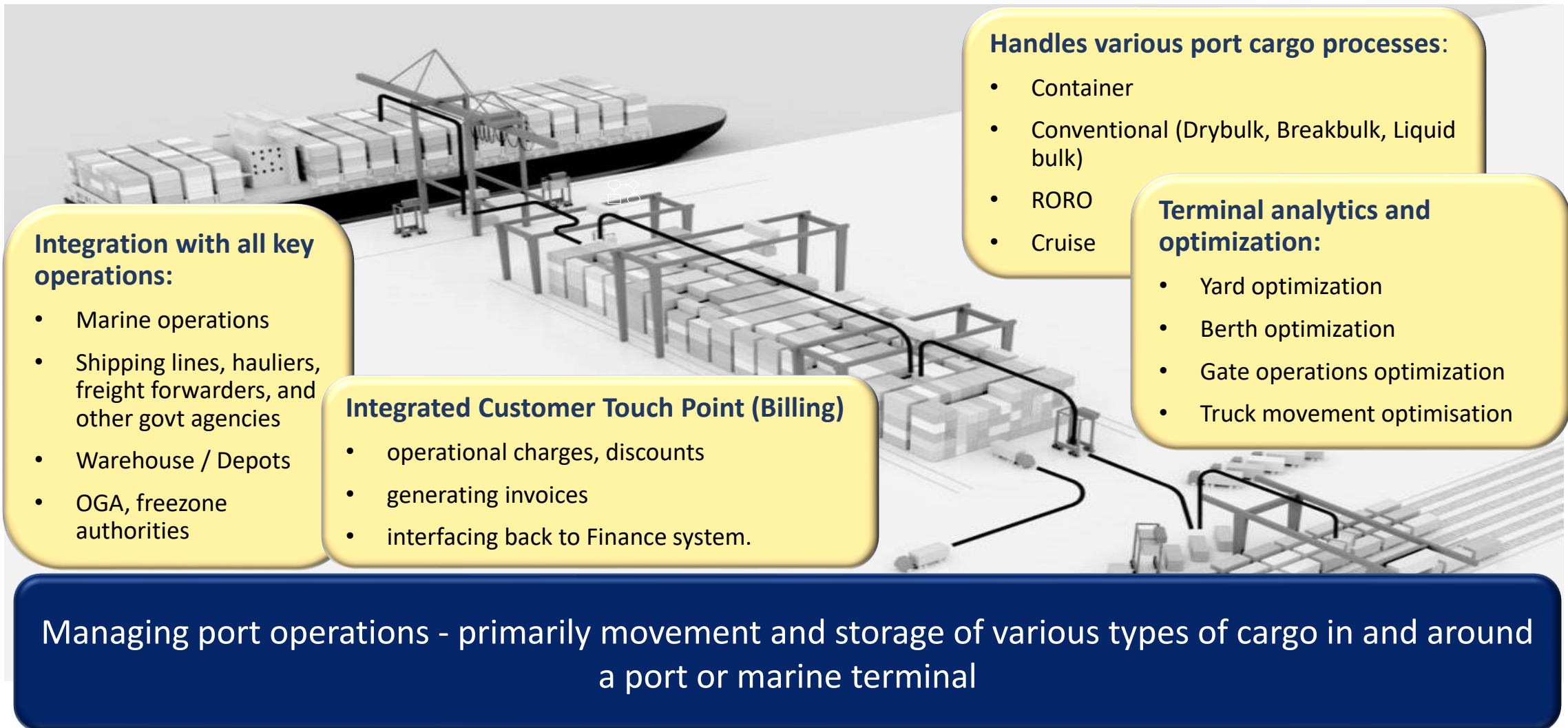- Standardised & impactful dashboards

3 Centralised Application

- Group visibility of multiple ports.

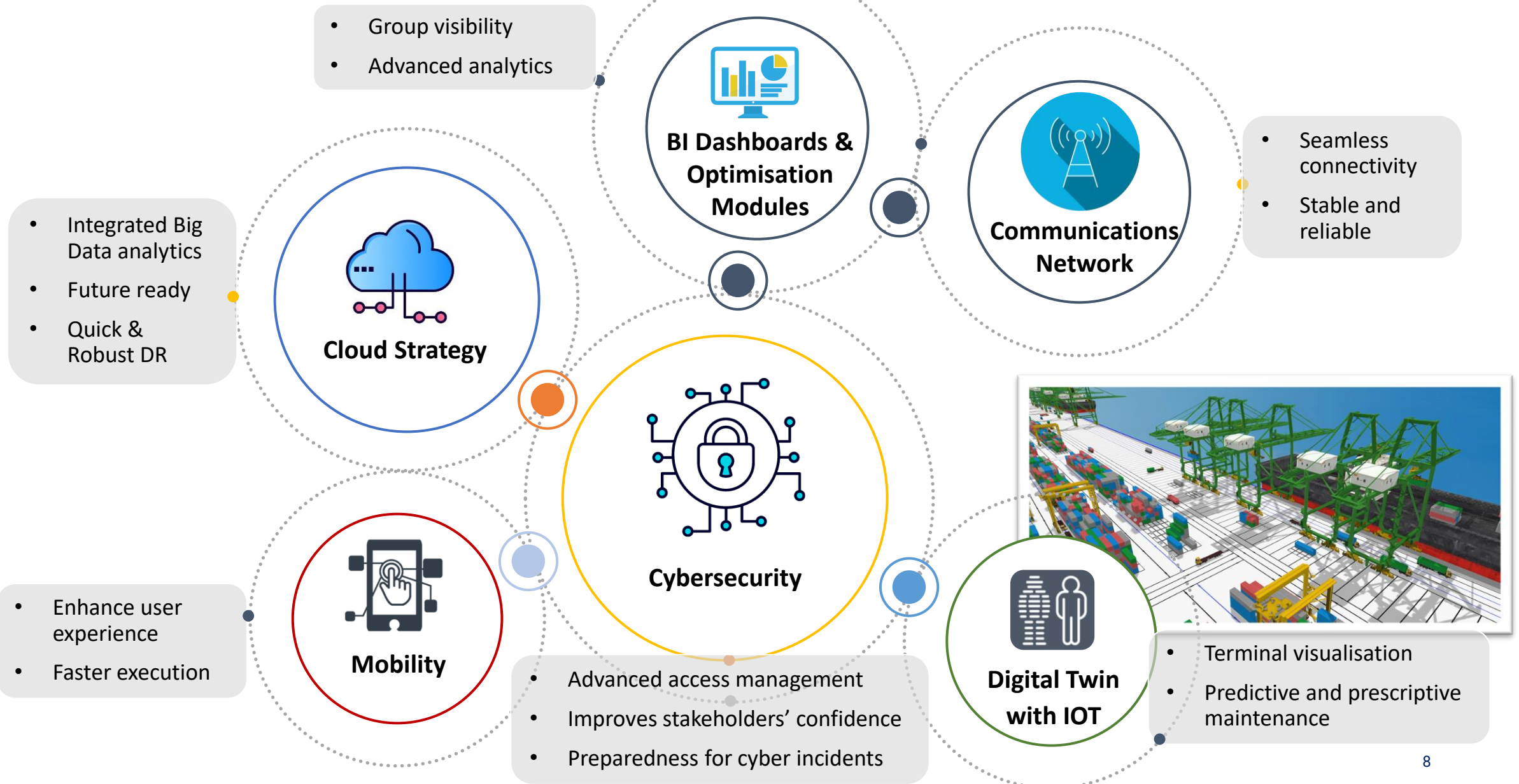- Data analytics - slice and dice.

- Improved data security & accessibility.

Future ready ERP with modern technology platform allows further innovation and integration – synergies and multiplier effect

Image credit: Jitterbit

Key Business Application Transformation

Terminal Operating System (TOS) – Ports Front-End Business Application

Handles various port cargo processes:

- Container
- Conventional (Drybulk, Breakbulk, Liquid bulk)
- RORO
- Cruise

Terminal analytics and optimization:

- Yard optimization
- Berth optimization
- Gate operations optimization
- Truck movement optimisation

Integration with all key operations:

- Marine operations
- Shipping lines, hauliers, freight forwarders, and other govt agencies
- Warehouse / Depots
- OGA, freezone authorities

Integrated Customer Touch Point (Billing)

- operational charges, discounts
- generating invoices
- interfacing back to Finance system.

Managing port operations - primarily movement and storage of various types of cargo in and around a port or marine terminal

Underpinning MMC Ports Transformation Strategy

- Group visibility
- Advanced analytics

BI Dashboards & Optimisation Modules

Communications Network

- Seamless connectivity
- Stable and reliable

- Integrated Big Data analytics
- Future ready
- Quick & Robust DR

Cloud Strategy

Cybersecurity

- Enhance user experience
- Faster execution

Mobility

- Advanced access management
- Improves stakeholders' confidence
- Preparedness for cyber incidents

Digital Twin with IOT

- Terminal visualisation
- Predictive and prescriptive maintenance

Digitalisation – Journey of Perpetual Agility

Artificial Intelligence & Machine Learning

Automation (autonomous port vehicles)

Digital Twin Enhancements

Drones (equipment inspection, safety & security functions)

Integrated Port Community System

Predictive & Prescriptive Equipment Maintenance

OCR (Optical Character Recognition)

Blockchain

IOT Enhancement

Gate Automation
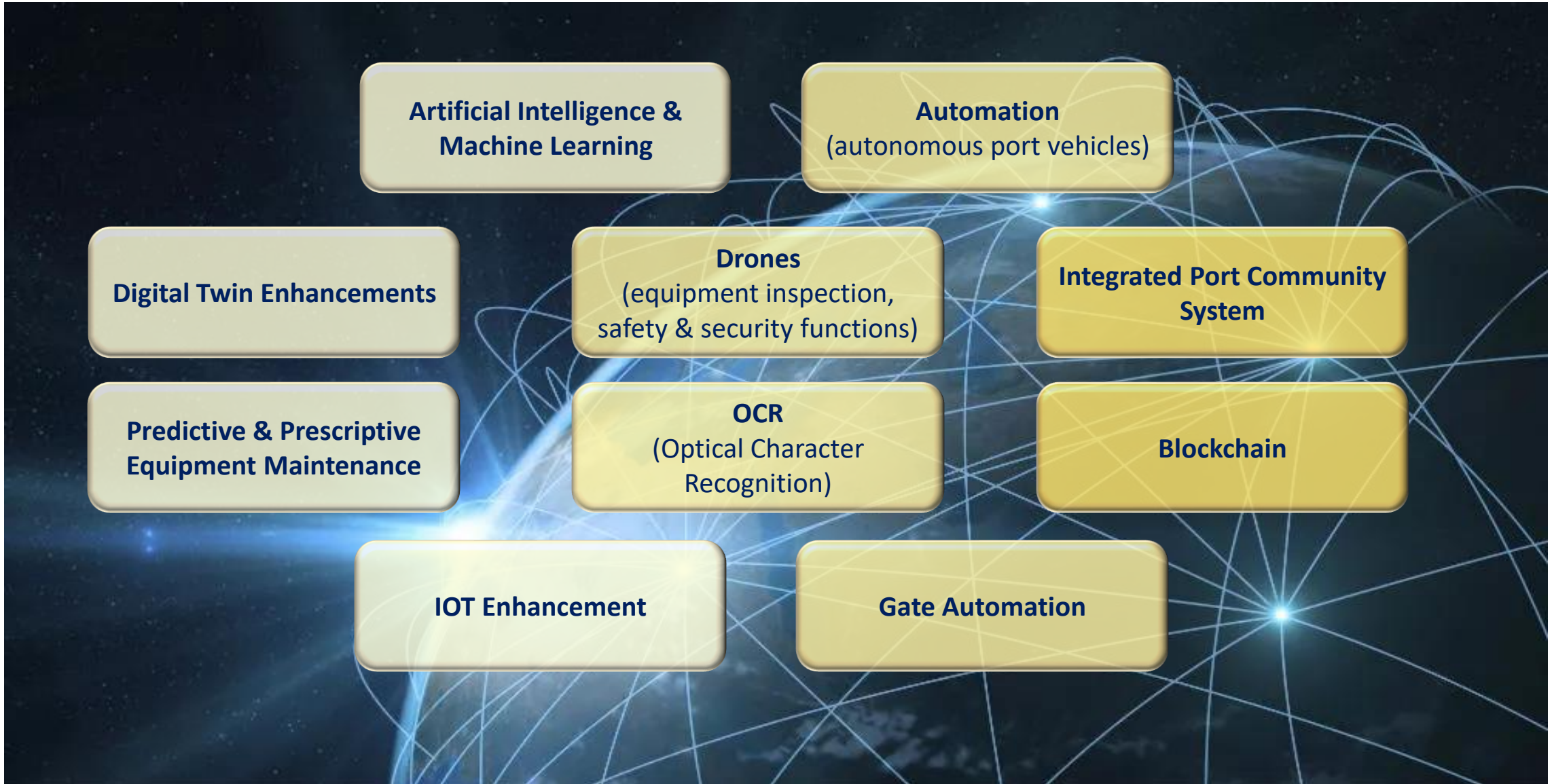
Conclusion

Digitalisation Facets

- Data
- Cloud
- Internet of Things
- Cybersecurity

Enhances:

1. User Experience
2. Efficiency
3. Value Generation
4. Future Synergies
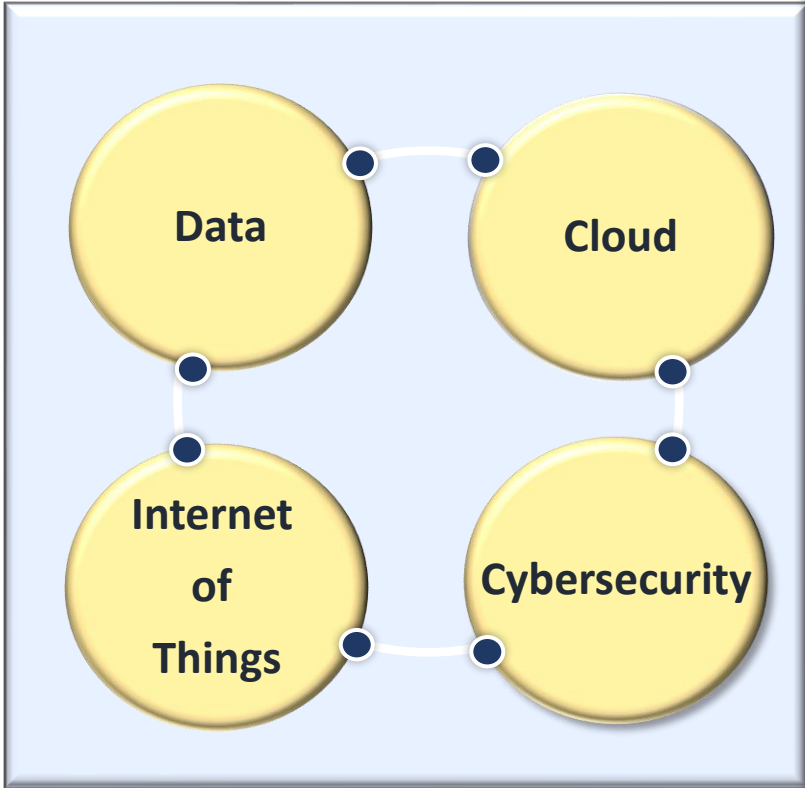
THANK YOU

Gaurav Sharma
Chief Information Officer
gaurav.sharma@mmcport.com.my