

# Reducing CO2 Emission: Towards Green Trans-Ports and Shipping in Vietnam

ASEAN Ports and Shipping 2022  
Exhibition and Conference

Michael Moloney

October 2022, Ho Chi Minh City, Vietnam

# AGENDA

Introduction

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Challenges for Shore Power (OPS)

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Towards Port Cranes Automation

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Other possibilities

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Wrap Up

# /// What's the Challenge? Zero emission latest in 2050 According to COP21 in Paris

NEWS | 09 August 2021

## IPCC climate report: Earth is warmer than it's been in 125,000 years

Landmark assessment says that greenhouse gases are unequivocally driving extreme weather – but that nations can still prevent the worst impacts.



UNITED NATIONS  NATIONS UNIES

POSTAL ADDRESS—ADRESSE POSTALE: UNITED NATIONS, N.Y., 10017  
CABLE ADDRESS—ADRESSE TELEGRAPHIQUE: UNATIONS NEWYORK

Reference: C.N.735.2016.TREATIES-XXVII.7.d (Depositary Notification)

PARIS AGREEMENT  
PARIS, 12 DECEMBER 2015

ENTRY INTO FORCE

The Secretary-General of the United Nations, acting in his capacity as depositary, communicates the following:

On 5 October 2016, the conditions for the entry into force of the above-mentioned Agreement were met. Accordingly, the Agreement shall enter into force on 4 November 2016, in accordance with its article 21, paragraph 1, which reads as follows:

“This Agreement shall enter into force on the thirtieth day after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 per cent of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession.”

5 October 2016

**Ratified by 54 African countries**

APAC | SEPTEMBER 15, 2020 / 11:21 PM / UPDATED 4 DAYS AGO

## EU parliament votes to make ships pay for their pollution

By Kate Abnett

3 MIN READ



BRUSSELS (Reuters) - The European Parliament on Tuesday voted in favour of including greenhouse gas emissions from the maritime sector in the European Union's carbon market from 2022, throwing its weight behind EU plans to make ships pay for their pollution.



FILE PHOTO: Shipping containers are being loaded onto Xin Da Yang Zhou ship from Shanghai, China at Pier J at the Port of Long Beach in Long Beach, California, U.S., April 4, 2018. REUTERS/Bob Riha Jr/File Photo

# /// Reason for Going Green- Why Sustainable Ports?

## I care

- Finding a balance between socio-economic and environmental interests is key for sustainable ports development today and for future generations.

## I must

- Defined by law/regulations. Paris Agreement ratified by 54 African countries.

## I want

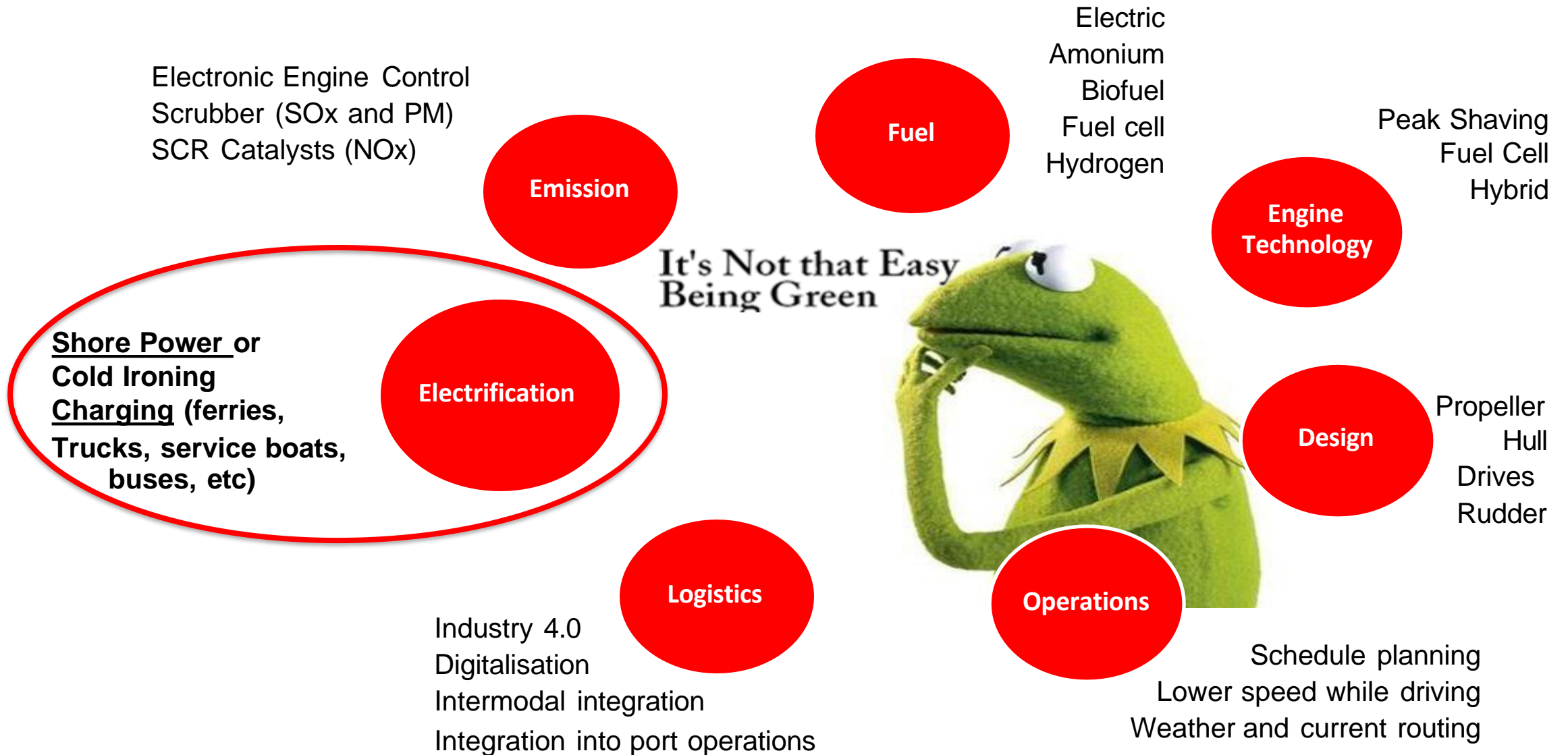
- It is cheaper (price kw/h, taxes, port fees).
- Corporate target: i.e. going on zero emissions until 2040.
- Practical advantage (i.e. 24h work).

## I should

- Pressure from various stakeholders (local/national politics, NGO's local residents)
- I get quite some money for funding.



# /// What to Do for Going Green?



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**Challenges for Shore Power (OPS)**

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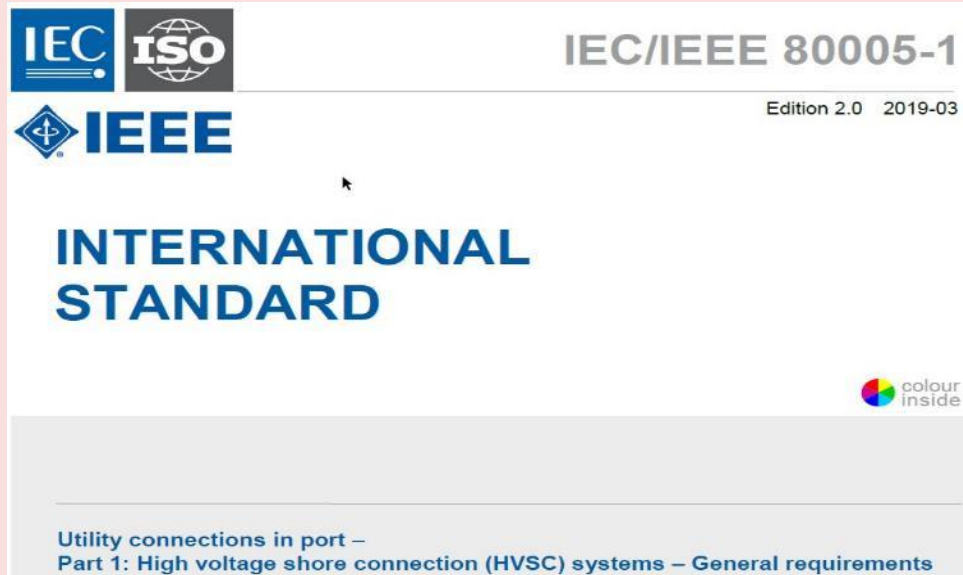
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Wrap Up

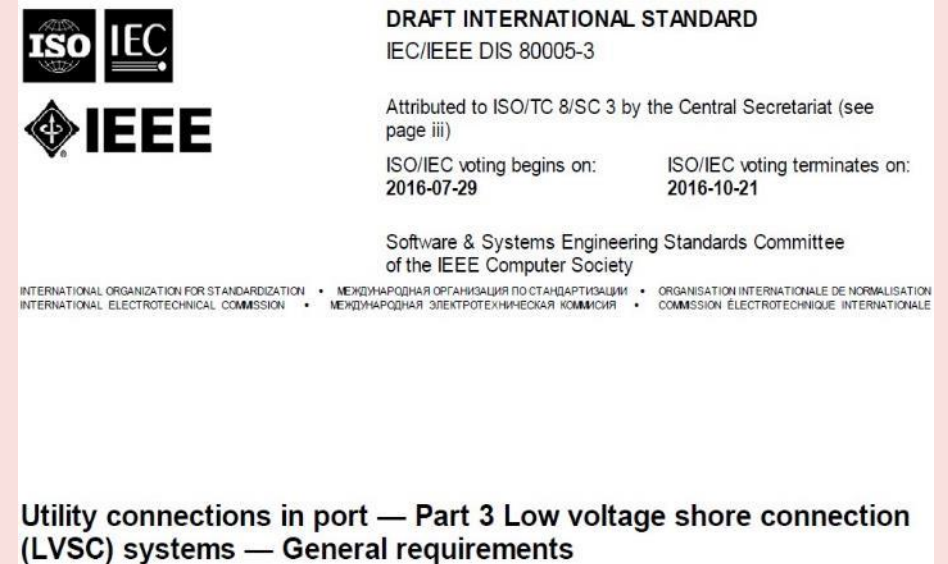
# /// What is Shore Power – Definition

**Shore power** or **shore supply** is the provision of shoreside electrical power to a ship at berth while its main and auxiliary engines are shut down. Shore power and its handling is defined in IEC/IEEE 80005.

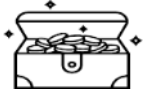
## IEC/IEEE 80005-1 for high voltage



## IEC/IEEE 80005-3 for low voltage (draft)



# /// Challenges for Shore Power (OPS)



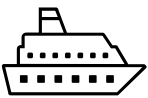
**CAPEX investment** – Government investments and healthy considerations



**Power availability** – local authorities towards green solutions



**Know – how** – tough beginnings, where to start, experience share



**Vessel operators** – standarization IEC80005-1-3



**Specific Port/Sea conditions** – flexibility



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Wrap Up

# /// Electrification and automation for cranes

It is always in the details

- All sizes of the cranes demand perfect **acceleration control**. Imagine CR for UltraLargeContainerVessels >14500 TEU and with +22 container wide demands great acceleration control (no slack cable).
- **Higher speeds** are needed for better cranes **productivity**. We pioneered high speed MCRs. Current max speeds already done:
  - PCR > 270 m/min
  - SCR > 300 m/min
- Reels or Conductor bars (RMGs/ARMGs).
  - MCRs are more often when data transfer needs to be handled (FORJ)
- **Retrofit of cranes**, to operate larger vessels or moved crane location. Highest flexibility and **customization**.



# /// Challenges for Port Cranes Automation

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**Safety and security** – we deliver our quality reels since 1912



**Productivity** – increased speeds and accelerations



**Larger cranes – SuperPostPanamax** – acceleration control and high speed



**Retrofitted cranes** – high flexibility, adaptation and customization



**OPEX** – better handling of the cable = longer lifetime

And CAPEX....?

## /// CAPEX

Be careful – you need to balance the price with expected results.

Yes we can do it less expensive.... →



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Wrap Up

# Port Optimizer™ More Visibility & Planning

**Port Optimizer™** is a cargo visibility & planning platform that establishes a global data repository to provide accurate, actionable information & analytics...the digital infrastructure for ports.



## DRIVES VALUE BY

- ✓ Increasing throughput and efficiency.
- ✓ Creating an accurate, on-time and reliable source of data for port stakeholders to better plan operations.
- ✓ Improving asset utilization and general operations, making port communities more environmentally conscious.

## KEY FEATURES

- Inbound Cargo Viewer
- Empty Returns Advisor
- Truck Turn Times Dashboard
- Cargo Volume Predictor
- Roll On Roll Off (RoRo) Viewer
- Maritime & Supply Chain Asset Manager

# Port Optimizer Value Story



## Visibility

Eliminate cargo speculation with ~14 days of advance visibility.



## Predictability

Machine learning and other analytics drive predictive performance.  
Throughput Facilitates immediate throughput improvements to cargo flow.



## Productivity

8-12% projected total productivity increase as the solution scales across the entire port.



## Environmental

Facilitates truck flow through terminals, enabling the potential reduction of carbon emissions.

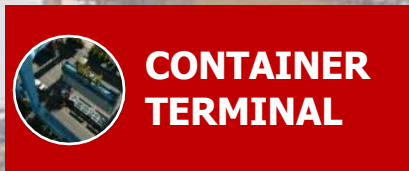
# Connecting The Multimodal Community



- Knowing the **status of goods in transit** in advance
- Time spent searching for information
- **Managing inventory levels**
- Dealing with supply chain unknowns



- **Unpredictable cargo flow** impacts fleet efficiency and revenue opportunity



- Cost-effectively managing vessels of increasing size while **improving space planning**, and resource allocation
- **Eliminating blind spots**



- **Visibility to ship arrival times** and container details for planning
- Reducing inefficiencies for **better railcar switching**



- Increasing need for cost savings, **asset efficiency, berth schedule reliability**, and economies of scale



- Unpredictable cargo flow makes **chassis demand forecasting** and asset allocations challenging



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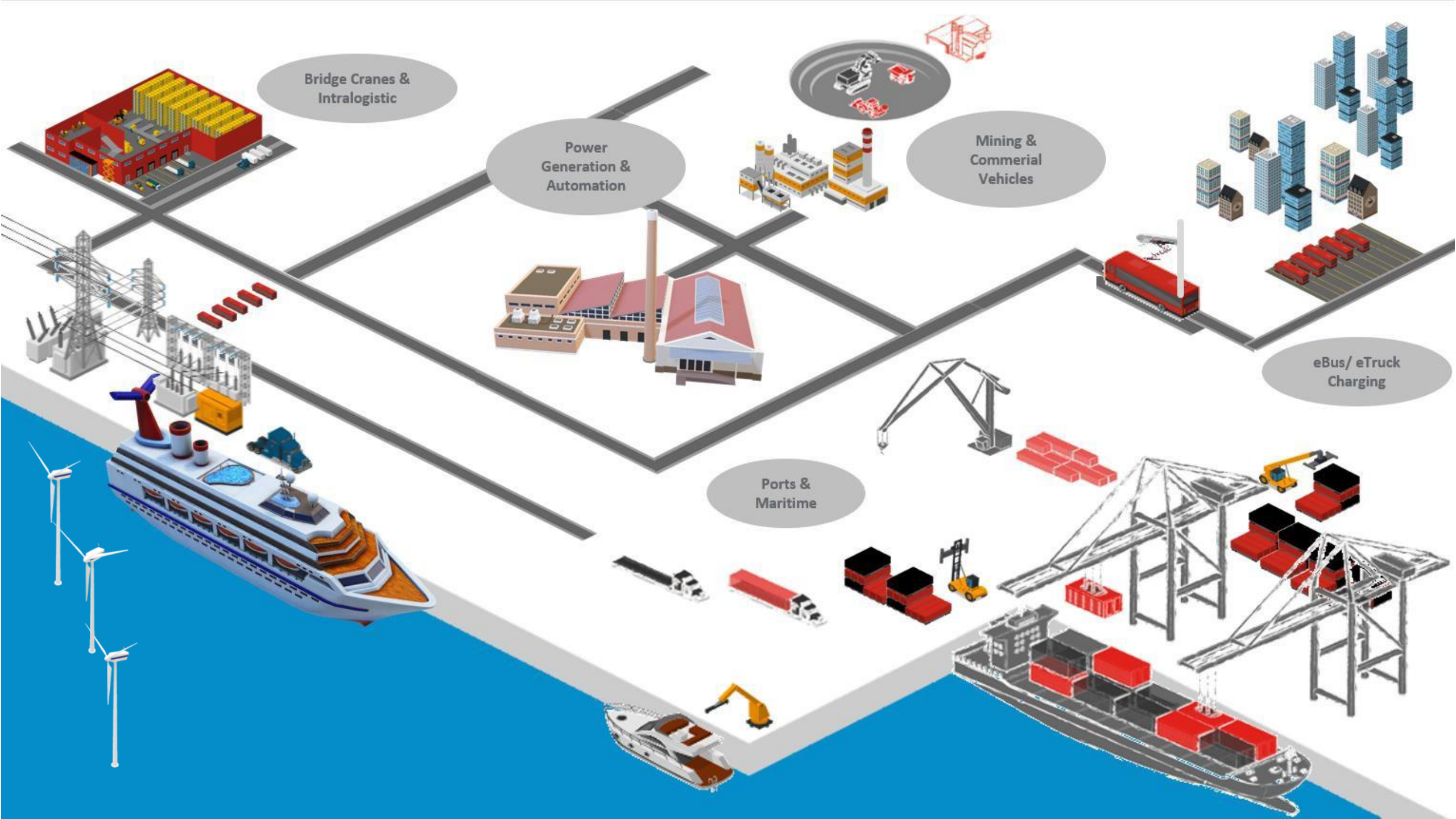
Challenges for Port Cranes

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Wrap Up





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Thank you