

# Port Infrastructure Renewal

## The Canadian Experience

*A Look at the Port of Prince Rupert  
Fairview Container Terminal Project*

Presentation to AAPA  
Meeting in Toronto  
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# The P3 Model in Canada

# New Wave of Interest

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- After a series of one-off efforts (Highway 407, Confederation Bridge etc), British Columbia kicked off the new wave of interest in P3s under Premier Gordon Campbell
- Based on the UK “PFI” model
- Since then, the P3 model has gained momentum
  - A P3 project office was announced in the federal government’s 2007 budget, and P3s are proceeding, or have been undertaken, in Alberta, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia and Nunavut
- Governments are moving from “providers” to “procurers” of infrastructure

# Continued Growth

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- Use of the P3 model continues to grow as governments at all levels face increased demands to provide, manage and operate infrastructure in a cost-effective manner
- P3s are being used in capital projects across all areas of government, such as transportation, communications, power generation, energy delivery, water and wastewater, waste disposal, courthouses, hospitals, jails and even legislative assemblies
- Infrastructure Ontario signed over 20 infrastructure deals in the last year alone

# Definition

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- What is a P3?
  - 1) an appropriate risk allocation that:
    - A) encourages efficiencies in lifecycle costing through linking design and operations
    - B) allocates risk to the party best able to manage it
  - 2) private financial participation
  - 3) for a public purpose or good.

# Right Project

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- **P3s That Work:**
- (A) The right project
  - Key factors:
    - Project size (transaction costs, risk/reward trade-off, sufficient scale)
    - Real scope for innovation in design and service delivery
    - Definable and reliable revenue stream
    - Synergies in design, building, operations and maintenance
    - Potential for risk/reward upside (based on fair risk allocation)

# Government Partner Skills

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- (B) A Government partner with project and contract management skills
  - Three key factors:
    - (1) Government, community and private sector support
      - Appropriate legislative framework
      - Clear lines of responsibility within government
      - Consistent, accountable and transparent process
      - Competitive process

# Government with Plan

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- (2) A Government with a clear, long-term business plan
- Based on reliable information
    - Needs assessment
    - Accurate forecasts
  - Value for money
    - Reasonable public sector comparators
  - Clear output specifications
    - Service need and service quality requirements
  - Risk analysis
    - Appropriate risk allocation
  - Fair and transparent procurement strategy

# Institutionalized Expertise

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## (3) Appropriate expertise

- Legal, technical and financial aspects
- Depoliticized decision-making process
- Specialized procurement agency:
  - Conduct value-for-money analysis
  - Fair procurement process
  - Assess and implement appropriate risk allocation
  - Monitor and enforce contractual compliance

# Risk Allocation

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- (C) A balanced and effective risk allocation
  - Ensuring that the risk is measured and allocated to the party best able to manage it.

# Canada and Transportation P3s

# The Transportation Infrastructure Gap

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- Canada's transportation infrastructure covers a diverse set of public and private owned assets, including roads, bridges, public transit, rail, airports, border crossings, and ports
- Much transportation infrastructure suffered underinvestment in last 25 years – public spending has failed to accommodate public needs
- The government entity responsible for transportation and highway safety pegged investment spending required for provincial and municipal public transportation infrastructure at \$89 B for the 2004-2013 period (ports were not included in this figure)

# Challenges for Transportation P3s

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- Traffic demand forecasts are notoriously unreliable
  - Flyvbjerg study:
    - Rail: 9 of 10 projects were off by an average of 106%
    - Road: 50%: actual vs forecast variance was +/- 20%
      - 25%, it was 40%
    - No improvement in 30 years of experience
- Risk allocation
  - Tolls vs. availability payments
    - Operating revenue to match O&M or O&M plus capital or full risk transfer – is it sustainable?

# Challenges for Transportation P3s

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- Competition from other subsidized modes of transport lead to greater traffic/business flow uncertainty
- Design/build split from operate/maintain  
(Upgrades to existing system with an existing operator)
  - Risk gaps between the two entities
  - Loss of innovation potential (design/operation synergies)
  - Integration problems
  - Reduced lifecycle cost efficiency

# Challenges for Canadian Port P3s

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In Canada:

- Ports “orphaned” in the 90’s
- The retreat of the federal government
- The absence of a “public good” rationale as a result
- *Canada Marine Act* constraints
- Absence of a committed government partner?
- Traffic flow challenges
- Absence of public sector comparators (value for money)

# Challenges for Canadian Port P3s

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- Developing procurement vs. port operations expertise
  - Use provincial agencies?
  - Federal P3 office?
- Risk allocation issues
  - First Nations
  - Force Majeure
    - Security
  - Construction Risk
  - Design/operation synergies
  - Change in Law
- Accountability and Transparency

# Opportunities for Port P3s

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- Project size is large
- Definable and potentially reliable revenue stream
- Potential for operator upside
- Design/build and O&M synergies
- Need for investment and growth
- Port authorities looking for innovative mechanisms

# Port of Prince Rupert Fairview Container Terminal Infrastructure Renewal Project

# Prince Rupert's Story – 100 years in making

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- City founder Charles Hays (American born) in 1905 was tasked with creating a new silk route from Asia to Europe...was visionary for Grand Trunk Pacific Railway
- Located Prince Rupert (a deep and safe harbour) that was closer to Asia than other West Coast ports, and then planned a northern rail line from Winnipeg that would be straighter, less hazardous and the least grade across the Rocky Mountains

# Prince Rupert Story – 100 years in making

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- Rail line near completion when Hays traveled to England in 1912 to raise the last financing he required
- Hays was successful in raising the capital... but unfortunately went down with the Titanic on his return trip and never saw the railway completed in 1914



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# Prior to Project

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- Between 1994 and 2003, traffic through the port declined by over 70%
- Prince Rupert's economy formerly dependant on commercial fishing, a local pulp mill, coal, grain and port traffic – all local industries (nearly) collapsed
- Old port was limited to handling bulk/breakbulk product such as lumber, grain, coal or pulp – had the ability only to fill up the holds of ships and could not handle containers

# Prior to Project

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- A decade ago Prince Rupert was dismissed as being a player in the container trade because (it was argued) container ports required a local market and major metropolitan center to be successful
- But that perception began changing as containers from Asia overwhelmed the west coast transportation system, causing gridlock and congestion in those metropolitan ports

# Port's Strategic Advantage

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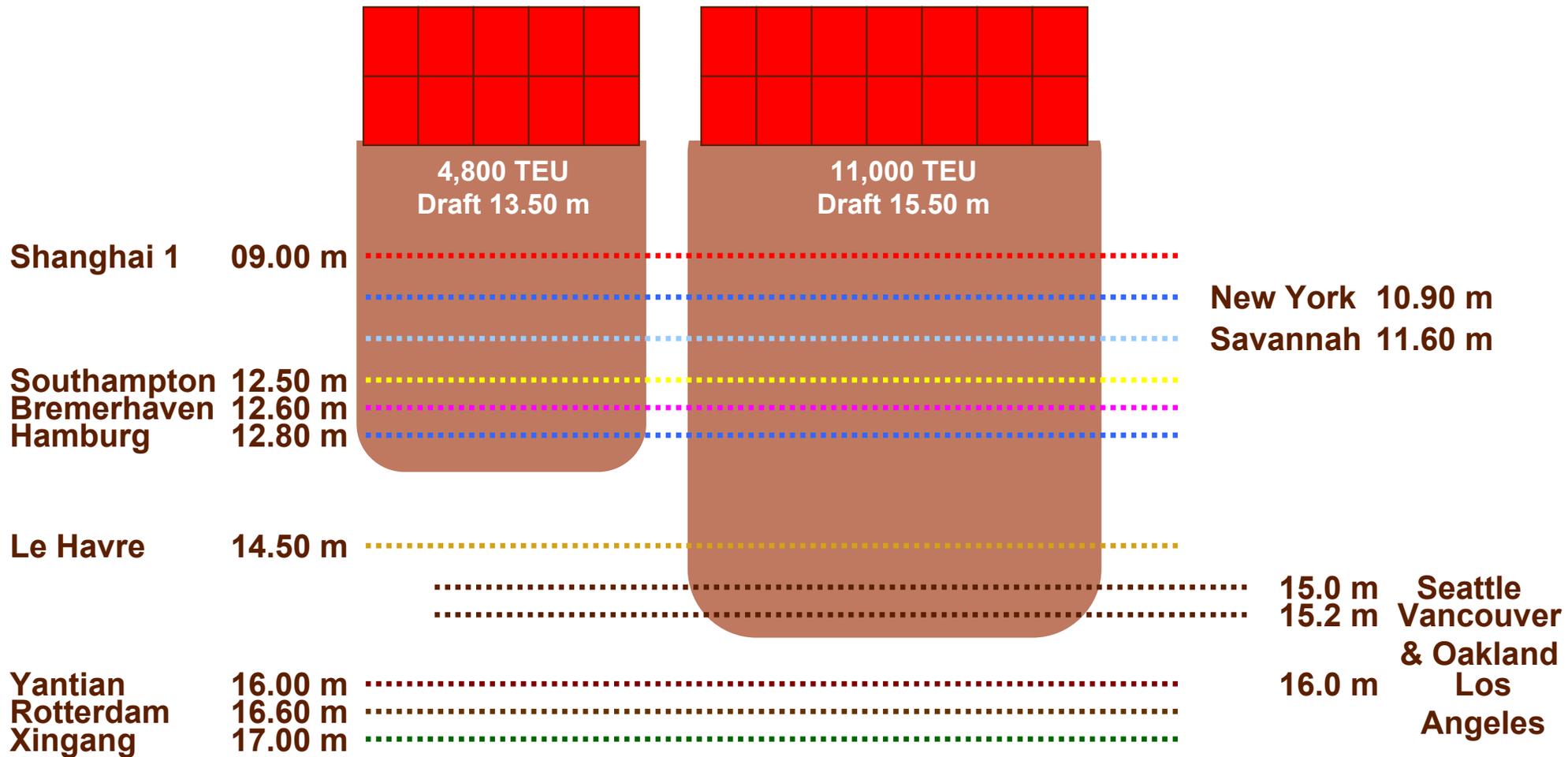
- Prince Rupert's perceived weakness became a real strength - i.e., its remoteness and connection to the mid-west rail corridor through sparsely populated regions provided a seamless and direct routing for goods to central North America

# Port's Strategic Advantage

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- Closer to Asia than other West Coast ports by up to 3 days
- Deepest natural harbour in North America
- Safe, sheltered & efficient access to int'l shipping lanes
- Ample industrial land available for development
- Exceptional community & labour support

# Global Port Wharf Draughts Comparison



Prince Rupert 18.70 m



# Capitalizing on Strengths – The RFP

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- October 2003 RFP “to plan, develop, finance and manage a container operation” drew many responses, all from companies that were North American or had North American operations
- Involved re-development of an existing 23.3 hectares breakwall facility
- Successful bidder was Maher Terminals, a New Jersey multi-user container terminal operator with no previous presence on the West Coast

# Project Participants

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- **Prince Rupert Port Authority:** contributed \$25 M
- **Maher Terminals:** obtained a 30-year concession to be exclusive operator of terminal and invested \$60M in equipment for facility including container cranes, lift trucks and the EDI system; also won option to develop a larger operation later
- **Canadian National Rail (“CN”):** contributed \$30 million in upgrades to the British Columbia intermodal rail link and new equipment
- **Federal Government:** contributed \$30 M
- **Province of British Columbia:** contributed \$30 M

# First Nations Consultations

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- Initial consultation was through the regular environmental assessment process
- Port (as project proponent) consulted with First Nations regarding “impacts” that project might have on their traditional and hereditary uses of the lands involved
- Because of the high profile involvement in the project by both the federal and BC governments, the local First Nations used the project to deal with issues relating to hereditary rights – this led to a lawsuit by First Nations that they had not been adequately consulted
- Federal government first appointed a “representative” and then a “negotiator” to resolve matter; issues still outstanding but port optimistic of resolution soon
- Efforts aimed at settling First Nations claims for all phases of project

# Ecological Responsibility

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- Air quality monitoring (particulate matter) from the beginning of construction
- Used vibrohammers (high speed pulse) rather than traditional impact hammers to create less noise and avoid creating large shockwaves that can kill fish
- Only biodegradable oil used in the hydraulic equipment; oil and water separators incorporated into the facility to protect against water pollution
- Old asphalt ripped up and crushed to use for new pavement at the site
- Port Authority collaborating with Bird Studies Canada to ensure project's construction and operation does not negatively affect birds (site is part of a migratory route for birds)
- Terminal equipped with high-efficiency lighting systems in which all external light beams point downwards to minimize light pollution to local community

# Canada Marine Act Constraints

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- **Main constraint has been access to Federal Government program funding**

- Section 25 of CMA used to provide that no payment could be made by the Government of Canada to a Canada port authority (CPA) except in very limited circumstances – that is, until last week
- After a comprehensive panel review of the CMA in 2003 recommending that CPAs be given such access and after years of lobbying, on June 18, 2008, CMA amendments came into force
- Section 25 has been revised to clarify that CPAs may access federal funding for a contribution in respect of:

- **Capital costs of an infrastructure project**

- Environmental sustainability
- Security
- Prince Rupert accessed \$30 M in federal funds through 2006 Asia-Pacific Gateway and Corridor Initiative

# The New Terminal

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- The \$170M 500,000 TEU (20-foot equivalent units) Fairview container terminal, with funding support from the Governments of BC and Canada, was completed on budget and on time in fall 2007
- Terminal design and operations planning was collaborative effort between Port, CN Rail and Maher Terminals
- Terminal is one of the first dedicated intermodal terminals in NA and essentially eliminates truck activity on the terminal – permitting direct interface between container vessel and rail line
- Containers are moved between rail cars spotted on nearly 20K feet of intermodal trackage located less than 200 yards from vessel

# The New Terminal

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- Features 3 ultra-post-panamax gantry cranes with a 22-container reach, and a fleet of reach stackers
- With berth depth of 62 feet at low tide, can accommodate the largest container vessels
- 50-acre paved terminal site
- Incorporates post 9/11 security standards and systems in terminal design, including that 100% of all inbound and outbound containers undergo radiation scanning and VACCIS x-ray screening

# The CN Rail Link

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- CN also heavily invested in its western Canada network (which will benefit entire trade corridor)
- Improvements include: **extended sidings** (that, in effect, have resulted in double-track system from Prince Rupert to Memphis with capacity to handle container traffic projected to move through port by 2020); **upgraded rail control systems**; **tunnel and bridge upgrades**; **new intermodal terminals** (in Prince George and Edmonton); and **new locomotives and rail cars**
- CN also planning to purchase by 2009 for \$300M the 198-mile Elgin, Joliet & Easter (EJ&E) Railway Co.
- Will be used to route trains around bottleneck in Chicago (currently takes 132 hours to transport goods from Prince Rupert to Memphis)
- With EJ&E Line will be only 100 hours from Prince Rupert to Memphis (just as close in time as LA/Long Beach, maybe closer)

# Operating Agreement

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- Maher Terminals won a 30 year lease with an option to develop a larger operation later
- **Details confidential but do know this:**
- The terminal is located on federal land administered by Port and leased to Maher
- Maher designs, finances, builds, operates and maintains building, cranes and other terminal infrastructure on land
- Port shares in Maher's success operating terminal by getting paid a container fee
- Phase 2 expansion of the terminal will quadruple capacity to two million TEUs by 2012 (currently at environmental assessment stage) – reported to be a \$650 M expansion
- A second terminal will add another two million TEUs when completed in 2020

# Beyond Operating Agreement

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- Port is working to complement these container terminal developments with logistics services, including warehousing, container stuffing and reloading, cold storage and short-sea shipping, which will be fully integrated into primary terminal operations
- Such services essential to ensure continued velocity, dependability and flexibility for shippers using Port
- To accommodate these services Port is developing a 1,000-acre industrial park with deepwater access that is also ideal for bulk and liquid terminals
- Port is a partner in the Asia-Pacific Gateway & Corridor Initiative, composed of government and industry partners with the objective of making BC a preferred gateway for Asia Pacific trade

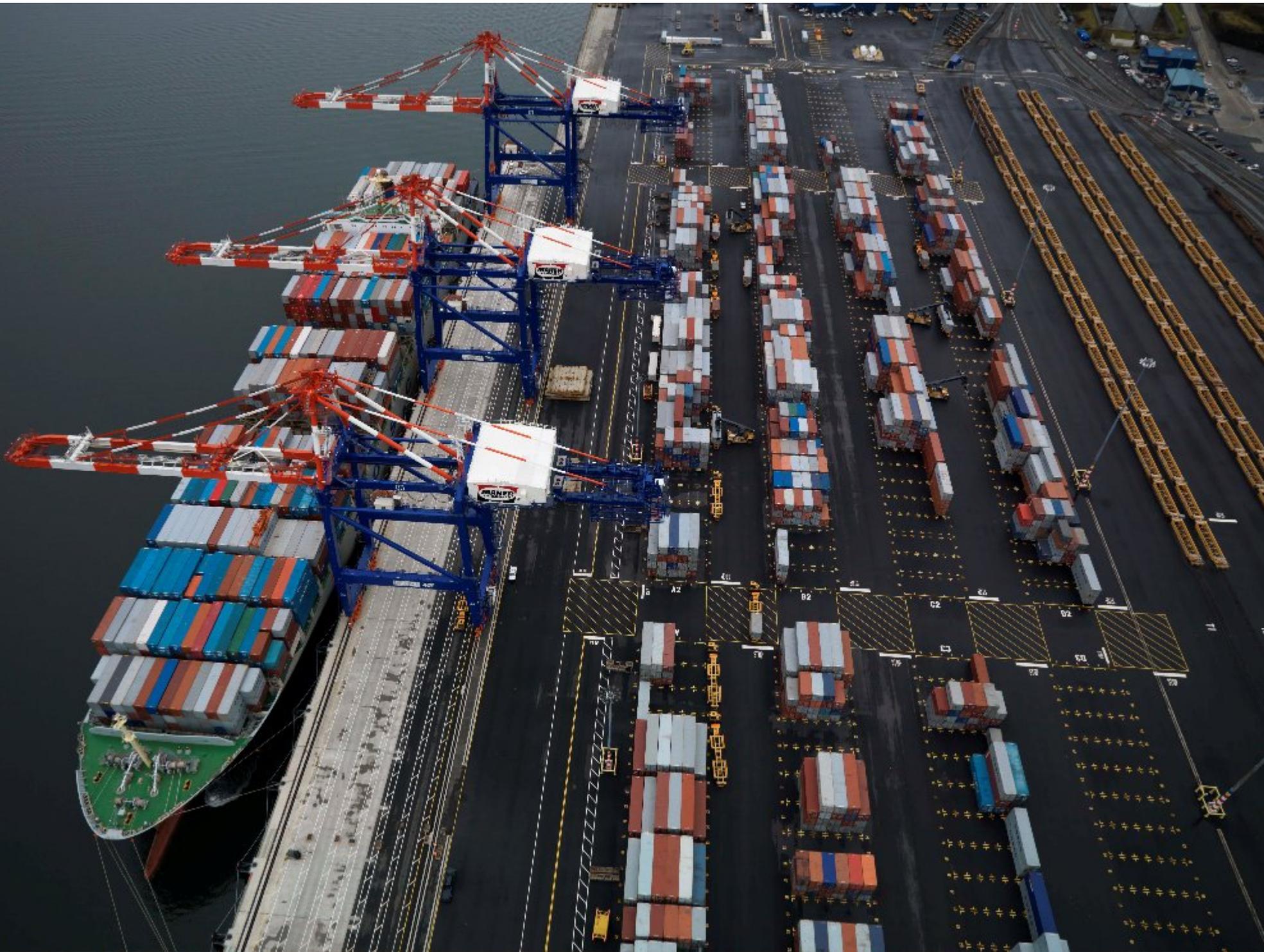
# The Result

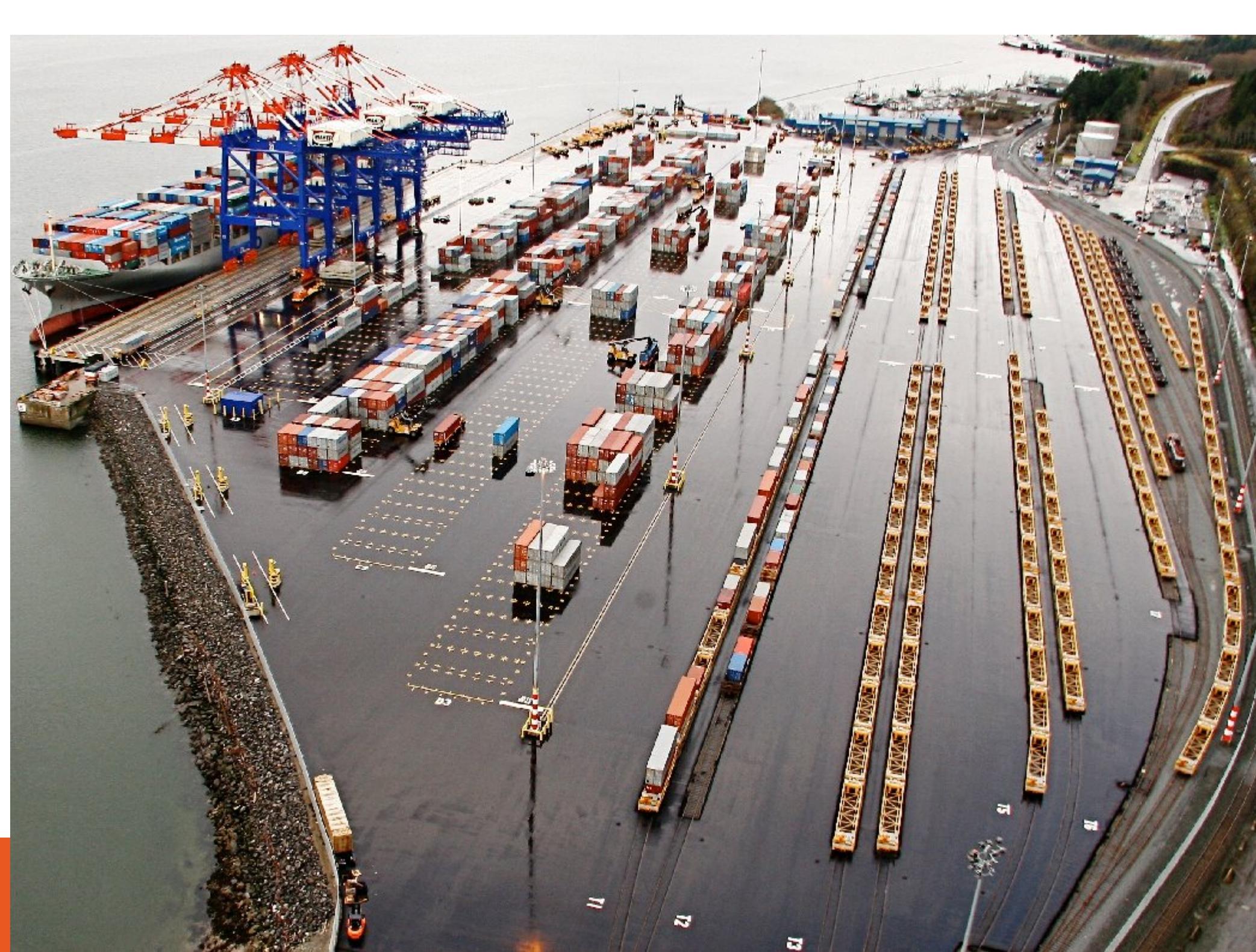
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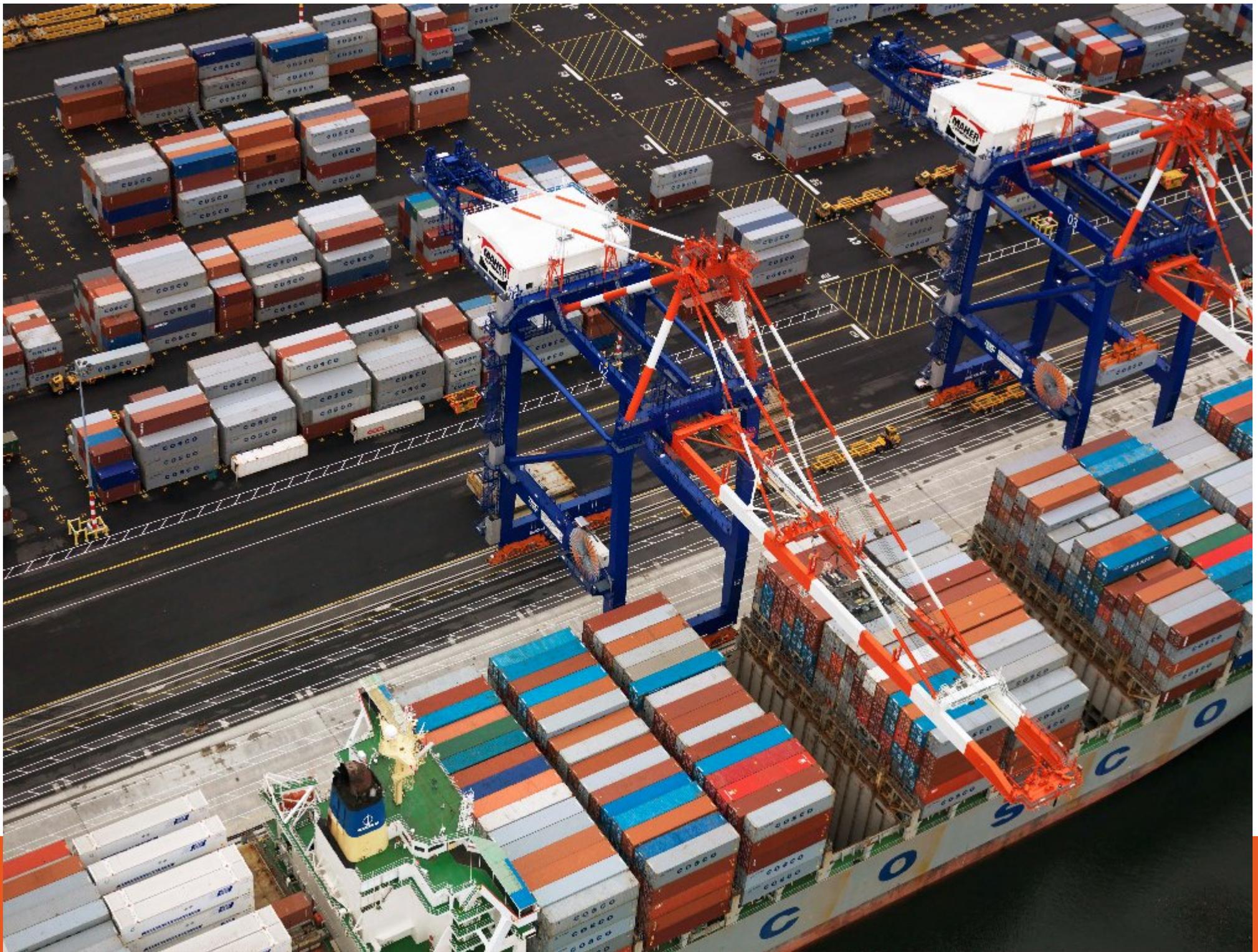
“We believe these collaborative efforts and investments, and the new injection of meaningful port-rail-terminal capacity into the global supply chain has created the fastest, most-efficient and most dependable intermodal system to move containers between Asia and the heartlands of North America.”

*Don Krusel, President & CEO, Prince Rupert Port Authority*







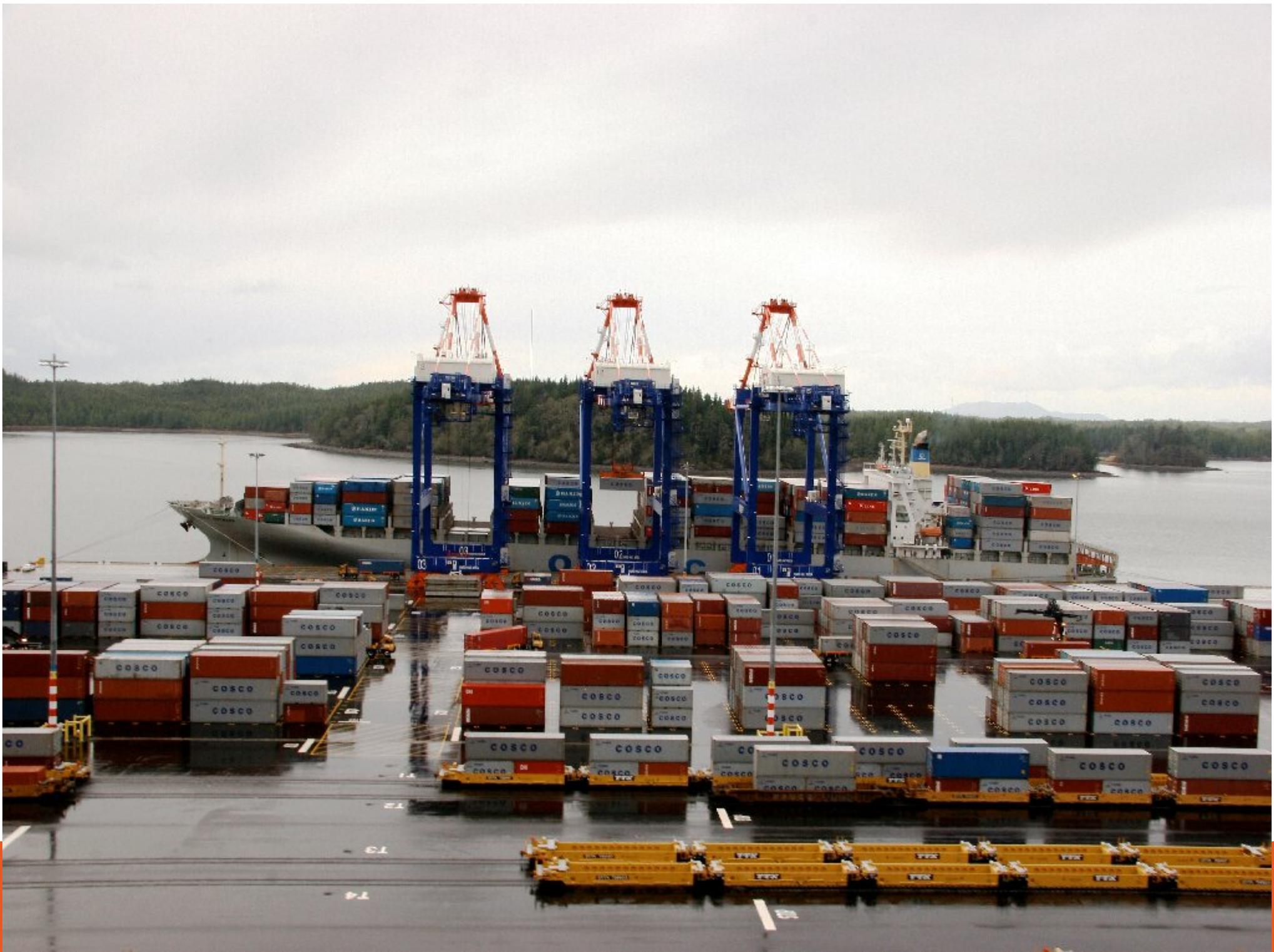


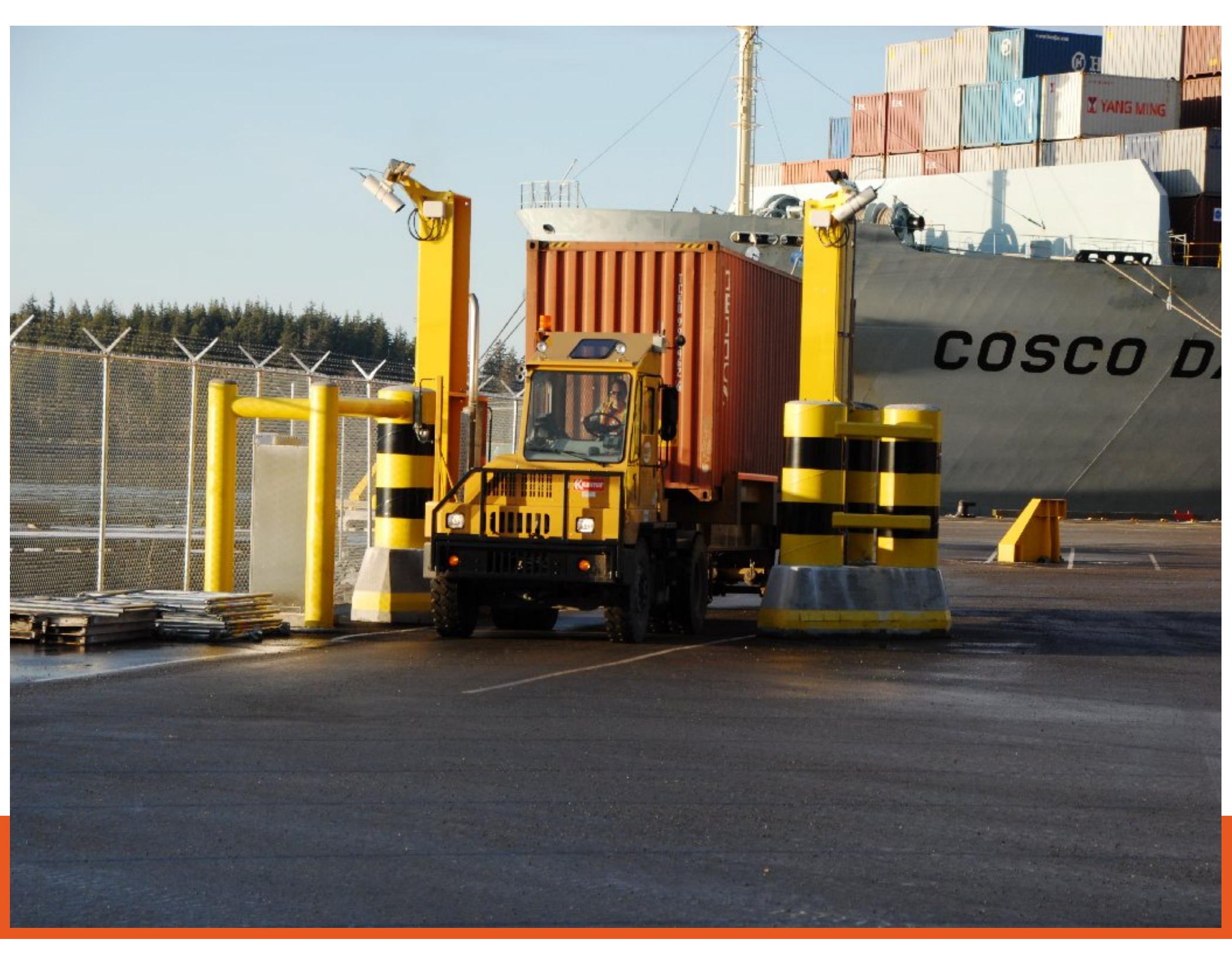


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# Concluding Thoughts

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- Prince Rupert Fairview terminal project may look like P3 but can't be sure without looking at operating agreement (which is confidential)
- Port did not start project out with P3 in mind
- Went to government for funding as project developed
- A true port P3 would likely have to be more transparent

# Concluding Thoughts

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- Likely to see significant growth of P3 port projects in Canada because of:
  - Need for port infrastructure renewal
  - CMA amendments giving federal government more funding flexibility
  - Federal and provincial P3 offices offering expertise and services to ports

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