



# Overview of NGCP Challenge Document

27 Apr 2012

# Scope

1. Challenge Objectives
2. Eligibility
3. Challenge Specifications
4. Proposal
5. Prizes and Awards
6. Intellectual Property (IP)
7. Requirements on Shortlisted Participants
8. Timeline
9. Important Contact Details

# Challenge Objectives

To seek **revolutionary concepts** in the planning, design and operations of the next generation of container ports that will achieve a quantum leap in **efficiency and productivity** to support future shipping in an economically and environmentally **sustainable** manner

# Eligibility

- 1. Open to all** individuals, companies, tertiary institutions, research institutes, and other legal entities, based in Singapore or abroad
- 2. Forming of Consortiums / teams** are encouraged
- 3. Registration** required for participation

**No restrictions** on the following:-

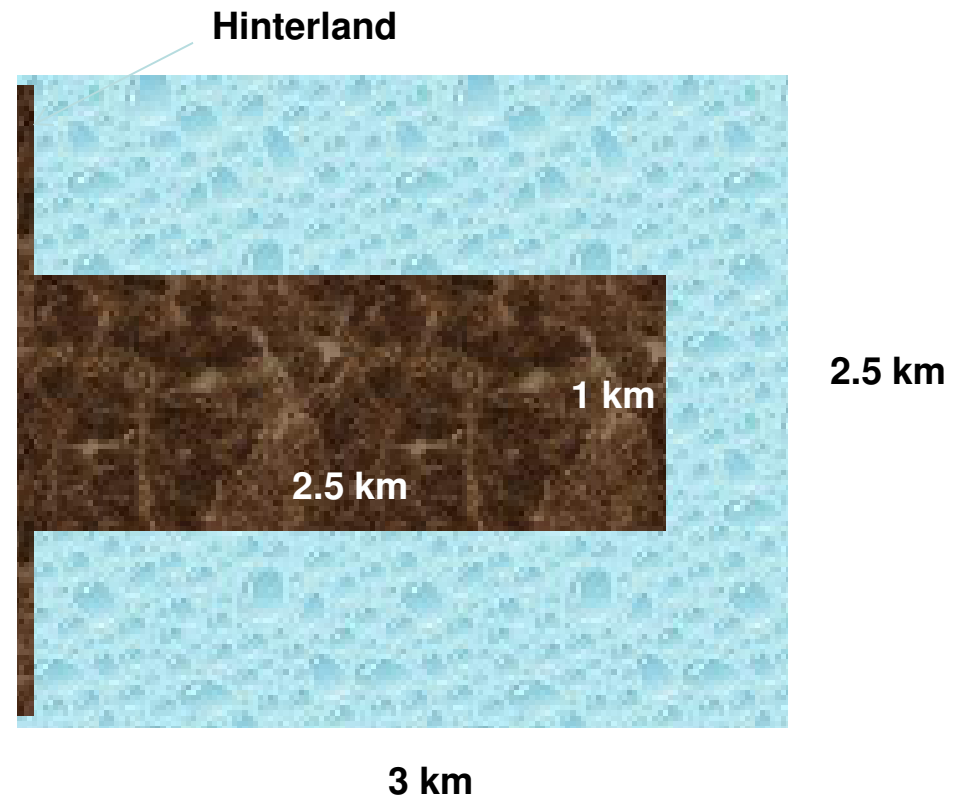
- **Number of members per team**
- **Number of teams per organisation**
- **Nationality**

# Challenge Specifications

## - Profile

### Land & Sea Profile

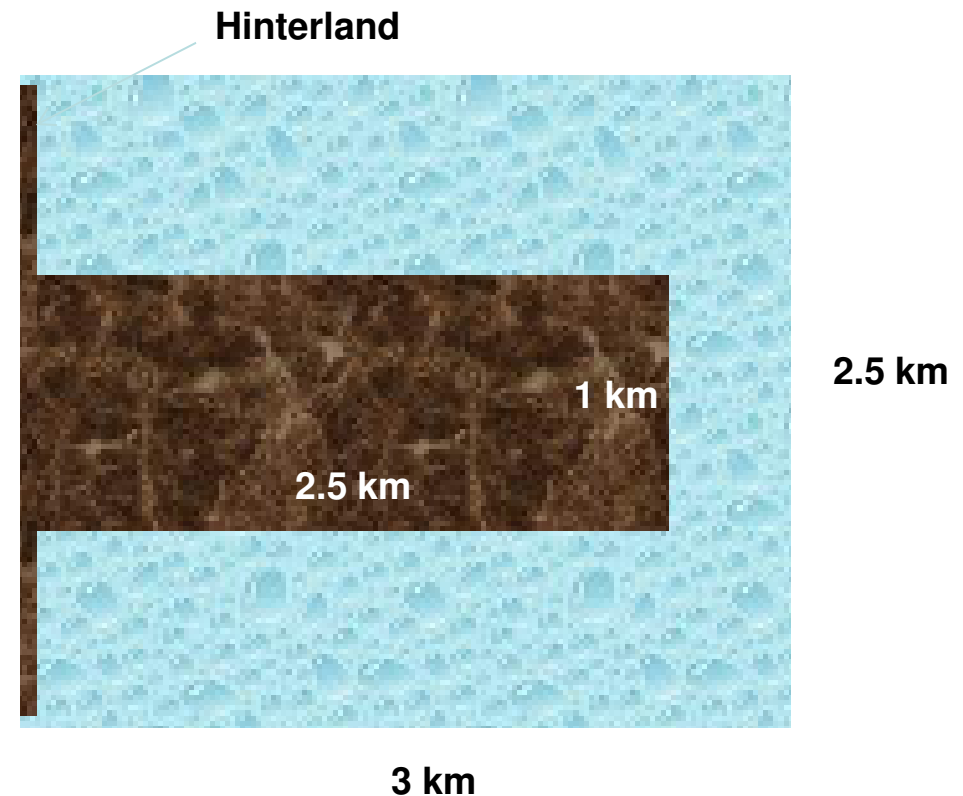
- To design next-gen container port, **10 years** from today within the given seaspace & land profile
- Port land to include circulation space, but space for supporting services (substations, buildings etc) not necessary



# Challenge Specifications - Operations

## Operating Specifications

- At least **20 million TEUs** per annum with at least 80% transshipment cargo
- 24/7 operations
- Berth on arrival for ships : at least 90%
- Average container dwell time: 4 days



# Challenge Specifications - Evaluation

## Criteria:

- **Performance**
  - Meet all operating specifications
  - Consider other design aspects: supply chain integration, flexibility in operations, safety & security
- **Productivity**
  - Increase labour productivity through automation, technology, efficient work processes/workflow
  - Increase land productivity through innovative concepts
- **Sustainability**
  - Environmental
  - Financial

# Proposal - Format

- **Executive Summary** (not more than 30 pages)
- **Discussion on Key Design Aspects**
  - Loading/unloading, Storage & Retrieval, Yard/Quay transfer, Gate clearance, Labour productivity, Land use, Environment protection
- **Computation of Key Performance Indicators**
- **Discussion on Key Assumption**
  - Future ship trends
  - Technology
- **Challenges in Design**
- **IP Declaration**
  - Disclose background IP mentioned in the Proposal
  - Disclose foreground IP in preparing the Proposal
- **Supporting Attachments**
  - Blueprint, Computation Model, System/Equipment configuration



# Proposal – KPI

## KEY AREAS (KPIs)

### Container Throughput

- Number of TEUs/annum

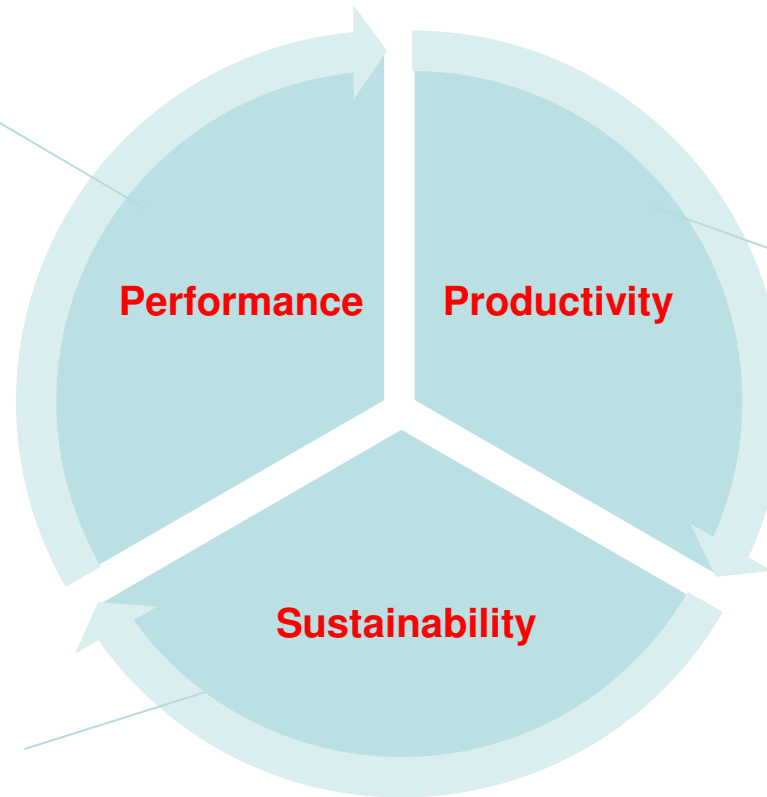
### Berth on Arrival (%)

### Environmental Sustainability

- Total energy consumption per year (kwh)
- Energy consumption per year (kwh/TEU)
- Renewable energy generated on-site (kwh)

### Financial Sustainability

- Total capital expenditure (US\$)
- Capital expenditure per TEU (US\$/TEU)
- Operating expenditure (US\$/year)
- Operating expenditure per TEU (US\$/TEU)



### Labour Productivity

- No. of port workers required
- No. of labour hours/year/TEU

### Land Productivity

- Port land area required (hectare)
- TEUs/hectare

# Proposal - Submissions

- Send hardcopy to :

Singapore Maritime Institute  
460 Alexandra Road #17-00 PSA Building  
Singapore 119963

- Email softcopy to :

[portchallenge@maritimeinstitute.sg](mailto:portchallenge@maritimeinstitute.sg)

# Prizes & Awards

- International Judging Panel : representatives from the Singapore government and maritime industry
- Winning team: **US\$1 million cash prize**
- Up to **6** Special/Commendation Awards of **US\$100,000 cash prize**
- Up to **S\$5 million of R&D grants** will be set aside for deserving teams to pursue further research
- R&D grants will be separately managed through submission of research project proposals.

# Intellectual Property (IP)

## - Overview

### In general:

1. Ownership of IP to remain with participants.
2. Require full disclosure of IP proposed to be used
3. Require participants to warrant that the implementation of their concept/ideas will not infringe upon IP owned by others

### For non-winners:

1. Organisers will not have any rights to use the IP
2. Separate negotiation for licence with relevant participants should Organisers wish to do so.

# Intellectual Property (IP) - Winners

## In general:

- Organisers to be granted a non-exclusive, perpetual, fully paid-up licence **in Singapore** to use/modify the winning concept and develop it further
- Organisers to be granted the right to sublicense IP to their public licensees and contractors for operating ports in Singapore

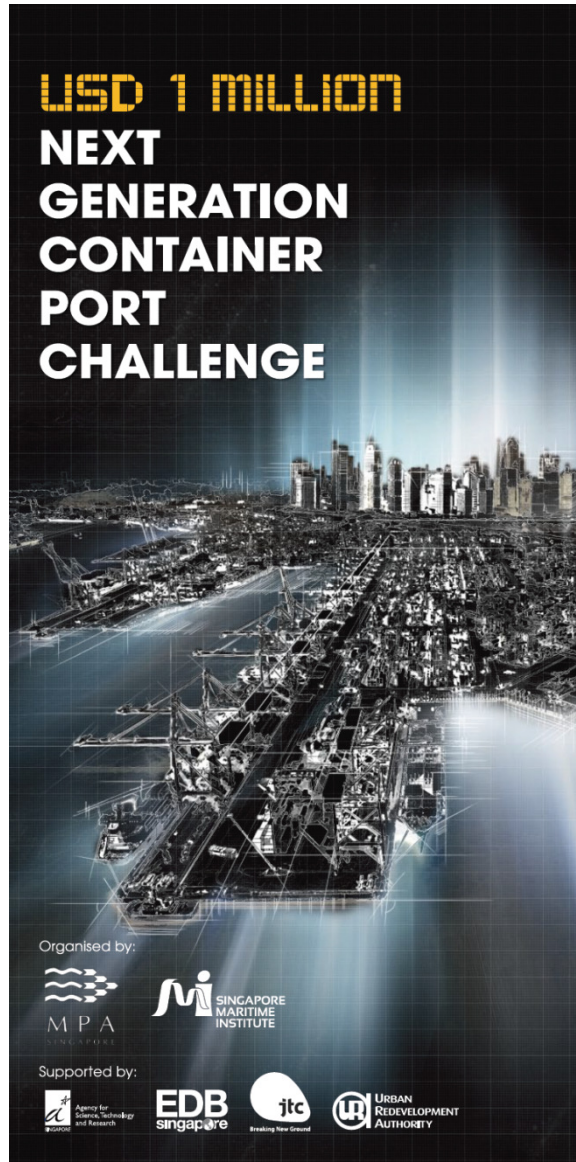
# Requirements on Shortlisted Participants

- Up to 7 proposals will be shortlisted
- Final Presentation to Judging Panel
  - Transport and accommodation arrangements to Singapore provided for up to 3 overseas members from each shortlisted team
- Public Exhibition
  - Exhibition space provided

# Timeline

Registration Opens  (Full Challenge Document will be emailed to participants upon registration)	27 Apr 2012
Close of Registration	31 July 2012
Deadline for submission of proposal	31 Dec 2012
Shortlisted Teams notified for final presentation	Feb 2013
Final Presentation Exhibition and Announcement of winners	Apr 2013

# Important Contact Points



- [portchallenge@maritimeinstitute.sg](mailto:portchallenge@maritimeinstitute.sg)
  - All official communications with registered participants
  - Email submissions of proposals by participants
  - Queries on Challenge Document by Participants
- [www.maritimeinstitute.sg/portchallenge](http://www.maritimeinstitute.sg/portchallenge)
  - Registration to participate in the NGCP Challenge
  - Posting of all answers to clarifications on NGCP Challenge





**Thank you**

**&**

**All the Best !**