A large container ship is docked at a port, with its deck stacked high with colorful shipping containers. In the background, several port cranes are visible against a bright, hazy sky, suggesting a sunset or sunrise. The ship and the port scene are reflected in the calm water in the foreground.

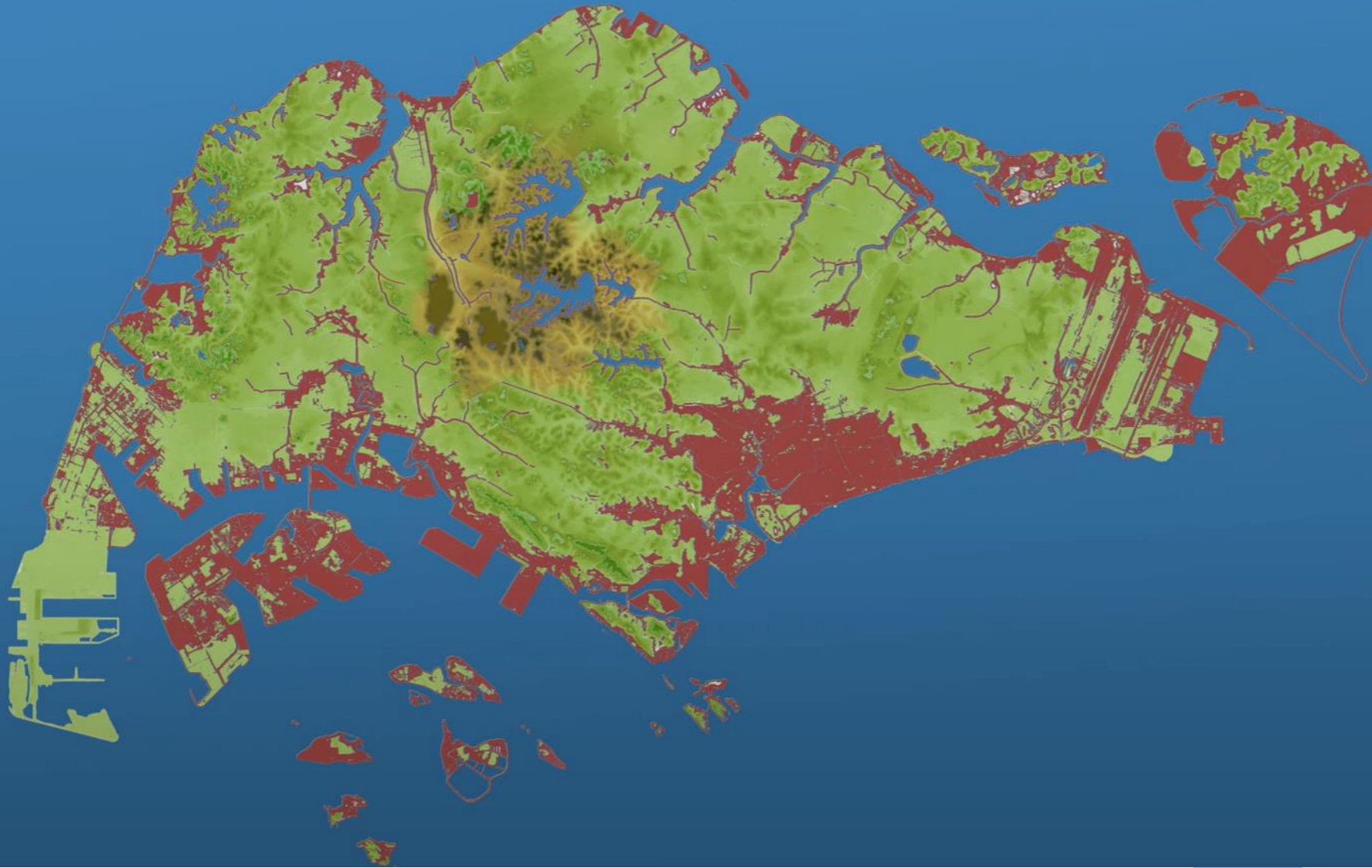
Embracing Technologies to Enhance Competencies for a Sustainable Industry

Daniel Zhang

CEMS, Singapore Polytechnic

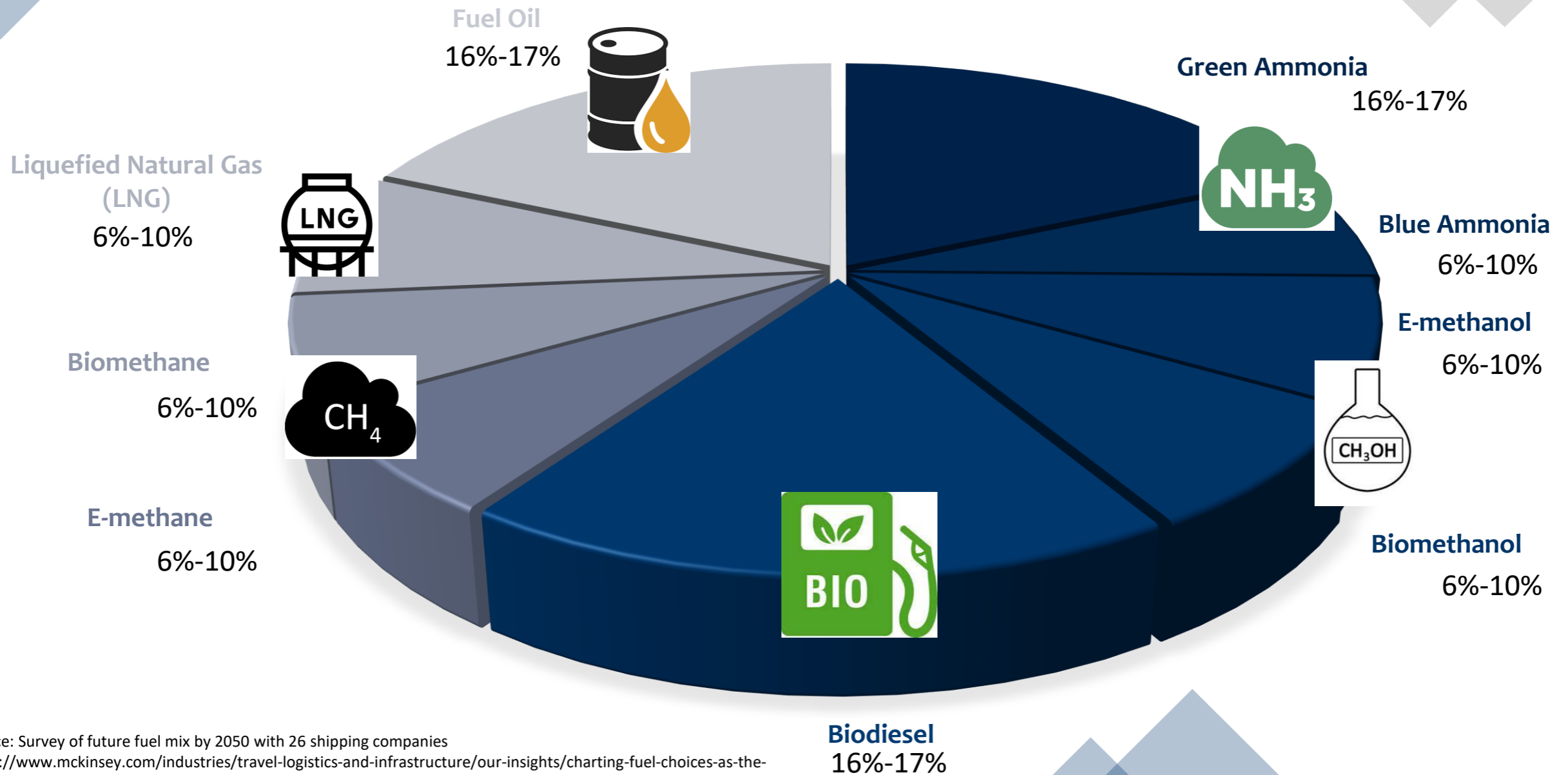
SP Centre of Excellence
in Maritime Safety

Climate Change

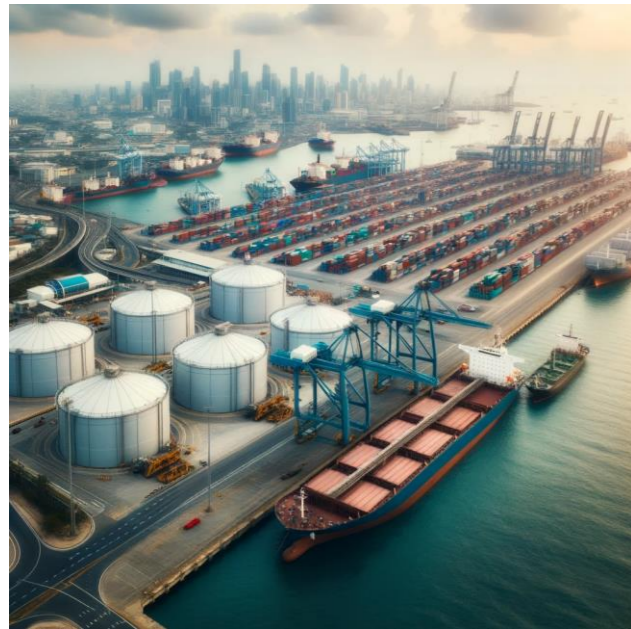


For illustration only

Maritime Decarbonisation



Challenges



Fuel Availability and Infrastructure

Financing and Insurance



Technology, Risk & Safety

Human Capital and Competencies



Core Competency Gaps



Technology Familiarization



Safety Protocols



Energy Management

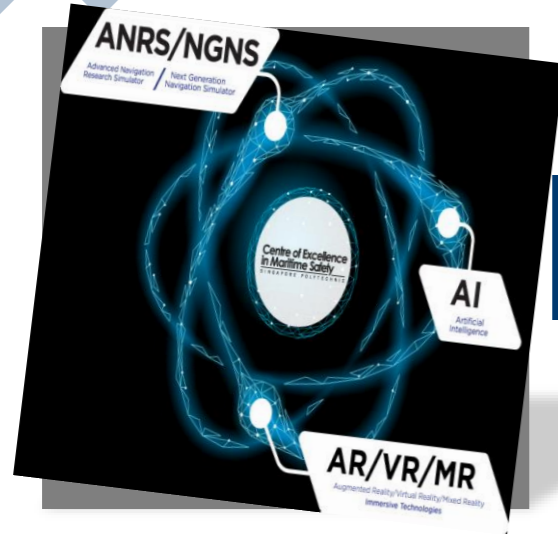


Cybersecurity



Environmental Awareness

About CEMS



Innovation in Training Solutions



Partnership with SMA



Journey with Industry



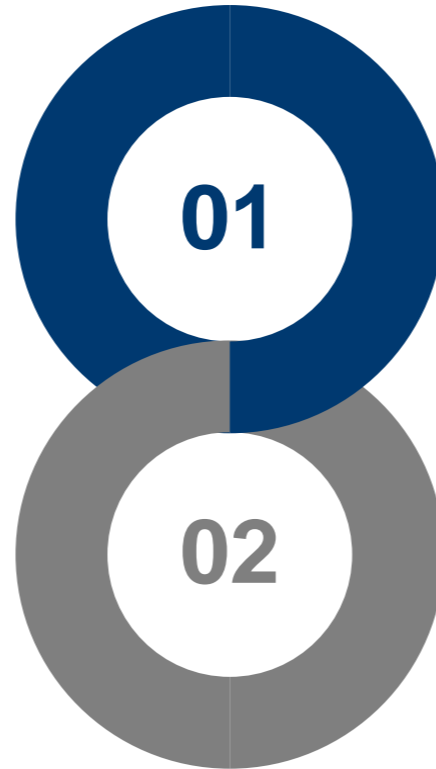
Positioned for Future

Key Initiatives – New Fuels

Technology Familiarization



Handling of new fuel



Electrification



Key Initiatives – New Fuels

Safety Protocols



Responses to Risk and Emergency



Methanol Handling VR Scenarios



Ammonia Industry Workshop



Key Initiatives – New Fuels

Energy Management

01



Optimizing vessel speed

02



Route planning

03



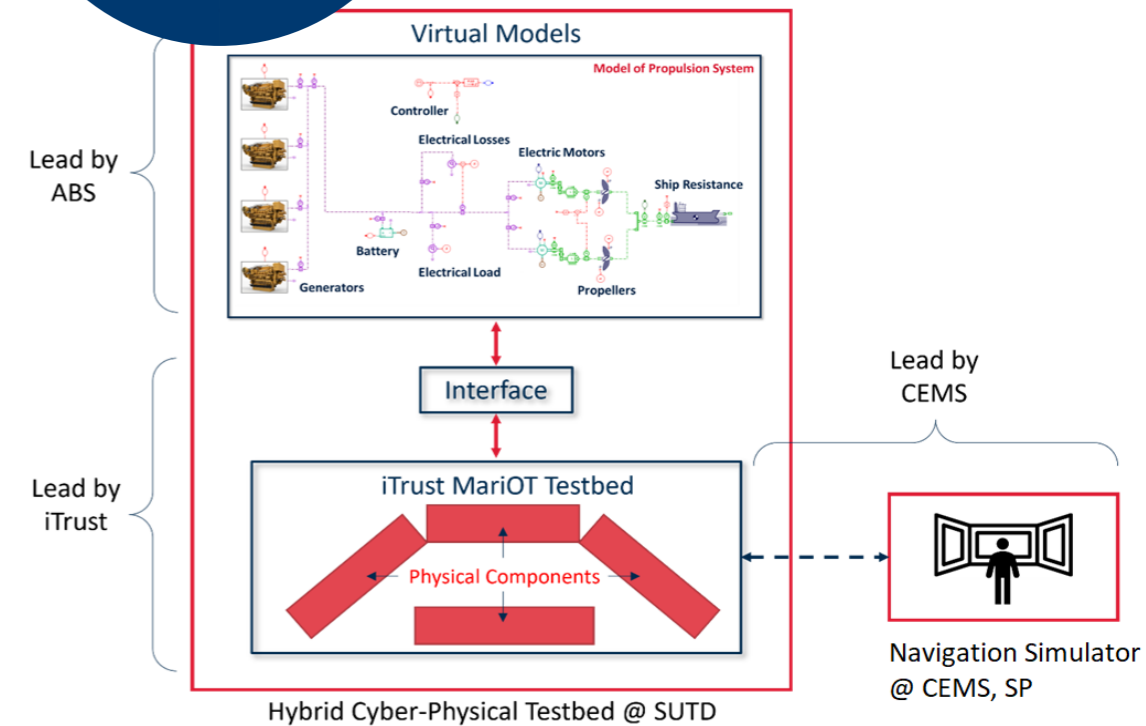
Energy-saving operational strategies

Cybersecurity

01



Maritime Testbed with STUD





THANK YOU



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