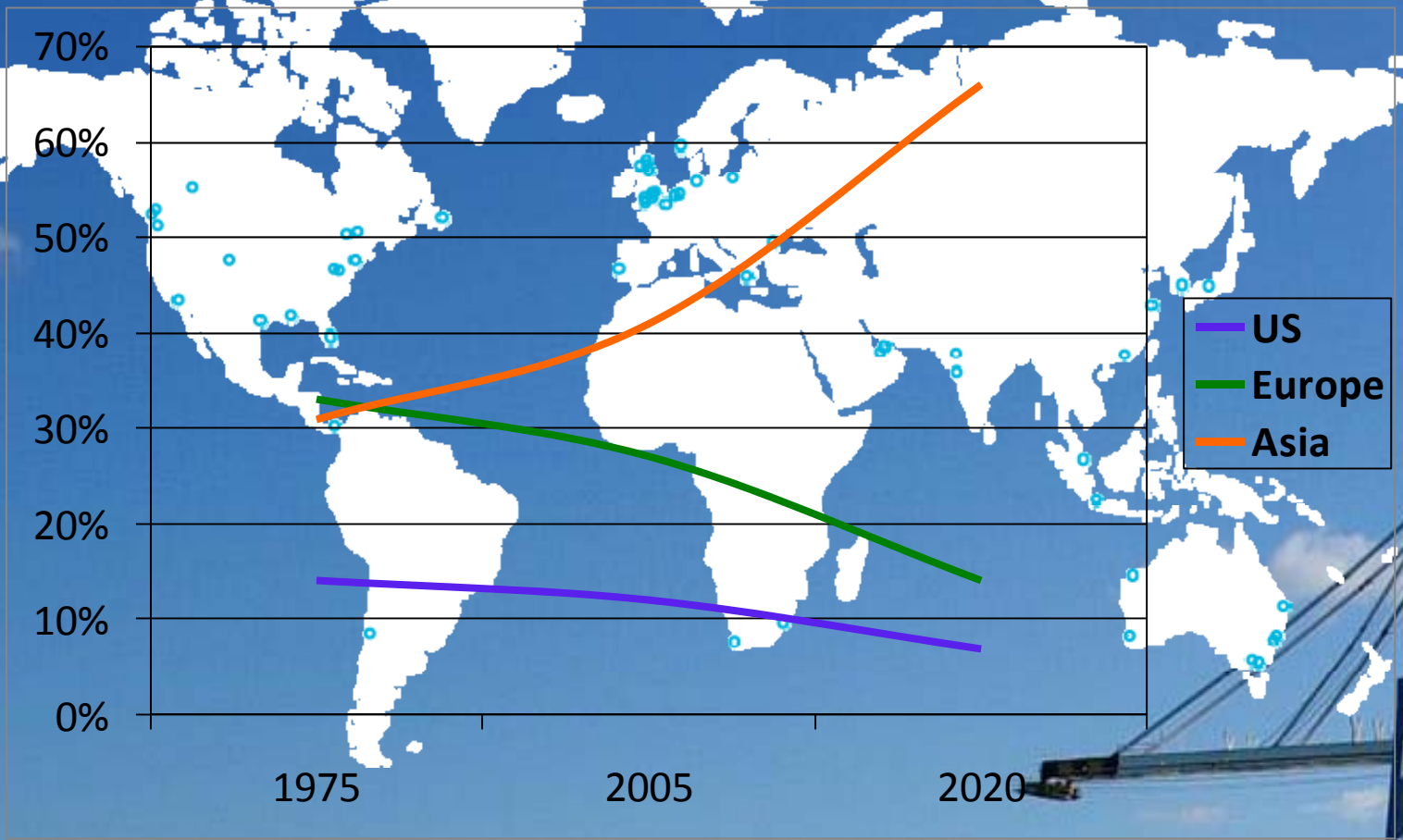




Economic, Security and Environmental Impacts on Port Planning

David Wignall

The Scale of Port Planning Requirement



Economic Pressures on Port Planning

- The rate of port development required is increasing
- Private investment in ports is increasing
- Private investment is not patient
- Private investment must seek greater returns
- Private investment is allocating capital to the prime locations

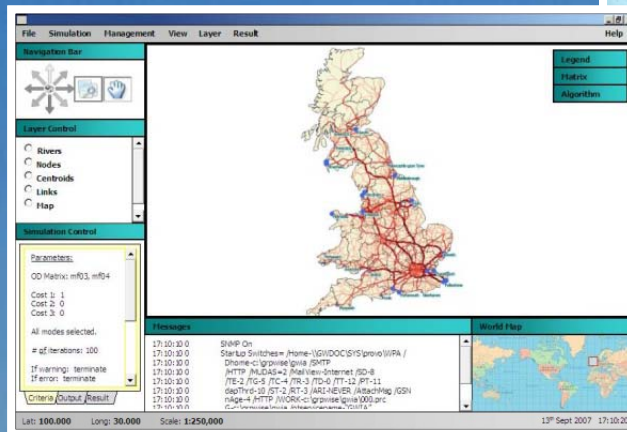
“Ports are going to be squeezed very hard to improve productivity over the next ten years.”

Economic Pressures on Port Planning

- Prime locations are becoming scarce and more valuable
- Strategic developments take vision and vision implies risk

Understanding Commercial Returns

- Trade forecasting
- Segmenting the market
- Financial analyses

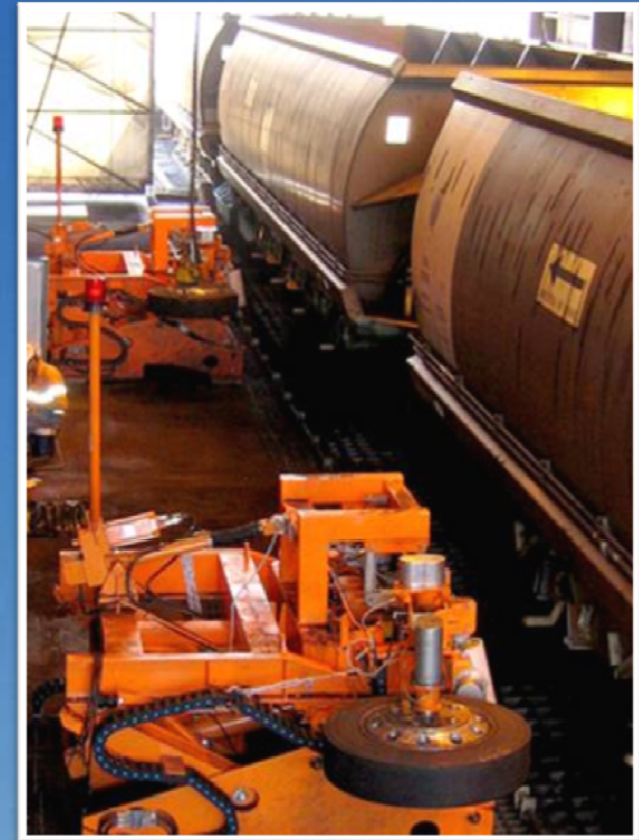


Understanding Commercial Returns

- Premium on identifying the locations for niche commodities
- Multi-purpose or multi-user terminals
- Asset management and performance reviews

Improving Efficiency and Throughput

- Information systems and simulation models
- Match storage, handling capacity and reliability
- Accurate simulations to identify bottlenecks



Improving Efficiency and Throughput

- Accurate simulations to identify bottlenecks
- New approaches to improving performance at bottlenecks
- Improve flexibility
- Safety not to be compromised

Environmental Pressures on Port Planning

- The level of objections to port developments is increasing
- Private investment is not patient
- Private investment are just seeking greater returns
- An efficient and productive port minimizes its impact on the environment
- Private investors are more sensitive to objections than Government?

Environmental Pressures on Port Planning

“Ports will have to reduce their environmental footprint to get permission to expand”

- Ports are a link in the transport chain
- The transport chain has to improve how it manages the environment

Reducing Impact on the Environment

- Environmental management and planning
- Reducing the carbon foot print
- Reducing emissions
- Incorporating renewable energy sources during planning
- Recycling contaminated land and sea front more effectively



Reducing Risk of Failures

What is an acceptable rate of failure?



Systems to Improve Efficiency and Safety

“...last minute ETA/ETD changes are quite common for Singapore port calls and info@SEA addresses these operational challenges in an efficient manner...”

“...the predictions add value to the safety of navigation in Singapore Straits...”



Security Pressures on Port Planning

- No port can be secure in isolation to its community or users
- Ensuring physical security is in tension with efficient operation
- Physical security relies on deterrence
- Information and its use as intelligence is critical; who knows and when?

Security Pressures on Port Planning

- Information also critical to optimizing operations

“Ports cannot rely on physical security. Information, communication and planning involving all stakeholders is critical to high levels of security.”

- No security system is perfect
- Response plans have to be ready at all times

Planning for Better Security

- Physical security
- Large platforms to defend wide areas
- Multiple stakeholders



Planning for Better Security

- Conflict of interest, throughput or security
- Knowledge based security
- Additive to port operations



Conclusions

“Ports are going to be squeezed very hard to improve productivity over the next ten years.”

“Ports will have to reduce their environmental footprint to get permission to expand”

“Ports cannot rely on physical security. Information, communication and planning involving all stakeholders is critical to high levels of security.”

Thank You

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