Frank Dethridge Memorial Address

*From automation to autonomy: Can the law keep up?*

Paul David QC
Alfred Tennyson

For I dip’t into the future, far as human eye could see,
Saw the vision of the world, and all the wonder that would be;

Saw the heavens fill with commerce, argosies of magic sails,

Pilots of the purple twilight dropping down with costly bales;
My Bike

How I left my comfort zone
Port of Auckland

The bustling vibrant port
Harbour traffic
E-scooters

The changes on my ride got me thinking
Questions arising

- Cargo ships without master, pilot or crew?
- Ferries with passengers but no master or crew?
- Automated cargo operations in port – digitally linked to autonomous ships?
- What will the effects and issues around this be?
Autonomous ships

Yara Birkland

USV Maxlimer

FinFerries 2018
80 passengers
How does technology work

• Data collection by sensors
• Real-time status of ship relayed to computers on board or to shore computers
• Analysis and responses given to carry out operation of ship
• All linked to advances in robotics, sensors and artificial intelligence/learning computers
Degrees of autonomy

- IMO-4 conditions from remote controlled and partially manned to fully autonomous with no crew.
- Important point: remote control or fully autonomous when no master or crew
- On-going scoping exercise
- Fundamentally changed the “ship”
- Offers opportunity and disruption
Happening

• IMO and CMI and various other countries’ regulators believe change is not so far away
• First perhaps- specialist vessels – work boats, tugs, then ferries, small coastal trading ships
• Coastal waters progressing to ocean bound?
• Timing?
Regulation

• Maritime law principles broad system of longstanding legal principles relating to maritime venture
• Regulation for safe operation and navigation, design and construction, manning, prevention of pollution
• National law implements conventions and regulates nationally
Can autonomous ships fit in?

- Definitions of “ship”
- Generally broad and inclusive in international and national regulation
- Likely to cover unmanned ships
- But substance of key international instruments/ domestic safety regulation impossible/hard to apply
Substance doesn’t work

- Radical change in operation
- Regulation on certification, operation, watch-keeping, collision avoidance and manning unworkable or not clearly effective
Need new rules?

• May well be a “ship” for registration/jurisdiction
• But substance of most of regulatory law hard/difficult to operate – COLREGS, STCW, SOLAS
• Need specific rules for approval and operation – equivalent performance to manned but new
New liability scenario

• Liability for loss and damage in accident
• Possible shift in liability focus – from ship owner to manufacturer/ designer/ certifier
• Issues for national courts
• Insurance issues, also cyber risk, new pirates?
What are we doing?

- CMI work – IMO scoping exercise
- But at national level?
- Examine opportunity presented by technology
- Consider national regulatory framework
- Amendments to regulate autonomous ships for operation in NZ
Last word – home for tea

- Time to do the work is now
- Develop local expertise – local standards
- Potential real benefit for NZ
- Need for clarity
Final Thoughts

• Part of wide ranging change
• Timing uncertain
• Work to be done to keep up