

CMPA PERSPECTIVE ON MASS

Captain Alain Arseneault, Chair of the Canadian
Research, Innovation and Technical committee of the
Canadian Marine Pilots' Association
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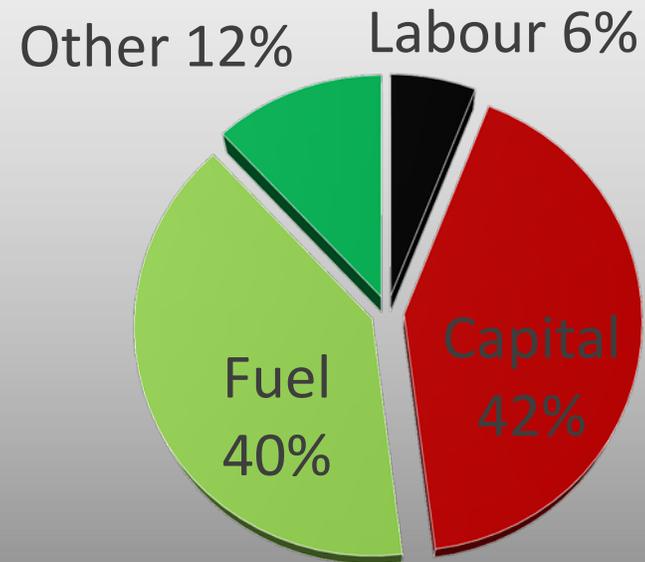


CANADIAN MARINE PILOTS' ASSOCIATION
L'ASSOCIATION DES PILOTES MARITIMES DU CANADA

Is Autonomous Shipping a Goal or a Process?

Push for autonomous vessels is Supply-Driven

Economics – a product looking for a market



Vessel costs data source: “Would Autonomous Ships Be Good for Society?”, The Maritime Executive, October 31, 2016



Autonomous Shipping towards Unmanned shipping?

“Introducing more automation, on an evolutionary basis, must be driven by user needs”

“But a realistic way to autonomous ships is through the evolution of existing systems, not a disruptive revolution.”

Capt. Simon Pelletier, President of IMPA

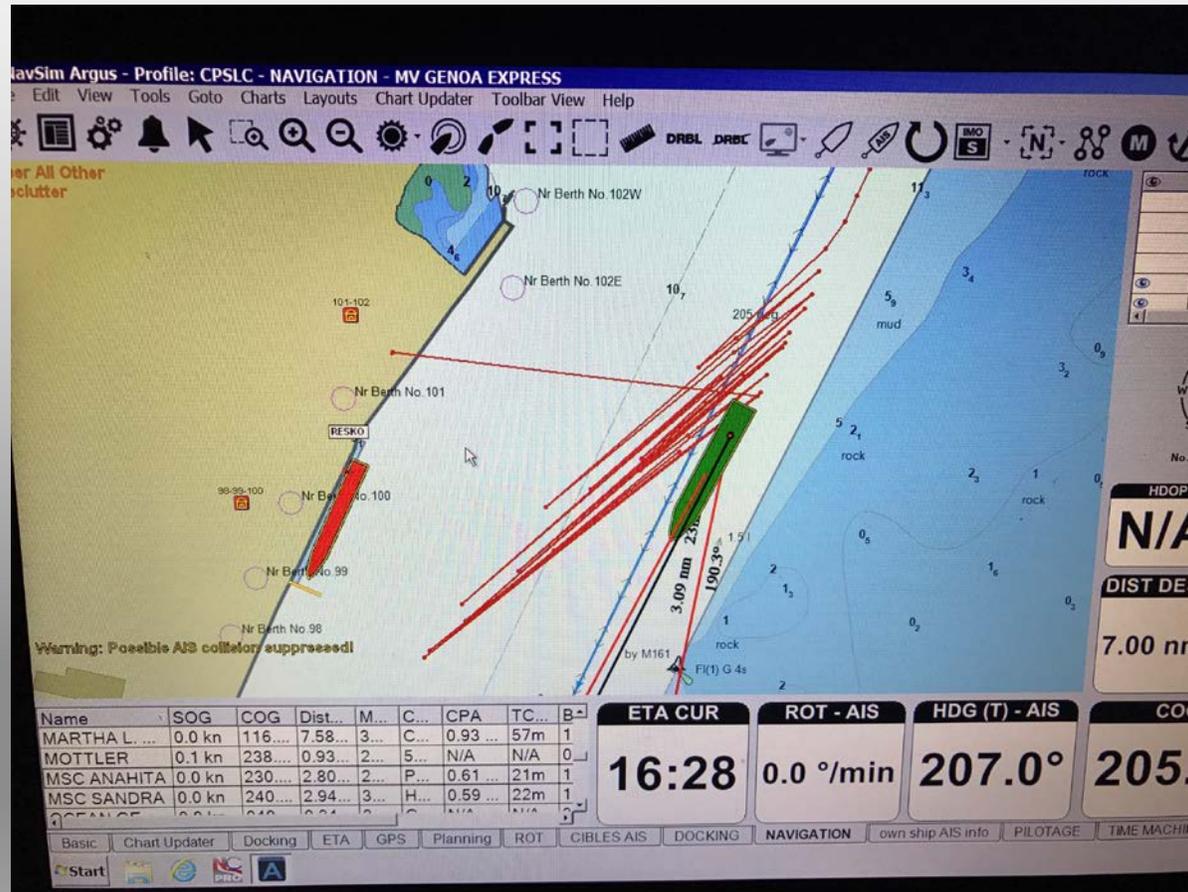


The 4 Pillars of Autonomous Navigation

1. Positioning
2. Detection
3. Communication
4. Regulation



Positioning



Detection



Communication

- **LTE** Maybe (Have you had a day in your life when you don't lose the LTE signal? I haven't) LTE-Maritime (3GPP) up to 100km range.
- **5G** We'll see but still very short range
- **Statellites** Already congested. Unreliable

CYBERSECURITY



Regulation

THE MAIN FOCUS OF AUTONOMOUS ENTHOUSIASTS

- Focus on non-IMO compliant vessels (Domestic)
- Various IMO Instruments : SOLAS – COLREGS – STCW
- MSC 99 Regulatory Scoping Exercise for the Use of MASS

“The direction provided by MSC is that, once the process of identifying problematic provisions is completed, the exercise should move on to assessing the best way to resolve possible conflicts between each identified regulation and MASS operations.”

Capt. Simon Pelletier



Myths and Reality

Myths

- ⚓ Technology is ready
- ⚓ It is Cost related
- ⚓ We already have drones and Google cars

Reality

- ⚓ The 4 Pillars are still shaky
- ⚓ It is Control related
- ⚓ A Vessel's momentum is huge and is by far the most difficult object to manoeuvre in regards to its available space.



What are the perceived benefits to a more autonomous operation?



- Reduce cost of operations
- Enhance safety by removing the human element
- Gain more control from shore over ops at sea
- Lowering entry barriers to new shippers
- Disruptive technology is the only way to change paradigm



What are the real benefits to a more autonomous operation?

- Higher level of safety with redundancy
- Enhanced efficiency with AR (Augmented Reality)
- Valuable information to proper users
- Free up «in demand» human assets
- Foster technical initiatives that will provide users with practical tools



What do scholars think of the impact of MASS on seamen

High-skilled workers face little threat from automation, the report suggests. “For this group, automation and technology are often introduced to assist them, so that individuals can concentrate more on their core tasks,” the report says. “The objective is to complement their work rather than replace them, whereas for the other groups a significant proportion of core tasks can be automated by 2040.”

Transport 2040: Automation, Technology, Employment - The Future of Work , World Maritime University , 2019

(https://commons.wmu.se/cgi/viewcontent.cgi?article=1071&context=lib_reports)

