

Unknown waters: The future of unmanned vessels

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<http://www.unmanned-ship.org>



SST.2012.5.2-5: Grant no. 314286
E-guided vessels: The 'autonomous' ship



MUNIN details

A concept study for a fully unmanned handymax dry bulk carrier on an intercontinental voyage.

- Duration: 01.09-2012 – 31.08.2015
- Funding: 2.9 million EUR of budget 3.8 million EUR
- Activity code: SST.2012.5.2-5: E-guided vessels - the 'autonomous' ship



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MARORKA



A lot of public opinion!

The collage features several prominent websites and articles:

- Naval Architects**: A LinkedIn group page with a post titled "Rolls-Royce is building Unmanned ships" by Mihail Mitev, Consumer Marketing & Sales Manager at IHS MARITIME. The post includes an image of a ship and text about "Maritime news - Vessels Holding of Rolls-Royce vessels (drones), which controlled by real ship captains, through".
- Electronics Weekly.com**: A website banner with the text "Breakthrough Technology".
- DIE WELT**: A website banner with a globe icon.
- The Economist**: A red rectangular overlay with the text "The Economist".
- Unmanned, networked, intelligent ships navigate familiar water**: An article snippet with a date of "7th March 2014" and a "no comment" status.
- Bloomberg**: A large black rectangular overlay with the word "Bloomberg" in white.
- Newsweek**: A website banner with navigation tabs for "WORLD", "BUSINESS", "TECH & SCIENCE", "CULTURE", "SPORT", "NEWSWIRE", and "THIS WEEK".
- Motorship**: A website banner with the text "THE Motorship" and "SECURITY » YOUR SAY ON 'UNMANNED SHIPS'".
- Hamburger Abendblatt**: A website banner with the headline "Your say on 'unma..." and "Are Unmanned Vessels the Future for the Ocean?". The article is by Michael Carroll, dated July 3, 2014, 5:09 AM EDT.
- eNav INTERNATIONAL**: A logo for the organization.
- MARINTEK**: A large blue logo at the bottom right.
- MUNIN**: A logo at the bottom left featuring a ship silhouette and the text "MUNIN".
- European Commission**: A logo at the bottom left.

A lot of public opinion!



POSITIVE

... and in
between



Negative



Technical problems

- Need for technical maintenance and routine repair



- Accidents or system breakdown



Legal and economic issues



- Contracts
- Insurance

- UNCLOS
- SOLAS

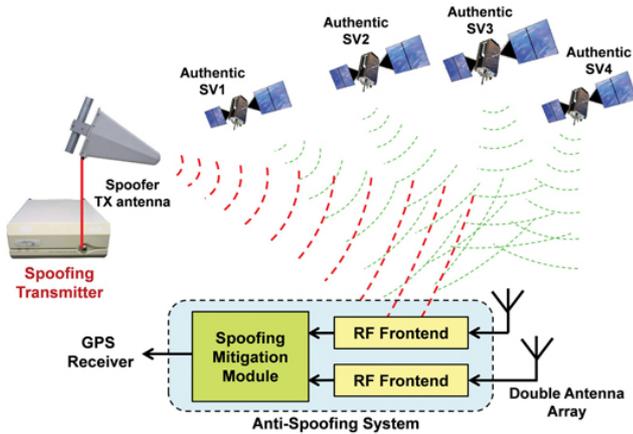


- Liability



Hostile attacks

- Pirate attack



- Terrorist hijack e.g. by GPS spoofing



- Governmental backdoor



Lack of skilled mariners



- Shore control centre



- Boarding crews

- Technical industry



- Superintendents





Environment and safety

- Environment:
Slow steaming, less emissions
More efficient engine control



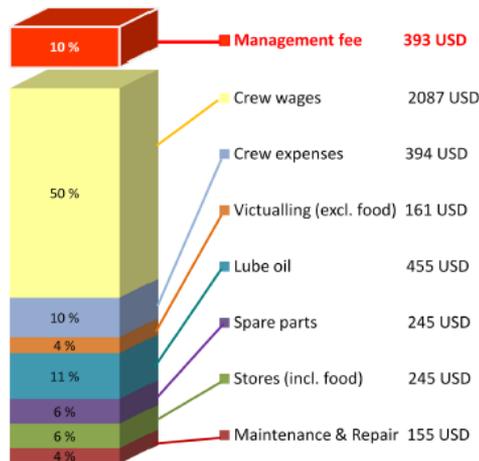
- Safety: Fewer ship accidents due to human error



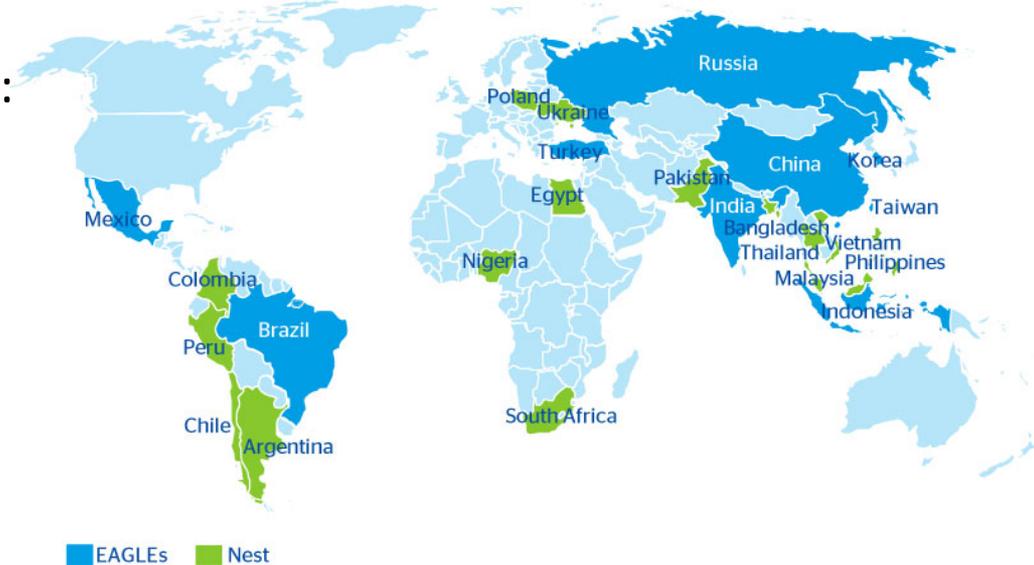
Economy and competitiveness

- World economy development:
Need for low cost transport

Daily Operational Expenses in USD (example)



Total daily operational costs: 4135 USD
(excl. dry docking and insurance costs)



- European shipping: Increased competitiveness



Working environment onboard

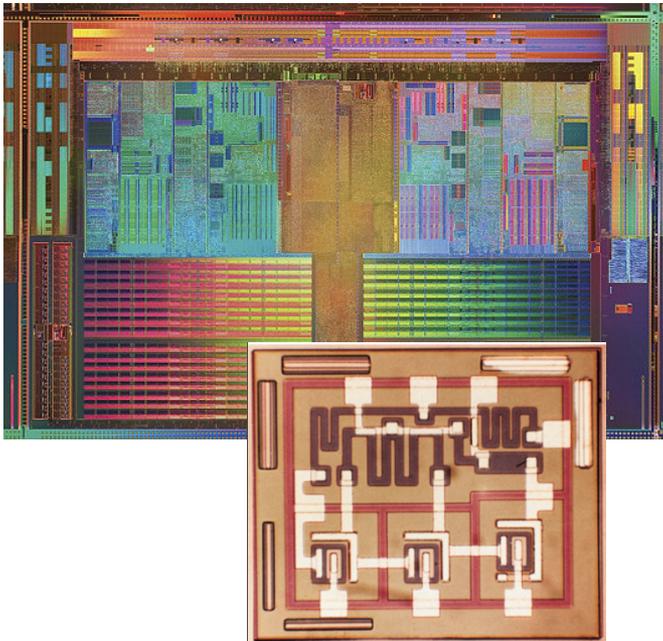
- Unmanned and remotely supervised operation during nighttime
- All crew at same shift:
Spare time together
- More Internet bandwidth
due to needs from remote
control





Caught by "Technology race"

- Cannot stop technology development



- Need to keep up with competitors

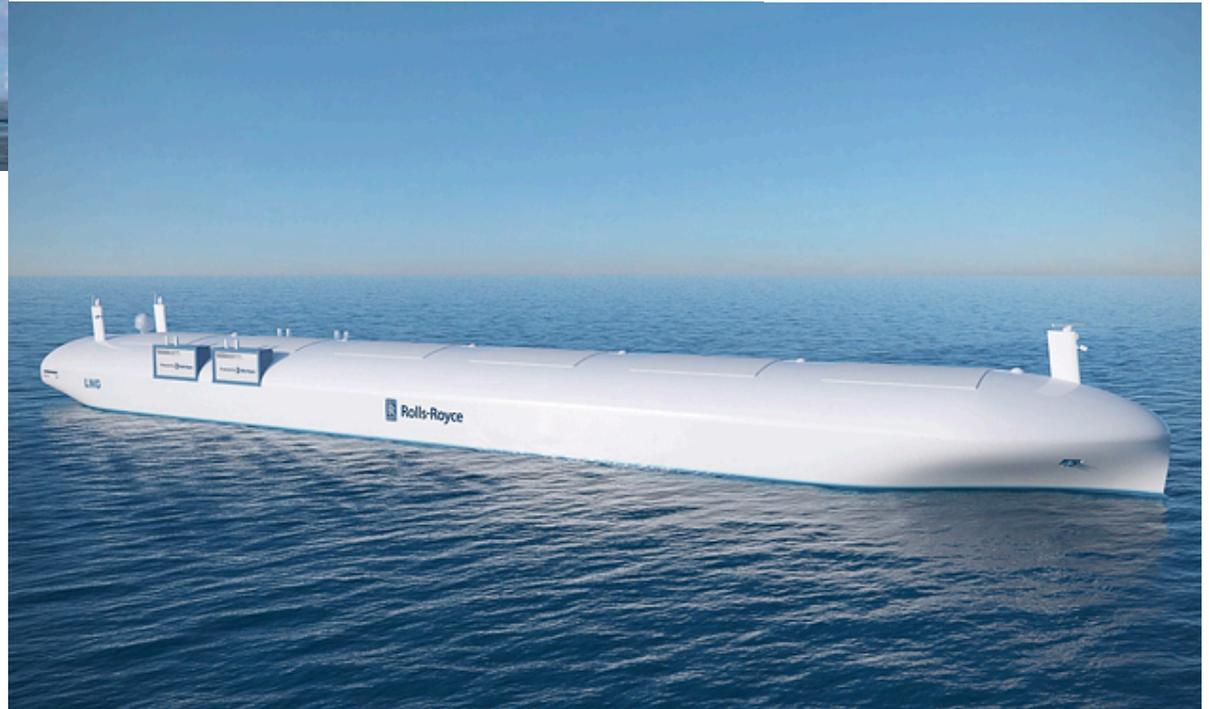
Other initiatives



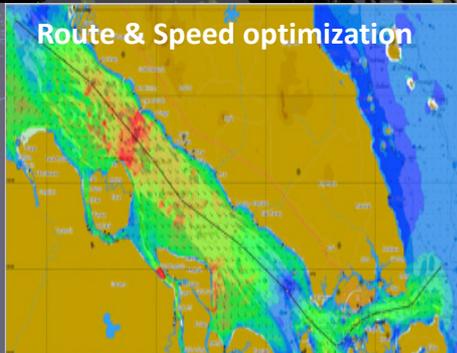
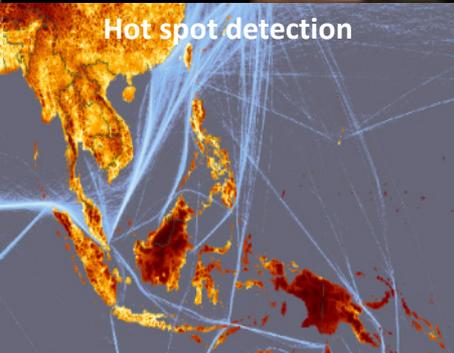
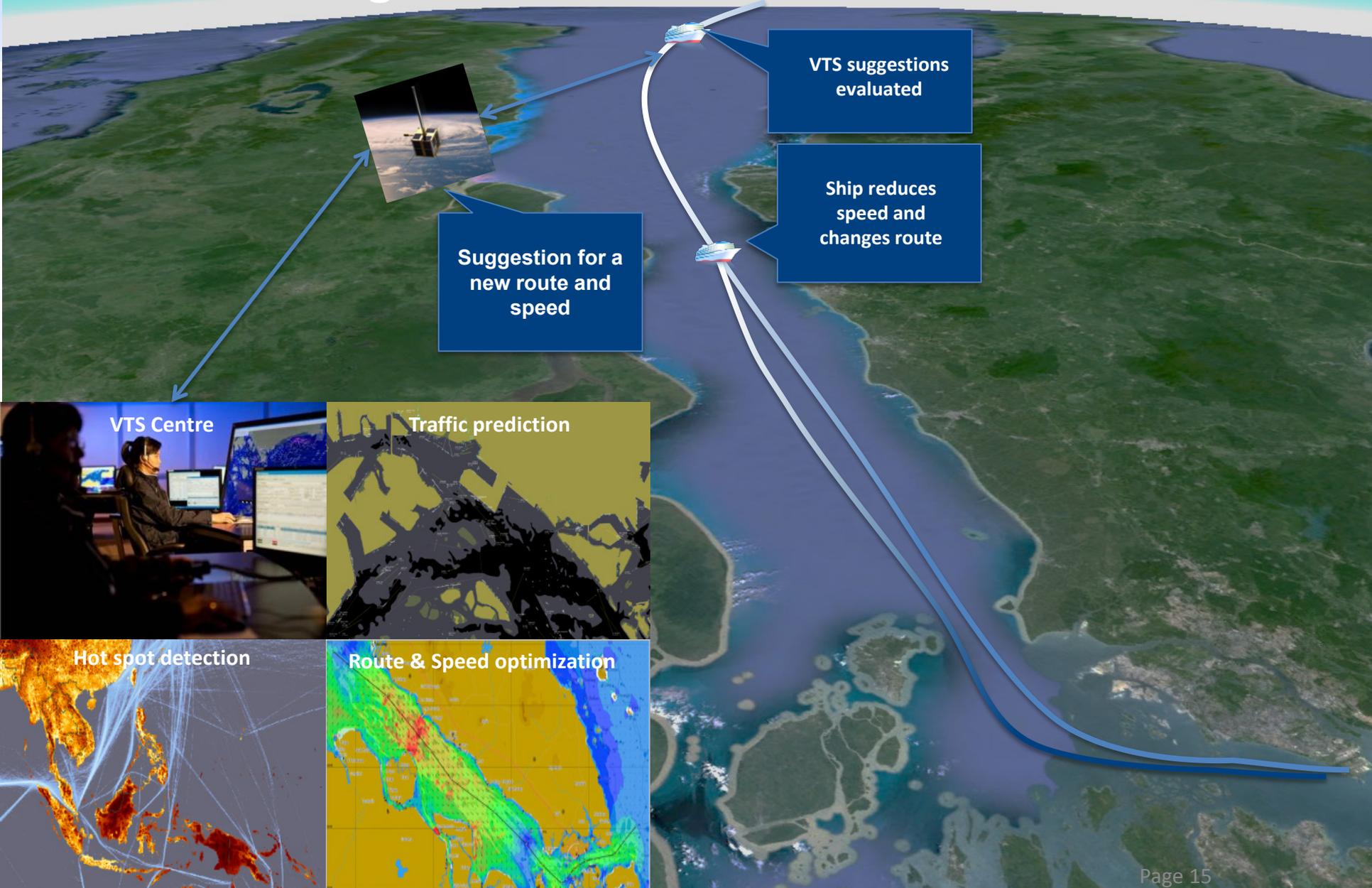
ReVolt by DNV-GL



Rolls-Royce



Traffic management: SESAME Straits



From fear, uncertainty and doubt ...



... to known dangers and safe sailing.

