

FIG

FIG WORKING WEEK 2017

Helsinki Finland

29 May - 2 June 2017

Presented at the FIG Working Week 2017,  
May 29 - June 2, 2017 in Helsinki, Finland

# Marine Information Systems: Reality and Visions of Augmented Reality

Michael SUTHERLAND and Charisse GRIFFITH-CHARLES,  
Trinidad and Tobago

Surveying the world of tomorrow -  
From digitalisation to augmented reality

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## THE PRESENTATION

- The importance of oceans
- Oceans: Multiple and overlapping interests
- Oceans: Multiple overlapping frameworks
- Marine/Maritime information systems
- Augmented reality
- Augmented reality ~ Oceans





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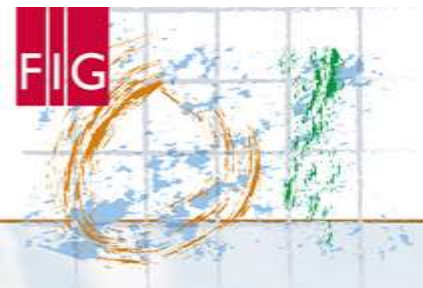
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## THE IMPORTANCE OF OCEANS

- \$€£¥Billions contributed to GDP
- National defence
- Transportation of consumer goods
- Fisheries and aquaculture
- Ocean mineral extraction
- Tourism
- Recreation
- Bio-prospecting
- Non-renewable and renewable energy...







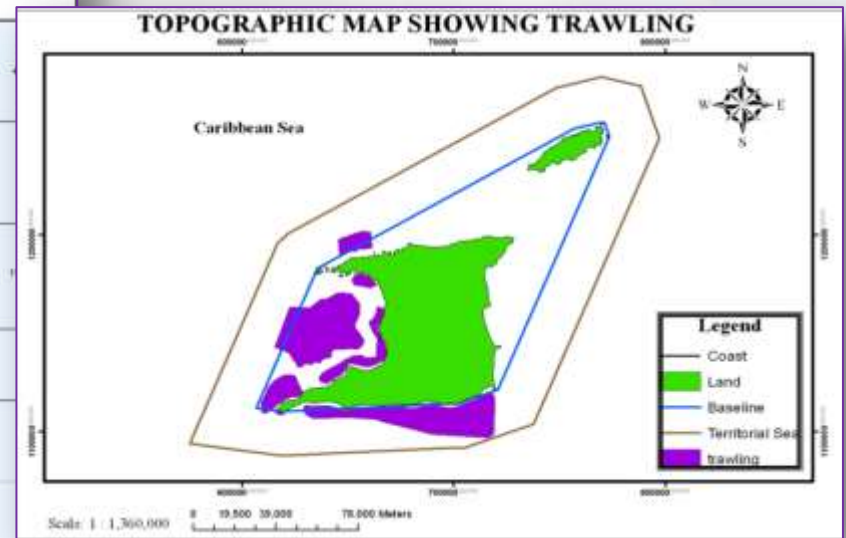
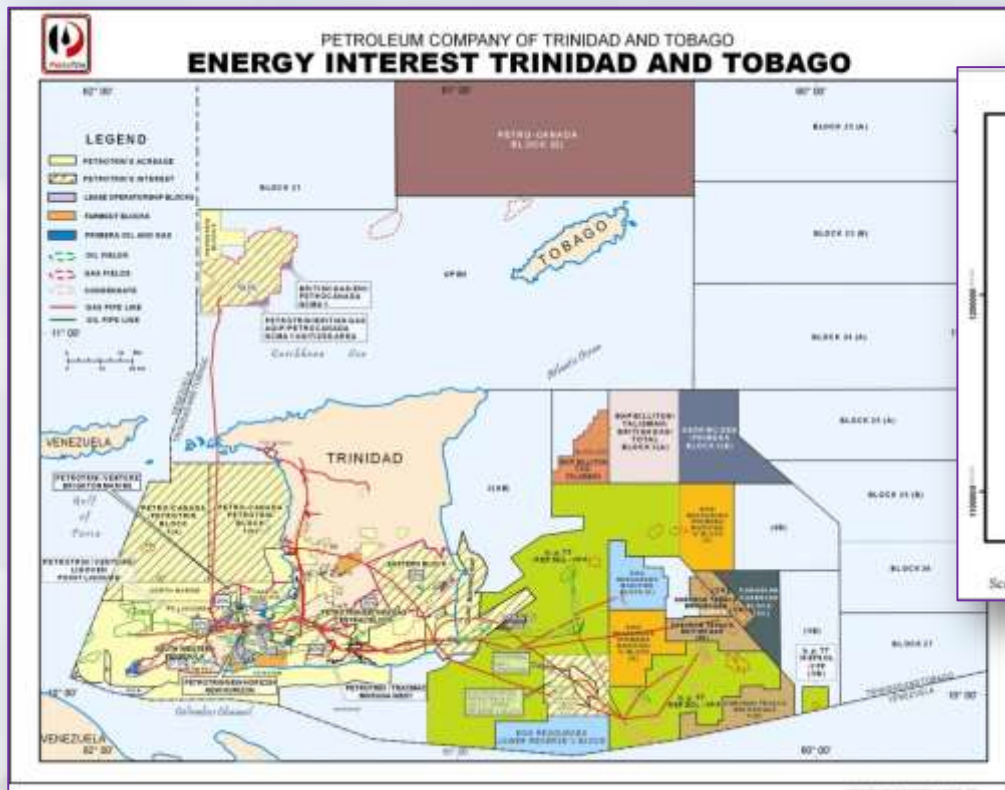
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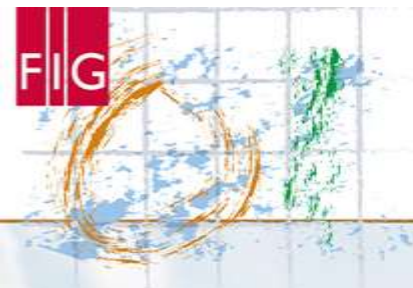
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## OCEANS: MULTIPLE USERS OVERLAPPING INTERESTS



### TRINIDAD AND TOBAGO





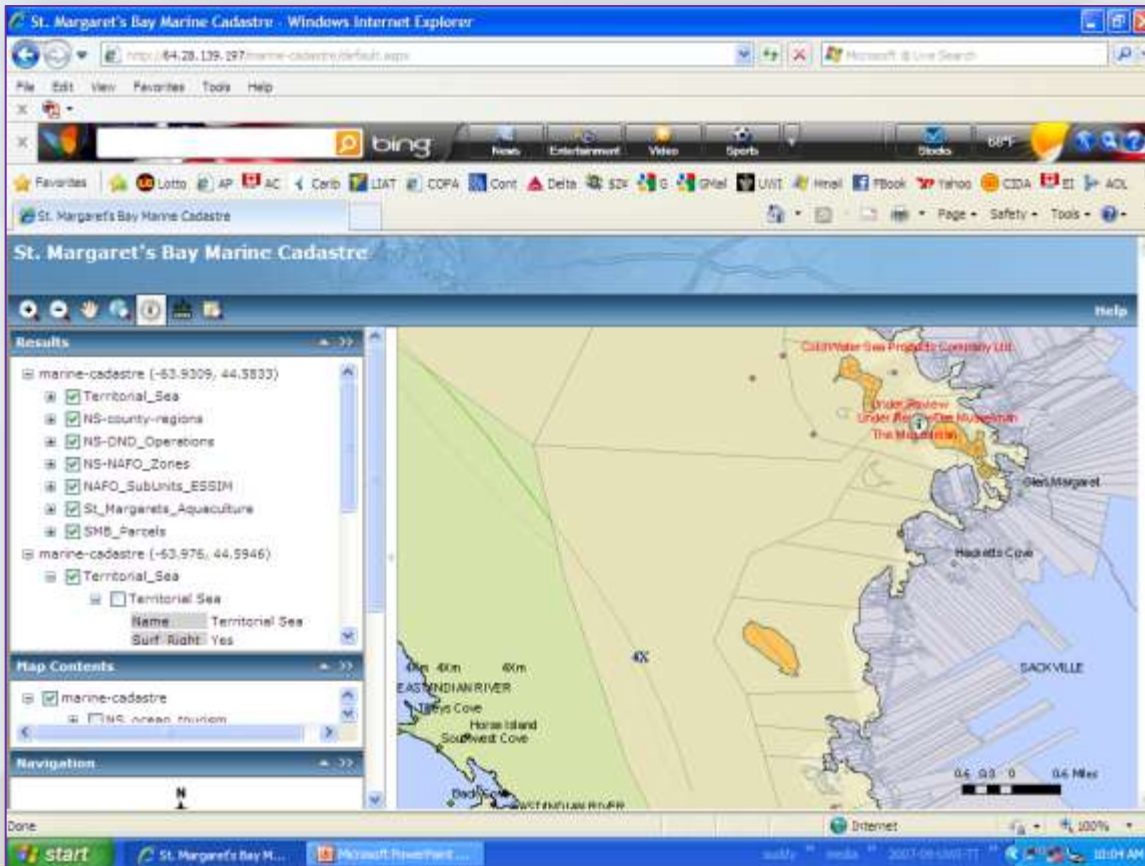
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## OCEANS: MULTIPLE USERS OVERLAPPING INTERESTS



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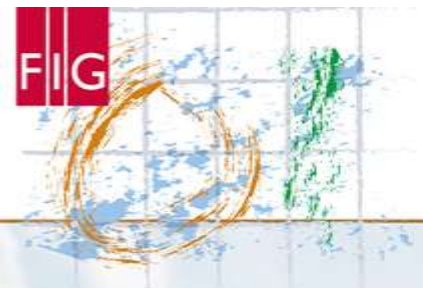
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## OCEANS: MULTIPLE GOVERNANCE FRAMEWORKS

- Ocean governance
- Law of the Sea
- Marine Spatial Planning ...





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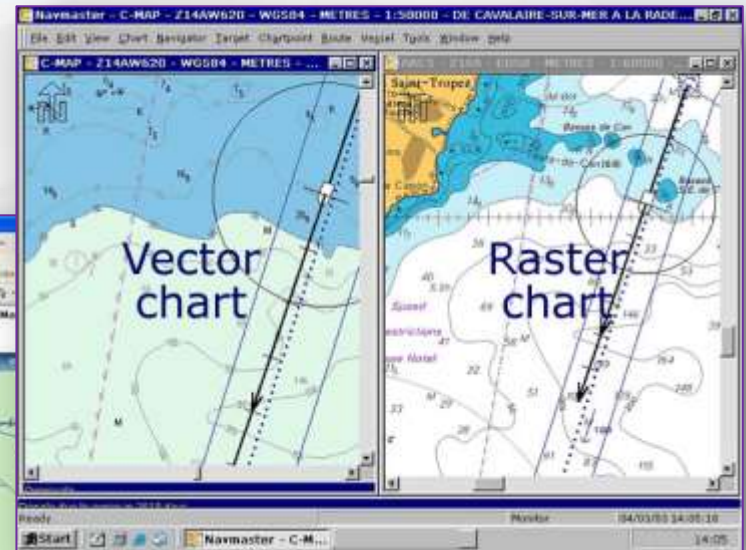
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## MARINE/MARITIME INFORMATION SYSTEMS

- Navigation Charts (Paper/ENC)
- Marine Cadastre
- MGDI...



- What is there?
- Where are we in relation to what is there?





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## AUGMENTED REALITY

Augmented reality is the integration of digital information with the user's environment in real time. Unlike virtual reality, which creates a totally artificial environment, augmented reality uses the existing environment and overlays new information on top of it.

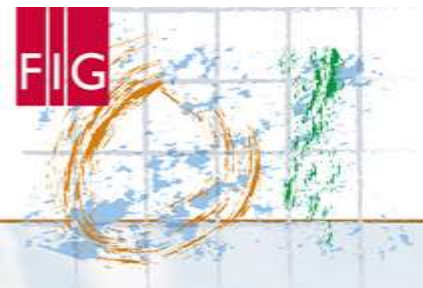
TechTarget (2017)

A live direct or indirect view of a physical, real-world environment whose elements are augmented (or supplemented) by computer-generated sensory input such as sound, video, graphics or GPS data.

[https://en.wikipedia.org/wiki/Augmented\\_reality](https://en.wikipedia.org/wiki/Augmented_reality)







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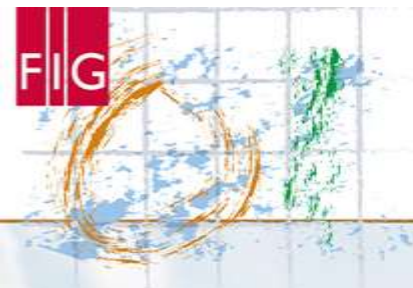
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## AUGMENTED REALITY





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## AUGMENTED REALITY



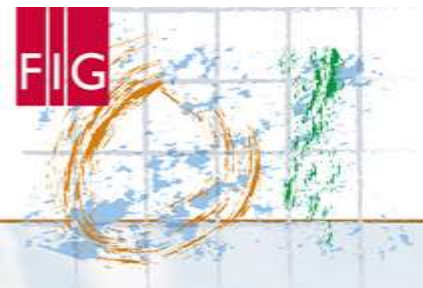
<http://www.augmentedrealitytrends.com/augmented-reality/football-augmented-reality.html>



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## AUGMENTED REALITY HEADS UP DISPLAY (HUD)

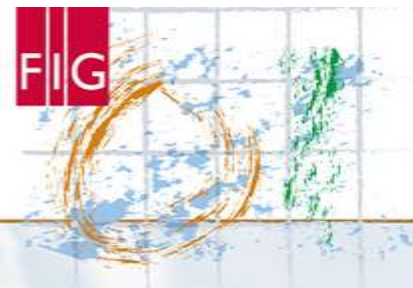


<https://www.youtube.com/watch?v=iZg89ov75QQ>



<https://www.youtube.com/watch?v=IYliYSce9Js>



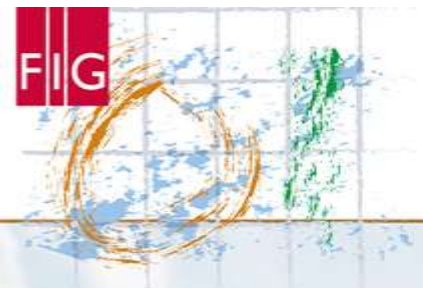


## AUGMENTED REALITY ~ OCEANS



BRIDGE SOLUTION

<http://www.easymarine.it/augmented-reality/>



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Published on Oct 31, 2016

eAR is a navigation software that integrates hydrographic charts data to the surrounding space vision using augmented reality. It offers the opportunity to evaluate, at your own discretion, all spaces in detail, in any visibility condition and with all relevant information.

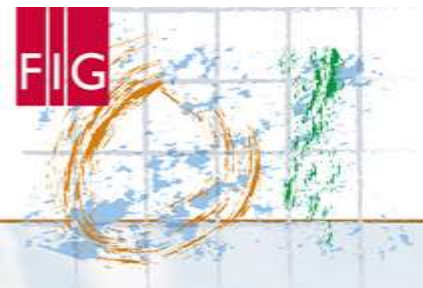
<https://www.youtube.com/watch?v=Z5n6clagmo4/>



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## AUGMENTED REALITY ~ OCEANS

HOLISTIC INTEGRATED SYSTEMS: MGDI; MARINE CADASTRE; MSP; LOS; NAVIGATION...



[http://www.marinemec.com/news/view,cascade-develops-new-ship-bridge-design\\_41367.htm](http://www.marinemec.com/news/view,cascade-develops-new-ship-bridge-design_41367.htm)

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