MERCATOR OCEAN INTERNATIONAL

From ocean observation to end-users of the Blue Economy: a virtuous value chain

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Mercator Ocean International
France

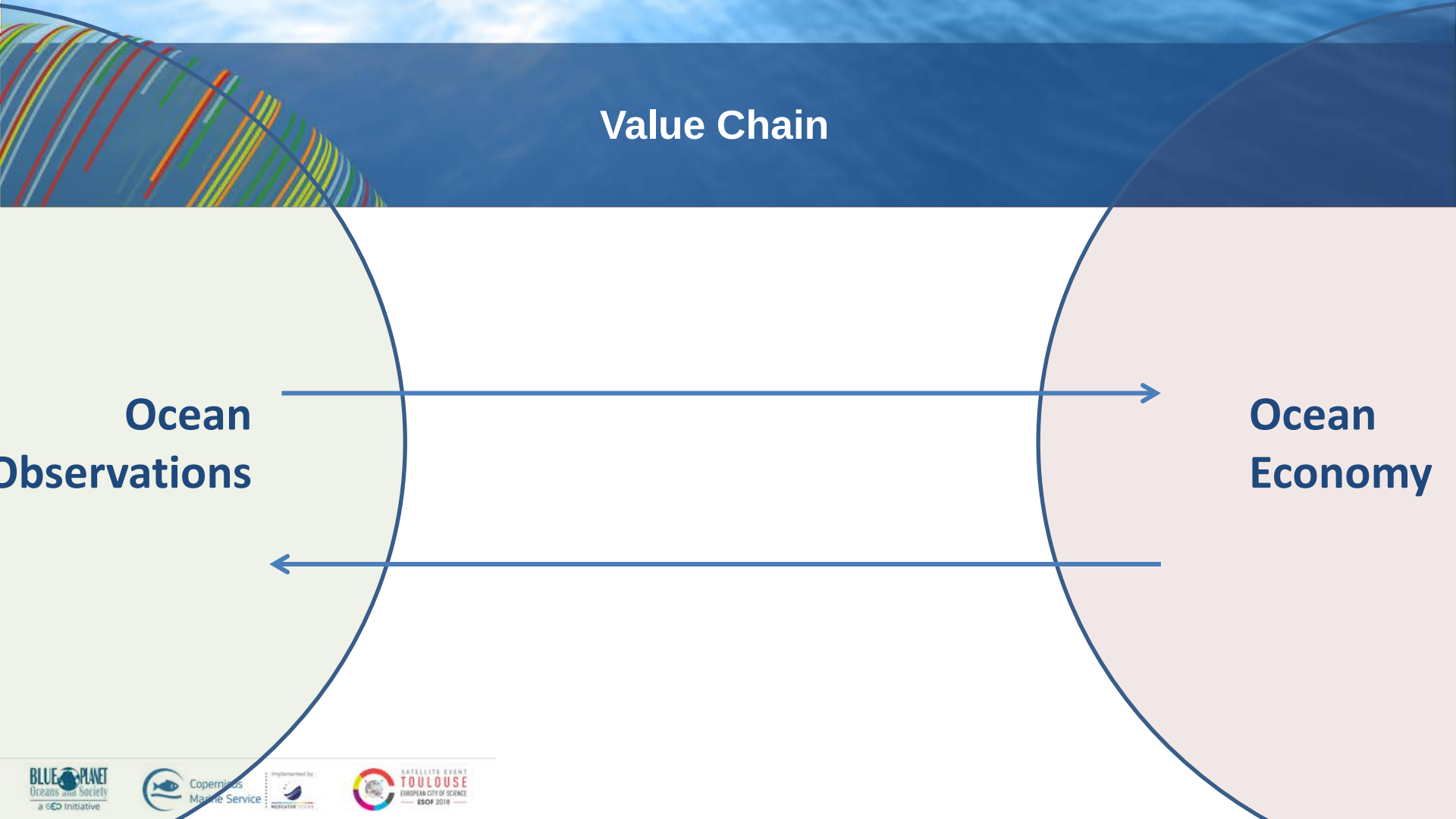
From ocean observation to end-users of the Blue Economy:
a virtuous value chain

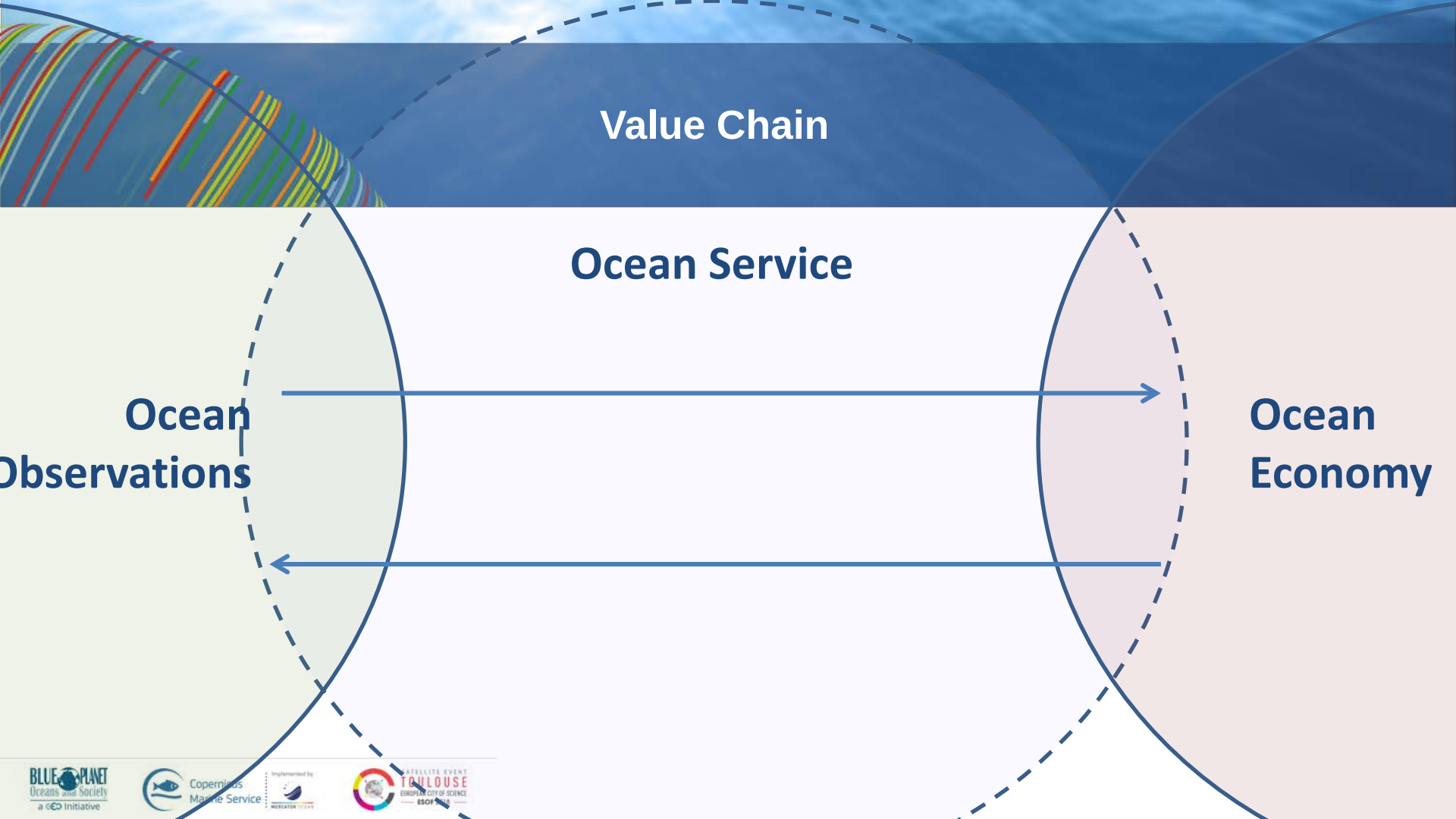
Chapter 1

the service component

(main message: it makes the difference)

Value Chain




Value Chain
Ocean Service
Ocean Observations
Ocean Economy

Value Chain

Ocean Service

DATA
Data processing and modelling

INFORMATION
Product preparation and assessment

SUPPORT
User support and training

Ocean Observations

Ocean Economy

Value Chain

Ocean Service

Ocean Observations

DATA
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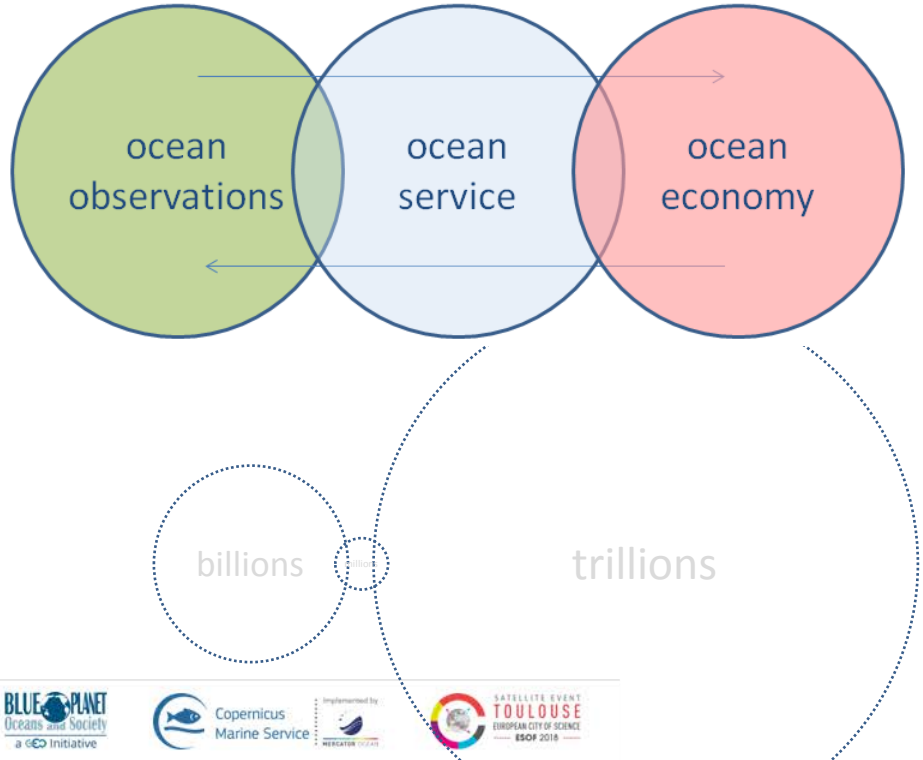
Ocean Economy

EVOLUTION
Requirement for LT evolution

ADAPTATION
Service adaptation

FEEDBACK
User feedback and requirements

→ *Comments (ocean service)*



- Connecting ocean data & economy
- Creating (or destroying) value
- Is a mixed zone
- Can be invisible

- **Leverage effect**

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Chapter 2

technical value

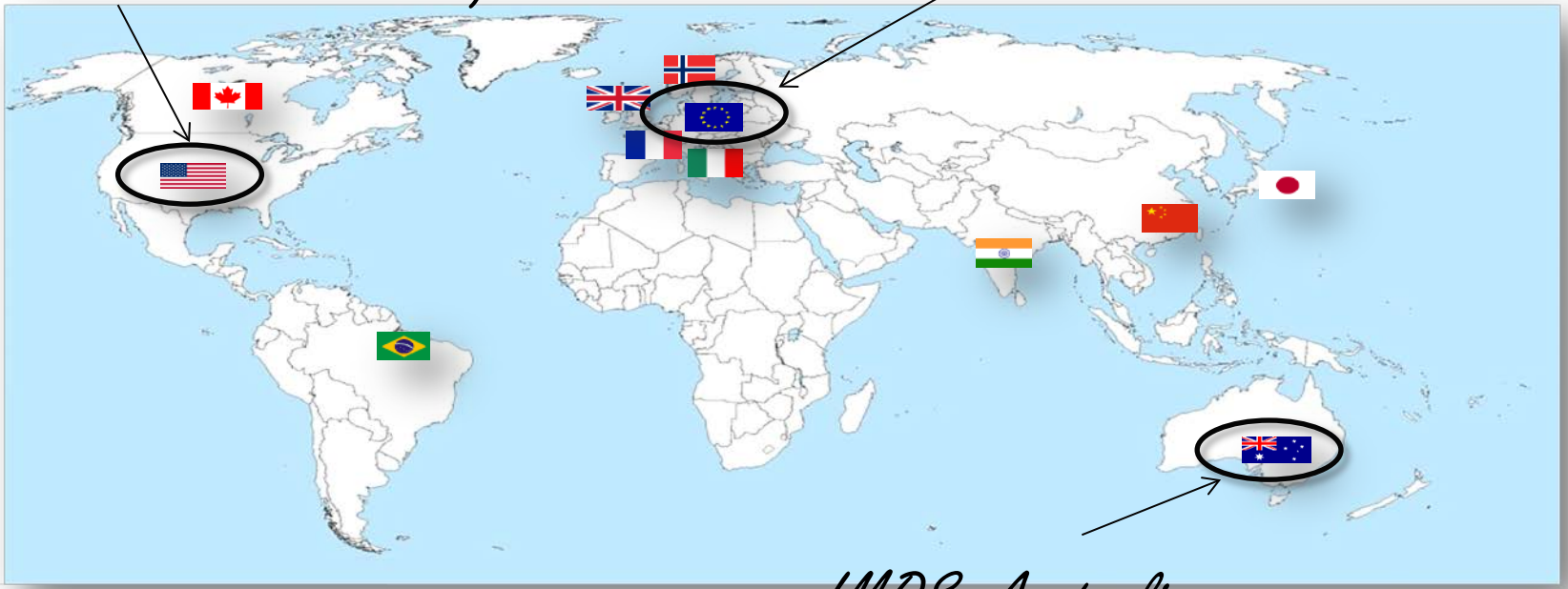
(main message: the last decade was determinant)

From
Frank Aikman, NOAA, US
Tim Moltman, IMOS, Australia
Pierre Bahurel, MO, France

GODAE OceanView Symposium 2013
4 - 6 November, Baltimore, Maryland

National Ocean Service, US

MyOcean Copernicus, Europe



IMOS, Australia

BLUE PLANET Oceans and Society a GEO Initiative
Copernicus Marine Service
SATELLITE EVENT TOULOUSE EUROPEAN CITY OF SCIENCE ESOF 2018

Conclusion

Operational oceanography **is moving** from successful R&D demonstrations to operational core services.

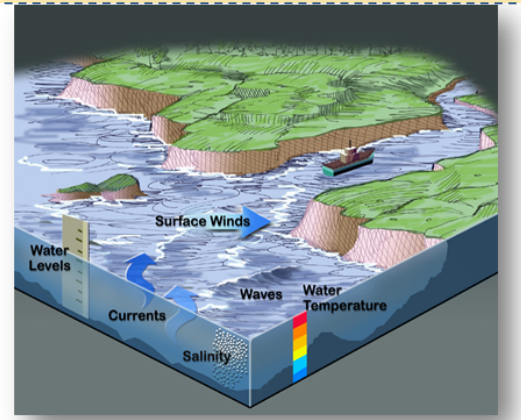
There are different types of core services, with different scopes, but they always **come from** a successful R&D

Core services in operation

- prove their capacity to meet users' first expectations (**simplify, deliver, assess, secure**)
- are based on '**public-good**' business models
- create value by securing a '**network** organization with a simple **focal point**' for users

There is a lot to do, and great **expectations**.

Sustainability is a key issue.



simplify, deliver, assess, secure

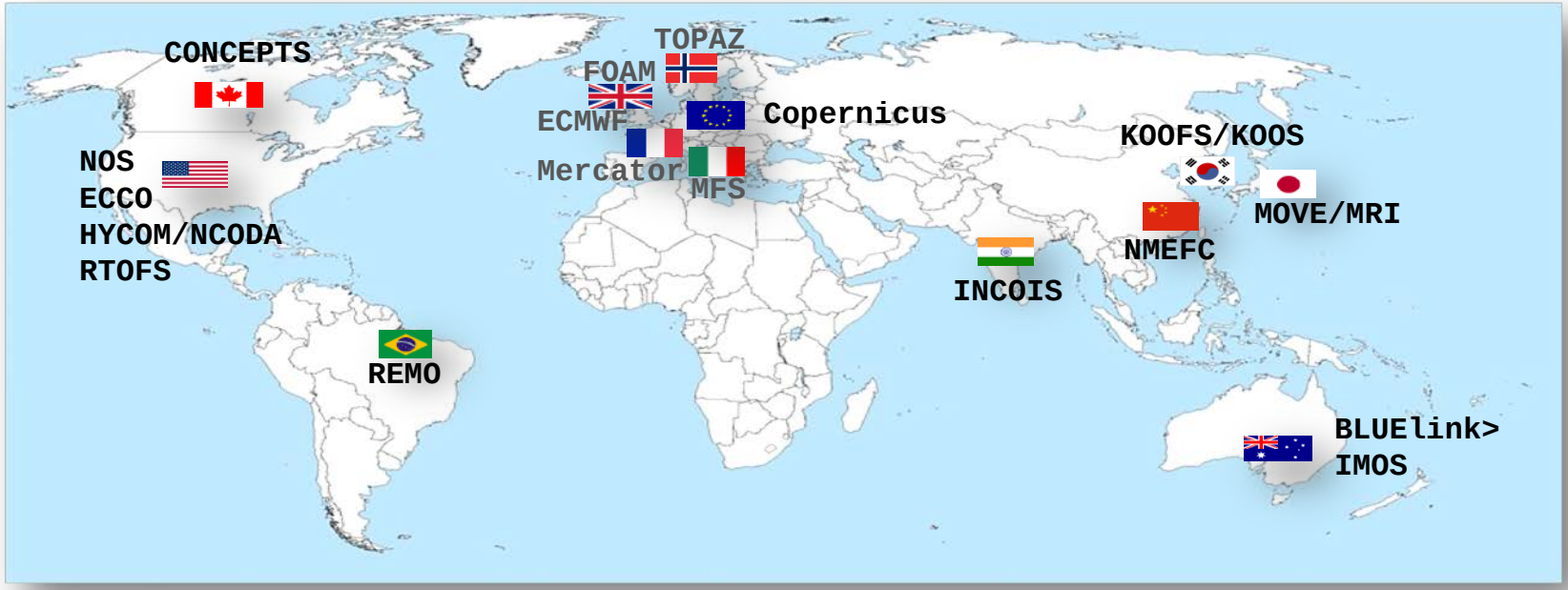
Baltimore, Nov. 2013

Symposium 2013
4-6 November 2013, Baltimore

GODAE OceanView

Ocean Forecasting Systems in 2018

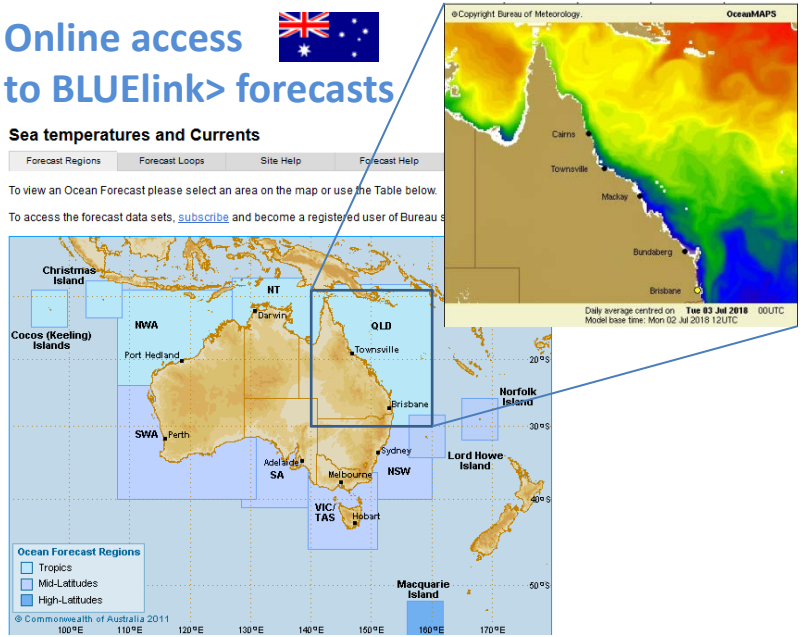
(source: www.godae-oceanview.org)



simplify, deliver, assess, secure

simplify and deliver

Online access to BLUElink> forecasts

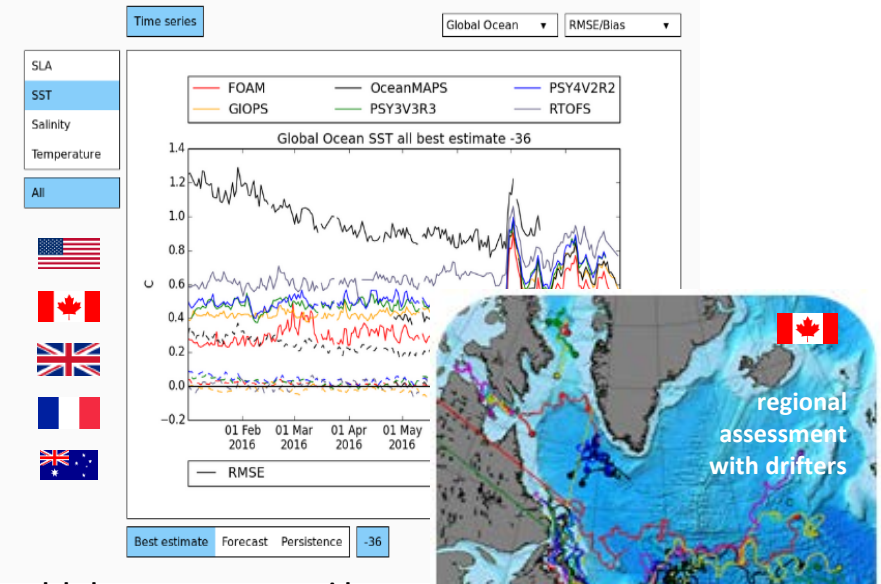


http://www.bom.gov.au/oceanography/forecasts/

- One-stop-show window
- Free and open data
- Information and guidance

- Impressive interoperability effort
- Common vocabulary, formats and procedures
- Clarity of data sources and cross-references

assess

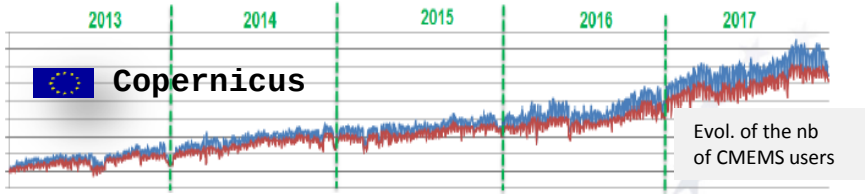


global ocean assessment with system-intercomparison

Source *www.godae-oceanview.org*

- International standards for product quality assessment
- More than 10 years of implementation
- Intercomparison obs/model and probabilistic ensemble approaches

- Mandatory component of our ocean monitoring and forecasting services
- Expert information also translated for users into operational information



Evol. of the nb of CMEMS users

		2015 Reminder	2016 Reminder	2017	Trend compared to the previous year	Previous trend (Reminder)
Central System	% Availability of the System (target 97%)	99,85%	99,35%	**99,99%**	↑	↓
Products	% Products Timeliness (target 90%)	97,97%	97,69%	**98,32%**	↑	↓
	% Products Availability	97,93%	97,66%	**99,21%**	↑	↓
Request Fulfilment	Requests	709	1076	**1 217**	-	-
	% initial response within the day (target 95%)	100%	100%	**100%**	→	→
	% information within five days (target 90%)	100%	97,5%	**97%**	→	↓
	Average time taken to resolve a request (days)	0,9	0,6	**0,8**	→	↑
	Satisfaction Enquiry	4,75 / 5	4,75 / 5	**4,75 / 5**	→	→
Access Management	Accesses opened	1515	2630	**3 552**	↑	↑
	% within 1 day (target 100%)	100%	100%	**100%**	→	→
Event Management	Events	60	125	**194**	-	-
Incident Management	Incidents	328	394	**553**	↓	↓
	% reported by users	40%	30%	**24%**	↑	↑
	Average time to resolve (days)	1,3	2,4	**2,3**	↑	↓
Problem Management	Problems registered	-	10	**10**	→	
	Open problems	-	7	**10**	↓	
Continual Service Improvement	Feedbacks collected	315	291	**510**	-	-
	Changes implemented	122	202	**147**	-	-

Copernicus Marine Service Performance

System Availability
2016: 99,35%
2017: 99,99%

Products Timeliness
2016: 97,69%
2017: 98,32%

Extract from the Copernicus Marine *Service Monitoring Report 2017*

- Ocean services are operational
- Different Key Performance Indicators are in place; they measure a reliable supply chain
- Users express their satisfaction about the service continuity and reliability

→ Comments (technical value)

- Explosion of data flows and volume
- Non-ocean-experts stakeholders
- Acceleration of time (quick response)
- Combination of data sources
- Users becoming producers

- *Constant innovation, in our DNA*
- *Rather good anticipation & organization*

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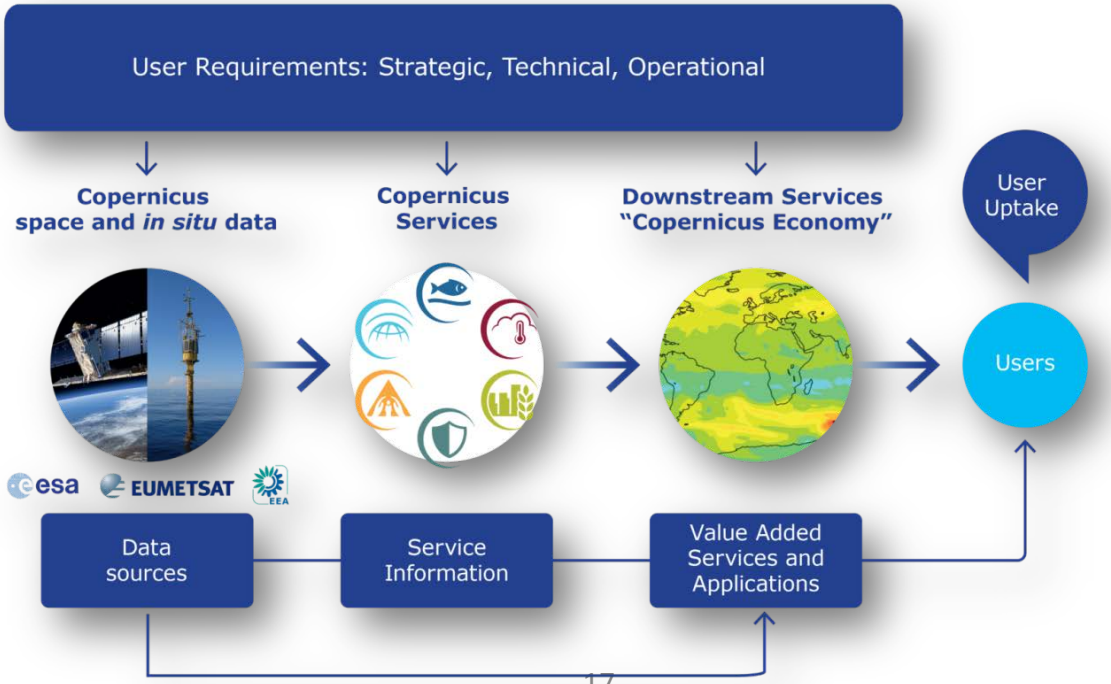
Chapter 3

regulatory value

(main message: this hidden value deserves our attention)

The space ecosystem
The space data value chain



Courtesy of A.Veispak
European Commission

Public sector role in the ecosystem

- **Public sector**
  - Regulator
  - Ensure public service provision (core services)
  - Address externalities and long-term societal needs
  - Enabler (intelligent customer, de-risking, R&D)
  - Framework conditions (skills, networks etc.)

- **Clear delineation between public activities and the rest**
  - Predictability and planning certainty

Courtesy of A.Veispak
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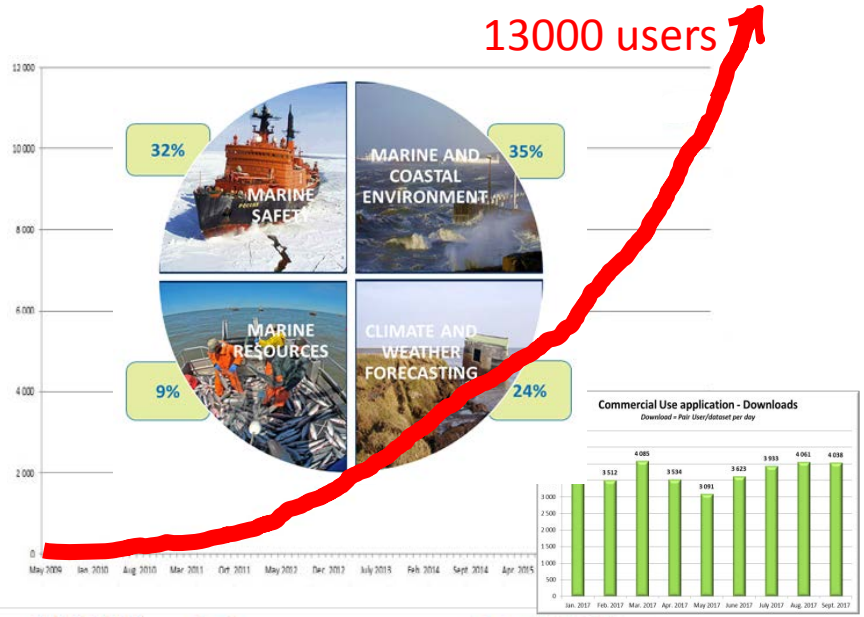
Courtesy of A.Veispak
European Commission

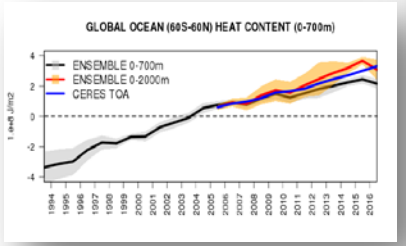

regulator

Regulator

Blue Growth



Ocean Health



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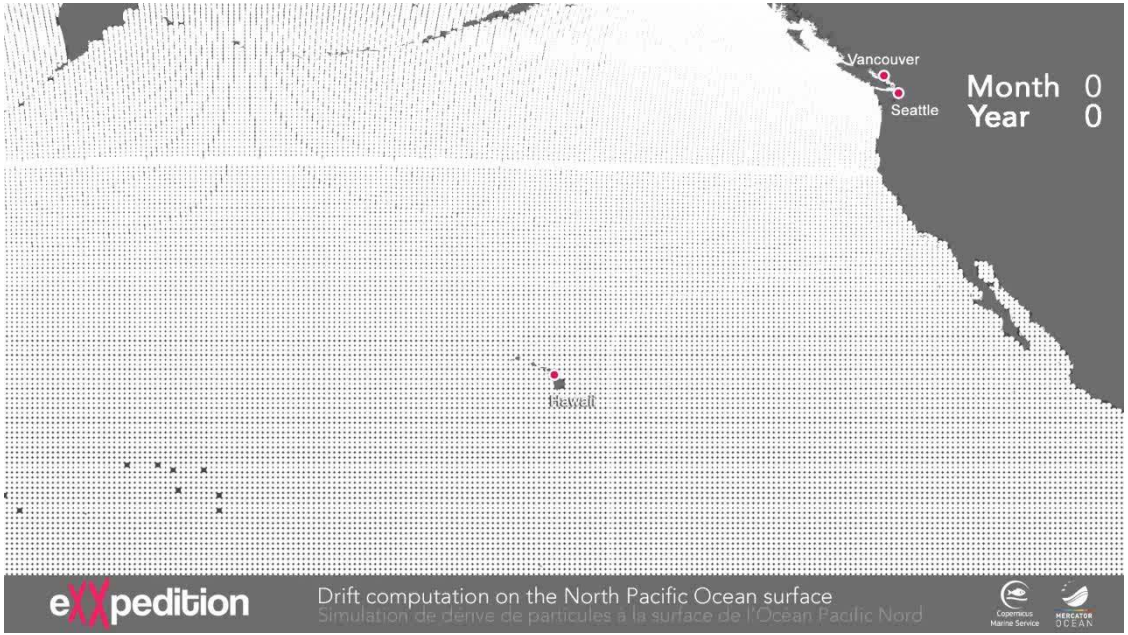
long-term societal needs

Long-term societal needs



EXPÉDITION 7e CONTINENT

OCEAN PLASTICS LAB

eXXpedition

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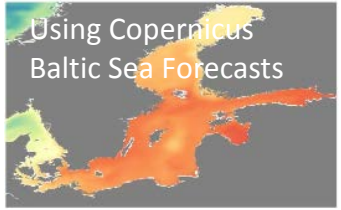
Enabler

Enabler (intelligent customer, de-risking, R&D)

Marine Systems Institute **Estonia**

MONITORING SEA LEVEL TO SUSTAIN FERRY CONNECTION FROM ISLAND TO MAINLAND



- Governmental bodies as customers
- Supporting service sustainability
- Funding pilot services and R&D
- Developing service *ecosystem* with industry

Enabler (intelligent customer, de-risking, R&D)

Copernicus Marine Partnership with the Trade Association « Ocean Energy Europe » Brussels; 23/04/18

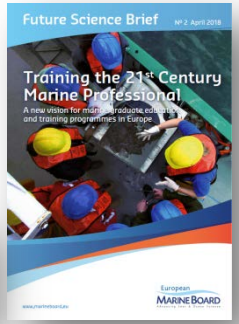
- Governmental bodies as customers
- Supporting service sustainability
- Funding pilot services and R&D
- Developing service *ecosystem* with industry

- *Engaging with sectorial trade associations and co-design service evolutions*

Framework conditions

3rd Blue Planet Symposium, Maryland, USA, June 2017

Framework conditions (skills, networks, …)



Developing skills and stimulating networks in the different components of the value chain

For improving performances, for developing cooperation, for planning and regulating actions, for learning and teaching, for preparing the future

→ Comments (regulatory value)

- Licencing, IPRs, regulations
- Sustainability and long-term consistency
- Effective RoI
- Assessment of this RoI

- Clarity of missions and roles
- Clarity of objectives and outcomes

- Delineation core / downstream
- New business and organization models

- *A natural (and enthousiastic) place for innovation in the future*

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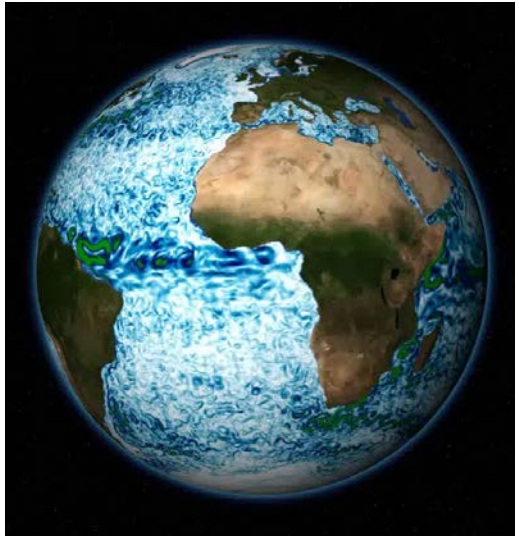
conclusion

Conclusion



- We have built together a virtuous value chain connecting ocean observations to ocean economy
- Based on an obvious technical value and a fundamental regulatory value
- Sustainability is essential. Room for innovation for another decade.