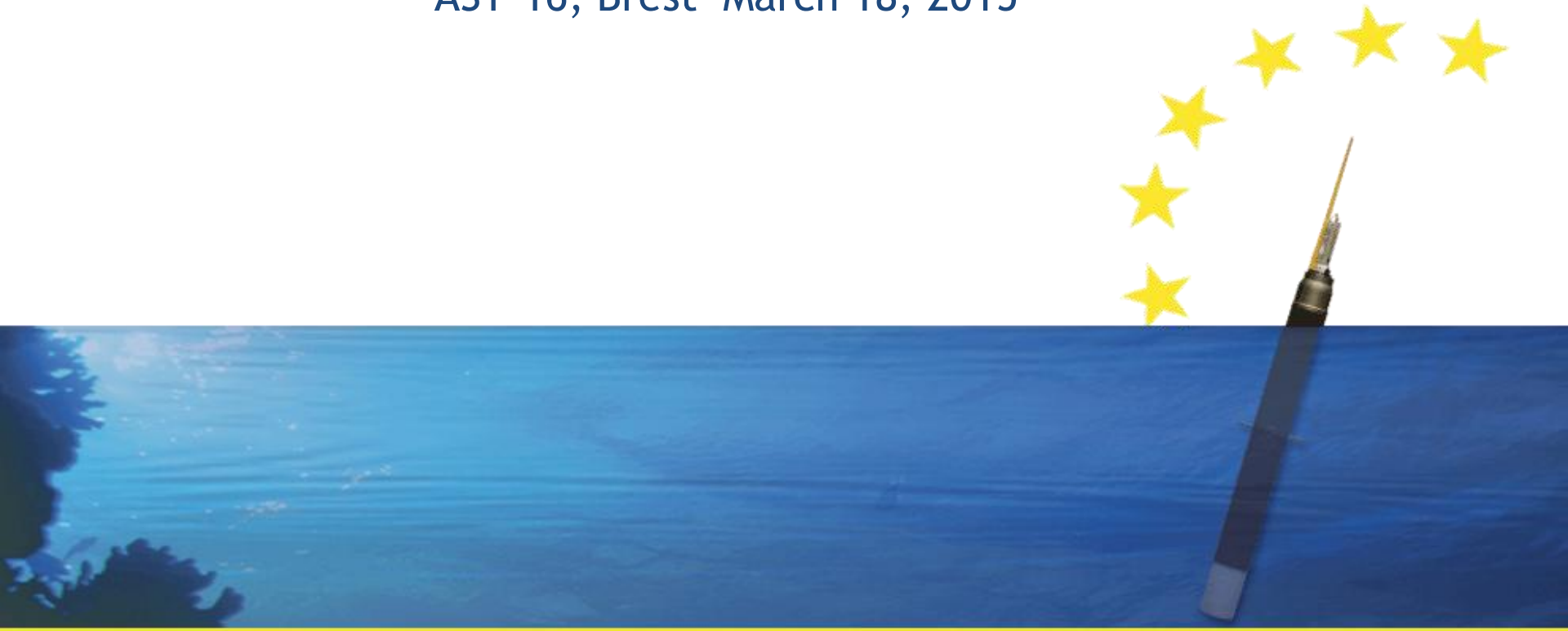
Euro-Argo Status

P.Y. Le Traon, S. Pouliquen and Euro-Argo RI partners

AST-16, Brest March 18, 2015



The Euro-Argo European Research Infrastructure

- Objective: ensure a long term European contribution to Argo
- Proposal: Europe establishes an infrastructure for ¼ of the global array
  - ✓ Deploy about 250 floats per year to contribute to the Argo core mission including regional enhancements (Nordic seas, Mediterranean&Black seas) (maintain an array of 800 floats).
  - ✓ Prepare and contribute to the extension of Argo (e.g. marginal seas, biogeochemistry, deep ocean, polar regions).
  - ✓ Users and applications: ocean and climate research and operational oceanography (GMES/Copernicus Marine Service).
- Set up a new European legal structure (Euro-Argo ERIC) that will allow European countries to consolidate and improve their contribution to Argo international.

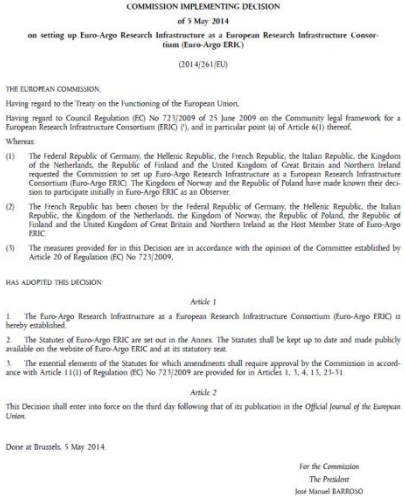
History of the Euro-Argo Research Infrastructure development

- Euro-Argo proposal for the ESFRI roadmap : 2004/2005. Part of the first ESFRI roadmap – 2006.

- FP7 Euro-Argo preparatory phase: 2008-2011

- Interim Phase (consortium agreement): 2011-2013

- May 2014. Creation of the Euro-Argo ERIC and its governance bodies (council, MB, PM and office, STAG). Inauguration event in Brussels in July 2014. Inauguration of Euro-Argo ERIC offices last monday.



COMMISSION IMPLEMENTING DECISION

of 5 May 2014

on setting up Euro-Argo Research Infrastructure as a European Research Infrastructure Consortium (Euro-Argo ERIC)

(2014/261/EU)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Council Regulation (EC) No 723/2009 of 25 June 2009 on the Community legal framework for a European Research Infrastructure Consortium (ERIC) (1), and in particular point (a) of Article 6(1) thereof,

Whereas:

(1) The Federal Republic of Germany, the Hellenic Republic, the French Republic, the Italian Republic, the Kingdom of the Netherlands, the Republic of Finland and the United Kingdom of Great Britain and Northern Ireland requested the Commission to set up Euro-Argo Research Infrastructure as a European Research Infrastructure Consortium (Euro-Argo ERIC). The Kingdom of Norway and the Republic of Poland have made known their decision to participate initially in Euro-Argo ERIC as an Observer.

(2) The French Republic has been chosen by the Federal Republic of Germany, the Hellenic Republic, the Italian Republic, the Kingdom of the Netherlands, the Kingdom of Norway, the Republic of Poland, the Republic of Finland and the United Kingdom of Great Britain and Northern Ireland as the Host Member State of Euro-Argo ERIC.

(3) The measures provided for in this Decision are in accordance with the opinion of the Committee established by Article 20 of Regulation (EC) No 723/2009,

HAS ADOPTED THIS DECISION:

Article 1

1. The Euro-Argo Research Infrastructure as a European Research Infrastructure Consortium (Euro-Argo ERIC) is hereby established.

2. The Statutes of Euro-Argo ERIC are set out in the Annex. The Statutes shall be kept up to date and made publicly available on the website of Euro-Argo ERIC and at its statutory seat.

3. The essential elements of the Statutes for which amendments shall require approval by the Commission in accordance with Article 11(1) of Regulation (EC) No 723/2009 are provided for in Articles 1, 3, 4, 13, 23-31.

Article 2

This Decision shall enter into force on the third day following that of its publication in the *Official Journal of the European Union*.

Done at Brussels, 5 May 2014.

For the Commission

The President

José Manuel BARROSO

Three FP7 projects: Euro-Argo PP (2008-2011), SIDERI (2011-2012) and E-AIMS (2013-2015)

Some of our priorities for the coming years

- Organize the functioning of the ERIC. New members/observers.
- Work with DG MARE to set up a long term EU contribution to Euro-Argo.
- Contribute to the global array and sampling of European regional seas.
- Consolidate the Argo data system (real time and delayed mode/climate).
- Continue working with user communities and expand our user base (e.g. scientific conferences, user training, user meetings). Maintain strong links with Copernicus and Emodnet.
- Prepare the implementation of the new phase of Argo at European level: deep ocean, biogeochemistry and Arctic.
- Integration of Euro-Argo with other marine research infrastructures: towards an European Ocean Observing System (EOOS).
- Integration with the Argo international programme

Euro-Argo views on the long term evolution of Argo

Euro-Argo needs to meet requirements from the research and operational (Copernicus Marine Service) oceanography communities

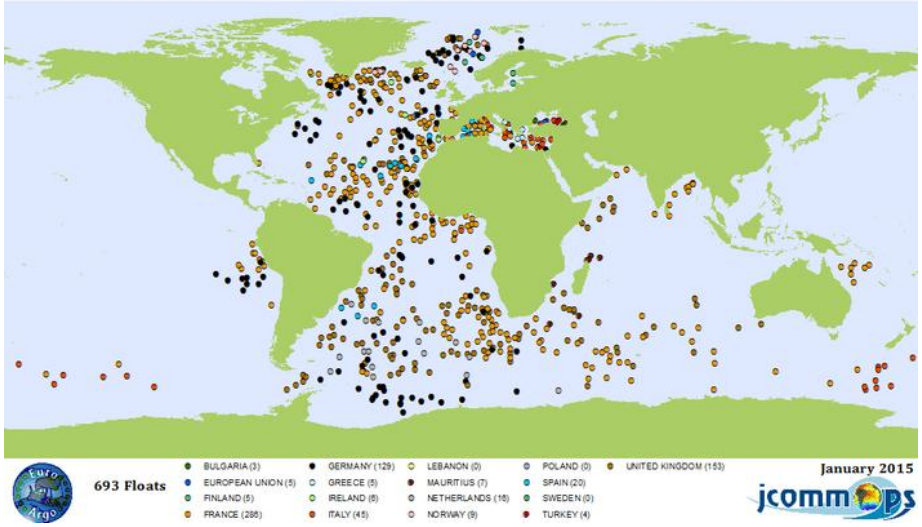
- Priority 1 : maintain the global array
  - Increase European contribution from 150-200 floats to 250 floats/year, consolidate the data processing system and develop user communities.
  - Strong European requirement for marginal seas. Important European research activities in high latitudes: Nordic Seas, Arctic.

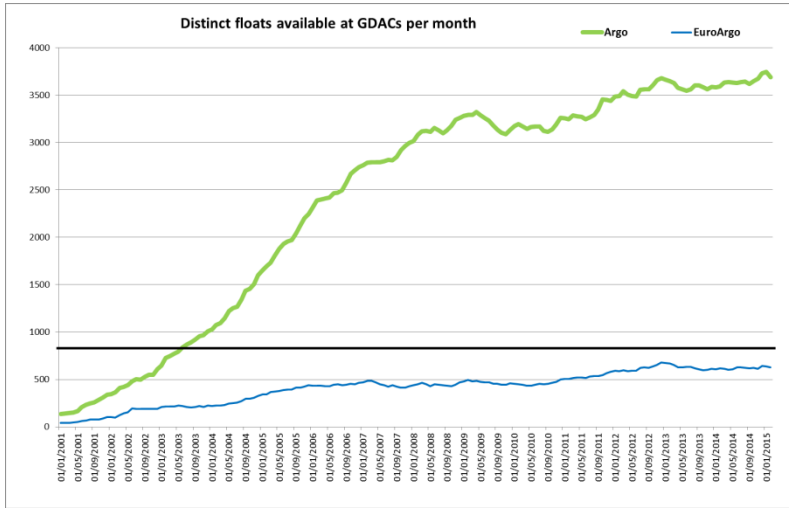
- Priority 2: evolution of Argo to address new scientific and operational challenges.
  - Strong interest of the European research community and/Copernicus (operational oceanography) for extension to biogeochemical variables: Oxygen, Chl-a. Several pilot experiments ongoing or planned (e.g. Remocean, NAOS, E-AIMS, Atlantos).
  - Improved resolution at the surface (SST, SSS) needed (on going)
  - Deeper measurements needed. Pilot experiments on going or planned (NAOS, E-AIMS, Atlantos).
  - Need to agree on a strategy and prepare an implementation plan at international level

Euro-Argo float deployment

Between **150 to 200 floats are now deployed every year** and the Euro-Argo array has reached a number of **about 700 active floats.** This is still **below our initial target (250 floats/year and 800 floats) but has increased in recent years.**

We expect to reach our target in 2015 and 2016 thanks to EU (DG MARE) funding that will complement what member states do.





	2011 deployed	*2011 Argo extension*	*2012 deployed*	*2012 Argo extension*	*2013 deployed*	*2013 Argo extension*	*2014 deployed*	*2014 Argo extension*	*2015*	*2016-2020 plans (per year)*
Bulgaria		3				1	0	0	3	3
European Union					2	2		9		
Finland		2		3		4		5	3	3
France	53		82		65	16	85	15	80	80
Germany	48		72		31	7	48	18	52	40
Greece						2		5	5	5
Ireland	3		2		1		2		3	3
Italy		4	2	17		12		22	25	25
Netherlands	7		7		4		8		7	7
Norway						1	2	4	3	3
Poland			1			2			3	3
Spain	17		6		4		2		3	3
Turkey						4		2		
UK (Mauritius)	41 (4)		25	13	30 (2)	2	45(2)	2	50	40
Total	173	9	197	33	139	53	194	82		
	182		230		192		276		237	215

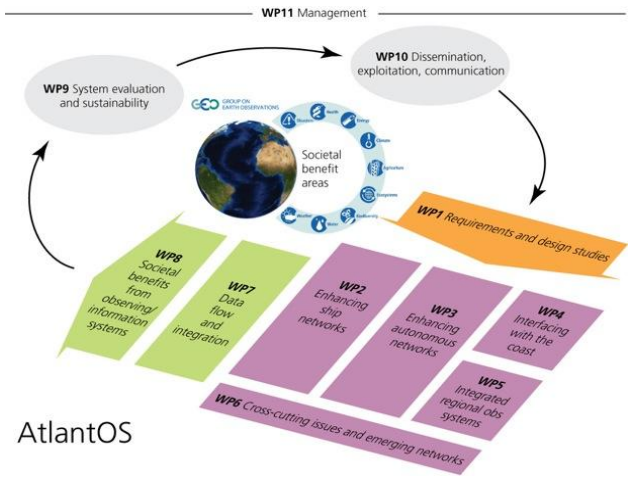
+ EU floats for 2015/2016: 150 Core (DG MARE) – 14 Ext

2015 plans already include evolution of Argo core mission : about 160 core Argo floats, 30 marginal seas, 30 high latitudes, 20 Bio-Argo. At the member level, plans for 2016-2020 are similar to 2015 plans. ***With the European floats, we will reach in 2015/2016 our target of 250 floats /year for the core Argo program in 2016 and continue to progress on the extensions of Argo.***

Euro-Argo in Atlantos

- Deep-Argo float deployment: 9 deep -Oxygen Argo floats .
- Bio-Argo float deployment: 9 Bio-Argo floats in the North-Atlantic to enhance this network in various biogeochemical provinces of the Atlantic.
- Improving Bio-Argo float capabilities: (novel optode-based sensors for CO2 and O2 partial pressure and new pH sensors)
- Data Management Real time/delayed mode data processing. Refine delayed mode QC and deliver a consistent Argo and Bio-Argo dataset for the Atlantic.
- Sustainability issues: work on the long-term sustainability issues for Bio-Argo and Deep Argo after the AtlantOs pilot project.
- **Long-term targets for Europe will be defined. The Euro-Argo ERIC will seek agreements at ministerial level and with the EU for their implementation. To be done with international partners (in particular USA and Canada) – Galway declaration.**

Optimizing and Enhancing the **Integrated Atlantic Ocean Observing System** building on existing capacities **on both side of the Atlantic (Galway declaration)**



DG-MARE – EU funding for Argo

- Direct EU funding for the ERIC for an initial 2 year time period starting in mid 2015 (DG MARE/European Maritime and Fisheries Fund programme 2015).
  - Funding for purchasing 50+100 T&S floats, their deployment in 2015-2016 including at sea monitoring , and their processing (2015-2019) in real time and delayed mode
- The ERIC will have to demonstrate its capacity to manage such activity.
- The ERIC will continue to work with E to sustain such contribution in the future.

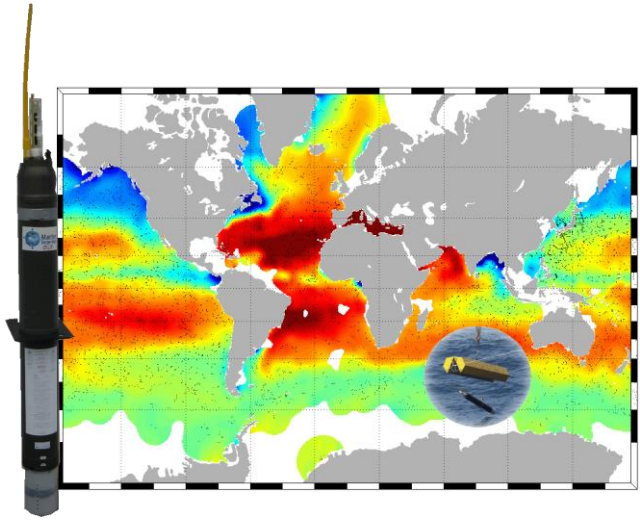
Conclusion

- We have defined, agreed and set up a new European legal structure and organization.

- This allows EU member states to better coordinate, consolidate and improve their contribution to Argo international.

- Euro-Argo ERIC is in place since May 2014.

- Several EU R&D projects to prepare the extension of Argo (incl. data system) (E-AIMS, Atlantos). First EU funding (DG MARE) to consolidate European contribution to core Argo mission (2015 & 2016).

- Major improvements of European contributions (floats, data system, research and applications, new countries, sustainability) to Argo international.

- Need to agree soon on strategies and implementation plans the new phase of Argo.