



WP11 Overall approach

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Plenary Meeting, Athens 19 OCT, 2017
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- Improve the quality of the overall infrastructure content
- Create the best data products (aggregated dataset and climatologies) to serve the many user groups (accademia, op. ocnography, climate, institutional)
- Integrate external datasets to improve product quality (climatologies and new products)
- Generate new data products
- Test the VRE
- Increase user uptake of products through dissemination

WP11 Work Organization

WP11 (INGV)

Task 1
(Ifremer+AWI)

Produce best aggregated observational data sets

Task 2
(INGV+ULG)

Produce standard climatological data products

Task 3
(UniBo)

Development of new data products

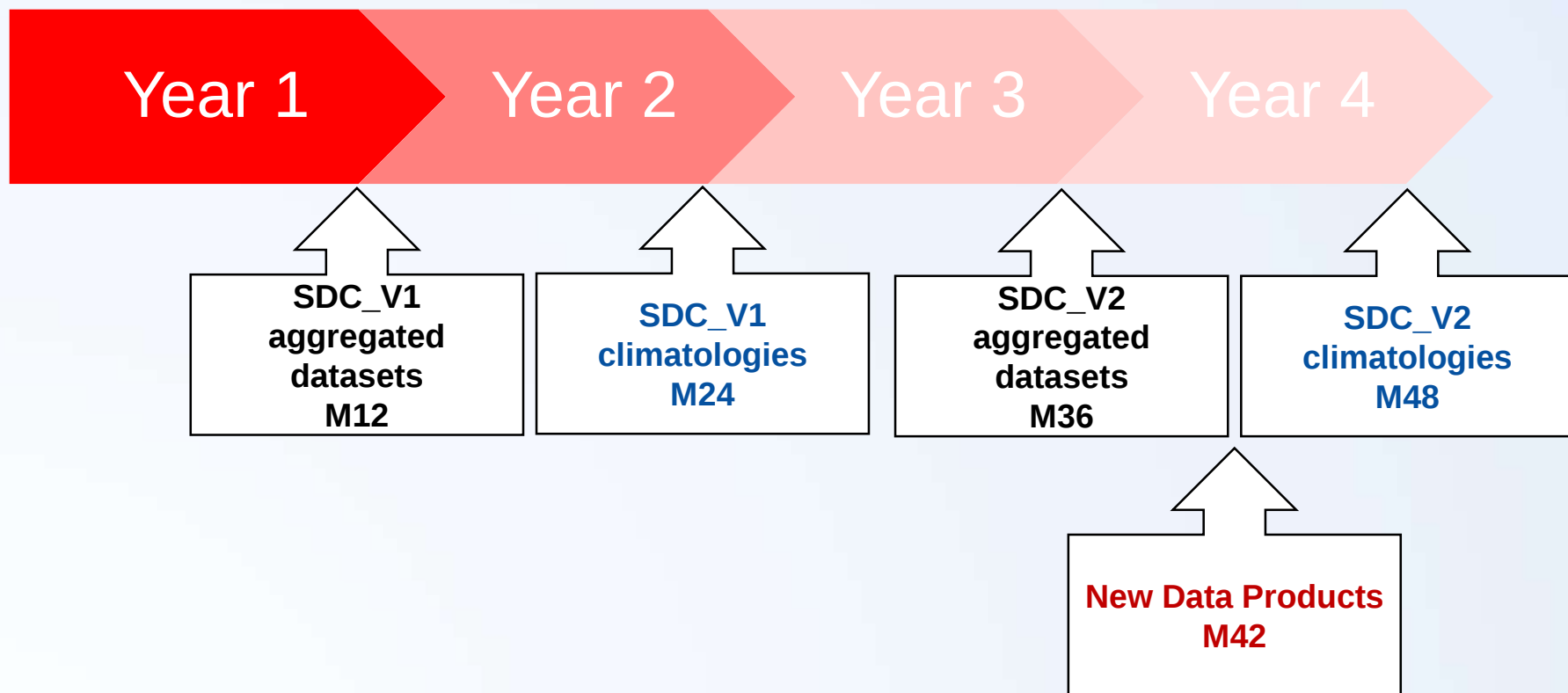
Task 4
(METU)

Publishing of data products and documentation

Task 5
(ULG)

Training on data products generation

WP11 Timetable



1st YEAR ACTIVITIES

- Definition of **Product Information Documents** to be annexed to each product
- **quality assessment and release of SDC_V1 aggregated data sets and documentation for regional seas**
- Definition of **new temperature and salinity climatologies**
- Definition of **consistency analysis for products quality assurance**
- Definition of **new data products**
- Strategy for publishing and dissemination of data products

WP11 Timetable: DELIVERABLES

Year 1

Year 2

Year 3

Year 4

D11.1 (INGV)

Definition of product documentation

D11. 2 (Ifremer)

SDC_V1 release of aggregated datasets and documentation for the regional seas and the global ocean

D11.5 (INGV)

Feasibility study and definition of new climatological products

D11.8 (Unibo)

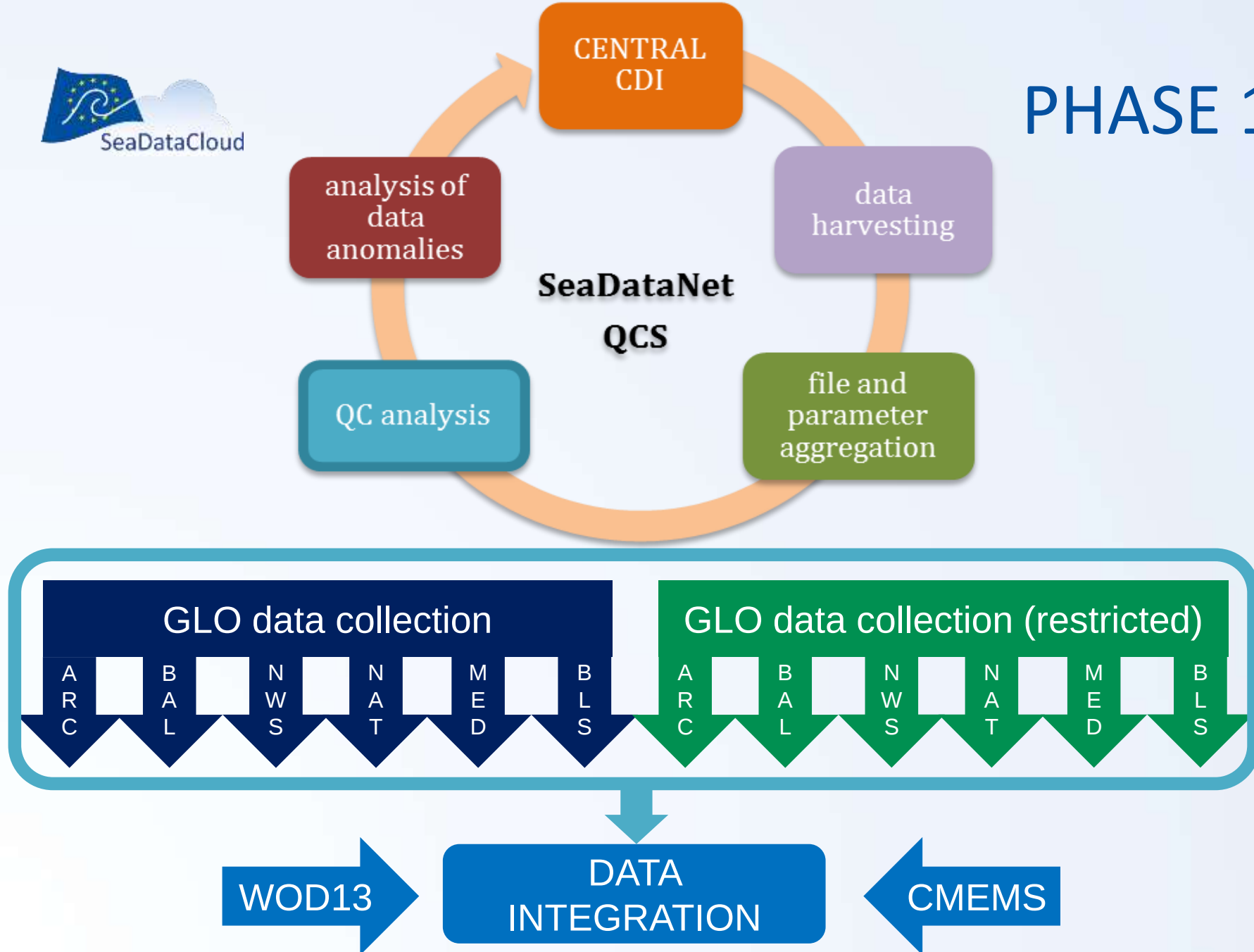
Feasibility analysis and definition of new data products: time schedule, release and dissemination

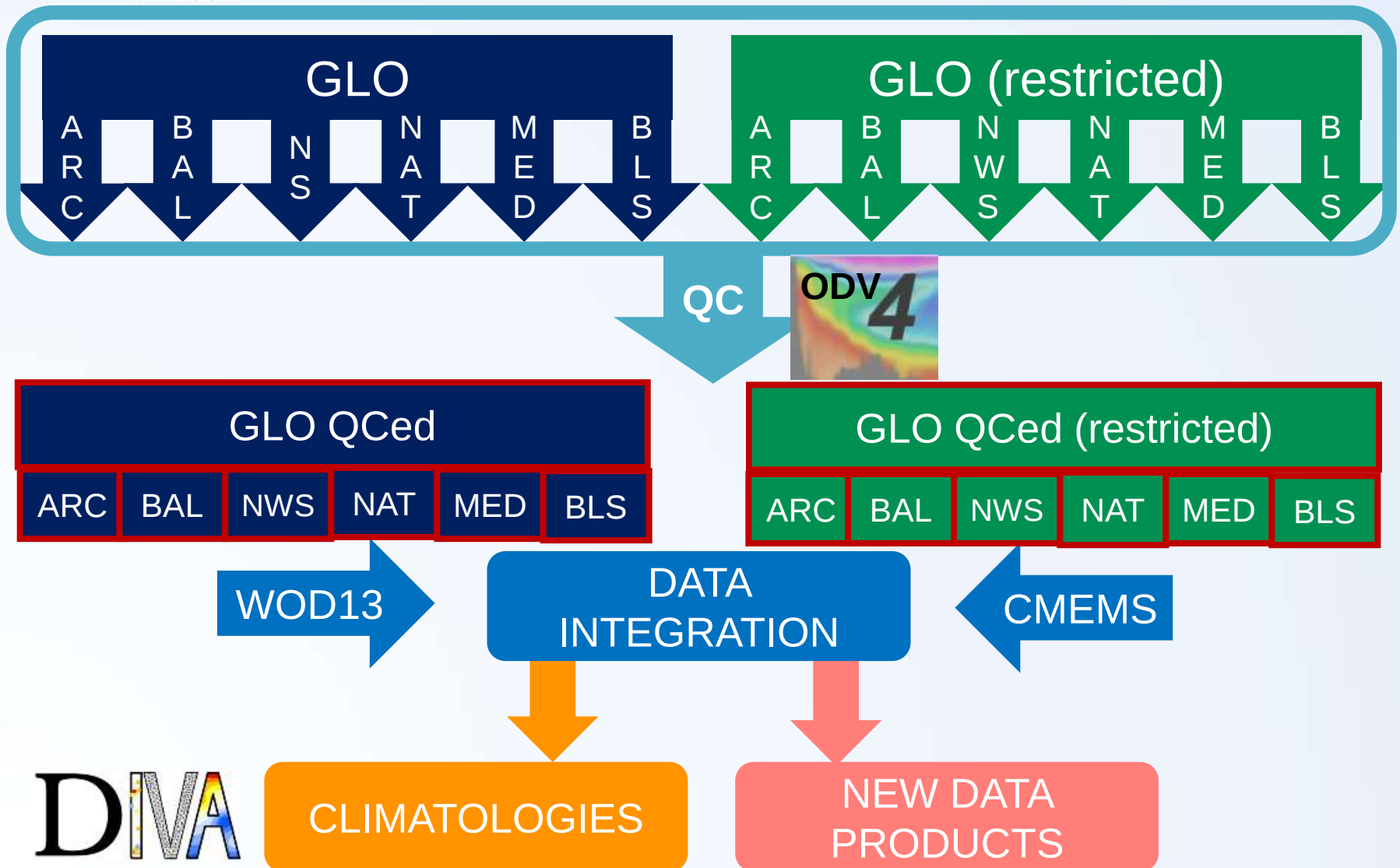
D11.11(METU)

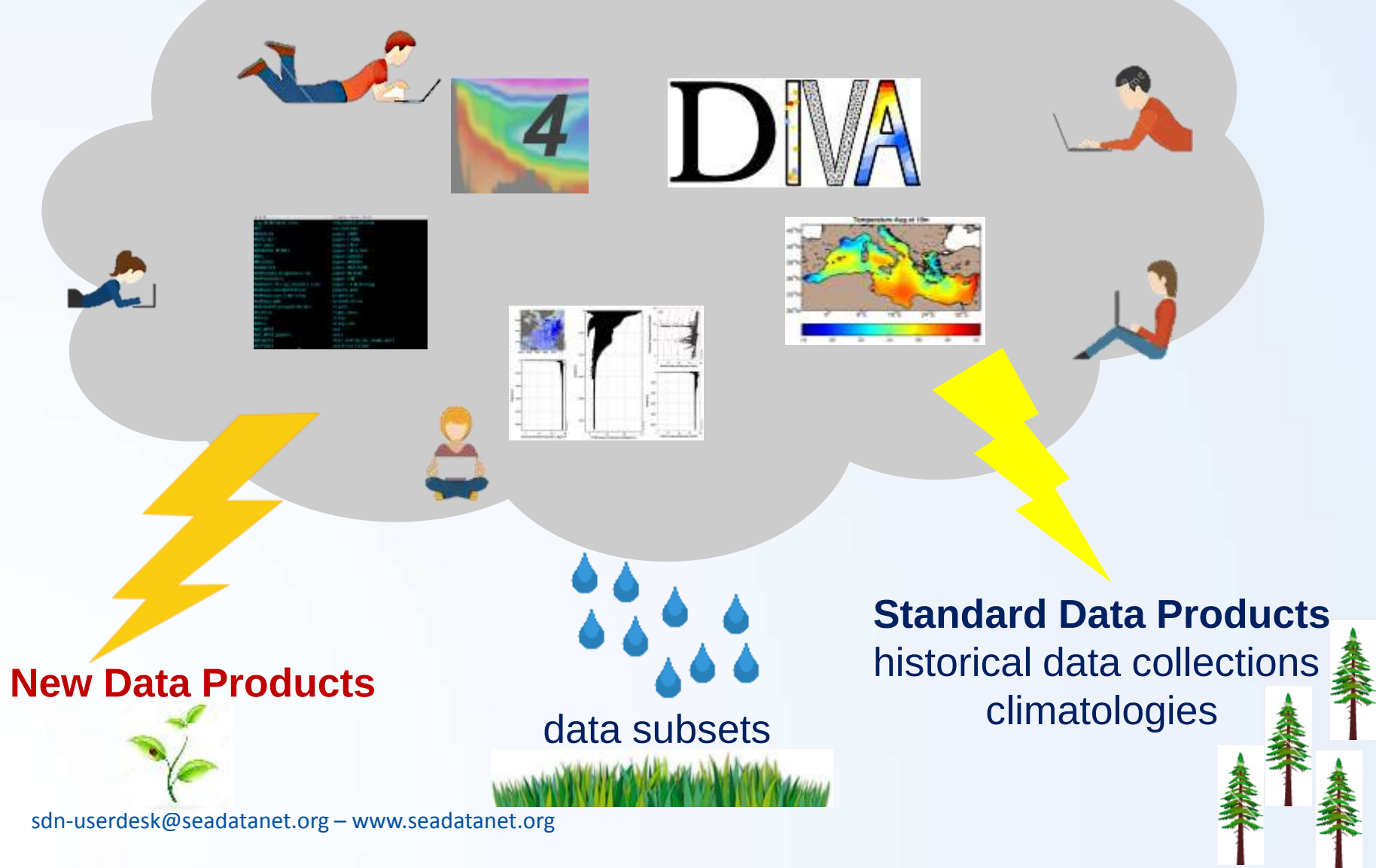
Strategy for publishing and dissemination of data products

WP11 Meetings

- Bologna May 3-4, 2017 (M6)
- Webex Sept 29, 2017
- Athens, Oct 17, 2017 (M12)







Product Information Document

Goal: to associate to each product a **PIDoc** containing all the specifications about its:

- General characteristics (space-time coverage, resolution,
- Quality (validation methodology and results)

PIDoc will have a DOI as well as the data products and both will be available in the SDC product catalogue.

Each Regional Coordinator will be responsible to deliver data products and **PIDoc** to the WP leader that will act as a reviewer

Task 1-2-3 leaders will summarize the results in synthesis report (deliverables).

Task 4 leader will supervise the publication in the catalogue of all products.

Aggregated datasets and QC (T11.1)

- Data harvesting has been delayed thus the release of regional SDC_V1 aggregated datasets has been postponed to February 2018
- MARIS has used OCTOPUS software to check the conformity of the ODV SeaDataNet format of the harvested files → issues with the format
- MARIS sent individual messages including the OCTOPUS report on errors to each of the 41 data centers asking for file repair
- Data validation will start approximately in a month

QC Best Practices (T11.1)

The basic QC steps applied in SDN2 using ODV:

- **Data coverage;**
- **Data distribution maps** per Temperature, Salinity and TS couples;
- **Data density maps;**
- **Time coverage and time distribution** → histograms with annual, seasonal and monthly data distribution;
- TS scatter plots of the entire dataset;
- Scatter plot of observations with QF=1 (good) and QF=2 (probably good);
- Scatter plot observations with QF=0 (no quality check);
- **Gross range check** to detect observations with temperature and salinity out of reasonable values;
- Visual control of scatter-plots to identify wrong profiles (outliers);
- Identification of stations falling on land;
- Identification of wrong or missing data;
- **Stability check on density**

QC Best Practices (T11.1)

Additional checks are advisable per:

- **specific areas** with similar hydrodynamic characteristics
- **Specific layers** (surface, intermediate, bottom)
- **Specific periods** (decades, or specific periods i.e. Eastern Mediterranean Transient, Western Mediterranean Transition, Norther Ionian Reversal)
- **Instrument type** → consistency issue of historical data

Duplicate Check will be another important step when we perform SDC data integration with external data sources.

Data Policy and Quality Flags statistics will be communicated to Task1 leader to be inserted in D11.2.

How do we want to manage data anomalies?

Anomalies files: **ODV logs** or other logs files created to detect data anomalies → include all necessary information

Phase I → **C. Coatanoan** collects all the regional anomalies files

→ sorts them by EDMO code

→ sends the list of anomalies to data providers

→ collects answers and CDI modifications

→ informs the central CDI service of modifications to control the resubmission of the corrected data

Phase II (VRE) → automatic way to send the feedbacks to the data providers

→ automated feedback to the regional leaders

SDC Climatologies (T11.2)

Name	Extended Name	Spatial Resolution	Temporal resolution	Time coverage
SDC_GLO_CLIM_T_V1_1	Global Temperature climatology	1/4°	monthly	1900-2010
SDC_GLO_CLIM_S_V1_1	Global Salinity climatology			
SDC_GLO_CLIM_T_V1_2	Global Temperature climatology	1/4°	monthly	2003-2017
SDC_GLO_CLIM_S_V1_2	Global Salinity climatology			
SDC_ARC_CLIM_T_V1_1	Arctic Sea climatology for Temperature	1x1/2°	monthly seasonal	1955-1964, 1965-1974, 1975-1984, 1985-1994, 1995-2004, 2005-2014
SDC_ARC_CLIM_S_V1_1	Arctic Sea Gridded climatology for Salinity			
SDC_NWS_CLIM_T_V1_1	North West Shelf Sea climatology for Temperature	1/16°	monthly	1956-2015 (sliding decades)
SDC_NWS_CLIM_S_V1_1	North West Shelf Sea climatology for Salinity			
SDC_NS_CLIM_T_V1_2	North Sea climatology for Temperature	1/24°	monthly	1956-2015 (sliding decades)
SDC_NS_CLIM_S_V1_2	North Sea climatology for Salinity			
SDC_BAL_CLIM_T_V1_1	Baltic Sea climatology for Temperature	2 nmi	monthly	1956-2015 (sliding decades)
SDC_BAL_CLIM_S_V1_1	Baltic Sea climatology for Salinity			
SDC_NAT_CLIM_T_V1_1	North Atlantic Ocean climatology for Temperature	1/2°	monthly	1955-2015 (6 decades)
SDC_NAT_CLIM_S_V1_1	North Atlantic Ocean climatology for Salinity			
SDC_NAT_CLIM_T_V1_2	North Atlantic Ocean climatology for Temperature	1/4°	monthly seasonal	1955-2015 (6 decades)
SDC_NAT_CLIM_S_V1_2	North Atlantic Ocean climatology for Salinity			
SDC_IBI_CLIM_T_V1_3	IBI climatology for Temperature	1/12°	monthly	1995-2015
SDC_IBI_CLIM_S_V1_3	IBI climatology for Salinity			

All product will be produced on WOA standard levels

SDC Climatologies (T11.2)

Name	Extended Name	Spatial Resolution	Temporal resolution	Time coverage
SDC_MED_CLIM_T_V1_1	Mediterranean Sea climatology for Temperature at	1/8°	monthly	1955-2015 (sliding decades)
SDC_MED_CLIM_S_V1_1	Mediterranean Sea climatology for Salinity			
SDC_MED_CLIM_T_V1_2	Mediterranean Sea climatology for Temperature	1/16°	monthly	1955-2015 (sliding decades)
SDC_MED_CLIM_S_V1_2	Mediterranean Sea climatology for Salinity			
SDC_MED_CLIM_T_V1_3	Mediterranean Sea climatology for Temperature	1/24°	monthly	1955-2015; 1955-1987; 1988-2016
SDC_MED_CLIM_S_V1_3	Mediterranean Sea climatology for Salinity			
SDC_BLS_CLIM_T_V1_1	Black Sea climatology for Temperature	1/8°	monthly	1955-2015
SDC_BLS_CLIM_S_V1_1	Black Sea climatology for Salinity			
SDC_BLS_CLIM_T_V1_2	Black Sea climatology for Temperature	1/8°	seasonal	1955-2015 (sliding decades)
SDC_BLS_CLIM_S_V1_2	Black Sea gridded climatology for Salinity			

Integration of External Datasets

Global Ocean	GLO	• WOD13 • ARGO GDAC
Arctic	ARC	• WOD13
European North West Shelf - North Sea	NWS/NS	• CMEMS INSITU NWS TS REP OBSERVATIONS (1990-2016) • ICES • WOD13
Baltic Sea	BAL	• CMEMS INSITU BAL TS REP OBSERVATIONS (1990-2016) • HELCOM dataset (1900-2017) from ICES • WOD13
North Atlantic	NAT	• CMEMS INSITU GLO TS REP OBSERVATIONS (1950-2016) • WOD13
Mediterranean Sea	MED	• CMEMS INSITU MED TS REP OBSERVATIONS (1990-2016) • CMEMS INSITU GLO TS REP OBSERVATIONS (1950-2016) • WOD13
Black Sea	BLS	• CMEMS INSITU BS TS REP OBSERVATIONS (1990-2016) • CMEMS INSITU GLO TS REP OBSERVATIONS (1950-2016) • WOD13

New Data Products (T11.3)

SDC_GLO_DP1	Global gridded mixing index at 1/4° resolution (climatology 2003-2017)
SDC_GLO_DP2	Global gridded AOU at 1/4° resolution (climatology 2003-2017)
SDC_GLO_DP3	Preformed nutrient concentrations along isopycnals or neutral surfaces at 1/4° resolution (climatology 2003-2017)
SDC_NWS_DP1	European North West Shelf Sea T and S trends
SDC_BAL_DP1	Baltic basin temperature and salinity statistics
SDC_NAT_DP1	North Atlantic Ocean Gridded monthly climatology for Mixed Layer Depth at 1/4°
SDC_MED_DP1	Mediterranean Sea Gridded monthly climatology for Mixed Layer Depth at 1/8°
SDC_MED_DP2	Mediterranean Sea Ocean Heat Content time series and trend (0-700m; 0-2000m)
SDC_BLS_DP1	Black Sea gridded monthly climatology for cold intermediate layer (CIL) cold content at 1/8°
SDC_BLS_DP2	Black Sea gridded decadal seasonal climatologies for CIL cold content at 1/8°

Dissemination (T11.4)

1. Introduction

2. Background

2.1. SeaDataCloud Project overview

2.2. Overall SeaDataCloud

Dissemination and Communication Strategy

2.3. **Data products publishing and dissemination: current status**

2.4. **Objectives of the strategy for publishing and dissemination of data products**

3. **Setting up the strategy for publishing and dissemination of products**

3.1. **Data products**

3.2. **The purpose of data products dissemination**

3.3. **Stakeholders / target groups**

3.4. **Analysis of target groups**

3.5. **Dissemination methods**

3.5.1. **Communication channels**

3.5.2. **Dissemination tools for data products**

3.6. **Assessment methods (KPI)**

4. **Turning strategy to a dissemination plan**

5. **SeaDataCloud dissemination process**

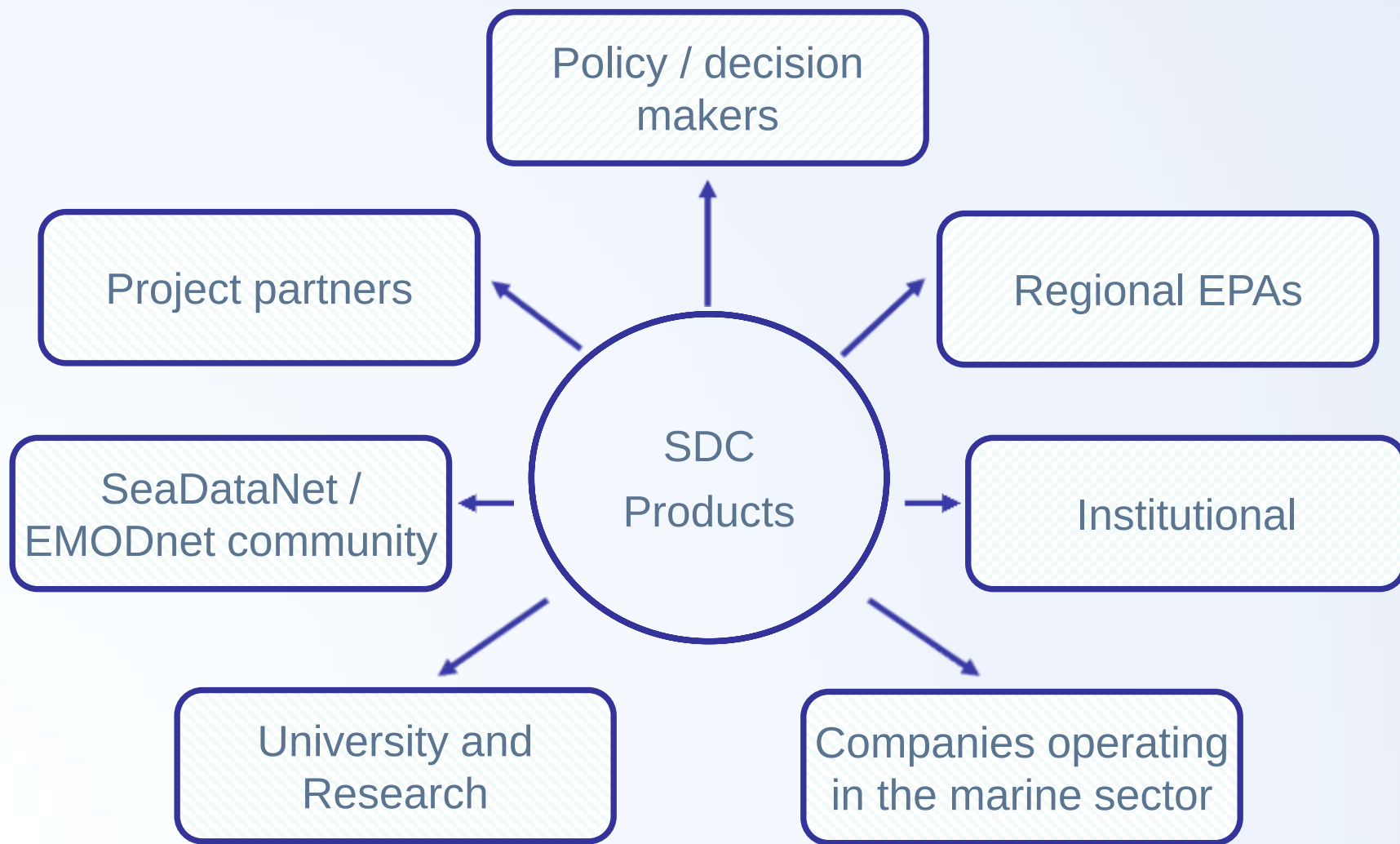
7. **CONCLUSION**

Dissemination (T11.4)

Goals:

- **Identify stakeholders/target groups** and make them aware about SeaDataCloud project and its data products in order to achieve maximum impact;
- Reach key stakeholders and facilitate usage of the SeaDataCloud data products;
- Position SeaDataNet as unique cloud-based infrastructure, able to provide effective collaborative environment for creating value-added products, which require integration of large amounts of marine environmental data from multiple sources;
- Encourage data sharing and involvement of stakeholders in SeaDataNet infrastructure;
- Promote usage of the SeaDataCloud web-based tools for publishing, visualization and dissemination of data products.

Dissemination (T11.4)



Dissemination tools (T11.4)

Viewing tools:

- **OceanBrowser:** web-service that allows to visualize gridded 4-D fields on-line. It gives possibility to display climatological fields as maps or vertical sections, customize the visual representation, combine layers with different parameters, animate maps and sections in order to study the evolution in time, download underlying data as a whole or as a subset, etc.;
- **Oceanotron** tool to visualize data from the aggregated datasets
- **EMODnet Physics**

Publishing tool → SEXTANT Catalogue.

The products, published in SEXTANT, obtain permanent DOI and are supplied with web links to the mentioned above visualization tools. Each product has its own **PIDoc**

Dissemination Assessment methods (T11.4)

Key Performance Indicators (KPI)

- Number of products DOI citations
- Product download count:
 - Who
 - Organization
 - Position
 - Location
- Product views count
- Number of feedbacks on products
- Number of papers
- Number of dedicated workshops/conferences organized
- Numbers of presentations at national/international events/meetings/conferences

the way forward

Year 1

Year 2

Year 3

Year 4

D11.14 (ULG)

Strategy for **training activities**, work plan, scheduling of courses

D11.15 (ULG)

Outcome of training activities

D11.3 (Ifremer)

Definition of improved Delayed Mode QC procedure

D11.6 (INGV)

SDC_V1 release of climatologies and relative documentation

1st week of April 2018 (M18)

DIVA workshop + Products Meeting

November 2018 (M24)

IMDIS Conference + Workshop on Products

CONCLUSIONS

- The work plan is very ambitious and our success is dependent from data availability and technical developments
- The subdivision of workload among different tasks is giving good results and it allows a better efficiency
- WP11 is promoting tight collaborations with WP4 for dissemination of products



European Geosciences Union General Assembly 2018

Vienna | Austria | 8–13 April 2018

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ESSI1.1

Informatics in Oceanography and Ocean Science

Convener: A. Novellino 

Co-Conveners: Stefania Sparnocchia , Simona Simoncelli 

[Abstract submission](#)

The session presents the state of art information systems in oceanography (metadata, vocabularies, ISO and OGC applications, data models), interoperability (Interoperability forms, Web services, Quality of Services, Open standards), data circulation and services (quality assurance / quality control, preservation, network services) and Education in ocean science (Education and Research, Internet tools for education).

The 2017 session should provide new ideas on the interoperability issues deriving from different sources of data. ISO standards introduce the necessary elements in the abstract process aiming to assess 'how' and 'how much' data meets applicable regulatory requirements and aims to enhance user needs. Data management infrastructures should include an evaluation of data by assuring relevance, reliability and fitness-for-purposes / fitness-for-use, adequacy, comparability and compatibility. Presenters are strongly encouraged to demonstrate how their efforts will benefit their user communities, facilitate collaborative knowledge building, decision making and knowledge management in general, intended as a range of strategies and practices to identify, create, represent and distribute data, products and information.

EMODnet Data Ingestion

WAKE UP YOUR DATA

Set them free for Blue Society

The **Data Ingestion Portal** facilitates submitting marine datasets for further processing, Open Data publishing and contributing to applications for society.

emodnet-ingestion.eu



Outcome of WP11 Meetings

Full report released on extranet 15/05/2017, outline

1. Introduction

1.1. **SDC innovation, planned activities and deliverables**

1.2. **SDN2 Outcome**

2. Ocean Data View Latest Developments (AWI)

3. DIVA Latest Developments (ULG)

4. SDC Quality Check (Ifremer)

5. SDC Climatologies (INGV)

6. New Products and Products for the Global Ocean (UniBo)

7. Product Dissemination (METU)

8. WP11 time schedule for the 1st year of activities

9. WP11 Meetings

10. CONCLUSIONS

Outcome of WP11 Meetings

- RCs will receive the full aggregated data sets for QC, together with the list of updated, new and deleted CDI → feasibility analysis to understand if possible to update the existing validated collection instead of repeating the QC at each aggregation loop
- Integrated data sets with external data sources will be created for climatology computation
- Global Ocean aggregated data set will not be released, but eventually as a new product after integration with external data sources due to data sparseness
- ODV will be used for data QC and data integration with external sources
- Each product will have its DOI and relative product information document
- Product dissemination will be in collaboration with WP4
- Yearly monitoring of KPI for products uptake (number of downloads, visualizations and citations)

Outcome of WP11 WEBEX

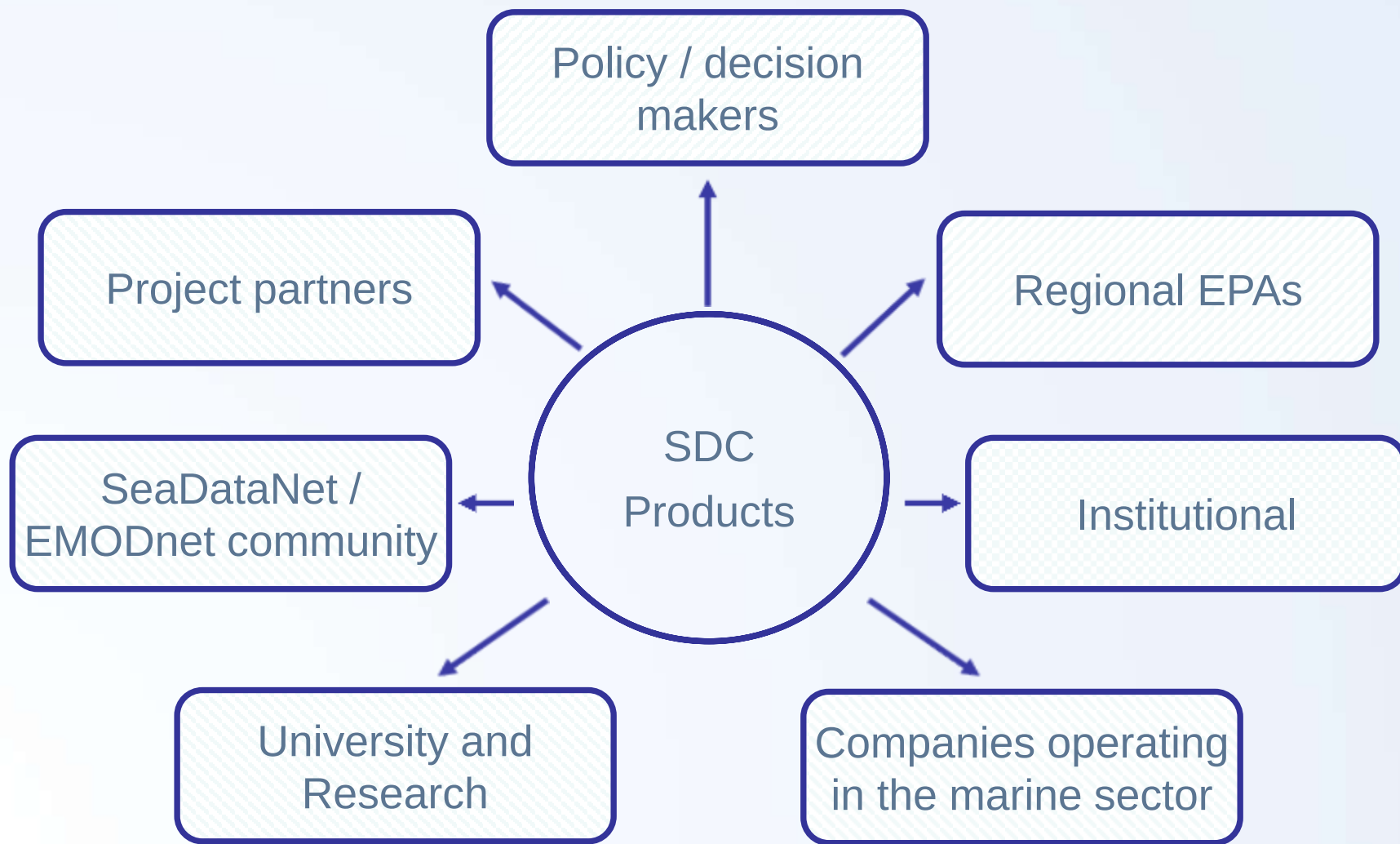
- The **management of data anomalies** coming from the QC has been discussed and need to be finalized in the M12 Meeting
- New **climatology** proposal have been discussed together with the integration of external data sources. Their **release in V1 or V2 need to be defined**
- New data products proposal have been discussed
- QC best practices have been revised and approved by the Regional Coordinators
- **Product documentation** has been proposed but it needs to be finalized in the M12 Meeting

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