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 Copernicus Evolution – Research for harmonised and  
 Transitional-water Observation (CERTO)

**Project Number: 870349**

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## **1 Executive Summary**

- This report presents the updated process diagram based on the Gantt chart in the Grant Agreement following the kick off meeting in Plymouth.
- It also includes an updated Risk Register also updated following the KO meeting

## 2 Process diagram

The process diagram is based on the Gantt chart in the Grant Agreement. It is only updated very slightly following the kick off meeting in Plymouth with the actual start date. No other changes were made to the Work Package timelines.

CERTO		Year 1 2020												Year 2 2021												Year 3 2022														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36			
	Meetings	KO			PM1						PM2			PM3						PM4			PM5						FM											
	Reporting periods	[Pink bar]												[Pink bar]												[Pink bar]														
WP1	1.1 Project coordination	MS1.1		D1.2			MS1.2			D1.3			MS1.3			MS1.4,D1.4																								
	1.2 Monitoring project progress	D1.1																																						
	1.3 Financial and management reporting																																							
	1.4 Internal progress meetings and minutes																																							
	1.5 Administration of Advisory Board																																							
WP2	2.1 Content and quality requirements													D2.1																										
	2.2 Existing products in the core services													D2.1,MS2.1																										
	2.3 User requirements for development of indicators													D2.1,MS2.1																										
	2.4 Technical and service requirements							D2.2			D2.3						D2.4																							
WP3	3.1 OC CCI + LIMNADES databases	D3.1												D3.5																										
	3.2 Standardisation and accessibility	D3.2												D3.3																										
	3.3 Initial in situ data gathering / capacity building	MS3.1												D3.4																										
	3.4 Characterisation of case study sites													D3.5																										
	3.5 Targeted in situ campaigns													D3.5																										
WP4	4.1 Review and development of methodologies	D4.1												D4.2																										
	4.2 Attribution of water classes /gap assessment							D4.3																																
	4.3 Software / configurable classification package													D4.4, MS4.1																										
	4.4: Optimal assessment and per sensor configuration													D4.5																										
	4.5: Algorithms for products for hyperspectral data													D4.5																										
WP5	5.1 Validation and selection	D5.1												D5.3-4						D5.3-4																				
	5.2 Water reflectance model													D5.3-4						D5.3-4																				
	5.3 Radiative transfer simulations	D5.2												D5.3-4																										
	5.4 Adjacency effects													D5.3-4						D5.3-4																				
	5.5 Bathymetry effects													D5.3-4						D5.3-4																				
	5.6 Error propagation													D5.3-4						D5.3-4																				
WP6	6.1 Analysis of User requirements							D6.1																																
	6.2 Planning and Management indicators													D6.2						D6.2																				
	6.3 EU Policy indicators													D6.2						D6.2																				
	6.4 Social-Ecological System Vulnerability Index													D6.2						D6.2																				
	6.5 Recommendations for implementation							MS6.1						D6.3, D6.4																										
WP7	7.1 Assessment of DIAS / commercial cloud	D7.1												D7.1																										
	7.2 Software as a Service prototype	MS7.1			MS6.2			D7.2			D7.3			D7.4			D7.5																							
	7.3 Training materials / documentation							D7.2			D7.3			D7.4																										
	7.4 Implementation of open source tools													D7.6																										
	7.5 System deployment on DIAS													D7.1						D7.7																				
	7.6 Data production													D7.7						D7.7																				
WP8	8.1 Common Guidelines													D8.1, MS8.1																										
	8.2-8.7 Regional demonstrations													D8.1, MS8.1						D8.2																				
	8.8 CMEMS regions													D8.1, MS8.1						D8.2																				
	8.9 Lessons learnt and feedback													D8.1, MS8.1						D8.2																				
WP9	9.1 Dissemination Plan	D9.1												D9.2																										
	9.2 Exploitation Plan													D9.2						D9.3																				
	9.3 Stakeholders, End-users and Communities	D9.1, MS9.1												D9.3																										
	9.4 Relevance of CERTO to KICs													D9.3						D9.3																				
	9.5 New spaceborne instruments													D9.3						D9.3																				
	9.6 Gauging Success													D9.3						D9.3																				
	9.7 Innovation Team													D9.3						D9.3																				
WP10	10.1 Outreach tools and strategies	D10.1-3			D10.4			D10.5			D10.6-7																													
WP11	11.1 Ethics requirements	D11.1			D11.2																																			

### 3 Risk register

The risk register below is based on the risk table in the Grant Agreement. It is updated slightly following the kick off meeting in Plymouth. The register identifies potential risks along with mitigation measures. The probability and impact of each risk is prioritised according to importance with a plan for the management of potential risks.

#	Description of risk (likelihood)	WP(s)	Proposed risk-mitigation measures
1	Management problems leads to delay of deliverables or project activities ( <b>low</b> risk)	WP1	WP leaders have been chosen on account of experience coordinating or managing other EC and major national projects
2	Poor performance of a partner or conflicts ( <b>low</b> risk)	All	Solid project management is foreseen, with close monitoring of all partners' activities, allowing the detection of any delays early on. Furthermore, the partners have successfully worked together in research projects, delivering assigned work. The tasks are well distributed to allow for a balanced workload. Conflicts will be resolved following procedures in the Consortium Agreement.
3	Long-term illness ( <b>low-medium</b> risk)	All	The management team has alternative staff options who can complete the tasks should there be any major problems
4	Departure of key staff ( <b>low-medium</b> risk)	All	All WP leaders are tenured staff but alternative personnel exist at all partners.
5	Involvement of a micros ME (O&B) and associated impacts to the project if O&B withdraws from the project ( <b>low-medium</b> risk)	WP9, all WP	The role of O&B in the project is important but relatively small in comparison with the rest of the Consortium and can be taken up by another partner, should O&B withdraw from the project for any reason.
6	Advisory Board does not respond to requests to interact ( <b>low</b> risk)	All	Recruit additional members. Initial response has been very enthusiastic. Potential government/EC AB members were unable to commit at submission and could add to AB if successful.
7	Weather conditions prevent in situ data gathering ( <b>medium</b> risk)	3, 4, 5	Monitor weather forecasts. Do not add to risk by ignoring safety procedures. Train local operators to deploy or recover instruments later. Shift meeting days and field days during combined events.
8	Loss of autonomous instrumentation in Tagus or Danube Delta ( <b>medium</b> )	3,8	Field deployment is risky, but sites will be chosen to minimise loss e.g. in port authority locations

9	User requirements for CERTO service are too ambitious ( <b>Medium</b> risk)	2,8	Before starting work on the use cases put in place tiered expectations with the end-user where the first level is definitely achievable, the second tier is ambitious, and the third is likely to remain conceptual. Provide regular progress updates and use the web visualisation interfaces to let the user interact with the information products.
10	Users are uncertain on accuracy or precision of EO data ( <b>medium</b> )	8	WP3 will obtain independent validation data to compare with the EO results
11	Users unable to continue to be involved ( <b>low</b> risk)	8	Many users have provided written letters of support. If really necessary another user could be substituted through existing local contacts.
12	Users are not convinced of the value of the services in the demonstrations ( <b>low</b> )	8	Contact will be maintained with end-users throughout the project showing direct relationship between initial requirements and final demo's. Various service models will be trialled – e.g. direct access to service or through a downstream provider.
13	Copernicus entrusted entities do not take up CERTO prototype after project ( <b>low</b> risk)	9	CERTO includes representation from all the contractors engaged in water quality data processing in CMEMS, C3S, and CLMS and have good relationship with entrusted entities. Following KO meeting contact will be made by the relevant beneficiaries to provide initial details on CERTO.
14	Problems with implementation of the prototype on a DIAS ( <b>low-medium</b> )	7	The Copernicus DIAS are under development and as with all ambitious programmes may have problems. However, there will be multiple DIAS and commercial providers.
15	Failure of Sentinel 2 or 3 ( <b>very low</b> risk)	8,9	The Sentinels are operated as constellations of two instruments in orbit; failure of both is highly unlikely and further launches are planned e.g. Sentinel 2C and D.
16	Issues of IPR prevent through exploitation of the CERTO results ( <b>medium-low</b> risk)	9	IPR is described in the Consortium Agreement and will be discussed at each Progress Meeting and specifically by the Innovation Team./ The coordinator will present a first plan for IPR distinguishing upstream and downstream targeted outputs by M6.