LABPLAS

Horizon 2020
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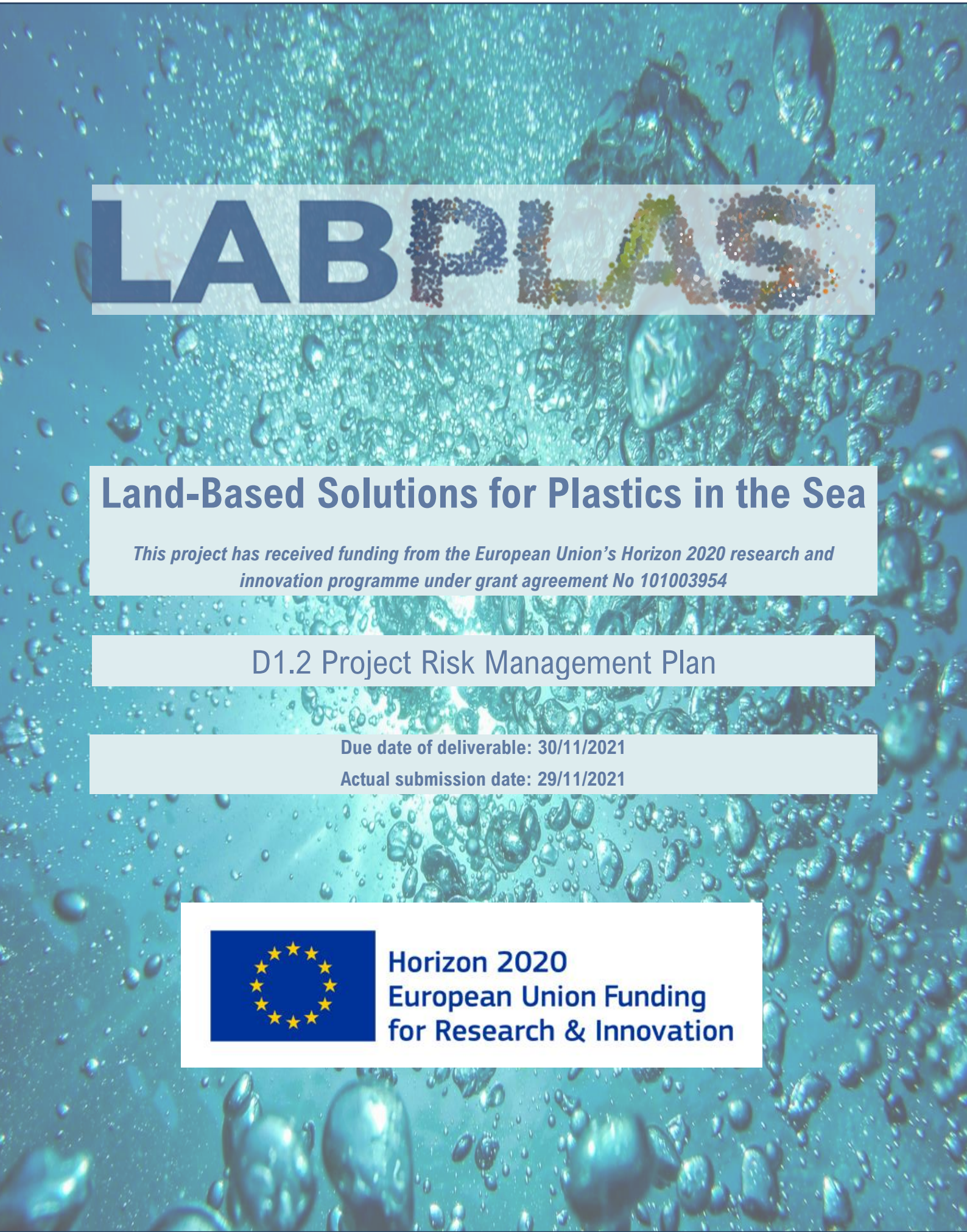

Land-Based Solutions for Plastics in the Sea

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D1.2 Project Risk Management Plan

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PROJECT INFORMATION

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Project acronym: LABPLAS

Project full title: Land-Based Solutions for Plastics in the Sea

Call: H2020-SC5-2018-2019-2020 submitted for H2020-SC5-2020-2 / 03 Sep 2020

Topic: CE-SC5-30-2020 – Plastics in the environment: understanding the sources, transport, distribution and impacts of plastics pollution

Type of action: RIA – Research and Innovation Action

Starting date: June 1st, 2021

Duration: 48 months

List of participants:

Nº	Participant name	Acronym	Country	Type
1	UNIVERSIDADE DE VIGO	UVI	SPAIN	HES
2	UNIVERSIDADE DA CORUÑA	UDC	SPAIN	HES
3	Bundesanstalt fuer Gewaesserkunde	BfG	GERMANY	RTO
4	LABORATORIO IBERICO INTERNACIONAL DE NANOTECNOLOGIA	INL	PORTUGAL	RTO
5	KATHOLIEKE UNIVERSITEIT LEUVEN	KUL	BELGIUM	HES
6	HELMHOLTZ ZENTRUM FUR OZEANFORSCHUNG KIEL	GEOMAR	GERMANY	RTO
7	NATIONAL OCEANOGRAPHY CENTRE	NOC	UNITED KINGDOM	RTO
8	SORBONNE UNIVERSITE	SU	FRANCE	HES
9	OPEN UNIVERSITEIT NEDERLAND	OUNL	NETHERLANDS	HES
10	LEIBNIZ INSTITUTE FOR BALTIC SEA RESEARCH	IOW	GERMANY	RTO
11	ASSOCIACAO PARA O DESENVOLVIMENTO DO ATLANTIC INTERNATIONAL RESEARCH CENTRE	AC	PORTUGAL	RTO
12	UNIVERSIDADE FEDERAL DE SAO PAULO	UNIFESP	BRAZIL	HES
13	BASF SE	BASF	GERMANY	LE
14	TG ENVIRONMENTAL RESEARCH	ER	UNTED KINGDOM	SME
15	CONTACTICA S.L.	CTA	SPAIN	SME
16	EGI	EGI	NETHERLANDS	Non-P
17	RADBOUD UNIVERSITEIT	RU	NETHERLANDS	HES

DELIVERABLE DETAILS

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Executive summary:	This document corresponds to the Deliverable 1.2 Project Risk Management Plan. It covers the description of the methods and processes that the LABPLAS project will follow to predict, identify and mitigate the effect of potential risks threatening the project (i.e., scientific impasses, resource drifts, delays, conflicts).

Version	Date	Comments
1	23/06/2021	Initial version
2	24/11/2021	Revised final version
3	07/02/2023	Reviewed with comments by the PO and reviewer addressed

Disclaimer

The views and opinions expressed in this document reflect only the authors' views, and not necessarily those of the European Commission.

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ABBREVIATIONS AND ACRONYMS

Abbreviation / Acronym	Description
FMEA	Failure-Mode-Effects Analysis
GA	General Assembly
L	Likelihood of Occurrence
PC	Project Coordinator
S	Severity of Effect
SC	Steering Committee
SMNP	Small, Micro- and Nano- Plastics
WP	Work Package
WPL	Work Package Leader

1 INTRODUCTION

Plastic is pouring from land into our oceans at a rate of nearly 10 million tonnes a year. Once in the sea, plastics fragment into particles moving with the currents and ocean gyres before washing up on the coastline. The smaller the size the higher the risk posed by these particles to organisms and human health. Because small, micro- and nano- plastics (SMNP) cannot be removed from oceans, proactive action regarding research on plastic alternatives and strategies to prevent plastic from entering the environment should be taken promptly. The LABPLAS project is a 48-months project whose vision is to develop new techniques and models for the detection and quantification of SMNP. Specifically, LABPLAS will determine reliable identification methods for a more accurate assessment of the abundance, distribution, and toxicity determination of SMNP and associated chemicals in the environment. It will also develop practical computational tools that should facilitate the mapping of plastic-impacted hotspots and promote scientifically sound plastic governance.

This document corresponds to the Deliverable 1.2 *Project Risk Management Plan*. It covers the description of the methods and processes that the LABPLAS project will follow to predict, identify and mitigate the effect of potential risks threatening the project (i.e., scientific impasses, resource drifts, delays, conflicts).

2 RISK MANAGEMENT

2.1 Failure-Mode-Effects Analysis (FMEA) Approach

A clear, easy to use and to understand risk management plan is essential for a successful project. The responsibility of the risk management plan is assumed by the LABPLAS Project Coordinator (PC) and the Steering Committee (SC). The step-by-step Failure-Mode-Effects Analysis (FMEA) approach will be used to predict, identify and mitigate the effect of potential risks threatening the project. Some potential risks and contingency plans have already been established at the beginning of the project based on the proposal and are presented in Table 2.

2.2 Risk Monitoring and Control

Risks and the implementation of risk response strategies will be continuously monitored and reviewed in Steering Committee (SC) and General Assembly (GA) meetings to keep the risk register and risk management plan up to date.

Throughout the life-cycle of the LABPLAS project, in addition to the risks and mitigation/corrective actions forecasted at the proposal stage, the occurrence of any possible subsequent risk will be proactively identified in order to carry out mitigation actions as early as possible. The template in *Annex 2: Risk Registration Form* will enable LABPLAS partners to report risks as they arise or where there is an increased chance of a risk materialising. The following procedure will be followed:

1. Risk identification
2. Risk evaluation and determination of:
   a. Likelihood of occurerence (L)
   b. Severity of effect (S)
   c. Grade of risk (using the *Likelihood - Severity Combined Effect Grading Matrix* in Annex 1)
   d. Potential impact/consequences on project cost, time, scope and quality objectives
   e. Work Packages (WP) to be affected
3. Establishment of suitable response plans and mitigation measures to decrease the severity of the risks
4. Monitoring and controlling the progress in resolving the issue
5. Reporting and updating the risk management register

Each partner has the responsibility to report immediately to their respective WP leader and/or to the Project Manager any risks that may arise and may affect the project objectives or their successful completion as well as of the status and the effectiveness of the mitigation measures to update the risk management register.

Each Work Package Leader (WPL) is responsible for executing risk mitigation measures that relate to the Work Package (WP) they lead.

2.3 Critical Risks and Mitigation Measures

Once the likelihood of occurrence (L) of potential risks and the severity of their effects (S) have been identified, risks can be graded using the *Likelihood - Severity Combined Effect Grading Matrix* (see Annex 1) to recommend actions according to their grade.

Table 1 lists the identified critical risks per Work Package (WP) and their recommended mitigation measures.

Table 1 LABPLAS Critical Risks and Mitigation Measures Register

WP	Description of risk	L	S	Grade	Risk-mitigation measures
1	Not using or using an inefficient project management tool	M	L	**M**	Get a validated professional project management tool, and make sure all partners and their team members receive proper training (e.g. MS Teams, Gantt Pro and/or Confluence - Atalassian).
2	Inability to sample (absence of the indicated species, inability to take the sample in a specific sampling point)	M	M	**M**	Adapt sampling to new circumstances (e.g. choosing a new adequate species, choosing a new representative sampling point).
2	Delay in sampling campaigns (climatologic causes, pandemic reasons)	M	M	**M**	Modify the sampling schedule to adapt it to the new circumstances.
3	Analytical instrumentation failure	M	M	**M**	The workload of the affected laboratory will have to be distributed to the other partners involved in the task.
3	Misplace of sent samples	L	M	**M**	Replacing with a delivery of a new batch of samples.
4	Low sensitivity of sensors for nanoplastics	L	M	**M**	Improved sample pre-processing integrated on-chip or additional steps that can be performed in situ for SMNPs. Extraction and pre-concentration will be designed and tested during the first 2 years.
4	Fixed-term equipment of analysis out-of-order	L	H	**M**	Search among partners availability of similar equipment or among the network of collaborators and associated labs and/or shipping of samples.
4	Absence of Earth Observation data and or in-situ historic data for a particular location	L	M	**M**	Collaboration with regional entities and international research institutes. Collect in situ data to create historical datasets
4	The amount of MP in a selected matrix/sample is too low to analyse plastic additives	M	M	**M**	Try to improve the sensitivity of the analytical method or increase the quantity of matrix sampled
5	Freshwater biodegradation test might fail due to improper environmental conditions in a closed testing system	M	M	**M**	Different conditions with addition of buffers and nutrients will be evaluated with the effect of maintaining microbial community and contribution to polymer biodegradation.
5	Biodegradation might take long until high amount of biopolymer is degraded significantly in non-intended end-of-life environments for ecotoxicity test	H	L	**M**	Perform biodegradation test with enriched microbial community to shorten the degradation time with high biopolymer concentration.

5	Loss of deployed devices while performing experiments in open/natural field conditions (underwater/ submerged and/or floating devices)	M	M	**M**	(1) The experiments will be installed in closed facilities, or in areas of restricted access or, in permanently monitored areas. (2) Replacement of lost samples, which would only delay but not prevent from reaching the objectives
6	Amounts (mass) of SMNP in environmental samples are not sufficient for all toxicity tests	L	M	**M**	After proper comparison in the laboratory with reference samples, field SMNP can be replaced by large- or meso- plastics from the field ground down to SMNP size. The process does not affect chemical composition and mimics plastic fragmentation in the environment.
6	Specific tests cannot be conducted by specific laboratories due to unexpected local problems (e.g. mortalities in stocks of test species)	L	L	**L**	The degree of overlapping expertise among laboratories taking part in this WP would allow exchanging limited numbers of test species and materials in order to complete the planned battery of tests in the eventuality of local problems.
7	Inappropriate and insufficient field and experimental data (e.g. on plastic concentrations and particles properties, release of MP associated pollutants, sinking rates and plasticisers as well as MP degradation)	M	H	**H**	Increased number of model simulation scenarios necessary based on general literature data and on experience with sediment transport modelling. Use of statistical methods to estimate model uncertainties.
8	Lack of interest/ Low enrollment figures of stakeholders in planned activities (i.e, Ocean Literacy and/or the Course on Microplastics)	M	M	**M**	Prepare quality materials / content. Announce in advance (and in a way directed / focused on the target audience) when they are taking place. Essential here is spot-on coordination with the Communication WP.
8	Sub-optimal information and/or insights provided by the planned surveys	M	M	**M**	Well-crafted survey form/ questions. Careful selection of the target interviewees. Motivate interviewees (be them individuals or entities) to participate in the survey(s).
9	IP sharing problems between partners, and project foreground protection risked.	M	M	**M**	Foreground IP will be divided and assigned to only one partner, who will take the full responsibility for protection, avoiding joint owned IP.
All	Coronavirus outbreaks (local/ national / regional) levels, which hinder work progress of any or several project partners	M	M	**M**	For non-experimental work be ready to switch to work on remote / virtual mode. For field and/or laboratory related activities, and if no confinement/alarm status is dictated, manage the corresponding permissions as soon as possible to avoid complete cessation of activities.

					In cases of 'Force Majeure', diligently prepare the amendments to request moratoriums on the affected deliverables/milestones.
All	Premature departure of skilled staff	M	L	**M**	Training of the less senior staff. For academic partners /r esearch Institutions, abide by the HRS4R (Human Resources Strategy for Researchers) charter and code of standards.
All	A partner leaves the consortium	L	L	**L**	The General Assembly will assess if the remaining partners can support the tasks. If not, an attempt will be made to attract a new partner.
All	Miscalculation when estimating the means and efforts necessary to achieve the project goals	M	M	**M**	Proactive project monitoring and readjustment of plans if needed.

ANNEX 1

GUIDE TO CALCULATE THE GRADE OF A RISK

Grade: Combined effect of Likelihood/Seriousness						
	Severity					
Likelihood		Insignificant	Low	Moderate	High	Extreme
	Very Unlikely	VL	L	L	M	M
	Unlikely	L	L	M	M	M
	Moderate	L	M	M	M	H
	Likely	M	M	M	H	H
	Very likely	M	M	H	H	E

Recommended actions for grades of risk	
Grade	**Risk mitigation actions**
E	Mitigation actions, to reduce the likelihood and seriousness, to be identified and implemented as soon as the project commences as a priority.
H	Mitigation actions, to reduce the likelihood and seriousness, to be identified and appropriate actions implemented during project execution.
M	Mitigation actions, to reduce the likelihood and seriousness, to be identified and costed for possible action if funds permit.
L	To be noted - no action is needed unless grading increases over time.
VL	To be noted - no action is needed unless grading increases over time.

ANNEX 2

RISK REGISTRATION FORM

- Person that detected the risk:
- Organisation:

Reporting Period	
Date registered	
Description of the risk	
WPs involved	
Type of risk	*The following types have been identified: o* • *Gen: General risk* • *Tech: Technical risk* • *Man: Management risk* • *Expl: Exploitation (commercial) risk* • *Ethics: Ethical risks, including privacy legal concerns*
Risk impact	*What would be the impact on the project if the risk event happened*
Likelihood of occurrence	*Provides an assessment on how likely it is that this risk will occur (Very Unlikely, Unlikely, Moderate, Likely, Very Likely).*
Severity of effect	*Provides an assessment of the impact that the occurrence of this risk would have on the project.* *(Insignificant, Low, Moderate, High, Extreme)*
Grade of risk*	*Likelihood x Severity*
Mitigation measure	
Owner/responsible	

* Using the Likelihood - Severity Combined Effect Grading Matrix