



Solutions **T**esting for **R**egions through **I**nsurance for Climate **A**daptation

HORIZON-MISS-2022-CLIMA-01| Project Number 101112867

Deliverable 1.1

Story Maps (1)

Due date of deliverable: 30/11/2023

Actual date of submission: 30/11/2023

Start date of project: 1st September 2023

Duration: 30 months

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Dissemination Level		
PU	Public	
SEN	Sensitive – limited under the conditions of the Grant Agreement	x
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Modification Control

Version	Date	Description & Comments	Responsible
0.1	20/11/2023	First draft	BES, ICA
0.2	23/11/2023	Reviewers review and comment the document	Author
0.3	27/11/2023	Project Coordination revision	Project Coordinator
Final	29/11/2023	Project Manager	Author
Final	30/11/2023	Project Coordinator	Project Coordinator

General Project Information

Title	SOLutions TEsting for Regions through Insurance for climate Adaptation
Acronym	SOTERIA
Grant Agreement No.	101112867
Funding Programme	HORIZON EUROPE
Topic	HORIZON-MISS-2022-CLIMA-01-03
Type of action	HORIZON Research and Innovation Actions
Project Start Date	1st September 2023
Duration of the project	30 Months



List of SOTERIA Partners

Nº	ORGANISATION	Short name	Country	Role
1	Basque Centre for Climate Change	BC3	ES	Coordinator
2	I-Catalist SL	ICA	ES	Beneficiary
3	Climate Risk Advisory Ltd	CRA	NO	Beneficiary
4	Helmholtz Centre for Environmental Research	UFZ	DE	Beneficiary
5	SINTEF AS	SINTEF	NO	Beneficiary
6	Mitigrate AS	MITI	NO	Beneficiary
7	AQUATEC	AQUA	ES	Beneficiary
8	Genillard & Co GmbH	G&Co	DE	Beneficiary
9	National Center for Scientific Research Demokritos	DEMO	GR	Beneficiary
10	Hochschule Weihenstephan-Triesdorf	HSWT	DE	Beneficiary
11	Association for the Development of West Athens	ASDA	GR	Beneficiary
12	Behavior SMART OOD	BES	BG	Beneficiary
13	Conselleria de Generalitat Valenciana	GVA	ES	Beneficiary
14	Municipality of Gabrovo	MoG	BG	Beneficiary
15	Empower Insight	EI	FR	Beneficiary
16	Stiftung Global Infrastructure Basel	GIB	CH	Associated Partner
17	Verbraucherzentrale Sachsen e.V.	VZS	DE	Associated Partner
18	Landesamt für Umweltschutz (Regional Env. Protection Agency)	LAU	DE	Associated Partner
19	KLP Skadeforsikring AS (insurance)	KLP	NO	Associated Partner
20	Gjensidige Forsikring ASA (insurance)	GJE	NO	Associated Partner
21	Allianz Agnär	AZA	DE	Associated Partner
22	Croatia Osiguranje (insurance)	CO	HR	Associated Partner
23	German Insurance Association	GDV	DE	Associated Partner
24	DIMOS EGALEO	EGL	GR	Associated Partner
25	Bavarian Farmers Association	BBV	DE	Associated Partner
26	Zadar County, Croatia	ZDC	HR	Associated Partner
27	The County Governor in Trøndelag	CGT	NO	Associated Partner
28	DZI at KBC Group	DZI	BG	Associated Partner
29	Caisse de Reassurance	CCR	FR	Associated Partner
30	Ethniki AEEGA	Ethniki	GR	Associated Partner



Executive Summary

This story map provides an overview of each of the case studies included in the SOTERIA project. Much of the information is captured through a combination of information capture during the preparation of the project and execution of the work packages and tasks envisioned in the project.

Each story map features several thematic sections. The first section provides a general overview of the landscape and context, as well as risk characterization of the case study region. It specifies the industry focus, existing insurance landscape and overview of the key stakeholders relevant to the story.

The second section focuses on risk analysis. This includes risk-related characterisation, overview of climate adaptation challenges, previous experience with climate-related hazards, policy and regulatory contexts. An overview of the relevant barriers and enablers is also provided. This section looks at the different actors and their role in the insurance process.

The third section of the Story Map provides an overview of the supply and demand context reviewing existing insurance portfolios, relevant policy and regulatory aspects. It offers a look at the demand dynamics as well as the drivers behind desirable and undesirable behaviours.

The fourth section looks at the relevant data aspects and provides an overview of the current practices in terms of gathering, use and sharing of data. Focus is placed on the barriers that complicate the availability and flow of relevant data.

The final fifth section of the Story map discusses the innovative insurance solutions identified by the SOTERIA project. It looks at the identified and proposed innovations in detail offering an overview of their characteristics.

This document is a living document, which will continue to evolve during the project implementation. An updated version will be completed for the demos half way through the project. The current outline will be applied to eight demos, to capture and characterise the most relevant information in a structured way. This will allow the project to gather information in one integrated document to support many of the tasks that will be followed by the project. This particular version of the document serves as a template. Thanks to its main role at this stage of the project it will also help to determine the process and tools that will be used, collect the necessary information and perform the analysis of potential innovative insurance solutions in the eight demos.



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Abbreviations

CCR	Caisse Centrale de Réassurance
WP	Work Package
EEA	European Environment Agency
EU	European Union
UNDRR	United Nations Office for Disaster Risk Reduction
IPCC	Intergovernmental Panel on Climate Change
SSP	Shared Socioeconomic Pathway
RCP	Representative Concentration Pathways
GA	Grant Agreement
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
CCA	Climate Change Adaptation
MPCI	Multiple peril crop insurance
GDPR	General Data Protection Regulation
EIOPA	European Insurance and Occupational Pensions Authority
KPI	Key Performance Indicators



PART 1: GENERAL

This section captures general overview information about the case study, key stakeholders and the key story.

SOURCES: Most of the information in this section is available from the project preparation period, further updated and enriched with additional data, available in the excel file entitled Case Studies NEW Matrix ([ANNEX I](#)).

Case Study Name:

Country:

Region type (Urban/Rural/Agricultural):

Key economic sectors:

Main partner (Case Study owner):

Other project partners involved:

Important stakeholders and partners (non-project related):

List any key entities and stakeholders who are important players in this case story but are not among the project partners.

Scale (Community/Local Authority/Region):

Specify the geographical scope of the case study.



Short Description:

Provide a short description of the story behind this case. Highlight the starting point and the main challenges, describe the project interventions and observations, and the final results with concluding thoughts. Information for subsections b) and c) will be supported by CCR. Suggested length of this section: 350-500 words.

- a) Specific focus of the case study.*
- b) Situation before the project.*
- c) Projection of the insured assets.*
- d) Relevant protective measures – proposed actions & interventions.*
- e) Key insights and conclusions (insurability, policy discussion).*



PART 2: RISK ANALYSIS

This section provides a detailed analysis of the context for each case study with emphasis on the climate-related risk characterisation, including meteorological and geographical specifics of the area, main hazards, associated policy and regulatory context, risk perceptions, etc.

SOURCES: Some of the information for this section is already gathered and available, while other will be captured during the execution of the different WP tasks. The specific sources are specified below for the different heading questions.

SOURCES: Initial information to be completed in the four questions below is available in the excel file entitled Case Studies NEW Matrix ([ANNEX I](#)). It will need to be adjusted based on the recommendations provided in some of these questions.

Bio-geographical region (according to the EEA classification):

Classification according to the EU Cohesion Programme: Red/Orange/Yellow (choose accordingly):

Main hazards:

It is recommended to use the hazard classification described in the report: "Hazard Definition and Classification Review: Technical Report" from UNDDR as a guideline.

<https://www.undrr.org/publication/hazard-definition-and-classification-review-technical-report>

Climate change adaptation challenges:

SOURCES: The information to be completed in the two questions below is to be provided by CCR.

Meteorological data: current climate, climate data RCP4.5 and 8.5:

It is recommended using IPCC 6th report, with new socio-economic narratives, which should be the correct reference from now. These are SSP1-2.6, SSP2-4.5, SSP3-7.0, SSP5-8.5, among others. For instance, SSP3-7.0 could be equivalent to RCP 8.5. The downscaling of Euro Cordex regions is expected to be published soon.



Modelling hazards based on the hazard covered by insurance.

Please provide a detailed explanation of the methodology used to model the hazard (physical data, tools, software...):

SOURCES: The information to be completed in the two questions below will be extracted from GA and captured through task 1.1.

Risk characterization of our regions (differentiating between e.g. urban and rural areas).

Please provide a detailed explanation of the methodology used to determine the level of risk involved:

Risk profiling exercises including the local dimension of climate change and climate adaptation and mitigation strategies:

SOURCES: The information to be completed in the two questions below will be captured through tasks 1.1, 1.2 and 1.3, as well as 4.1, 4.2 and 4.3.

Past experience with climate hazards/ natural disasters:

- a) *focus: personal experience (type of events), experience with damage in immediate community/ network or experience with damage in geographic area)*
- b) *focus: experience with damage on private property (citizens or business) or public property/ infrastructure*

Perceived risk - how citizens, businesses, local authorities treat the likelihood/ risk that natural disasters can impact their area? What kind of disasters are perceived as more likely?



SOURCES: The information to be completed in the questions in the section below will be captured through tasks 4.1, 4.2 and 4.3.

Which actor carries the damage cost or makes investments in case of hazards (e.g., insurance pool):

Which actor bears the cost or makes investments for protective measures for DRR:

Vulnerable groups to the major climate risks/hazards:

Estimated climate-induced loss per year and the extent to which these losses were covered by insurance:

Estimated insurance cover within total claimed damages:

To what extent these fall under the climate protection gap are covered by means of financial protection other than private insurance (e.g. public-private re/insurance pool):

Drivers of the protection gap (e.g., level of capacity, availability of coverage etc.):



PART 3: SUPPLY AND DEMAND ANALYSIS

SOURCES: The information to be completed in the two questions below is to be provided by CCR.

Existing insurance portfolios:

what is covered by the insurance schemes (households, industrial, agricultural, others?):

Damage assessment: diagnostic at current state of the climate and projections for the future.

SOURCES: The information to be completed in the questions in the section below will be captured through tasks 4.1, 4.2 and 4.3.

National-level policy or regulatory factors enabling/hindering climate change adaptation and risk of losses (disaster risk reduction) (e.g. Floods or Droughts Management, Climate Adaptation, Agriculture policy etc.):

Allocation of roles and responsibilities on DRM between different actors (state, regional governments, municipalities etc.):

Barriers/enablers on national level (institutional setting / policies / governance) to ensure affordable insurance coverage for CCA and DRR:

SOURCES: The information to be completed in the questions below will be captured through tasks 1.1, 1.2 and 1.3, as well as 4.1, 4.2 and 4.3.

Demand for insurance solutions for climate adaptation in the national public sector:

The amount of national / regional allocated budget to increase the penetration of insurance, and in what formats (e.g. subsidies, tax incentives):



What is the insurance landscape like?

- *how many farmers (%) have crop insurance?*
- *what kind of coverage is available (MPCI, parametric, etc.)?*

Reasons for buying insurance (among the insured families, businesses, public authorities):

- a) decision triggers, factors facilitating decision and impeding decision*
- b) scope of insurance – decision triggers (what drives the decision for insurance against these specific events/ hazards)*

Reasons for not buying insurance (among the insured families, businesses, public authorities):

- a) have they ever been insured in the past and if yes, what made them drop out?*
- b) are relevant insurance options available on the market?*

Decision journey map (key decision points)



PART 4: DATA

SOURCES: The information to be completed in the questions below will be captured through tasks 2.1, 2.2 and 2.3. Some insights will be captured also through tasks 1.1, 1.2 and 4.1.

Current insurance landscape in terms of past data on compensation for losses after extreme climate events

Availability and accessibility of disaster damage and loss data

- a) *who gathers?*
- b) *where is it housed?*
- c) *who has access?*

Barriers for data sharing and integration

- a) *objective barriers for sharing and integrating existing data (i.e. methodology, policy, ownership, GDPR, etc.)*
- b) *subjective barriers for sharing and integrating existing data (i.e. privacy concerns, sense of ownership and competitive advantage, etc.)*

Data gaps

- a) *what kind of data is not collected at all?*
- b) *why?*



PART 5: INNOVATIVE INSURANCE SOLUTION EXPLORER/RADAR

SOURCES: Most of the information in this section is available from the project preparation period, further updated and enriched with additional data, available in the excel file entitled Case Studies NEW Matrix ([ANNEX I](#))

Level of Insurance Penetration: (EIOPA study):

SOURCES: The information to be completed in the questions below will be captured through tasks 1.1, 1.2 and 4.1.

Identified potential needs including especially current barriers to the use of insurance for climate adaptation and the main reasons for adoption/non-adoption in the climate adaptation domain.

SOURCES: The information to be completed in the questions below will be extracted from the insights and learnings produced with the execution of tasks 1.2, 1.3, 1.4, 2.4, 3.1, 3.2, 3.3, 3.5, 4.3.

Type(s) of innovative insurance solutions:

Potential barriers (Technical/Governance/Policies/Other):

Ambition at the end of the project/Short term outcomes:

Measurable/quantifiable expected results and KPIs:

Ambition/Continuation after the end of the project (including continuation with other types of funding):

Expected impacts/outcomes in 5 years (mid-term):



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Expected impacts in 10 years (long-term):

Insurance Partners:

Upscaling/Replication potential:

How to ensure a meaningful engagement with local communities and stakeholders, particularly through insurance to increase regional and local resilience, enhancing the societal impact (e.g. with the consideration of affordability and just transition issues):



APPENDIX I: other methods for data capturing

1. Discuss workshops to be organised and survey (together with WP4 on Affordable Insurance, public modernisation and Just transitions)
2. Case study Characterisation interview survey
3. [Template for mapping data availability](#) and [preferences](#) of background data and loss data for climate-related risk analysis ([Norway case Data](#))

It is provided the template for data sources for the regions and one template that it is already filled in for Norway Case Study. The hidden tabs in the template filled in for Norway are to evaluate the sources the regions provide.



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ANNEX I: PILOT MATRIX

PILOT MATRIX	[1a] & [1b]	[2]	[3]	[4]	[5]	[6]	[7]
Pilot Location/Title:	Leipzig/Saxony	Bavaria	Trøndelag	Valencia	West Athens	Gabrovo	Zadar
Country:	Germany	Germany	Norway	Spain	Greece	Bulgaria	Croatia
Bio-geographical region (according to the EEA and EUNIS classification):	North-East German lowland; South-Eastern basin and hills, Inland surface waters	Continental	Alpine/Atlantic	Mediterranean	Mediterranean	Continental / Mountain	Continental / Mediterranean
Piloting partner of Case Study (full partner): CL Case Leader	UFZ	Genillard & Co	SINTEF	BC3	DEMO	BehavioSMART (BES)	Genillard & Co
Regional partners (risk owner):	City of Leipzig	Regional Environmental Protection Agency	The County Governor Trøndelag	GVA	ASDA	Municipality of Gabrovo	-
Other partners involved (full & associated):	Genillard & Co, HSWT, Saxony / Unhalt, Consumer Association (VZS)	HSWT, UFZ, Allianz Agrar, Bayerische Bauern Verband	CRA, MITI	AQUA, ICATALIST	Municipality of Egaleo, Ethniki Asfalistiki	DZI at KBC	HSWT, UFZ, Croatia Osiguranje, Zadar County



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PILOT MATRIX	[1a] & [1b]	[2]	[3]	[4]	[5]	[6]	[7]
Pilot Location/Title:	Leipzig/Saxony	Bavaria	Trøndelag	Valencia	West Athens	Gabrovo	Zadar
Stakeholders to be involved (not as partners):	VZS, Landesamt für Umweltschutz (Regional Environmental Agency) as associated partners, KWL, GDV, mutual insurance association/ companies (Ostdeutsche Kommunalversicherung)	BBV, LfL, Baywa	The National Association of homeowners, The Norwegian Association of Local and Regional Authorities, Finance Norway and The Norwegian Directorate for Civil Protection	Some municipalities, farming communities and cooperatives, irrigation communities, neighbourhood associations, local businesses, infrastructure companies, NBS providers	Local Authorities and Development Agencies, Private Insurers, Academic Institutions, Hellenic Association of Insurance Companies	Association of Bulgarian Insurers, National Association of the Municipalities in the Republic of Bulgaria, Other local authorities, Ministry of Environment and Water	farming organisations, LAGs, farm industry (input suppliers, logistics companies or produce supply partners), insurance sector (Croatia Osiguranje)
Scale (Local / Regional / National):	Local / Regional	Local / Regional	Local / Regional	Local / Regional	Local / Regional	Local/ National	Local / Regional
Type (Urban/Agricultural/Other):	Urban & Agriculture	Agriculture	Urban & Agriculture	Urban & Agriculture & Forest interface	Urban & Forest interface	Urban	Agriculture



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PILOT MATRIX		[1a] & [1b]	[2]	[3]	[4]	[5]	[6]	[7]
Pilot Location/Title:		Leipzig/Saxony	Bavaria	Trøndelag	Valencia	West Athens	Gabrovo	Zadar
Main hazards to be considered (significant exposure and/or declared interest)	Stormwater & Floods	x		x	x	x	x	
	Droughts	x	x		x	x	x	x
	Heat waves	x	x		x	x	x	x
	Wind	x			x		x	
	Cyclones					x		
	Marine storm surge			x	x			
	Hail	x	x					
	Spring Frost	x	x					x
	Plagues/pests							x
	Wildfire				x	x		
	Land slides	x		x			x	
	Subsidence	x						
Key economic sectors:		"New Länder", SME, Commerce, Automobile Industry (Porsche, BMW), 100 climate-neutral and smart	Rainfed agriculture	Forestry, industry, city, SMEs	SME, industry, agriculture, Tourism	SME, Commerce, Construction - 55,000 unique economic	SME, industry, Tourism, public infrastructure	Agriculture and Agriculture Insurance

D1.1 Story Maps (1)



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PILOT MATRIX	[1a] & [1b]	[2]	[3]	[4]	[5]	[6]	[7]
Pilot Location/Title:	Leipzig/Saxony	Bavaria	Trøndelag	Valencia	West Athens	Gabrovo	Zadar
	cities by 2030 (Leipzig)				activity firms		
Testing Pilot Type	NBS, Mutualised, Nudging	Parametric	NBS	NBS, mutualised, public infrastruct ure	NBS, mutualised, public infrastruct ure	Mutualised, Nudging	Parametric, climate risk, microcredit
Insurance Sector	German Insurance Association	Verbraucherzen trale Sachsen e.V., Allianz Agrar	Kommunal Landspensjonsk asse gjensidig forsikringsselsk ap and Gjensidige Forsikring ASA	CCR. CCS, Agro- Seguro Allianz Ag	DIMOS EGALEO	DZI at KBC Group	Croatia Osiguranje
Level of Insurance Penetration (EIOPA study) Score goes from [0]: very high to [4]: very low	Households (~50%): Medium (EIOPA: 2.0); Agriculture (< 5%): Low (EIOPA: 4.0)	In Germany 2020: 2,25% (property and casualty insurance), of with max 10% is agricultural insurance,	Very High score [0] for all risks, mainly based on compulsory by law and voluntary schemes	Very High score: Floods: [0]; Wildfire: [n/a]; Windstorm: [1], mainly based on	Very Low score [4] for all hazards, mainly based on voluntary schemes	Very Low score [4] for all hazards, mainly based on voluntary schemes	Medium- Low score: Floods: [2]; Wildfire: [4]; Windstorm: [3], mainly based on

D1.1 Story Maps (1)



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PILOT MATRIX	[1a] & [1b]	[2]	[3]	[4]	[5]	[6]	[7]
Pilot Location/Title:	Leipzig/Saxony	Bavaria	Trøndelag	Valencia	West Athens	Gabrovo	Zadar
		leading to 0.2% penetration (in relation to GDP)		solidarity schemes			voluntary schemes



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