



D7.1: Risk Management Plan



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Abstract:

The UPCAST project is a pioneering endeavour that enhances data sharing across diverse sectors providing plugins to increase efficiency and effectiveness of data marketplaces through a unified platform. Leveraging advanced AI and data management technologies, the plugins address complex challenges in digital marketing, healthcare, public administration, and genomics research. The project integrates cutting-edge tools to facilitate seamless data discovery, processing, privacy enforcement, pricing, and environmental impact assessment. UPCAST promotes open science, gender neutrality, and adheres to ethical AI principles. With a comprehensive data governance structure, it optimizes data utilization while ensuring privacy and compliance. By fostering cross-sector collaboration, UPCAST accelerates innovation and empowers decision-making for a data-driven future.

The Upcast Data Management Plan outlines comprehensive strategies for data collection, sharing, and protection within the collaborative project. It establishes clear procedures for data sharing agreements, access controls, and authentication mechanisms among partners and external stakeholders. The plan emphasizes compliance with data protection regulations, including GDPR, through robust security measures, encryption during storage and transfer. Ethical and legal implications are diligently considered, ensuring responsible data handling. The plan also defines retention periods, secure data disposal methods, and a structured review process to adapt to evolving regulations. Overall, the plan

underscores the commitment to ethical, secure, and transparent data management practices within the Upcast project.

Keywords:

Risk Management Plan, Risk Management Process, Risk Analysis, Risk Mitigation, Risk Monitoring, Project Management, Quality Assurance.

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1 Introduction

Project risk management is the process of identifying, analyzing, and responding to any risk that arises over the life cycle of the project to help the project consortium remain on track and meet its goal. Risk management is a continuous process throughout the lifetime of a project and addresses the planning of risk management, identification, analysis, monitoring, and control.

Risk defined by ISO31000 as the effect of uncertainty on objectives. So, Risk Management (RM) is the process of identification, evaluation, and prioritisation of these uncertainties (risks) followed by coordinated application of resources to minimize, monitor, and control the probability or impact of unfortunate events or to maximize the realization of opportunities (Douglas, 2009).

The risk identification, assessment, and management process are part of any strategic development today. An integrated risk management approach must evaluate, control, and monitor all risks and their dependencies to which the company, organization or project is exposed. In general, pure risk is a combination of the probability or frequency of an event and its consequences, which is usually negative. It can be measured by the volatility of results, but higher moments of the distribution are often necessary. Uncertainty is less precise because the probability of an uncertain event is often unknown, as is its consequence. In this case, we would refer to precautionary rather than preventive activities to protect against uncertainty. (Dionne, 2013).

Taking the above into account, this document (D7.1 – Risk Management Plan) as first edition of the final D7.1 – Risk Management Report (M36) outlines policies and procedures for identifying and handling uncommon causes of UPCAST project deviations that may compromise objectives, i.e. risks.

The purpose of this document is to provide a risk management framework for the UPCAST project, to ensure that adverse situations are properly managed along the evolution of the project. This plan documents the methodological processes, the tools and the procedures that will be used to manage and control those events that could have a negative impact. Moreover, this plan addresses the roles and responsibilities of the management and quality assurance team, the risk identification, as well as risk assessment and mitigation plans. Finally, some of the major foreseen risks related to the project work plan are listed in tables (Table 4 and 5) of this report, including a classification of their severity according to a proposed Risk Analysis Matrix (RAM).

Transparency and a good communication between the Management Team (MT), the Work Packages (WP) leaders and the project members are key to avoid problems and conflicts before they arise. A good communication strategy favours the cohesion among the participants, while giving a positive image of the project to the outside.

Risk Management Report will be updated throughout the project lifecycle as unexpected sources of risk can be identified at any time. It is the objective of the risk management plan to decrease the probability and impact of events adverse to the project. In contrast, any event that could have a positive impact should be exploited.

2 Risk Management Process

Risk Management is a crucial component of Project Management, and comprises processes of Risk identification, risk analysis/Assessment, risk mitigation planning and treatment and risk monitoring. The risk management process is an integral part of UPCAST project management and is designed to continuing identify risk for the various activities during the project lifetime. The risk management process consists of a set of activities delivered by the Quality Manager as it can be seen in the Figure 2 enabling risks to be assessed, communicated, and treated appropriately throughout the whole project.

2.1 Risk Management Methodology and Process

The Risk Management Methodology and Process is a structured approach to identifying, assessing, mitigating, and monitoring risks throughout the lifecycle of the UPCAST project. It provides a systematic way to manage uncertainties and potential threats that could impact the achievement of objectives. The UPCAST risk management methodology includes several key phases and processes as follows:

Step 1 –Risk Monitoring and Control (Horizontal phase)

- ✓ **Objective:** Continuously track and control risks throughout the project lifecycle.
- ✓ **Methods:** Regular reviews, status meetings, key performance indicators (KPIs), and the use of risk triggers to identify emerging risks.
- ✓ **Outputs:** Updated risk register, periodic risk reports, and adjustments to the risk management plan.

Step 2 - Risk Identification (Risk assessment key phase)

- ✓ **Objective:** Identify and document potential risks that could affect the project or organization.
- ✓ **Methods:** Brainstorming sessions, interviews, document reviews, historical data analysis, and expert judgment are commonly used to identify risks.
- ✓ **Outputs:** A comprehensive list of identified risks, often documented in a risk register.

Step 3 - Risk Analysis (Risk assessment key phase)

- ✓ **Objective:** Evaluate the likelihood and impact of each identified risk.
- ✓ **Methods:** Qualitative assessment (using scales such as low, medium, high), quantitative assessment (assigning numerical values to probability and impact), or a combination of both.
- ✓ **Outputs:** Prioritized list of risks based on their potential impact and likelihood.

Step 4-5 - Risk Mitigation Planning and treatment (Risk mitigation phase)

- ✓ **Objective:** Develop strategies to reduce the probability and/or impact of identified risks.
- ✓ **Methods:** Risk avoidance, risk reduction, risk sharing, or risk acceptance. Strategies may also include contingency and fallback plans.
- ✓ **Outputs:** Mitigation plans for high-priority risks, often integrated into the project or organizational plan.

Step 5 - Communication and consultation (horizontal phase)

- ✓ **Objective:** Communicate risk information to stakeholders, ensuring transparency and understanding.
- ✓ **Methods:** Regular reporting, status meetings, risk workshops, and clear documentation of risk-related information.
- ✓ **Outputs:** Risk reports, communication plans, and updates to project or organizational documentation.

It's important to note that risk management is an iterative process, and the methodology should be flexible enough to adapt to changes in the project or organizational environment. Additionally, effective risk management involves the active involvement of stakeholders and a commitment to continuous improvement based on feedback and experience.

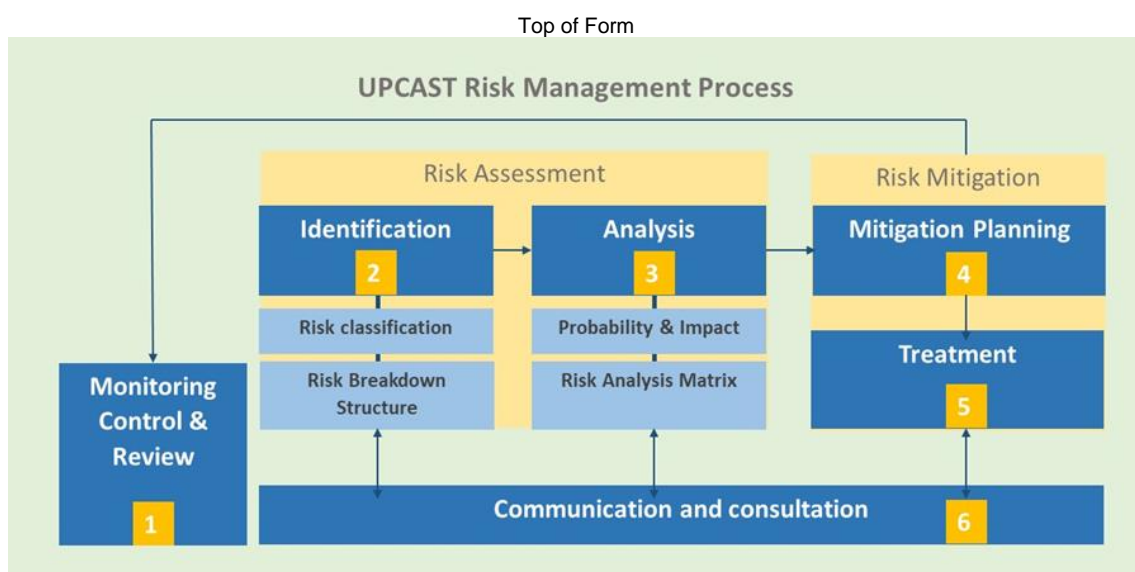


Figure 1: UPCAST Risk Management Process

2.2 Project Management Roles and Responsibilities

UPCAST risk management responsibilities are defined under the overall project management structure as has been proposed. The overall project management of the UPCAST project is described and has been formulated within the tasks of the WP7 - Coordination, Management and Sustainability.

The WP7 includes the following tasks:

- ✓ Task 7.1 Project Management (Leader: IDC, M1-M36, Participating: SOT, CDR)
- ✓ Task 7.2 Quality and Risk Management (Leader: MDA, M1- M36, Participating: IDC)
- ✓ Task 7.3 Data Management (Leader: IDC, M1-M36, Participants: CDR, MAG, ABO, NOK, JOT)
- ✓ Task 7.4 Exploitation (Leader: IDC, M18-M36, Participants: NIS, SIN, NOK, JOT, CAC, NHR)
- ✓ Task 7.5 Ethics (Leader: IDC, M1-M36, Participants: KUL, SOT)

According to the description of the “Task 7.1 Project Management” UPGAST overall project management will be executed under the ISO 21500 processes to plan, monitor and assess achievement of project objectives and UPGAST KPIs.

The overall project management includes 3 main components as visualised in the figure 2: (1) Project coordination, (2) Technical and scientific coordination and (3) Quality assurance.

IDC keeps the project coordination and provide the qualified **Project Manager (PM)** which is responsible for day-to-day management process, consortium meetings, communications processes, and tools (mailing lists, instant messaging, tele/video conferencing,), contractual and legal administration, collaborative working infrastructure (development tools and repositories), periodic reporting as well as all communication with the European Commission and external stakeholders.

SOT keeps the technical and scientific coordination by providing a dedicated **Technical Manager (TM)** that will schedule and chair periodic short cycle development meetings and provide technical arbitrage of individual WP level technical meetings.

MDAT is responsible for the Quality assurance by providing a **Quality Manager (QM)**. In close collaboration with the PM and the project management team if IDC the QM will proceed with the responsibilities of quality and risk management following processes, methods and tools as commonly agreed in this Plan.

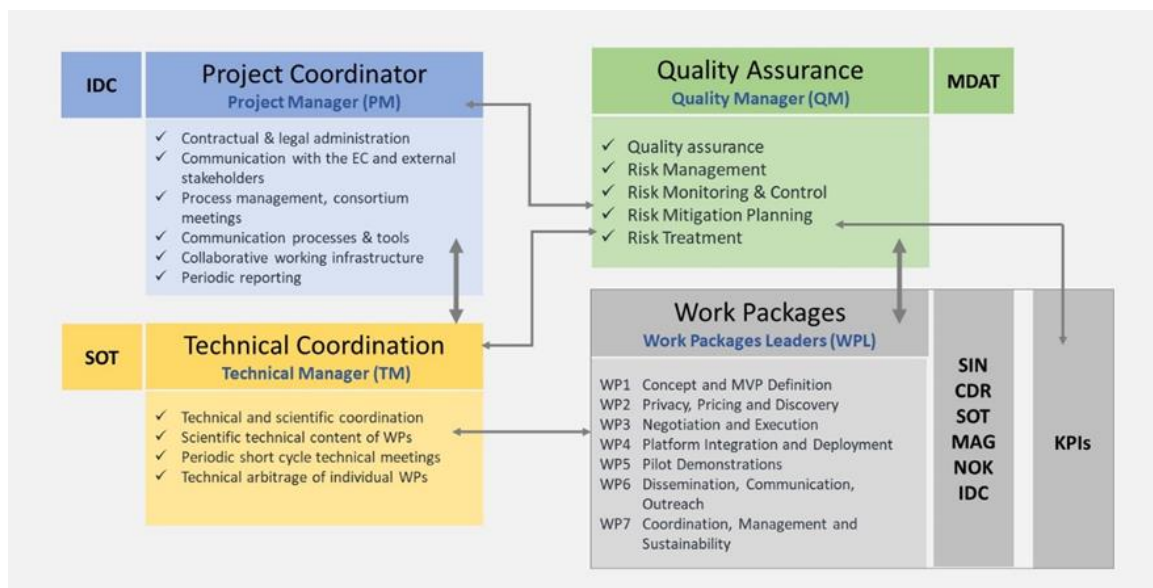


Figure 2: Overall Project Management and Risk Management responsibilities

The **WP Leaders** are responsible of the implementation of the work within their own WP, so they must bear the specific risks may arising in the framework of the deliverables and milestones within the WP they are leading. They assure the identification and

management of the risks, and they should inform the Quality Manager in priority and the Management board (PM and TM) during the **monthly consortium meetings**.

If new risks are identified, the QM will update tables 4 and 5 and the Management Board (PM, TM, QM) will take decisions to action after discussions with Consortium during the project monthly meetings.

2.3 Risk Monitoring and Quality assurance

As described in the framework of the Task 7.2 Quality and Risk Management” (Leader: MDAT, M1- M36, Participating: IDC) of WP7 - Coordination, Management and Sustainability, all project dissemination materials, multimedia content, social media and newsletters using the consortium identity and/or “UPCAST” branding as well as all project Deliverables will have a quality label certified by the Quality manager based on ISO 9001 provided by MDAT which will leveraging IDC’s print media editing department and scheduled internal peer review. To ensure quality, the quality manager will also manage deliverable scheduling, consignment, and the peer review process.

For the Risk Management process based on ISO 31000 will review not only the risks outlined in the Tables 4 and 5 of this report by also new ones as may arise during the project life and the continuous risk monitoring.

3 UPCAST risk identification and evaluation

Risk identification is the process of documenting any risks that could keep the project from reaching its objective. It's the first step in the UPCAST risk management process, which help the management team to understand identify potential threats before they cause damage and helps to make sound decisions for risk mitigation based on accurate information.

The UPCAST risk identification procedure is an essential part of the entire risk management process because:

- ✓ It helps the management team to understand what could go wrong and how they might be able to prevent it.
- ✓ It allows the QM to put together a plan for dealing with any potential risks that might arise.
- ✓ It helps the management team and the consortium to have better decisions when it comes to overcome any risk event on time.

There are some key benefits that the project can reap by using risk identification methods in the risk management procedure:

- ✓ Identify potential threats: This includes both internal and external threats, so to be prepared for anything that comes.
- ✓ Assess project's vulnerabilities: Once we know where the project's weak spots are, we can take steps to shore them up and protect it from possible attacks.
- ✓ Make better decisions: By understanding the risks involved in any given situation, we will be able to make more informed choices and avoid costly mistakes.

3.1. UPCAST Risk identification and evaluation methods

In general, "risk is a measure of the probability and consequence of not achieving a defined project goal" (Kerzner 2017, 601). Usually risks refer to have a negative effect. This is because the risk is uncertain and has an unexpected nature. It is critical to find and understand different risk causes and consequences beforehand. By understanding risk features the right management decisions can be selected (Anderson 2014, 3.) Risks have many definitions depending on their context or type. Depending on the risk, impacts and consequences can also be very different.

Risks can be identified by using various tools and methods. Procedures that will help to discover and rank risks are checklists, creative ideation, modelling and research (Artto et al. 2011, 161). Other possible risk identifications methods can be testing, evaluation of other projects and implementing different kinds of interviews. It depends on the nature of the project which of the methods is most suitable to identify that specific project's risks. It can also be a combination of several identification methods.

The UPCAST risk management plan suggests the use of the following two methods to proceed with a continuous risk identification during the project life cycle:

Method #1 – Risk Classification

We provide the following four categories to classify the UPCAST risks:

1. **External Risks:** Risks outside of the project control, such as environmental, regulatory, political, or social issues (i.e. Covid19 pandemic crisis)
2. **Internal Risks:** Risks that occur inside project consortium, including consortium conflicts, partner(s) failure, poor dissemination performance, poor exploitation of the project results.
3. **Management Risks:** Risks related to leadership and coordination, management planning, communication, control and so forth.
4. **Technical Risks:** Technical issues risks related to the data privacy and governance or other legal data issues.

Method #2 - Risk Breakdown Structure

The Risk Breakdown Structure (RBS) is the procedure that UPCAST project uses for identifying and understand the nature of each risk, prioritizing risks so the management team to know which will be impactful. That's the first step in planning, managing, and mitigating risk in our Risk management plan. By using RBS's hierarchical representation or decomposition of risks the UPCAST risk management and quality assurance team has a helpful tool that helps in systematically identifying, categorizing, and understanding the various types of risks that may impact the project during its life cycle.

Here's how the UPCAST RBS tool works:

Hierarchical Structure

- ✓ **Top Level:** At the top level of the structure, we have broad categories or types of risks that could affect the UPCAST project. These categories are generic and cover a wide range of potential risks.
- ✓ **Sub-levels:** Each top-level category is further broken down into sub-levels or specific risk elements. These sub-levels provide a more detailed breakdown of the risks associated with each category.

Risk Identification

- ✓ **Identification of Risks:** the overall RBS is developed during the risk management planning phase of the project. Each UPCAST pilot case may use involves brainstorming sessions and discussions with pilot case stakeholders to identify specific potential risks per use case.
- ✓ **Risk Definition:** Each identified risk is defined and categorized within the appropriate level of the RBS. This process helps in creating a comprehensive list of risks.

Organized View of Risks:

- ✓ **Organized Structure:** The UPCAST RBS provides a structured and organized view of the project risks, making it easier for project management and quality assurance team to understand the types of risks they might encounter.

- ✓ **Visualization:** The hierarchical structure allows for visualization of how specific risks are related to broader categories and how they fit into the overall risk landscape of the project.

Risk Management

- ✓ **Risk Response Planning:** Once risks are identified and categorized in the RBS, project consortium can develop appropriate risk response plans for each type of risk.
- ✓ **Prioritization:** The RBS helps in prioritizing risks based on their potential impact and probability, allowing the project consortium to focus on addressing the most critical risks first.

Continuous Monitoring

- ✓ **Monitoring and Control:** The RBS is a dynamic tool that is continuously updated throughout the project life cycle. As the project progresses, new risks may emerge, and existing risks may change in their nature or level of impact.
- ✓ **Reporting:** It aids in the preparation of risk management reports and presentations by providing a clear structure for presenting information about different types of risks.

Table 1: UPCAST Risk Breakdown Structure template

Level 0	Level 1	Level 2	Level 3 <i>Detailed description of the risk characteristics</i>
UPCAST RISKS	External	Cultural / ethic	
		Global health issues	
		Natural environment	
		Economic environment	
	Internal	Consortium conflicts	
		Partner failure	
		Dissemination / communication	
		Exploitation of results	
	Management	Leadership & coordination	
		Information flow	
		Quality assurance	
	Technical	Product engineering	

UPCAST	UPCAST		
		Data legal and ethical issues	
		Pilot cases	

Source: www.projectmanager.com (Simmons, 2022) and own elaboration

3.2. Risk probability and impact

This section defines the risk probability and impact analysis as part of the UPGAST risk management assessment, using a scale or a rating system. This rating system is defined here in the risk management plan so that we can easily and consistently rate all risks that may affect the project. We will be defining the guidelines that we will be using to accurately assess and rate risks in our project.

Risk probability, also known as likelihood or chance, represents the likelihood that a specific risk event will occur. It is an estimation of the probability of the risk event happening over a specified period.

Probability measurement: Probability is often expressed as a percentage (e.g., 10%, 50%) or as a qualitative assessment (e.g., low, medium, high). Quantifying the likelihood of a risk helps in understanding the chances of its occurrence.

Risk Impact refers to the potential consequences or effects that may result from a specific risk event if it occurs. It involves assessing the severity or magnitude of the impact on project objectives, such as cost, schedule, quality, or other relevant factors.

Risk Impact measurement: Impact can be measured in terms of financial loss, delays, resource allocation, or other project-specific criteria. It helps in understanding the significance of a risk event on the overall project.

In risk management, these two components are often combined in a risk matrix, where risks are categorized based on their probability and impact. This matrix helps prioritize risks and determine which ones require more attention and mitigation efforts. Here's a simplified example of a risk matrix:

The probability and impact matrix are used to prioritize risks and to determine which risks require a response. This will serve as a look-up table that combines both the probability and impact rating so that risks can be rated in a consistent manner. This again will be used in the Qualitative Risk Analysis process.

There are various ways of documenting the risk probabilities and impact and as you might have guessed by now, it depends on your organization. Some commonly used ways are to use the "High-Medium-Low" scale or a Numeric scale. Table 2 below shows two sample scales related to the risk nature/type and will be used both in UPGAST risk management assessment and risk monitoring.

Table 2: UPGAST risk probability and impact measurements systems

	Probability and Impact definition
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	Low	Medium	High
RISK #1	The risk occurs minor effect to the project and has not impact to the project deliverables	The risk occurs a noticeable effect to the project and affects one or more project deliverables	The risk occurs a significant change to the project and affects almost all deliverables
	Numeric scale of Probability / Impact definition		
Risk #2 i.e. time schedule related risk	≥10%	≥20%	≥30%
	The risk occurs 5% increase of the working time needed	The risk occurs 12-15% increase of the working time needed	The risk occurs more than 25% increase of the working time needed

Source: <https://www.pmi.org/> (Lavanya, et al 2008) and own elaboration

3.2 Risk Analysis Matrix

There are two important dimensions of a risk analysis and assessment: **likelihood** of the risk event and the **severity** of the risk occurs. In UPCAST risk management plan, the responsible for the Risk and Quality assurance will assess the likelihood and impact of each risk on the analysis matrix of all the registered UPCAST risks, foreseen and unforeseen (table 4,5). These factors help the project management team and consortium make informed decisions about how to allocate resources and develop strategies to mitigate or respond to risks.

The UPCAST Risk Analysis Matrix (RAM) is a simple mechanism to identify and list the risk events related to their project. One axis of the matrix lists the relative likelihood of the risk occurring. The other axis of the matrix shows the severity of the risk.

In the UPCAST Risk Analysis matrix (table 3), **Likelihood** refers to the probability or chance that a specific risk event will occur. It is a measure of how likely it is that a particular risk will materialize and impact the project. Likelihood is expressed on a scale from rare to certain, such as: Rare – Unlikely – Possible – Likely – Almost Certain

Severity relates to the potential impact or harm that a risk event could have on the project if it were to occur. It measures the degree of consequences resulting from the realization of a particular risk. In the RAM, severity is expressed on a scale from insignificant to severe such as: Insignificant – Minor – Moderate – Major – Severe.

The UPCAST RAM integrates likelihood and severity analysing the relationship between the two factors by divided into quadrants representing different risk levels. Risks in the high likelihood and high severity quadrant are typically considered the most critical and require urgent attention.

Once risks are assessed based on likelihood and severity, project consortium can prioritize them for risk treatment. High-risk events (in red quadrants) may require more resources for mitigation or contingency planning.

Table 3: Risk Analysis Matrix used for the UPGAST risk assessment

Risk Matrix		Severity				
		Insignificant	Minor	Moderate	Major	Severe
Likelihood	Almost Certain	Medium	High	Very High	Very High	Very High
	Likely	Medium	High	High	Very High	Very High
	Possible	Low	Medium	High	High	Very High
	Unlikely	Low	Low	Medium	Medium	High
	Rare	Low	Low	Low	Low	Medium

Source: www.projectmanager.com (Landau, 2023).

4 UPGAST Risks and mitigation measures tables

The implementation of mitigation measures is a key when project management team is in the process to reduce the risks as much as reasonably practicable to acceptable values before the implementation of any task. Mitigation procedures are defined to reduce the impact and/or probability or both of a certain risk and might have impact on schedule of the project, the implementation procedure, the results, and the impact of the results.

The potential cost associated to a mitigation procedure can be seen as an “insurance” to reduce the severity of a risk event or to prevent even bigger crucial losses for the project. UPGAST Risk mitigation handling options include the following group of actions regarding the severity scale of the risk:

Assume/Accept: Acknowledge the existence of a particular risk and make a deliberate decision to accept it without engaging in special efforts to control it. Approval of Project Management Board and WP leaders is required for these mitigation actions.

Avoid: Adjust deliverable / task requirements or constraints to overcome the risk. This adjustment could be accommodated by a change in timeline, or technical content and requirements.

Eliminate: Implement a change to eliminate the risk

Transfer: Reassign organizational accountability, responsibility, and authority to another stakeholder willing to accept the risk. Approval of Project Management Board and WP leaders is required for these mitigation actions.

Control: Implement actions to minimize the likelihood and severity of the risk.

Watch/Monitor: Monitor the environment for changes that affect the nature and/or the impact of the risk.

Sometimes, although risks are identified and mitigation planning and measurement are put in action, it is still possible that still unexpected events occur. To reduce the impact of such events, a contingency plan (Plan B) is defined to be applied. Contingency planning is a very useful component in risk management continuity and UPCAST is going to use it in high priority and high severe risks. The risk identification and classification are important steps to define the contingency plan since they allow the identification of the most relevant indicators to act as triggers for different contingency actions.

4.1 Foreseen risks and Unforeseen risks

The following Foreseen Table (table 4) lists the Risk identified in the UPCAST project proposal having been forecast by the Consortium before the beginning of the project.

The following Unforeseen Table (table 5) lists new risks arisen after the project start.

The following Risk Tables is a detailed risk recording using the following information per risk event: (1) risk code/no, (2) short description of the risk, (3) WP(s) related with risk event, (4) Likelihood level according to the RAM (table 3), (5) Severity level according to the RAM (table 3) and (6) proposed risk mitigation measures.

Based on RAM risk colour identification, the first column of the Risk Tables receives a colour as follows:

	Low risk event	Low priority in mitigation planning
	Medium risk event	Medium priority in mitigation planning
	High risk event	High priority in mitigation planning
	Very high-risk event	Very high priority in mitigation planning

Using this method, the QM has a clear overview of the risks during the project life cycle having always all the information and the prioritisation of the actions needed to be done. The QM, in the continuous risk monitoring process, will update the following table with new risks may arise during the WPs milestones and deliverables.

Table 4: Foreseen UPCAST Risks

Risk No	Description of Risk	WP(s) involved	Likelihood level	Severity Level	Proposed risk-mitigation measures
R1 HIGH	Late and/or low-quality deliverables or work	WP7	POSSIBLE	MAJOR	Continuous and effective monitoring of partners' progress, Quality Manger monitors advanced deadline, Peer review process and obligations defined at M1.
R2 MEDIUM	Partner underperforms or leave the consortium.	WP7	UNLIKELY	MAJOR	Perform cost accounting at quarterly intervals to highlight underspending. Monthly WP meetings. Lead informs PM of lack of partner cooperation, back-up plan for task redistribution maintained
R3 MEDIUM	Plugins utility diminished due to unforeseen security issues	WP2, WP3, WP4	UNLIKELY	MAJOR	Re-use of recognised patterns and technologies from stable specifications.
R4 HIGH	Different understandings and heterogenous requirements in terms of interoperability development.	WP1	POSSIBLE	MODERATE	Leverage knowledge of partners with experience with IDS architecture (MAG). All technical partner contributing to task 5.5
R5 LOW	Legal assessment concludes automated contracts have no legal validity.	WP1, WP4	RARE	MAJOR	Provide guidelines for the right use of contracting as base for legally valid contracts in early phase of project.
R6 MEDIUM	Pilots use cases entail simple use of the plugins, preventing full evaluation.	WP2, WP3, WP5	POSSIBLE	MINOR	Create additional "long scope" MVP in Task1.1 use cases that can be tested through simulation.
R7 MEDIUM	Insufficient data to train pricing and valuation models.	WP2	POSSIBLE	MODERATE	Liaise with data marketplaces and Big Data Hubs including EUH4Data to collect more data.

Risk No	Description of Risk	WP(s) involved	Likelihood level	Severity Level	Proposed risk-mitigation measures
R8 MEDIUM	MVP and requirements are too complex to be implemented in task timeframe	WP1, WP2, WP3, WP4	UNLIKELY	MAJOR	Ensure agile development methodologies are applied for development tasks. Clearly separate goals in research from goals in implementation
R9 HIGH	Outcomes are under-documented, hindering transferability and community creation.	WP6	POSSIBLE	MAJOR	Software modules have regular internal documentation milestones, documentation shared on project wiki, documentation peer reviewed.
R10 HIGH	AI Assessment auditing is negative.	WP2, WP3, WP4	POSSIBLE	MAJOR	Elements of the assessment are integrated in the MVP and requirements definition.
R11 MEDIUM	Heterogeneity of used AI models makes effective federated aggregation between entities difficult	WP2	POSSIBLE	INSIGNIFICANT	AI functionalities implemented based on standardized set of models' templates.

Table 5: Unforeseen UPCAST Risks

Risk No	Description of Risk	WP(s) involved	Likelihood level	Severity Level	Proposed risk-mitigation measures
R11	Grant agreement signing: SOT and Brexit issues	All	RARE	MAJOR	This risk cannot materialise anymore due to the recent EU-UK agreement in Horizon matters.
R12	Partner decides to scale down activities in the project	All	POSSIBLE	MAJOR	Find a new partner willing to join the consortium. Prepare an amendment to include the new partner.
R13	Under-development standards on which we base (IDSA, Gaia-X) diverge or stall	WP1-WP4	UNLIKELY	MODERATE	Actively participate in standards discussion.
R14	Adoption is hindered by lack of penetration of assumed standards	WP5-WP6	POSSIBLE	MINOR	Ensure most plugins add value when used independently.
R16	Impact of Large Language Models make some technical work obsolete	WP1-WP4	POSSIBLE	MAJOR	Evaluate the potential use/impact of Large Language Models for each plugin.

4.2 Risk management timeline

Risk management is a procedure happening under Task 7.2 Quality and Risk Management in the framework of WP7 -Coordination, Management and Sustainability. This procedure is happening continuously during the entire project lifecycle. There are 2 milestones during this procedure:

M12 – delivering the Risk Management Plan (D7.1) where the entire process, methodology, tools, and responsibilities for UPGAST risk management is defined.

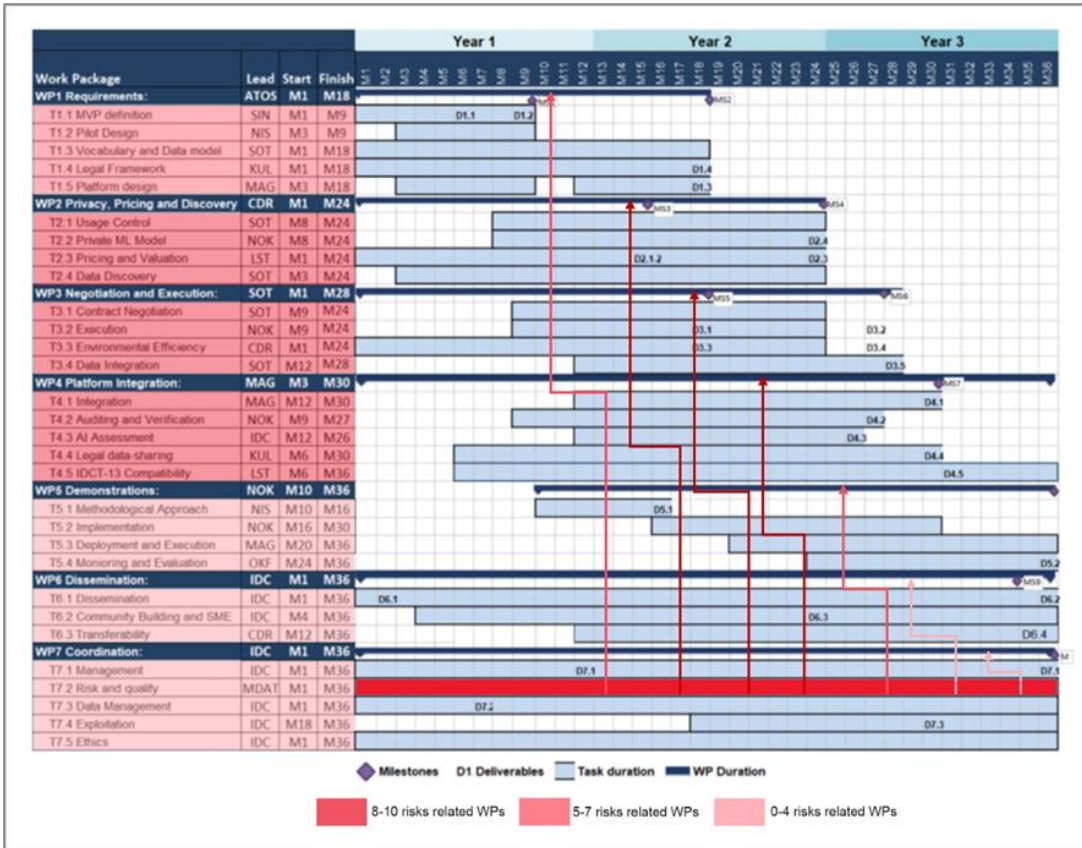
M36 – delivering the Risk Management Report (D7.1) where the entire risk management and quality assessment procedure will be reported.

Most of the tools defined by this Plan are living documents being updated during the project life cycle especially for the new risks arise, such as:

- ✓ Identify the type of new risks arising using the UPGAST Risk Breakdown Structure template (table 01)
- ✓ Analyse the new risks using the UPGAST risk probability and impact measurements system (table 01)
- ✓ Update the Unforeseen UPGAST Risks table (table 5) using the analysis matrix (table 3)

Even though the UPGAST risk management procedure is continuous during the project lifetime there are some WPs and Tasks more related to the recorded risks, so the Risk and Quality assessment process will pay additional attention to those WPs, Tasks and Deliverables at the related periods of the project schedule. Figure 03 below shows the project timeline and the UPGAST risk management duration and milestone, and the specific efforts needed for the WPs most related to the recorded risks.

Figure 3: UPGAST project timeline, risk management duration, milestones and specific efforts for the WPs most related to the recorded risks



Source: UPCAST project proposal

5 Conclusions

This document describes the UPCAST risk management process, the tools and methods will be used, the responsibilities and specific risks foreseen before the start of the project as well as some risks recorded after the project beginning (table 4 and 5).

No risk identified here has a very high severity (red colour alert). The corresponding mitigation actions as mechanisms to prevent these risks partially or completely, as well as mitigation measures to solve them in case of their occurrence have been described in Risk Tables.

Furthermore, this Risk Management Plan is describing the process, methods and tools that will be thoroughly applied throughout the UPCAST project life cycle under the supervision of the Quality Manager and the Coordination Team.

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ANNEX I ACRONYMS & ABBREVIATIONS

Acronyms

Table 6: Acronyms List

Acronyms List	
CP	Consortium Plenary
DoA	Description of Action
PC	Project Coordinator
PMB	Project Management Board
PPR	Project Periodic Report
QM	Quality Management
RM	Risk Management
TM	Technical Manager
WPL	Work Packages Leaders
DMP	Data Management Plan
GDPR	General Data Protection Regulation
RBS	Risk Breakdown Structure

Abbreviations

Table 7: Acronyms List

Abbreviation List	
API	Application Programming Interface - A set of rules and protocols that allows different software applications to communicate and interact with each other.
DCAT	Data Catalog Vocabulary is a metadata standard used to describe datasets, data catalogs, and data portals.
DMP	A document that outlines how data will be handled throughout the research project, including data collection, storage, sharing, and preservation.
DOI	Digital Object Identifier - A unique alphanumeric identifier assigned to a digital object, such as a dataset or publication, to provide a persistent link to its location on the internet.
DRM	Digital Rights Management - Technologies and measures used to protect and manage the rights associated with digital content, including data access and usage restrictions.
ETL	Extract, Transform, Load - The process of extracting data from various

	sources, transforming it into a consistent format, and loading it into a target system or database.
FAIR	Findable, Accessible, Interoperable, and Reusable - A set of principles that aim to make data discoverable, accessible, and usable by both humans and machines.
GDPR	The European Union regulation that governs the protection and privacy of personal data. It sets guidelines for data processing, consent, and individuals' rights.
NDA	Non-Disclosure Agreement - A legal contract that establishes confidentiality obligations between parties involved in sharing sensitive or proprietary information.
NFR	Non-Functional Requirements - Requirements that specify the characteristics and qualities of a system, such as security, performance, scalability, and usability.
PII	Personally Identifiable Information - Information that can be used to identify an individual, such as name, address, contact details, or unique identifiers.
Pseudo nymization	The process of replacing identifiable data with artificial identifiers, called pseudonyms, to protect individual privacy while still allowing data analysis and processing.
RDM	Research Data Management - The practice of managing research data throughout its lifecycle, including data organization, documentation, storage, sharing, and preservation.
TLS	Transport Layer Security is one of the most common encryption protocols used to secure data during transmission over a network.