



Deliverable D1.2

## Project risk identification and evaluation



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AUTHOR(S)	Valerio Grossi (CNR), Roberto Trasarti (CNR), Michela Natilli (CNR)
CONTRIBUTOR(S)	Denise Amram (SSSA)
EDITOR(S)	Valerio Grossi (CNR)
REVIEWER(S)	Marco Braghieri (KCL), Ilaria Barsanti (CNR)
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## EXECUTIVE SUMMARY

This deliverable addresses different risks (external, internal, strategic, operational, and other) continuously monitored by the Management Board. In particular, the document focuses on risks defined at proposal time and the mitigation measures expected, integrated with the ones that emerged from the first 12 months of the project.

## DISCLAIMER

This project has received funding from the European Union's - Horizon Europe research and innovation programme under grant agreement No 101079043.

SoBigData RI PPP's main objectives are to define operational strategies for modelling and defining the legal entity and then obtaining legal status; to prepare the financial and legal aspects for both the central hub and the national nodes of RI; to prepare a business plan for long term sustainability; to define strategies for service design, community engagement and third-party partnerships.

This document contains information on SoBigData RI PPP core activities, findings and outcomes and it may also contain contributions from distinguished experts who contribute as SoBigData RI PPP Board members. Any reference to content in this document should clearly indicate the authors, source, organisation and publication date.

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## GLOSSARY

ESFRI	European Strategy Forum on Research Infrastructures
PPP	Preparatory Phase Project
PMT	Project Management Team
PMB	Project Management Board

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# 1 Relevance to SoBigData RI PPP

## 1.1 Relevance to project objectives

This deliverable describes all relevant risks in the SoBigData RI PPP. It defines different risks (external, internal, strategic, operational, and other) involving the project and the RI and provides an updated status on the mitigation measures adopted by the consortium.

The information in this document concerns the overall project organization and all work packages. This deliverable is defined within WP1, which aims at ensuring robust and efficient day-to-day project management to reach its objectives on time and within budget constraints. Furthermore, WP1 focuses on providing administrative and financial management of the project. The work package aims to develop cooperation between partners.

## 1.2 Relation to other work packages

Risk management and WP1 include horizontal activities involving all the WPs and last for the entire duration of the project. There is a clear interaction between WP1 and all work packages in monitoring and managing their actions and work.

## 1.3 Structure of the document

Section 2 is the main part of the document. It reports on the risk status and provides mitigation measures adopted and planned by the consortium for the continuum of the project, including aspects related to ESFRI requirements and the overall RI structure.

## 2 Risk Evaluation and Management

The consortium conceived the SoBigData RI PPP work plan to prevent the most common risks from the beginning of the project. This is achieved by proactive risk management based on modular work packages, clear responsibilities, and minimization of critical paths. If one work package is facing a delay, other packages can continue to achieve results, also thanks to project board members that have proven skills and a track record in international projects and research organizations. Furthermore, the daily management of an RI involves numerous risks that must be carefully considered and monitored to ensure the infrastructure's reliability (and relative services). Risk analyses, evaluation, and management are performed regularly by the Project Management Team (PMT) and Project Management Board (PMB) and consider key consortium decisions. SoBigData RI PPP is related to the preparatory phase defined by the European Strategy Forum on Research Infrastructures (ESFRI). In this context, changes in political aspects, business needs, time schedules, and costs (including user requirements) may occur. The PMT and PMB monitor risk continually and make a risk evaluation at each milestone to determine whether the level of risk is acceptable and appropriate for the project.

There is a contingency plan defined for significant risks. This plan is updated in each reporting period through the EC SyGMA portal. It is clear that this project requires to consider and address different kinds of risk, especially the external, strategic, and operational, since one of the main aims of SoBigData RI PPP is related to sustainability, including the involvement of member states for the legal form and business aspects. This work belongs to the management activities, and it includes:

- Identify risks of any nature that might occur during the project and assess their probability and potential impact on the project.
- Plan concrete actions to prevent risk occurrence.
- If problems do occur, the associated contingency measure will be swiftly implemented to minimize the impact.

The risk of bankruptcy of the coordinator is excluded since it is a publicly funded research organization. A working team is devoted full-time to financial and project administration tasks related to SoBigData RI.

The following subsections report a short description of the main risks identified by the consortium and the relative risk mitigation measures.

### 2.1 Typical risks in managing research infrastructure

Effective risk management is an ongoing process integrated in the overall governance and management of the SoBigData RI helping to ensure long-term sustainability and success of the infrastructure, minimizing disruptions, and protecting valuable research assets. The process we adopted is the traditional three-step approach. We started by identifying potential risks specific to our RI, including financial, technical, operational, safety, and compliance-related risks. Then, we proceeded by assessing the likelihood and potential impact of each risk, quantifying or qualifying risks in order to prioritize them. Finally, the RI's management structure developed strategies to mitigate each identified risk. These strategies can include

preventative measures, contingency plans, and response plans. The definition of the table reported in Section 2.2 is based on the above approach.

The main areas we analyzed are based on:

- *financial and political risks:*
  - insufficient funding involving the lack of adequate funding that can compromise the maintenance and growth of the RI, compromising research activities quality of research activities.
  - due to the nature of the RI we have considered changes in government policies and international crises.
- *technological risks* (considered in the definition of e-infrastructure and RI online services):
  - obsolescence: technologies advance rapidly, and an obsolete infrastructure may not be able to keep pace with changes, negatively impacting research quality.
  - failures and malfunctions: Research instruments and equipment may experience failures or malfunctions, causing interruptions in research activities and costs of repairs.
- *risks in managing human resources:*
  - staff rotation can lead to a loss of knowledge and competence, putting the continuity of RI activities at risk.
  - lack of qualified personnel can negatively impact the ability to manage and maintain the RI effectively.
- *collaborations and partnerships:*
  - the RI involves collaborations with several organizations; conflicts or disagreements between the parties can cause problems in shared management.
- *risks in communication and stakeholder engagement:*
  - lack of effective communication with the public and stakeholders can lead to support issues for the RI.

The SoBigData RI risk management involves continuous monitoring and review of risk management strategies' effectiveness; including updating the risk management plan as needed to address evolving risks and changing circumstances. We maintain documentation of all risk assessments, mitigation strategies, and incident responses. This documentation is valuable for reporting and future planning. Furthermore, during our service definition and market analysis, we require information to prepare for potential crisis situations and test response plans. We are fostering a culture within the consortium that encourages all staff to be risk-aware and take proactive measures to mitigate them.

## 2.2 Identified risks and mitigation actions

The SoBigData RI PPP project is focused on guaranteeing a reliable long-term sustainability plan, and the risks identified are related to this aim and driven by the ESFRI Roadmap.

Table 2.2.1 reports the list defined by the consortium at the proposal time and revised for the grant agreement preparation and refers to the LIST OF CRITICAL RISKS section in the Grant Agreement. The

consortium identified 7 different major risks that involve all the work packages. It is important to highlight that the risk analysis started as SoBigData RI submitted its proposal to ESFRI and has been updated considering the first 12 months of the project.

	<i>Risk Description</i>	<i>Consortium response</i>	<i>WPs</i>	<i>Risk-mitigation measures</i>
1	<p>Insufficient funding: governments of 4 countries have so far provided political and/or financial support for a sustainable, independent SoBigData RI. However, specific agreements on sustainable funding commitments must be negotiated during the SoBigData RI PPP. There is a risk that these negotiations will not lead to successful agreements, and the political support will not materialize into a funding commitment.</p> <p><i>Likelihood: 3/5</i> <i>Severity: High</i></p>	<p>At M12, we must report that the Swiss partner left the project, and Switzerland provided political support for the ESFRI proposal. Currently, the consortium is working on establishing contacts with local ESFRI delegates and the relative ministry. The strategy for risk avoidance from the consortium will take actions to create national nodes (M6 - M18), including the participation of institutions in national calls (as happened for Italy with the National Recovery and Resilience Plan - SoBigData.it project). The support from the coordination can be provided in different aspects: providing material, writing proposals, and web presence. Then (after M18), the RI, through the national nodes (and with the agreement of the national ESFRI delegate), should be ready to ask government institutions for political and financial support.</p>	<p>WP7, WP3, WP8, WP2</p>	<p>WP2 will develop negotiation strategies for representatives of funding bodies to address this risk. As this is the core business of this WP, any difficulties in this regard will be noted early on in the process, allowing the SoBigData RI PPP management to activate contingency planning and alert WP3 to adapt the funding strategy to this situation. WP2 will develop negotiation strategies, taking national policies and specific funding landscape carefully into account, the tasks of WP2 are a risk mitigation measure in itself. In addition, WP3, responsible for the funding strategy and financial planning, and WP2 will work in synergy, allowing for the required flexibility to mitigate this risk. The consortium is currently creating a net of projects (and proposals) that use the RI facilities for managing both technological and scientific aspects.</p>
2	<p>Recruiting and/or retaining skilled staff: skilled staff will not be available to implement the project activities. A number of the SoBigData RI PPP tasks require highly specialized staff, and in the absence of such experts, these tasks will be</p>	<p>SoBigData RI PPP requires high-level skilled staff with different backgrounds. The consortium has been defined, including specific groups and beneficiaries for managing the legal aspect (SmartLex) and the business aspects (SSSA includes</p>	<p>WP5, WP6, WP7, WP3, WP8, WP2, WP4</p>	<p>Currently, the majority of staff are already employed by consortium partners and are motivated to work on the project. Regarding positions that are yet unfulfilled, partners are well aware of the required capacities and skills for these</p>

	<p>unable to be implemented successfully.</p> <p><i>Likelihood: 2/5</i> <i>Severity: Medium</i></p>	<p>Andrea Piccaluga, who is the Director of the Institute of Management). Generally, we can state that SoBigData RI PPP has world-leading partners in all areas of expertise needed in the project.</p>		<p>positions and have made careful considerations, in consultation with the respective WP Leaders, about how to recruit for new positions-</p>
3	<p>Political support: SoBigData RI has obtained political support from representatives of several national governments. There is a risk that following elections or other changes in the political environment of member states (and associated countries), the political interests change, and the political support for SoBigData RI subsidies.</p> <p><i>Likelihood: 2/5</i> <i>Severity: Medium</i></p>	<p>The management of this risk is strictly related to risk 1. The coordinator, together with PIs of the national nodes and the EC, will monitor the changes at both the local political level and at the European Level. Currently, the consortium is studying the best legal form to propose to the governments. Obtaining political and financial support from a country must be seen as an investment in a specific territory, not a fee to be part of SoBigData RI. Most of the money will be invested in the territory where the node is established.</p>	<p>WP7, WP3, WP8, WP2</p>	<p>Via the Board of Governmental Representatives, the project will enable close contact with representatives of national governments and, in that way, continuously monitor any developments in this regard. In addition to that, WP7, through its main activities, will closely monitor political developments and the political environment in the relevant member states and associated countries. WP7 will consider any significant changes in designing strategies for engaging stakeholders.</p>
4	<p>Disagreement about strategic decisions: during the Preparatory Phase, several critical strategic decisions will have to be taken, such as selecting a legal framework to underpin the sustainable SoBigData RI, the location of national nodes, the long-term research and innovation strategy and training and user strategy that the SoBigData RI will employ. There is a risk of disagreement on these decisions, which could delay the project's progress and produce</p>	<p>This risk is connected with risks 1 and 3. In this context, we have to highlight that many of the partners have an established history of previous collaboration. Furthermore, the consortium is collaborating with Horizon Results Booster<sup>1</sup> to define the strategic development of services based on the needs and peculiarities of each beneficiary (and then each local node). During the preparation phase, negotiations and meetings will be organized to extend the current funding</p>	<p>WP7, WP8, WP2, WP4</p>	<p>The SoBigData RI PPP consortium has a long-established collaboration through the H2020 SoBigData Projects. In any case, this risk will be mitigated by the open and transparent communication approach of the project. All project bodies and the entire consortium will be met openly and transparently, thereby allowing for an open discussion in the relevant project bodies. The project management bodies and the stakeholders will be</p>

<sup>1</sup> <https://www.horizonresultsbooster.eu/>

	<p>difficulties in achieving the project's (interdependent) goals.</p> <p>Likelihood: <b>1/5</b> Severity: <b>Low</b></p>	<p>countries. As already reported for risk 3 the consortium (supported by SmatrLex and SSSA) is evaluating the best legal form for the RI and the different peculiarities for the nodes.</p>		<p>involved in an open and ongoing dialogue about strategic matters.</p>
5	<p>Slow negotiations with funding bodies: to implement a permanent and sustainable SoBigData RI, binding financial commitments must be secured with governments of the Member States and Associated Countries. It is very well possible that negotiations to achieve these long-term commitments may take up quite some time, which could, in the worst case, delay the transition into the implementation phase.</p> <p>Likelihood: <b>4/5</b> Severity: <b>Low</b></p>	<p>This risk is explicitly related to the ERIC definition and implies political aspects of the specific state member. At the moment, each PIs is monitoring and also scheduling the different steps to become a sustainable node, also conjuring political aspects such as elections or government crises. This risk involves more local aspects. The PMT will monitor the status of the different countries to avoid and minimize local delays, such as the impact of these delays (and uncertainties) on the RI's overall progress.</p>	<p>WP7, WP3, WP2</p>	<p>The fact that negotiating sustainable funding commitments with the Member States and Associated Countries can be a lengthy process has been considered in developing this proposal. SoBigData RI applied for a Preparatory Phase of three years and will start the conversation with potential funders as soon as national strategies have been created in WP2. The SoBigData RI PPP will align the timing of its negotiation strategies for each national funding stream. The risk of a delayed implementation due to slow negotiations will be mitigated by the timely involvement of the Board of Governmental Representatives and the specific tasks outlined for WP2.</p>
6	<p>Project Interdependencies: the scientific outcomes from H2020 SoBigData++ will also be part of the strategies defined in SoBigData RI PPP. Therefore, a number of activities will have synergies will need to be optimized and monitored to make sure that their implementations are harmonized. The risk of the two projects running in unison is that activities are not efficiently</p>	<p>In this context, the projects' management structures are designed sustain each project's type and aims. Furthermore, the PMT monitors resources spent on each task and work-package regularly and the interaction with the SoBigData++ project.</p>	<p>WP6, WP4</p>	<p>The risk of activities not being efficiently implemented will be mitigated by the adopted management structures of both projects. The overlapping management structures and close cooperation among partners will allow for the optimization of synergies. In this way, both projects will maximize opportunities that will arise. The running of two projects in unison will benefit the outcome</p>

	<p>implemented and that a delay of tasks in one project will have an adverse effect on tasks in the other. On the other hand, the running of the two projects in unison also creates synergies that can be maximized, especially in terms of sustainable results and services.</p> <p><i>Likelihood: 1/5</i> <i>Severity: Low</i></p>		<p>of both projects, especially regarding the integration of experiences and results into long-term strategies,</p>
7	<p>Evolving pandemic situation: the COVID-19 pandemic has transformed how we envision our economies and our societies. In the SoBigData RI PPP, many activities could be affected by the restrictions imposed by local governments and public bodies in general, in particular, the organization of communication and dissemination activities. Moreover, the evolution of the pandemic can also have an impact on the already described risks of slow negotiations and insufficient funding.</p> <p><i>Likelihood: 2/5</i> <i>Severity: Medium</i></p>	<p>The global pandemic situation appears to be under control. All the member states have measures to control the status and cohabitation with the virus. Under this context, the situation is continuously monitored by the consortium, and each beneficiary is applying the rules provided by its state. Moreover, the consortium has devoted resources regarding the study and monitoring of the impact of Covid-19 (and other crises) on governments, users' habits, and economic aspects. In particular, SSSA is analyzing these aspects for the definition of the business plan, as well as stakeholder analysis.</p>	<p>WP9, WP5, WP6, WP7, WP1, WP3, WP8, WP2, WP4</p> <p>The consortium will evaluate several measures to minimize the risk and problems that may occur in the project's first period. The management board will monitor the evolution of the pandemic situation, including national rules applied by the countries where beneficiaries are located. Moreover, the consortium has already managed this situation in H2020 SobBigData++. The project is ready to find alternative solutions to the classical meetings for stakeholders' involvement and other events using available communication tools.</p> <p>The economic impact of COVID-19 will be taken into account during the definition of the RI business plan.</p>

*Table 2.2.1: Identified risks and mitigation actions.*

During the first 12 months, we did several point-to-point meetings with the PIs of the institutions involved in defining the RI. During these meetings, we noticed that some of them were worried about the business actions related to RI sustainability. Two main aspects are a cause of concern for researchers and PIs. On the one hand, a diminished attention to research activities if compared to the business side, and on the other,

answer or manage questions related to business aspects that are beyond their competence and knowledge. Now, this does not represent a concrete risk, but PMT is aware of it, and is providing adequate support when required. This risk has been already envisioned since it involves risk 4, and it is clear that the different nodes inside the RI could have different maturity related to business, service provision, and operative aspects. The main point that we must highlight is that the research on social mining and AI will remain the main focus of the RI. It is from this research that services and products will be based on. The RI facilities will support the development and deployment of the service also for the beneficiaries less “business-oriented”.

### 2.3 EC risk reporting tool

The monitoring and reporting of risk are already expected by a specific tab in the EC SyGMa portal (Figure 2.3.1). In particular, the tab reports two main areas:

1. Foreseen Risks (Annex-I): this area reports all the risks defined by the consortium at proposal time and reviewed for the grant agreement signature. In this area, for each risk, several fields are available on the status of the risk, including a description of the actions (in any) related to the selected risk.
2. Unforeseen Risks: this area includes all the risks not expected by the consortium at proposal time but raised during the project activities.

The consortium will use this portal to communicate and check the status of the risks inside the project.

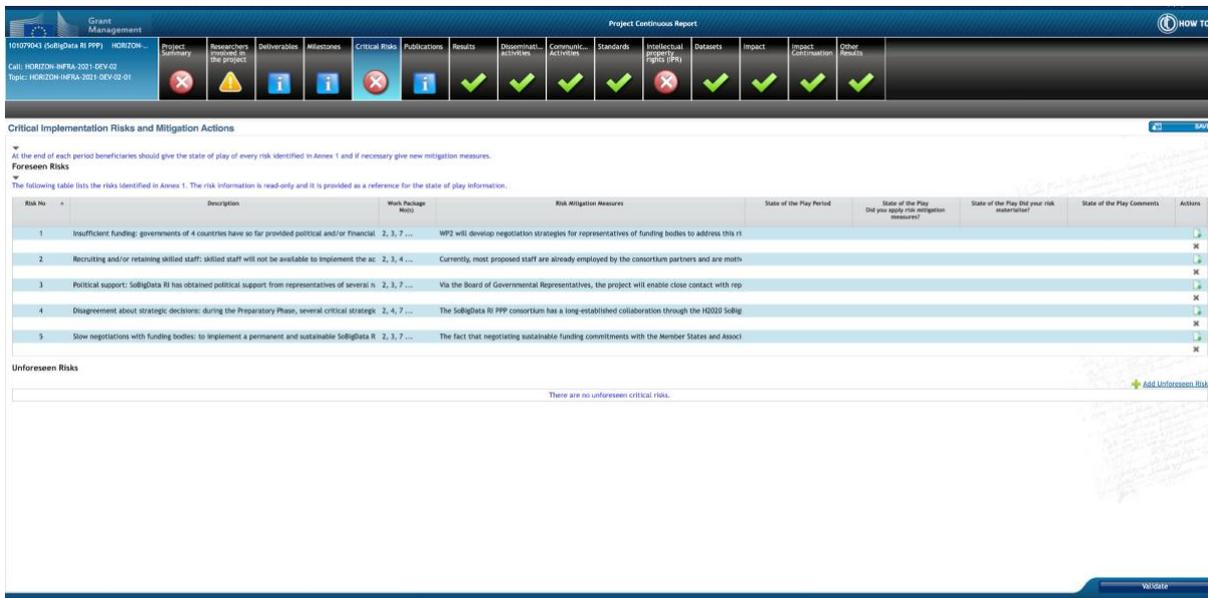


Figure 2.3.1: Critical Risks - EC SyGMa portal.

### 3 Conclusions

This deliverable outlined all the defined risks inside the SoBigData RI PPP project. It has introduced the level of risk and the measures expected for monitoring and mitigating risks, also updating the risks defined in the proposal and grant agreement signing time.