

SINNOGENES

Storage **INNO**vations for **Green ENERgy** Systems

DELIVERABLE D1.1

PROJECT HANDBOOK

Call: HORIZON-CL5-2022-D3-01

Type of Action: **IA**

Project Acronym: **SINNOGENES**

Project ID: **101096992**

Duration: **48 months**

Start Date: **01/01/2023**



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the European Union

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The SINNOGENES Consortium consists of:

Number	Short name	Legal name
1	UNISY	UNISYSTEMS LUXEMBOURG SARL
1.1	UNIS GR	UNI SYSTEMS SYSTMATA PLIROFORIKIS MONOPROSOPI ANONYMI EMPORIKI ETAIRIA
2	UBE	UBITECH ENERGY
3	ART	ARTELYS
4	RINA-C	RINA CONSULTING SPA
5	CIRCE	FUNDACION CIRCE CENTRO DE INVESTIGACION DE RECURSOS Y CONSUMOS ENERGETICOS
6	FBK	FONDAZIONE BRUNO KESSLER
7	MINDS	METAMIND INNOVATIONS IKE
8	CINT	CINTECH SOLUTIONS LTD
9	UGE	UNIVERSITA DEGLI STUDI DI GENOVA
10	CW	CAPWATT, S.A.
11	INESCTEC	INESC TEC - INSTITUTO DE ENGENHARIADESISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA
12	FEUP	UNIVERSIDADE DO PORTO
13	CARTIF	FUNDACION CARTIF
14	CIEMAT	CENTRO DE INVESTIGACIONES ENERGETICAS, MEDIOAMBIENTALES Y TECNOLOGICAS-CIEMAT
15	INYCOM	INSTRUMENTACION Y COMPONENTES SA
16	FHA	FUNDACION PARA EL DESARROLLO DE LAS NUEVAS TECNOLOGIAS DEL HIDROGENO EN ARAGON
17	SCHN	SCHNEIDER ELECTRIC ESPANA SA
18	DLR	DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV
19	SAND	SANDDORN GMBH HERZBERG
20	HEDNO	DIACHEIRISTIS ELLINIKOU DIKTYOU DIANOMIS ELEKTRIKIS ENERGEIAS AE
21	IPTO	INDEPENDENT POWER TRANSMISSION OPERATOR SA
22	UoA	ETHNIKO KAI KAPODISTRIAKO PANEPISTIMIO ATHINON
23	CERTH	ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS
24	EWf	Energy Web Stiftung (Energy Web Foundation)
25	TPG	TRANSPORTS PUBLICS GENEVOIS
26	UNIGE	UNIVERSITE DE GENEVE
27	Hitachi	Hitachi Energy Switzerland Ltd.



Executive Summary

The specific deliverable entitled “Project Handbook” provides the definition of the processes and mechanisms to be utilized and followed during the lifecycle of SINNOGENES project towards the successful execution of its tasks and achievement of its objectives. Its purpose is to identify the processes, the metrics and the supportive documentation that is required and needs to be defined and deployed so as to ensure the high-quality of SINNOGENES deliverables and project management activities.

In SINNOGENES, complying with the project management procedures falls under the responsibility of the PC, as well as the WP leaders and Tasks leaders. Effective channels of internal communication have been established from M1 in order to exchange all the necessary information for the project implementation among the participants. The means for remotely conveying information for the SINNOGENES purposes range from e-mail communication through dedicated mailing lists and teleconferencing facilities to an internal collaboration space for document management and task management activities. Regarding the project meetings, an analysis of expectations and responsibilities has been performed while a tentative schedule of project meetings for the whole implementation of the SINNOGENES project has been prepared.

The implementation aspects regarding co-creation and consultation mechanisms, official and internal reporting procedures, decision-making and conflict resolution processes to be applied during the SINNOGENES implementation have been defined in detail. Document control aspects regarding the documentation requirements, templates and naming conventions and versioning have been also specified and agreed.

Emphasis is laid on quality assurance of results, which is achieved with the help of audit control mechanisms internal to the consortium for the deliverables and appropriate corrective actions to be taken. A specific quality procedure shall be followed at preparation time of all deliverables.

In order to facilitate the internal review process, reviewers (apart from the PC and the deliverable responsible partners) have been already assigned for each deliverable for early planning of the necessary effort.

Finally, the current deliverable provides the definition of a risk management plan by defining a continuous risk assessment and mitigation approach, as well as identifying an initial set of risks that will be monitored and further populated during the project execution.



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Table of Acronyms

Acronym	Definition
AB	Advisory Board
CA	Consortium Agreement
DoA	Description of Action
FS	Financial Statement
GA	Grant Agreement
PC	Project Coordinator
PMs	Personal Months
RTD	Research, Technology and Development
TC	Technical Coordinator
WP	Work package



1 Introduction

The purpose of the present deliverable entitled “Project Handbook”, provides a quick overview of the project management structure and the most relevant managerial aspects to be followed, based on a proper implementation of the general mechanisms of work and setting the rules and responsibilities of the SINNOGENES consortium. The objective is to ensure a high-quality progress of the work during the project lifetime. This includes the production of the deliverables and other project outcomes, the mechanisms for their submission and the internal review process, and which are the communication means among partners (i.e., meetings, mailing lists, project collaborative space).

In this context, the present deliverable aims to fulfil the following main objectives:

- Establish a quality management system in accordance with the ISO 9001 (Quality Management Systems - Requirements) standard.
- Assure the quality of the project deliverables and project management activities.
- Identify the quality responsibilities of all partners within the consortium.
- Ensure proper co-ordination and communication channels among partners during the project lifetime.
- Identify the potential risks of the project and evaluate their impact and exposure, while proactively designing risk elimination methods in order to guarantee the seamless and proper execution of the project’s tasks.



2 Consortium Composition, contacts and management structure

2.1 Consortium and participants contacts

Official contact information of each of the Project Participants is included in the SINNOGENES Grant Agreement. The full list of project participants, along with subscription to mailing lists is maintained as a living document in the SINNOGENES Project Repository as a document restricted to the consortium. Partners are responsible to inform about any modification of their representatives both the PC and the Project Management Steering Committee or the respective WP leader, who will be responsible for informing the rest of members (if necessary).

2.2 Management Structure

The project management in SINNOGENES will guarantee transparency and commitment to all engaged partners and thus, facilitate an unobstructed and successful project evolution. The overall project management of SINNOGENES will comply with the following two major principles, namely the: (1) Principle of creating an integrated project structure incorporating technical, scientific and partner coordination as well as issues of commonplace business operation, based on the methodology of the Project Management Institute (PMI) and supported with state of-the-art management instruments; and (2) Principle of achieving agreement upon all partners and guaranteeing the arrangement of spot of decision making close to the responsible levels of execution as well as elevate them if necessary, concealing the reliable and trusted agreements in order to protect intellectual properties of all partners.

The project structure is designed to handle the most important aspects of management, namely decision- making, IPR policy, technical and administrative management, advisory functions and assessment. The overall management of the project will be facilitated by a consistent and formal approach. In any event, a detailed internal Project Plan will be defined in the preliminary stage of the project, to support the contractual Work Plan and to form the basis of the administrative structures and procedures to be used. The reporting lines and decision-making procedures are described in detail in the following sections.

The primary aim of this management structure is to be capable of responding to the needs of an Innovation Action without being intrusive or costly. The building-in of flexibility was one essential aspect while defining this structure.

2.3 Structure of the Report

Description and duties of these entities are fully described in the Grant Agreement and are thus only briefly reported below.

2.3.1 SINNOGENES General Assembly (GA)

SINNOGENES GA will consist of representatives of each partner organisation. It will constitute the highest decision board and its main task will be project governance. It will have the overall responsibility of all technical, financial, legal, administrative, ethical and impact issues of the project. It will monitor and assess the project's progress and make amendments, where necessary. It will encompass the following main roles:

1. **Project Coordinator (PC):** Dr. Stavroula-Isidora Giannakandropoulou (UNISY), will be responsible for the overall management of the project and will be the single point of contact with the EC. The PC coordinates all the communications within the partners to ensure progress and quality of the work and provides the Project Officer with technical, managerial, and financial information. Indicative administrative tasks of the PC include the supervision of the overall project progress, the preparation of the General Assembly meetings, the CA coordination, the supervision of the distribution of EC payments to each beneficiary, the preparation of the review meetings and the



project’s representation. In order to fulfil his tasks, the PC uses the resources of project management office team.

2. **Technical Coordinator (TC):** Nena Apostolidou (UBE), will be responsible for the overall scientific and technical management and progress of the project and has the responsibility to coordinate the overall technical progress and relevant processes.
3. **Dissemination & Communication Manager (D&CM):** Magda Zafeiropoulou (UBE), will be responsible to oversee and coordinate the execution of the dissemination and communication activities, as well as to coordinate the participation of partners’ representatives to the BRIDGE activities.
4. **Innovation and Exploitation Manager (IEM):** Domenico Chirico (RINA-C) who will be responsible for the innovation and exploitation of the SINNOGENES KERs, in order to explore and enhance the innovation aspect of the project.
5. **Digital ICT Manager (DIT):** Ilias Zafeiropoulos (UBE) who will be responsible for the digital ICT developments that take place in the project.
6. **Work Package Leaders (WPL):** Each participant assigns a person from its team to be responsible for the work package that, in accordance with the workplan, the participant is responsible for. Each WPL coordinates the work to be carried out within the scope of the respective WP and cooperates closely with the task leaders. The WPLs monitor the performance and progress of the WP regarding to the project plan, ensuring the horizontal information flow to other WPLs and reports to the PC, to the TC and the STC.
7. **Demonstration leaders (DLs):** DLs will be responsible to oversee and coordinate demonstration related issues. They will ensure that the demonstration work packages are aligned with the horizontal work packages and facilitates the preparation, the deployment and the evaluation of the pilot results.

2.3.2 External advisory board (AB)

The SINNOGENES consortium will contact experienced researchers and professionals in order to form an Advisory Board (AB) which its primary objective will be to monitor the SINNOGENES related developments worldwide and facilitate enhanced visibility of the project results. The AB board will be chaired by the PC. The PC will periodically organize online or physical STC meetings with the presence of the AB members in order to update on the project status and gather feedback. The AB members will also be engaged to the final project demonstrations.

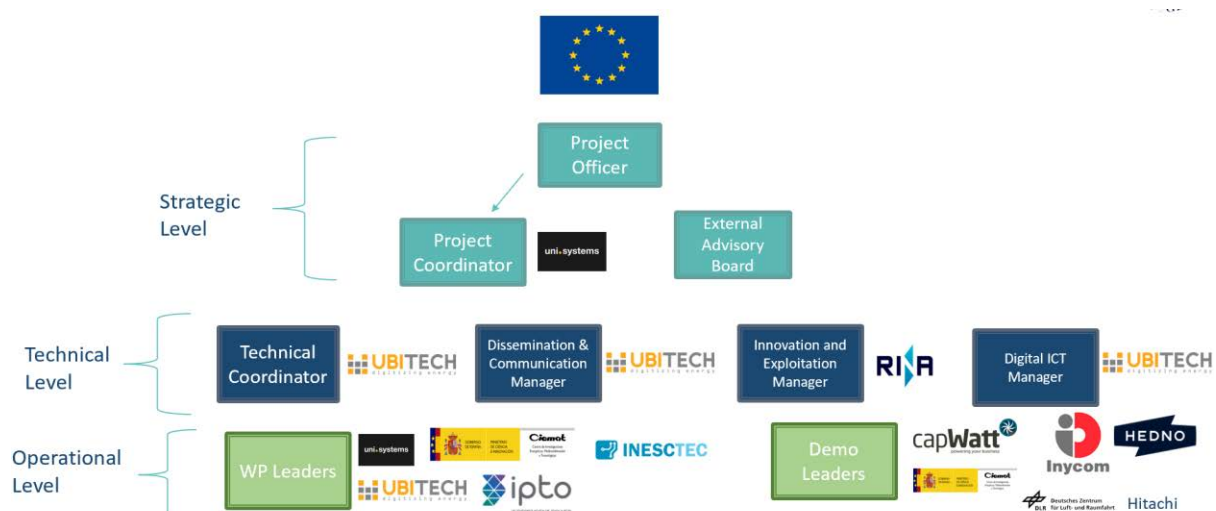


Figure 1: Project Management Structure



3 Implementation Aspects

3.1 Decision Making

Decisions regarding the project implementation will normally be taken by the team members upon reaching consensus with the WP leaders. Typically, agreement will be reached first by informal contact, followed by official confirmation via electronic mail, letter or agreed written minutes. In case there is a dispute between two or more team members, a conflict resolution procedure must be followed, as presented in the specific document.

For important issues, the agreement may take the form of a short report that needs to be signed by the Steering Committee. Non-technical factors such as resource allocation and contractual terms will also need to be agreed and documented in writing.

The key driver on the decision-making procedures is the description of work to be performed as stated in the Contract, the CA, the DoA and the Quality Plan, and as regularly communicated within the consortium. Transparency of the implementation decisions and actions will be achieved by adequate communication of the emerging issues on project meetings and e-mail communications.

3.2 Conflict Resolution

Generally, technical issues or conflicts within the contractual commitments that do not involve any contract, budget, resource allocation or overall project focus changes will be discussed at work package level first.

If the decision reached between team members is unacceptable by other partners, the conflict will be resolved according to a conflict resolution procedure which can be summarized in the next steps:

1. The team members involved in the implementation of the WP will inform the WP leader for the emerging conflict.
2. The WP leader will decide whether the issue needs to be discussed in a teleconference or a dedicated WP Meeting. The WP Leader will inform the PM for the planned actions.
3. The result of the teleconference or the meeting will be communicated to the PM.
4. If no consensus has been reached so far, the PM will contact the responsible persons and will try to resolve the conflict.
5. In case that the disagreement remains, the issue will be escalated in the Steering Committee. The decision that will be taken at this level will be considered as the final resolution of the issue.



4 Reporting Procedure and Payment Arrangements

The project reporting is the procedure used by the EC to assess and follow up on the financed projects. Therefore, it is of utmost importance, as it conditions in a very direct way the good image and good assessment of the project by the EC. It is important to remark that the project reporting is a responsibility of the whole Consortium, and every partner must be actively involved in it. The PC is the responsible for periodically gathering the information and reports from the different partners and consolidating it before sending it to the EC.

There are two types of reporting documents including technical and financial information: the Project Periodic Report and the Internal Activity Report. The Project Periodic Report refers to the official report that must be submitted to the EC according to the EC guidelines and templates. The Internal Activity Report refers to internal documents that will be used as control measures to effectively monitor the technical and economic progress of the SINNOGENES project. The Internal Activity Reports will also feed the official reports.

4.1 Reporting Procedures

4.1.1 Internal Activity Report

SINNOGENES Internal Activity Reports have to be prepared by consortium partners and provided to the PC two times per year (every 6 months). An Internal Activity Report shall contain: (a) Technical Information about the WP progress as provided by the respective WP leaders, (b) Effort Information as all partners will be requested to provide a breakdown of the effort spent in the related semester, per WP in comparison to the planned effort.

The procedure to be followed is:

- At the end of the 6-month period, the PC will send to the consortium an email with instructions and the template to be filled in.
- Each Partner has to fill in:
 - a. Short description of work done (per WP and Task),
 - b. achievements and results,
 - c. problems occurred,
 - d. Brief overview of planned activities for upcoming semester
 - e. Overview of dissemination/exploitation/cooperation/standardization activities
 - f. An estimation of resources spent (PMs) per WP in the respective reporting semester against the actual total PMs per WP
- The partners send their report to the PC; this has to happen 20 days after the closure of the period.
- Finally, the PC consolidates the Internal Activity Report and shares it with the consortium once finalized.

4.1.2 Project Periodic Reports

During the SINNOGENES project, three official Project Periodic Reports must be submitted to the EC by the PC, covering the periods P1 (from Month 1 to Month 16), P2 (from Month 17 to Month 32), P3 (from Month 33 to Month 48). The reports shall be submitted to the EC for each reporting period within 60 days after the end of the period under assessment. The delay in the submission of these reports may cause the postponement of part of the next payment to be received by the partner until the next reporting period. The technical part will be managed through corresponding Project Periodic Reports. The PC is in charge to prepare the specific reports based on the information provided through Internal Activity Reports.

The financial status of the project and costs incurred during the period must be communicated to the EC through meticulously prepared Financial Statements (FS) in order to justify the incurred costs and expenses and qualify for the next/final payment. Each consortium partner has to upload financial information to the EC participant portal (ECAS) based on cumulative information obtained from the Interim Activity Report.

The procedure to be followed is:



- The PC will ask the partners to generate their individual FS in the EC Participant Portal to officially declare the costs incurred for the reference period.
- Each partner will complete the FS with the costs incurred during the period.
- Each partner will submit and digitally sign the FS. This signature will be done by the Project Financial Signatory appointed.
- The Coordinator will submit the financial report to the EC.

4.1.3 Project Final Report

In addition to the final Periodic reports, a Final Report has to be submitted by the coordinator 60 days after the end of the last reporting period.

4.2 Payment Schedule

The payment schedule, which contains the transfer of pre-financing and interim payments to Parties, will be handled according to the following:

- Given that the amount of the pre-financing payment will be € 4,247,437.99 and the amount of € 398,222.20 corresponding to 5% of the Maximum Grant Amount will be retained by the Funding Authority from the pre-financing payment and transferred into the 'Guarantee Fund', funding of costs included in the Consortium Plan will be paid to Parties after receipt from the Funding Authority without undue delay and in conformity with the provisions of the Grant Agreement. Costs accepted by the Funding Authority will be paid to the Party concerned.
- For the payment of the balance (final payment); the provisions of the Grant Agreement will be followed.
- Costs accepted by the Funding Authority, pertaining to interim and final payments, will be paid to Parties after receipt from the Funding Authority within 30 days and in conformity with the provisions of the Grant Agreement.
- Payments shall be made following confirmation of each Party's bank account details, and after the signature of both CA and Financial identification form by the partners.
- The Coordinator is entitled to withhold any payments due to a Party identified by a responsible Consortium Body to be in breach of its obligations under this CA or the GA or to a Beneficiary which has not yet signed this CA.
- The Coordinator is entitled to recover any payments already paid to a Defaulting Party. The Coordinator is equally entitled to withhold payments to a Party when this is suggested by or agreed with the Funding Authority.

4.3 Management of Knowledge and Intellectual Property

Knowledge and intellectual property issues will be addressed in compliance to HEU contract template/ contractual conditions. Such issues include ownership and protection of knowledge, dissemination of knowledge, access rights, etc. as described in the CA that is duly signed by all partners. The Steering Committee will be in charge of monitoring the proper implementation of the conditions specified in the Contract and the CA.



5 Deliverable Submission and Quality Management

5.1 Deliverable Submission

The different technical objectives set for the project have their correspondence within the work packages and defined tasks. Compliance with these technical objectives is evident by on-time delivery the corresponding Deliverables. Each deliverable is assigned to Lead Beneficiary partners who will be responsible of its elaboration in due date. Every Lead Beneficiary is fully responsible for the deliverable's quality and is required to maintain adequate control of the participants' contributions.

The deliverables shall be submitted to the EC in English, by electronic means (in pdf format in the Participants Portal) or in any other format only if required by EC. The appropriate and updated deliverable template can be found in the SINNOGENES Project Repository.

All the deliverables must be finalized and submitted to the EC within the deadlines defined in Annex I of the Grant Agreement.

The process to be followed for the deliverable preparation and submission is the following:

1. Lead beneficiary responsible for preparation of first draft.
2. Lead beneficiary sends the completed deliverable draft to the PM-team one month before the contractual submission date (Mx-1).
3. The PM-team checks the quality of the report and forwards it to the assigned internal reviewers.
4. Comments from the PM-team and the internal reviewer(s) to be sent to the editor within 7 days.
5. Update done by the editor within 7 days.
6. Approval by Coordinator and if necessary, by reviewer within 4 days.
7. Final check/release and submission to the EC within 3 days and until the actual submission

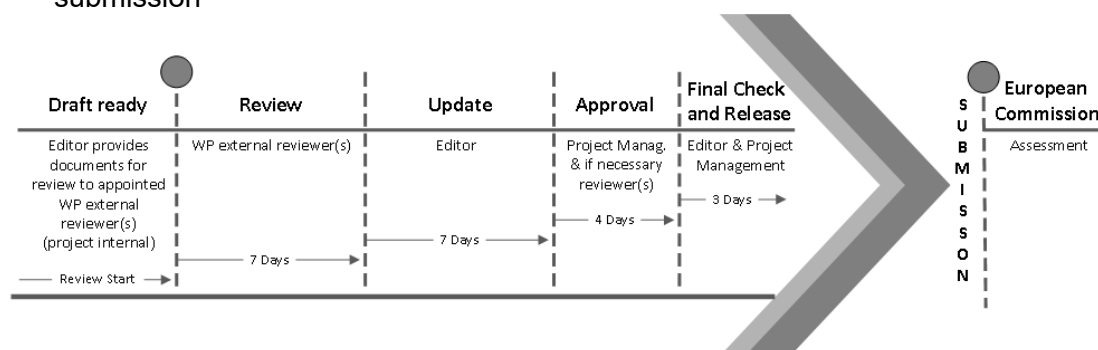


Figure 2: Deliverable submission timeline

The assigned internal reviewers will have available an Internal Review Report template, provided by the PC, to document in a structured way their comments and feedback. The review template examines specific criteria addressing readability, structure, and conformance to template categories.

Moreover, after the Kick-off Meeting, the Consortium has decided and assigned two (2) internal reviewers for each of the deliverables as presented in Table 1 based on partners' expertise.



Table 1 Assigned Internal reviewers

WP No	Del. No	Title	Lead Beneficiary	Nature	Dissemination Level	Due Month	Reviewers
WP1	D1.1	Project Management Handbook	UNISY	R	PU	2	ART, MINDS
WP1	D1.2	Data Management Plan a	UBE	DMP	PU	6	RINA-C, IPTO
WP1	D1.3	Data Management Plan b	UBE	DMP	PU	42	RINA-C, IPTO
WP1	D1.4	Legal and Ethical issues and Guidelines	UNISY	R	PU	12	FEUP, UoA
WP1	D1.5	Project Management Handbook – First Update	UNISY	R	PU	16	ART, MINDS
WP1	D1.6	Project Management Handbook – Second Update	UNISY	R	PU	32	ART, MINDS
WP1	D1.7	Project Management Handbook – Final release	UNISY	R	PU	48	ART, MINDS
WP2	D2.1	SINNOGENES flexibility requirements, use cases, regulatory barriers and consumer acceptance	CIRCE	R	PU	12	RINA-C, INESC TEC
WP2	D2.2	Data interoperability, security, and privacy for innovative storage technologies uptake	UBE	R	PU	24	FBK, SAND
WP2	D2.3	SINNOGENES IT architecture - Version 1	UBE	OTHER	PU	18	ART, SCHN
WP2	D2.4	SINNOGENES IT architecture - Final	UBE	OTHER	PU	30	ART, SCHN
WP3	D3.1	Design and implementation of tools - Version 1 for storage technologies in multienergy carriers	INCOM	OTHER	SEN	18	HEDNO, TPG
WP3	D3.2	Report on demonstration activities in the Spanish demonstrators	CIEMAT	OTHER	PU	40	UBE, CW
WP3	D3.3	Evaluation report on tools and technologies for storage technologies in multi-energy carriers	CARTIF	R	PU	46	UGE, IPTO
WP3	D3.4	Design and implementation of tools or storage technologies in multi-energy carriers - Final Version	INCOM	OTHER	SEN	30	HEDNO, UNIGE
WP4	D4.1	Design and implementation of tools for storage technologies in industrial environments - Version 1	INESCTEC	OTHER	SEN	18	CINT, CIRCE
WP4	D4.2	Report on demonstration activities in Portugal and Germany	DLR	OTHER	PU	40	CIEMAT, CERTH



WP4	D4.3	Evaluation report on tools and technologies for storage technologies in industrial environments	SAND	R	PU	46	EFW, TPG
WP4	D4.4	Design and implementation of tools for storage technologies in industrial environments - Final Version	INESCT EC	OTHER	SEN	30	CINT, CIRCE
WP5	D5.1	Design and implementation of tools for storage technologies in transport and insular systems - Version 1	CERTH	OTHER	SEN	18	CW, FHA
WP5	D5.2	Report on demonstration activities in Greece and Switzerland	UBE	OTHER	PU	40	SAND, FEUP
WP5	D5.3	Evaluation report on tools and technologies for storage technologies in transport and insular systems	UoA	R	PU	46	EFW, UBE
WP5	D5.4	Design and implementation of tools for storage technologies in transport and insular systems - Final	CERTH	OTHER	SEN	30	CW, FHA
WP6	D6.1	Dissemination and Communication Plan Material-a	UBE	OTHER	PU	3	UNISY, INYCOM
WP6	D6.2	Dissemination and Communication Plan Material-b	UBE	OTHER	PU	6	UNISY, INYCOM
WP6	D6.3	Dissemination and Communication Plan Material-c	UBE	OTHER	PU	24	UNISY, INYCOM
WP6	D6.4	Dissemination and Communication Plan Material-d	UBE	OTHER	PU	36	UNISY, INYCOM
WP6	D6.5	Dissemination and Communication Plan Material-e	UBE	OTHER	PU	48	UNISY, INYCOM
WP6	D6.6	Environmental and socioeconomic assessment	CERTH	R	PU	36	CARTIF, FEUP
WP6	D6.7	SINNOGENES scalability, replicability, and energy storage valorisation for pan-EU adoption	ART	R	PU	48	DLR, UNIGE
WP6	D6.8	Business models for market uptake of SINNOGENES solutions	RINA-C	R	PU	48	ART, CIRCE



5.2 Document Control Management

The Document Control Management deals with the preparation of template documents, the identification and the tracking of changes related to draft and final versions of documents circulated among the partners.

The PC is responsible for the necessary assessment of deliverables, while the Quality Manager will be responsible for the overall monitoring of the entire document control and configuration management activities described in this section.

5.3 Documentation Requirements

In the span of the SINNOGENES project, a set of deliverables and relevant documented results are anticipated as depicted in the following table. Such documents will be sent by e-mail and be uploaded in the restricted SINNOGENES document repository, as long as they comply with the following standards:

- Word Processor: Microsoft Word 2007 and higher
- Spreadsheet: Microsoft Excel 2007 and higher
- Presentations: Microsoft PowerPoint 2007 and higher

All files should be scanned for potential viruses before issue and screened on receipt. If an acknowledgement is requested, an explicit request should be included by the sender at the top of the message (e-mail, fax, etc.).

Table 2 Types of Files

Type	Responsible	Template
Deliverable submitted to the EC	As per DoA	Deliverable Document Template
Internal Project Presentation	All partners	Project Presentation Template
Meeting Agenda	Project Coordinator	-
Meeting Minutes	Project Coordinator & Technical Coordinator	Meeting Minutes Template
Reviewed Document	All partners	A new version with track changes on the original version
Internal Review Report	All partners	Internal Review Report Template
Final Activity Report	Project Coordinator / WP Leaders	As per Grant Agreement and Commission guidelines
Final Management Report	Project Coordinator	As per Grant Agreement and Commission guidelines
Financial Statement	All Partners	As per Grant Agreement and Commission guidelines
Consolidated Financial Statement	Financial Administrator	As per Grant Agreement and Commission guidelines

5.3.1 Naming Conventions and Versioning

Document configuration management will be ensured through tracking the versions and the history of changes within the various project documents, such as:

- Deliverables (as stated in the deliverables list in the DoA)
- Presentations of the project results
- Meeting agenda and minutes
- Internal audit reports and reviewed deliverables, including the corrective actions taken



Document history will be tracked in each deliverable in a separate table describing the different versions of the document and the reasons of change/updates on it.

Document versioning will be tracked through the monitoring of the Configuration Matrix in which all versions of each document will be tracked.

5.3.2 Deliverables submitted to the EC

Name	SINNOGENES_[Deliverable Code]-[Deliverable Title]-vA.BB
Where	A: Major version of the deliverable (Submission to Commission) BB: Minor version of the deliverable for updates during the preparation phase
Examples	SINNOGENES_D1.1-Project Handbook-v1.00 (for submission to the Commission) SINNOGENES_D1.1-Project Management Handbook_UNISY-v0.30 (for internal updates and submission for internal review)

5.3.3 Internal Project Presentations

Name	SINNOGENES-[Purpose] or [WP Number]_[Partner]-vA.BB
Where	A: Major version of the presentation (Presentation in the event / workshop) BB: Minor version of the presentation for updates during the preparation phase
Examples	SINNOGENES_WP1_UNISY-v1.00 SINNOGENES_D1.1-Project Management Handbook_UNISY-v0.30 (for internal updates and submission for internal review)

5.3.4 Meeting Agenda

Name	SINNOGENES_[Meeting Number] Meeting_Agenda_[Place]-vA.BB
Where	A: Major version of the meeting agenda BB: Minor version of the meeting agenda for updates during the preparation phase
Examples	SINNOGENES_KOM Agenda_Brussels-v1.00 (final version) SINNOGENES_KOM Agenda_Brussels -v0.10 (for internal updates and submission for internal review)

5.3.5 Meeting Minutes

Name	SINNOGENES_[Meeting Number] Meeting_Minutes_[Place]-vA.BB
Where	A: Major version of the meeting minutes BB: Minor version of the meeting minutes for updates during the preparation phase
Examples	SINNOGENES_KOM Minutes_Brussels-v1.00 (final version) SINNOGENES_KOM Minutes_Brussels -v0.10 (for internal updates and submission for internal review)

5.3.6 Reviewed Documents and Internal Audit Reports

Name	SINNOGENES_[Deliverable Code]-[TR/QR]_[Partner / Expert]-vA.BB
Where	A: Major version of the deliverable / internal audit report BB: Minor version of the deliverable / internal audit report for updates during the preparation phase TR: Technical Reviewed document QR: Quality Reviewed document
Examples	SINNOGENES_D1.1-TR_UNISY-v0.31 (Technical Reviewed Document from UBE) SINNOGENES_D1.1-TR_UNISY -v0.31-Internal Audit (Review report from UBE) SINNOGENES_D2.1-QR_UNISY-v0.41 (Quality Reviewed Document from UNISY)



5.3.7 Security Levels

Circulation of Deliverables, Internal Deliverables and Working Documents, inside and outside the SINNOGENES Consortium, is subject to the rules associated to the following security levels:

Table 3 Deliverable Security Levels

Type	Responsible	Template
PU	Public	Free circulation inside and outside the Consortium
PP	Restricted to other programme participants	Free circulation in the community of SINNOGENES participants
RE	Restricted to a group specified by the consortium	An accompanying circulation list specified the organizations having access to the document
CO	Confidential	Circulation is limited to members of the consortium, the Commission Staff and the Reviewers

As a general rule, the European Commission Services have free access to all the Deliverables and Internal Deliverables produced by the Project.

5.3.8 Code of Conduct

SINNOGENES partners are expected to jointly develop new ideas, concepts, and architectures, as well as to pursue, jointly or individually, relevant opportunities for dissemination and exploitation of the project results. Therefore, in order to guarantee open and frank collaboration among the consortium members, namely when this involves original contributions and information subject to some level of confidentiality, the following principles shall be observed:

- The partners shall comply to the rules set by Annex II to the Contract (General Conditions) and by the SINNOGENES CA, in relation to:
 - The Intellectual Property Rights (IPR), regarding any original contribution or background knowledge brought in by any member; and
 - The IPR regarding any new knowledge (forward knowledge) generated in the framework of SINNOGENES as a result of any cooperative activity.
- In all forms of use of the mentioned knowledge, proper recognition to all original contributors should be made, namely through:
 - Proper references in publications. When the referenced piece of knowledge has been published, standard referencing rules should apply. In case of draft ideas included in working documents, a reference to the author and corresponding document should be made; and
 - Otherwise, in the case that there is no written reference, a note stating: "personal communication in the framework of the SINNOGENES project" can be used (identifying the contributor).
- Similar rules should be observed when using copies of slides that include substantial original ideas (figures or text).
- When reporting Research, Technology and Development (RTD) results, Deliverables and Working Documents will contain a list of the contributing partners, intended as physical persons of the involved organizations who have provided contributions to the document.



6 Communication amongst Consortium partners

Efficient communication and collaboration structures are essential for the success of the project. Since all project partners are distributed across European member states, the centrepiece of the overall project communication will be a protected online collaboration platform, offering to each partner independent access to important documents, code, meeting agendas, supporting materials, individual to-do lists and other miscellaneous project information.

6.1 Meetings and Workshops

Regular and ad-hoc meetings will be held during the project lifecycle, including:

- **Project Plenary Meetings** held every 6 months in order to ensure that all procedures are understood and implemented in the proper way. The PC is responsible for the meeting formation (agenda of the meeting) and the communication of the meeting details (time, place) at least 2 weeks before the date of the meeting, in order to allow time to the participants for the scheduling and preparation of the necessary information for the meeting.
- **Technical Partners Meetings** held per case if required. Those meetings will be organised by the TC
- **Monthly WP leaders' telcos**, monitored by UNISY. WP leaders in alignment with Task leaders should present the progress of their WP as well as any open issue of admin, financing etc. nature
- **Monthly meetings for all active WPs (Steering Committee Meetings):** Each WP leader will propose the meeting schedule according to his WP needs at least 1 week before the date of the meeting and coordinate the necessary actions among the involved partners for the implementation of the WP activities. Each WP leader will communicate the final agenda of the meeting at least 1 day before the meeting date.
- **Technical meetings** monitored by UNISY& UBE held upon request.

A tentative table of the project meetings is available below.

Table 4 Tentative List of SINNOGENES Plenary Meeting

Event	Date	Place
Kick-off meeting	January 2023	Brussels, Belgium
2 nd Plenary Meeting	June 2023	Trento, Italy
3 rd Plenary Meeting	January 2024	TBD
4 th Plenary Meeting	June 2024	TBD
5 th Plenary Meeting	January 2025	TBD
6 th Plenary Meeting	June 2025	TBD
7 th Plenary Meeting	January 2026	TBD
Final Meeting	June 2026	TBD

6.2 Mailing Lists

Effective channels of internal communication have been established from M1 in order to exchange all the necessary information for the project implementation, such as deliverables and relevant documentation. Internal communication channels are also used for exchanging messages.

A set of e-mail distribution lists have been created to facilitate the communication flows within the different bodies of the consortium. In particular, the following mailing lists have been created:

sinnogenes-general@sinnogenes.eu

wp2@sinnogenes.eu



wp3@sinnogenes.eu
wp4@sinnogenes.eu
wp5@sinnogenes.eu
wp6@sinnogenes.eu

Subscription of each project member to a specific mailing list is managed and maintained by the PC. The updated subscription list is available through the SINNOGENES Project Repository. Each consortium partner is responsible to inform the PC whether any modification of their representatives is needed, and the PC will be responsible for keeping the distribution lists updated and informing the rest of members.

6.3 Project collaborative space – Infrastructure and Repository

UNISY with the help of UBE deployed and will continue to operate the internal Documents and Electronic Material Repository.

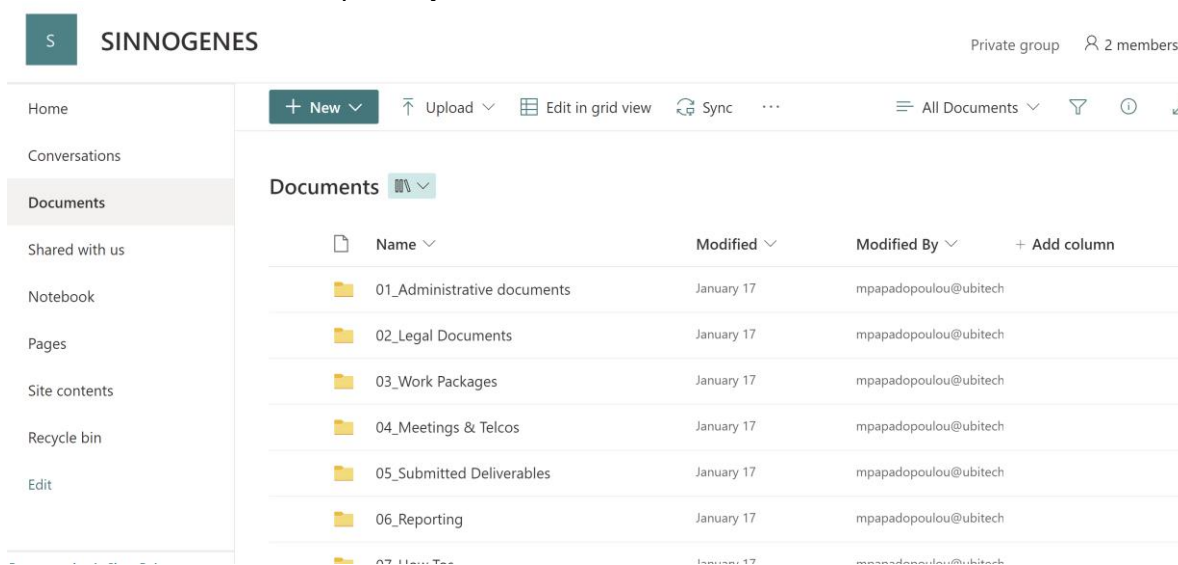


Figure 3 SINNOGENES File repository - Homepage

A brief summary of the documentation organization and content of the SINNOGENES Project Repository with respect to the Document Management System:

- **01 - Administrative Documents:** It contains the created documents' templates to be utilized, as well participants' contacts details and reporting folder.
- **02 - Legal Documents:** Contractual documents, containing the Grant Agreement with EC and its annexes and the CA with its annexes. Moreover, it encloses a financial reporting folder is created where all financial related documents will be stored for the SINNOGENES reporting periods.
- **03 - Work Packages:** A folder per Work package is created. In each WP folder, separate folders per Deliverable are also created. In each Deliverable folder, the consortium will store the material files required, the various contributions, the deliverable's editing versions, the review reports, as well as the final draft and the submitted deliverable to the EC.
- **04 - Submitted Deliverables:** The specific folder contains the list of the PDF files of the deliverables as these will be officially uploaded to ECAS System.
- **05 - Meeting + Telcos:** The specific folder contains the files that refer to Meetings Agendas, Meetings Minutes, as well as Meetings Partners Presentations. Furthermore, it contains the folder structure to support the storage of all Teleconferences Presentations and Minutes describing the decisions made and action plans produced.



- **06 - How To's:** it contains the User Guide for SINNOGENES repository. Furthermore, it will contain any other How-To's or Manuals that will be produced in the frame of the project.



7 Risk Management

7.1 Overview

Successful implementation of any kind of project relies, amongst others, on timely identification and control of risks, foreseeing of the consequences and effective management of them via appropriate proactive actions. Project risks describe the impact on the project of circumstances such as diminished quality of the end results, increased costs, delivery delays, loss of community confidence, or even failure. Risks' possibilities as well as risks' impact should neither be neglected nor overrated. Being efficient and effective in identifying and performing all proactive actions regarding possible risks will aid towards achieving the challenging SINNOGENES objectives on time and according to budget; risk identification, management and mitigation constitutes, therefore, an integral part of the overall project management approach.

Risk management incorporates the following activities:

- Assessing continuously what could go wrong (risks)
- Determining which risks are important to deal with
- Implementing strategies to deal with those risks

7.1.1 Continuous Risk Management Approach

This risk management plan has been produced on the basis of existing risk management practices such as the Continuous Risk Management (CRM) paradigm developed by the Software Engineering Institute (SEI) as indicated in the following figure:

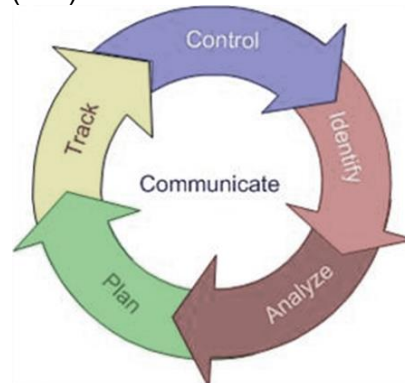


Figure 4 Continuous Risk Management (CRM) paradigm

This iterative roadmap for risk management contains the following elements:

- **Identify:** makes all known project risks explicit before they become problems.
- **Analyse:** transforms risk data into decision-making information.
- **Plan:** translates risk information into decisions and mitigating actions (both present and future) and implements those actions.
- **Track:** monitors risk indicators and mitigation actions.
- **Control:** corrects deviations from the risk mitigation plans.
- **Communicate:** enables the sharing of all information throughout the project and is the cornerstone of effective risk management.

7.1.2 Risk Exposure

Risk exposure is a measure created by combining the impact and probability of the risk. These terms are identified below at the level of detail compliant to that of the SEI (four levels of impact and three of probability, translating to different levels of risk exposure).



Effect / Impact: the effect of the particular risk on the project, which is determined on the basis of the risk’s effect on the project (e.g., performance, cost, schedule). The levels of impact are:

(4) Uncontrollable, (3) Critical, (2) Marginal and (1) Negligible.

Probability: the chance that a particular impact will occur. The levels of probability are:

(3) High, (2) Medium and (1) Low.

Risk exposure as a function of probability and impact is computed in.

Table 5 Risk Exposure

Effect / Impact	Probability		
	High	Medium	Low
Critical	HIGH	MEDIUM	MEDIUM
Marginal	MEDIUM	MEDIUM	LOW
Negligible	MEDIUM	LOW	LOW

For risks where exposure is high, specific mitigation strategies shall be put in place and acted upon.

7.1.3 Risk Monitoring

The project will continuously monitor and assess identified risks and pay specific attention to risks that have been ranked as with high and medium exposure. Some risks that have already identified in the proposal level and are recorded in the DoA along with an analysis about the risk exposure can be found below:

Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
1	Insufficient consortium coordination (i) Low, (ii) High	WP1	The effective management of the consortium will be assured with the appropriate Project Management described in WP1. The roles & responsibilities of each partner are already identified and will be continuously reviewed to mitigate the risk of overlapping and implementation of the same activities from two or more partners.
2	Insufficient consortium competence/ effectiveness (i) Medium, (ii) High	WP1	The project team is highly complementary and gathers together the requested skills for the main streams of research and technology development. Moreover, all the technologies that are going to be used in the implementation of the project will be carefully selected to minimize potential risks on these technologies. If a consortium incompetence is identified,
			the consortium partners will try to fill this gap either through the own pools of resources, or through subcontracting.
3	Conflicts over ownership (i) Low, (ii) High	WP1	Disagreements in the consortium over ownership may result in non-agreement on IP. The principles and the existing assets included in the Consortium Agreement, the continuous activity on IPR handling, and the creation of an ongoing IP inventory will ensure protection of generated and prior IPR.
4	Shortage of resources and/or changes in personnel (i) Medium, (ii) High	WP1	Keep close contact with all partners by regular teleconferences and virtual meetings. Organise regular plenary and technical meetings at different partners’ sites. Consider reworking the exploitation plans. Detailed project plan that clearly states goals and responsibilities of the partners.
5	Partner withdrawal (i) Low, (ii) High	WP1	Immediate substitution by another partner, from existing partnerships, through dissemination activities or from interaction with the cybersecurity industry.
6	Unexpected disturbances or delays during the equipment supply and shipment to the demo sites phases. (i) Medium (ii) Medium	WP5, WP4, WP2, WP3	Industrial suppliers of proven quality and experience in the field will be selected, with the timeline of delivery (and part replacement, should it be required) being closely supervised by the consortium. A crucial factor for the selection of the various suppliers will be the warranty provided for their products, combined with their record of successful practice. Periodic communication for the shipment procedure’s monitoring will be also arranged upon purchase.
7	Project goals too ambitious in terms of system performance, budget management and completion time (i) Low (ii) High	WP1	Each UC’s configuration and expected outcome will be formed separately, with the design of ESSs customized for the respective needs of the local grids they will be connected to. In this sense, both the project’s requirements and expected deliverables will be realistic and pertinent. Additionally, should the need for modifications in the objectives defined or the methodology pursued arise, the consortium will do what is necessary, however delivering the initial generic outcome.
8	Lack of industrial maturity or compatibility for certain ESSs that are crucial for an actually innovative solution (e.g., flywheels, flow batteries etc.) (i) Medium, (ii) High	WP5, WP4, WP2, WP3	The consortium will cooperate closely with renowned parties of the academic and industrial sector, for the best possible coordination with the market and its trends. The selection of the various devices to be deployed will be finalized in a way that each one is optimal in



Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
			terms of capacity, built – in configuration and expected performance for the service it will be assigned to.
9	Low interoperability in between the various SINNOGENES hardware and software components (i) Low (ii) High	WP5, WP4, WP2, WP3	The WP leaders will supervise closely the deployment of each component, assuring its proper operation in coordination with the main SINNOGENES platform, as well as the rest of the interconnected assets. Extensive troubleshooting and worst – case scenario tests will be performed and recorded as experience for future use.
10	Low forecasting in terms of storage potential, best possible time of stored energy release, market's disturbances or opportunities, outages etc. (i) Low (ii) Medium	WP5, WP4, WP2, WP3	SINNOGENES will offer complete forecasting tools for weather conditions, grid power flows and ancillary services real – time revenue to all interconnected users. For this purpose, the platform's compatibility with existing network SCADA and communication tools with the respective authorities will be pursued.
11	Significant complexity of introducing domestic and commercial ESSs' owners as participants in the energy markets, through their provision of ancillary services (i) Medium (ii) Medium	WP5, WP4, WP2, WP3	Simulations of the energy market's operation will be provided to the end users by SINNOGENES as a training module, so that they can estimate very accurately the best use of their assets. Furthermore, the SINNOGENES platform will be updated tactically so that it complies with the energy market regulations on a local and a European level. Notifications for both the users and the respective authorities will be generated automatically, so that the various connectivity and participation issues are resolved swiftly and effectively
12	The interventions proposed are considered too intrusive, particularly by residential users. (i) Low (ii) High	WP5, WP4, WP2, WP3	SINNOGENES will be used as an interface through which the end users will be able to interact and communicate with the regulatory authorities, expressing whatever concerns they have and receiving useful feedback. Moreover, the solutions will be deployed in total accordance with the local environmental, consumer and GDPR policies, utilizing potential past experience of bad practice as a mitigation tool during the systems' design phase.
13	Lower asset performance in real – life conditions compared to laboratory tests, especially for cutting-edge devices (e.g., flywheels, ultracapacitors) (i) Medium (ii) High	WP5, WP4, WP2, WP3	Thorough laboratory tests with very close resemblance to the real UC conditions will be carried out, with the project's consortium requiring for detailed reporting, troubleshooting and overall performance assessment prior the actual installation phase.
14	Enhanced protection software will be developed by the respective participants, and it will be tested under severe cyberattack conditions. In addition, notifications for current security breach or extreme user misbehaviour will be provided in real – time for all parties connected to the platform, so that the mitigation process can be carried out in a more coordinated way.	WP5, WP4, WP2, WP3	Cybersecurity or malicious use incidents that compromise the proper operation of the entire value chain of the projects. (i) Low (ii) High
15	The optimization problem is too complex to find solutions at the required frequency (i) Low (ii)Medium	WP3	Consider different implementation options (faster hardware and likely more expensive). Alternatively, simplify the objective function and/or the constraints set through linearization or other means.
16	Delays in the installation of the microgrid resources (e.g., electrolysers, PV systems and redox flow battery) (i) Medium (ii) High	WP4	Development of demonstration plan including early start of procurement process for the redox flow battery and ensure coordination with external investments foreseen (e.g., installation of electrolysers and additional PV capacity)
17	Difficult in acquiring the metals on the market, mainly Si. (i) Medium (ii) High	WP4	The TES prototype will be developed considering other alloys Zn/Si or only Al
18	Difficulties in the integration of optimal microgrid dispatch tools and acceptance of microgrid operators (i) Low (ii) High	WP4	Ensure a strong involvement of CW in the specification of the energy management tool, for ensuring alignment of energy management objectives, consideration of industrial load characteristics and restrictions. Identification at an early stage of WP4 of IT infrastructure, existing APIs for tool interface and existing data formats. Provision of dashboard, allowing operators to visualize the benefits (economical and technical) of the dispatch strategy.
19	Delays and difficulties in the design of cost-effective thermal storage (i) Low (ii) High	WP4	Early identification of costs related with the materials to be used in the different components of the battery, from the metal alloy used to store the heat, to the insulation of the containers. Foster optimal design through the development of accurate battery simulation models.
20	Business plan formed fails to foresee the market's growing trends and to exploit significant opportunities. (i) Medium (ii) High	WP6	Business plan formed fails to foresee the market's growing trends and to exploit significant opportunities. (i) Medium (ii) High
21	Increased prices on goods and materials due to the increasing risk of inflation (i) Medium, (ii) High	WP1	The consortium will discuss in order to rearrange the budget among activities to cover increased prices without jeopardizing the overall EU funding, while cooperation with other financing streams for R&D purposes will be explored by Universities, Research Institutes i.e. national research funds.

Table 6 Initial list of SINNOGENES identified risks

Risk No	Probability	Effect	Risk Exposure
R 1	LOW	Critical	MEDIUM
R 2	MEDIUM	Critical	MEDIUM
R 3	LOW	Critical	MEDIUM
R 4	MEDIUM	Critical	MEDIUM
R 5	LOW	Critical	MEDIUM
R 6	MEDIUM	Marginal	MEDIUM
R 7	LOW	Critical	MEDIUM
R 8	MEDIUM	Critical	MEDIUM
R 9	LOW	Critical	MEDIUM
R 10	LOW	Marginal	LOW



R 11	MEDIUM	Marginal	MEDIUM
R 12	LOW	Critical	MEDIUM
R 13	MEDIUM	Critical	MEDIUM
R 14	LOW	Critical	MEDIUM
R 15	LOW	Marginal	LOW
R 16	MEDIUM	Critical	MEDIUM
R 17	MEDIUM	Critical	MEDIUM
R 18	LOW	Critical	MEDIUM
R 19	LOW	Critical	MEDIUM
R 20	MEDIUM	Critical	MEDIUM
R 21	MEDIUM	Critical	MEDIUM

