

6G-MIRAI –

D5.1 Initial Project Management Plan

Project information

Project name	Machine Intelligence based Radio Access Infrastructure
Project acronym	6G-MIRAI
Grant agreement	101192369
Call	HORIZON-JU-SNS-2024
Topic	HORIZON-JU-SNS-2024-STREAM-B-01-05
Type of action	HORIZON JU Research and Innovation Actions
Start date	1 April 2025
Duration	36 months

Document information

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Associated Task	All
Associated Deliverable	D1
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Contributors	Henning Sanneck, WP Leaders
Reviewers	Henning Sanneck
Type	R
Dissemination level	SEN
Comment	

Document revision history

Version	Date	Changes	Author
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V0.2	2025-09-30	Usage of 6G-MIRAI template, updates based on review comments	Tobias Ley, Henning Sanneck
V1.0	2025-09-30	Full revision after review updates	Tobias Ley

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Acronyms and definitions

DMP	Data Management Plan
EC	European Commission
EU	European Union
GAP	Grant Agreement
GDPR	General Data Protection Regulation
WP	Work Package

Introduction

This document D5.1 Initial Project Management Plan describes contains the project planning information of 6G-MIRAI including Time Plan, Milestones, Work-package and Tasks, Deliverables, and Risk Analysis. It should serve as input to the planning of the work of the individual work-packages and to successfully deliver the project objectives and outcomes. It also contains information about steering documents and project governance.

1 Steering Documents

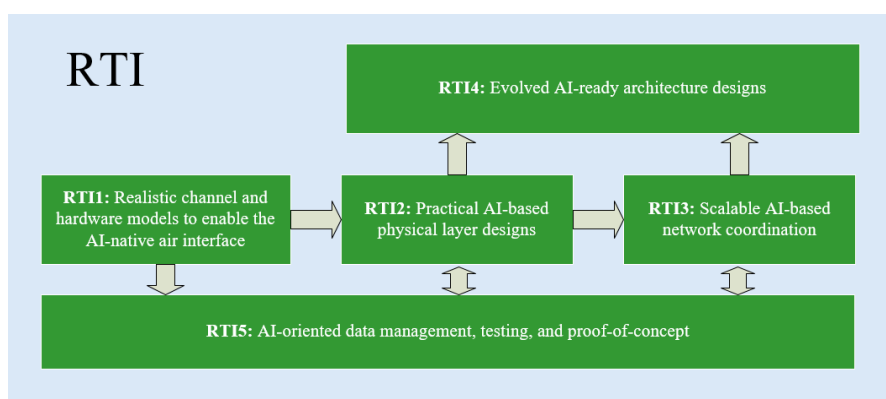
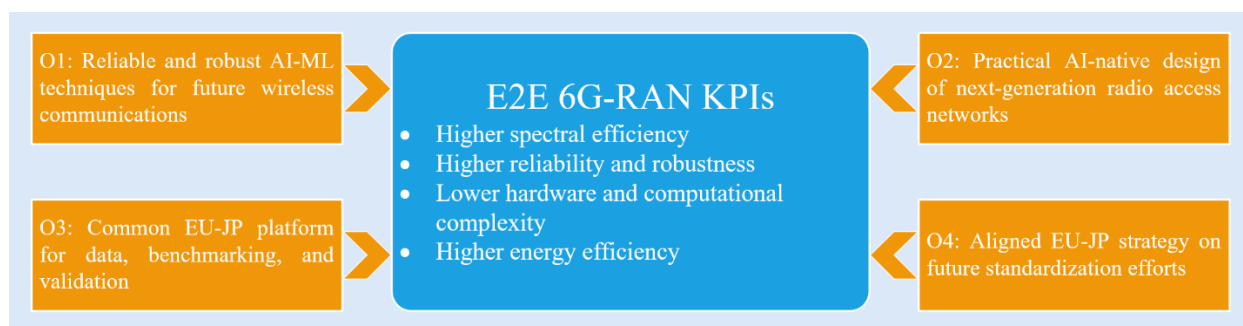
6G-MIRAI has the following main steering documents:

- Grant Agreement (GAP)
- Consortium Agreement (CA)
- EU Portal
- Project Management Plan
- Data Management Plan
- Dissemination and Communication Plan

2 Charter

Overall goal: 6G-MIRAI aims at developing reliable and robust AI-native wireless communication systems that enable the practical exploitation of the full potential of the latest physical layer technological advances, especially cell-free massive MIMO, and of next-generation virtualized and potentially disaggregated radio access networks.

Detail description of the objectives, key performance indicators (KPI), research and technology items (RTI) as well as a detail breakdown of the scope, partner contributions, stakeholders and disseminations can be found in the Grant Agreement. For readability of the Project Management Plan, only selected summary graphics are shown, without additional explanation.



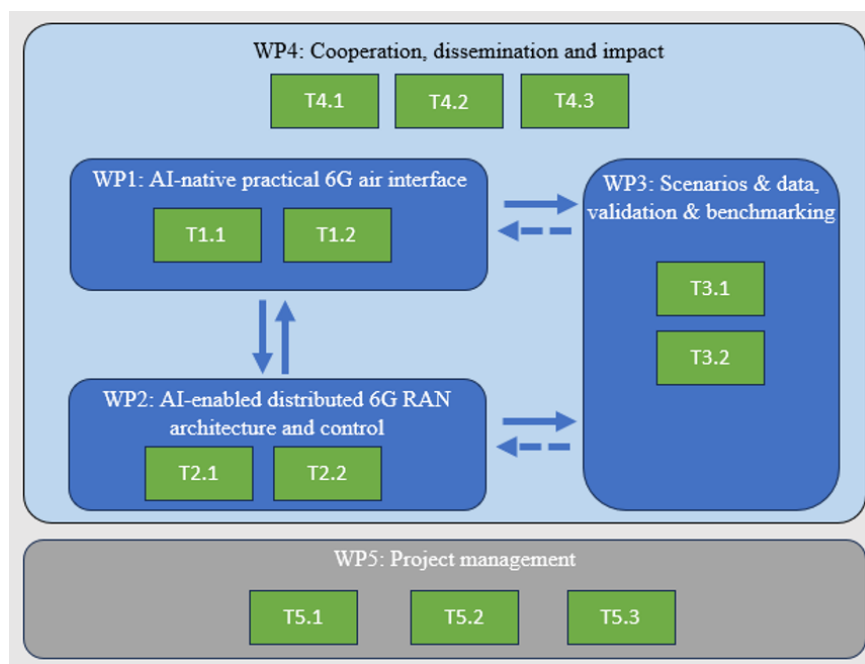
3 Consortium Partners

The following table lists all partners of the consortium. All beneficiaries (BEN) have signed the Grant Agreement (GAP), and all beneficiaries and affiliated partners (AE) have signed the Consortium Agreement.

PARTICIPANTS					
Grant Preparation (Beneficiaries screen) — Enter the info.					
Number	Role	Short name	Legal name	Country	PIC
1	COO	ERICSSON FRANCE	ERICSSON FRANCE	FR	895532034
2	BEN	Fraunhofer	FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV	DE	999984059
3	BEN	TELEFONICA	TELEFONICA INNOVACION DIGITAL SL	ES	917790915
4	BEN	ISRDL	ISRDL SP Z O.O.	PL	889804087
5	BEN	SEQ	SEQUANS COMMUNICATIONS SA	FR	999687821
6	BEN	APPLE	APPLE TECHNOLOGY ENGINEERING BV & CO KG	DE	886995549
7	BEN	KU Leuven	KATHOLIEKE UNIVERSITEIT LEUVEN	BE	999991334
8	BEN	CNIT	CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE TELECOMUNICAZIONI	IT	999649603
8.1	AE	UNIFI	UNIVERSITA DI PISA	IT	999862712

4 Structure

The 6G-MIRAI project is structured in 5 work-packages (WP) with each WP containing several tasks (T). Each WP has a designated leader responsible for the planning and execution of the WP and deliverables (D).



Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
WP1	AI-native practical 6G air interface	8 - CNIT	100.00	3	28	D1.1 – Initial results on integrating realistic wireless channels and hardware designs into AI-native 6G air interface D1.2 – Initial results on AI-based baseband design for 6G communication D1.3 – AI-native 6G air interface development
WP2	AI-enabled distributed 6G RAN architecture and control	4 - ISRD	75.00	5	31	D2.1 – Initial results on intelligent network control and architecture design for 6G networks D2.2 – Final results on intelligent network control and architecture design for 6G networks
WP3	Scenarios and data, validation and benchmarking	5 - SEQ	38.00	1	35	D3.1 – Definition of initial common scenarios, data management and benchmarking methodology D3.2 – Initial datasets for benchmarking and validation D3.3 – Results on common scenarios, datasets, validation, and benchmarking
WP4	Cooperation, dissemination and impact	6 - APPLE	37.00	1	36	D4.1 – Cooperation, dissemination, and impact: initial plan D4.2 – Cooperation, dissemination, and impact: updated plan D4.3 – Cooperation, dissemination, and impact: final report
WP5	Project management	1 - ERICSSON FRANCE	19.00	1	36	D5.1 – Internal project plan D5.2 – Ethical and data management guidelines and requirements D5.3 – Project report (first and second periodic report)

5 Time Plan

Project start date is 2025-May-01 and duration is 36 months. In total 11 milestones have been defined.

Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Means of Verification	Due Date (month)
1	Successful project start	WP5	1 - ERICSSON FRANCE	Consortium agreement in place	1
2	6G-MIRAI external visibility started	WP4	6 - APPLE	Website available; project visible in social media	3
3	Initial results of integrating realistic wireless channels and hardware designs into the AI-native 6G air interface and AI-based baseband design for 6G communications.	WP1	8 - CNIT	D1.1, D1.2 reviewed and successfully submitted	15
4	Initial AI-readiness architecture design and network control mechanisms for 6G networks	WP2	4 - ISRD	D2.1 reviewed and successfully submitted	21
5	Year 2 6G-MIRAI "AI-native RAN" EU-JP workshop	WP4	6 - APPLE	Workshop held as a public event (location: Japan)	22
6	Final results of integrating realistic wireless channels and hardware designs into the AI-native 6G air interface and AI-based baseband design for 6G communications	WP1	8 - CNIT	D1.3 reviewed and submitted	28
7	Final AI-readiness architecture design and control mechanisms for 6G networks	WP2	4 - ISRD	D2.2 reviewed and successfully submitted	31
8	Year 3 6G-MIRAI "AI-native RAN" EU-JP workshop	WP4	6 - APPLE	Workshop held as a public event (location: Europe)	34
9	Demo/ SW PoC presentation	WP3	5 - SEQ	Demo/ SW PoC presented to external audience	34
10	Completed measurements campaign	WP3	5 - SEQ	Datasets [and trained models] released to the public	35
11	Project closure	WP5	1 - ERICSSON FRANCE	Delivery of final report D5.3	36

6G-MIRAI Time Plan	2025										2026												2027												2028																																																																									
	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3																																																																								
	M01	M02	M03	M04	M05	M06	M07	M08	M09	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33	M34	M35	M36																																																																								
WP1: AI-native practical 6G air interface	MS3																																				MS6																																																																							
T1.1: Accounting for realistic wireless channels and hardware designs															D11														D13																																																																															
T1.2: AI-based baseband design															D12														D13																																																																															
WP2: AI-enabled distributed 6G RAN architecture and control	MS4																																				MS7																																																																							
T2.1: AI-based network control																																																																																																												
T2.2: AI-ready architecture design																						D2.1										D2.2																																																																												
																						D2.1										D2.2																																																																												
WP3: Scenarios and data, validation and benchmarking	MS9																																				MS10																																																																							
T3.1: Scenarios and data																																																																																																												
T3.2: Validation and benchmarking																																																																																																												
WP4: Cooperation, dissemination and impact	MS2																																				MS5																																				MS8																																			
T4.1: EU-JP cooperation activities																																																																																																												
T4.2: (Pre-)standards coordination and contributions																																																																																																												
T4.3: Exploitation																																																																																																												
WP5: Project management	MS1																																				MS11																																																																							
T5.1: Project management																																																																																																												
T5.2: Technical management																																																																																																												
T5.3: Ethics and data management																																																																																																												

6 Deliverables

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D1.1	Initial results on integrating realistic wireless channels and hardware designs into AI-native 6G air interface	WP1	8 - CNIT	R — Document, report	PU - Public	15
D1.2	Initial results on AI-based baseband design for 6G communication	WP1	2 - Fraunhofer	R — Document, report	PU - Public	15
D1.3	AI-native 6G air interface development	WP1	8 - CNIT	R — Document, report	PU - Public	28
D2.1	Initial results on intelligent network control and architecture design for 6G networks	WP2	4 - ISRD	R — Document, report	PU - Public	21
D2.2	Final results on intelligent network control and architecture design for 6G networks	WP2	7 - KU Leuven	R — Document, report	PU - Public	31
D3.1	Definition of initial common scenarios, data management and benchmarking methodology	WP3	5 - SEQ	R — Document, report	PU - Public	10
D3.2	Initial datasets for benchmarking and validation	WP3	7 - KU Leuven	DATA — data sets, microdata, etc	PU - Public	18
D3.3	Results on common scenarios, datasets, validation, and benchmarking	WP3	5 - SEQ	R — Document, report	PU - Public	34
D4.1	Cooperation, dissemination, and impact: initial plan	WP4	6 - APPLE	R — Document, report	PU - Public	6
D4.2	Cooperation, dissemination, and impact: updated plan	WP4	6 - APPLE	R — Document, report	PU - Public	18
D4.3	Cooperation, dissemination, and impact: final report	WP4	6 - APPLE	R — Document, report	PU - Public	36
D5.1	Internal project plan	WP5	1 - ERICSSON FRANCE	R — Document, report	PU - Public	3
D5.2	Ethical and data management guidelines and requirements	WP5	1 - ERICSSON FRANCE	R — Document, report	PU - Public	6
D5.3	Project report (first and second periodic report)	WP5	1 - ERICSSON FRANCE	R — Document, report	PU - Public	36

7 Risk Analysis

The following table shows the risks identified at the time of the proposal. The risks shall be assessed monthly in the project meetings and the risk list as well as mitigation actions updated.

Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
1	Collaboration agreement signing not successful. (i) Likelihood: Medium (ii) Severity: High	WP5	Early discussion to reach an agreement. Use of standard, best practices templates for contracts.
2	Consortium partner leaves consortium. (i) Likelihood: Medium (ii) Severity: High	WP5	Handover and backup plans as part of the risk management in WP5.
3	Delays in critical milestones and deliverables. (i) Likelihood: Medium (ii) Severity: Medium	WP2, WP1, WP4, WP3, WP5	Close follow-up and support between the partners. Early requests for help and support facilitated during project collaboration meetings.
4	Data governance principles could be difficult to agree on, risk of diverting views. (i) Likelihood: Medium (ii) Severity: High	WP5	Ethics and data management guidelines will be addressed early in the project, D5.2 in MS06 to get sufficient time for resolution. Use of EU and Japan governmental guidelines.
5	Delay in definition of common scenarios, KPIs/KVIs and testing methodology. (i) Likelihood: Low (ii) Severity: Low	WP2, WP1, WP3	Increase collaboration effort between WP1/WP2 and T3.1 during initial stage of the project.

8 Quality Assurance

Review meetings: for each deliverable a review meeting shall be organized, including representatives from all partners, the technical coordinator, communication manager and the project coordinator, see chapter governance.

Detail quality procedures, including review process, for all data are described in the Data Management Plan.

Each partner is responsible for the quality assurance of their own research, following the individual quality assurance processes of the partners' institution.

9 Budget and Effort

Staff effort per participant

Grant Preparation (Work packages - Effort screen) — Enter the info.

Participant	WP1	WP2	WP3	WP4	WP5	Total Person-Months
1 - ERICSSON FRANCE	18.00		4.00	9.00	9.00	40.00
2 - Fraunhofer	7.00	18.00	4.00	3.00	8.00	40.00
3 - TELEFONICA	18.00		6.00	4.00		28.00
4 - ISRD	5.00	18.00	2.00	3.00		28.00
5 - SEQ	18.00	3.00	10.00	4.00		35.00
6 - APPLE		16.00	4.00	8.00		28.00
7 - KU Leuven	14.00	8.00	7.00	3.00	2.00	34.00
8 - CNIT	20.00		1.00	3.00		24.00
8.1 - UNIFI		12.00				12.00
Total Person-Months	100.00	75.00	38.00	37.00	19.00	269.00

Individual funding rates per participant

#	N°	Short name	Country	Participant type	EU base rate	National top-up rate	Total funding rate	Total costs	Maximum EU contribution	Requested EU contribution
1	1	ERICSSON FRANCE	France	Profit	90%	N/A	90%	535.000,00	481.500,00	481.500,00
2	2	Fraunhofer	Germany	Non-profit	100%	N/A	100%	483.000,00	483.000,00	483.000,00
3	3	TELEFONICA	Spain	Profit	90%	N/A	90%	289.060,00	260.154,00	260.154,00
4	4	ISRD	Poland	Profit	90%	N/A	90%	250.000,00	225.000,00	225.000,00
5	5	SEQ	France	Profit	90%	N/A	90%	520.625,00	468.562,50	468.562,50
6	6	APPLE	Germany	Profit	90%	N/A	90%	438.750,00	394.875,00	389.250,00
7	7	KU Leuven	Belgium	Non-profit	100%	N/A	100%	398.750,00	398.750,00	398.750,00
8	8	CNIT	Italy	Non-profit	100%	N/A	100%	172.500,00	172.500,00	172.500,00
9	8.1	UNIFI	Italy	Non-profit	100%	N/A	100%	101.250,00	101.250,00	101.250,00
	T	Consortium total						3.188.935,00	2.985.591,50	2.979.966,50

10 Governance

General Assembly (GA)

- Particulars: Twice a year, and on need basis. Face-to-face or TEAMS.
- Organizer: Project Coordinator.
- Participants: Each consortium partner.
- Scope: Ultimate decision-making body of the consortium.
- Authority: Each member (consortium partner) has equal voting rights. Decisions are made by a two-third majority. The rules are defined in the CA.

Project Meetings

- Particulars: Biweekly, TEAMS.
- Organizer: Project Coordinator.
- Participants: Project Coordinator, Technical Coordinator, Communications Manager, WP leaders, representatives from each consortium partner.
- Scope: Project management, weekly planning, status updates, risk analysis, information.
- Authority: Decide on next steps, review and approve dissemination, reporting and communication.

Work-package Meetings:

- Particulars: As per need of WP, TEAMS.
- Organizer: Respective WP Leader
- Participants: Respective WP leader, Technical Coordinator, representatives from consortium partner involved in the WP
- Scope: Planning and execution of the WP and connected tasks (T) as well as deliveries (D).
- Authority: Planning and execution decisions, technical decisions related to the scope of the WP.

Japan Coordination Meeting:

- Particulars: Bi-monthly, adjusted for availability of both project partners, TEAMS.
- Organizer: Project Coordinator.

- Participants: Project Coordinator, Technical Coordinator, Communications Manager, WP leaders.
- Scope: Coordination between the partner projects 6G-MIRAI and HARMONY.
- Authority: Decide on joint research activities, sharing of data/information and planning of joint dissemination activities.

Review Meeting:

- Particulars: For each delivery, before due date.
- Organizer: Project Coordinator or Lead Beneficiary of Deliverable.
- Participants: Project Coordinator, Technical Coordinator, Communications Manager, WP leaders, representatives from each consortium partner.
- Scope: Quality assurance and review of deliverables.
- Authority: Approve submission of deliverables.

11 Legal and financial management

The legal and financial requirements and obligations are described in the GAP and the Consortium agreement. Each partner must follow these. For consistency, they will not be repeated in this document.

12 Acknowledgement of funding

Every document that is published must include the acknowledgement of funding of the EU SNS JU according to the guidelines of the EU. Following notes must be added, including the correct logos:

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13 Consortium Agreement

Each partner, beneficiaries and affiliates, has signed the Consortium Agreement (CA).

14 Reporting

The contractual obligations of reporting (technical and financial) are specified in the GAP. The project coordinator will prepare templates for financial reporting and will collect the input every 6 months and before the interim and final review (M06, M12, M18, M21-Review, M24, M30, M36, M39-Review).

Project Reviews			
Grant Preparation (Reviews screen) — Enter the info.			
Review No	Timing (month)	Location	Comments
RV1	21	Tbd	First Interim Review
RV2	39	Tbd	Final Review

11 Collaboration with Japan

6G-MIRAI is collaborating with the partner project in Japan called HARMONY. Regular coordination meetings will support the collaboration and the exchange of research input and results. Further, two joint workshops are planned, details can be found in the Cooperation, Dissemination and Communication Plan. A scope alignment has been done and WP from both partner projects have been aligned and described as an appendix in the GAP.



16 Ethics and Compliance

The 6G-MIRAI partners must follow the requirements and guidelines for Ethics and Compliance as outlined in the GAP. In addition, each partner shall follow their own internal processes.

17 Data Management

The Data Management guidelines and processes are defined in the Data Management Plan.

18 Dissemination and Communication

Dissemination and Communication guidelines and processes are described in the Cooperation, Dissemination, and Impact Plan).

19 References

6G-MIRAI_Deliverable_D4.1_Coop-Diss-Impact_v1.0

6G-MIRAI_Deliverable_D5.2_Data-Management-Plan_v1.0