

## D1.2: QUALITY PLAN

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## 1. Index

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## 2. General Introduction

The LEAPFROG HCI-DI project goal is to expand the research and innovation potential of the Madeira Interactive Technologies Institute (M-ITI) of the University of Madeira through the hiring of an ERA Chair in Human-Computer Interaction (HCI) and Design Innovation (DI). The project aims at unlocking the full potential of interdisciplinary research in interactive technologies, while strengthening innovation and knowledge transfer activities in close collaboration with local and global industrial partners and contributing to the smart specialization strategy of Madeira. To this end, funding this project proposal will support the following main activities:

1. Upgrade the RDT capacity and capability by expanding the human potential and fostering a critical mass of researchers with inter-disciplinary expertise in human-computer interaction (HCI) looking at new ways to examine and communicate the potential of emerging technologies in areas such as robotics, biotechnology, nanotechnology and informatics, as well as their impacts in key areas of contemporary life, in particular aging populations, sustainability and digital culture. The hiring of an ERA Chair in HCI-DI will be instrumental in order to raise the profile of M-ITI in and build a critical mass of researchers in the above-mentioned key emerging areas.
2. Improve M-ITI's innovation potential and impact at the regional, national and European levels, through design-driven innovation. Such approach will unravel the impact of open innovation and crowdsourcing on education, training and knowledge transfer, and extend the creative research capabilities of individuals and organizations in the region. For such an impact to be effective we need to acquire and install critical equipment for test beds and prototypes in the regional strategic application areas of tourism, aging populations and sustainability, which leverage the outermost region of Madeira as a natural living lab for interactive technologies.
3. Raise international awareness about the institute and connect M-ITI and its industry affiliates to the global knowledge networks: work with mentoring institutes based at prestigious universities in Europe, which have agreed to serve as mentors by sharing their knowledge and promoting the exchange of key personnel; and continue to deepen the strong partnerships established with Carnegie Mellon University (CMU), which include joint research and advanced training programs.

As a consequence of these activities we aim to better integrate M-ITI with the European Research Area (ERA) and, in particular, improve the participation of M-ITI and associated entities of the recently created regional system for R&D+I, thereby increasing the level of participation of the institute in the Horizon 2020 programs.

## 3. Quality Management Plan

### 3.1 Purpose

The quality plan is the document setting out the quality assurance procedures for the leapFROG project. It aims to deliver clarification and guidance to procedures and standards to be used in all major activities set in the work project.

This Quality Plan will also include a model for the Risk Issue Log to be used by the Project Manager in order to identify risks and the relevant contingency plan.

The current quality plan is applicable to all activities, which are related to the project. Hence, compliance of its execution is mandatory for all involved.

leapFROG's quality principles are as follows:

- To implement and maintain a quality system;
- To identify to all involved their responsibilities regarding quality;
- To ensure that all deliverables comply with grant agreement;
- To ensure that all processes relevant to the project are organised and monitored at a high level of effectiveness and quality.

### 3.2 Structure

The document is divided into three sections.

**Section 4: Quality Approach**- outlines the quality planning defining the outputs required by the project and the management structure already drafted in the project proposal.

**Section 5: Quality Guidelines** - provides description of the tools used for collaboration in the project and the procedures defined to ensure the quality of the project's output.

**Section 6: Risk management** – outlines potential risks as well as presents a description of their nature, contingency and monitoring mechanism.

## 4. Quality Approach

Quality planning is about defining the outputs required by the project, with their respective quality criteria, quality assessment methods and the quality responsibilities of the involves partners.

### 4.1 Quality Responsibilities

The leapFROG Project participants will collaborate throughout the project in order to meet all the established objectives. This section reproduces several of the aspects commented on in WP1, as it is oriented towards establishing management structure and mechanisms. As a consequence of the work plan detailed in the work project, and specifically in WP1, the integration of project participants with each other, in both the scientific and technological spheres, is a constant feature throughout the project with a view to guaranteeing its success.

There are two main types of project partners and main participants: the leader/coordinator partner (MITI, including faculty researchers, project manager, financial manager, technical staff and administrative staff); formal project participating organizations (from the other EU or Associated countries); invited faculty researchers (from project partner organizations and from other research centres), and; twining researchers (from M-ITI and from project participating organizations).

- **Leader** is Madeira Interactive Technologies Institute (M-ITI). On project kickoff, M-ITI is responsible for indicating the person(s) responsible for each concrete Measure/Work-package.
- Formal **project participating organizations** are: SFI – Smart Future Initiative (Germany), PM –Politecnico Milano (Italy), UG - University of Glasgow (United Kingdom), TU/e - Eindhoven University of Technology (The Netherlands).
- **Twining researchers** include faculty personnel from both M-ITI and formal project participating organizations.

M-ITI is responsible for establishing the project's strategic guidelines, for establishing the steps to take, for monitoring the technical quality of the work done and for ensuring that all action is taken in accordance with the proposal presented to the Commission. It is also responsible for monitoring the degree of physical and administrative compliance in accordance with the guidelines established by the Commission and specific work-program rules.

The role of the other participants is established by the content of each Measure/WP in the project proposal, and will be at all times linked to the guidelines established by the Management Unit.

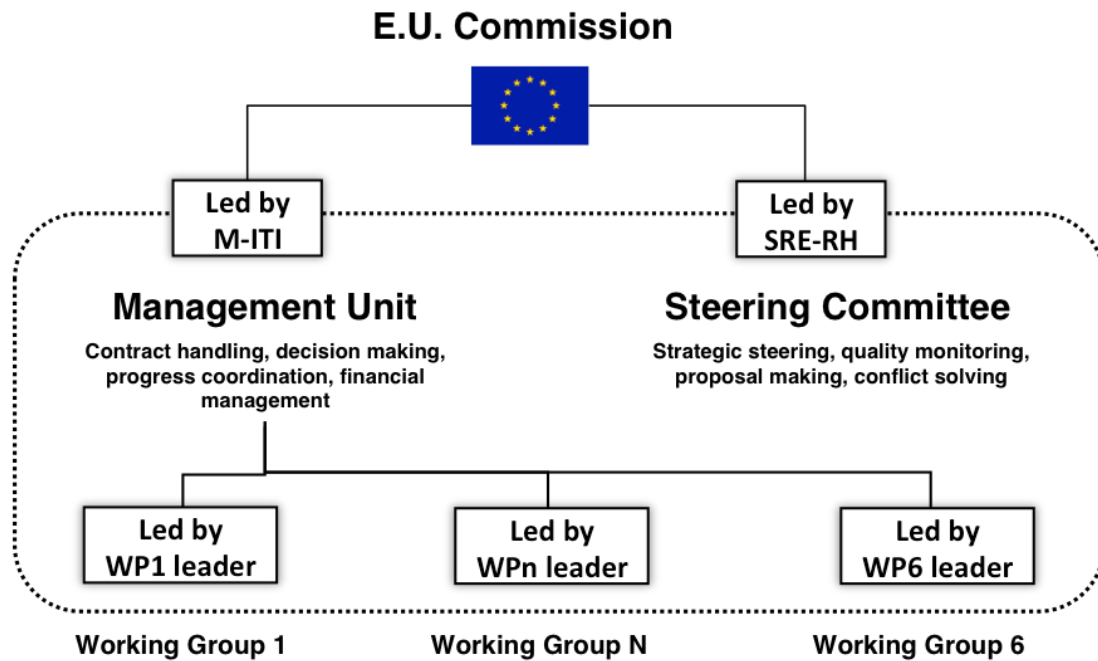


Figure 1 - Management Structure of the LEAPFROG Project

As depicted in Figure 1, the following units will integrate the management and organization structure of the project:

**Management Unit (MU):**

- Highest level authority when making key quality decisions
- Definition of the strategic lines of the project in collaboration with the ERA Chair holder
- Regularly verify the progress of the work, the quality of the results and their correspondence with the overall project objectives and time scheduling
- Fulfillment of Commission’s requirements: presentation of progress and financial reports

**ERA Chair Board and Institutional Coordination:**

- ERA Chair board steers the strategy of the project;
- The identification of criticalities and the proposal of possible contingency actions to best meet the project objectives;

- Coordinating all actions proposed and the project position toward the European Commission;
- Follow-up of the implementation of the actions envisaged in the project work plan;
- Discussion and approval of the method/methodology and tools used in the project implementation framework;
- Advice on the research strategy, and aiming at the sustainability of the measures beyond the end of the project.

The Era Chair Board will be composed by the following personalities that committed to this project through a letter of support:

- Era Chair Holder;
- Nuno Nunes – President of the Board of Directors of M-ITI;
- Professor Justin Cassel – Head of the HCI Institute at Carnegie Mellon University (CMU);
- Clemente Aguiar – Vice-President of Research of the Regional Agency for RDT+I;
- José Manuel Baptista – Vice-Rector of Research at the University of Madeira;
- One Representative from the industry affiliates – TBD;

**Working Groups, WG:**

- Develop activities in the corresponding Work Package
- Support for the work done, as they will take part in decisions taken on the most suitable actions to be adopted in the phases of the project as required
- Report about work progress, deliverables, achievements, and deviations from schedule, problems, and results, following the reporting methodology adopted in the project.

We should remark that this document represents a part of the management plan. Although the project vision and overall quality management lines described so far will remain unchanged throughout the project, the management philosophy itself may require that the operational details of the work (and especially the work coordination, e.g. which tool will be used for virtual meetings, or which risks are deemed more critical) evolve as new requirements, constraints and solutions are found.

Another important remark is that M-ITI ERA-chair holder, Chris Csikszentmihalyi, will have a fundamental role in ensuring the quality standards for all project lifecycle and specifically in

what regards the scientific orientation of the Institute and concerning outputs. With this point of view, the present document already comprises the input of our Era Chair holder who committed his time prior to the official starting of his contract with M-ITI in order to minimize future changes, which also justifies the relative delay in delivering this report.

## 4.2 Assurance of Deliverables

As defined in the previous point, the Working Groups are responsible for reporting the work progress, which includes all deliverables. The process follows then to the ERA Chair holder that will assess the overall quality of the deliverable and submit the necessary reviews to the Working Groups. Based on received comments, the group will undertake all necessary improvements and changes and prepare a pre-final version to be approved.

In addition to the scientific compliance and approval, the deliverable must also be in accordance with the structure defined for reporting deliverables to the EC. The project coordinator will make the last revision and ensure the coherence.

The following table provides a short list of indicators of quality that will be assessed by the Era Chair and Management Board:

Quality Indicator	Reference
The contents are in accordance with the objectives stated in the Description of Work	leapfrog description of work
The deliverable offers complete documentation on the work done in the corresponding WP/task	leapfrog description of work and project meetings
The deliverable is compliant with the templates and editing guidelines as outlined within the Quality Management Plan	D1.2 Quality Management Plan
The deliverable is suitable for the targeted audience	WP3 – communication, dissemination and Exploitation
The deliverable is clear and legible	Review topics: <ul style="list-style-type: none"> <li>• Language and syntax</li> <li>• Structure</li> </ul>



	<ul style="list-style-type: none"> <li>• Relevant illustrations</li> <li>• Relevant annexes</li> </ul>
<p>The deliverable is complete</p>	<p>Review topics:</p> <ul style="list-style-type: none"> <li>• References</li> <li>• Missing parts</li> <li>• Arguments</li> <li>• Topics not covered</li> </ul>

As a result of this exercise, a statement will be prepared to summarize the results, the problems found and suggestions. This process will be repeated until the deliverable’s quality is considered satisfactory.

The final version is sent to the Project Coordination for EC submission and may be released for dissemination purpose in accordance with the dissemination level defined in the deliverable.

## 5. QUALITY GUIDELINES

In this section we briefly describe the main rules and procedures that will be put in place to facilitate the day-to-day work and the successful achievement of the project deliverables.

However, as it has been mentioned before, the project management approach is an iterative one, and thus the mechanism and tools described below might be fine-tuned during the course of the project, to adapt to the evolving needs of the project work, always remaining within the project vision and expected outcomes gathered in the proposal. The following proposal reflects the current understanding of how these procedures and tools should be, which has already been put in practice during the first months of the project.

### 5.1 Cooperation procedures and tools

The management structure discussed in the previous section ensures communication from a work package to a higher, more strategic, point of view so that these dependencies can successfully be met and take place in an efficient communication manner.

The internal communication strategy that will be put in place is intended to ensure a constant and effective exchange and share of information between the people involved in the project.

### 5.1.1 Tools for Internal Communication

The internal communication will be established between the participants involved in the project using the most suitable tools for the given context. In order to ensure effective internal communication, the following tools are predicted to be more in use:

#### **Meetings**

Different kinds of meetings are foreseen during the project:

**Management Unit** will formally meet **every month**, locally at M-ITI.

The **ERA Chair Board and Institutional Coordination** will meet **once or twice per year** as necessary. The calendar of the ERA Chair Board meetings should coincide with the Advisory Board meetings of M-ITI preferably once per year. This will ensure additional scrutiny of the project and assist the Era Chair holder and the board to guarantee the impact and sustainability of the project. Fluent communication between the board members will be insured during project lifetime by using tools like Skype and email exchange.

**Working Group** meetings are organized as necessary or upon request of the involved parties.

The ERA Chair Holder will develop a natural and informal relationship with the working groups (researchers and leaders), which will deliver a constant and close communication flow thus reducing the last minute workload.

#### **Mailing lists**

Electronic Mail (e-mail) will be the most common way of exchange between partners and among all partners. For a better organisation of the internal communication, the following specific mailing list will be created:

[erachair-board@m-iti.org](mailto:erachair-board@m-iti.org)

[erachair-management@m-iti.org](mailto:erachair-management@m-iti.org)

[erachair-all@m-iti.org](mailto:erachair-all@m-iti.org)

Work Package leaders may set up additional mailing lists if necessary.

Concrete instructions about the mailing list participation will be provided to any new member invited to join the lists above. The project coordinator manages all lists.

### **Project Repository**

The project will use the following tools for information sharing:

- Collaborative platform in website restricted area to store all projected related documents, such as plans, minutes, deliverables, working drafts, progress reports. It may also be used for discussion and to manage tasks and responsibilities.
- Project Participants have their own account with read and write access rights.
- A document repository, synchronized with the website, is also set up for sharing big files, like templates, images and other sort of documents mainly to be used for the communication actions.

### **Document Standards and Guidelines**

The objective is to formalize a set of uniform rules for coding any document, which will be issued in relation with the leapFROG project.

All involved in the project will follow these rules with a special focus on the working groups responsible for preparing the deliverables. Their compliance will reduce the workload of the reviewers and project coordinator and facilitate the overall understanding of the work produced.

## **D1.2: QUALITY PLAN**

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Deliverable No:

Contractual Date of Delivery: MM/DD/YYYY

Actual Date of Delivery: MM/DD/YYYY

Title of the Deliverable:

Corresponding Work-package: WPx

Relevant Task:

Dissemination Level: PP

Partner Responsible:

Authors: name ([email](#))

Reviewers: name([email](#))

### 5.1.2 External Communication

The main objective of the external communication focuses on establishing the role of M-ITI ERA Chair at the regional and international levels, including activities for dissemination of knowledge, networking, and raising international awareness of M-ITI and its impact.

LEAPFROG dissemination plan (D5.1, m/7) will bring together current knowledge of target audiences, existing networks and priority activities. A second task is to ensure a strong presence in international events by means of staff participation, information booths, and public demonstrations. A final task is to disseminate and create awareness both at the level of researchers and industry affiliates (through a newsletter), and to more broad audiences, via social media and the M-ITI's webpage.

All external communication about the leapFROG project must be previously approved by the project coordinator who is responsible to check the compliance with the quality standards defined in this plan.

The Communication Plan main objectives, audience and methodology are as follows:

Main objectives:

- to raise regional, national and international awareness, recognition and attractiveness of M-ITI research center, promoting its areas of excellence;
- to disseminate M-ITI's research results;
- to identify relevant audiences, markets and industrial segments in order to create and foster concrete exploitation of research results

#### **Global Strategy:**

- Define a corporate identity (logo/brand) to get people to recognize the project along the years;

- Attract the local, regional and national reporters to the outcomes of the project and M-ITI (establishing long term relationships and creating stories about M-ITI’s activities that can raise interest near the journalists);
- Build and update the website that will include an overview of M-ITI of the Universidade of Madeira, including its strategies and achievements, research and industry partners, among others;
- Issue a monthly electronic **newsletter** with updates on the MITI’s activities;
- Create **brochures** and **flyers** about M-ITI;
- Work in collaboration with the PR’s of all partner universities, labs and companies (include links on

### Logotype

Any publication or communication material prepared about the leapFROG project must display M-ITI’s logo in one of the following forms:



Figure 2 – M-ITI project logo for different uses

### 5.1.3 Communication with third parties

Communication with third parties (e.g. regional| national authorities, other research organizations, industry, universities, etc.) is encouraged within the context of the project with the view of disseminating the results and outcomes of the project. In all external communications, a reference to the project should be made (e.g. acronym, EU programme/theme, contract No.).

The following acknowledgment of **EC support for all publications and other dissemination** relating to foreground shall be included in all project external communications:

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*The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7 2007-2013) under the Grant agreement nº 621413.*

## **6. Risk management**

leapFROG presents some generic risks inherent to support actions with ERA Chairs, respective teams and twinning with international partners and some specific risks that have to do with the reality in the Autonomous Region of Madeira and the partner companies. In the sequel we present these risks and discuss the measures to be taken in order to mitigate them.

The first potential source of risks is project management. As explained previously the structure of management tasks and organization of the project have been carefully considered thereby mitigating management risks. The experience of the project director, existing links of trust and cooperation among all partners, and the activation of special management procedures as soon as problems first appear will reduce this class of risks. The project director and the ERA Chair holder will ensure that project milestones are met and they will take corrective actions if and when they are necessary. One of the roles of the ERA Chair Board is to advise on the management and leadership aspects of the project, particularly in promoting best practices for risk mitigation. Furthermore, their extensive experience shall prove useful for anticipating potential problems and addressing unforeseen issues.

The main risk of the project is related to the technical part of the support activities. Medium risk is inevitable in a project of this kind, which pursues the high-stake goal of attracting a world-class researcher to an outermost region of Europe and fostering a center of competence with international recognition. As an ambitious initiative focusing on interactive technologies, the project requires solving a number of technical challenges in the deployment of test beds and living lab operations, particularly in WP4. LEAPFROG will resolve these challenges by combining the talent available in M-ITI and the University of Madeira ecosystem and the expertise of some of Europe's top researchers. This will assure the existence of a critical mass able to tackle challenging problems and offer innovative solutions.

The risk of potentially considering the project too ambitious is controlled by the excellence and the background of the team members and the recruitment of experienced professionals

and obviously the ERA Chair holder and his team who will fill in the identified gaps, particularly in areas of assistive technologies, creative media and sustainability. The ERA Chair members, the industrial partners and the European Partner Institutions have expressed their full support to this project in writing due to positive past experiences they have had with the proponents at M-ITI. Furthermore, the objectives will be verifiable and monitored by the ERA Chair Board.

To overcome the risk of ensuring sufficient time to guarantee a long-term sustainable impact of the ERAChair for M-ITI was mitigated opting for the maximum 5 year duration period of the call, this is sustained by the fact that attracting a world-class researchers in HCI and DI, for an outermost region severely affected by the economic and financial crisis, will benefit from a long-term financial support such as the one provided by LEAPFROG. The remaining activities are mitigated by the following facts: (i) the partners are experienced with experimental research and are at the frontier of knowledge in the research areas where they contribute; (ii) intermediate milestones and specifications have been designed to minimize the risk of delay or failure;(iii) early in the project, the labs of M-ITI will be enhanced with new equipment that is specific to research on interactive technologies. The risk will be minimized in a gradual fashion: first, through evaluation of the current state of solutions, then design and simulation of new approaches, and finally through experimental validation (possibly leading to another iteration of the design process). The strongly experimental character of the project should limit the risk of arriving at solutions that are not suitable in real environments. Additional risks are described in the following table, which includes the level of risk, the related WP and the contingency plan foreseen in this project.

Task / WP	Risk	Potential Effect	Risk severity (High/ Medium/ Low)	Risk management strategy
WP2	Difficulty in recruiting researchers / Technicians to move Madeira	Delay in the recruitment process	M	The network of partners and ERA Chair search committee will support in attracting candidates, project duration (4 years) prevents

				uncertainty about the country and region financial crises.
WP3	Delay or a longer training for researchers required	Delay in acquiring the capacity to fully exploit the Living Lab	L	Advanced planning and conservative estimation of training needs
WP5	Operational difficulties in the organization of planned conferences	Delay in the realization of the planned scientific events	L	Recruitment of additional administrative & support staff from M-ITI
WP4	Delay acquiring/installing new equipment due to delivery constraints to the island of Madeira	Delay in acquiring equipment to develop the Living Lab	M	Task starts of M7 but the list of specific equipment and providers is already identified.

Additionally a risk | issue log template was also created (Annex II ) to be used by the project coordinator to ensure a tracking mechanism and to make sure that issues are indeed raised, investigated and resolved quickly and effectively.



## 7. Annexes





### Annex I: Deliverables List to be submitted for review to the European Commission

Deliverable Number	Deliverable Name	WP Number	Lead Beneficiary number	Estimated indicative persons-month	Nature	Dissemination Level	Delivery Date (month)
D1.1	Quality Plan	WP1	1	1.00	R	PP	3
D2.1	Recruitment Report	WP2	1	1.00	R	PP	12
D3.1	Report on Horizon 2020 training events at M-ITI	WP3	1	1.00	R	PU	30
D4.1	Fully functioning laboratory capacities	WP4	1	1.00	O	PP	21
D5.1	M-ITI and leapFROG website and social media improvements	5	1	1.00	O	PU	24
D6.1	Independent evaluation Report	6	1	1.50	R	PU	60
			<b>Total</b>	<b>6.50</b>			

### Annex II: Risk/ issue log template

Bellow an example of the risk/issue template to be used by the project coordinator.

Number	Probability	Impact	Rating	Contingency Plan	Mitigation Plan
1	Certain	High	0,7125		
2	Likely	Very High	0,5225		

<b>Legend:</b>	
	Minimum risk - Acceptable
	Some risks - Monitor at PM/Team Level
	High risks - Active monitoring with ongoing Contingency/Mitigation activity
	Show stoppers - Active participation with steering committee to mitigate