

**Template**

**For ECHORD++ PDTI[[1]](#footnote-1) Proposals**

* This template is for the ECHORD++ PDTI proposals “only for technology providers”
* Call open 15th January 2015
* This form may be submitted electronically any time before the 28th February 2015, 17:00 Brussels time, to the electronic submission facility at the ECHORD++-homepage at http://www.echord.eu

Text in red represents comments and should be deleted in your submission. Page limits refer to this text style in word: Times New Roman 11 pt font, Line spacing 1.15 lines, 6pt after, Standard A4 page size and margins

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# Summary (limit: 1/3 Page)

This proposal addresses the challenge[[2]](#footnote-2) in

Healthcare

Urban robotics

Please insert a summary of our proposal here. This summary should be a “Mission Statement” rather than a scientific abstract: The mission shall include a statement on the technology developed (how do you address the challenge); the step beyond the state of the art (can also be “system integration”!), the starting point and the impact. Make it short and crispy!

# Scientific and technological quality (limit: 8 Pages)

Your technology should address one of the PDTI challenges, and your work must have the potential to produce/deliver tangible results: at the end of each phase (Phase I: Solution Design, Phase II: Development of Prototypes, Phase III: Small-scale test series). Make sure that there is a robust demonstration at the end of each Phase (Phase I: solution design (TRL: 4-5[[3]](#footnote-3)); Phase II: working prototype (TRL: 6), Phase III: Small-scale test series (TRL 7, maybe 8). Note that there is also an impact section 2 below. The present section should describe the technical approaches in details and justify the technical feasibility, also taking the duration of the different phases as described in the individual challenge descriptions into account.

## Progress beyond the current state of the art

Clearly describe the starting point of your technological development and in which way you intend to advance the state of this technology in order to address the challenge of the PDTI area in an ideal way. Clearly identify HW/SW components, sub-systems, frameworks, middleware, etc that are already available and outline in which parts you will do research/development and where you integrate. When writing this section of your proposal, please answer the following questions:

* What scientific or technological issue does the proposal address: scientific, technological, economic, etc.?
* How will this technology address the corresponding PDTI challenge? What are the specific approaches and why are the proposed solutions promising in the light of existing technology and products (if available, refer to section “Alternative or competing technologies/approaches”)?
* How does this technology integrate the required technologies? Which aspects do you include in the technology development in order to make the technology / product intuitive for the different target groups? Outline how your technology will be integrated in the existing environment (clinical set-up or sewer inspection infrastructure). Which aspects are relevant here and how do you want to address them?

Please outline:

* The added value in terms of (enabling) technology, which the technological solution you propose, will generate. If you capitalize on the research of other projects: name any national or international research and innovation activities which will be linked with the project, especially where the outputs from these will feed into your technology. Please be concrete by giving examples, by referencing authoritative publications, studies, etc. Outline which aspects have prevented a change of the situation up to now and why you are now in a position to do it. Why you? Why like this?
* What will be possible after the completion of your technology that is not possible now? Describe the positioning of the technology, e.g. where it is situated in the pipeline in the three different phases. One way to describe the progress is to use Technological Readiness Levels (TRLs), as described in the current Multi-Annual Roadmap (MAR) of the euRobotics aisbl .
* Why and in which way do these approaches solve the problem and how do you overcome the obstacles that have prevented a problem-solution so far?

## Alternative or competing technologies/approaches

What are the technologies which are available on the market? Which are the advantages of the technologies you will upgrade in your approach compared to the others? What is your advantageous over these competing technologies and what benefits you can get from them? Outline which alternative approaches to tackle the challenge would be possible – and justify why you decided to opt for your way!

## Concept, methodology, and associated work plan

Provide a detailed description of the scientific and technological approach and/or methodology by which you will reach your objectives. Describe a progression of crucial milestones and decision points for your technology development and their expected timing. Make sure that you have tangible results at the end of each of the three Phases. When setting up your work plan, describe the outcome of each phase in a clear measurable way and state what can be demonstrated to both, technical experts and end users.

What would you consider to be a success? What would one learn from failure? Include measures for the overall assessment of progress and results.

Describe the overall strategy of the work plan as follows:

* Provide a work description broken down into tasks (for each of the Phases I-III):
  + Task list (use Table in section 1.3.1);
  + Description of individual tasks (use Table in section 1.3.2);
  + List of deliverables (use Table in section 1.3.3);
  + List of milestones (use Table in section 1.3.5)
* Show the timing of the different tasks and their components (Gantt chart).
* For the first phase, provide a detailed test plan, for the other two phases, outline the test plans.
* Describe any significant risks and associated contingency plans.

### Task list

The number of tasks used must be suited to the complexity of the work and the overall value of the proposed technology. The planning should be sufficiently detailed to justify the proposed effort. Furthermore, the role of each partner (in the case of two or more partners) within each task should be clearly stated, including the corresponding forecast effort. Milestones should be sufficiently precise to allow progress monitoring.

Task List: Phase I (Solution Design – duration: 6 months)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task No. | Task title | Lead Participant (short name) | Start month | End month |
| T1 |  |  |  |  |
| T2 |  |  |  |  |
| T3 |  |  |  |  |

Task List: Phase II (Working Prototype – duration: 12 months)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task No. | Task title | Lead Participant (short name) | Start month | End month |
| T4 |  |  |  |  |
| T5 |  |  |  |  |
| T5 |  |  |  |  |

Task List: Phase III (Small-scale test series – duration: 12 months)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task No. | Task title | Lead Participant (short name) | Start month | End month |
| T6 |  |  |  |  |
| T7 |  |  |  |  |
| T8 |  |  |  |  |

### Description of individual tasks

|  |  |  |
| --- | --- | --- |
| Task 1: [name and timing information, i.e. from month to month] | | |
| Participant | **Role** | **Person- months** |
|  |  |  |
|  |  |  |
| Objectives: | | |
| Description of work and contribution of individual participants: | | |

|  |  |  |
| --- | --- | --- |
| Task 2: [name and timing information, i.e. from month to month] | | |
| Participant | **Role** | **Person- months** |
|  |  |  |
|  |  |  |
| Objectives: | | |
| Description of work and contribution of individual participants: | | |

Add another table for every task that you want to define.

### List of Deliverables

There should be at least one deliverable at the end of each phase, in case of major components or integration work done, few(!) additional deliverables should be included. Besides the official deliverables, we need a list of technological features you will concentrate on during the development, starting with Phase II. For each of the features we need an indication of how you will share the results with us to allow us to track the progress properly. Please avoid reports to the extent possible and work the communication of tangible results (illustrated by for instance simulations, videos, statistics, data & measurement etc.).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Del. No.[[4]](#footnote-4) | Deliverable name | Task No. | Nature[[5]](#footnote-5) | Dissemination level[[6]](#footnote-6) | Delivery date[[7]](#footnote-7) |
| SB | Story Board |  | O | RE |  |
| MMR | Multi-Media Report |  | O | PU |  |
| RIF | Report on RIF visit outcome (if RIF use is planned) |  | R |  |  |
| D1.1 |  | 1 |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

### Summary of technology development effort (in person months, PM)

Please note that the budget you put in the proposal submission tool just covers phase I. Nevertheless, you are asked to distinguish here the PM for all three Phases in order to make sure that you will be able to realize the project within the give time frame and with the indicate budget which is available. The process and the indicative budget standing behind the three phases are outline on the website and in the Challenge Description.

Distribution of PM: Phase I (Design Development – duration: 6 months)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Participant short name | Taskl 1 | Task 3 | Task 3 | … | Total PM |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Distribution of PM: Phase II (Prototyping – duration: 12 months)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Participant short name | Taskl 1 | Task 3 | Task 3 | … | Total PM |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Distribution of PM: Phase III (Small-scale test series – duration: 12 months)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Participant short name | Taskl 1 | Task 3 | Task 3 | … | Total PM |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

### List of milestones

Milestones (MS) are control points where decisions are needed with regard to the next stage of the technology development. For example, a milestone should be defined when a major result has been achieved, if its successful attainment is required for the next phase of work. Another example would be a point when the consortium must decide which of several technologies to adopt for further development.

Milestones: Phase I, Phase II and Phase III

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MS number | Milestone name | Task(s) involved | Expected date[[8]](#footnote-8) | Means of verification[[9]](#footnote-9) |
| Milestone Phase I | Full system design; demonstration of major features critical for the technology development including risk analysis; timeline for the entire project (Phases II and III) |  | M06 | tbd by applicant |
| Milestone Phase II | First Field Trials: Technology demonstration at the site of the public bodies involved.  Main functionality is realized at a degree that experts at the public bodies can carry out pre-defined tests, when accompanied by developers. |  | M20 | tbd by applicant |
| Milestones Phase III | Engineering Prototype Development of prototypes with final technology sub- systems or close analogues in a close to complete form factor.  All identified functionality is capable of being demonstrated.  Verification trials (independent of developer support) by public bodies possible |  | M34 | tbd by applicant |

## Technological risks

What are the risks of the technology development and what is your plan to address these risks? Please make sure that you have identified all the crucial risks (technical, commercial and others) and that you demonstrate how these will be addressed and overcome effectively. Which are potential obstacles to commercialization – and how do you want to address them? The risk assessment should be geared to the three phases (design, prototyping and small-scale test series).

## Intellectual Property and Ethical Issues?

What are your plans to address IP (e.g. patent) issues to protect the technology rights? As exploitation / commercialization is the clear goal of PDTI, it is of utmost importance that you illustrate how you want to handle this issue within the consortium. Hinting to the Consortium Agreement to be signed after the acceptance of the proposal is NOT enough at this point. What is your plan to address Ethical Issues and certification process?

# Impact (Limit: 4 pages)

## Expected results

Describe the impact generated by your results, e.g., the long-term effects on the robotics community, the market structure, and the economic prospects. Please distinguish between the scientific impact, the technological impact, and the economic impact you expect. The impact should be a) realistic, b) transparent and c) measurable. Please state the indicators by which you would like the impact to be measured and make a distinction between the three phases. Indicators are, for example: creation of new products, revenue, competitive edge, creation of new jobs. Market intelligence to substantiate your information is helpful (trends, graphs, tables). Measures should address the full range of potential users and uses, including research, commercial, social, environmental, contribution to standards, and the commitment of a robot manufacturer to use the work in their future product program. Additional indicators can refer to “networking”: joint industry-academia publications, new collaborations, impact of the scientific work of the research done in other institutions, sections or disciplines etc.

Aspects which are crucial to illustrate the impact:

* Please identify clearly the partner within the consortium who will commercialize the product.
* Please illustrate how you will ensure that there is a strong commitment to further develop and commercialize the technology. Please outline the time to commercialization, which efforts will be required after the runtime of E++ in order to do so and how you intend to manage this.
* Please demonstrate the scalability of your technology (which potential has it to address future / wider challenges in the area?
* Please include a business plan and reveal your calculation on “Return on Investment”: Only proposals with a binding commitment on exploitation are eligible.
* Which is the target price of your technology to the end user (clinics), how did you calculate this and why do you think that you need this price level in order to be successful with the commercialization of the technology?

## Exploitation plan of project results and management of knowledge and of IP

Try to describe all possible exploitations of the outcome, highlighting any know-how and technology transfer between academia and industry. Examples are: new product generation, founding new companies, creation of patents, etc.

## Dissemination plan of technology development results

The means for dissemination of project results, both to the scientific community and to possible end-users or producers of the technology have to be clearly stated. The dissemination plan should describe measures and target audiences, e.g. presence at trade shows and/or conferences, association meetings, workshops, creation of multi-media material, scientific papers, articles in industrial magazines, etc.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Events/Media | Name of Events/Media | Target-groups relevant to product/technology | Impact of the activity / reason for selecting this one | Time of activity during project run time |
| Fairs |  |  |  |  |
| Magazines, newspapers, journals, etc. |  |  |  |  |
| Conferences |  |  |  |  |
| Multi-media or web based dissemination |  |  |  |  |
| Other |  |  |  |  |

# Implementation (limit: 3 pages)

## Individual participants

For each participant in the proposed technology, provide a description of their organization and their specific role in the project (which competence do they provide?), the main tasks attributed to them, and their previous experience relevant to those tasks. Provide a short profile of the staff members who will be undertaking the work and their commitment expressed as a percentage of the full-time equivalent.

Name of the participant

Description of the legal entity and previous experience relevant to assigned tasks

Profile of the staff members that will undertake the foreseen work in the technology development. These people are also expected to come to meetings.

The coordinating participant has to be indicated.

## Description of the consortium (if more than one partner)

Describe briefly the complementary competences within the consortium.

## Overall resources – costs and funding

Justify the budget, e.g., list equipment to be purchased and why it is needed, describe travel expenses, and other major cost items. The overall budget tables are in the budget calculator – no need to repeat this here. Include costs for travel, including to joint events such as workshops, and for dissemination and exploitation events during the run time of the technology development, for the creation of a multimedia report, and etc. Please note that we need a complete planning of resources for all three phases even you will only enter the budget calculation for the first phase in the budget calculator.

1. Public end-user Driven Technological Innovation [↑](#footnote-ref-1)
2. For the description of the challences and background information, please refer to the respective challenge description and the guide for applicants, see www.echord.eu/XXX [↑](#footnote-ref-2)
3. For the definition of the TRLs, please see <http://www.eu-robotics.net/cms/upload/PDF/Multi-Annual_Roadmap_2020_Call_1_Initial_Release.pdf> p 117ff [↑](#footnote-ref-3)
4. Deliverable numbers in order of delivery dates. Please use the numbering convention D<T number>.<number of deliverable within that <T>. For example, Deliverable 4.2 would be the second deliverable from Task 4. [↑](#footnote-ref-4)
5. Please indicate the nature of the deliverable using one of the following codes: R = Report, P = Prototype, D = Demonstrator, O = Other [↑](#footnote-ref-5)
6. Please indicate the dissemination level using one of the following codes: PU = Public, PP = Restricted to other programme participants (including the Commission Services), RE = Restricted to a group specified by the consortium (including the Commission Services, CO = Confidential, only for members of the consortium (including the Commission Services). [↑](#footnote-ref-6)
7. Measured in months from the PDTI R&D project start date (month 1). [↑](#footnote-ref-7)
8. Measured in months from the PDTI R&D project start date (month 1). [↑](#footnote-ref-8)
9. Show how it can be checked that the milestone has been attained. Refer to indicators if appropriate. [↑](#footnote-ref-9)