

**Erasmus Mundus Joint Doctorate in  
Information Technologies for Business Intelligence - Doctoral Colleague  
(IT4BI-DC)  
Doctoral Project Plan**

The Doctoral Project Plan (DPP) and its associated Thesis Proposal Report (TPR) constitute a tool for directing the development of a doctoral process. It helps to formulate and concretise the different elements involved in the process. It is also meant as a communication tool between the doctoral candidate and his/her co-advisors and Candidate Progress Committee (CPC). From an administrative viewpoint, it is a tool for judging the extent to which the proposed research can be realised within the framework of a doctoral study. Therefore, this tool will be used for the candidate's first-year evaluation.

The DPP has to be submitted to the chair of the CPC no later than two months after the start of the studies. It is expected that the co-advisors lead the production of the plan. In the TPR, the DPP is updated by the candidate according to the experiences gained during the beginning phase of the project. It is expected that the TPR is much more concrete and elaborated than the DPP. The TPR should be sent to the chair of the CPC no later than one month before the end of the first academic year.

The following sections contain the elements that are to be present in both the DPP and the TPR. The DPP should be specific and as short as possible while still containing the necessary information. It should not exceed 10 pages (12 point Times New Roman, 20 mm margins on all sides).

The particular areas that you must pay attention to with regard to the TPR are written in *italic* and highlighted.

The template form at the end of this document must be filled out and handed in along with the doctoral plan, to be added to the portfolio of the candidate.

Please make sure that a proper scientific conduct is demonstrated throughout the DPP and the TPR. For guidelines see for example the Vancouver Declaration<sup>1</sup>.

## **Section 1. Project Summary/Abstract**

A short (maximum 400 words) summary in layman's terms describing key motivation, significance, methodology, and expected outcome of the doctoral study. A reader of the local newspaper should be able to understand the summary.

*TPR: An updated version of the summary*

## **Section 2. Scientific Content of the Doctoral Project**

1. The background for the project problem should be described (maximum 300 words).
2. An introduction stating the state of the art for the doctoral project. The introduction should include key references listed under Section 7. Typically, at least 10-15 references to peer-reviewed scientific material are expected. In case it is necessary to refer to non-peer-reviewed material then use a footnote (or parenthesis) to provide information to the source. Explain the relevance of the present doctoral project so the scientific contribution will be evident – i.e., explain how the project advances current state-of-the-art. Scientific challenges should be clearly defined – do not mistake this for technological challenges.

*TPR: The state of the art for the doctoral project must be updated including use of the most essential references (list references under Section 7).*

3. Statement of the project's objectives. This could be formulated as a hypothesis and or research questions if applicable.

*TPR: Statement of the project's objectives followed by a formulation of the specific problem(s) addressed in the study. The problem(s) could be stated as one (or more) scientific hypothesis, if relevant, that is (are) to be examined.*

<sup>1</sup><http://www.icmje.org> (More information can be found at <http://www.plagiarism.org/>)

4. Key methods. Coverage of the methodological needs, identification of means of meeting these needs, and the methodological design. The coverage should include techniques for evaluating or assessing the outcome of the project (e.g. empirical studies and/or theoretical studies).

*TPR: Update the key methods for the doctoral project.*

5. Potential significance and application(s) of the project's expected outcome, possibly including methodological contributions.

*TPR: Experiences and results obtained so far in the project followed by the expected outcome of the entire doctoral project. What is the potential significance of this expected outcome, possibly including methodological contributions.*

6. Work and time plans including measurable milestones (project milestones and deadlines for expected publications for each 6-month period, or finer). A practice is recommended where results are documented and submitted for publication in peer-reviewed outlets throughout the project.

The planned timing for the stays at the host institution should be given. In addition to this, the plans for mobility to an associated partner (internship) should be stated.

*TPR: An updated time schedule for the entire project must be included. It is recommended that a number of subproject activities are identified that can be associated with milestones, so that there are milestones (at least) each six months during the project. Remember to allocate time for preparing scientific publications (conference papers, journal paper etc.). Indicate deadlines for the expected publications. These milestones will allow the doctoral candidate and co-advisor(s) to assess the status of the project each six months and to revise the plan if needed. The specific activities described in the time plan must be of such detail that it is clear what should be carried out.*

7. Outline of the content of the thesis.

*TPR: This description could be organised by means of an overall table of contents.*

8. Outline the publication strategy for the project. Tentative titles (or expected subjects) on papers, including preliminary authors list (indicate who has the primary responsibility for the publication). At least 2 publications as full papers in peer-reviewed international conferences and 1 publication in a journal indexed in Web of Science or in Scopus is mandatory.

*TPR: For each publication, the following should be indicated or estimated: working title, co-authors, length in pages, outlet (e.g. a named conference or journal), and approximate time of submission. Indicate who has the primary responsibility for the publication.*

### Section 3. Co-Advisors/Candidate Cooperation Agreements

The IT4BI-DC programme expects that the co-advisor and candidate should meet (face to face if possible) at least once every month. Each of these working meetings should produce minutes drafted by the candidate stating: (1) what was done since last meeting, (2) what will be done before next meeting, (3) what is slowing down or blocking the project, and (4) what was discovered that would be of interest, or needs to be discussed.

In addition, periodic monitoring meetings are planned just before moving from one university of the co-tutelle to the other. These teleconference (e.g., skype) meetings involving the candidate and both co-advisors allow doctoral candidates to present their results, ask questions, prepare the next stay, etc. Minutes of these meetings are drafted by the candidate in a Periodic Evaluation Form, reviewed by the local advisor, and added to the candidate's portfolio.

Please detail the agreement on the relationship between the co-advisors and the candidate (meeting frequency, communication forms, mutual expectations, etc.).

*TPR: Status and updated agreement on the relationship between advisor and candidate.*

### Section 4. Proposed Education and Training Programme

The IT4BI-DC education and training programme is composed of several activities:

- **Research-specific courses**, aimed at providing doctoral candidates with focused state-of-the art technical skills pertaining to their research topic.

- **Innovation and entrepreneurship courses**, aimed at complementing the scientific training of doctoral candidates with business-related aspects such as entrepreneurship, intellectual property rights, etc.
- **Methodological and communication courses**, aimed at introducing the necessary research methods and communication skills.
- **Language courses**, aimed at introducing the local language at each partner university.
- **Knowledge dissemination and participation to scientific events**, aimed at allowing doctoral candidates to present and confront their findings, thereby familiarising themselves with essential practices such as peer-review and public debating.
- **External cooperation and internships**, aimed at ensuring that the candidate participate actively in another research environment outside his/her home and host universities. These activities are realised typically with IT4BI-DC associated partners.

Please detail in the following subsections your personalised education and training programme, taking into account your previous background and future career prospects. This programme must be approved from both co-advisors.

A tabular listing of all activities performed or to be performed during the doctoral project is to be included. Group the activities according to the categories specified above. For each activity, the title, time, location, organiser, and ECTS credits must be included together with an indication of whether the activity has been completed. Please use this table:

Activity	Place/Organised by	ECTS	General/Project course	Status

*TPR: Update the course table. By completion of the doctoral study, documentation of the contents and the extent of the activities must be provided.*

#### Section 4.1. Planned Courses

Only courses at doctoral level are approved. If a course at master level is deemed to be highly relevant for the doctoral project, the co-advisors can establish a study group on the topic, which includes the master course and additional reading/discussion to bring it up to doctoral level. A written report on participation in a study group must be completed to get course credit. To ensure the scientific level, the study circle must be headed by a member of the scientific staff, who is Professor or Associate Professor (senior scientist level). A study circle organised by the co-advisors on the state of the art in the research field of the doctoral study is recommended.

*TPR: Update the courses in the table.*

#### Section 4.2. Knowledge Dissemination and Participation to Scientific Events

Detail the plan for dissemination of knowledge and findings from the project, e.g., newspaper articles, seminars, conference presentations, teaching, etc.

Each participation to scientific events must be accompanied by a written report by the doctoral candidate that relates the specific activity to the doctoral project. This report must be of general value for the project.

*TPR: Plan for dissemination of knowledge and findings from the project other than those listed in Section 2 must be specified. This could for instance be:*

- *Poster presentations at conferences/seminars.*
- *Presentations at conferences/seminars*
- *Newspaper articles or other popular presentations*
- *Teaching (lecturing and project supervision)*

### Section 4.3. External Co-operation

The doctoral candidate must participate actively in another research environment outside his/her home and host universities. Outline a plan for external co-operation (e.g., internship at an associated partner). One or two tentative institutions (others than that of the co-advisors) must be described. Summer schools, conference attendance, etc., are not considered external cooperation.

*TPR: A description must be updated with completed and expected/planned co-operation activities. This should include:*

- *Co-operation with researchers at external/international research environments (typically associated partners).*
- *Active engagement in external research environments via, e.g., an external stay of 2-3 months. Activities of specific significance for the study must be included. Summer schools, conference attendance etc. are not considered external cooperation. The co-operation must be a research co-operation in which also the visiting institution contributes to the research. The co-operation must be active and it must be with a research institution or a company doing innovation and research.*

### Section 5. Agreements on Immaterial Rights to Patents

Outline relevant agreements on immaterial rights to patents, etc. produced during the doctoral project. Typically it is sufficient to mention that IPR is handled via the standard university rules.

*TPR: Update this section if applicable.*

### Section 6. Financing Budget

Information on the financing budget for the doctoral project, i.e., expenses needed to complete the project (not salary). The funding source or sources should be identified. This part is for information entirely and cannot be used to demand any resources from the IT4BI-DC programme – this part is governed by the specific Doctoral Candidate Agreement between the consortium and the doctoral candidate, which is agreed upon by the time of enrolment.

*TPR: Update this section if applicable.*

### Section 7. References

List of essential references used in the doctoral plan (e.g. in the state of the art) including authors, title, publication outlet, pages/volume/year and for conferences also town/country/dates. Include only peer-reviewed publications (includes books from recognised publishers). The list should include the most important 10-25 references in the research field.

*TPR: Update this section if applicable.*

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**Doctoral Project Plan/Thesis Proposal Report<sup>2</sup>**

*This page must be completed and sent together with the project plan in a pdf file to the chair of the Candidate Progress Committee.*

Project title: .....  
Name of doctoral candidate: .....  
Email: .....  
Advisor: .....  
Home University: .....  
Co-advisor: .....  
Host University: .....  
Date of enrolment: .....  
Expected date of completion: .....

**Signatures**

The Doctoral Candidate  
.....  
Date: .....

The Advisor from the Home University  
Professor .....  
Date: .....

The Chair of the Candidate Progress Committee  
Professor .....  
Date: .....

The Advisor from the Host University  
Professor .....  
Date: .....

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<sup>2</sup>Choose the appropriate heading among the two