

# Self-Evaluation

## Strategic Research Initiative: Designing Human Technologies, DHT (situated at CBIT<sup>1</sup>, ENSPAC<sup>2</sup>)

Director: Professor Jesper Simonsen

### Executive Summary

*“Designing Human Technologies (DHT) has helped to establish Roskilde University as a preeminent research and teaching institution focused on designing technologies that reflect human concerns and societal opportunities. In addition, DHT has exemplified and fostered interdisciplinary collaboration through the processes by which projects were created and funded, and through the skillful management of the overall strategic initiative. The publication of two internationally acclaimed books and several well attended and reviewed PhD courses are testament to the enthusiasm and commitment shown by researchers aligned with DHT. Further, DHT has over-performed on all targets agreed on for its milestones which we believe will enable Roskilde University to continue to perform on an international stage with significant contributions to research focused on designing human technologies”*

Jeanette Blomberg, Principal Scientist, IBM Research, California, member of the DHT Advisory Board

Finn Kensing, Professor, Copenhagen University, Denmark, member of the DHT Advisory Board

Designing Human Technologies (DHT) is a unique strategic research initiative that has gathered 75 researchers from 4 departments and 15 different research groups from Roskilde University in a collaborative effort to support the University's new Humanities and Technology bachelor programme ('HumTek'). The initiative has managed to establish a common research identity at Roskilde University among all academic resources with design interests. This is documented by two large book projects, *Design Research – Synergies from Interdisciplinary Perspectives* (Routledge, 2010, initiated prior to the formal establishment of DHT) and *Situated Design Methods* (MIT Press, 2014), which include contributions from more than a third of the DHT participants.

In summary, DHT met all its milestones, which contributed significantly to Roskilde University's ability to fulfill its development contract (2012–2014) with the Ministry of Higher Education and Science (cf. p. 9f. of the development contract regarding bibliometric research indicator points (BFI), external funding, and co-financed PhD students). The results include:

- 12 interdisciplinary projects all staffed with researchers from multiple research groups and/or departments, in total more than 40 researchers from 13 different research groups and four different departments. Four projects are continuing beyond the end of DHT in June 2016.
- More than 4 million DKK net return from external funding. The projects have paid back their costs (in DHT seed money) by almost 3 to 1 in net returns from external funding.
- A cross-departmental Nordic/International PhD program in Designing Human Technologies with an established faculty group, including 12 professors from 6 countries. The program is continuing, with annual PhD seminars beyond the end of DHT in June 2016.

The researchers affiliated with DHT are prepared to continue our joint collaboration if Roskilde University is ready to support this. Specifically, we offer to initiate a third book project where DHT – based on the experiences and results obtained so far – contributes to Roskilde University's strategy for the future. This book, tentatively entitled *Critical Interdisciplinary Design Research*, will elaborate Roskilde University's unique competencies in creating Mode 2 knowledge, i.e. interdisciplinary-based knowledge carried out in a context of application by a heterogeneous and heterarchical group of researchers in close participation with central stakeholders, committed to design socially accountable solutions to society relevant problems.

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<sup>1</sup> The Department of Communication, Business, and Information Technologies (CBIT)

<sup>2</sup> The Department of Environmental, Social, and Spatial Change (ENSPAC)

## Introduction

This self-evaluation report, requested by the Pro-rector of Roskilde University, has been written by Jesper Simonsen. The report is presented in a dedicated template and describes and evaluates the strategic research initiative *Designing Human Technologies* (DHT). DHT was formally approved by the Rectorship in February 2013. DHT was funded by Roskilde University with a 3,000,000 DKK grant for the period of 2013–2015. In 2015 this was extended to June 2016.

The report includes status and updates by the project responsible for all DHT's 12 projects (from November 2015). Drafts of the report has been discussed and reviewed by DHT's Advisory Board and Reference Group:

- Review of a first draft self-evaluation report provided by the Advisory Board on November 16<sup>th</sup>, 2015.
- A half-day retrospective workshop held with DHT's Reference Group and Advisory Board on November 16<sup>th</sup>, 2015.
- Review of a second draft self-evaluation report provided by the Reference Group on November 27<sup>th</sup>, 2015.
- Review of a third draft self-evaluation report provided by the Reference Group on January 11<sup>th</sup> 2016.
- Review of a third draft self-evaluation report provided by the Advisory Board in January 2016.

The following appendices are attached to the report, the first two of which (Appendix 1 and 2) are considered crucial for the evaluation of DHT:

1. Appendix 1: *List of DHT milestone activities*. This list includes all major accomplished activities as related to the agreed upon milestones for DHT. The list has been updated on an ongoing basis since the start of DHT in 2013 and has been used to provide an updated status of DHT for the steering committee and the Rectorship.
2. Appendix 2: *1-page description of each of the 12 projects*. The main part of DHT is the 12 projects. They are each presented in a uniform 1-page description that includes a short description, a list of participants and partners, internal and external funding, and (links to) research publications.
3. Appendix 3: *DHT-approved description 2013*. Description of DHT including milestones and budget approved by the Rectorship in February 2013.
4. Appendix 4: *List of affiliated professors (2007–2015)*. List of 73 professors from Roskilde University (not including administrative staff and PhD students) who have been affiliated with DHT since the first initiatives took place in 2007. The list shows the departmental and research group affiliation, as well as the participation of individual professors in key activities.
5. Appendix 5: *Historical documents from before 2013*. This includes two important documents:
  - a. Vision and strategy for Design Studies at Roskilde University (approved by CBIT in 2008)
  - b. Paa vej mod en designvidenskabelig forskningsplatform på Roskilde University [Towards a Design-Oriented Research Platform at Roskilde University]. The initial document (in Danish) is from November 2007.
6. Appendix 6: *Theorizing DHT. 1-page abstract and 4-page paper outlining a vision for DHT*. Proposal for a new and more focused joint research objective discussed during 2014.
7. Appendix 7: *DHT-blog 2013–2015*. Chronological list/overview of postings on the DHT blog (dht.ruc.dk) from 2013–2015.

## Short description of the strategic research initiative (max. 2 pages)

*(History, context and raison d'être – overall ambitions of the research initiative)*

*Designing Human Technologies* (DHT) is a design-oriented Strategic Research Initiative supporting Roskilde University's new Humanities and Technology bachelor programme ('HumTek'), and its three dimensions: design, humanities, and technology. The research initiative involves many researchers from different departments and research groups at Roskilde University through shared interdisciplinary research and educational collaboration.

DHT is a **design**-oriented research area; it undertakes a broad definition of the concept of **technology**; and has as the basic **human** principle that users, target groups, and other central stakeholders must participate in the design and the design process, in ethical and society-related concerns, and in evaluating how designs fulfill needs and solve problems.

The purpose is to "*establish and strengthen a common research identity at Roskilde University*" (Appendix 3: p. 1), comprising all academic resources with design interests. The goal for DHT is to become a new hallmark for Roskilde University by 2016 and at the same time to constitute one of Roskilde University's beacons in interdisciplinary research.

The research initiative should create the best possible conditions for researchers to meet, exchange findings and experiences, set up collaborations and "*carry out joint projects across research groups and departments*" (Appendix 3: p. 1). The strategy is to enable the existing well-established research groups, representing the many different epistemological and ontological theories at Roskilde University, to enter into dialogue in order for synergies to develop.

The focal point of the research initiative should be research. There should, however, also be support for the "*development of new graduate and PhD programmes*" (Appendix 3: p. 2) targeting the HumTek area.

The history of DHT began at the CBIT department's Strategy Seminar in August 2007 where a group of researchers (Arne Thing Mortensen, Jan Pries-Heje and Jesper Simonsen) proposed a large initiative and focus area within what we initially labelled Practice-Oriented Design Studies. The reasons for starting such an initiative at that time was the establishment of the new HumTek Bachelor Program, due to begin in the fall of 2008. HumTek was the first new main subject area introduced to the University since 1972. Prior to that the main subject areas were in humanities, natural science and social science. HumTek had the potential of forming a "homeland" for the many research environments and studies at Roskilde University which are characterized by being design-oriented, normative, application-oriented, and innovative.

Practice-Oriented Design Studies began as a grassroots initiative where we invited colleagues throughout Roskilde University to meetings and workshops. A list of design-interested *affiliated professors* at Roskilde University (Appendix 4) was established and maintained. At a one-day workshop held in the fall of 2007 an initial statement, *Towards a Design-Oriented Research Platform at Roskilde University* authored by Jesper Simonsen, John Damm Scheuer, Jørgen Ole Bærenholdt, Jan Pries- Heje, and Arne Thing Mortensen was distributed for discussion (see Appendix 5b) and as a result of the workshop a *Vision and Strategy for Design Studies at Roskilde University* was drafted by Jesper Simonsen and approved by CBIT in 2008 (see Appendix 5a). These documents emphasized the need to enable collaboration across different research groups and departments which later became the key strategy of DHT. A conference was held at Roskilde University in 2008 and a book initiative was established with author seminars that were co-funded (50,000 DKK) by the Rector. The result was our first joint book project "Design Research – Synergies from interdisciplinary perspectives" (Routledge, 2010).

DHT was appointed as a Strategic Research Initiative [Danish: Satsningsområde] in 2012 by two

departments: CBIT and ENSPAC. CBIT funded the startup of DHT in 2012 with 140,000 DKK. In 2013 it was appointed as a strategic research initiative for Roskilde University for 2013–2015 with a total grant<sup>3</sup> of 3,000,000 DKK. In 2015 it was extended to June 2016. When DHT began in 2013 there were 59 affiliated researchers: 36 from CBIT and 23 from ENSPAC. In 2015 DHT had 75 affiliated researchers from 4 departments and 15 different research groups. More than 40 researchers have actively participated in one or more of the 12 projects funded by DHT — and all of these projects are joint projects staffed with researchers across research groups and departments (a prerequisite for DHT funding).

Organization of DHT:

- Steering Group: (Rector, Head of CBIT, and Head of ENSPAC). The Steering Group was terminated in February 2014 when Roskilde University appointed a new Rector.
- Director: (Jesper Simonsen/CBIT). Vice-Director: (Michael Haldrup/ENSPAC). Michael Haldrup became associate professor at CBIT in 2014 and ENSPAC decided not to appoint a new Vice-Director.
- Reference Group representatives from the research environments/groups appointed by the Heads of CBIT and ENSPAC: Erling Jelsøe (ENSPAC/SMHF), Jan Pries-Heje (CBIT/UDI), John Damm Scheuer (CBIT/MITRAN), Jonas Larsen (ENSPAC/MOSPUS), Lisbeth Frølund (CBIT/DK), Sara Malou Strandvad (CBIT/VISPER), Thomas Budde Christensen (ENSPAC/METRIK). There has been one change to the Reference Group in that Lasse Martin Koefoed replaced Jonas Larsen in 2014.

### Cross-cutting milestones to be fulfilled (max. 6 pages)

This section focuses on the products and results related to the “measurable” milestones of DHT. The activities related to each milestone are described in Appendix 1. The projects are listed in Appendix 1 and described in more detail (1-page description of each project) in Appendix 2.

DHT has eight milestones (see Appendix 3: pp. 7f). Four of these are described below as cross-cutting milestones and a further four are described in the following section as milestones specifically defined by the DHT.

#### 1. Research production: Peer-reviewed publications (BFI) and other research publications

- Corresponds to DHT Milestone 6 in Appendix 3.
- Target measurable goal agreed for this milestone: “Increasing trend, min. 50 BFI points in 2016” (Appendix 3: p. 8).

Results (measured as the sum of BFI and sum of publications for DHT members provided by Roskilde University library):

- 2013: 119,4 BFI achieved from 96 peer reviewed publications. This accounts for 14% of the total BFI production at Roskilde University.
- 2014: 96,2 BFI achieved from 148 peer reviewed publications. Our book, *Situated Design Methods* (MIT Press, 2014), contributed more than 33 BFI.
- 2015: BFI not yet available. 103 peer reviewed publications.

A priority has been to fund activities that support research publication, such as participation in conferences with paper presentations, writing retreats, visits from international guests, language translation support (for participants who have not been familiar with international publications), etc.

<sup>3</sup> CBIT and ENSPAC were additionally asked to fund DHT with 250,000 DKK/year from each department for 2013–2015. ENSPAC declined and at a steering committee meeting it was decided that CBIT would fund the total 750,000 DKK (2013–2015) and that this amount would be dedicated to activities undertaken by CBIT participants only. This amount is, therefore, not included in this evaluation report.

## 2. External funding/projects co-funded by the strategic research initiative (e.g. number of applications, total funding, the role in the application e.g. coordinator/partner etc.)

- Corresponds to DHT Milestone 5 in Appendix 3.
- Target measurable goal agreed for this milestone: “A minimum of DKK 1 million/year in external funding after 2013” (Appendix 3: p. 8).

Results (measured by net research grants and net revenue for Roskilde University):

- 16 applications produced: seven approved, five declined, four still in progress.
- 4,356,989 DKK total external funding.

For a list of all 16 applications, including source of application, status, responsible researcher, related DHT project, and more, see Appendix 1.

## 3. Development of PhD activities/courses

- Corresponds to DHT Milestone 2 in Appendix 3.
- Target measurable goal agreed for this milestone: “PhD programmes in Designing Human Technologies will be generated at Roskilde University
  - Cross-departmental (Roskilde University) PhD programme generated
  - Nordic PhD network set up
  - Nordic PhD design course commenced and held at Roskilde University/“Søminestationen”” (Appendix 3: p. 7).

Results:

- A Cross-departmental (CBIT/ENSPAC) PhD program in Designing Human Technologies established with a faculty of 12 professors from 6 countries The program is staffed with an international faculty staff including all four Nordic countries, Estonia, and Italy.
  - DHT 1.0 held May 26–28 2013, held at Roskilde University’s Sømine station (14 PhD students from six countries).
  - DHT 2.0 held May 18-20 2014, held at Roskilde University’s Sømine station (20 PhD students from seven countries).
  - DHT 3.0 held May 10–12 2015, held at Roskilde University’s Sømine station (25 PhD students from 10 countries. Forty-one applications received).
  - DHT 4.0 announced for May 23-25 2016, to be held at Roskilde University’s Sømine station.
  - DHT 5.0 planned for 2017, to be held at Tallinn University, Estonia.
  - DHT 6.0 planned for 2018, to be held at University of Trento, Italy.
- Three additional PhD courses, co-funded by DHT, held in 2012, 2013 and 2015.

## 4. Institutionalization of the research groups/teams within the research initiative

- Corresponds to DHT Milestone 1 in Appendix 3.
- Target measurable goal agreed for this milestone: “Institutionalizing the research initiative to ensure its sustainability also after 2016. The centre is organized and manned at year-end 2015” (Appendix 3: p. 7).

In 2014 the Reference Group decided to decline the initial goal of establishing a “center” as this construction seemed too unambitious and vague. Instead, we suggested continuing with DHT having the status of a University strategic research initiative. This request was forwarded to the Pro-rector at a meeting in February 2015. At this time DHT’s status after 2016 could not be decided by the Pro-rector, because of the need to await (1) The new strategy for Roskilde University 2016–2020; (2) the reforming of the departments of Roskilde University in 2015; and (3) the evaluation of the strategic initiatives, including DHT.

In August 2015, a reform of the departments of Roskilde University was decided upon, changing the University organization into four large departments. This negated our effort to continue as a strategic

initiative (as our chosen alternative to a research center) by “institutionalizing” DHT as part of the new department dedicated to the HumTek bachelor program: From January 1<sup>st</sup> 2016 DHT will de facto be institutionalized as Roskilde University’s new department, “People and Technology”.

Approximately half of the participants from DHT will join “People and Technology” dedicated to the HumTek bachelor program. The other half will join the new departments dedicated to the Humanities and Social Science bachelor programs (Appendix 4 list the departments for all affiliated professors). There is a commitment to continue even though many people are now moving into different departments, and we are currently planning a third book project in line with the key initiatives DHT undertook to support an institutionalization of the research groups/teams within the research initiative:

- Establishing and supporting joint projects staffed with researchers across research groups and departments.
- More than 30 of the researchers who participated in the two former book projects (Routledge 2010 and MIT Press 2014) will, in 2016, be located in three new departments.

### **Specific milestones defined by the research initiative (max. 4 pages)**

#### **Projects across existing research groups and departments**

- Corresponds to DHT Milestone 3 in Appendix 3.
- Target measurable goal agreed for this milestone: “*Projects across existing research groups and departments. Completion of a minimum of four projects*” (Appendix 3: p. 7).

A 1-page description of all 12 projects is given in Appendix 2.

Results:

- 2013–2015 12 projects established:
  - Initially, in the spring of 2013, four projects were established: Clinical Communication, Situated Design Methods, Design of Feedback-based E-decisions, and Experimental Museum Exhibition Design.
  - In the fall of 2013, three projects were established: Future Zone, Network for Design of Robust Organizational Change, and Social Interaction around Installations.
  - In 2014, four projects were established: Curating Sustainability, Design of MOOC, Italian Drawings, The Robust Organizational Translation Network.
  - In 2015, one project was established: Design of Working Life in Temporary Projects.
- In 2015 four projects were completed.
- By June 30<sup>th</sup> 2016 four additional projects will be completed.
- Four projects have resulted in sustained initiatives and will continue beyond the end of DHT in June 2016:
  - Experimental Museum Exhibition Design
  - Network for Design of Robust Organizational Change
  - Clinical Communication
  - Italian Drawings
- All 12 projects have been staffed with researchers across research groups or departments (a prerequisite for DHT funding).

#### **Internal/external profiling**

- Corresponds to DHT Milestone 4 in Appendix 3.
- Target measurable goal agreed for this milestone: “*Active website containing contributions from all participants on an ongoing basis*” (Appendix 3: p. 8).

Results:

- Official Roskilde University DHT website with updated list of participants, publications, and press cuttings in Danish version ([www.ruc.dk/dht](http://www.ruc.dk/dht)) and English version ([www.ruc.dk/en/dht](http://www.ruc.dk/en/dht)).
- Active DHT blogsite with updated information on all projects, PhD courses, conferences, etc., as well as regular blogs in both Danish and English ([dht.ruc.dk](http://dht.ruc.dk)).

- Weekly electronic newsletters in English (2013–2015) delivered to more than 200 subscribers.
- Blog statistics of the size of uploaded text and pictures (excluding video): 2012: 39MB; 2013: 451MB; 2014: 395MB; 2015 (Jan–Oct): 130MB.

Appendix 7 presents a chronological list/overview of postings on the DHT blog ([dht.ruc.dk](http://dht.ruc.dk)) from 2013–2015.

As an additional profiling of DHT we have handed out 500 free copies of our book *Situated Design Methods* (MIT Press 2014) to DHT participants and colleagues, including more than 300 international participants of the SCIS/IRIS 2014 and PDC 2014 conferences.

#### Support for program development

- Corresponds to DHT Milestone 7 in Appendix 3.
- Target agreed for this milestone: “*Presentation on research-based potential for new subject-integrated graduate programmes*” (Appendix 3: p. 8).

Support for program development (e.g., new education) was a focus of debate when the strategic initiatives were established. For some time it was unclear whether the strategic initiative should focus on research or should also include the development of new graduate programs. DHT initially included this milestone expecting that the development of programs would be a requirement. However, early in 2013 it was finally decided that DHT (and the other strategic initiatives) should focus exclusively on research. At our meeting with the steering committee in February 2013 — where DHT was finally approved — we decided to keep the milestone in the text (see Appendix 3: p. 8) but not to fund it (budget was set to 0 DKK). Thus the milestone described a vague target goal which the steering committee agreed not should be prioritized: The milestone should be interpreted as, “We will inform attempts to make new subject-integrated graduate programs with research-based potential from DHT”.

Results:

- Roskilde D.School: Application for a new integrated Master of Education in Design and Innovation. The application was approved by CBIT in 2013 and forwarded to Roskilde University where, in 2014, it was put “on hold”.
- Book targeted for HumTek responding to students’ requests for a method oriented book on how to conduct design-oriented projects: *Situated Design Methods* book project (MIT Press, 2014).

#### International conferences at Roskilde University

- Corresponds to DHT Milestone 8 in Appendix 3.
- Target measurable goal agreed for this milestone: “*A minimum of two conferences to be held between 2012–2015*” (Appendix 3: p. 8).

Results:

- Four conferences co-organized and co-funded by DHT, two held on the Roskilde University campus:
  - The 12<sup>th</sup> biennial Participatory Design Conference, PDC’2012, Roskilde University, Roskilde, 12–16 August 2012. 225 participants. [pdc2012.org](http://pdc2012.org)
  - The 7<sup>th</sup> Danish Association for Science and Technology Studies conference, DASTS’2014, Roskilde University, Roskilde, 12–13 June 2014, Theme: Enacting Futures. (Danish conference with international key-notes). 80 participants. [www.dasts.dk/?p=2479](http://www.dasts.dk/?p=2479)
  - Fluid States — Fluid Sounds, Amager, Copenhagen, 18–21 June 2015. 75 participants. [fluidsounds.ruc.dk](http://fluidsounds.ruc.dk)
  - SCIS/IRIS’37: The 37<sup>th</sup> Information Systems Research Seminar in Scandinavia (IRIS’38) in conjunction with the 5<sup>th</sup> Scandinavian Conference on Information Systems (SCIS), Sørup Herregaard, Ringsted, 10–13 August 2014. Theme: Designing Human Technologies. 100 participants. [iris2014.aau.dk](http://iris2014.aau.dk)

## Lessons learned – reflection on strengths, weaknesses and challenges (max. 3 pages)

Many lessons learned could be presented and reflected on. Below are five lessons that were all highly rated at the retrospective workshop held with DHT's Reference Group and Advisory Board on November 16<sup>th</sup>, 2015.

### 1. Initiating new interdisciplinary projects and activities is inexpensive and cost-effective

Perhaps the most interesting lesson learned from DHT is how little internal seed money is required to initiate a tremendous amount of interdisciplinary activity and production. DHT has initiated 12 interdisciplinary projects all staffed with researchers from multiple research groups and/or departments, in total more than 40 researchers from 13 different research groups and four different departments. These projects have been initiated for less than 1.7 million DKK equaling an average cost of 138,000 DKK per project. In return, the projects have so far (December 2015) provided more than 4 million DKK net return from external funding: an average of 363,000 DKK per project. The high number of projects is a result of a true interest in establishing new interdisciplinary initiatives combined with a swift, easy, and non-bureaucratic access to seed money that both stimulates the motivation and provides the small amount of help needed to start new initiatives in a very busy working life. Three important insights from this lesson were:

- a. Only a small amount of seed money is needed to start new interdisciplinary projects.
- b. The projects paid back the costs by almost 3 to 1 in net return from external funding.
- c. Applying to external funding sources for this kind of seed money for interdisciplinary projects is difficult and complicated and this works as an effective barrier: The University should, therefore, provide seed funding if multiple new interdisciplinary initiatives are desired.

The low level of seed money is a result of not funding University staff to buy out teaching time for research but only supporting expenses such as equipment, meetings and seminars, guest entertainment costs, layout and printing of books, and hiring students or research assistants for specific task assistance (programming and development assistance, meeting facilitation, interviews, transcribing, etc.).

The external funding from the projects reflect a high number of funding applications. This demonstrate a motivation not only to initiate new projects but to scale and sustain the project after they have been established.

Four projects have resulted in sustained initiatives continuing beyond the end of DHT in June 2016:

- Clinical Communication
- Experimental Museum Exhibition Design
- Italian Drawings
- Network for Design of Robust Organizational Change.

### 2. Establishing a shared “identity” and “language” fosters commitment and collaboration

The two book projects, *Design Research – Synergies from interdisciplinary perspectives* (Routledge, 2010, initiated prior to the formal establishment of DHT) and *Situated Design Methods* (MIT Press, 2014), have ensured a commitment to a shared project with a concrete result and a number of events that provided the best possible conditions for us to meet and exchange our research and our experiences. These projects have been important in developing a shared language and creating mutual acknowledgement of our different approaches and disciplines. They have provided the foundation for our collaboration in joint projects across research groups and departments. Furthermore, they have provided the participants with a valuable platform for international publishing.

In terms of international publications, an important lesson was the value of having a large group of researchers (25 DHT participants in the MIT Press publication) working together on a concrete shared product. The motivation was enhanced because students from the University's new Humanities and Technology bachelor program requested the book. This effectively providing a display window for *how* we conduct interdisciplinary design research both externally and internally. Another important motivation for our high ambitions was the outstanding review comments provided by the international



reviewers and the senior editor of MIT Press (see the project description in Appendix 2). This created significant symbolic value and pride in being a participant of DHT and a researcher from Roskilde University, and we therefore decided to use the book as a key product for our external profiling by providing a free copy to some 300 participants at two international conferences (the SCIS/IRIS 2014 and PDC 2014 conferences).

The impact from both book projects on establishing a shared “identity” and “language” may be illustrated by the fact that:

- The concluding chapter of the Design Research (Routledge, 2010) book, depicted in a figure often referred to at various presentations and lectures (Figure 14.2, p. 205), was used as a reference when we formed the study program for the HumTek bachelor program. The main point from this model is directly written into the competence requirements in the study curriculum (cf. the competence requirements of the mandatory “profile” courses described in article 24).
- The Situated Design Methods book project (MIT Press, 2014) was identified as the single most important activity of DHT during the retrospective workshop held with DHT’s Reference Group and Advisory Board on November 16<sup>th</sup>, 2015.

The costs of the book projects have been low even though they included several two-day seminars for the authors. Using Roskilde University’s Sømme station facility for this purpose reduced the cost for the Situated Design Methods book project (MIT Press, 2014) to 60,000 DKK. The cost for the Design Research book project (Routledge, 2010), 50,000 DKK, was granted by Roskilde University after we had an external funding application rejected on the basis that the University was expected to fund such book projects.

The legacy of these book projects will also be sustained beyond the end of DHT in June 2016, and we are currently planning a third book project tentatively entitled “Critical Interdisciplinary Design Research.”

### 3. PhD initiatives fostered community building

The cross-departmental (CBIT/ENSPAC) Nordic/International PhD program in Designing Human Technologies has been an annual event that has gained increasing international interest with 41 applications from 10 different countries in 2015. A faculty group has been established with 12 professors from 6 countries and we are committed to continue this PhD program with seminars once a year: DHT 4.0 will be held in May 2016 at Roskilde University’s Sømme station co-organized by Aalborg University; DHT 5.0 is planned for 2017, to be held at — and co-organized by — Tallinn University, Estonia; DHT 6.0 is expected to be held in 2018 held at — and co-organized by — the University of Trento, Italy. We are applying for funding after 2016 through the Erasmus+ key action 2 program (see Appendix 1).

The high interest by international PhD students and the commitment from the established faculty group demonstrate a key lesson learned: there is a need for this interdisciplinary PhD initiative within the area of Designing Human Technologies and the chosen strategy has worked well in supporting a sustained international DHT community.

*“It was one of the best education-related experience I ever had. As well as being a friendly and inspiring gathering, the feedback from peers and experts was invaluable in helping me find the way forward for writing up my doctoral work.”*

Lisa Haskel, Bournemouth University

*“I was quite worried that the feedback I get would be critical rather than constructive but the experience itself turned out to be so incredibly calm and relaxed [...] The atmosphere that the location and people created made this course unlike anything I have ever encountered. DHT 2015 has set the bar high for the PhD event community.”*

Katarina Gorkovenko, University of Dundee

The strategy for community building has been to establish a relatively large and stable faculty group along with re-inviting PhD students that had participated in a previous seminar (on 13 occasions PhD students succeeded in participating in two consecutive seminars). The format for the seminar has emphasized the broad perspective of DHT via lectures given by faculty, along with 60 minutes sessions given for each PhD with constructive reviews of the student’s proposal — reflecting the spirit of student supervision known from Roskilde University’s project based education. A friendly and informal

atmosphere at the seminars has accompanied this, where faculty staff and students have had intense discussions during session but also during breaks, lunch, dinner, etc. This strategy has given the students' discussions and responses to their thesis in a "DHT direction" and it is an experience where they meet a forum of faculty professors who also are interested in community building and learning from each other.

#### 4. Difficult to find support for large focused joint research projects

At our Advisory Board meeting in September 2013 we discussed the possibility of preparing a large-scale research proposal for DHT aimed at the 8<sup>th</sup> Call for new Centers of Excellence provided by The Danish National Research Foundation. It was concluded that this would require a focused joint research objective for DHT. A proposal for a new and more focused joint research objective was suggested and discussed during 2014. The proposal included a description of DHT and our experience so far with this strategic initiative (see Appendix 6). This was presented at a number of international events, including the Mobility and Design workshop held in Lancaster in May 2014, the DASTS conference in Roskilde in June 2014, a keynote at the IRIS/SCIS conference held in Ringsted in August 2014, and, finally, published and presented at the OZCHI'2014 conference in Sydney, December 2014. The presentation of DHT and the vision for DHT at these international venues received interest and recognition.

The proposal was presented at an internal DHT research seminar in June 2014 and, during the fall of 2014, it was discussed at three consecutive DHT research seminars. There was a clear interest in continuing DHT and the vision for DHT, also beyond 2016, but we could not reach a consensus for the proposed focused research objective. It was finally concluded that we are unable to identify a focused joint research objective for a large application that included a large group of DHT participants. This reflects the challenge of balancing individual and small group goals/rewards/interests with large-scale group goals/rewards/interests.

#### 5. Managing large and diverse groups of researchers requires building processes

From its inception back in 2007, DHT has been managed as a participatory bottom-up initiative where the researchers could "direct their energy into a kind of maelstrom and field of gravity", as one of the Reference Group members described it at the retrospective workshop in November 2015. The key principles have combined Roskilde University's tradition and values of a problem-oriented and participant-directed research approach with a modern participatory design and design process orientation including ethical and contemporary society-related concerns. The strategy for supporting collaboration within DHT's large and diverse group of research colleagues has relied on building processes rather than cooperation structures and can be summarized as:

- Concentrating on joint projects staffed with researchers across research groups and departments (a prerequisite for DHT funding).
- Stimulating publications and large-scale (in time and number of participants) joint research book production projects.
- Establishing a safe atmosphere during meeting, seminars, etc., contributing to a relaxed, productive, and positive academic environment.

A lesson from managing DHT may be outlined in the following quote:

*"An important lesson learned is that the success of a project of this magnitude and complexity is highly dependent on the assignment of a project manager with excellent leadership as well as management skills. [...] Meetings in the Designing Human Technologies Reference Group have always been very well prepared. Tables and overviews making it easy to track the different activities of DHT, practically as well as economically, have been presented just as workable suggestions for handling all the different and complex problems and decisions that had to be made was prepared [...] in advance to the meetings making it very easy to make "the right" or find "workable" decisions as a Reference Group member. I think that in future similar types of projects it should be remembered that not all researchers possess such excellent skills as project managers but that they are, however, highly needed in order to assure the success of such a project."*

John Damm Scheuer, member of the DHT Reference Group