

CALT Report 2009

February, 2009



Centre for Advanced Learning Technologies (CALT)

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A) CALT Inception and Mandate

CALT was created as a new Research Centre 15 years ago, based on a Proposal (see CALT Preliminary Plan, April 1994, online version [here](#)) made possible by external funds from Reuters (as well as Apple and IBM). Its original mandate was the following:

“The mission of INSEAD’s planned Centre for Advanced Learning Technologies (CALT) is to conduct research into advanced management learning techniques and extend the learning tools currently developed and offered at INSEAD. Its aim is to become a reference point for both research and development in innovative pedagogical concepts and tools which exploit emerging information and communication technologies.” [April 1994]

In the mid-90s emerging technologies were mainly multimedia and groupware. CALT started with the design and analysis of Multimedia Cases (the first developed at INSEAD in collaboration with colleagues like C. Pinson or R. Angelmar). First prototypes of Groupware-based learning platforms were also designed (in collaboration with colleagues like JF Manzoni and H. Thanheiser). Then the Internet emerged, and CALT started exploring web-based presence and learning (first prototypes developed at CALT became the official INSEAD website), strengthening at the same time R&D in the area of advanced **Simulations of Organizational Dynamics**, and **Learning Networks**, which became the two key research areas for which CALT is well-known (see a recent 1-page CALT Overview in [Appendix 1](#)).

B) Recent CALT Output

B1) Publications and Advanced Learning Technologies Innovations

Over the last years CALT’s Research Agenda has advanced along its two main dimensions:

- Advanced **Simulation Games addressing Organizational Dynamics**
- Advanced **Learning Networks** (collaborative learning dynamics)

generating **Publications** (for a selection of recent publications see [here](#) - for a complete list of CALT Publications [here](#), or [Appendix 2](#)) as well as a new set of management learning concepts and systems (see **CALT Learning Innovations** Figure below, and a complete overview [here](#), or [Appendix 3](#)). A recent presentation providing an overview of **CALT Research Projects** can be seen [here](#).



In the research area of **Simulation Games addressing Change & Innovation Dynamics**, the SmallWorld Simulations designed at CALT (see article "[Designing SmallWorld Simulations: Experiences and Developments](#)," 2006), have been recently enhanced to be run online (e.g., with INSEAD Online), to enable experimentation with online facilitation dynamics (simulation deployments in distributed contexts and virtual teams), and to support extensive and systematic data collection. Furthermore, the simulations developed until now have provided the basis for new simulations addressing change dynamics in different organizational and cultural contexts:

- Far East & China – see **LingHe Simulation** article and video in [INSEAD Knowledge](#);
- Middle East – see [Middle East Simulation Project](#) in collaboration with the INSEAD Abu Dhabi Centre
- Educational institutions - see articles on **EduChallenge** and **EduSynergy**
- Family business contexts – in collaboration with R. Carlock and L. van der Heyden.

In addition to these new developments, an extensive study ([ChangeMasters](#) Project) has been completed early 2008 assessing the impact of simulation games to address change in different contexts and organizations (like IKEA or the Scottish Government).

The last years have also seen the development of a set of **new Simulation Games addressing Collaboration Dynamics** (L2C Project, see e.g., article "[L2C: Designing Simulation-based Learning Experiences for Collaboration Competencies Development](#)" 2006). In particular, the **EagleRacing** Simulation (see [here](#)), based on an innovative online learning format, has been already deployed successfully in INSEAD Programmes (IEP, Alstom, IBM) and provides a first example of a new generation of online management games to be deployed either in connection with traditional management development programmes, or to spread learning organization-wide (simulation games for large groups). Other simulations which resulted from the L2C Project, like the **PitStop** and the **WorldTeam** Simulations have started to be piloted in organizational contexts.

In the research area of advanced **Learning Networks** (see e.g. article "[Learning Networks](#)," 2008), projects like Laboranova and TENCompetence have brought major advances and the design of a new collaborative learning platform ([CALTube](#)) with very promising applications in educational and organizational contexts. This platform, linking the latest technological and pedagogical trends (see e.g. the two recent articles "[Designing Collaborative Learning and Innovation Systems for Education Professionals](#)," 2008, and "[TENTube: A Video-based Connection Tool Supporting Competence Development](#)" 2008) is currently the basis for extensive impact analysis - see e.g. the newly started [Inter-organizational Learning & Collaboration 2.0](#) Project in collaboration with CEDEP - and applications in the domain of organizational learning and innovation/new product development dynamics (studies conducted in collaboration with Alfa Romeo and FIAT Auto in the context of the Laboranova Project).

In parallel, projects like AtGentive and FIDIS (Future of Identity in the Information Society) have enabled CALT to explore research dimensions addressing **Attention Management** and **Identity** in the context of Learning Networks, extending the ICDT Platform (see e.g. article "Supporting Attention in Learning environments: Attention Support Services, and Information Management" 2007) developed at CALT over the last decade.

B2) Academic and non-Academic Network Development

Over the last few years CALT has been able to extend the worldwide network of academic institutions, research centres, as well as corporations collaborating in CALT Research Projects as co-researchers or providing different types of application contexts in which to validate the concepts and tools developed in CALT Projects.

- (1) Academic Network (Universities and Research Centres engaged in joint projects with CALT), including:

<ul style="list-style-type: none"> • Alfred J. West Learning Lab, Wharton School, University of Pennsylvania (US) • National Defence University, NDU (US) • CeTif, Catholic University of Milan (Italy) • FIT, Fraunhofer Institute for Applied Technology (Germany) 	<ul style="list-style-type: none"> • LLD, Learning Lab Denmark (Denmark) • OFAI, Austrian Research Institute for Artificial Intelligence, Vienna (Austria) • SCIL, Swiss Institute for Innovation in Learning, St. Gallen University (Switzerland) • University of Nanjing (China)
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For a complete list of Universities and Research Centres, see [Appendix 4](#).

- (2) Network of Faculty Members worldwide deploying and providing continuous feedback to CALT Learning systems and prototypes, including Faculty members at:

<ul style="list-style-type: none"> • MIT (US) • Stanford (US) • Duke University (US) • Carnegie Mellon University (US) • University of California, Berkeley (US) 	<ul style="list-style-type: none"> • Yale University (US) • Cranfield University (UK) • Università degli Studi di Roma (Italy) • Munich University (Germany) • CEIBS, Shanghai (China)
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For a complete list see [Appendix 5](#).

- (3) Non-Academic Network (corporation and other organizations involved – typically as pilot sites in CALT research projects), including

<ul style="list-style-type: none"> • IKEA (Sweden) • Scottish Government (Scotland) • Vestas (Denmark) • FIAT Group (Italy) 	<ul style="list-style-type: none"> • Ferrari (Italy) • DHL (Germany) • Novo Nordisk (Denmark) • AXA (France)
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For a complete list, see [Appendix 6](#).

C) Collaboration with & Involvement of INSEAD Colleagues

Over the years, CALT has collaborated with a large number of colleagues, either in the design of new learning systems or in their assessment and deployment in INSEAD Programmes. As an example, the Change Management Simulations developed at CALT have been used by **30 different INSEAD colleagues** (see [Appendix 7](#)) in more than 400 sessions in INSEAD Programmes.

Ongoing and starting collaborations based on the latest results of CALT research projects include:

Prof. Mike PICH

Spread of the LingHe Simulation in the **Singapore Campus**, and assessment of EagleRacing Simulation in different innovative formats (pre-, during-, post) for optimal deployment within INSEAD programmes (e.g., **IEP** and several CSPs).

Prof. Horatio FALCAO

Development of a new Simulation, based on EagleRacing, addressing **Negotiation Dynamics**.

Prof.s Ludo van der HEIDEN and Randy CARLOCK

Involvement in the new simulations we are developing in the **Abu Dhabi Centre** to address middle-east culture and family business dynamics.

Prof. Luk van WASSENHOVE

Collaboration and joint projects submissions with **Social Innovation Centre** addressing change and innovation management in social contexts.

Prof. Han van DISSEL

Experimentation with new Learning Networks within **CEDEP** to explore inter-organizational learning and collaboration dynamics.

Prof. Phil ANDERSON

Start of collaboration with the **Abu Dhabi Centre** to extend **INSEAD EDP** offering with the latest collaborative learning platforms developed at CALT.

In addition to direct collaborations, a large number of colleagues have provided punctual support to CALT's projects. A complete list of what we call "**CALT Academic Experts Panel**" is provided [here](#) (see [Appendix 8](#)).

Besides direct collaborations with faculty members, CALT tries to continuously and proactively involve INSEAD colleagues through Workshops and joint events with the Learning Innovation and Social Innovation Centres, with CEDEP and through involvement in Alumni events in Fontainebleau and Abu Dhabi (see a list of recent Events in [Appendix 9](#)).

D) CALT Vision & Plans

The results achieved over the last years, and particularly the recent development addressing a **new generation of Simulation Games and online platforms for Learning Networks**, provide the basis for the development of the Centre's agenda, which includes the following key points:

- New **publications** on design principles and impact studies based on extensive data gathering and analysis, which can be now completed through the deployment of the new Simulation Games and Learning Networks listed in the previous sections of this Report.

For instance the [Inter-organizational Learning & Collaboration 2.0](#) project conducted in collaboration with CEDEP provides an excellent opportunity to gather very rich and extensive data sets to validate the impact and value added by the new advanced learning technologies and processes we will experiment with.

The new simulation games emerging from ongoing or starting CALT Research Projects, and the related deployment studies, will also provide a source for new publications and opportunities to extend further our impact and Academic Network.

- **Diffusion** of the new generation of prototypes emerging from CALT Research Projects within INSEAD Programmes, and **collaborations** with INSEAD colleagues and Centres.

Internally, over the next years, we count on a number of short-term and mid-term developments on the **Simulation Games** side:

- Wider deployment of our **Asian Change Simulation** in INSEAD Programmes
- Completion and first deployments of the new simulation we are developing in our **Middle East Simulation Project**.
- Rapid diffusion of the **EagleRacing** Simulation in INSEAD Programmes
- Starting projects aimed at designing adapted versions addressing specific colleagues research interests, like **Emotions**, **Knowledge Exchange** and **Social Network** dynamics. A good example of such projects is the extension of the EagleRacing simulation to fit courses addressing **Negotiation dynamics** (in collaboration with Prof. **Horatio Falcao**).

On the **Learning Networks** side, we also expect a significant impact on INSEAD Programmes, through:

- The spread of **CALTube** in INSEAD programmes (in collaboration with Prof. **Phil Anderson** and other Programme Directors, like **Mike Pich** or **David Weinstein**, to which the system has been presented).

- Experimentation with a variety of deployment formats (before, during, and after traditional courses/modules) to really add value to traditional management development programmes by enabling experience exchanges beyond the classroom.
- **Continuous Impact** on the “practice” of management and organizational learning through the deployment of effective advanced technologies. A recent intervention with the Chief Learning Officers of the largest European corporations (see [ECLF Report “Utilizing immersive interactive rich media platforms for advanced Leadership Training”](#), [Appendix 10](#)) confirmed that CALT projects represent the state-of-the-art of learning technologies applied to corporate learning.
- **New CALT Research Projects** extending and enriching the current Research Agenda and addressing in particular the study of the impact of advances learning technologies in educational, organizational and inter-organizational contexts, and the development of more sophisticated learning technologies involving semantic analysis, advanced behavioural modelling, intelligent agents enhancing collaborative processes as well as the use of new learners devices and profiling models.
- **Financial Sustainability.** Over the last decade CALT has been able to mostly support its ambitious Research Agenda and Projects through external research grants.

As described in [Appendix 11](#), over the years CALT has been awarded external research funds for more than **5.5 millions Euros** and more than 2.2 millions Euros since March 2004. EU Projects provide an excellent framework for research-oriented collaboration with academic institutions and organizations from the private and public sector, but are competitive and require the adaptation of our research objectives to the specific formats necessary for receiving such grants. Over the next years we plan to diversify the sources of research funds:

- Fewer EU projects (2 are ongoing and be completed in 2009, 2 are going to start during 2009, and 2 are in preparation 2010 and beyond)
- Research sponsored by corporations (e.g., we are currently negotiating with AXA for studying the organization-wide application of EagleRacing-like simulations, adapted to the focus of client centrality)
- Joint research projects with other Centres.

Research-wise, 2010 and the following years will focus on what we consider the next step in the CALT Research Agenda, which consists in connecting (both conceptually and technologically) the two research streams we have focused until now: **Game Dynamics in Management and Organizational Learning**, and **Collaborative Learning Networks**. In first experiences along this emerging research direction we have already started exploring the impact of Simulation Games in Learning Networks (in the AtGentive and CALTTube projects), and the impact of Learning Networks deployed in connection with Simulation Games (see e.g., article on [ChangeMasterTube](#)). First results encourage us to believe that combining rich Game Dynamics and Collaborative Learning Networks will lead to a new generation of Advanced Learning Technologies which can be effectively deployed in educational, organizational, and inter-organizational contexts.



More information about Researchers working at CALT, CALT Alumni, CALT Research Project, Events, as well as the widely accessed CALT Knowledge Base can be found in our [CALT Wiki site](#) (see [Appendix 12](#)).

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