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# Collaborative Networks and BI

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Investigação e Desenvolvimento Tecnológico | Transferência e Valorização de Tecnologia | Formação Avançada  
Consultoria | Pré-incubação de empresas de base tecnológica

# CESE:colNET research area goals

design science  
research

explanatory  
research

decision support in collaborative networks	collaborative networking strategies	information & knowledge management in CN
to research new concepts for the <b>design of collaborative spaces</b> for collaborative decision making involving <b>complex information</b> and <b>sense making</b>	to research new concepts and methods for the <b>management of collaborative networks</b>	to research new concepts, models, methods and tools for the <b>information and knowledge management in collaborative networks</b>
to <b>explain current decisions and decision-making processes</b> within collaborative networks and characterise future ones	to <b>explain current processes of collaborative networks formation</b> and to characterise future ones	to <b>explain information behavior and knowledge representation processes in collaborative networks</b>
to help collaborative networks participants to <b>design collaborative decision-making processes that use and make-sense of complex information</b>	to help the <b>transformation of star networks and chains in collaborative networks</b> and to <b>improve its collaborative processes</b>	to help collaborative networks to develop and implement <b>information and knowledge management strategies</b>

consultancy



# CESE:coINET IM&KM in CN

- types of assumptions/problems
- types of research questions

knowledge representation, while technical activity, deals with **designed, pragmatic** and **socially constructed artifacts** whose validity and value is **time, context** and **situation** dependent

there are evidences from several application areas e.g., **domain engineering**, of the difficulty in the collaborative production and use of conceptual representations

as pervasive as it can be in everyday technical activities, the **collaborative construction of conceptual representations** has not received enough attention in research and in practice

how to **evaluate** (measure?) the **adequacy** of a knowledge representation artifact (**conceptual representation**) for a given application (set of goals)?

what is the **influence** of the **inter-organizational relationships** on a **knowledge organization and collaboration** system (social network -> semantic network)?

how to mix **social interaction** with **ontology merging/integration** techniques to achieve an efficient conceptual negotiation process?



# CESE:colNET projects

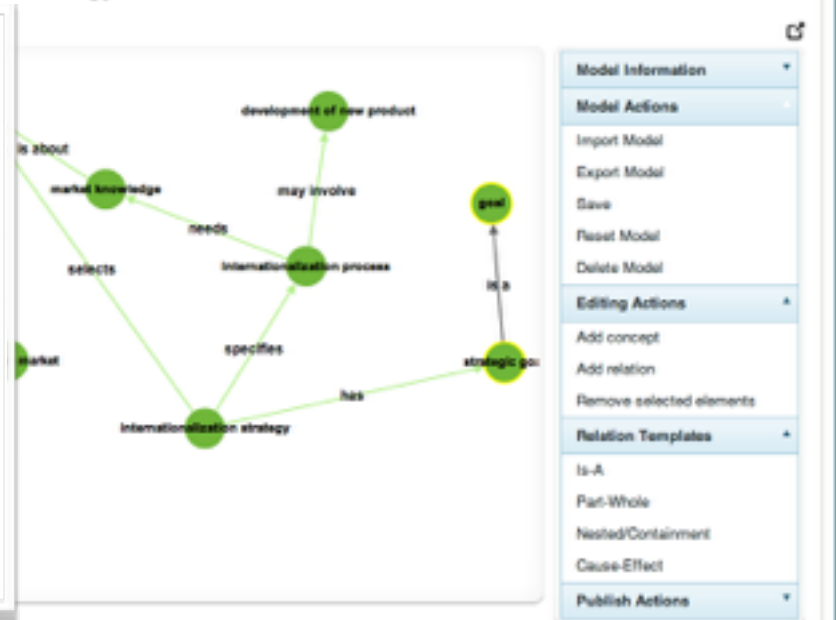
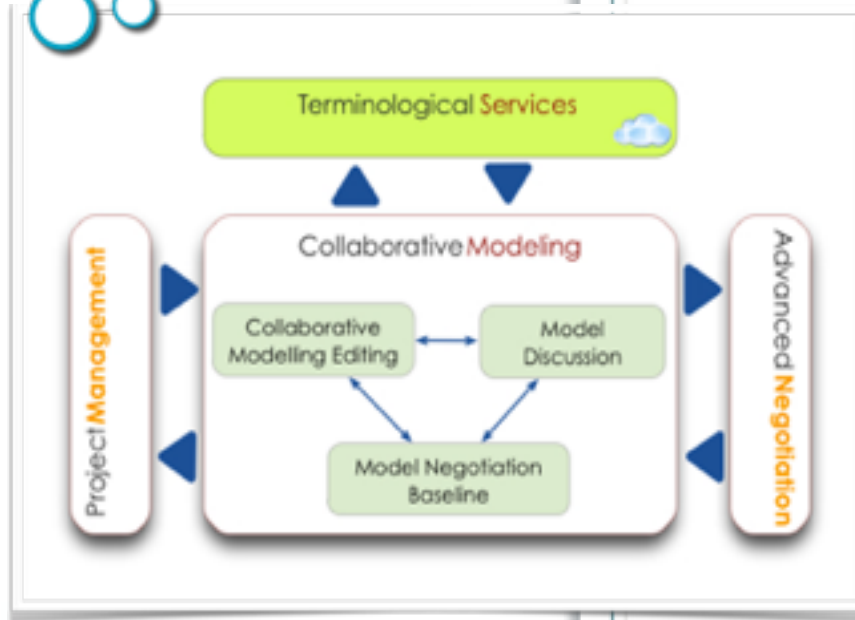
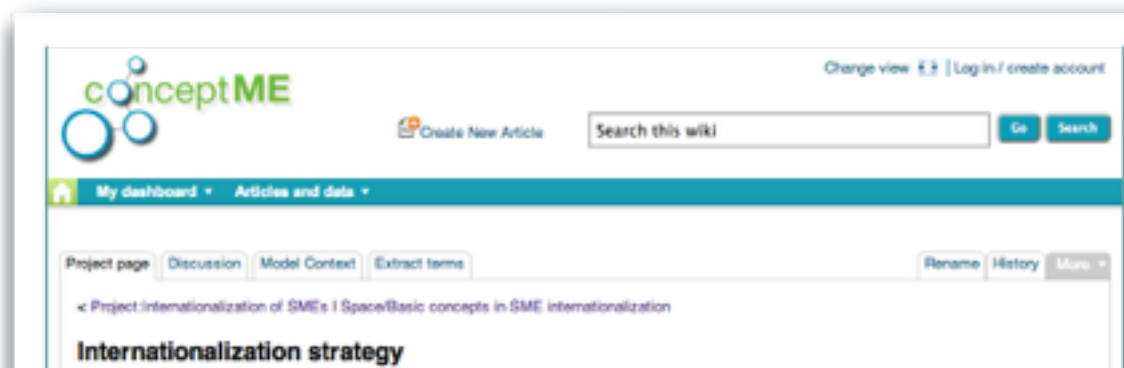
## Current projects

- BestCase: WP2 Collaboration and knowledge management in collaborative networks — CCDR-N, ON2 — 2012-2015
- Innovation Dynamics in Aeronautics and Embraer in Évora: Towards a Distributed Platform for Entrepreneurial Initiatives, New Employment and Skills Development

## Past projects

- H-Know - Advanced Infrastructure for Knowledge Based Services for Buildings Restoring — EU FP7 — 2007-2010
- cogniNet - Cognitive Semantics for Collaborative Networks — FCT — 2008-2012
- pmColNet - Performance Management in Collaborative Networks — FCT — 2006-2010
- Know-Construct - Internet Platform for Community Knowledge Management in the Construction Industry — EU FP7 — 2004-2006
- RCED - Redes Colaborativas de Elevado Desempenho (High Performance Collaborative Networks) — ON2 — 2007

# CESE:coINET products



[www.conceptme.pt](http://www.conceptme.pt)

Internationalization strategy

Category: Models

Static facts    Derived facts

**Facts about Internationalization of SMEs/Space/Basic concepts in SME internationalization/Model/Internationalization strategy**

Has concept: market +  $\mathcal{C}_1$ , third market +  $\mathcal{C}_1$ , european market +  $\mathcal{C}_1$ , internationalization process +  $\mathcal{C}_1$ , development of new product +  $\mathcal{C}_1$ , market knowledge +  $\mathcal{C}_1$ , internationalization strategy +  $\mathcal{C}_1$ , strategic goal +  $\mathcal{C}_1$ , and goal +  $\mathcal{C}_1$

Has name: Internationalization strategy +  $\mathcal{C}_1$

Has relation: third market ( is a, market ) +  $\mathcal{C}_1$ , european market ( is a, market ) +  $\mathcal{C}_1$ , internationalization process ( may involve, development of new product ) +  $\mathcal{C}_1$ , internationalization process ( needs, market knowledge ) +  $\mathcal{C}_1$ , internationalization strategy ( specifies, internationalization process ) +  $\mathcal{C}_1$ , internationalization strategy ( selects, market ) +  $\mathcal{C}_1$ , market knowledge ( is about, market ) +  $\mathcal{C}_1$ , internationalization strategy ( has, strategic goal ) +  $\mathcal{C}_1$ , and strategic goal ( is a, goal ) +  $\mathcal{C}_1$

# CESE:coINET recent publications

- Maria Almeida and António Lucas Soares, 2014, Knowledge sharing in project-based organizations: overcoming the informational limbo. *International Journal of Information Management* 34 (2014) pp. 770-779. doi:10.1016/j.ijinfomgt.2014.07.003
- Carneiro, Luis Maia, Antonio Lucas Soares, Rui Patrício, Américo Lopes Azevedo, and Jorge Pinho de Sousa. 2013. "Case Studies on Collaboration, Technology and Performance Factors in Business Networks." *International Journal of Computer Integrated Manufacturing* (May 21): 1–16. doi:10.1080/0951192X.2012.681914.
- Pereira, Carla, Cristóvão Sousa, and António Lucas Soares. 2012. "Supporting Conceptualisation Processes in Collaborative Networks: a Case Study on an R&D Project." *International Journal of Computer Integrated Manufacturing* (July 2): 1–21. doi:10.1080/0951192X.2012.684714.
- Santos, Vitor Ricardo, Antonio Lucas Soares, and João Álvaro Carvalho. 2012a. "Knowledge Sharing Barriers in Complex Research and Development Projects: an Exploratory Study on the Perceptions of Project Managers." *Knowledge and Process Management* (February 16): n/a–n/a. doi:10.1002/kpm.1379.
- Sousa, CP, Soares, AL, and Pereira, CS, 2014, Establishing conceptual commitments in the development of ontologies through competency questions and conceptual graphs. Y.T. Demey and H. Panetto (Eds.): *OTM 2014 Workshops*. © Springer-Verlag Berlin Heidelberg 2013.
- António Lucas Soares, Maria Almeida, and Filipa Ramalho, 2014, A Retrospective Socio-Semantic Analysis of the PRO-VE Conferences, L.M. Camarinha-Matos and H. Afsarmanesh (Eds.): *PRO-VE 2014, IFIP AICT 434*, pp. 651–663, 2014.
- Ricardo Greenfield, Ana Cristina Barros, António Lucas Soares, 2013, Intentional Creation of Innovation Networks: An Exploratory Multi-case Study from German Industry. Luis M. Camarinha-Matos (Editor), Raimar J. Scherer (Editor) *Collaborative Systems for Reindustrialization: Proceedings of the 14th IFIP WG 5.5 Working Conference on Virtual Enterprises, PRO-VE 2013*
- Sousa, C., Pereira, C., & Soares, A., 2013, Collaborative Elicitation of Conceptual Representations: A Corpus-Based Approach. In Á. Rocha, A. M. Correia, T. Wilson, & K. A. Stroetmann (Eds.), *Advances in Information Systems and Technologies SE - 11* (Vol. 206, pp. 111–124). Springer Berlin Heidelberg. doi:10.1007/978-3-642-36981-0\_11

# CESE: Business Intelligence & Analytics

- R&D in BI&A for Enterprise Systems
- technology
  - business intelligence
  - data mining
    - clustering, recommender systems, classification, regression
- data
  - transactional data
  - RFID
  - (mobile) sensor data

# CESE: Business Intelligence & Analytics - *applications*

- manufacturing
  - machine sensor-based
    - predictive maintenance
    - production management
    - quality management
  - model management
    - very large number of models
  - store management
    - RFID-based
    - BI
    - customer segmentation and
    - recommender systems
  - layout
- university management @ U.Porto
  - BI system to support higher management
  - BA to understand student success



# CESE: Business Intelligence & Analytics

- People

- Carlos Soares, Hugo Ferreira, Ana Barros, Patrícia Ramos, Rui Rebelo, Luís Guardão, Pedro Ribeiro, Pedro Abreu, Catarina Félix, Pedro Strecht, Luís Cruz, Mohammad Nozari, Artur Aiguzhinov, Ana Isabel Marques, ...
- ... and João Moreira (LIAAD), Alípio Jorge (LIAAD), Rui Maranhão (HASLab), Ricardo Morla (UTM), Ana Fernandes (LIAAD) ...

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