SCIENCE*SPRING*DAY

FCt FACULDADE DE CIÊNCIAS E TECNOLOGIA UNIVERSIDADE NOVA DE LISBOA
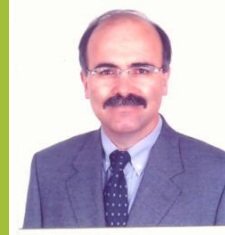
Department of Electrical Engineering

CoDIS – Collaborative Networks and Distributed Industrial Systems

Research Team
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UNINOVA- Center of Technology and Systems

Luis M. Camarinha-Matos
- PhD in Computer Engineering, FCT-UNL, 1989
- Full Professor of Robotics and Computer Integrated Manufacturing
- Doctor *Honoris Causa*, University "Politehnica" of Bucharest , 2009
- President of SOCOLNET – International Society of Collaborative Networks

Objectives

CoDIS group focuses its research activities on the understanding (*principles and models*) and support (*methods, tools, and technologies*) for **collaborative networks** (CNs) and distributed architectures and systems applied to industry and services.

CoDIS aims at contributing to important research questions in this area, for which novel approaches, models, and mechanisms are being designed and developed, namely:
- Theoretical foundation for CN:
  - What are the base principles and mechanisms of collaboration?
  - What is a proper value system and behavioral model for CN?
- Applied research in CN:
  - Which system architecture for ICT infrastructures for CN?
  - Which pilot demonstrations for creating scientific and industrial impact?

Collaborative enterprise networks in the solar energy sector – *provision of collaborative business services along the life cycle of the solar plant*

Methodology

- Combine the identified and acquired real-world requirements (from the applied and experimental perspective) with the theoretical conceptualization. This is reflected in:
  - Development of CNs in advanced application scenarios for diverse domains;
  - Seeking contributions from "adjacent" disciplines to systematize and formalize the base knowledge on CNs.
- Active engagement with the international community of researchers in order to:
  - Jointly achieve the necessary critical mass (not available in any single institution given the wide scope and multidisciplinary nature of CNs) to address such complex domain;
  - Pursue a unification of approaches towards common reference models and wider recognition of CNs as a new scientific discipline.
  - Elaborate strategic research roadmaps.

Collaborative networks in the elderly care sector – *collaborative care and assistance services ecosystem*

Expected Results

In the solar energy area (GloNet project):
- Agile virtual enterprise environment for networks of SMEs involved in highly customized and service-enhanced products through end-to-end collaboration with customers and local suppliers (co-creation)
- Negotiation and risk management system for networks of SMEs

In the elderly care area (AAL4ALL project):
- A conceptual architecture and prototype system for an ecosystem of products and services in ambient assisted living supporting active ageing.

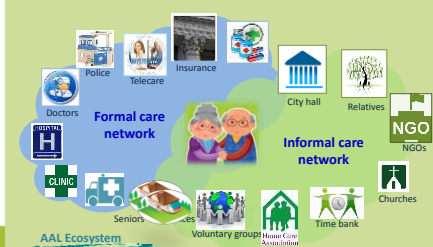Re-enforcement of international collaboration:
- Chairman of SOCOLNET and IFIP WG5.5
- Chairman of Steering Committee of PRO-VE (conferences series on Virtual Enterprises)

SoCol net

Society of Collaborative Networks

WG 5.5 COVE: Cooperation infrastructure for Virtual Enterprises and electronic business

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