SADCO Partners:

Academic partners

- **Inria** - *INRIA*
  FR Saclay
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  ESRs: Albert Altarovici, Cristopher Hermosilla, Athena Picarelli
- **Katholieke Universiteit Leuven** - *KUL*
  BE Leuven
  Team coordinator: Moritz Diehl
  ESR: Mario Zanon
- **Universität Bayreuth** - *UBT*
  DE Bayreuth
  Team coordinator: Lars Grüne
  ESRs: Huijuan Li, Vryan Gil S. Palma
  ERs: Cédric Martínez Campos, Roberto Guglielmi
- **Université Pierre et Marie Curie, Paris 6** - *UPMC*
  FR Paris
  Team coordinator : Hélène Frankowska
  ESRs: Juan Pablo Maldonado Lopez, Hayk Sedrakyan
  ERs: Marco Mazzola, Daniela Tonon
- **Università degli Studi di Padova** - *USP*
  IT Padova
  Team coordinator: Fabio Ancona
  ESRs: João Meireles, Nguyen Van Luong
  ER: Maria Soledad Aronna
- **Sapienza - Università di Roma** - *ROME*
  IT Rome
  Team coordinator: Maurizio Falcone
  ESRs: Smita Sahu, NGoc Quoc Thuong NGuyen
  ERs: Dante Kalise, Francisco Silva
- **FEUP** - *UPORTO*
  PT Porto
  Team coordinator: Maria do Rosário de Pinho
  ESR: Igor Kornienko
- **Imperial College London** - *ICL*
  UK Londres
  Team coordinator: Richard Vinter
  ESRs: Andrea Boccia, Michele Palladino
  ER: Adriano Festa

Industrial partners

- **Astos Solutions GmbH** - *ASTOS*
  DE Stuttgart
  Team coordinator: Andreas Wiegand
  ESR: Sonja Rauski
- **Volkswagen AG** - *VW*
  DE Wolfsburg
  Team coordinator: Oskar Ries
  ESR: Ilaria Xausa
- **EADS Astrium** - *ASTRIUM*
  FR Les Mureaux
  Team coordinator: Max Cerf
  ESR: João Saude

In association with

- **ENSTA ParisTech** - *JRU with Inria*
- **CNRS** - *JRU with UPMC*

http://itn.sadco.inria.fr

Training & Research:

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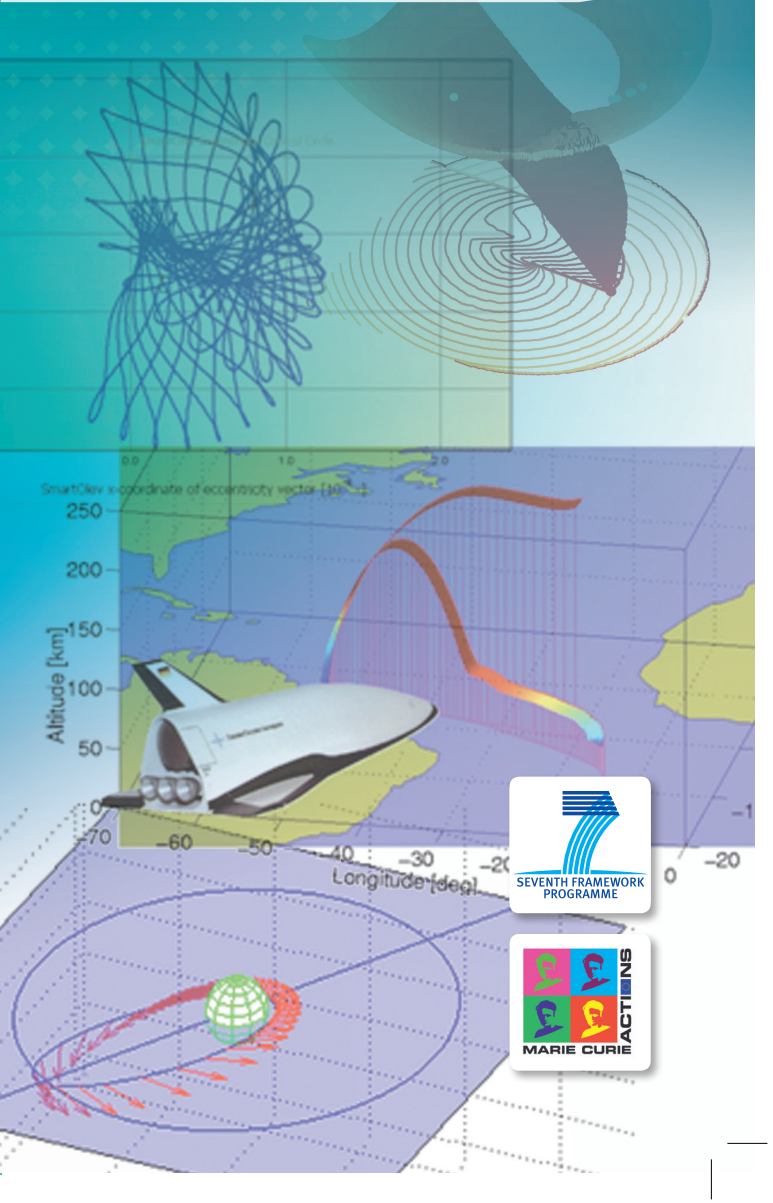
ITN SADCO

Initial Training Network

Sensitivity Analysis for Deterministic Controller Design

Duration: 01/01/2011 – 31/12/2014

Grant Agreement n°264735



The SADCO Initial Training Network

SADCO establishes a collaborative **research and training network** of 11 partners from **academia** and **industry**, gathering participants with expertise in complementary disciplines in **mathematics** and **engineering**.

The SADCO project aims at:

- Training young researchers in the field of control theory.
- Advancing the theory and developing new numerical methods.
- Conveying fundamental scientific contributions within European industrial sectors.

SADCO is funded by the EU under the «FP7-People-ITN» programme.

Training:

18 PhD students (Early-Stage Researchers - ESRs) and 8 postdocs (Experienced Researchers - ERs) are recruited within the network.

They benefit from a **complete range of multidisciplinary theoretical, practical and complementary training** including:

- Individual training-through-research research projects
- Summer schools & scientific events
- Industrial workshops
- Secondments
- Complementary skills training
- Regular meetings & active networking

Many SADCO events are open to external participants (check on the web site for further information).

SADCO milestone events

Title	Location	Date	Organizer(s)
Kick-off Meeting & 1st Industrial Workshop	Paris, FR	2011	Inria
1st Summer School	London, UK	2011	ICL & Porto
2nd Industrial Workshop	Stuttgart, DE	2012	Astos
1st Doctoral Days	Paris, FR	2012	Inria
2nd Summer School	Ravello, IT	2012	Rome & USP
1st Internal Research Review	Madeira, PT	2013	Uporto
2nd Doctoral Days	Palaiseau, FR	2013	Inria
3rd Summer School	Bayreuth, DE	2013	UBT & KUL
3rd Industrial Workshop	Wolfsburg, DE	2013	VW
2nd Internal Research Review	IT	2014	Rome
Final Conference	Tours, FR	2014	Inria & UPMC

Additional network-wide events can be found on the SADCO website.

Research Programme:

The scientific programme builds the foundation of a long-term European research & training network in the field of optimal control theory, with emphasis on:

- **Sensitivity analysis**, which is concerned with the robustness of optimal control strategies to changes in the underlying optimization problem
- **Deterministic controller design** based on real-time solution of optimal control problems.

The research programme includes:

- Necessary and Sufficient Optimality Conditions
- Hamilton-Jacobi Theory
- Stabilization of Nonlinear Systems
- Perturbed and Large Scale Systems
- Differential Games.

Optimal control contributes to the theoretical foundations for future, much-needed **technological developments**, in numerous industrial sectors, including transportation, power systems and chemical processing, and in such areas as resource economics, to improve energy efficiency against a background of stringent environmental constraints.