

# ACTIVOPT

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Optimization and robust design are now growing concerns in the industry. For many years, the research has focused on design optimization. Some bricks of software are resulting fruit of this research and are already used in some companies. But today, software solutions, key components in designing products, lack interoperability and integration of these optimization algorithms. Activopt is an opportunity to create and use a community of developers in this field that will propose and implement solutions to federate research. This is done preserving the knowledge and expertise on Paris region while enhancing these skills nationally and internationally. This project is also creating a brick that supports the use of results of projects already funded under the competitiveness cluster SYSTEM@TIC, research agencies such as the ANR and association such as TER@TEC.

## TECHNOLOGICAL OR SCIENTIFIC INNOVATIONS

Centrale research proposed new operational parameters to classify designs on the Pareto front. A first solution that consists in substituting Crowding distance by secondary distance is proposed. A subspace partitioning is also proposed to obtain a well spread Pareto front. The second part of Centrale Research work consists in robust optimization. Robust optimization consists in optimizing under uncertainties. They proposed new algorithms for all kind of approach.

Enginsoft, and Digiteo achieved a better integration of co-simulation with modeFRONTIER and Scilab. New scripting capabilities have been integrated and now allows Eurodecision to fully integrate their optimisation algorithms mixing Design of experiments and response surface modeling techniques inside modeFRONTIER.



## STATUS - MAIN PROJECT OUTCOMES

The first delivery of the Activopt project was the modeFRONTIER 4.2.0 release that includes the new scilab script. Studies on robust optimization from Centrale Research have been published, and algorithms from Eurodecision are going to be integrated. Scilab release 5.2.0 contains new features that helps co-simulation with modeFRONTIER. The last months of the project will see more software release and some other researchs publication on fundamental optimisation.

## CONTACT

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## PARTNERS

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## PROJECT DATA

Coordinator:  
ENGINSOFT FRANCE

Call:  
FEDERO

Start date:  
January 2008

Duration:  
24 months

Global budget (M€):  
1.5

Funding (M€):  
0.7

Related Systematic project(s):  
CSDL