



e-Newsletter MOSIPS project

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About MOSIPS

The main objective of the MOSIPS project is to design and develop a policy-making decision support tool in order to significantly improve the quality of policies implemented by public authorities at any administrative level. It also aims to facilitate citizens the access to meaningful information about the expected outcomes of policies designed for the region /area they live at, promoting their engagement and active participation in the policy-making and implementation process.

These objectives will be achieved by developing a user-friendly policy simulation system allowing forecasting and visualizing the socio-economic potential impact of public policies. This will allow policy makers to make experiments with different socio-economic designs, with the participation of citizens and potentially impacted stakeholders, before a public policy is settled. It will also allow the different stakeholders to participate into the process and better understand different possible scenarios and their side effects.

Due to the main role they cover in the European economy, MOSIPS will focus on SME-oriented policies in order to manage the scope of Research and Development (R&D) activities.

The technologies developed by MOSIPS will allow:

- Facilitating the decision-making process by providing a tool enabling making experiments with different socio-economic designs.
- Increasing the efficiency of the public policies implementation by allowing graphically visualizing the impact and benefits of the considered policy design before its practical implementation
- Boosting an active citizens and other stakeholders' participation in the policy-making and implementation process, taking into account their feedback through the use of social networks.

At A Glance: MOSIPS

Modeling and Simulation of the Impact of Public Policies on SMEs

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Partners:

University of Alcalá (ES), Research Studios Austria Forschungsgesellschaft (AT), University of Reading (UK), Opera21 (IT), University of Konstanz (DE), European Institute of Interdisciplinary Research (FR), Ayuntamiento de Madrid (ES), Comune di Verona (IT).

Call: FP7-ICT-2011-7, Objective 5.6 "ICT Solutions for governance and policy modelling"

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Partners in Brief



The Institute of Economic and Social Analysis (IAES in the Spanish acronym) (<http://www.iaes.es/>) was created in May 1996 as a



research center of the University of Alcalá. Its main focus is the applied research in socio-economic issues and the institute's wide experience in the fields of services innovation and spatial economics is combined with the study of entrepreneurship and corporate social responsibility. Since the start of the current crisis, IAES has created a multidisciplinary group of experts with a proven background in agent-based computational economics, as well as an outstanding network of partners in a number of universities all over Spain.





MOSIPS Theoretical Model

According to the MOSIPS project functional needs, a model capable of characterizing the three main study objects - SMEs (at firm and establishment level), Citizens (at individual and family level), Environment and Policies – is required. Moreover, it is necessary preparing it for an effective implementation by Public Administrations by achieving proficiency in the capture of the main relations between the different agents involved in the decision processes. This led to the adoption of an Agent Based Model (ABM), due to the fact that:

- ABM enables analyzing not only the characteristics of the individuals but also the structure of their interactions.
- ABM is not based on the assumption in which the economy can reach equilibrium and remain stable around it.
- There are not specific orders or restrictions included in the design that force it to be constructed from general to particular.
- Agents' behaviour can be determined and shifted from the direct interaction between them. Then, it is possible simulating changes in the behaviour through imitation learn from experience and change the strategies according to the majority way of behaving.

In the framework of MOSIPS, a modular agent-based model including all the relevant characteristics of productive firms and individuals as well as public administration, financial firms and the external sector has been developed, paying special attention to the spatial allocation of all these elements.

Four modules of the model are dedicated to "Goods and market services". The modules allow establishments interact among themselves, performing their inputs and innovative services and purchasing. Moreover families interact with establishments purchasing goods and services and establishments interact with other agents outside the area under study.

In parallel, in the modules dedicated to "Enterprises updating" individuals decide if they

want to become or give up being entrepreneurs. Moreover, entrepreneurs decide if they create or delete any firm and existing firms can merge or acquire other enterprises, changing the market structure. Finally, the establishments change their size deciding if they want to hire or fire employees.

In the modules dedicated to the "Labour market", after the firms have decided how many workers they want to hire and fire, they find suitable workers and these activities are performed. New links between establishments and individuals are created and other ones are deleted.

Finally, in the modules dedicated to "Individuals updating" individuals are created or deleted, and their characteristics and the family composition are dynamically changed. The aim of this model is not to predict and simulate the effect of policies over these agents, but as they interact with firms and establishments its modeling is necessary to take into account the real effect of policies on SMEs due to second round effects.

MOSIPS Events



In the framework of the MOSIPS project, an Experts Group has been organized, in order to share experiences and

collect valuable feedback useful for the creation of the final ICT simulation instrument. In order to achieve this objective, the outcomes of the workshop organized by the project consortium and focused on the "Impact of public policies on SMEs", to which six international experts with experience in the field of policy simulation and impact assessment, has been taken onboard in the project development. More in the details, the User Interface of the final MOSIPS system will be organized according to a "problems to be solved – possible actions to be undertaken" category systems in order to develop a system to be easily understood and used by civil servants and sector clusters entities will be introduced in the theoretical model.

