MOSES - Modeling of Sustainable Economic Systems

Quick Overview of Original MOSES Proposal

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MOSES-2016 Workshop

- Economics, finance and business
- Systems approach and Modelica technology
- Ecology with world planetary boundaries

- Financial World model (FWORLD) toolbox for investigating scenarios towards a sustainable society

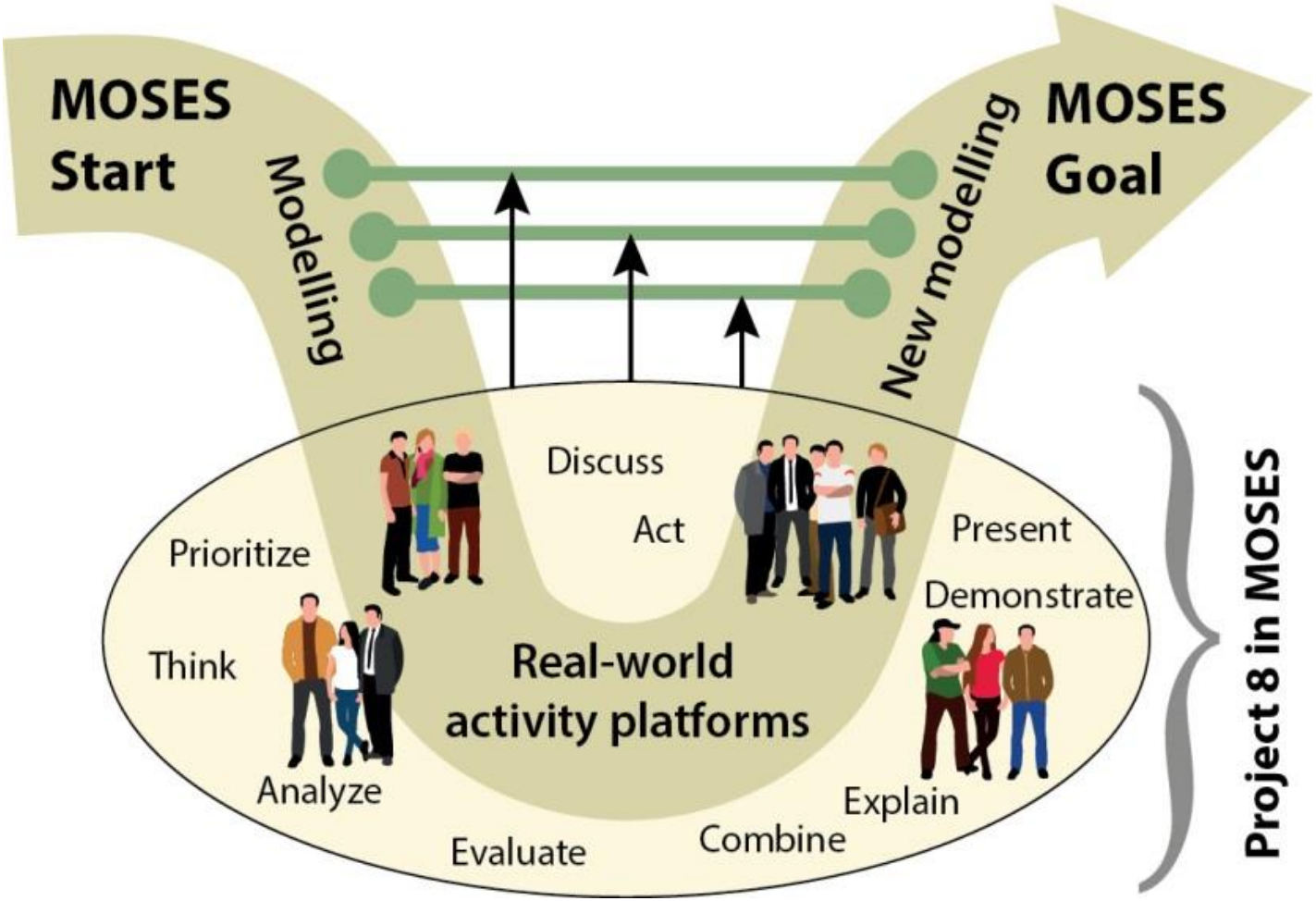
MOSES Project Original Planned Sub-projects

- P3 – Extended World Model Architecture and Tool Support
- P4 – Planetary Boundaries and the circular economy
- P5 – Managing financial stability towards sustainability
- P6 – Achieving Sustainable Economic Development A Comparative Study of Alternative Monetary Systems
- P7 – Sustainable Financial Systems, climate & energy
- P8 – The Real World Experiment Project

Sub-projects and Sub-Sub-Projects

P3 – Extended World Model Architecture and Tool support	WP3.1 – New financial systems submodels
	WP3.2 – New planetary boundaries submodels
	WP3.3 – Model parameterization and structural flexibility
	WP3.4 – Multiple geographic scales
	WP3.5 – Enhanced tool support, sensitivity analysis, and automatic control feature
P4 – Planetary Boundaries and the circular economy	WP4.1 – PBs for circular economy
	WP4.2 – Financialization of the global environment
	WP4.3 – Planet-responsible investments
	WP4.4 – Circular economy at all levels
P5 – Managing financial stability towards sustainability	WP5.1 – Financial bubbles
	WP5.2 – Institutions and SCCG
	WP5.3 – Financial instruments
P6 – Achieving Sustainable Economic Development A Comparative Study of Alternative Monetary Systems	WP6.1 – Bank credit creation
	WP6.2 – Interest
	WP6.3 – Credit creation
	WP6.4 – private vs. public
P7 – Sustainable Financial Systems, climate & energy	WP7.1 – Exporting the Minsky Platform to Modelica
	WP7.2 – A graphical interface into the financial system model for policy makers
	WP7.3 – Existing financial system investigation
	WP7.4 – Test of alternative approaches and financial systems
P8– The Real World Experiment Project	WP8.1 –The Real world Experiment

P8 MOSES – Interactions Models – Real-World Demonstrators



MOSES Project Important Points

- **World-leading Modelica** modeling, simulation, and **analysis** techniques applied to **financial** systems,
- **FWorld** Financial System comprehensive modeling **inspired by World3** (Modelica version)
- **Financial** Systems Modeling **integrated** with **Ecological** and **Societal** issues, allowing non-linearities
- Techniques for handling financial system **model variants** – explore different **assumptions**
- **Sensitivity** analysis of model parameter settings
- **Uncertainty** handling in models and stochastic data
- Dynamic **optimization** (moving horizon optimization) of financial system model
- **Analysis use cases**
- **Application case studies**