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OCOPOMO – Open COllaboration in POlicy MOdelling

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Agenda

- Challenges to tackle
- Project aims and overall concept of OCOPOMO
- Approach to scenario generation and policy modelling
- Wider impact OCOPOMO aims to achieve

Current challenges in policy development and foresight (1/2)

- Inappropriate ICT support in foresights, especially in long-term policy planning
- Lack/inability of managing complexity in strategic planning and policy making in complex socioeconomic environments
- Lack of open collaboration and lack of transparency in identifying the crucial features of complex social and macroeconomic models to simulate potential alternative policies
- Ignorance of the need for e-participation and other forms of ICT-enabled efficient collaboration of communities of stakeholders relevant to the given policy area

Current challenges in policy development and foresight (2/2)

- Lack of focus on developing, visualizing and simulating appropriate policy models to enable
  - better management of socio-economic developments
  - identification of interdependencies that result in complex social and economic relations likely to affect future developments
- Lack of comprehensive IT solutions to support
  - policy modelling and simulation
  - collaboration among
    - policy analysts and policy operators
    - wider interest groups
    - general public

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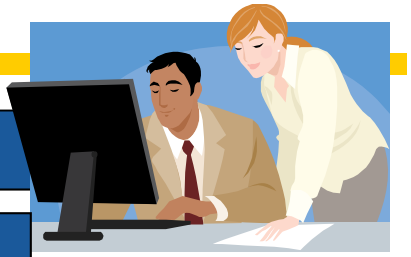
Overall project aims

- Provide an integrated ICT toolbox with proper mechanisms for open collaboration in policy modelling, including collaborative support in scenario based futures development
- Enable actors of all target groups at different levels of government across Europe “to master and shape future developments so that the demands of its society and economy are met”
- Demonstrate that, with appropriate ICT, the integration of
  - formal policy modelling,
  - scenario generation and
  - open and widespread collaboration

  is possible and facilitates policy formation at different levels
  - local, regional, national or global

OCOPOMO Concept



Expert groups

2 Common macroeconomic model

Pilot 1

Pilot 2

3

Narrative scenarios of alternative futures for each pilot study

3 Individual agent-based policy models for each pilot study

1

5a

5b

4

Visualisation and simulation

4

Interest groups

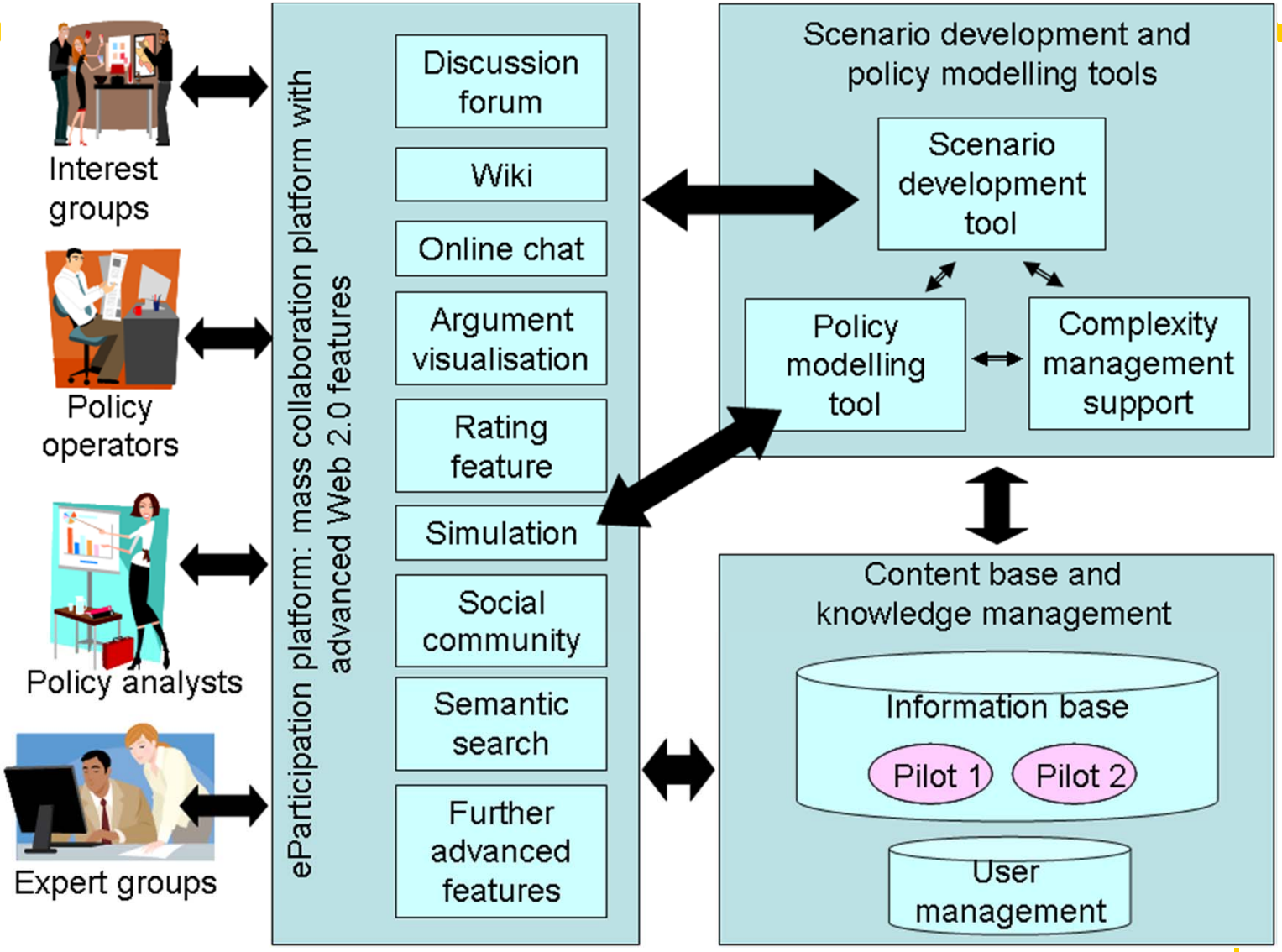
Policy operators

Policy analysts

Specific policy modelling and scenario generation objectives

- Produce a set of policy analyses at regional level to cover different political, cultural and geographical environments
  - based on formal policy models and narrative scenarios
    - Renewable energy in the Kosice Self-governing Region
    - Managing effective allocation of structural funds in the Campania Region focussing on Knowledge Transfer to SMEs
- Integrate narrative scenario analysis with formal policy modelling in order to produce policy analyses with the precision and clarity of formal models and also the rich contextual and imaginative content of verbal narratives

OCOPOMO ICT toolbox



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The state of policy modeling

- Economic policy models
  - Top-down and theory-driven
  - Statistical usually; Verhagen is “evolutionary”
- Environmental policy models
  - Many models – usually economic
  - Significant proportions of papers about policy modelling in social contexts (Yearley, van Daalen et al.)
  - Found no papers incorporating institutional evidence for a particular place, time or policy
- Evidence-driven – all agent-based and bottom-up
  - Relate to specific institutions and policies

Policy modeling in OCOPOMO

- Approach
  - Generation of scenarios by stakeholders
    - Using integrated ICT-based participation platform
  - Model designs driven by information from scenarios
    - Stakeholder concerns and expectations
  - Interactive, parallel development of models and scenarios
- Type of model
  - Evidence-driven
  - Agent-based
- Role of modeling
  - Precision
  - Exploitation
  - Exploration

Scenario analysis

- Foresight processes, IPCC scenarios
  - Usually Top-down: specifying social characteristics and group behavior
  - Some research projects bottom-up: eGovRTD2020
- OCOPOMO process
  - Bottom-up
  - Issues identified by stakeholders
  - Scenarios generated without constraints by stakeholders
  - Using integrated ICT-based participation platform

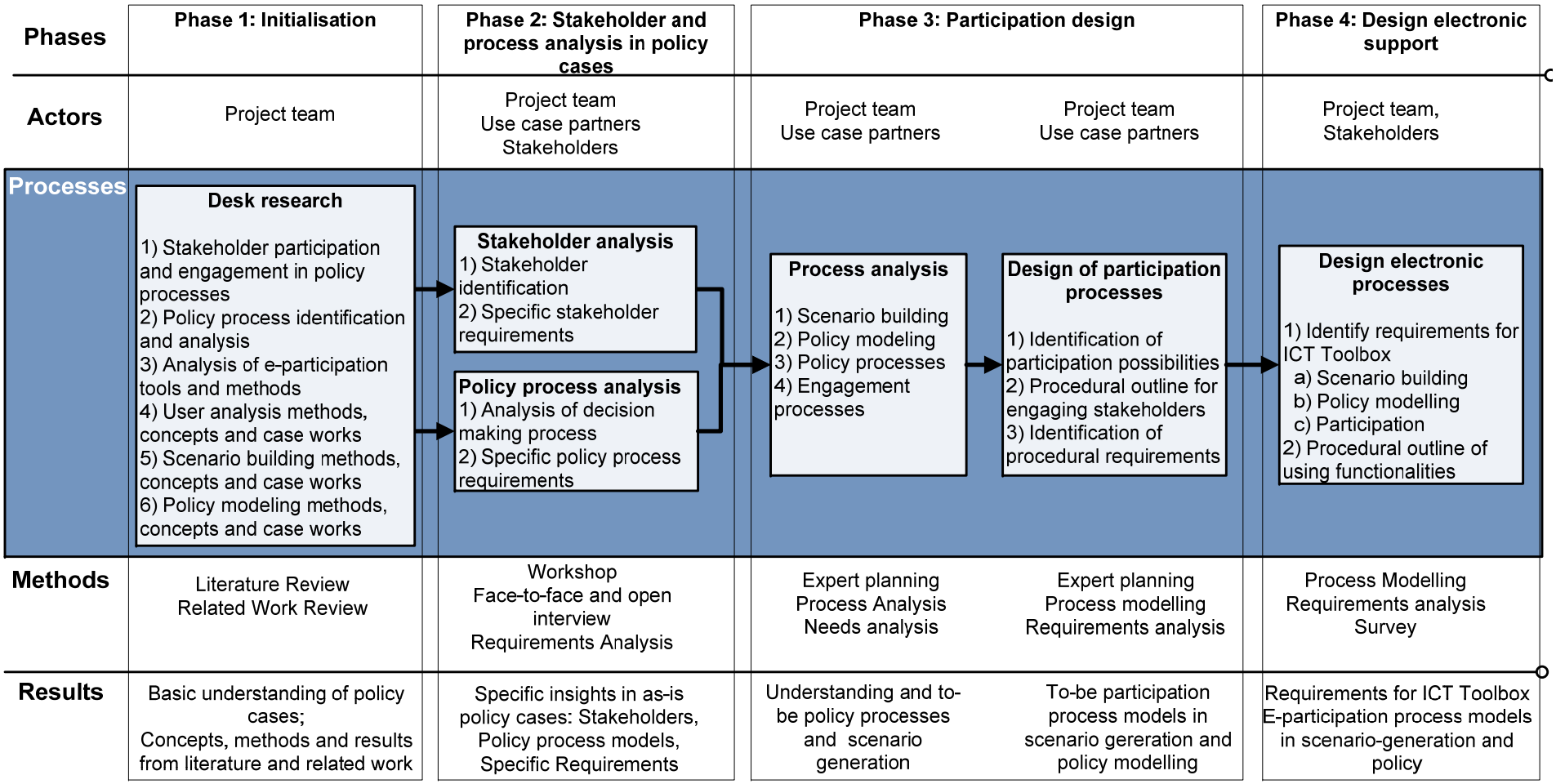
Participatory, agent-based modeling

- Agents capture descriptions by stakeholders of own and other stakeholders' behavior and social interaction
- Cross-validation at micro and macro levels
- Descriptive accuracy of agents constitute conditions of application
- Models are not claimed to be predictive – though they might be
- Purpose of models
  - For identification of problems and opportunities
  - For argument in dissent
  - For exploring and perhaps achieving consensus
  - For monitoring and managing policy

Integrating scenario and model

- Goals, scope and social processes specified by participating stakeholders
- Stakeholder-generated scenarios inform model design
  - Key in model design is sets of if-then rules
  - Stakeholders see natural-language pseudocode
  - Enforces precision in use of language, expectations, goals
- Models produce simulations which are formal scenarios
- Participating stakeholders evaluate model generated scenarios
  - Surprises involve further investigation of model and scenarios
  - Iterations in developing formal policy models

OCOPOMO design approach



Complementarity of scenario and policy models

- Chaining in OCOPOMO
  - Scenarios built with goal in mind (backward chaining)
  - Models built from behavioural and contextual evidence – using forward chaining rules
- Richness and precision
  - Scenarios developed using rich, natural language
  - Rulebases in models are precise, formal statements
- Exploitation and exploration
  - Scenario exercises seem naturally to encourage exploration – ideas generation
  - Models facilitate exploitation and understanding of prevailing context

ICT in OCOPOMO process

- Web 2.0 technology for open collaboration in scenario generation
- Stakeholder interfaces for models and model outputs
  - Dependency graphs showing structure of rulebases as descriptions of reasoning processes and social interaction
  - Linked correspondence tables showing relationships between rules and scenarios and other stakeholder or expert evidence

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Wider impact aimed at … (1/3)

- Provide a toolbox and techniques for
  - Meeting the globalization challenge by taking into account macro-economic interdependencies and interrelations to enable best possible informed policy-making in competitiveness issues throughout the economy
  - Making public sector governance and policy-making more efficient
  - Improving quality of socio-economic governance
  - Helping to understand, model, simulate and validate the next generation of public services as complex service systems in the environment of social networking and collaborative society

Wider impact aimed at … (2/3)

- OCOPOMO platform will provide
  - opportunities to share knowledge throughout the society thereby contributing to more effective and efficient governance and policy-making within the problem scope
- Combination of scenarios and simulation, as well as ICT for visualisation purposes
  - to avoid that information gathered will overwhelm decision-makers and stakeholders but will enable them to easily create, interpret, and use the collected information
- OCOPOMO will contribute to encourage decision-makers to take advantage of the information society and will enable affected formal and informal actors to participate in it

Wider impact aimed at … (3/3)

- Transform Governments to enable open, well-informed, as well as efficient and effective public governance and policy-modelling based on an interactive platform
- Create new opportunities for open discussions between the affected stakeholders and experts in related fields to be involved in the public governance and policy-modelling process
- Improve transparency of decision-making through the involvement of different stakeholders in the participative process via the open collaboration platform

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SEVENTH FRAMEWORK PROGRAMME

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Many thanks for your attention!

Project partners:

intersoft

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