

## TITLE

Towards a trans-disciplinary understanding of CAPS

## ABSTRACT

Major relevance within Objective 5.5 in particular to:

- Target outcomes innovative platforms, sustainable approaches, collective intelligence;
- Action d) scientific base;
- Impact points 4 advanced concepts and tools, and 5 contributing to “self-regulation”,

innovative business models.

- 1) The presentation will start with a short introduction of the presenter.
- 2) With regard to the **trans-disciplinary understanding of the functioning and the effects** of CAPS, I would like to highlight the following aspects. In the slides, central research questions and potential contributions will be outnumbered. No particular proposal idea is presented, but potential contributions shall be shortly explained.
  - a) CAPS are intended to provide both, an extended awareness within selected contexts, and also an insight into the consequences of individuals’ and groups’ actions. This can be supported by **applying analysis and modeling techniques from the System Sciences to CAPS application contexts**. System Dynamics for instance is a method for understanding the dynamics of integrated socio-technical, socio-economic and socio-ecological systems at once, and eventually, to provide simulations for potential actions. The mentioned and similar methods allow to better understand and visualize processes for overcoming existing constraints set by present social, economic, technical, and ecological boundary conditions. Resulting models can support the uptake of initiatives.
  - b) **Methods from Management Cybernetics** provide **suggestions for supporting the utilization of collective intelligence and the self-configuration of communities**. This can inform the development of CAPS platforms with regard to group communication and coordination functionality. On this basis, systematic methods and **mechanisms for collective decision-making** can be constructed.
  - c) Recent empiric evidence from studying dispersed innovation teams suggests that the interplay of several ICT tools and functions can play a significant role in effectively coordinating knowledge exchange, idea development, and decision-making of actors. Studying similar processes in a CAPS context from a **Socio-technical Design** view can result in **proposals for particular ICT tool and informational designs fostering emerging processes** (self-awareness, observation, opinion-building, decision-making and others). Providing a systematic approach to nurturing the emergence of such processes can help in creating **sustainable enterprises along new innovation mechanisms**.
- 3) The presentation will end with a list of potential results and partner proposals for ICT technology and applications in different fields of the CAPS context.