

 innaXis

Innovation for
a Complex World

a complex world

Mastering Complex Systems Safely

SID 2011 Conclusions



State of the art in Modeling the ATM as a Complex Network



two main areas:

- Design Tools and foundations*
- Decision Support Tools*

State of the art in Modeling the ATM as a Complex Network



Still clarification needed to explain “complexity” as a research field

State of the art in Modeling the ATM as a Complex Network



Uncertainty research as one of the main interest points of the SID

Uncertainty Research



- 1 Fairly new research topic in the field***
- 2 Lack of theoretical foundations***
- 3 Different projects proposed different research scopes: some too wide others seemed too limited***

Uncertainty Research



4 Stochastic modelling should take into account dynamics of the system

5 Modelling uncertainties due to the human interaction seemed a need but it is certainly a major challenge

Uncertainty Research



6 Propagation on weather uncertainties requires more applied research, including research on potential emergence phenomena

7 Applicability to CDR research

Uncertainty Research

Applicability to CDR research



Shall evolve from toy models, including uncertainty in the formulations

CDR solutions for global scenarios should research on emergent phenomena, including research on global safety and resilience characteristics model.

ABM may help to CDR research in global scenarios

Uncertainty Research Overall



Most research focussed on understading but few examples of uncertainty mitigation research was presented

“Information sharing” seems the single example of mitigation of uncertainty

Additional applied research is needed along the mitigation of uncertainty, including information sharing



***full conclusions will be available at
ComplexWorld.eu***