



# PROJECT IDEA

## Topic: **Distributed Self-Organisation of the Future Internet that is interpreted as a Recurrent Neural Network**

### *Objectives of relevant challenges, possible Work Program area(s):*

- *ICT ICT-2009.1.1 (The network of the future (FIRE)):* Novel Internet architectures and technologies, Flexible and cognitive network management and operation frameworks
- *ICT ICT-2009.1.6 (Future Internet experimental facility and experimentally-driven research):* Experimentation of new and innovative network and service architectures and paradigms for the Future Internet
- *ICT ICT-2009.8 (Future and emerging technologies):* ICT-relevant, visionary, long-term research of a foundational nature, ..., aiming at a breakthrough

### Type of Project: **STREP**

### Project objectives:

#### *Technical outcome(s):*

- Refinement of existing concept (simulation and/or testbed), definition of concept extensions
- Demonstration of feasibility, concepts for integration in existing systems
- Performance analysis and assessment of the approach

#### *Market / deployment:*

- Identification of application fields



# WANTED

## Competences & Skills wanted

- Scientific routing experts (e.g. Multi-Hop Mesh, Traffic Engineering, MANET)
- Expert for Neural Network like systems (mathematical background: e.g. stability theory)
- Programming and running simulations (e.g. NS-2) or test systems
- Knowledge of the corresponding markets and their requirements
- Experiences with existing applications / solutions and system integration

## Types of partners sought

- University / RTD center / SME: *Concept contribution, simulation, evaluation*
- University / RTD center / SME: *Contribution development prototype*
- Telecom company / operator / SME: *Prototype evaluation on a testbed*
- Telecom company / system house / SME: *Market analysis (e.g. SWOT)*
- Standardisation group: *Discussion and assessment of the approach*

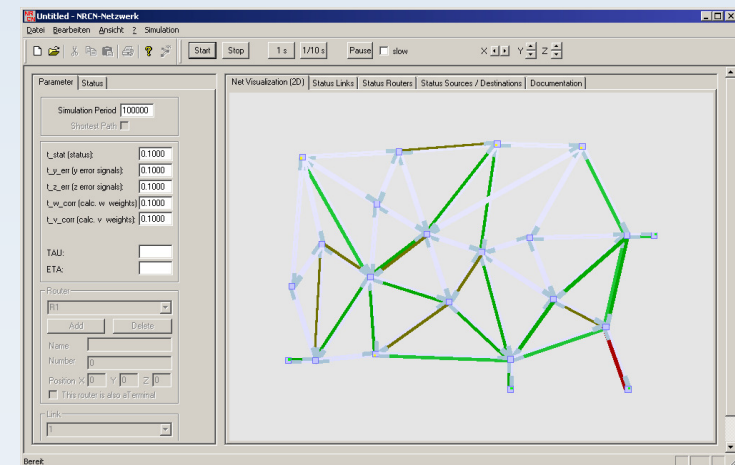
## Work to be performed

- Selection of suitable and promising use cases, adaptation and consolidation of concept
- Development of a prototype
- Set up and operation of simulation environment (specification test cases, realisation tests)
- Set up and operation of test (prototype integration, test scenarios)
- Evaluation, assessment of the results, deployment and migration concepts



# SKILLS OF THE PROPOSER

- MAT.TRAFFIC is a young SME with focus on innovative solutions for (all kinds of) traffic systems. Main focus areas are road traffic and communication network management.
- The founder of MAT.TRAFFIC, Paul Mathias, has the PhD in mathematics. He has scientific expertise as well as comprehensive experiences with software development and national / European research projects.
- MAT.TRAFFIC has already developed a first prototype version of the procedure in order to proof the concept. Tests done so far has been successful and the first results has been very promising.
- A basic version of the Neural Network concept approach for communication networks has already been developed and a first version of a prototype successfully been tested.
- A similar procedure for dynamic route choice in road networks has successfully been evaluated in an German research project.





Ideal-ist

# CONTACTS

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