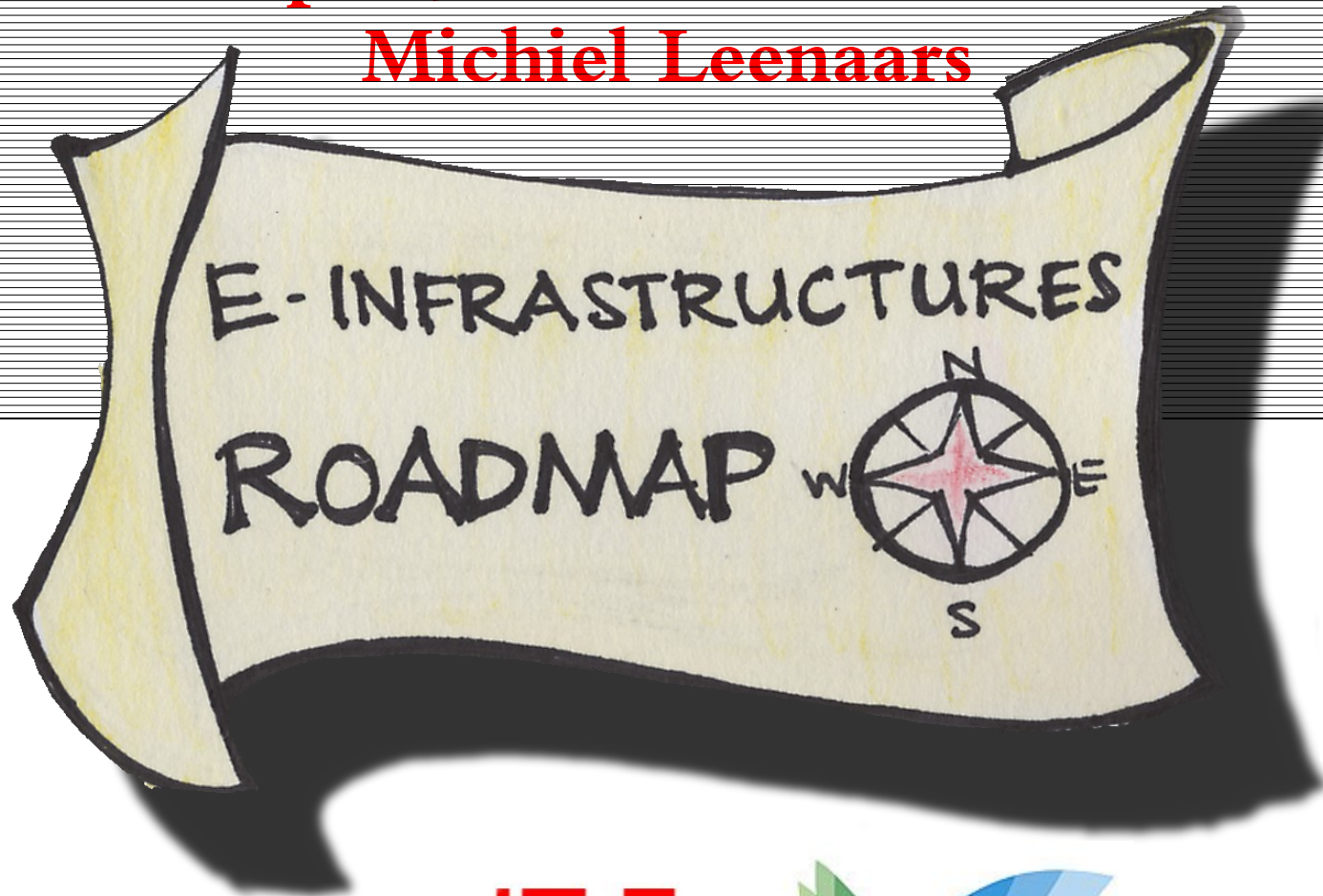


e-Infrastructures Roadmap

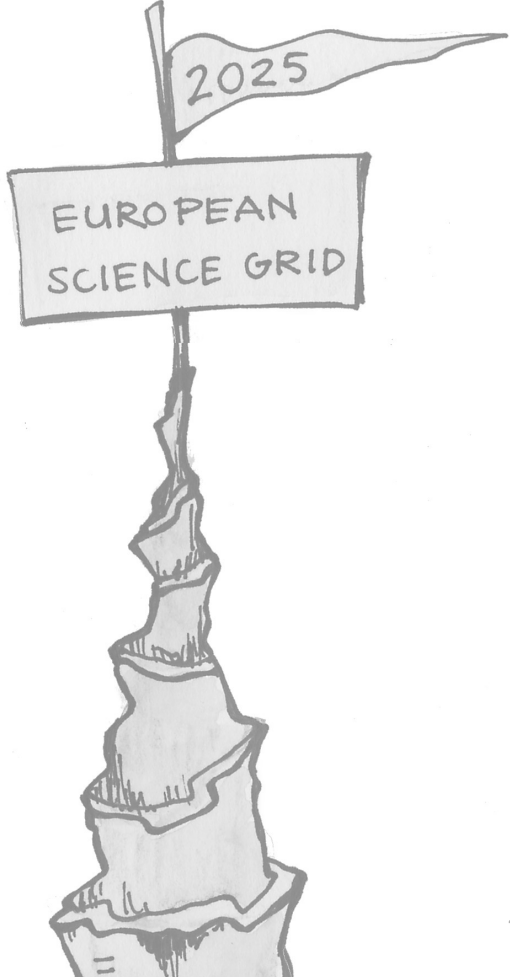
Espoo, October 5. 2006

Michiel Leenaars



2. e-Infrastructures Roadmap

Networking Infrastructure	19
Global end-to-end hybrid networking	20
Middleware and organisation	23
Authentication and authorisation infrastructure	24
Software life cycle management	26
Middleware repositories and parameter registration	29
Ensure open standards	31
Training & support for scientists and support personnel	32
Incentives for providing grid resources	34
Resources	37
Supercomputer infrastructures for Europe	38
European Storage facilities	39
Data for the grid	40
Making sense of sensors	42
Grid-enabled instruments	44
Leveraging new technologies	46
Crossing the boundaries of science	49
Collaboration tools and environments	50
Working together with industry	52

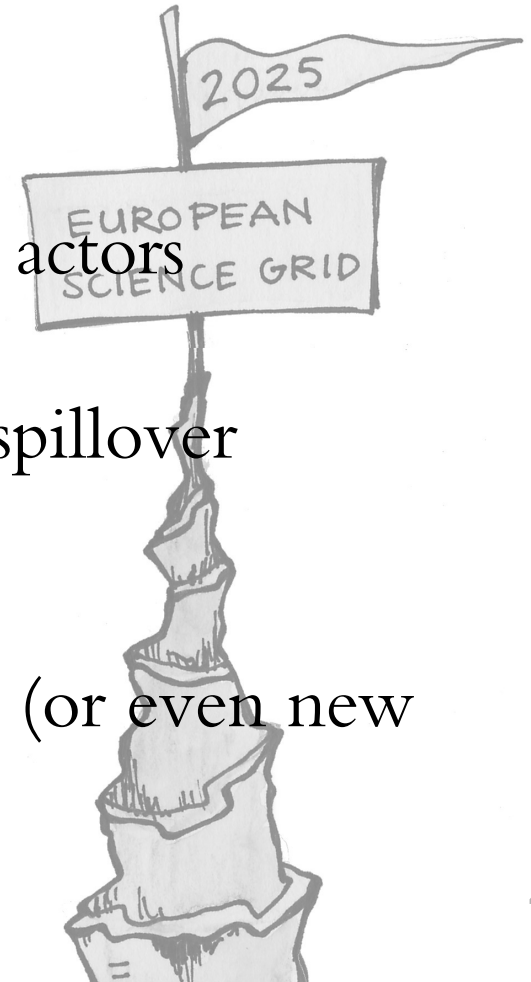


3. *Document organisation*

- **Every opportunity follows the same format.**
 - A description of why a certain goal is strategic and what the short term actions are that should be taken as soon as possible (what to do at the “**Next turn**” of the road).
 - Describe the **End destination**: where should we be in twenty years (or sooner, if possible).
 - Identify per opportunity a number of **Relevant policies, organisations, activities**. Who should at least be involved? This inventory is destined to be incomplete, but is necessary and useful nonetheless.

4. *What do we expect*

- **Sessions are in brain storm format**
- **Should be very interactive**
- **Within the box**
 - Do we need to adjust long term goals
 - Do we need to change the 'next turns'?
 - Please help us identify stakeholders and actors
- **Between the boxes**
 - If you see possible cross fertilisation or spillover between categories, that is of interest
- **Out of the box**
 - New items within four main categories (or even new categories)



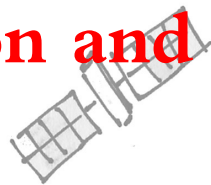
5. *Networking*

- **The research networking infrastructure delivers the physical connections for the e-Infrastructure.**



6. *Middleware and organisation*

- **Middleware plays the intermediary role to facilitate a deep integration of individual components with the networks into a European Science Grid.**
- **New processes and procedures have to be devised to alter the way organisations work, delivering for instance an authentication and authorisation framework.**
- **Education and training**



7. Resources

- **How do we achieve a rich ecosystem of resources that offer a broad gamma of hardware, software, services and data spaces.**
 - The word resources in this context should be interpreted in a broad way, covering literally everything that is of interest to science from computers, large storage facilities, telescopes, satellites, special physics equipment, weather balloons, lasers, spectrometers, visualisation means and large sensor networks.

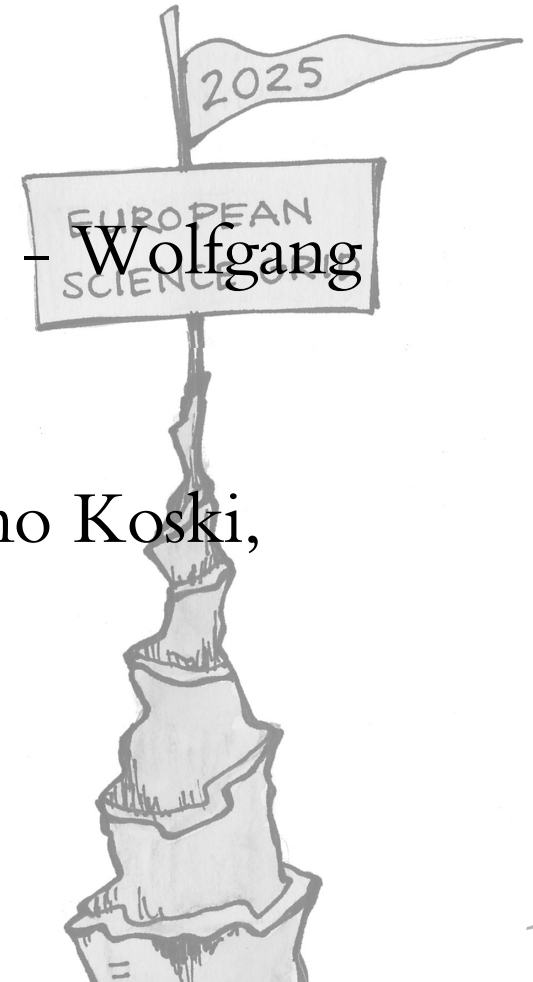
8. *Crossing the boundaries of science*

- **How do we align with what is happening in the rest of the world, i.e. industrial developments? How do we integrate this into society at an operational level.**



9. *Where to go*

- **Plenary room**
 - **Resources** – Peter Kunszt, Rosette Vandenbroucke
- **Room 1 (Soul)**
 - **Networking** – Jacko Koster
- **Room 2 (Jazz)**
 - **Crossing the boundaries of science** – Wolfgang Gentsch, Laurence Esterle
- **Room 3 (Blues)**
 - **Middleware & organisation** – Kimmo Koski, Malcolm Atkinson



10. *Have fun*

- **We will now go into the brainstorm sessions.**
There is a break half way.
- **At the end the chairs of each session will give a plenary presentation**
- **If you think of something useful afterward the workshop:**
 - mail us at: editor@e-irg.eu

