EEGI meeting

Development of a knowledge sharing tool within GRID+ (WP9)

Structuring and packaging new knowledge coming from R&I projects performed by grid operators according to the EEGI R&I Roadmap

Serge Galant, TECHNOFI
Outline

► Background
► Barriers to knowledge sharing
► The GRID+/WP9 answer
► The proposed virtual library (web portal)
► The process to build and upgrade the portal
► Conclusions
Outline

► Background

► Barriers to knowledge sharing
► The GRID+/WP9 answer
► The proposed virtual library (web portal)
► The process to build and upgrade the portal
► Conclusions
Background

Life cycle

Knowledge capture

Knowledge use

Knowledge access /share

Knowledge organisation and management
Background

• Knowledge is time dependent: what is the distance to real life application?
• Knowledge is multifaceted: basic, component, prototype, sub-system, system, software, etc…
• Knowledge use is bounded by IPR rules and/or data confidentiality
• Knowledge users are multifaceted: policy makers, regulators, manufacturers, network players, electricity generators, electricity retailers, consumers, ….
Outline

► Background

► Barriers to knowledge sharing
  ► The GRID+/WP9 answer
  ► The proposed virtual library (web portal)
  ► The process to build and upgrade the portal
  ► Conclusions
Today, knowledge sharing along the whole electricity value chain is hampered by:

► the absence of "digested" (synthesized) information

► disrupted information flows (outputs during project and knowledge after project end)

► the fragmentation of the available information (to be reformulated for future potential end-users)

► the difficulty to position the knowledge maturity along the innovation value chain
Outline

► Background
► Barriers to knowledge sharing
► The GRID+/WP9 answer
► The proposed virtual library (web portal)
► The process to build and upgrade the portal
► Conclusions
GRID+/WP9 structures and packages new knowledge coming from R&I projects performed by grid operators according to the EEGI R&I Roadmap

► Information structured according to the functional objectives of the EEGI R&I roadmap

► Wikipedia like structure which displays synthetized information with advanced search functions (by function and any other added hyperlink such as TRL, MRL scales, funding schemes, etc.)

► Easier to access information for all stakeholders of the whole electricity value chain

► Information available independently from the projects Websites
GRID+/WP9

GRID+/WP9 aims at supplying all potentially interested stakeholders with a specific knowledge scheme:

- Research providers
- Network operators
- Manufacturers
- Regulators
- Electricity generators/prosumers
- Electricity retailers
- Policy makers
- Etc.
Outline

► Background
► Barriers to knowledge sharing
► The GRID+/WP9 answer
► The proposed virtual library (web portal)
► The process to build and upgrade the portal
► Conclusions
Example for e-Highway2050

Cluster n°1: pan-European planning methodologies

Functional objective n°1
Planning method for future pan-European Transmission system

Functional objective n°2
Defining scenarios for pan-European network expansion

Functional objective n°3
Towards increasing public acceptance of transmission infrastructure

Cluster: functional objectives

Level 1: global functions

Level 2: unitary functions

Functional objective n°1
Planning method for future pan-European Transmission system

Functional objective n°2
Defining scenarios for pan-European network expansion

Functional objective n°3
Towards increasing public acceptance of transmission infrastructure

Numerical simulation

Scenario development

Ranking techniques

Power flow simulation

Network dynamic simulation

Market simulation

Inductive scenario building

Deductive scenario building

Multivariate cost / benefit analysis

Environmental analysis

Social acceptanc e analysis

www.gridplus.eu
EEGI meeting January 30-th 2013
The virtual library

Tree structure supplemented with a GUI to address the three main dimensions required before innovations for electricity networks can reach market deployment (used in the EU-DEEP dissemination package)

Roof
Policy, regulations and standards options which will frame the scaling and replication rules

Pillars
Business, governance and socio-economic options which support the network enabling expansion

Foundations
Technology developments to expand network capacity and flexibility
A Wikipedia-like tree-like structure based on a two-level functional description involving global and unit functions

- extract from existing EEGI roadmap the critical functions for smart grid innovative solutions
- create a corpus of functional descriptors
- position each R&I results in terms of functional descriptors and in relation with the state-of-the-art
- add additional descriptors (TRL, funding, etc.) if needed
Outline

► Background
► Barriers to knowledge sharing
► The GRID+/WP9 answer
► The proposed virtual library (web portal)
► The process to build and upgrade the portal
► Conclusions
Building the virtual library

► Data composed of core, knowledge and state of the art articles

> a core article describes one R&I result coming from a selected project
> a knowledge article addresses one specific aspect of any given R&I result.
> state of the art articles: the new knowledge is positioned within a state-of-the-art framework, also described functionally

> A first set of 11 core articles (one for each of the 11 clusters of the EEGI roadmap) will be published in the first version of the GRID + virtual library.

► Search tool and interactive template

> developing an educational guided search tool (set of functional descriptors)
> developing an interactive template (draft and submit articles to an online peer review)
> implementing a tool for monitoring the use value of the R&I results: i.e. TRL, MRL, organizational maturity, regulatory environment readiness, etc.
Building the virtual library

1. Guided Search tool

2. R&I core article

3. Related articles

2. R&I core article

3. Online peer review
Outline

► Background
► Barriers to knowledge sharing
► The GRID+/WP9 answer
► The proposed virtual library (web portal)
► The process to build and upgrade the portal
► Conclusions
Conclusions

► A dedicated website is proposed to initiate knowledge sharing at the wider scale possible for EEGI labeled R&I projects

► Past experience of TECHNOFI makes this solution realistic and implementable within GRID + http://www.innovationseeds.eu/

► Any project holder can enter any give R&I result with a specific interface and coaching to support the data in-feed

► The main issue on packaging is the multi stakeholder targets
Conclusions

► Year # 2 of GRID + would see the 5+5+1 clusters covered in the virtual library by one completed R&I project

► Year # 3 of GRID + would see EEGI labeled projects introducing on their own new data
Thank you for your attention