

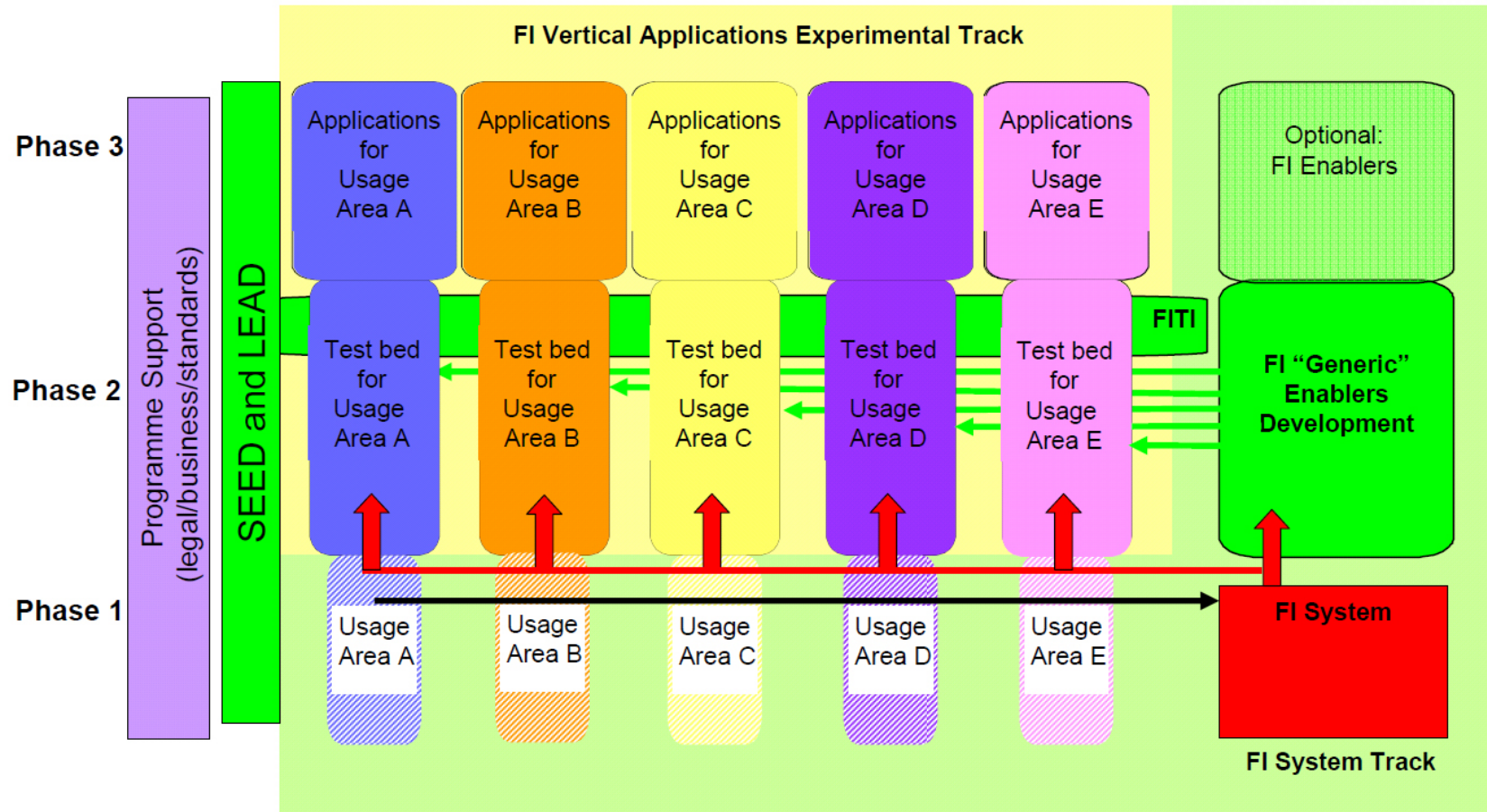
# The FI PPP from the Perspective of European Research Centres

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# Structure of the FI PPP



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# FI PPP Challenges

- The FI PPP will be a disruptive technology programme with several competing drivers
  - technical vs socio-economic
  - horizontal vs vertical
  - research vs development
  - exploitation vs efficiency
  - research focus vs durability
- The FI PPP must balance innovative research with robust outputs for realistic open trials and the potential for commercial exploitation

# Evolution of the Internet

- Governance objectives have changed
  - competition as well as co-operation
- Connectivity is now a commercial activity (ISPs)
  - new service models
- Trust between users has reduced dramatically
- Developers are now concerned with emergent applications for potentially competing stakeholders
- Societal and legal aspects are increasingly important for businesses, governments and citizens

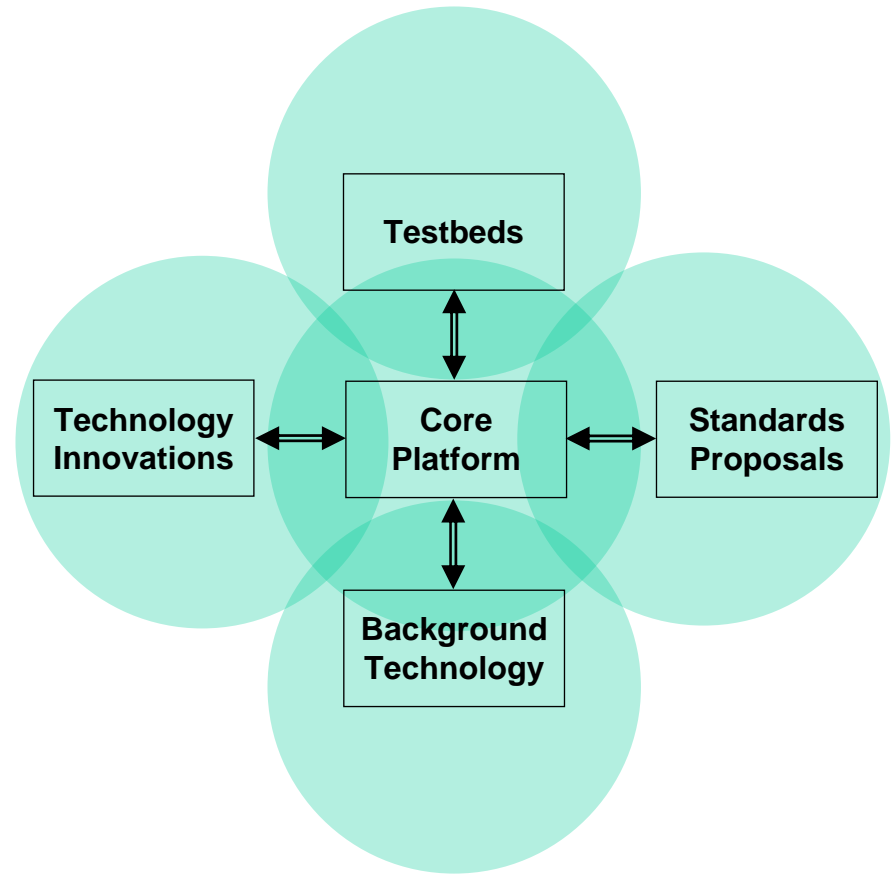
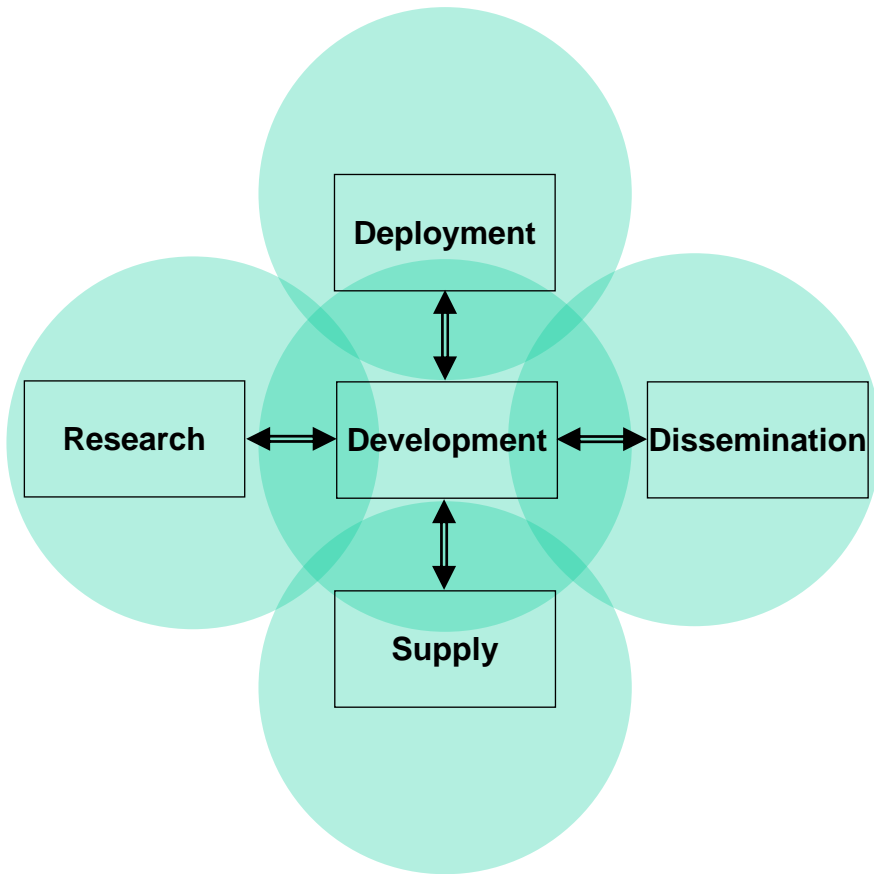
# The Future Internet

- Objectives have to be met in the context of technology convergence and closer coupling of the digital and physical worlds
  - increased dependence on distributed information
  - controlled by independent parties
  - governed by both markets and regulation
- A critical infrastructure for information exchange
  - consequences of failure impact the real world

# FI PPP Governance as Value Chain Management

- **FI PPP Governance is**
    - Scientific / Technical Monitoring
    - Technical / Economic Evaluation
    - Technical / Economic Recommendation
- along the Value Chains**

# FI PPP Governance as Value Chain Management



# Core Platform Research Challenges

- Emergent systems engineering and compliance
  - how to design Future Internet systems to meet requirements, given that they will be created and evolve dynamically 'on demand' with no overall designer?
- Operational risk management
  - how to ensure in real time that systems with no overall controller will operate in a safe and acceptable manner, including interactions with the physical world, considering both autonomic and semi-autonomic adaptation processes?
- Turning information into value
  - how to make information accessible to applications that convert that information into value, and how to preserve this value over long timescales?
- Socio-economic and user acceptance
  - what platform capabilities are needed to ensure that users and society will accept the Future Internet and use it beneficially?

# Leveraging Previous Investments

- The FI PPP can build on previous investments from national and EC programmes
- Generic enablers, infrastructure and platform capabilities
  - autonomic networks
  - cross-layer QoS management
  - dynamic security and dependability
  - federated information modelling and distribution
- A catalogue of existing capabilities and enablers is being created on “Smart Health”, “Smart Energy”, “Smart Living”, “Smart Transport Mobility”, “Smart Environment Utilities”

# Existing Pilots with Potential International Synergy on Smart

- Networks across hospitals to test services in the hospital and to the different patient homes.
- Biomedical technology centres including different organs (such as brain) testing environments and body area networks sensors.
- Service platforms for patient information delivery through mobile and fixed networks
- Virtual environments labs with 3D representation capabilities

# Existing Pilots with Potential International Synergy on Smart

- Houses as labs for energy sustainability and efficiency testing
- Experimental facilities for simulating energy networks
- Laboratories for Green energy testing

# Existing Pilots with Potential International Synergy on Smart

- 3D and Ultra-high definition TV labs (including home environments)
- Usability and quality of experience labs
- Networks research facilities

# Existing Pilots with Potential International Synergy on Smart

- Cities, roads and railways as testbeds for technology and users acceptance including vehicles, networks (mostly wireless), users, etc
- Simulators for networks and traffic management

# Existing Pilots with Potential International Synergy on Smart

- Large wireless sensor networks testbeds with multiple sensors
- Environment usage testbeds for different applications (agriculture, cities pollution, etc.) involving networks and users

# Conclusion (1)

- Research Centres will help to address the applied research challenges
- The FI PPP will build on the enablers and capabilities
  - integrating them into a converged architecture based on open standards
  - leverage previous investments to create flexible platforms that deliver cost-effective testbeds, and
  - enable socio-economically practical deployment of 'smart' applications on a Future Internet

# Conclusion (2)

- A position paper to be put together with the EFII will be issued by the R&D Centres:
  - Manifesto concerning general opinion and the EFII document, backed by:
    - Core Platform description document
    - Catalogue of existing pilots and enablers
    - Governance issues document
    - Matrix of R&D strengths
- An overwhelming reaction from the research centers (800 items of data and still growing) has made consider delaying the final version (end of March) a better alternative in order to pursue a better coverage of all the expertise areas and to achieve the widest possible consensus.