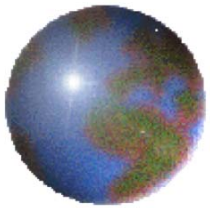
THE ALLIANCE FOR EARTH OBSERVATIONS



Institutional Arrangements

Science and Technology in GEOSS

The Role of Universities

22 November 2005

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Topic Triage

- How to Ensure Long-term funding (sustainment)
- Allocation of funding between Govt, Academia, Industry
- Optimal organization strategy for Universities
- Intellectual Property Issues
- Commercialization issues
- Free and open access for commercial products
- How to achieve Interoperability between systems
- System of Systems via supplementing not supplanting
- Eroding infrastructure/inadequate services/lack of continuity
- Sharing data across geopolitcal, institutional, and domain divides
- Protection of radio frequencies
- Trust fund support model
- Establishing Partnerships

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Scope of Sustainment

- Funding to sustain the observations themselves
  - Federal governments, but
  - Need to link to other players/funders
    - States and Local
    - Academic
    - NGOs
    - Private Sector
- Funding to sustain the long-term stewardship of the data
- Funding to sustain/evolve the “glue”
  - Cyberinfrastructure for the system (including interoperability, and the product/service infrastructure)
  - Conceptual and real linkages between observations/products

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Constraints to Sustainability

- Interoperability/usability
- Defining the public need (markets?)
- Lack of coordination/stovepipes
- Efforts to date have been Govt-only and top-down
- Data policy not universally applied or understood
- Role of science/research within the GEOSS Enterprise not well articulated
  - Source of innovation/catalyst for evolution
  - Training new work force
- Education
- Valuation methodologies
- Lack of capability in the developing world
- Articulation of how GEOSS fits into something larger

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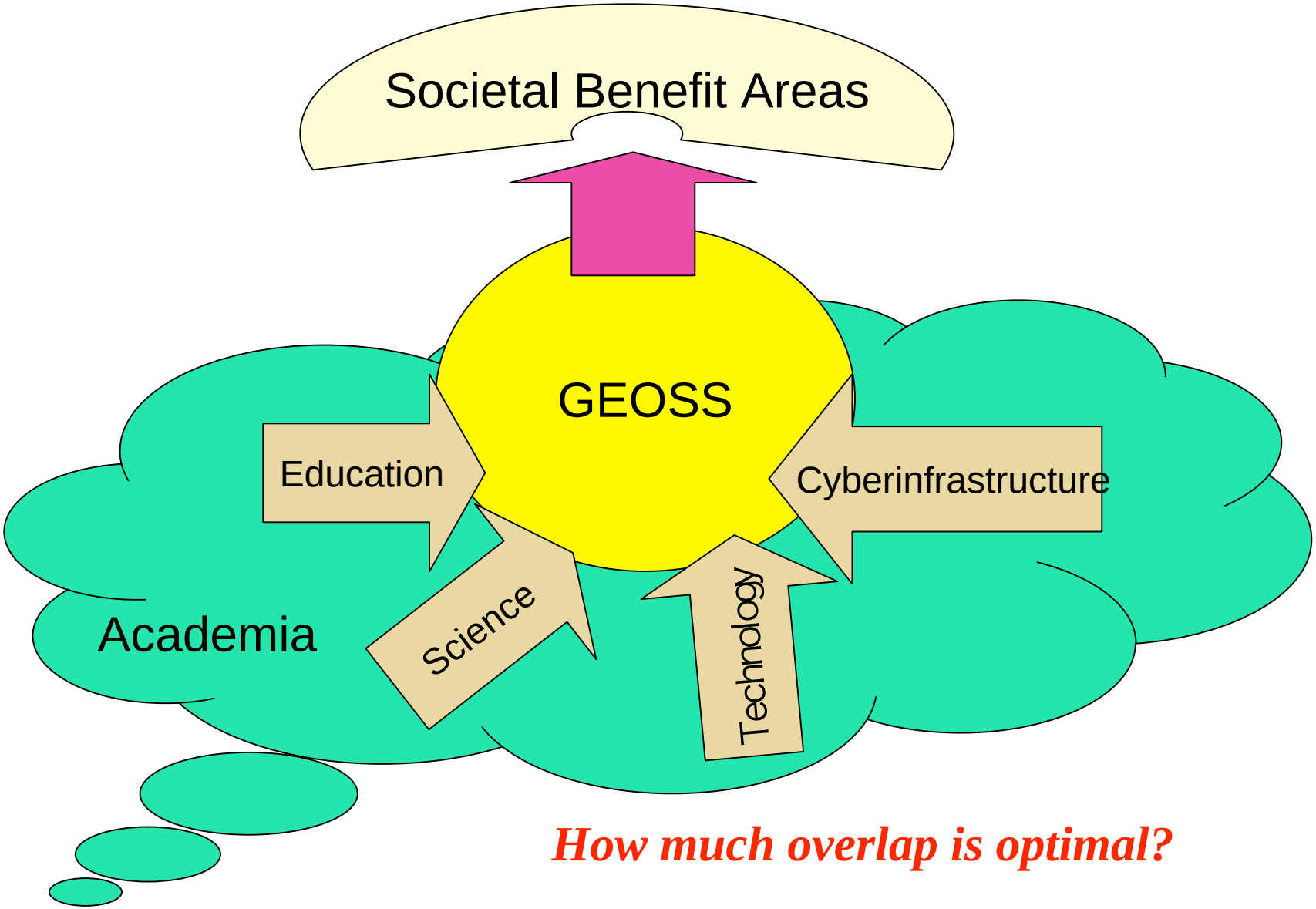
Solutions for Sustainability

- Need a dialogue on the relationship of basic research to GEOSS
  - "Line of sight" (applied research) understood
  - Basic Research needs to be explicitly addressed
    - Innovation and evolution
    - Training of the new work force

  ← ***Key to sustainability***
  - Issue generalizable to role of academia (see diagram)
- Need to Establish Strategic Partnerships
  - UCAR-like (university consortium)
    - Shared Advocacy
  - ESA/EC Type (govt/academic/private sector)
    - Shared Ownership
- Need better "marketing" of multi-use applications
  - Establish priorities
  - Create Viable Business case
  - Stimulate/create demand



How much overlap is optimal?

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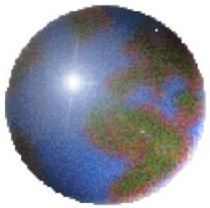

Backup Slides

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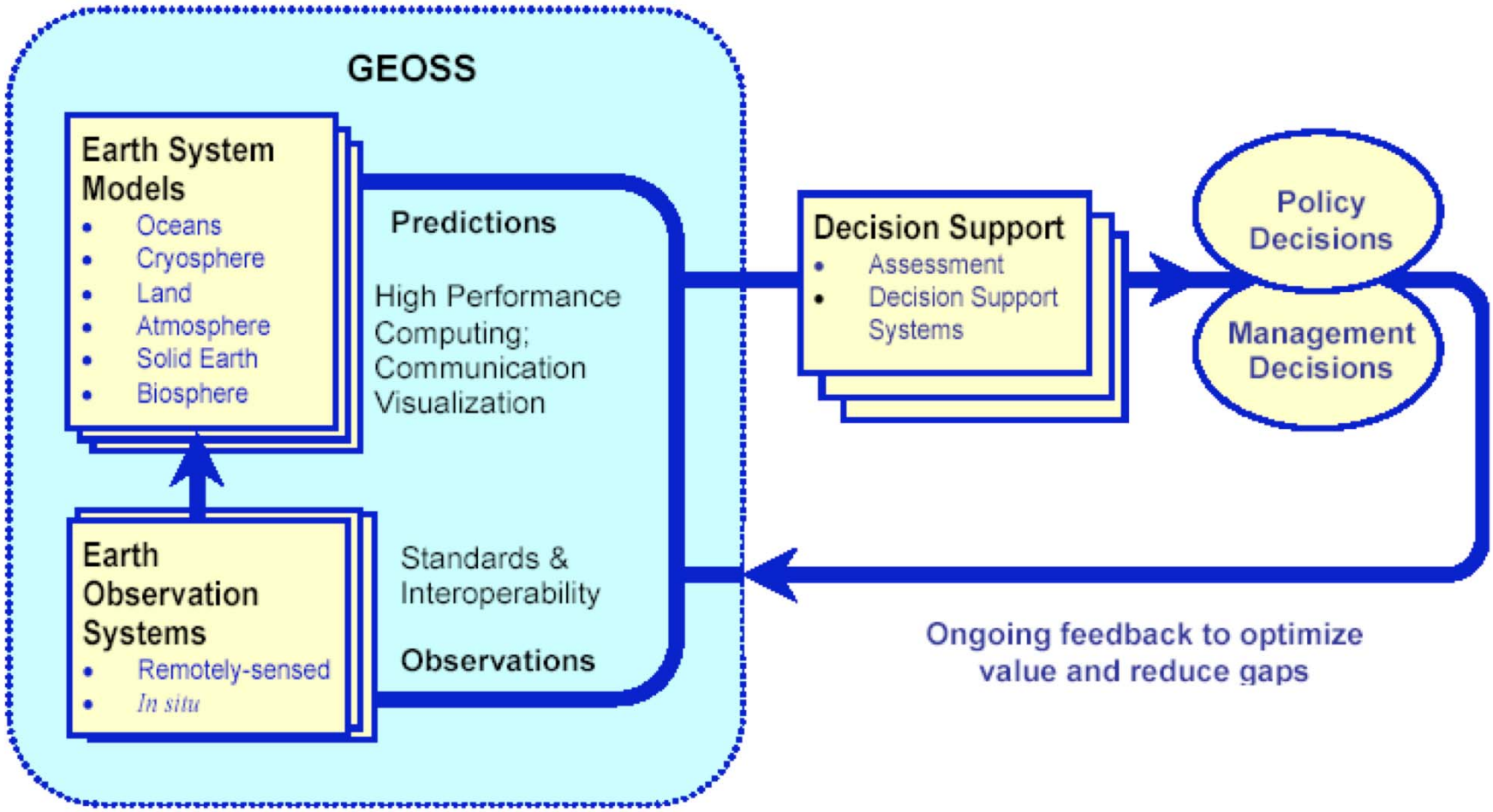
GEOSS Architecture



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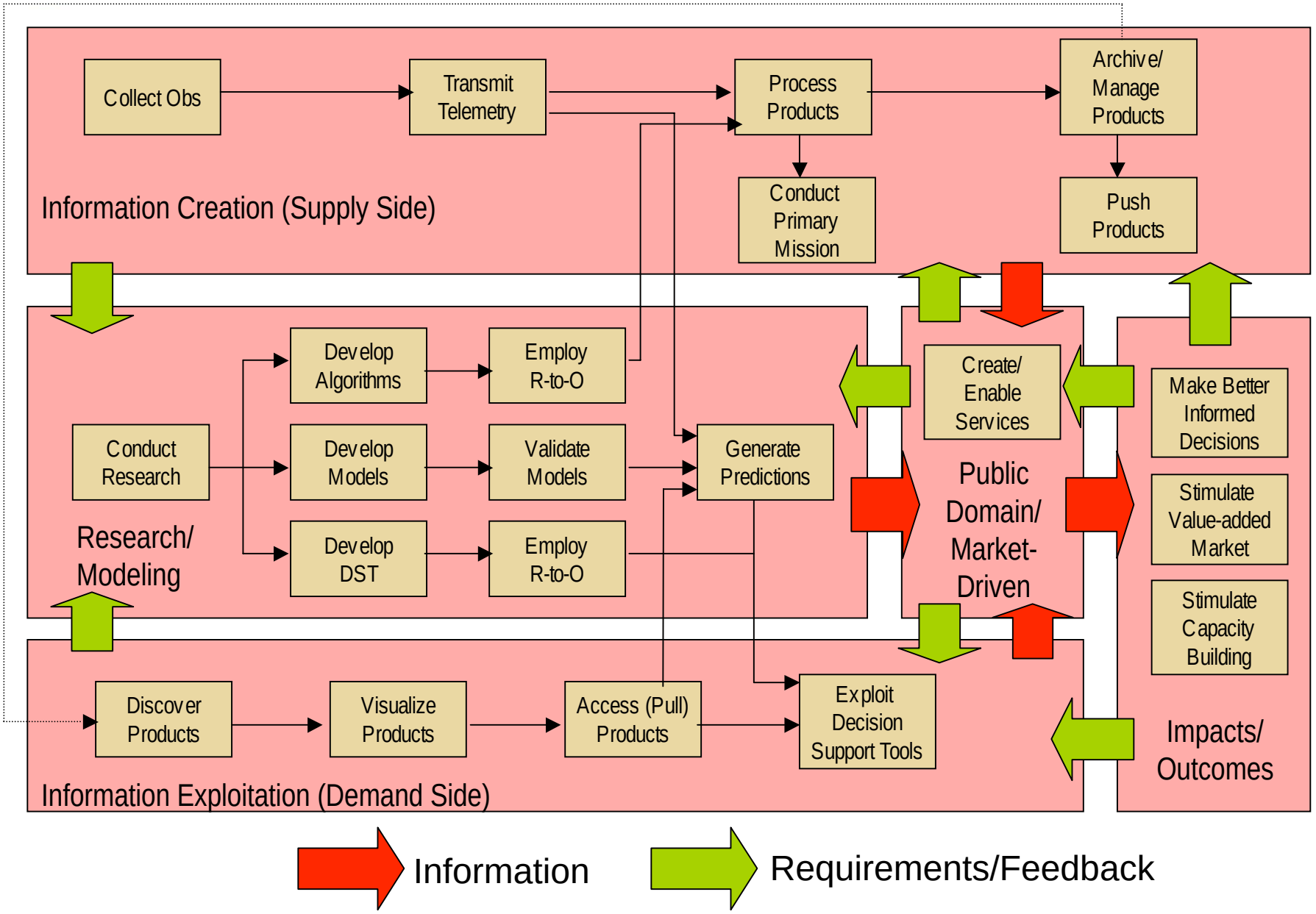
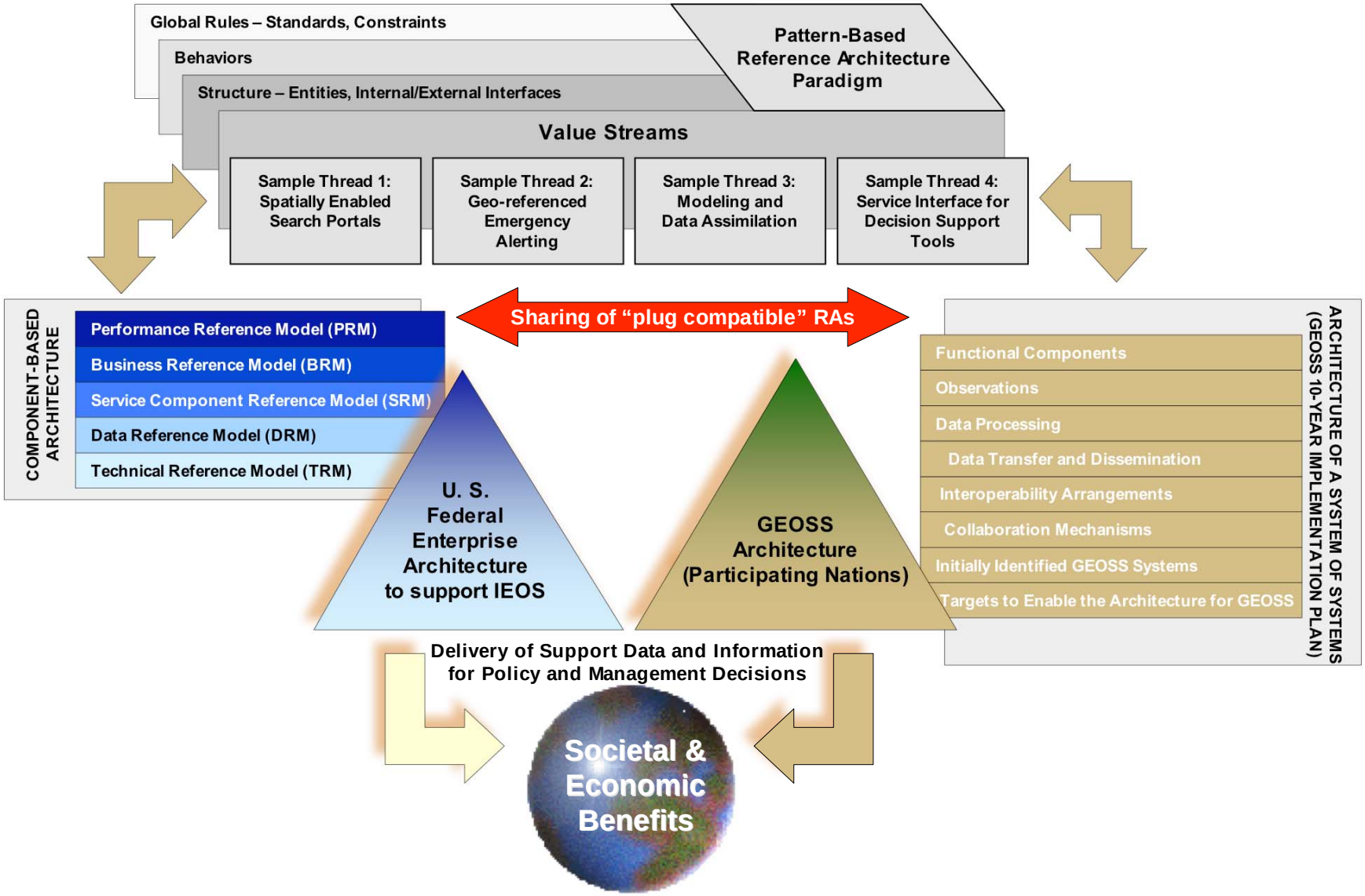
GEOSS Value Streams (Updated)



Reference Architecture & GEOSS Design



A Pattern-Based Reference Architecture Paradigm provides a logical and powerful way forward for GEOSS/IEOS design and implementation

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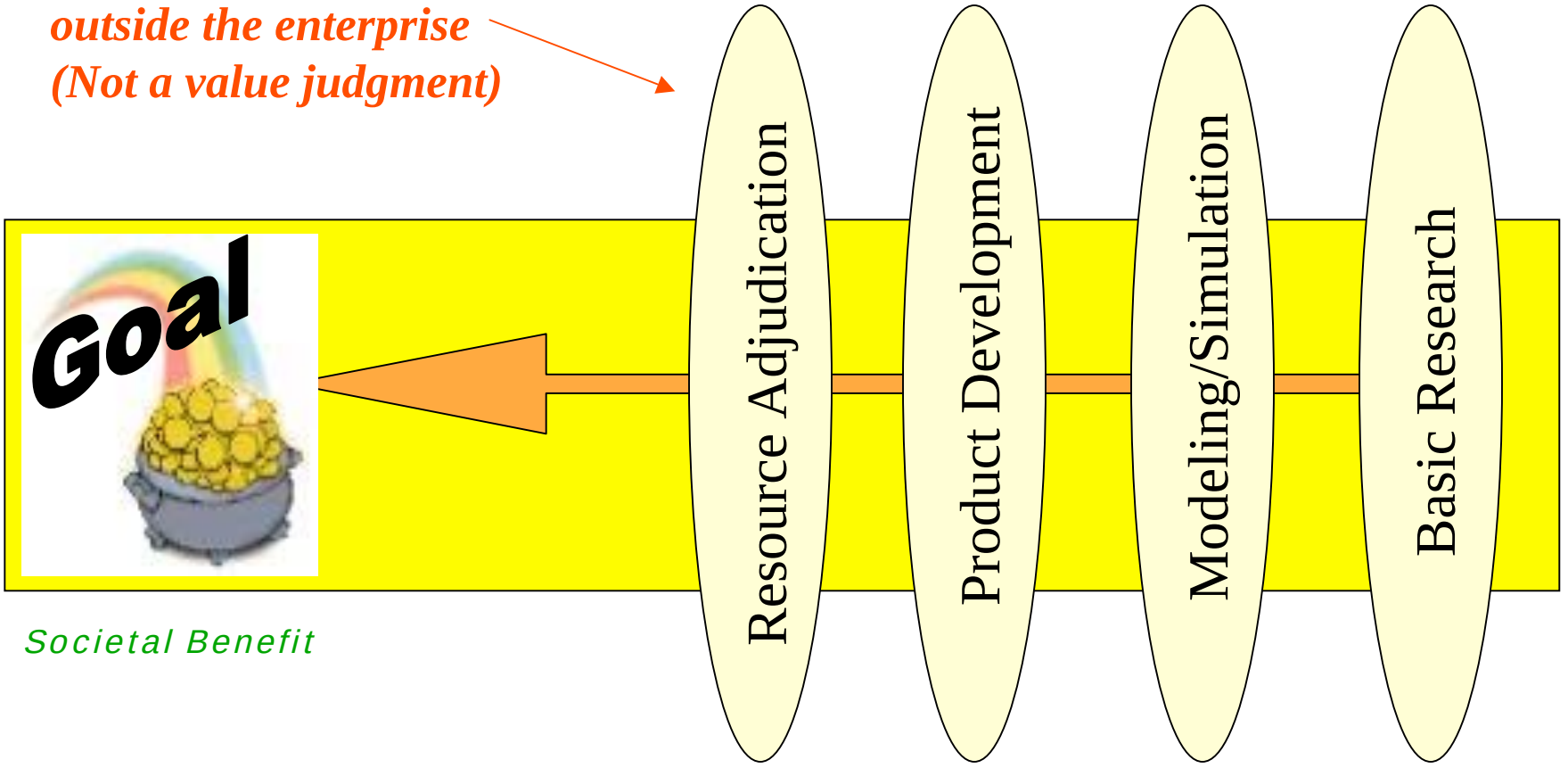
Line of Sight

Some aspects fall outside the enterprise (Not a value judgment)



Enterprise Optimization ➔ Often Requires ➔ *Local Sub-optimization*