

Klaus Pohl

S-Cube

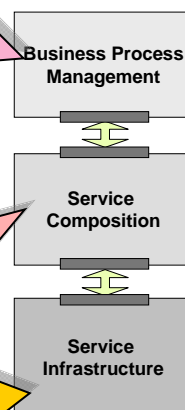
The European Network on Software Service and System Network

Motivation SOA Functional Layers

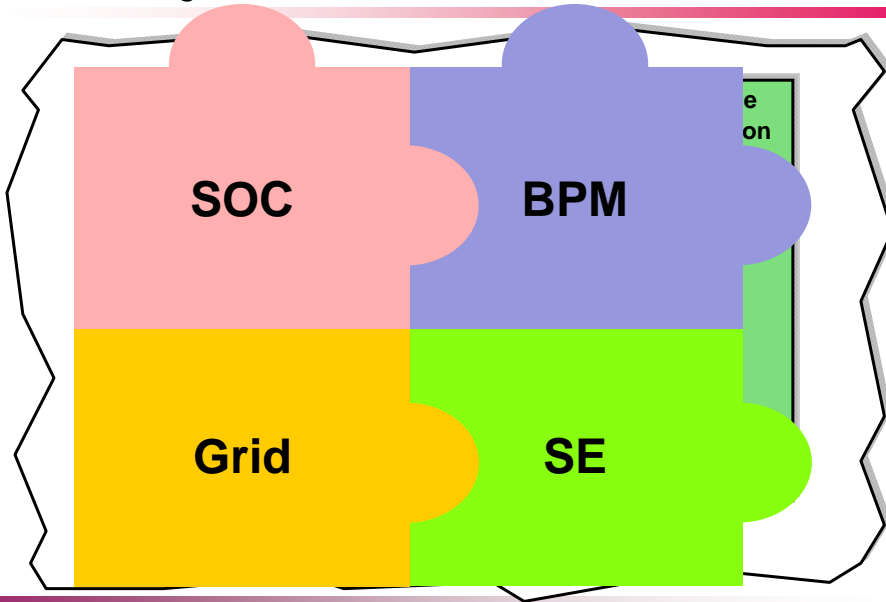
- end-to-end **visibility and control of business processes** (across organizations)
- mechanisms for expressing, understanding, representing and managing an organization in terms of a **collection of service networks**

- **managing data flow & control flow** between aggregated services

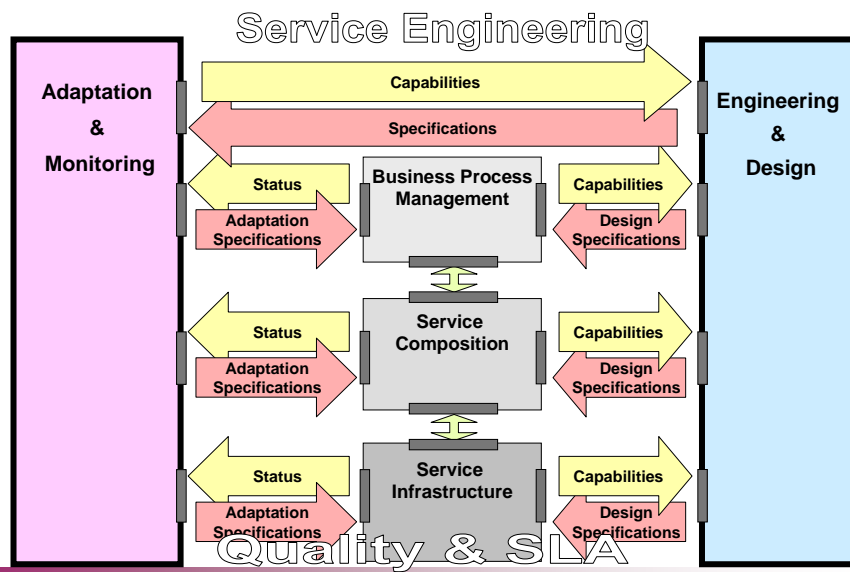
- capabilities for service discovery (e.g., UDDI)
- **run-time environment for execution of service-based systems (computing nodes)**
- primitives for service communication (e.g., SOAP)



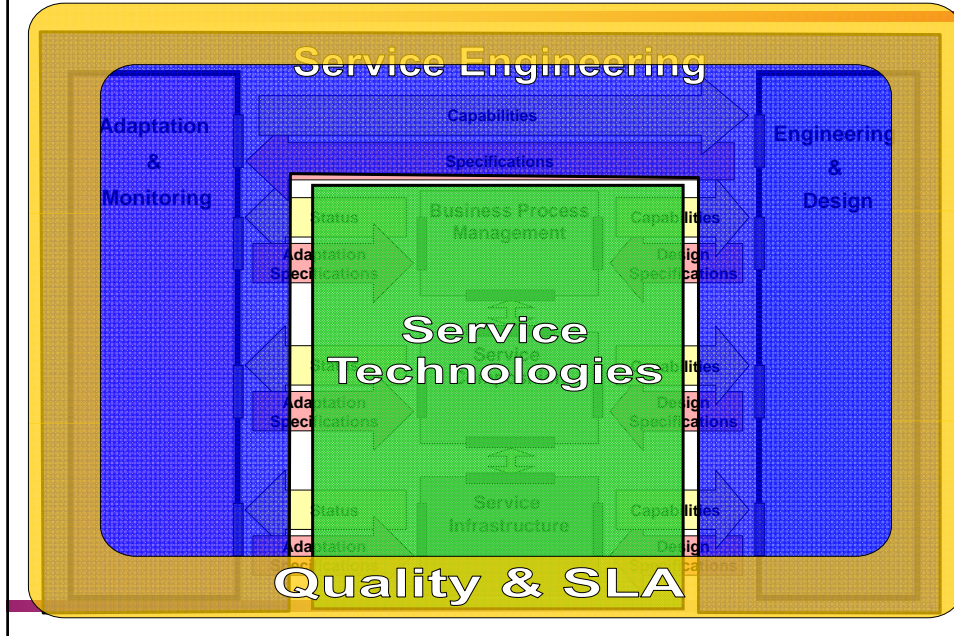
Motivation Cross-cutting Issues



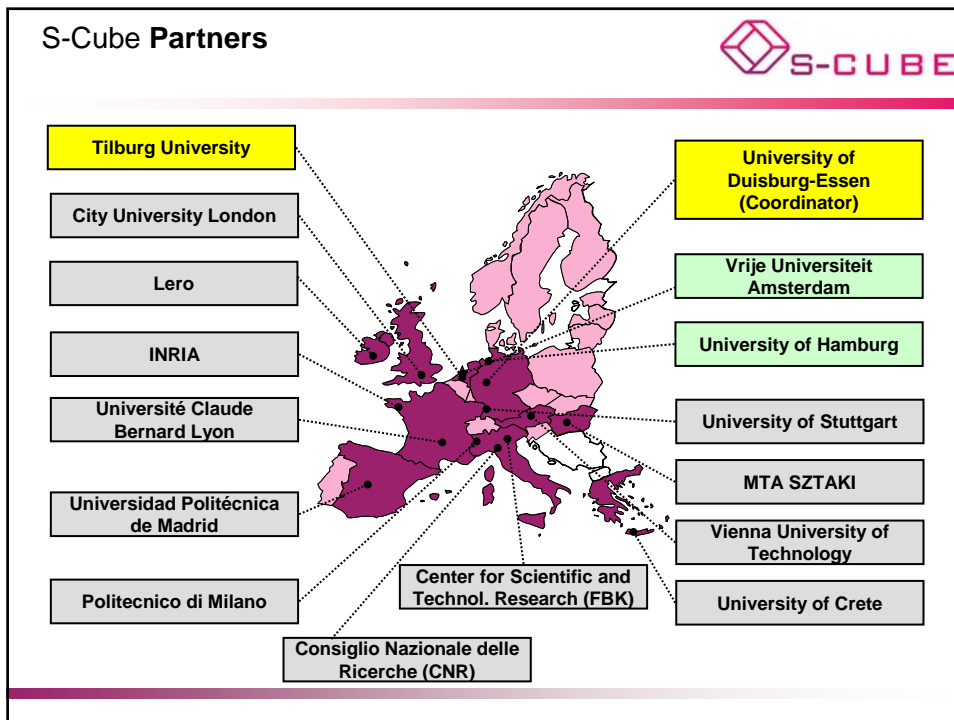
S-Cube's Research Framework



S-Cube's Research Framework

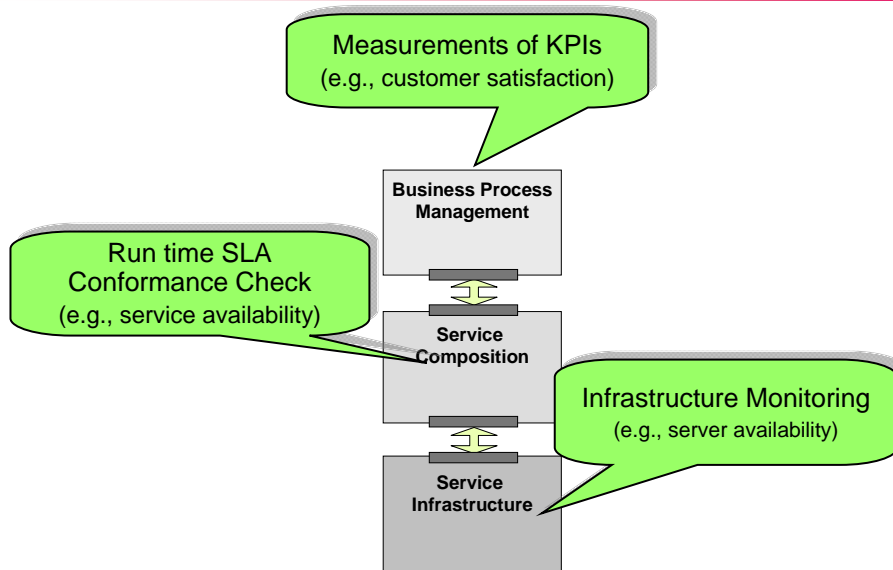


S-Cube Partners

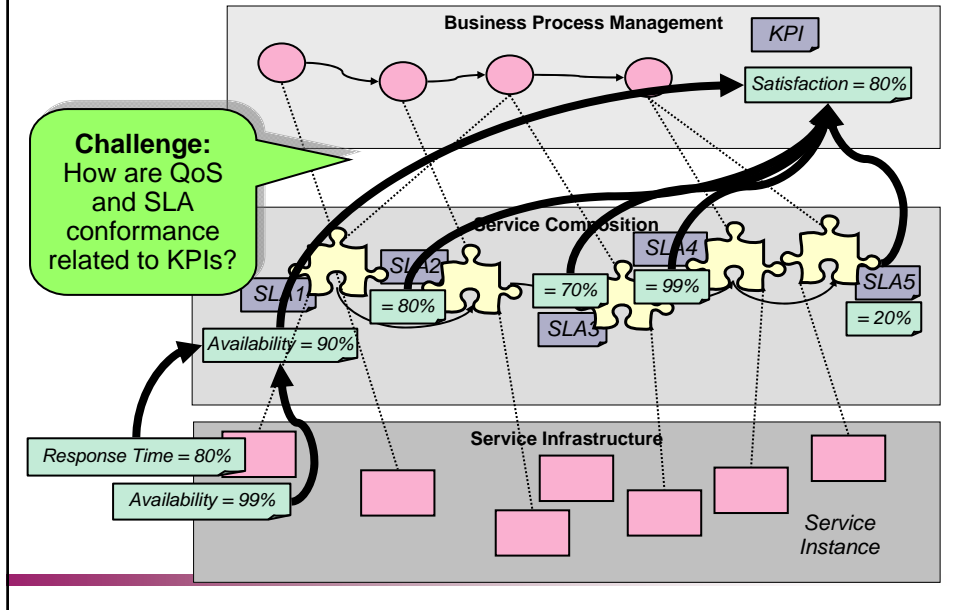


Challenge:
Cross-Layer Monitoring

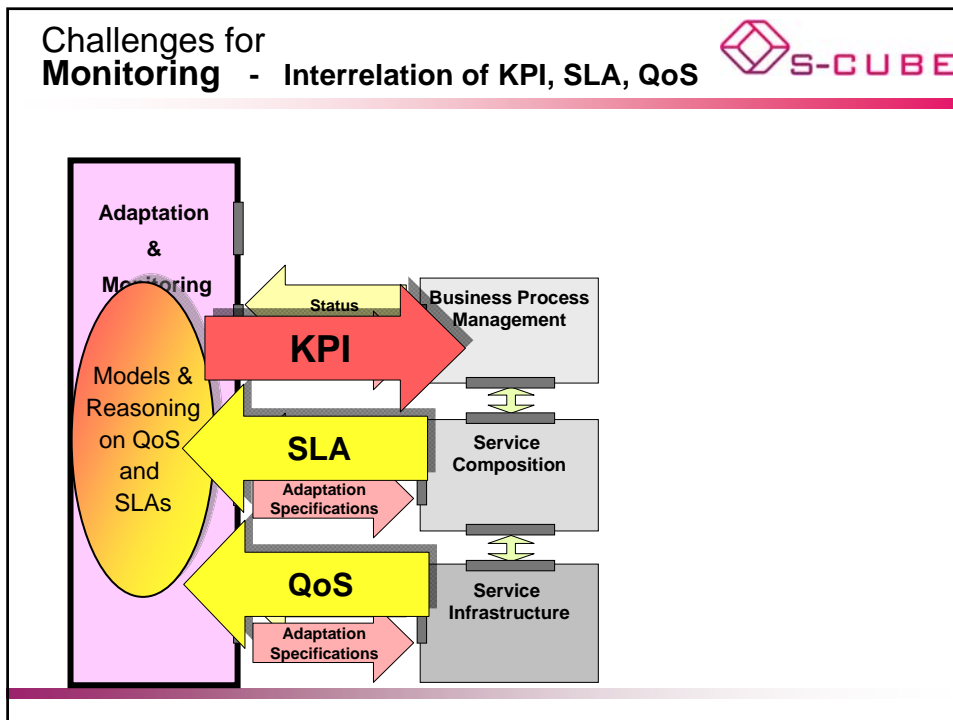
Challenges for Monitoring



Challenges for Monitoring - Example

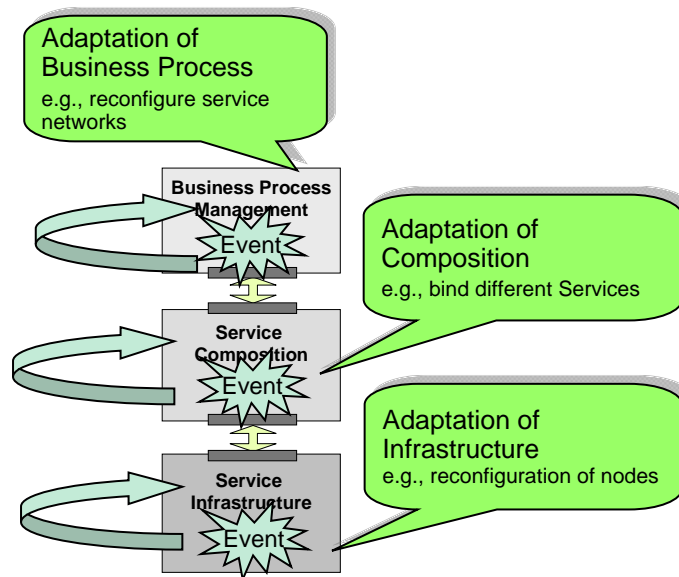


Challenges for Monitoring - Interrelation of KPI, SLA, QoS

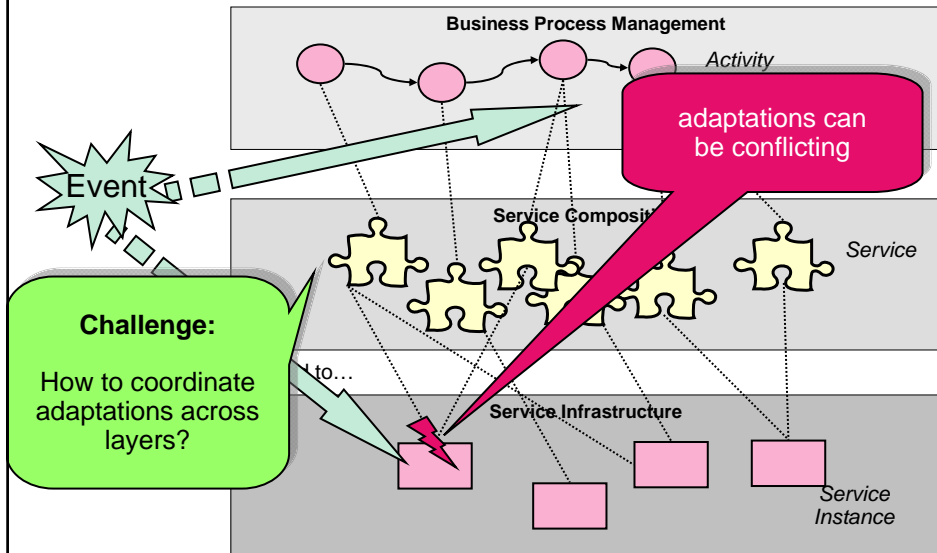


Challenge:
Cross-Layer Adaptation

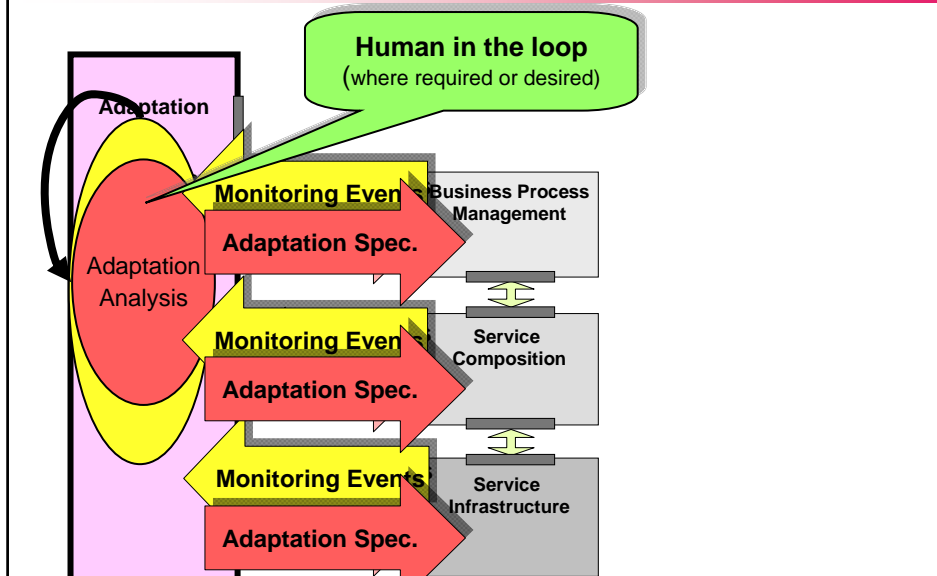
**Challenges for
Cross-Layered Adaptation**



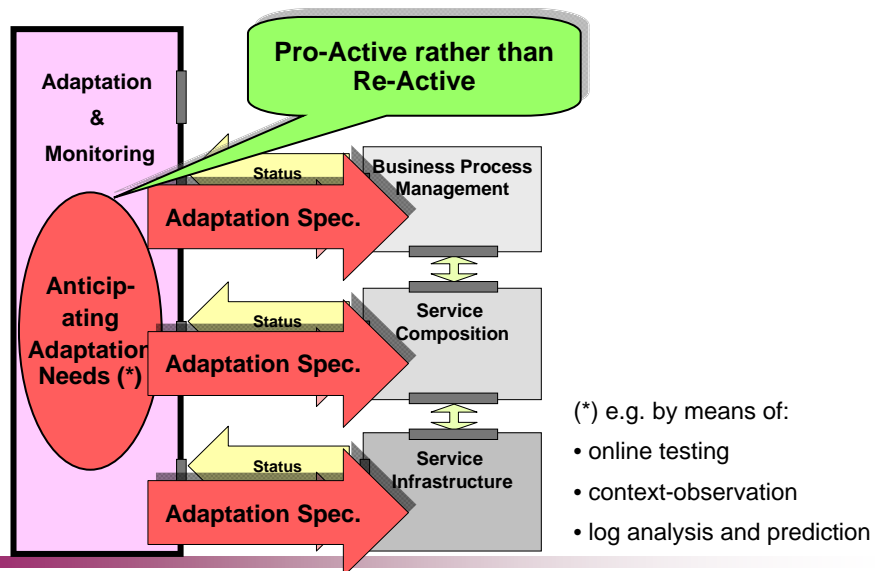
Challenges for Adaptation Example



Challenges for Adaptation Cross-Layer Adaptation



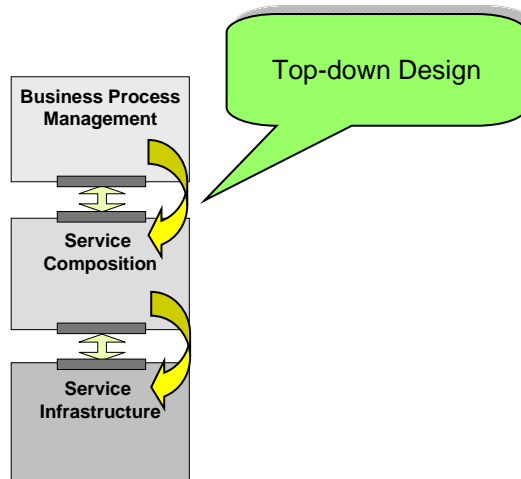
Challenges for Adaptation Anticipating Adaptation Needs



Challenge:

Engineering Innovative Service-Based Systems

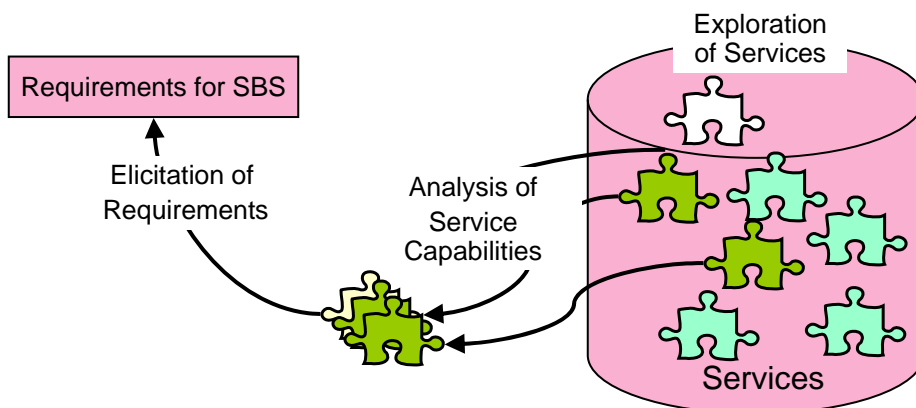
Challenges for Engineering

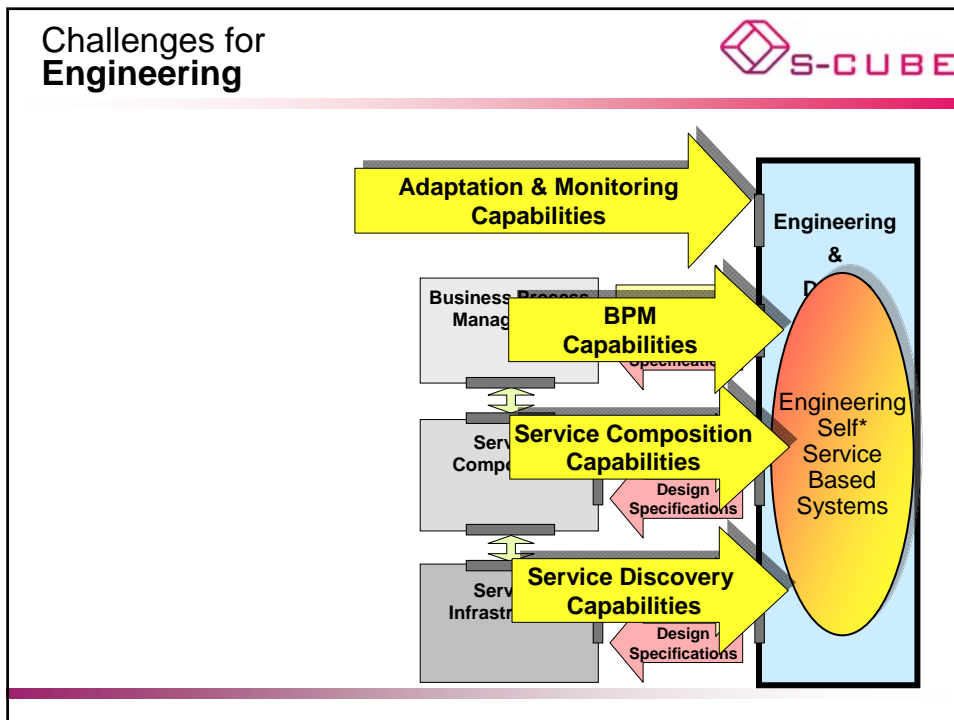
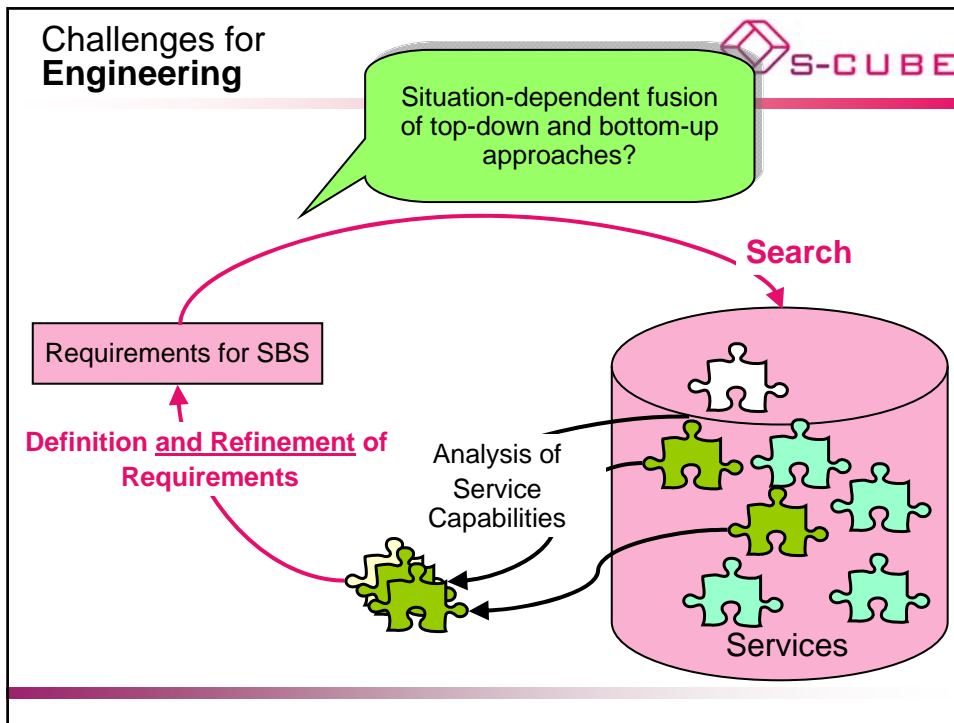



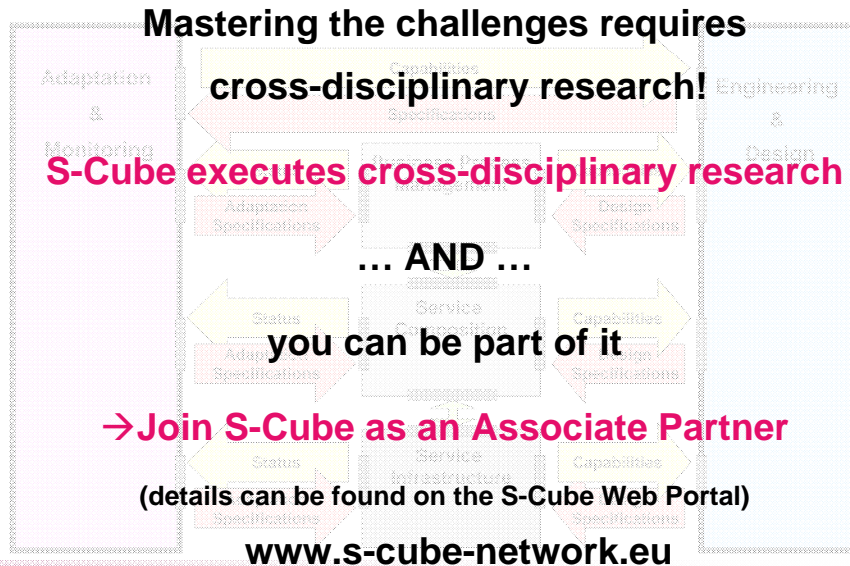
Challenges for Engineering



- Example: Bottom-Up / Exploratory Design







The role of GRID in the Future service-based Internet ?

- Could be the infrastructure (roads, bridges, ...)
→ “replace” the physical internet
- Could be an enabler for **services** and **service-based applications** (logistic, postal deliveries, public transport, holiday travel, ...)
→ **service-based applications** are build “on top of it”

+ the diversity of “... based the “road-”

www.s-cube-network.eu