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SSKE – A Knowledge Intensive Environment to Foster Service Innovation

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OAMENI

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Agenda

- Service Science Knowledge Environment (SSKE) – a development path:
  - requirements elicitation
  - stakeholder's perspective on the SSKE
  - content definition – *knowledge resources*
  - collaborative interaction
  - information map defined in the SSKE
  - further development and collaboration on the SSKE

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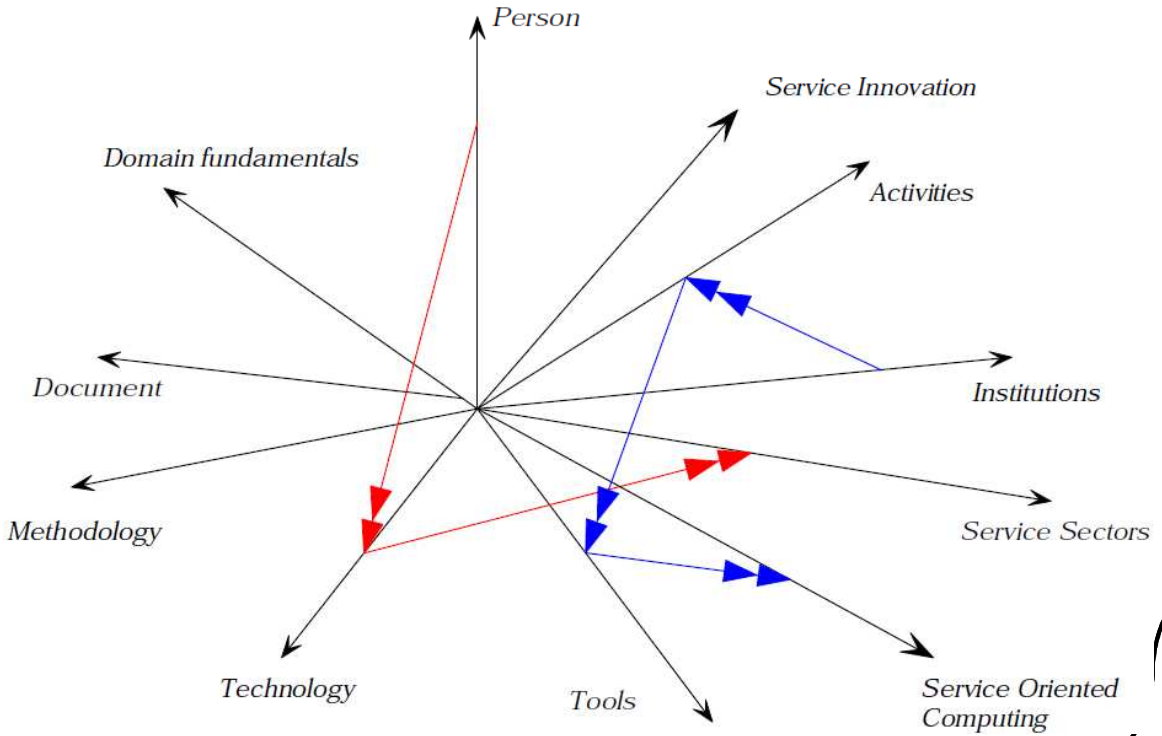
Knowledge Environment for Service Science

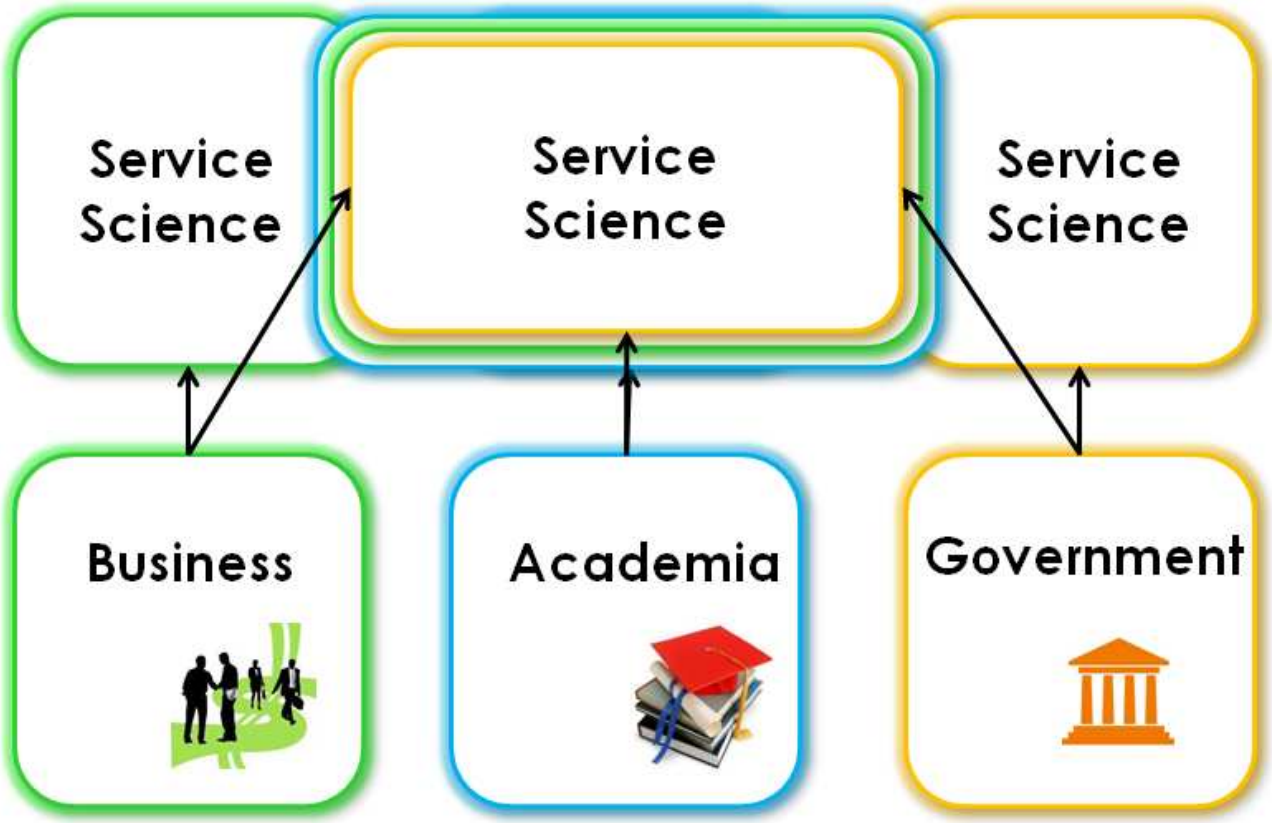
- Requirements elicitation:
  - To exploit a database highlighting an *educational knowledge path* on Service Science, fostering *service innovation* in different *service sectors*, based on *fundamental concepts* related to Service Science;
  - To *increase* the service companies *visibility*;
  - To report *new methods, tools and software applications* in order to develop IT services and to accomplish *service automation*, fostering *service innovation*

Knowledge Environment for Service Science

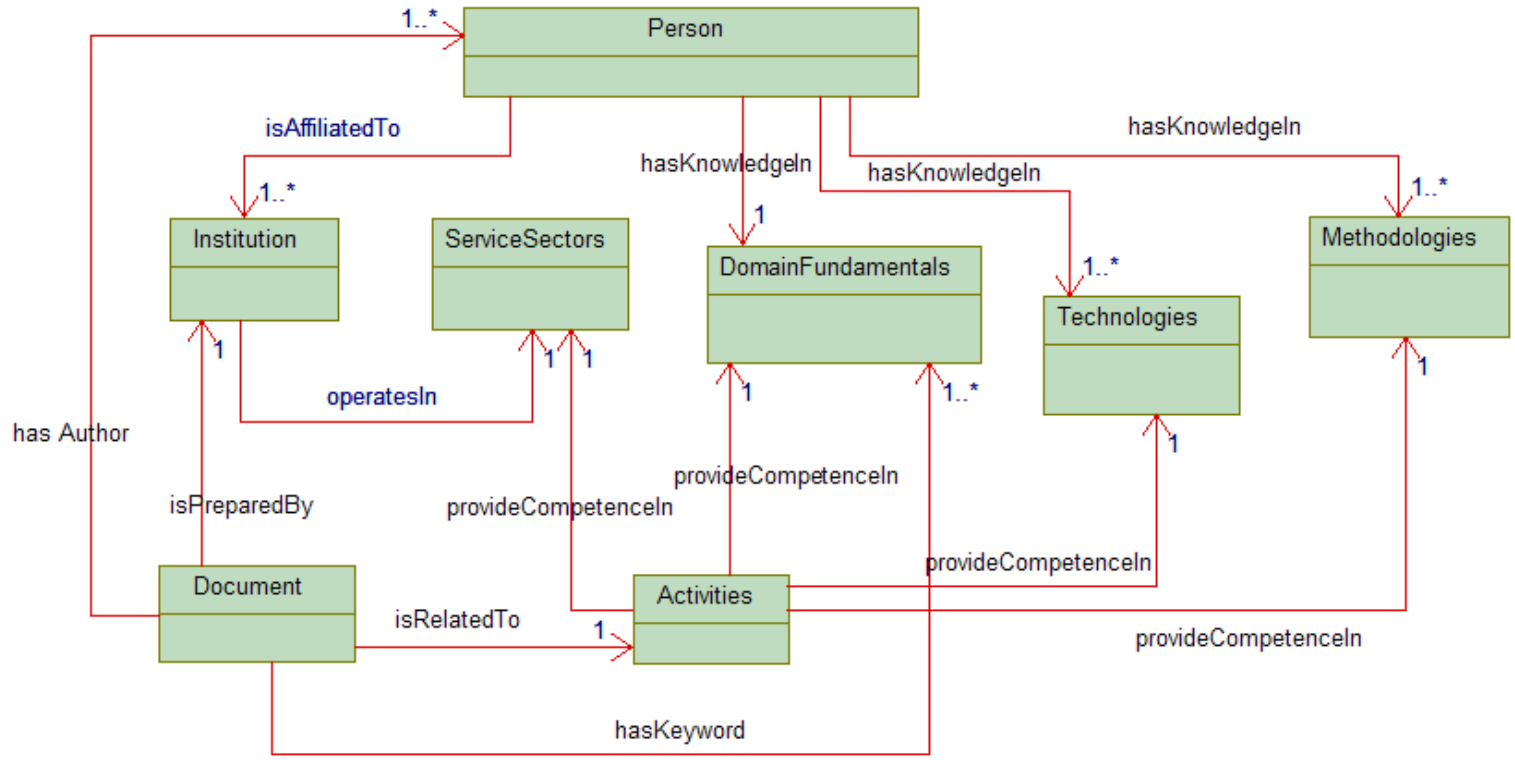
- First hand solution:
  - the proposed *Knowledge Environment* was supposed to include and classify *knowledge resources* related to Service Science, for example `Articles`, `Projects`, `People` knowledgeable about `Projects`, that write `Articles` and use `Technology` in certain `Service Sectors`



Stakeholders' perspective on the SSKE

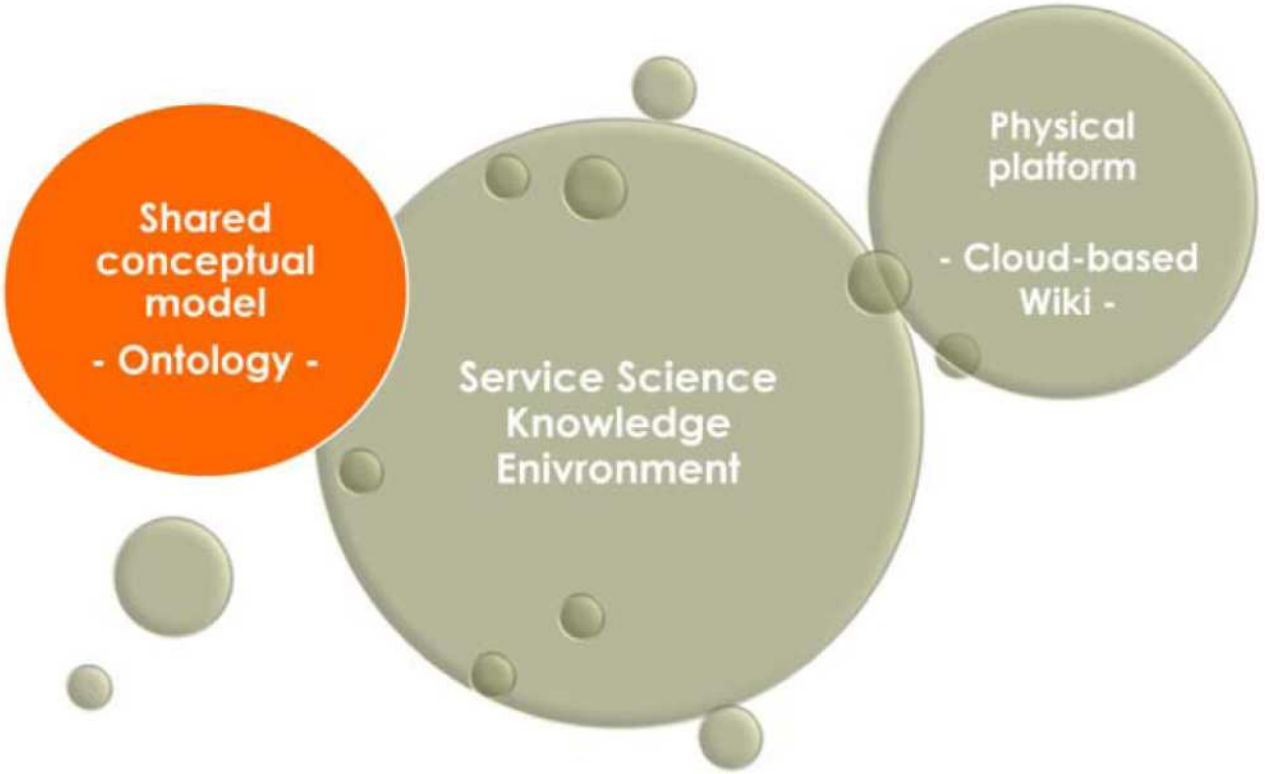


SSKE – knowledge resources (main ontology concepts)



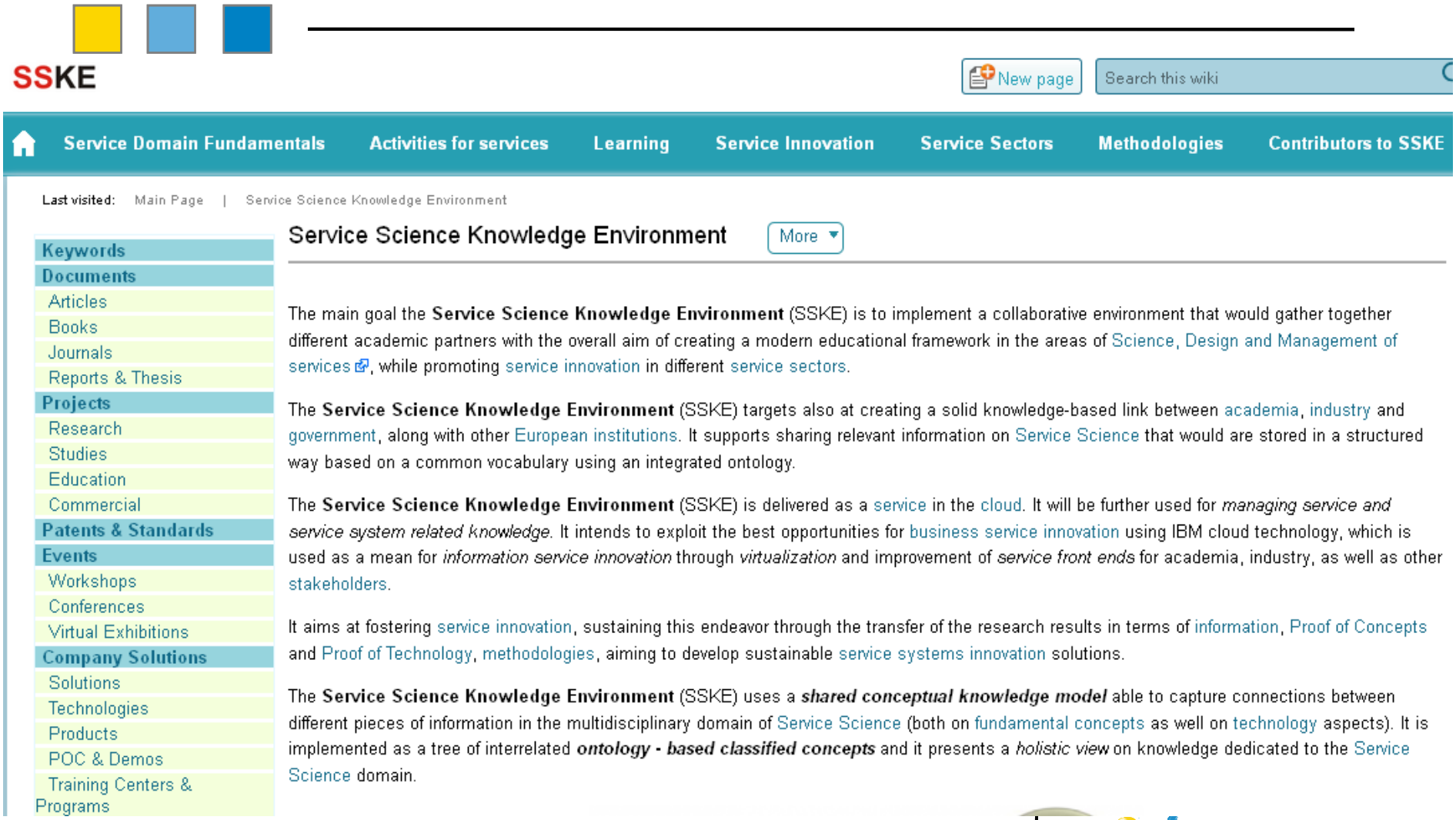
- a tree of interrelated concepts - an ontology - based classification
- aims at the creation of a digital library to include specific knowledge on Service Science.
  - to *classify* and to manage knowledge resources

SSKE – Solution

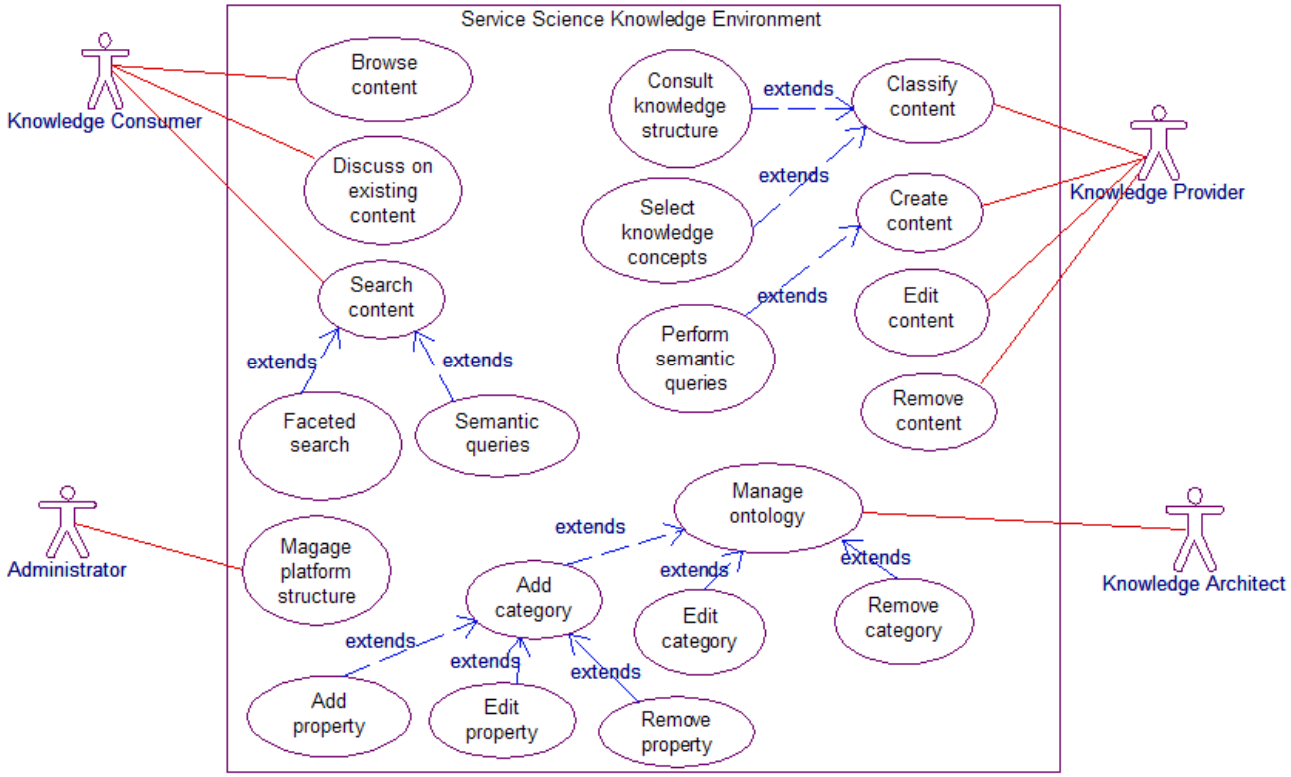


Service Science Knowledge Environment – SSKE

http://sske.cloud.upb.ro



SSKE – a collaborative interaction model



SSKE – Ontological perspective on Service Science

- a holistic view on knowledge dedicated to the Service Science multidisciplinary domain
  - Information related to the multidisciplinary sub-domains gathered under the umbrella of the broader term ”Service Science” to be classified as specific knowledge resources and
  - accessed through a dedicated knowledge base owning a specific ontology-based query formulation methodology

SSKE – Information map

Keywords
Documents
- Articles
- Books
- Journals
- Reports & Thesis

Projects
- Research
- Studies
- Education
- Commercial

Patents & Standards

Events
- Workshops
- Conferences
- Virtual Exhibitions

Company Solutions
- Solutions
- Technologies
- Products
- POC & Demos
- Training Centers & Programs

Institutions
- Academic
- Business
- Government
- Professional Organizations

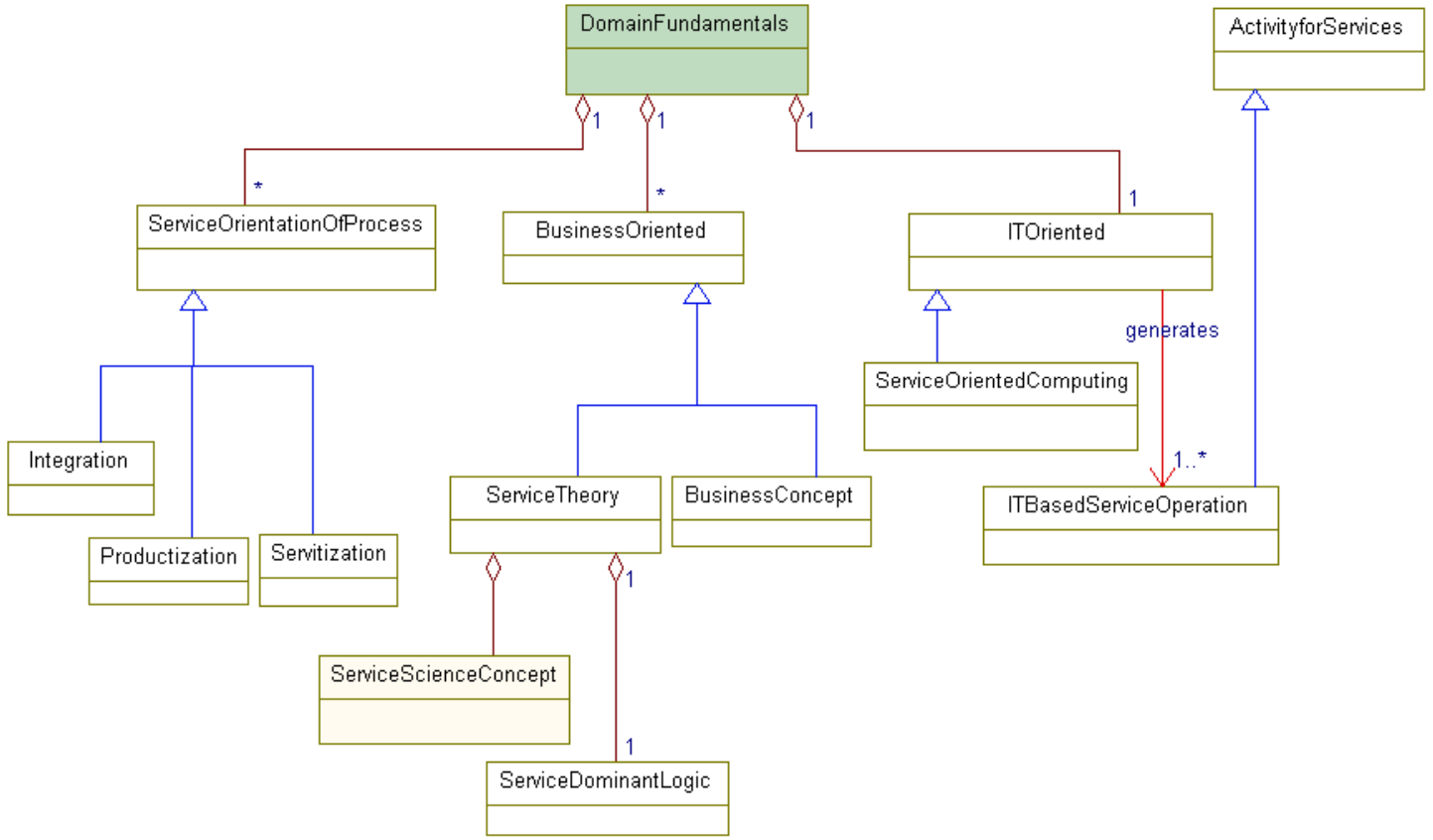
Persons

Keywords

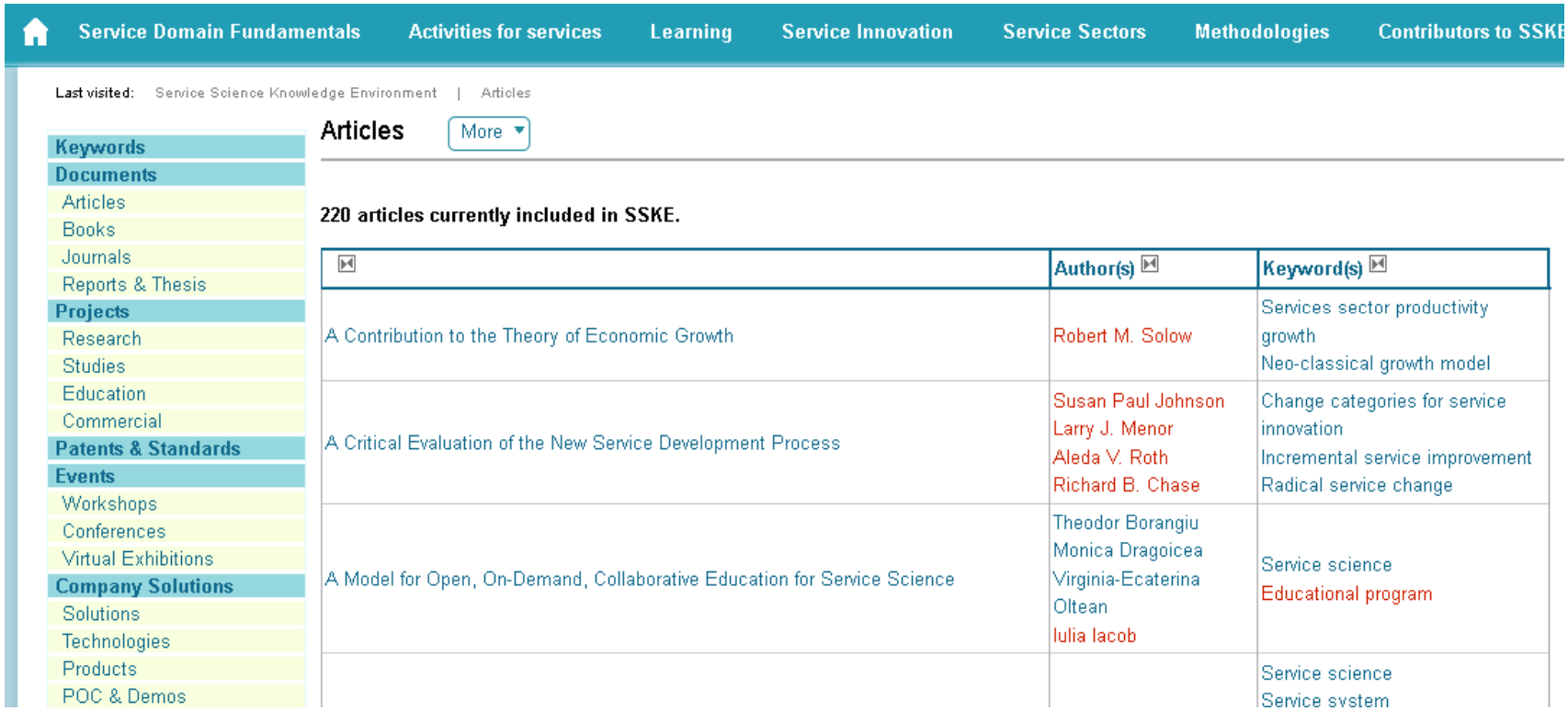
More

- Domain fundamentals
  - Business oriented
    - Business concepts
      - Business
      - Business model
      - Service business models
      - Service classification
    - Service theory
      - Service-Dominant logic
        - Value proposition
      - Service science concepts
        - Service science
        - Service envelope
          - Economic system
          - Socio-cultural system
          - Technological system
          - Political-legal system
          - Natural-ecological system
        - Service system ecology
        - Service system
          - Service
          - Service outcome
          - Service measure
            - Quality
            - Productivity
            - Compliance
            - Sustainable innovation
    - Service resource
      - People
      - Technology
      - Shared information
      - Access right
        - Owned outright
        - Leased/Contracted
        - Shared access
        - Privileged access
    - Service entity
      - Stakeholder
        - Customer
        - Provider
        - Authority
        - Competitor
        - Partner
    - Service interaction
      - Value co-creation interaction
      - Governance interaction
      - Network
    - Organizational envelope
    - Organizational ecology
    - Organizational system of systems
    - Organizational system
    - Envelope
    - Ecology
    - System of systems
    - General system
      - Viable system
        - Viable system core attribute
          - Multidisciplinary interpretative approach
          - Open systems
          - System boundaries
          - Autopoiesis and common finality
          - Homeostatsis and self-regulation
          - Structures, systems and equifinality
          - Consonance and resonance
          - System viability
          - Adaptation and relationship development
          - Complexity and decision making
        - Viable system model
        - Template of VSM structure
  - IT oriented
    - IT based service operations
    - Service oriented computing
    - Service oriented architecture
      - Service choreography
      - Service orchestration
      - Semantics
        - Workflow technology
      - Reusability
        - Composability
        - Discoverability
      - Information
        - Event driven architecture
    - Web services
    - Information system
  - Service orientation of processes
    - Integration

SSKE – Domain fundamentals



Knowledge resources (1)



Knowledge resources (2)

- **Keywords**
- **Documents**
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  - Professional Organizations

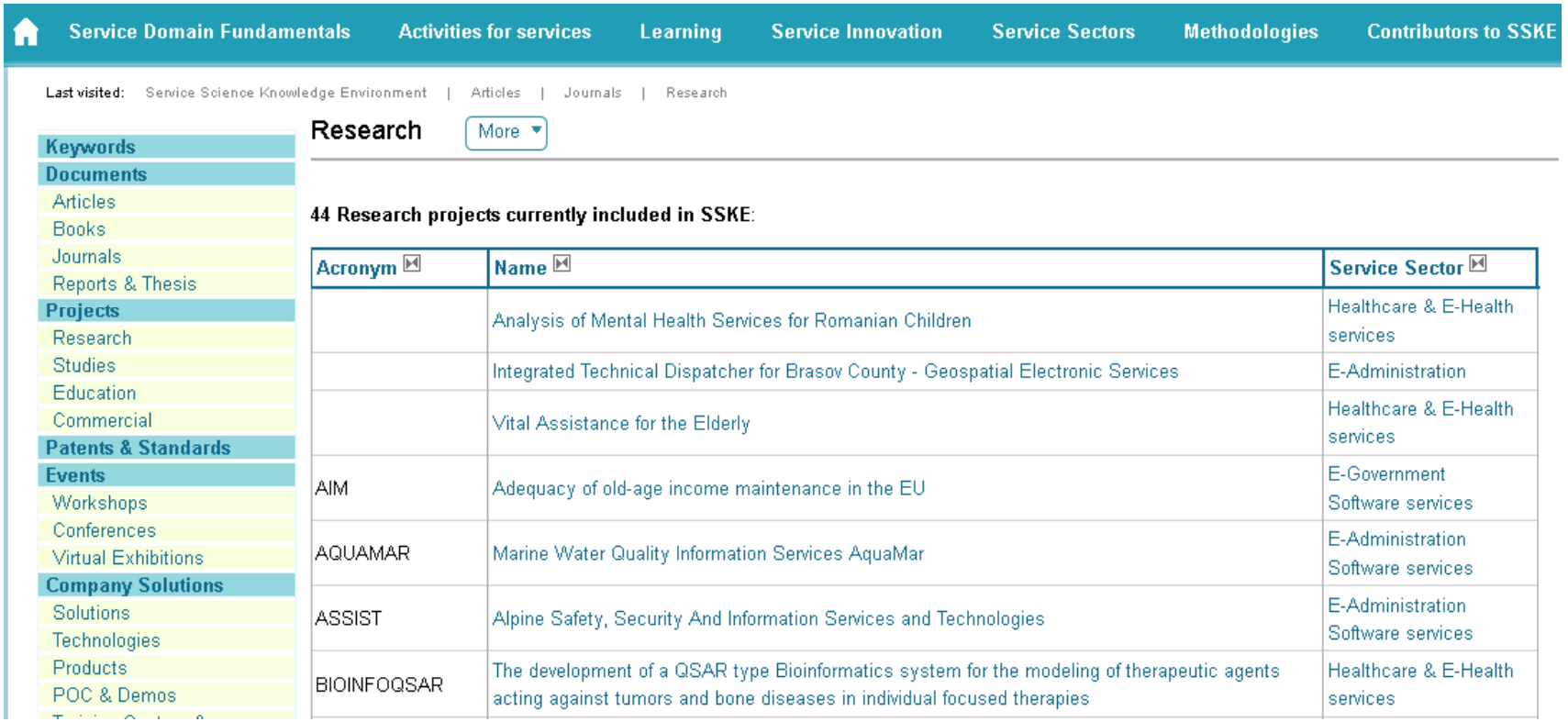
Journals

More

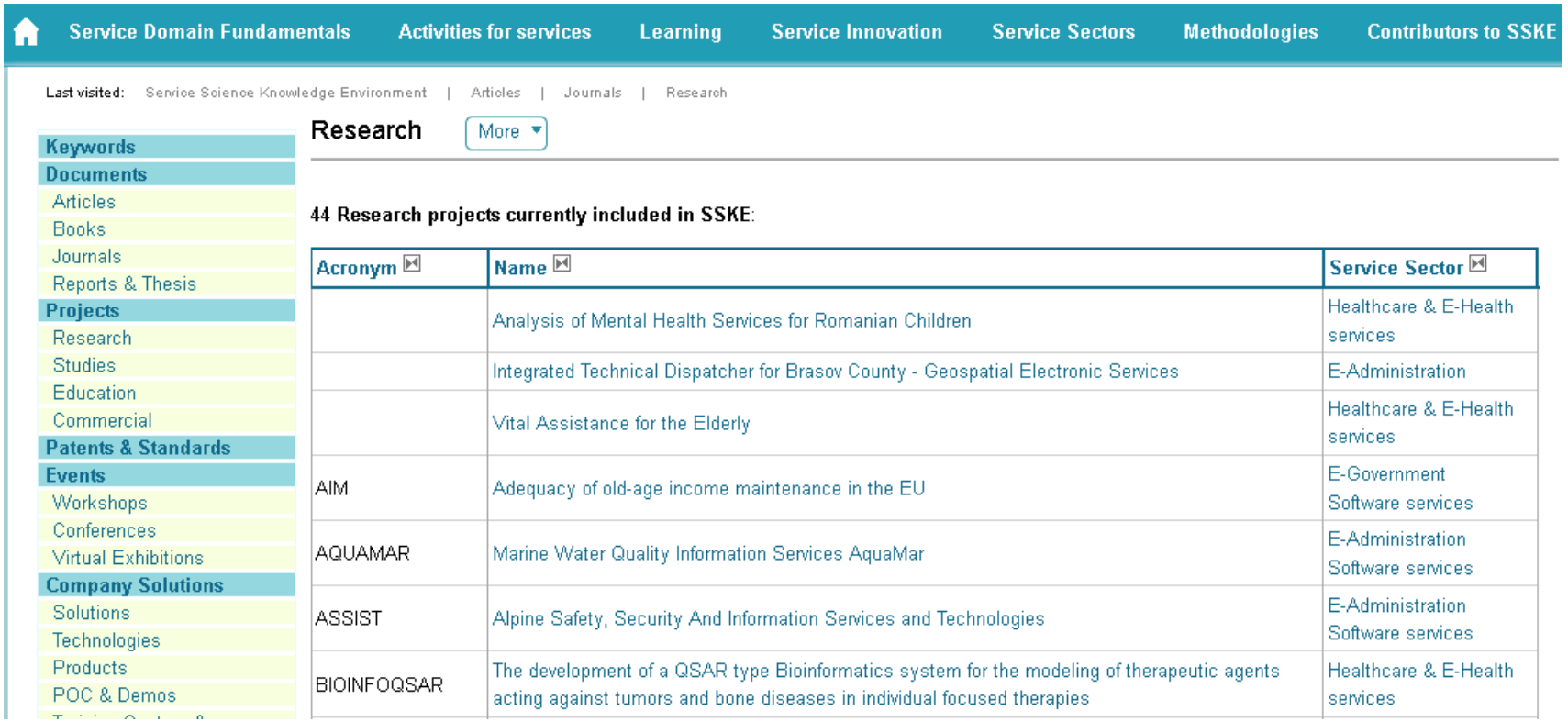
20 journals currently included in SSKE.

	Editor(s)	Keyword(s)
Computer	Ron Vetter	
International Journal of E-Services and Mobile Applications (IJESMA)	Ada Scupola	
International Journal of Information Systems in the Service Sector (IJISSS)	John Wang	
International Journal of Quality and Service Sciences (IJQSS)	Su Mi Dahlgaard-Park	
International Journal of Service Science, Management, Engineering, and Technology (IJSSMET)	Miguel-Angel Sicilia	
International Journal of Services Sciences (IJSSci)	Desheng (Dash) Wu	
International Journal of u- and e- Service, Science and Technology (IJUNESST)	Byeong-ho Kang Jianhua Ma	
Journal of Service Research (JSR)	Mary Jo Bitner	Customer satisfaction and service quality E-Service Economics of service Global issues in service Service human resources Service information systems Service marketing Service operations

Knowledge resources (3)



Knowledge resources (4)



Knowledge resources (5)

- **Keywords**
- **Documents**
  - Articles
  - Books
  - Journals
  - Reports & Thesis
- **Projects**
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Professional Organizations

More

List of professional organizations involved in service science:

22 professional organizations currently included in SSKE.

Organization	Acronym	Parent Organization
CEN Technical Committee 251	CEN/TC 251	
Cloud Computing Special Technical Community	CS CC STC	IEEE Computer Society
Cloud Standards Customer Council	CSCC	Object Management Group
Cluster Observatory		Center for Strategy and Competitiveness
Distributed Management Task Force	DMTF	
Healthcare Services Specification Project	HSSP	
International Society of Service Innovation Professionals	ISSIP (pronounced i-Zip)	
Networked European Software and Services Initiative	NESSI	
OASIS Cloud Application Management for Platforms CAMP TC	OASIS CAMP TC	Organization for the Advancement of Structured Information Standards
OASIS Cloud Authorization CloudAuthZ TC	OASIS CloudAuthZ TC	Organization for the Advancement of Structured Information Standards
OASIS Identity in the Cloud TC	OASIS IDCloud TC	Organization for the Advancement of Structured Information Standards

Knowledge resources (6)

- **Keywords**
- **Documents**
  - Articles
  - Books
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- **Projects**
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SEM Master Program

More

Program name: Service Engineering and Management

Acronym: SEM

Language: English

Double Degree Agreement: with MESG Master Program at Faculty of Engineering of the University of Porto (FEUP)

Program director: Theodor Borangiu

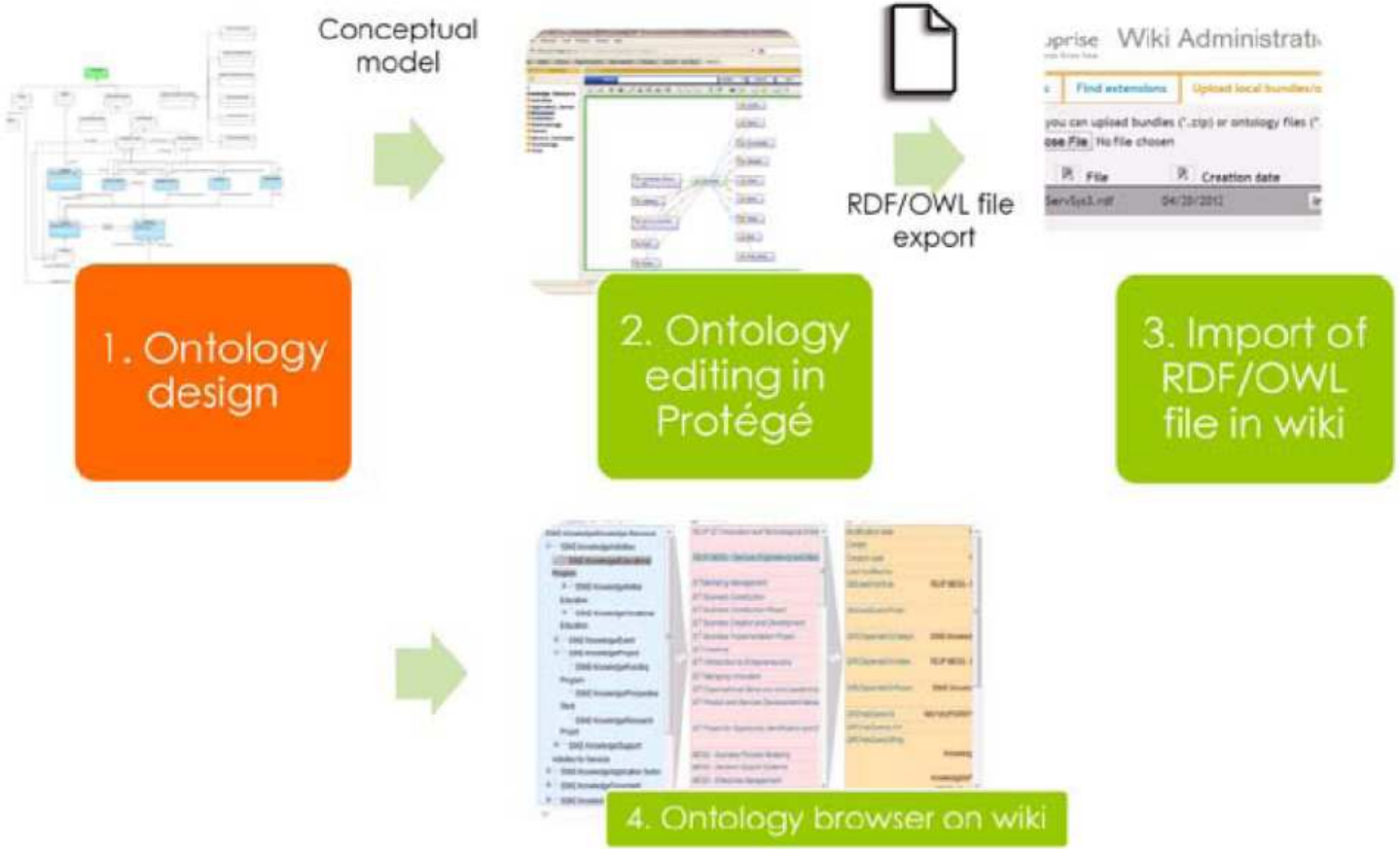
Institution: University Politehnica of Bucharest, Faculty of Automatic Control and Computers

Program link: http://sem.cimr.pub.ro/index.html

Program objectives: The new Master program "Service Engineering and Management" responds to the present worldwide demand of service innovation. The scale and complexity of globally dispersed service systems is growing rapidly and the importance of using resources efficiently, effectively and in a sustainable manner is rising, as service activities become an ever greater part of value creation in modern economies. Proportionally, we are paying more for experience, advice, information, assurances, use of infrastructures and leasing, and less on growing, building and owning physical goods.

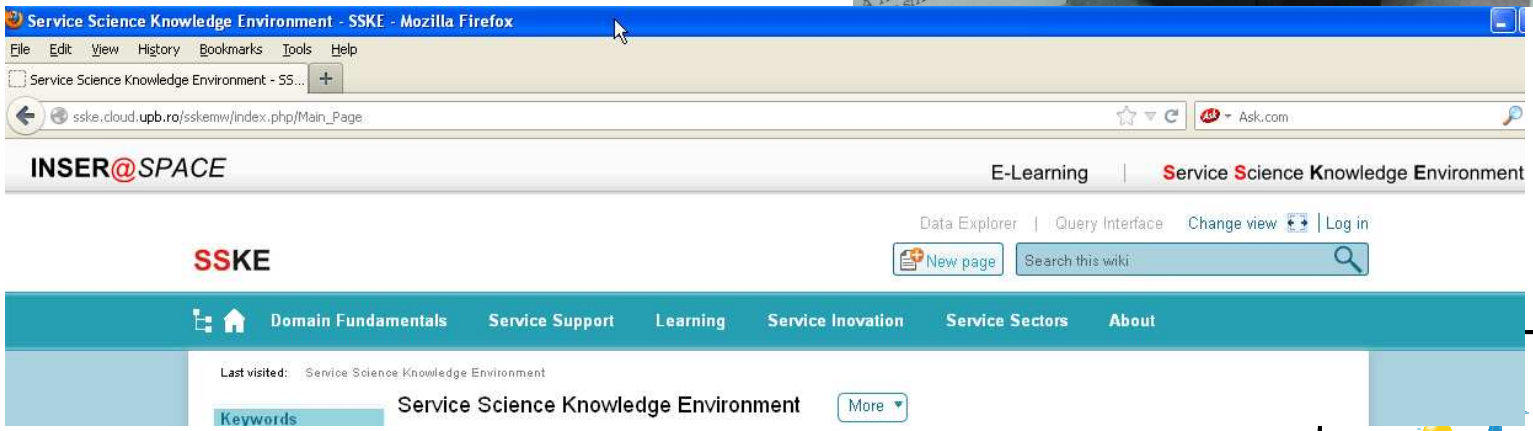
In such a rapidly changing and increasingly complex world, service innovation requires new skills and deep knowledge that underpins the skill set. People are needed who can understand and marshal diverse global resources to create value. Frequently these resources are accessed using advanced information and communication technologies (ICT) and new globe-spanning business models. The people with new skills for service innovation are sometimes known as adaptive innovators for the continuous stream of improvement they identify and realize. Service innovation can improve customer-provider interactions and the experience of finding, obtaining, installing, maintaining, upgrading and disposing of products. Service innovation can
enhance the capability of organizations to create value with key stakeholders. Service innovation can improve the quality of life of the individuals and

SSKE – Design (step 1)



SSKE – Deployment (step 2)

- The SS–KE is the knowledge resource sharing component of the INSER@SPACE, using cloud computing technology



Final remarks

- could the community use further the SSKE for ***managing service related knowledge***?
- is the Service Science community interested to foster ***knowledge-oriented collaboration*** on this common research and education topic?
  - is it possible to support the development of a common *reference ontology* for a group of organisations sharing the same business domain, i.e. Service Science?
    - interoperability of existing ontologies on Service Science: *merging* / *inclusion* / *mapping* ?
  - templates for contributors to the SSKE - http://sske.cloud.upb.ro/sskemw/index.php/Contributors_to_the_SSKE
- your feedback would be highly appreciated:

monica.dragoicea@acse.pub.ro theodor.borangiu@cimr.pub.ro

Thank you!