Education Intelligence
Networking makes the knowledge society strong!

Final report 2006

Confederation of Finnish Industries

Objectives:

- Anticipating competence and educational needs of industrial and construction companies in 2015
- Networking of advisers representing various foresight parties
- Learning the interactive process related to the utilization of foresight methods and creation of anticipatory content

Industry and construction clusters:

- Well-being
- ICT
- Chemistry and biosciences
- Forest products
- Construction, infrastructure and real estate
- SKIP (Service and Knowledge Intensive Products)

Two projects:

Pilot project 2001 – 2003

A vision of Finland as competence-intensive, dynamic and globally active welfare society in 2012

Follow-up project 2003 – 2006

What kind of competences and education are needed to be competitive in the global market?

Working methods

Education Intelligence network

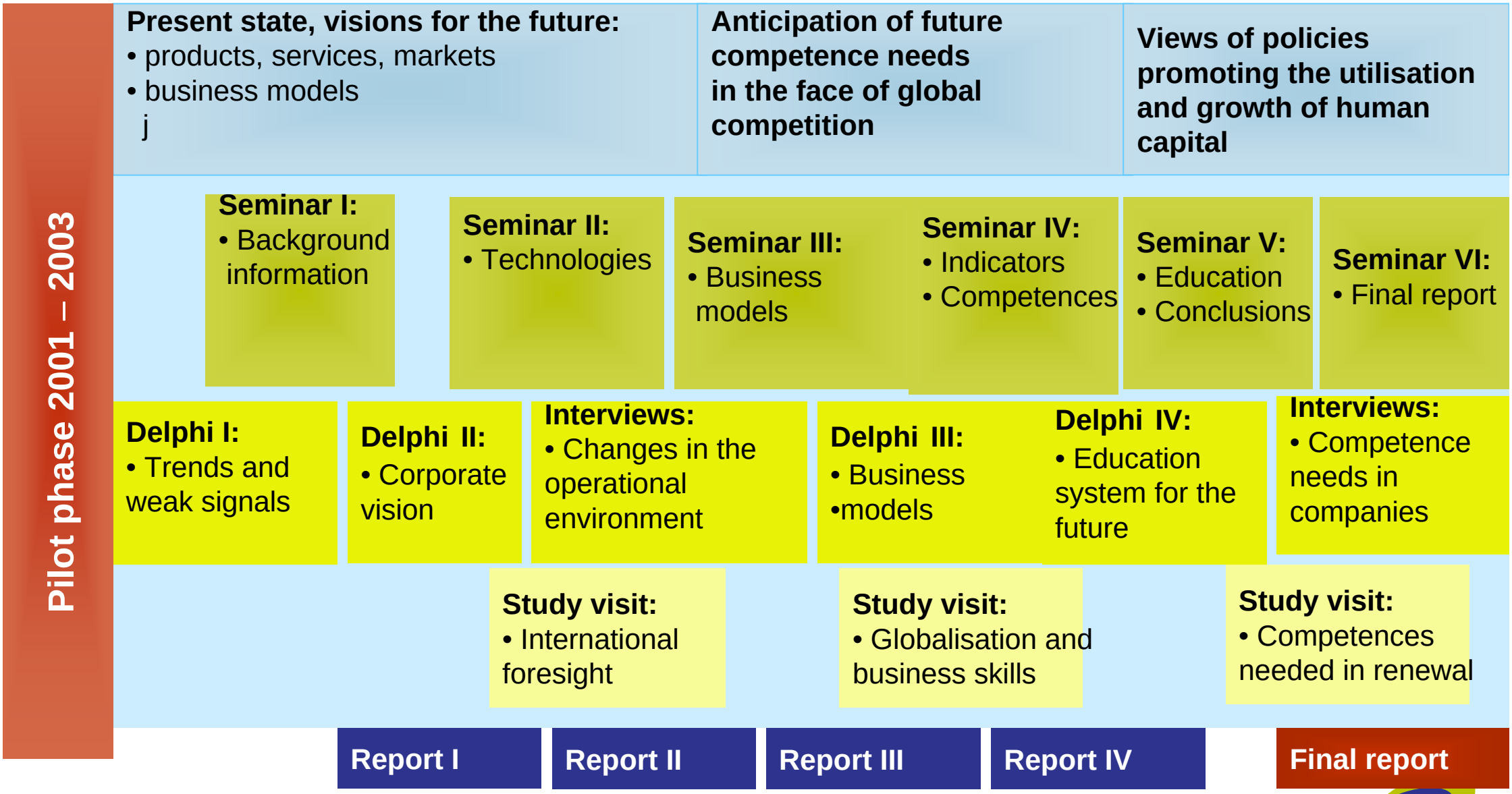
Seminars
Workshops
Study visits

Delphi surveys
Interviews
Web pages
Virtual work space

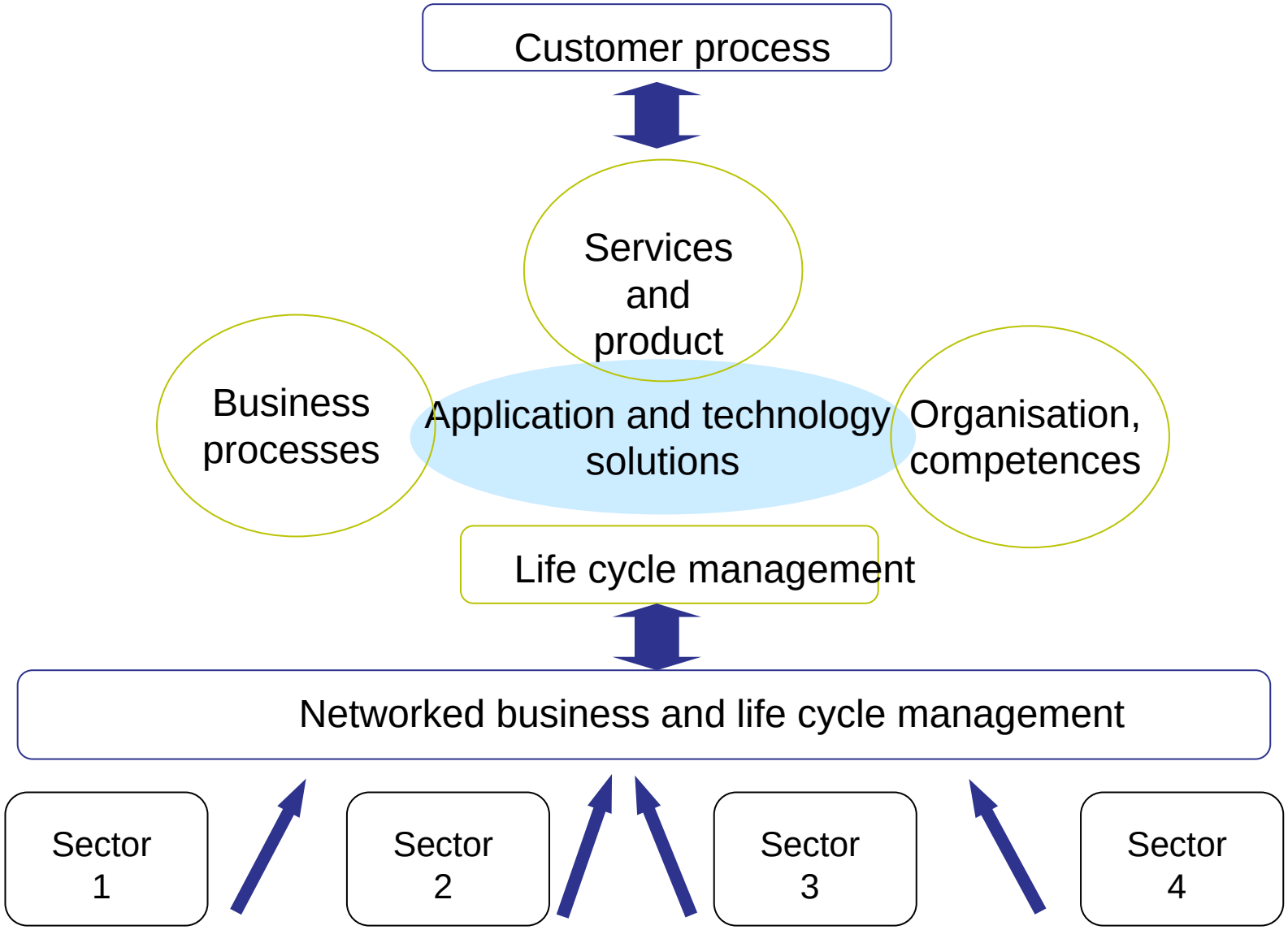
Corporate network

Delphi surveys
Interviews

Education Intelligence process

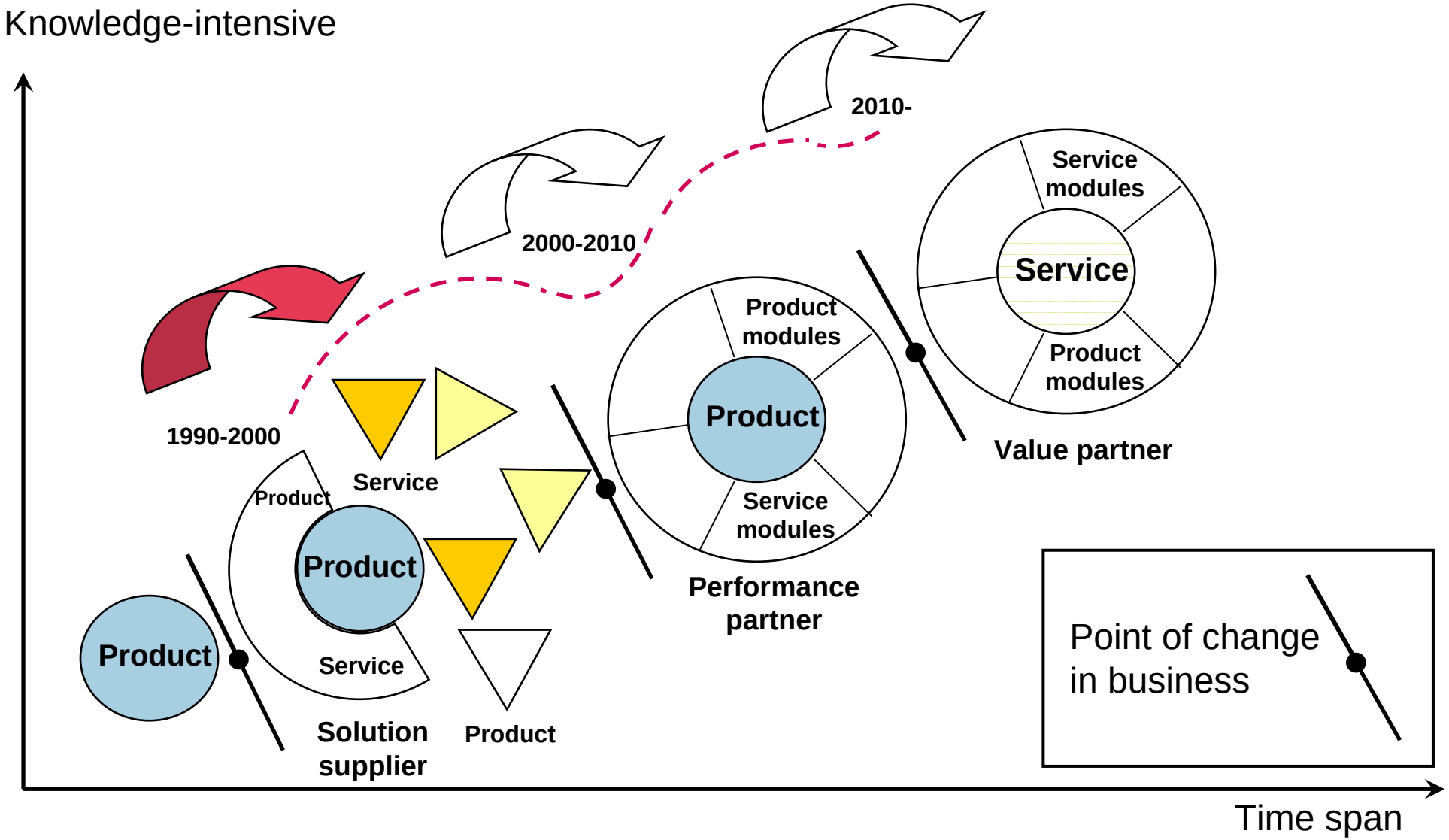


Service and knowledge-intensive products

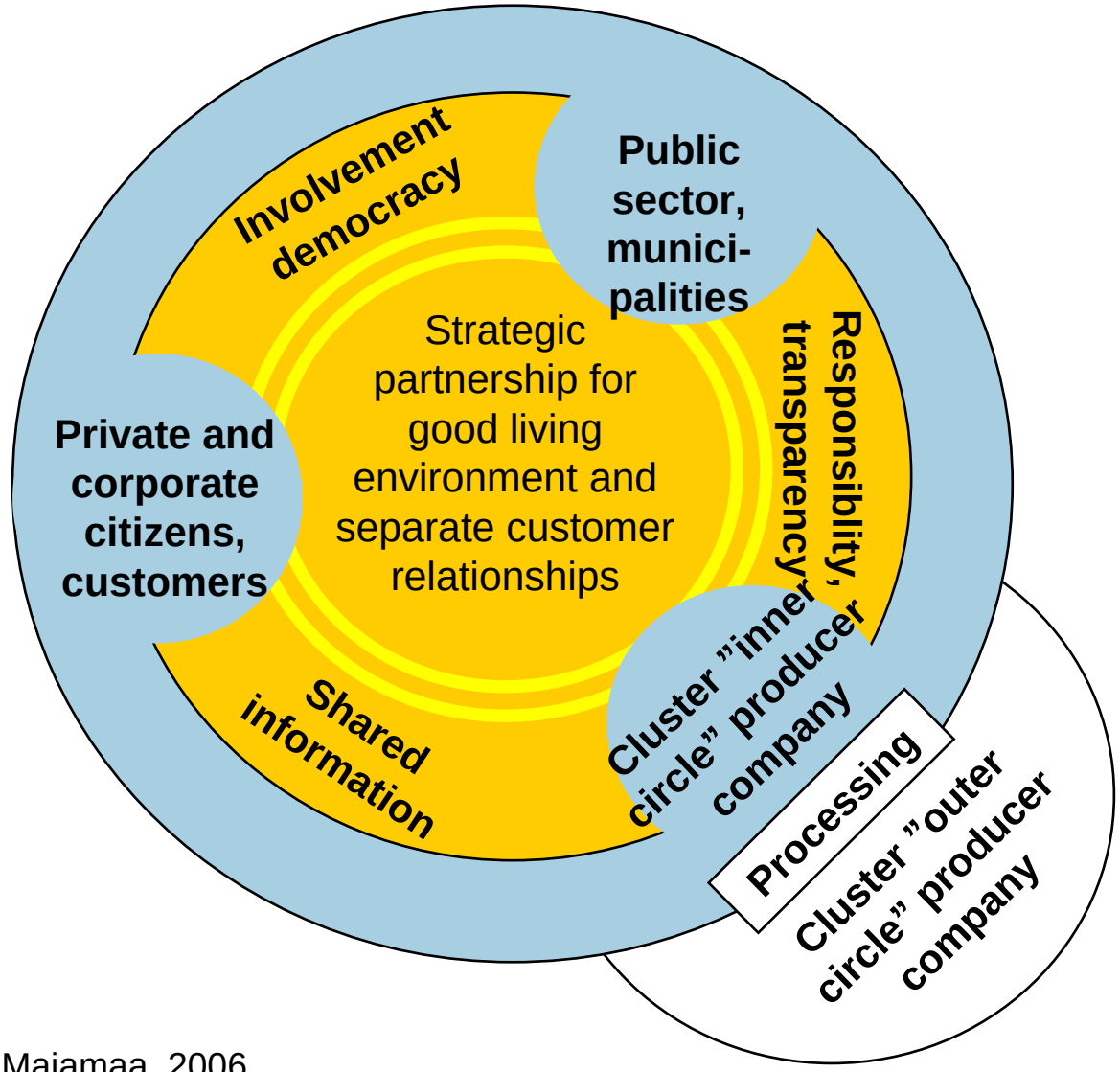


Source: Salminen, Pelkonen, Rautiainen, Kauhaniemi & Pillai 2004

From machine supplier to value supplier



Level of processing defined by customer involvement



Organisation and business model for the Finnish business life in 2015:

An innovative, competent and learning network that is capable for anticipating customer needs interactively. The network will offer ethical and competitive solutions and added value in a global operating environment through conventional and new processes.

Successful Finnish company in 2015:

An international trend-setter! Competent, confidence-inspiring, bold – the best responsible growth company in its line of business, or a strategic partner of such a company. A network-builder that attracts advisers with multiple skills and supports their development.

Employee in 2015:

A change driver who values him- or herself and others and is committed to his/her competence and its further enhancement and sharing.

Working life trends

A diverse labour market will emerge where a group of top companies, working amidst conventional organisations, will continually develop new, more competitive organisations and tasks. Both the job-seeker and the employer will be in a position to select the best possible option from local and global opportunities.

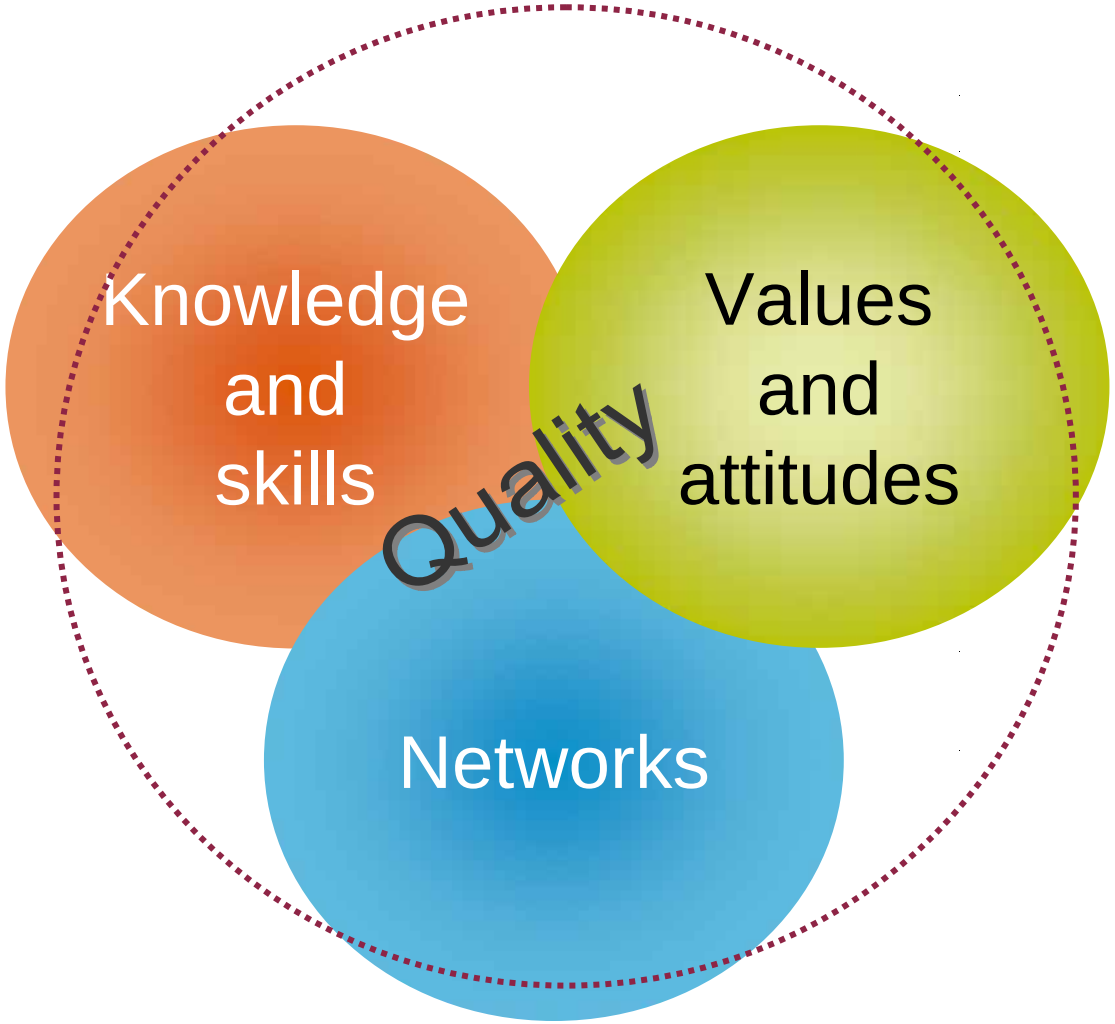
Occupational categories:

Implementers:
Responsible for assembly, installation, servicing, sales, etc.

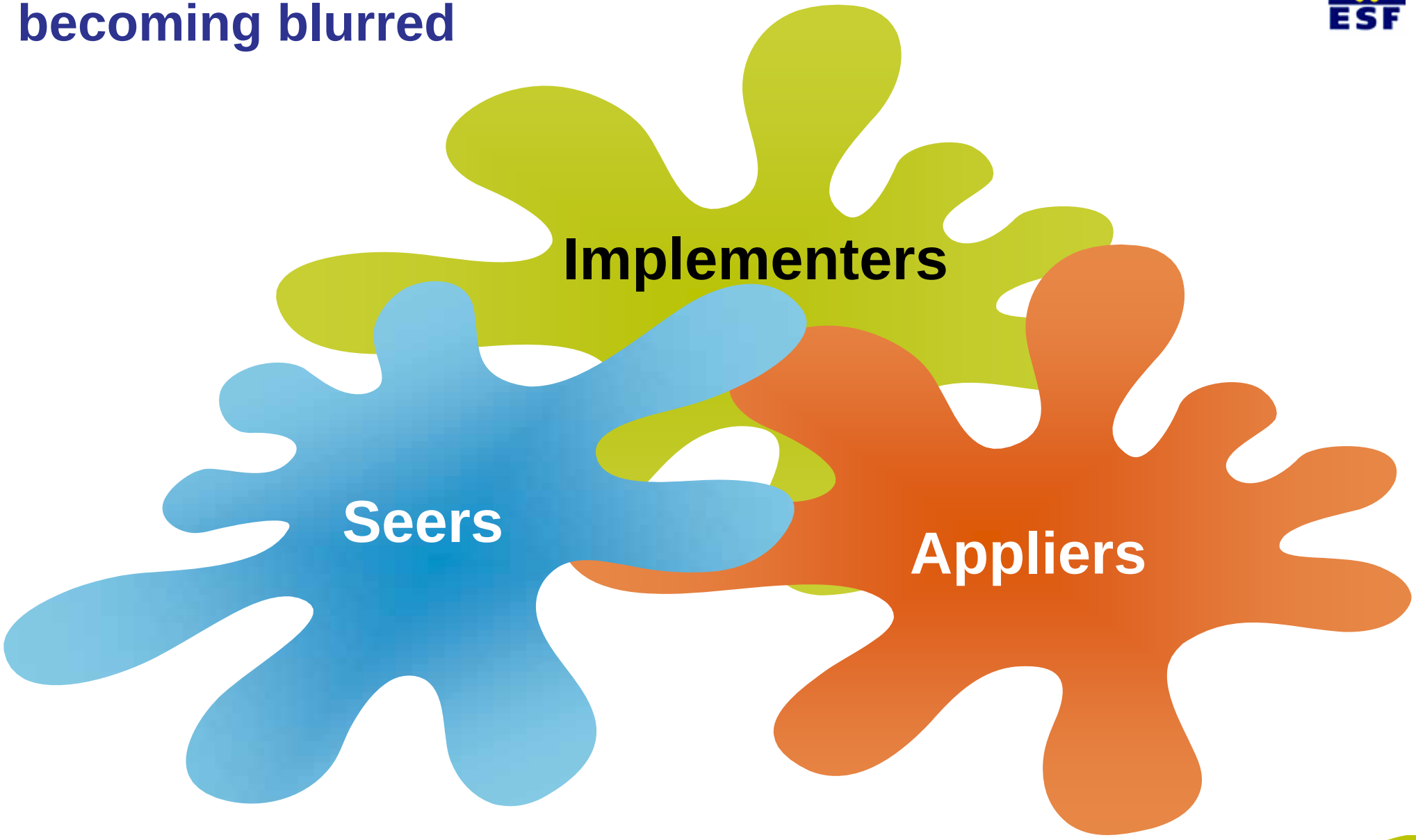
Appliers:
Responsible for product testing and customization, etc.

Seers:
Responsible for creation, development and renewal of technology, etc.

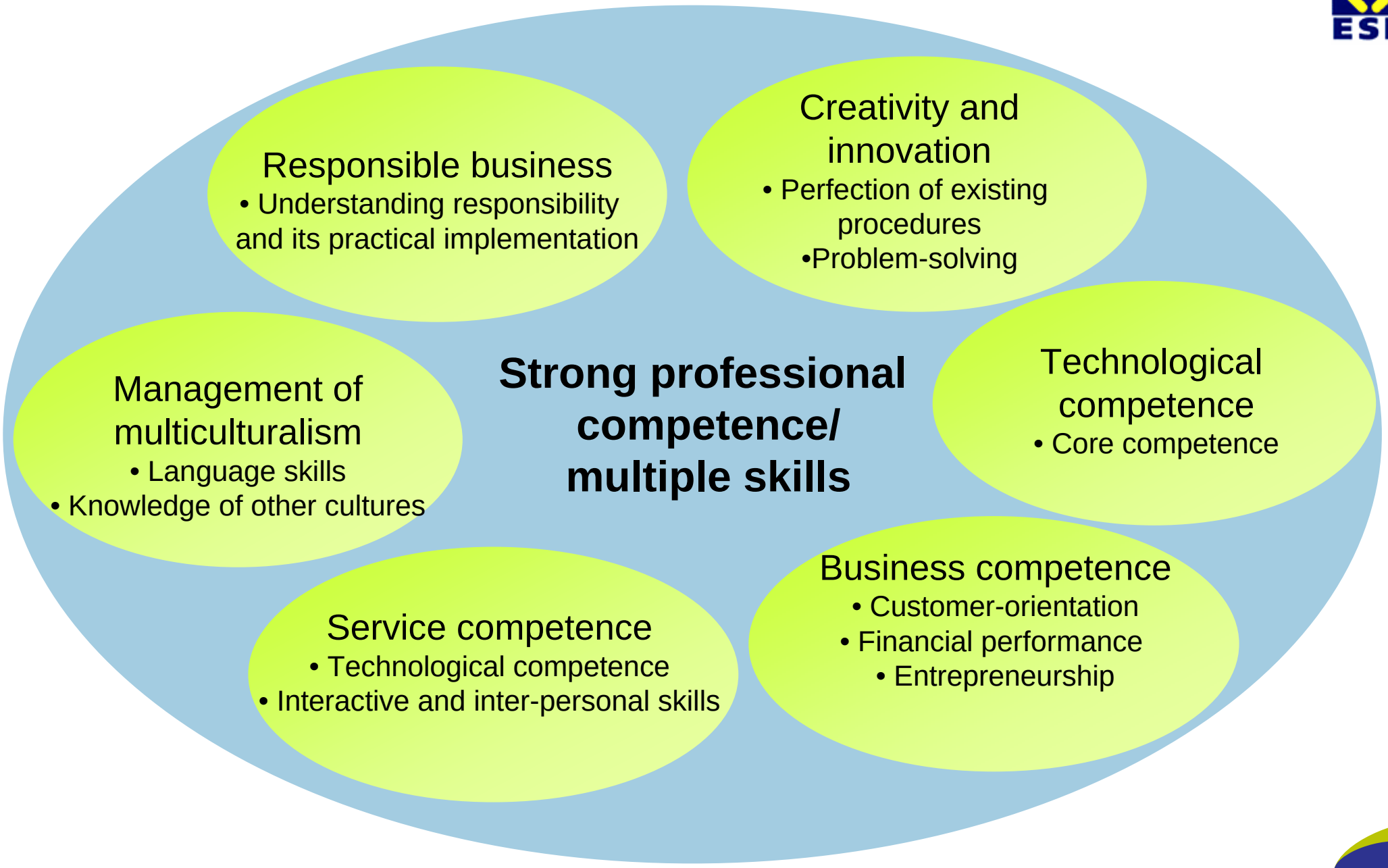
What does a company's competence consist of?



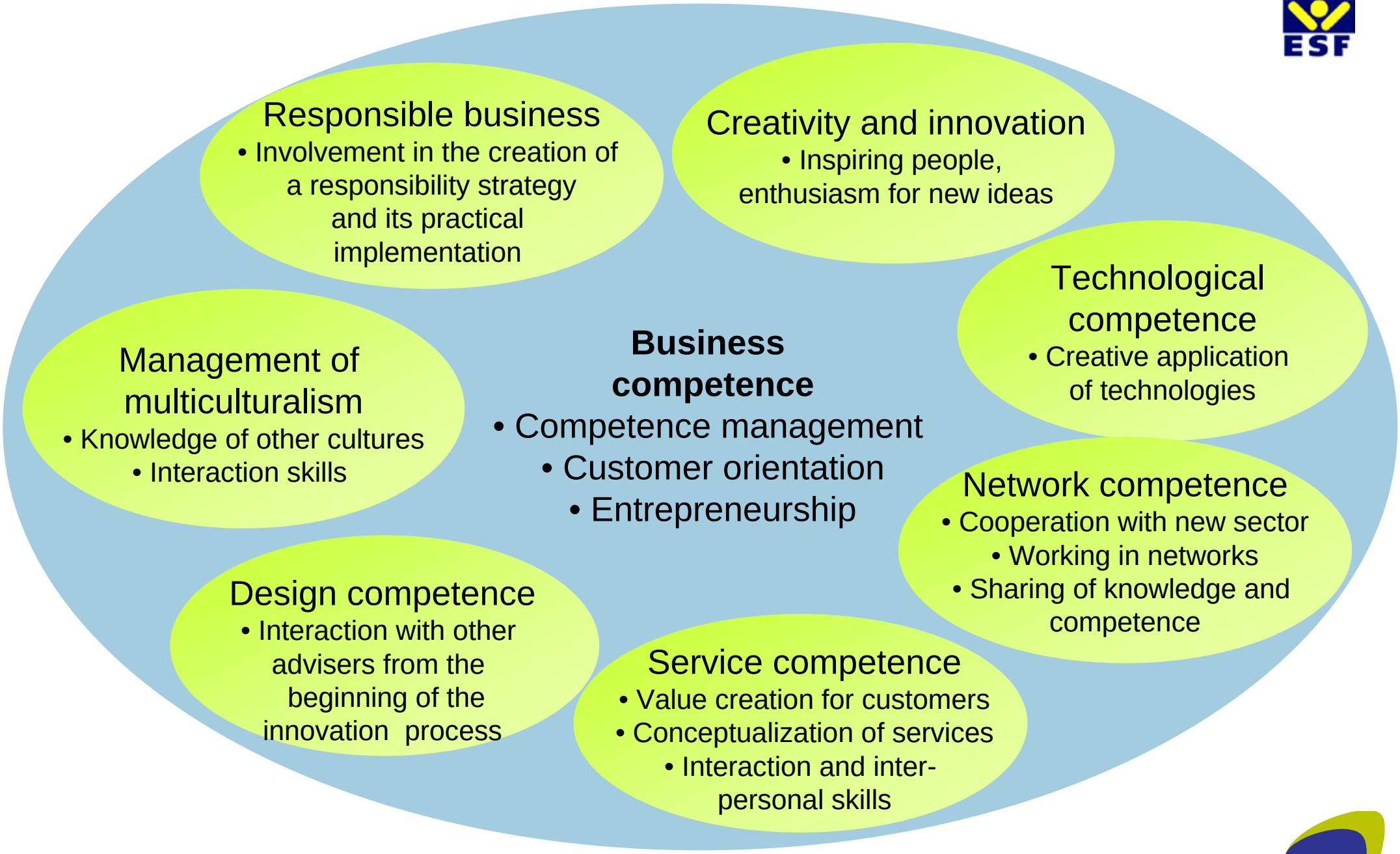
Boundaries between occupational categories becoming blurred



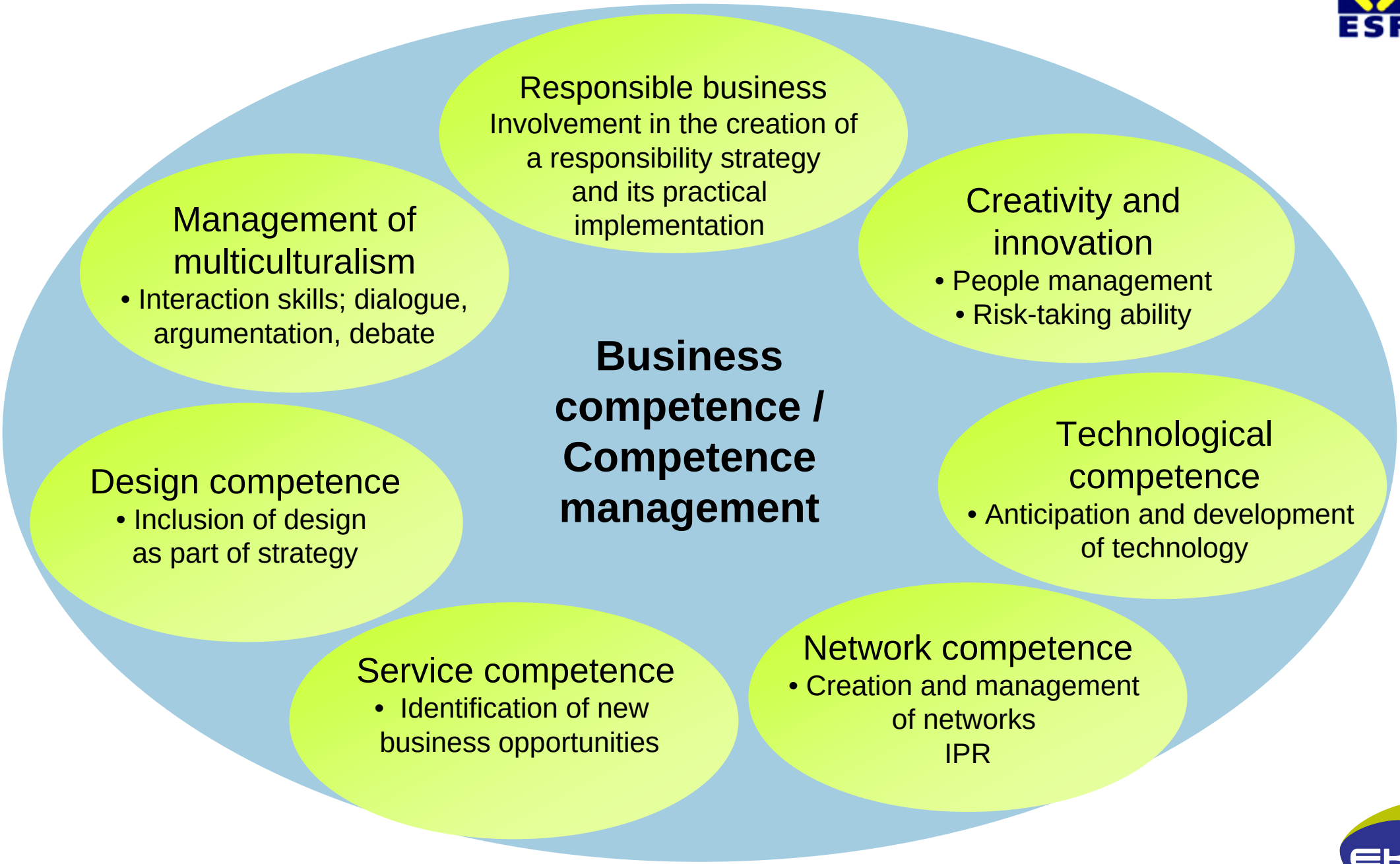
What is expected of implementers?



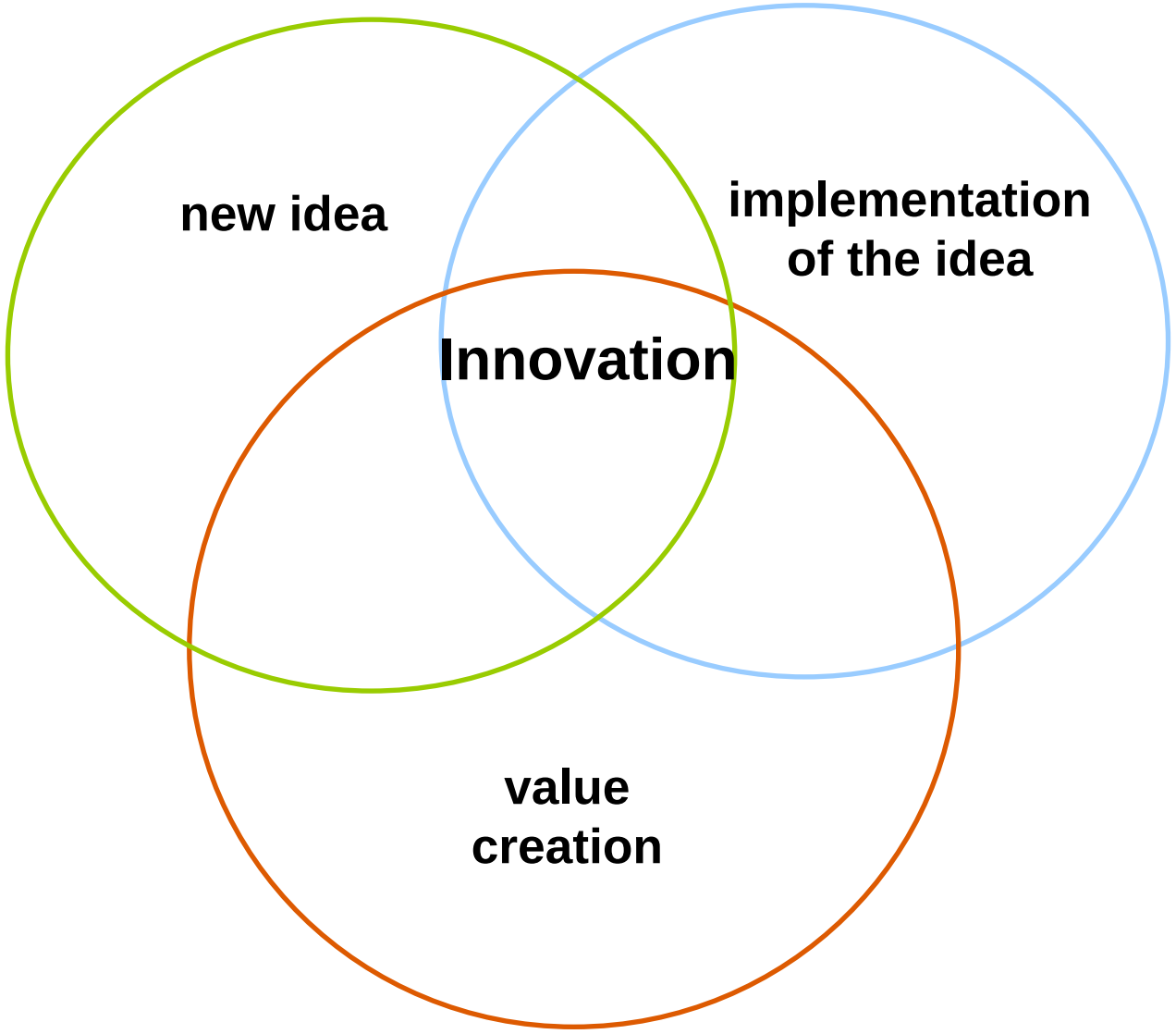
What is expected of appliers?



What is expected of seers?



Innovation process



Nature of innovation

Social innovations

Technology and product innovations

New types of networks / value chains

Customer interface and distribution channel innovations

Service innovations

Organisational innovations

Source: Kuusisto 2004, adaptation

Challenges in developing business competence 1/4

Management of innovation activity

- Interdisciplinary cooperation right from the start of the innovation process
- Inclusion of business vision and strategic foresight in innovation activity
- Faster product development and commercialisation cycles
- Broad understanding of innovation activity (not limited to production innovations)

Source: Tekes 2005, adaptation

Challenges in developing business competence 2/4

Customer orientation

- All-round evaluation of company offerings:
  - tangible products
  - services
  - brand
  - image
  - design
- In-depth understanding of the customer
- Management of long-term customer relationships
- Customer-responsive product and service development
- Service customization competence
- Familiarity with the target market
- Anticipation of changing procedures and behaviour patterns
- Service competence

Source: Tekes 2005, adaptation

Challenges in developing business competence 3/4

Management: strategic management, network management, partnership management

- Rapidity of decision-making
- Management of core competence
- Creation of new business models
- Strategic positioning in the value network
- Creation and management of global networks
- Administration and management of networks in a multicultural environment

Source: Tekes 2005, adaptation

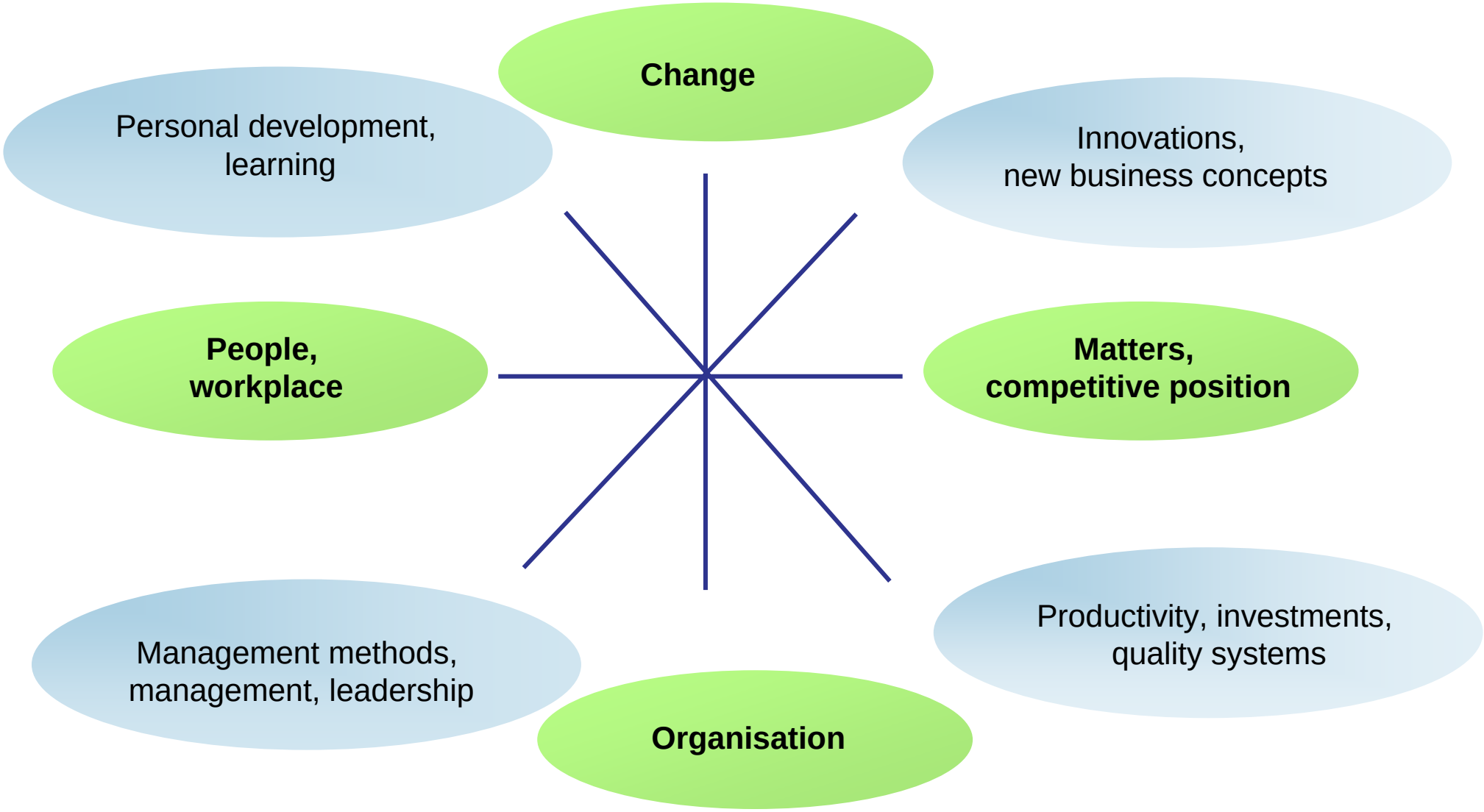
Challenges in developing business competence4/4

Management and development competence

- Competence management
- Competence related to the organisation and the culture of the its network partners
- Promotion of creativity

Source: Tekes 2005, adaptation

Dimensions of business competences

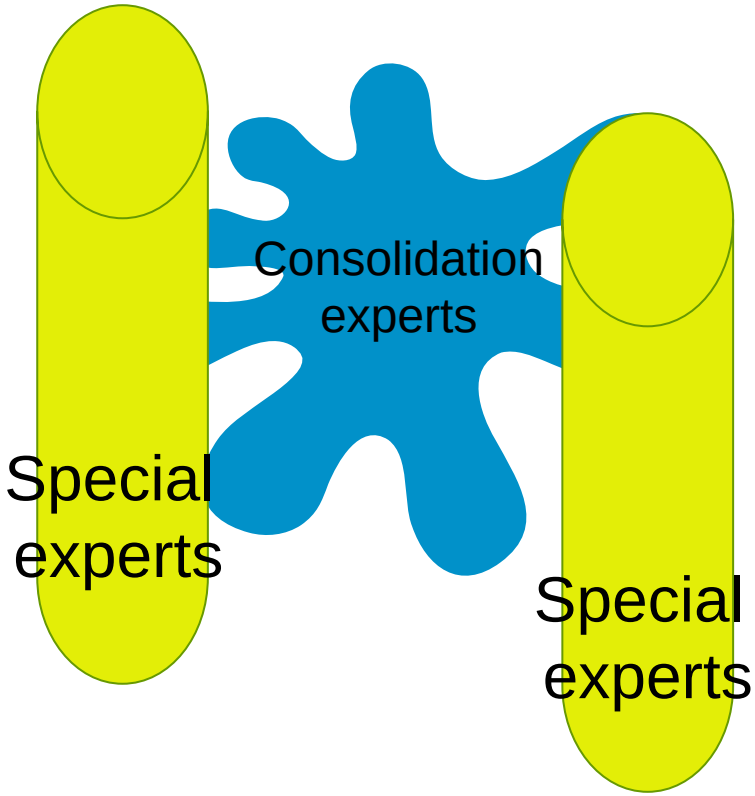


Source: Kettunen et al. 2003

Skills required in networks

”Hard”

- Network management
- Management of immaterial rights

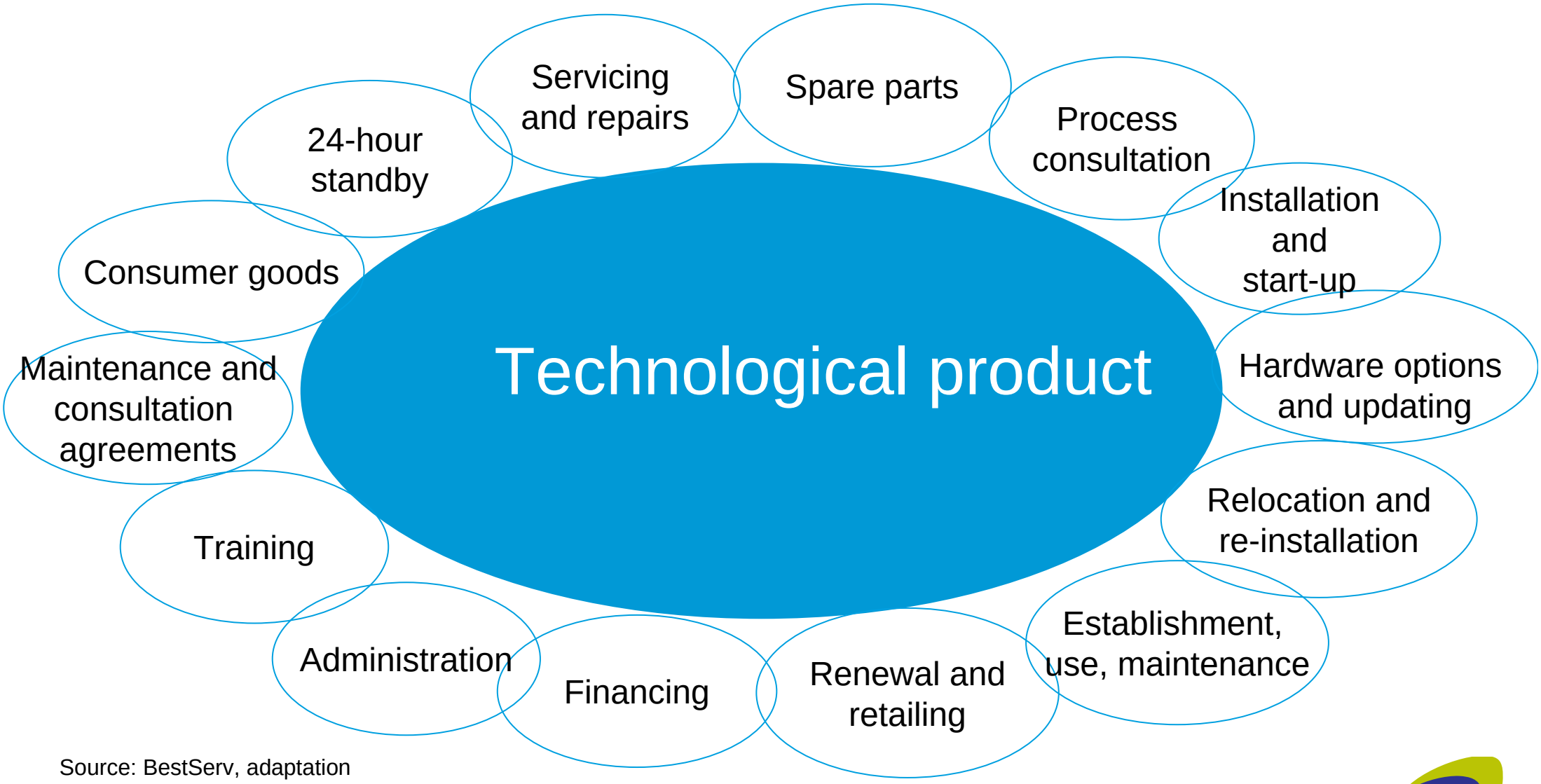


”Soft”

- Interaction and interpersonal skills
- Trust
- Commitment to shared objectives

Productivity of co-operation

Services to be created are around a technologic product



Source: BestServ, adaptation

Building engineering solutions and services

Technical maintenance

Heating and plumbing

Preventive maintenance

Building system maintenance

Conditions guarantee

Building system upgrades

Technical services

Security solutions and services

Repairs and replacement

Refrigeration engineering

Fire-fighting technology

Property administration

Electrical engineering

Office space management

Telecom and AV systems

Construction management

Ventilation

Property management

Building automation

Property investment management

24*HelpDesk and control room

Electricity usage services

Energy services

Building systems

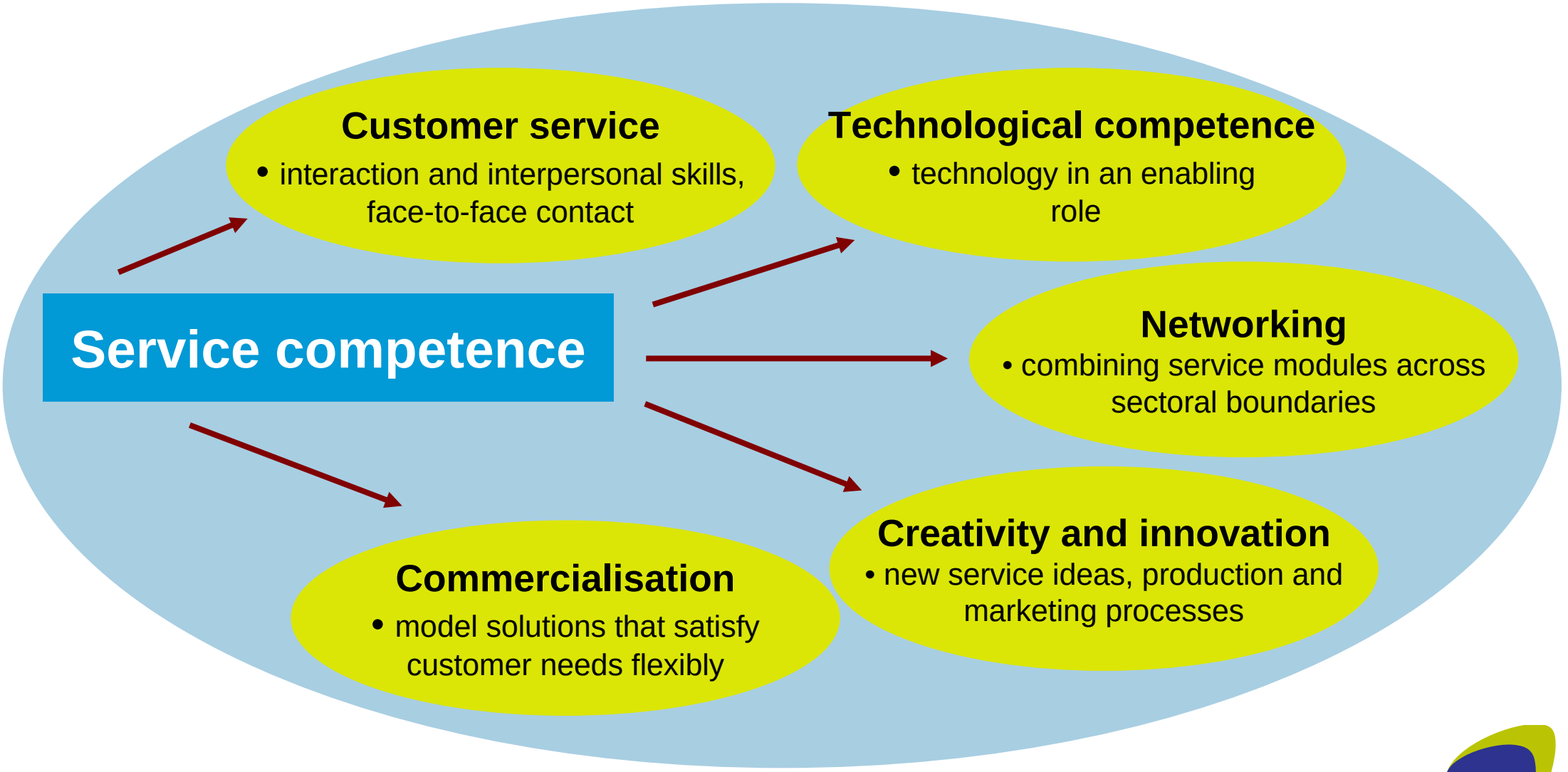
Property management

Property and building engineering services

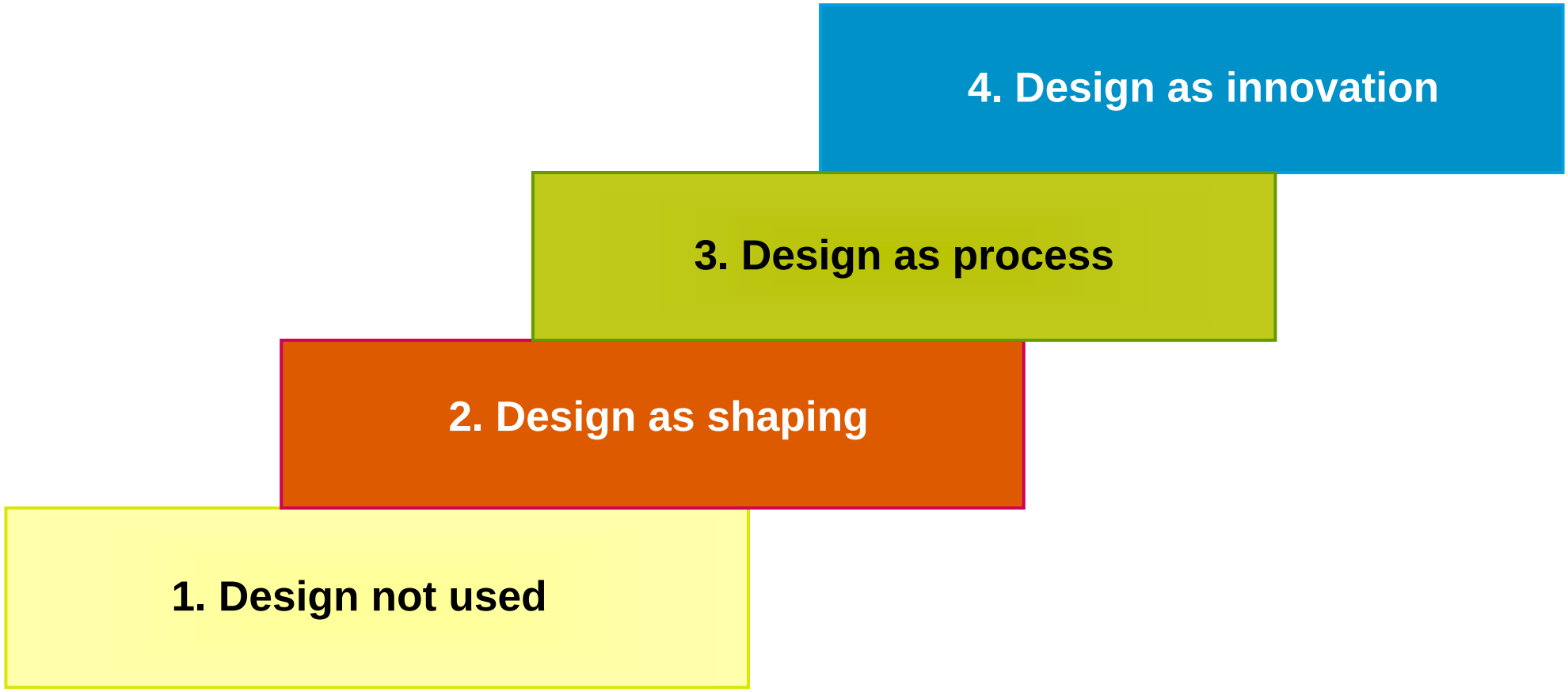
Source: YIT Oyj

Elements of service competence in the education intelligence clusters

- Customer-oriented business competence required right from process start



Design steps



Source: Lindström, Nyberg & Ylä-Anttila, 2006

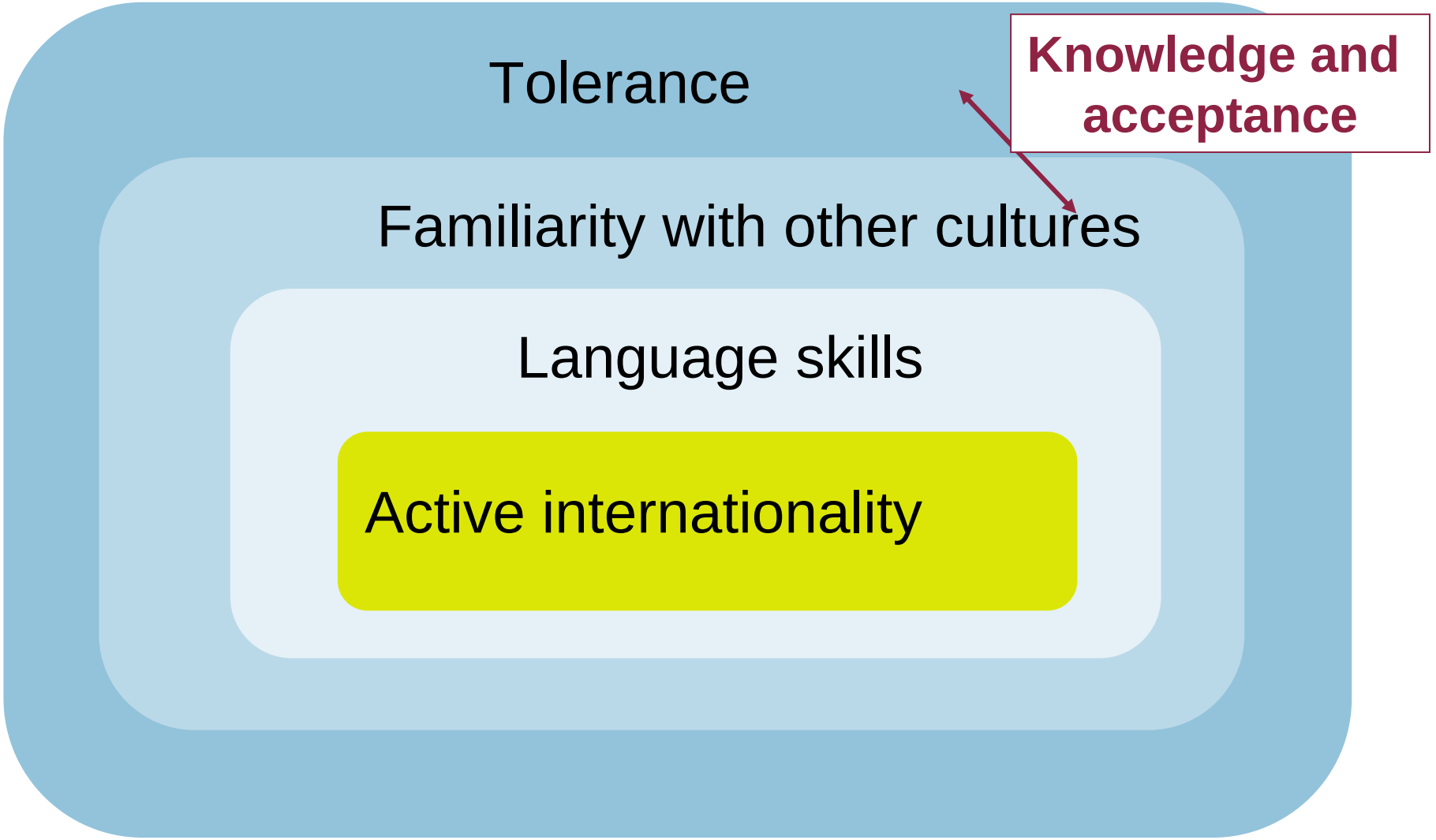
Challenges in developing interaction skills

Dialogue:
two-way interaction

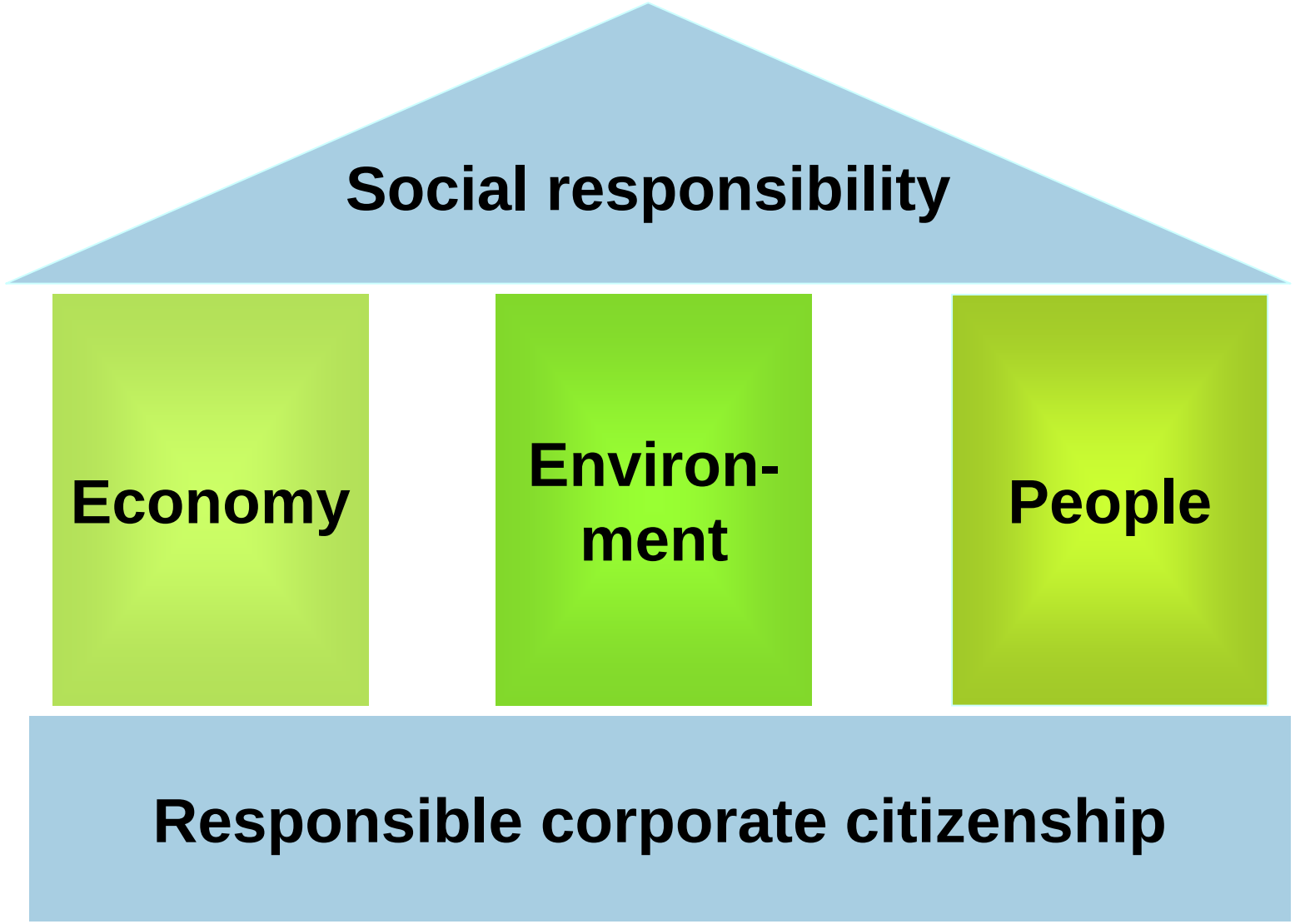
Debating skills:
taking ideas further

Logical argumentation:
identifying suitable concepts and frame of reference for each forum

Multicultural skills

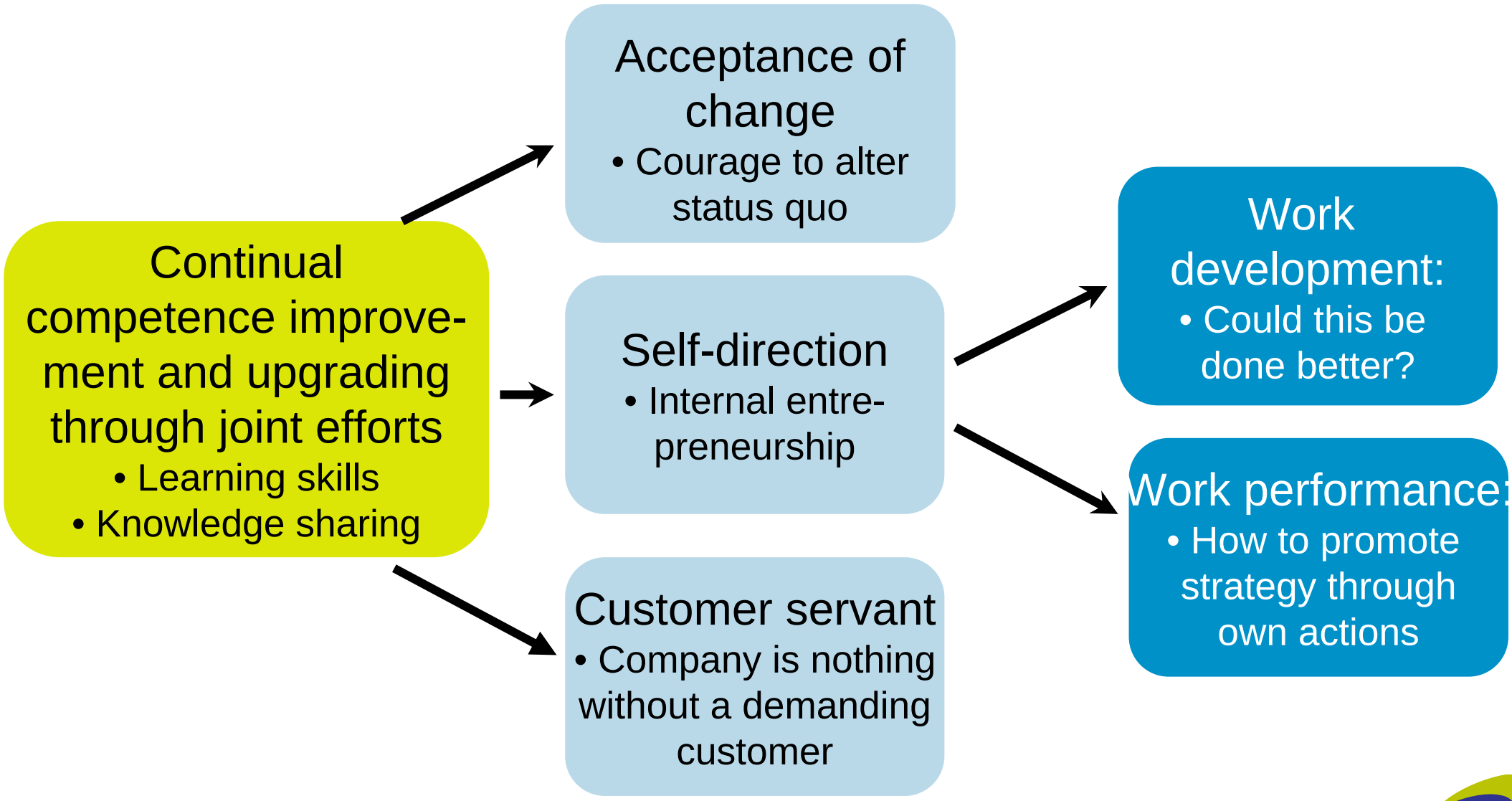


Three pillars of responsible business

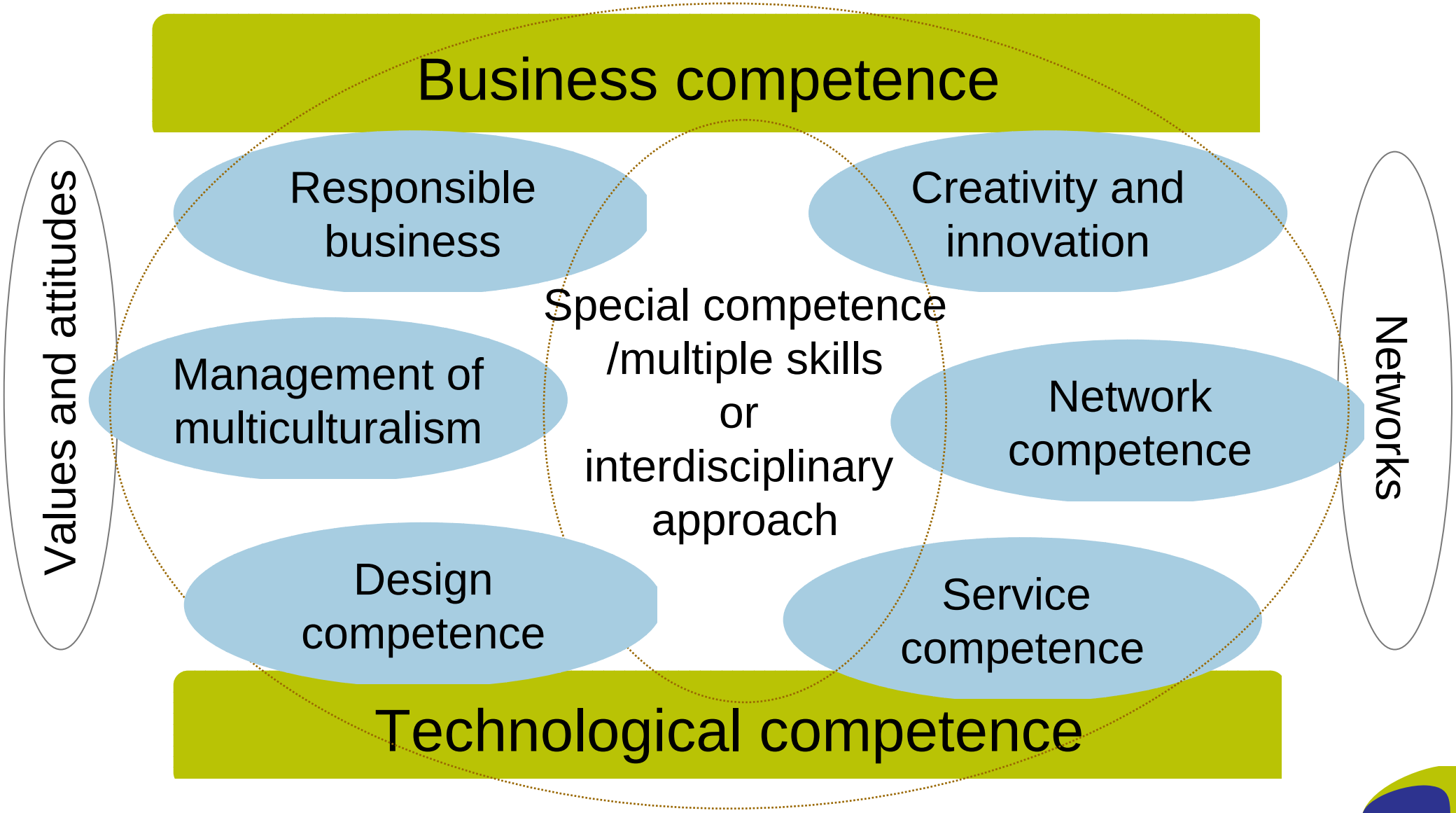


Source: Confederation of Finnish Industries 2001

Attitudes towards work



Competences contributing to corporate competitiveness



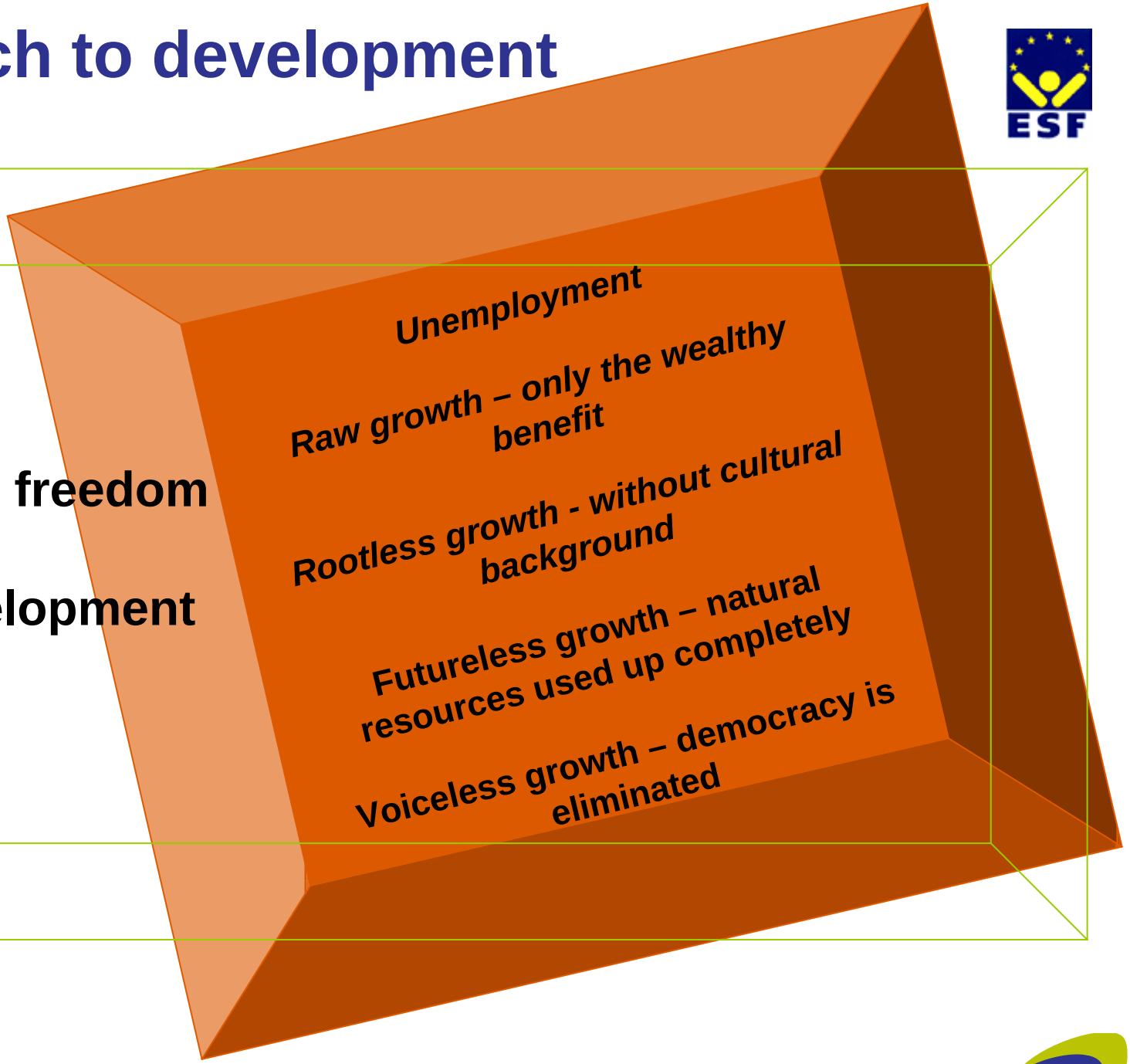
Human approach to development

Social equity

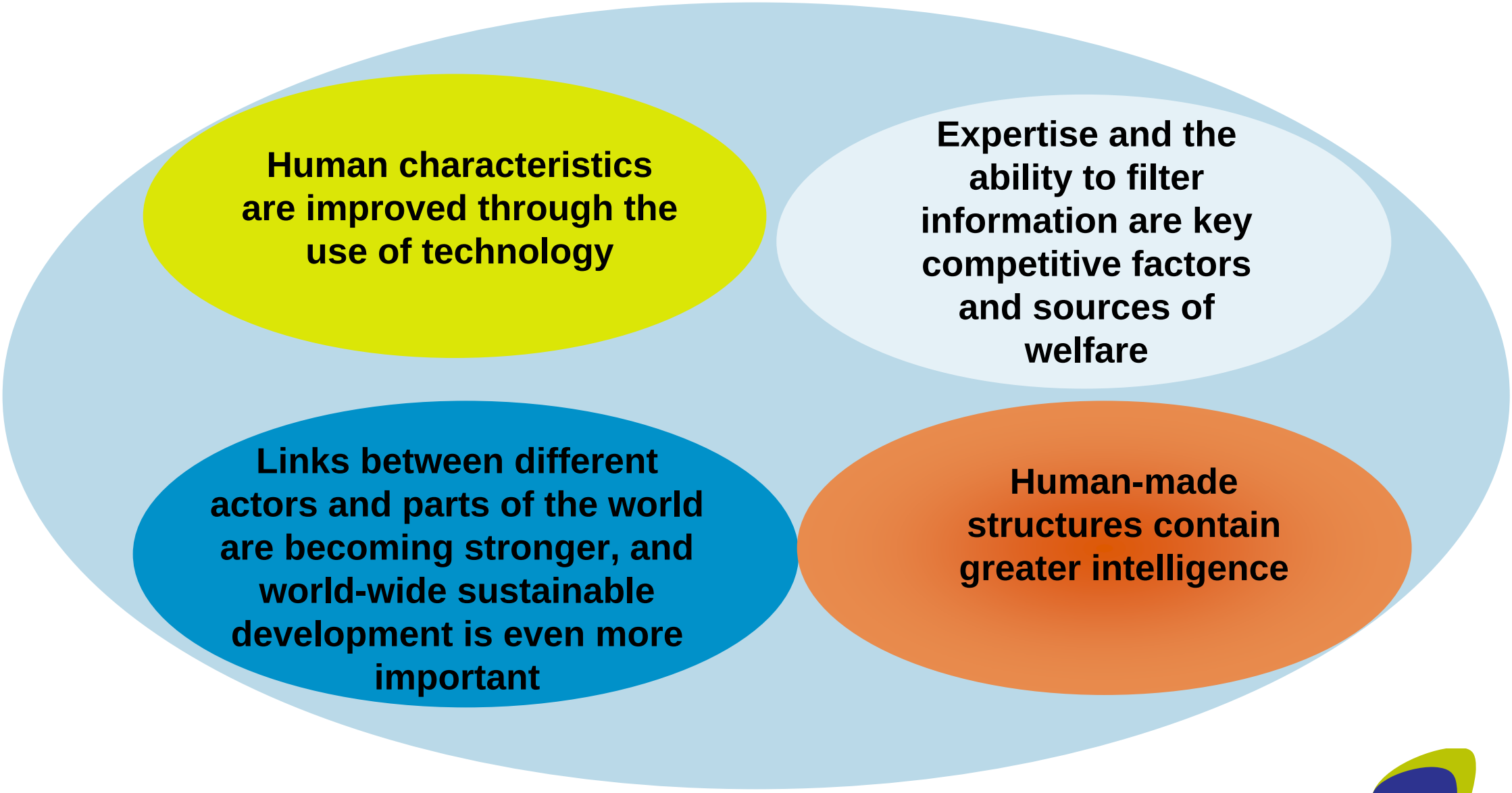
Participation and freedom

Sustainable development

Security



Conscious network society



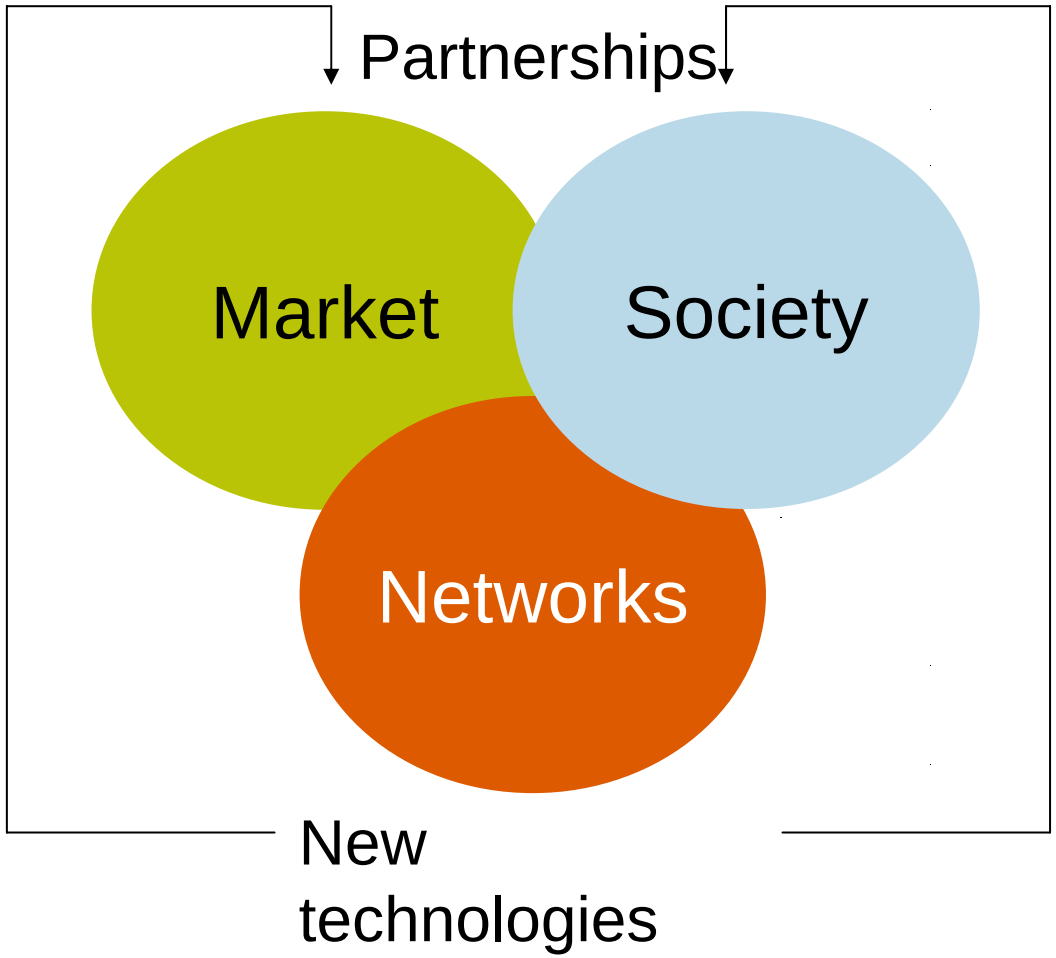
Competence needs as guidelines

- Content meets current and anticipated skills and competences needs
- New learning applications and environments support the development of skills and competences
  - Values, attitudes, culture and atmosphere
  - Learning communities
  - Working methods
  - Technology
- Phenomenon-based learning: lowering of barriers between different subjects and disciplines

Strong networking

- Quality assurance system based on efficiency and learning results
- Supporting technologies
- Regional, national and international profiling and co-operation
- Entrepreneurship, partnerships
- Trust

Partnerships enhancing human capital, economic growth and welfare



Source: Business expertise – What changes?, EK 2006

Lifelong learning

- Modularity and learning paths which meet workplace needs
- Recognition of skills acquired in different ways
- Skills profiles compiled in a personal skills cards
- Degrees requiring different skills profiles
- Degree structure anticipating changes in the skills required for the working life
- Funding according to efficiency and learning results
- Private funding also possible
- People assume responsibility for their own development

Personalisation

- There are enough teachers with sufficient expertise
- The role of learners in the learning process is defined
- Citizens are in control of the learning process and its requirements
- Student guidance and career guidance
- Individualised learning paths
- Multiform learning
- Utilisation of technologies
- Assessment of efficiency and learning results

Renewed teaching profession

- Expertise, especially regarding working life and its future challenges
- Enhancing enthusiasm for learning
- Ability to share visions with others, openness to new ideas and people, working in national and international networks
- Skills needed for searching for, using and refining information
- Continuous development of one's own expertise
- Creation of innovations, continuous development of learning processes and methods

Technologies and learning

- Management and support of education systems and learning processes
- Virtual learning communities
- Digital content
- Co-creation of content at different levels, sharing of expertise regardless of time or place

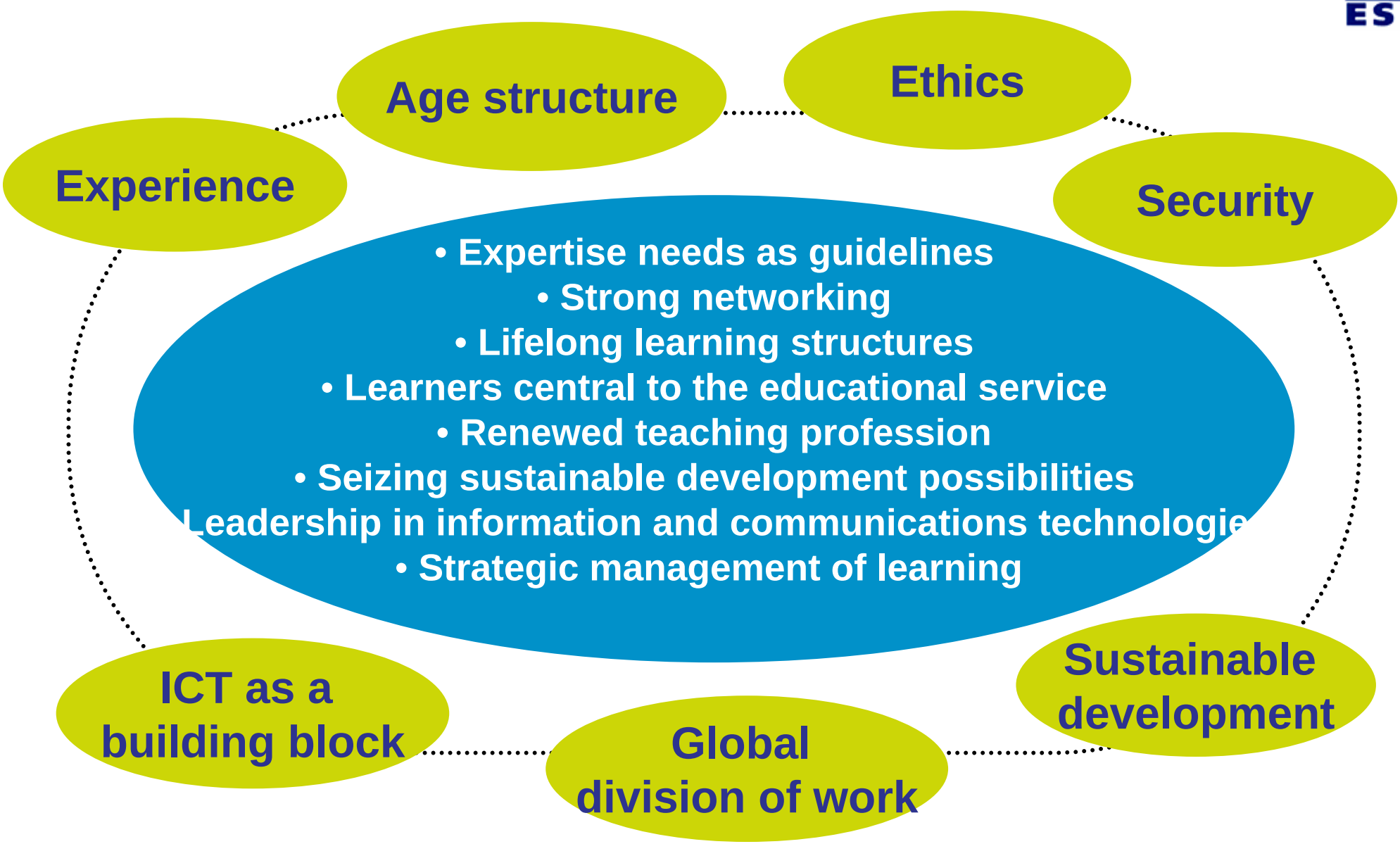
Sustainable development

- At the core of society
- In learning content and operating methods
- Education and learning as the driving force behind sustainable development

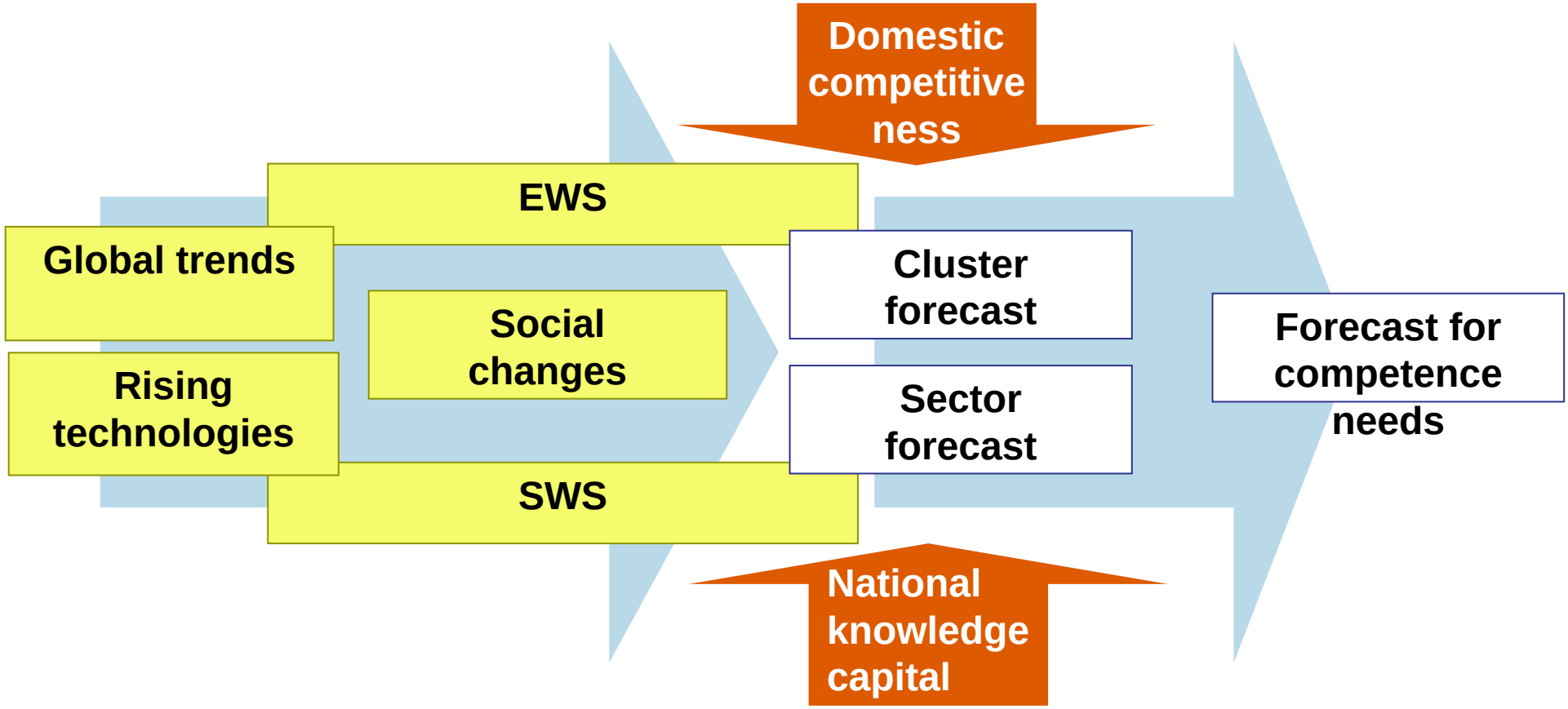
Strategic leadership for human capital

- Human capital as a key promoter for welfare
- Education linked to other policies
- Questioning existing truths, contemplating completely different alternatives, debate
- Foresight and vision-building at different levels
- Positioning services in the operating environment using value-creation models that produce above-average learning results
- Networks and processes with partners
- Assessing efficiency and impact

Change drivers and the educational system

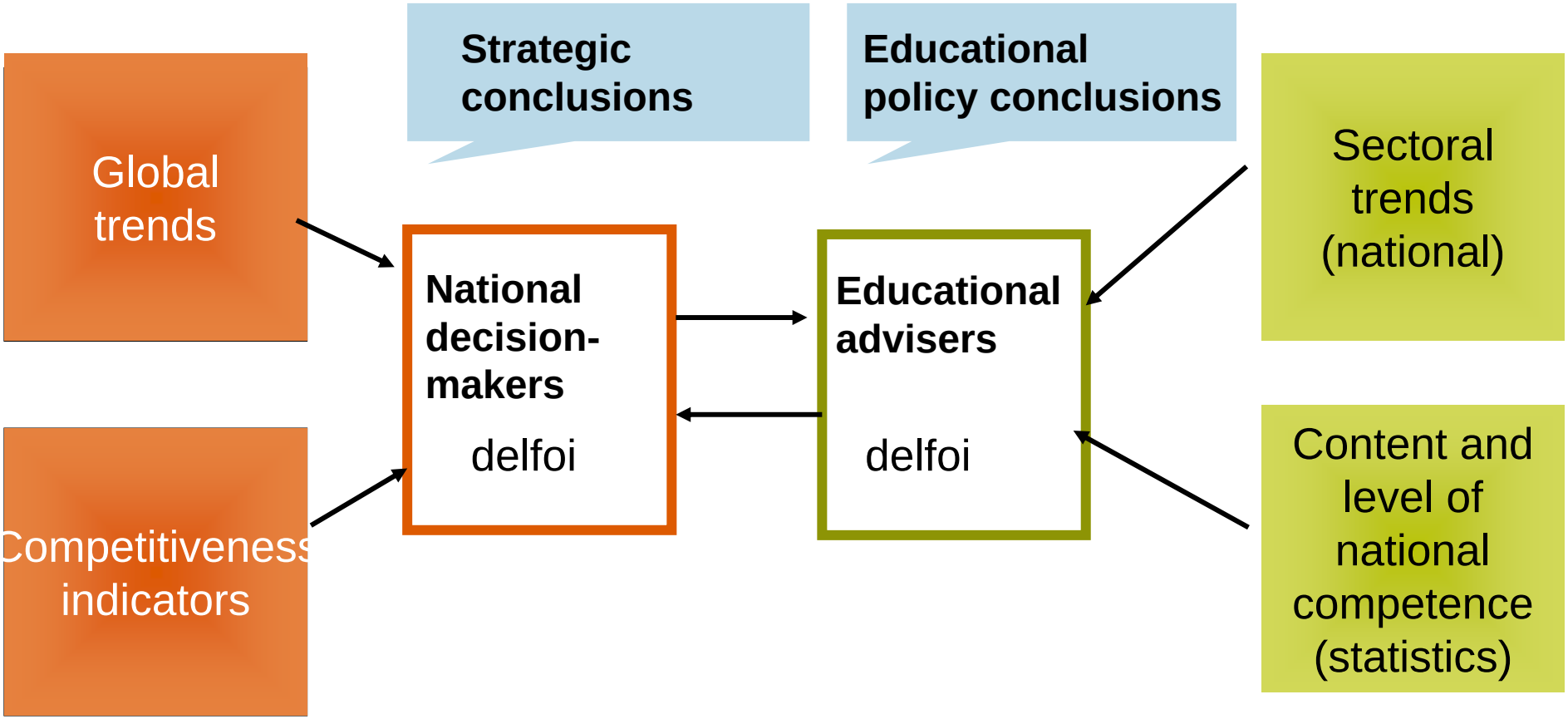


Components of anticipation of competence needs



Source: Comptence needs anticipation system. Education Intelligence System

EIS adviser-based operations model



Source: Competence needs anticipation system. Education Intelligence System