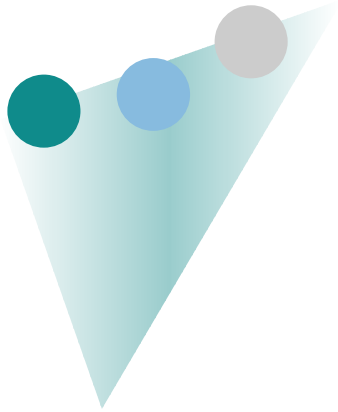
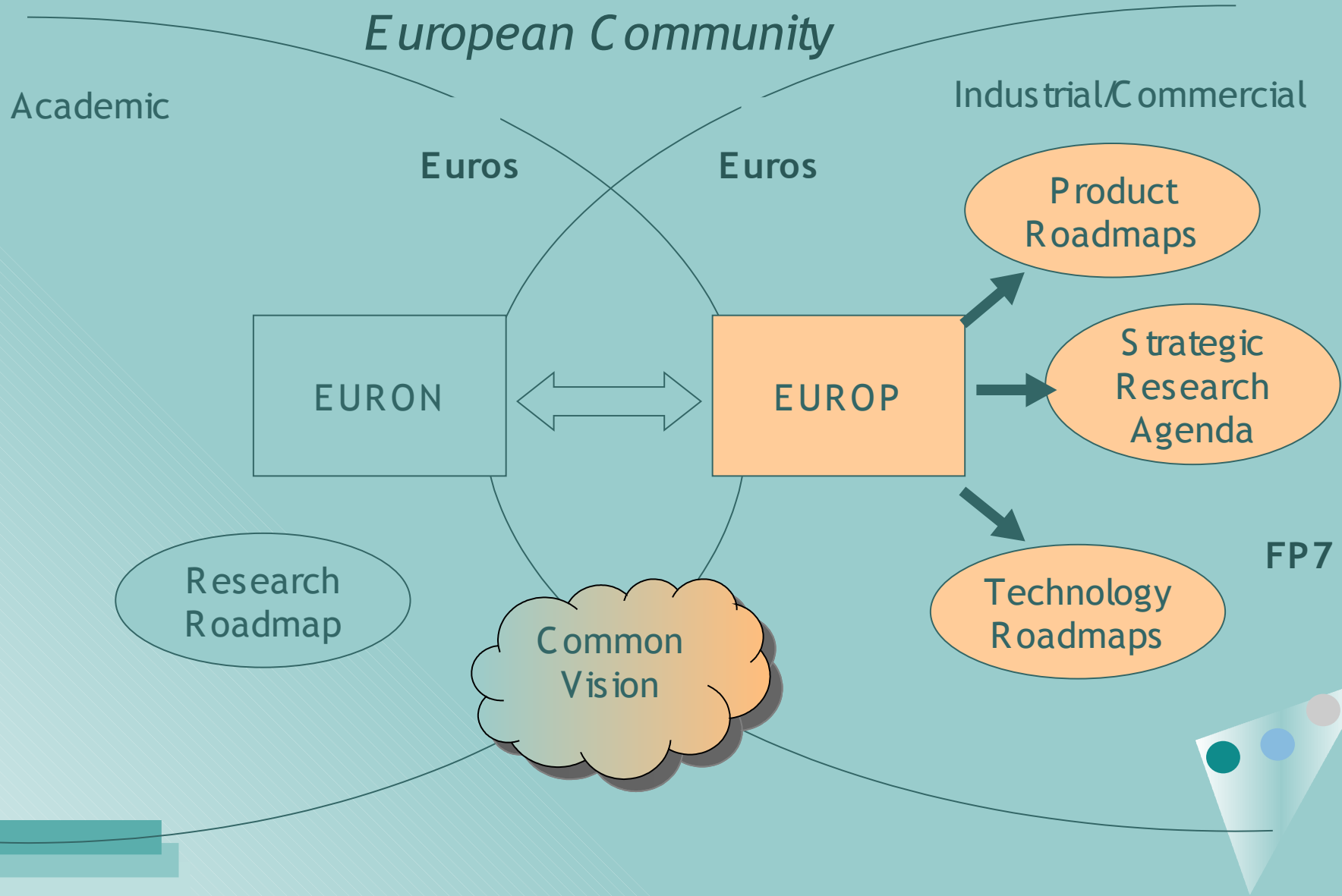




EUROP: Ethical Legal and Societal Issues

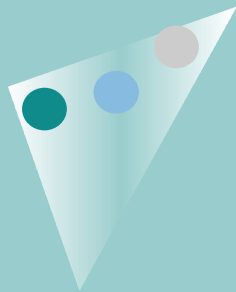
D L Bisset
iTechnic Ltd

What is EUROP?



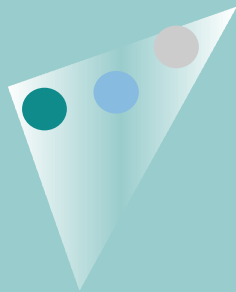
What Does EUROP do?

- Provides a forum for inter-organisation exchange across Europe
 - Industry, SME , Consultants
 - Government Dpts
 - Academics
 - User groups
- Stimulate debate and raise awareness.
 - Technical
 - Commercial
 - Ethical, Legal and Societal (ELS)
 - Educational
- Maintains technical roadmaps from a commercial perspective.
- Sets the European strategic research agenda. (FP7)
- Assess international activity.
- Aids the standardisation process.



(What?)ELS Objectives

- Assess issues surrounding the introduction of Advanced Robots
 - Legal
 - Societal
 - Ethical
- Particularly issues concerning direct interaction in everyday environments.
- Assess broader impact of Advanced Robotics on
 - Education
 - Society
- Explore the context of a developing robot based economy
 - Public understanding
 - Higher educational needs



ELS : Commercial Perspective

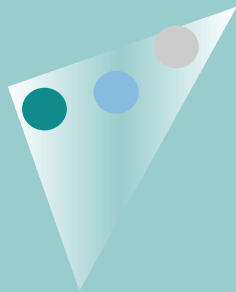
- EUROP works within a commercial context.

Commercial relevance

Within the technical framework of the next 10-20 years.

FP6/7

- Help the suppliers of robots and robot services understand ELS issues.
- Assess the impact of ELS issues on design.



(Why?) Barriers to Market

- ELS issues may present significant barriers in certain markets.

Medical
Healthcare
Security
Military

Consent

Trust

Privacy

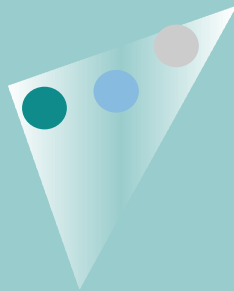
- Solutions to ELS issues need to be established if these markets are to flourish.

- Ethical framework
- Design approval
- Regulation
- Legal structure
- Design guides

Self-regulation

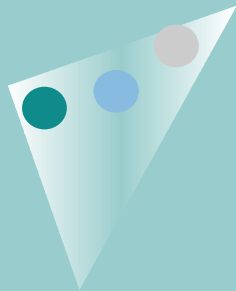
Regulatory Control

Legal Obligation



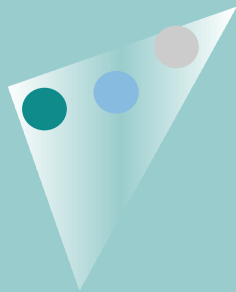
(How?)Assessment Process

- Assess ELS issues in each market area.
- Identify key issues and barriers.
- Create a dialogue with non-technical experts:
 - Lawyers
 - Healthcare professionals
 - Trade Unions
 - Politicians
- Identify educational needs.
- Identify design methods.

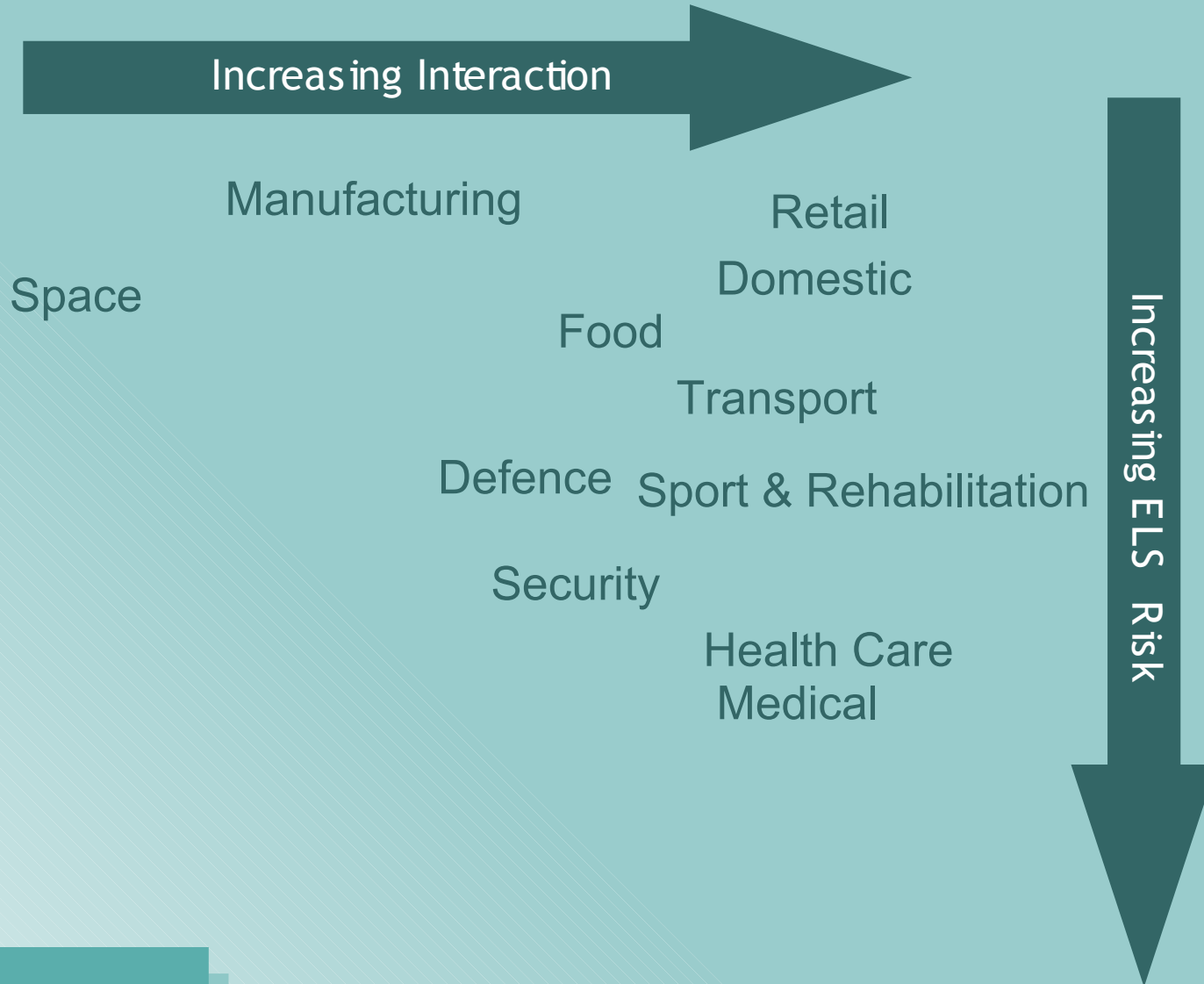


ELS Issues

- ELS issues occur at the interface between User, supplier and robot.
- Concern, for an application, is increased by
User vulnerability.
A lack of user volition.
- By embedding robots into our everyday environments we also embed them into our legal, social and ethical infrastructures.

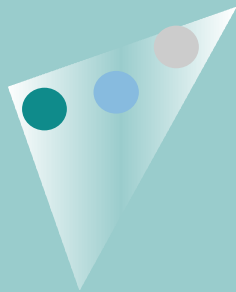


Application areas

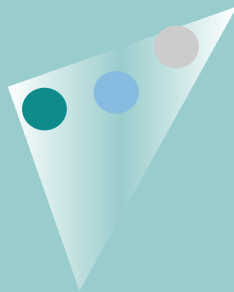
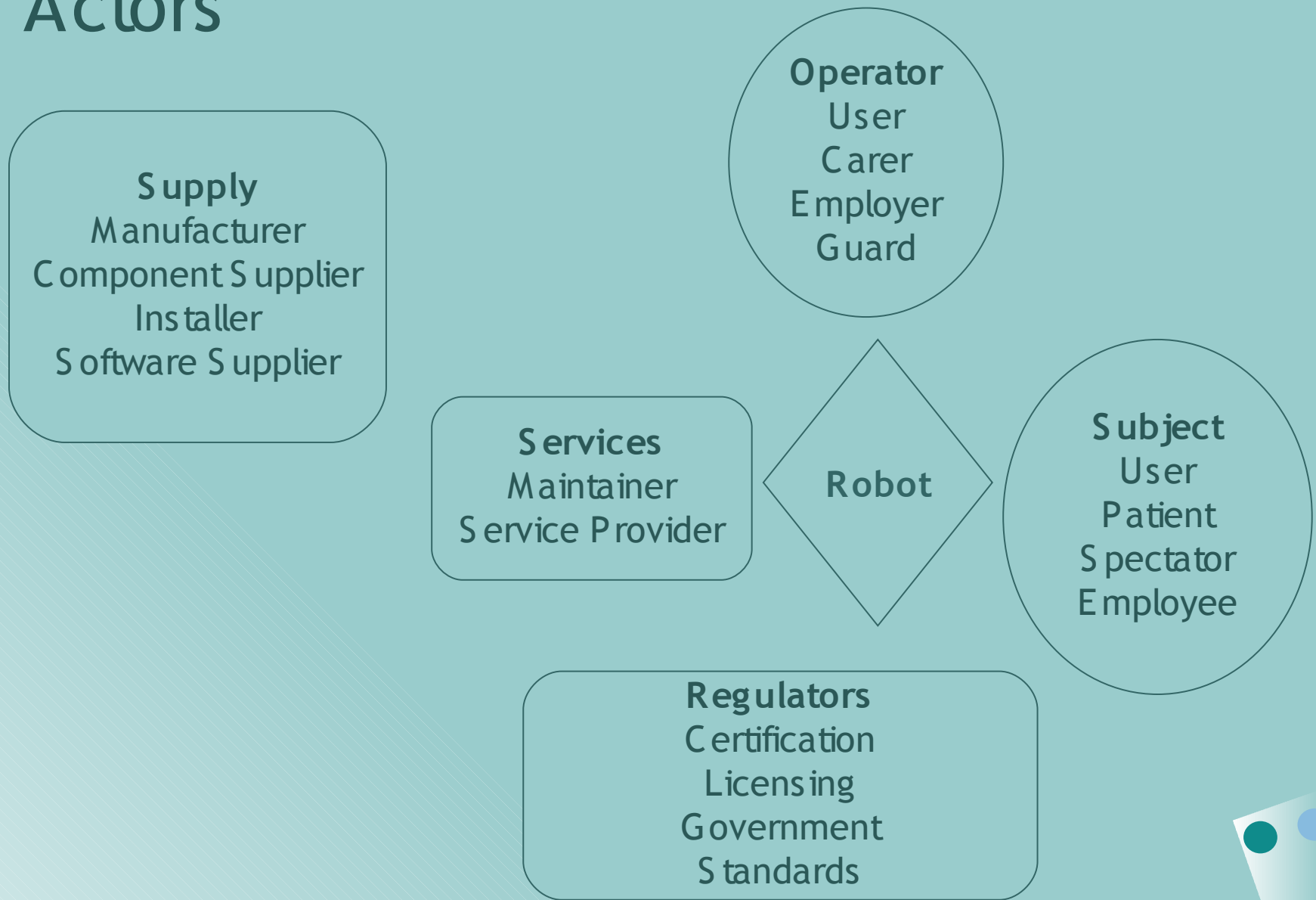


Open issues

- Many questions arise:
 - How will we ensure/reassure that robots are safe?
 - How will we enforce “ethical” use?
 - How will we assign liability?
 - How will we assess design fitness?
 - How will we assess deployment?
 - How will we maintain operational standards?
- How does this work in automobile industry?
 - Will ethical regulation of designers be enough?



Actors

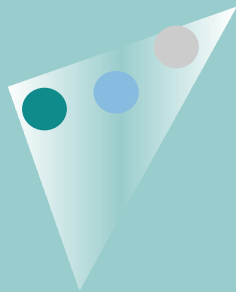


Legal Entity

- The immediate debate is not about robots needing rights it is about **us** needing rights and protection.

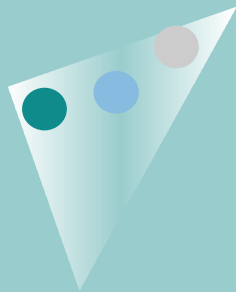
It is about assigning liability and responsibility for actions and failures.

- Ensuring ethical use.
- Ensuring basic human rights are maintained.
 - At work
 - At home
 - In care
- Will this need special legislation?
- How can ethics be designed in?



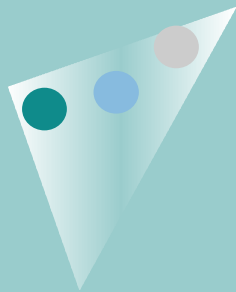
Ethics by Design

- Engineering requirements impact ELS
 - Recognition reliability
 - Dependable operation
 - Intrinsic safety
- Systems level design impact ELS :
 - Unethical to record video or sound for storage.
 - Unethical to use data gained for another purpose.
- Deployment impacts ELS :
 - Unethical to replace a human worker with a robot they have trained.
 - Reduced wage?
 - Poorer conditions?
 - Unethical to only provide robot based care.



Vulnerable Elderly Care

- Do older people want to be cared for by a robot?
How much choice will they have?
The greying population may force the issue.
- How will we ethically assess the cost benefit?
- How will we assess liability when an accident occurs?
 - What technology needs to be built in?
 - How will we approve the system and its delivery?
- How will we deal with the ethics of interaction?
- How will we deal with adaptive care?



EUROP

- Next Meeting Paris 23-24th May
- Need support and contributions to the ELS work.
- Stimulate awareness of ELS issues amongst EUROP members.
- Need to identify non-technical domain specialists.

