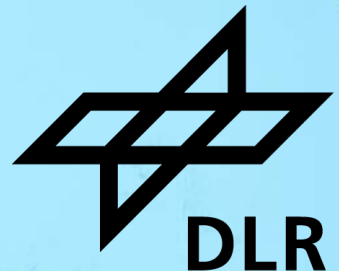


DEFINITION AND INTEGRATION OF RSE ROLES

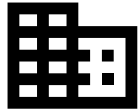
IN THE CONTEXT OF A MODERN RESEARCH ORGANISATION

Dr. Benjamin Fuchs, German Aerospace Center DLR, Institute VE

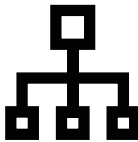
Ontje Lünsdorf, Patrik Schönfeldt, Henning Schlachter, Francesco Witte,
Diana Teresa Maldonado Castro



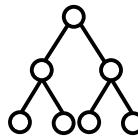
Research context



DLR: large research organisation



hierarchically structured

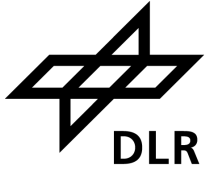


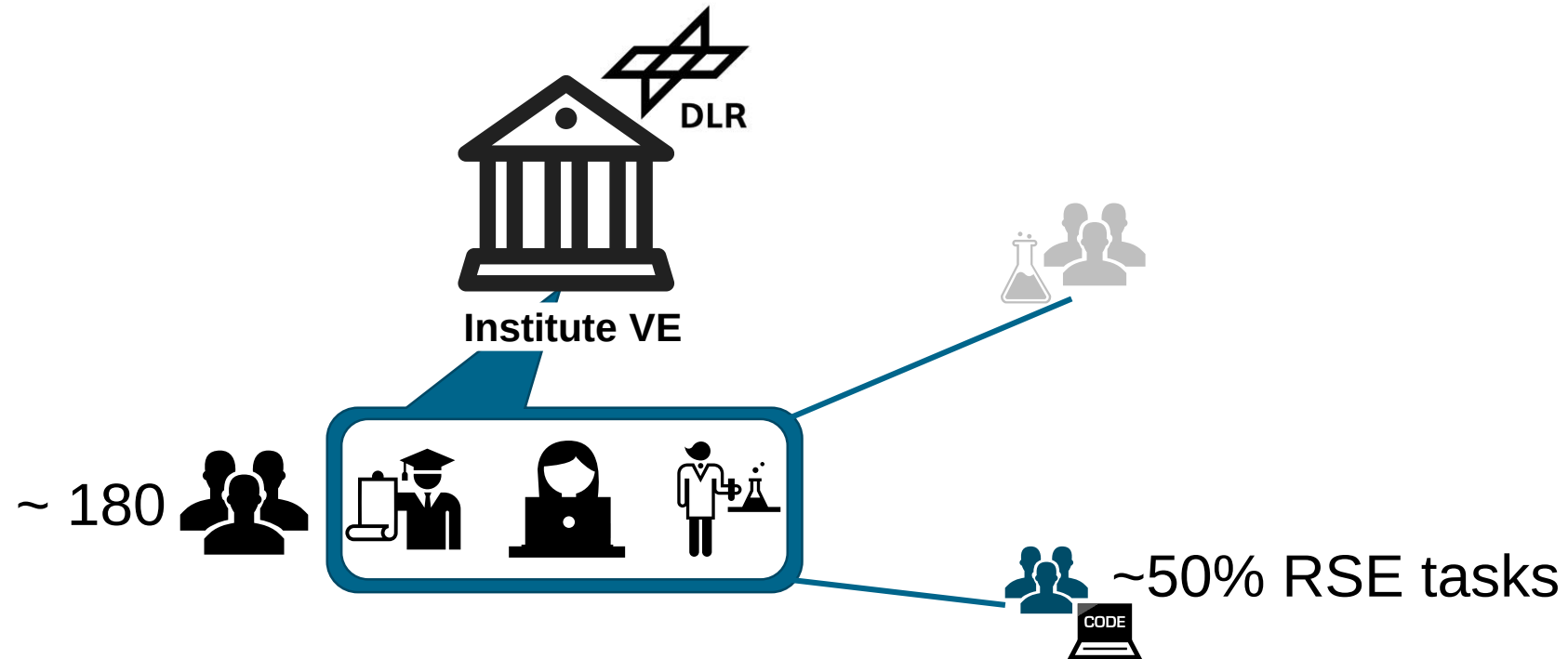
top down policy:
general guidelines (DLR wide) vs implementation (institutes)



Research in the energy context

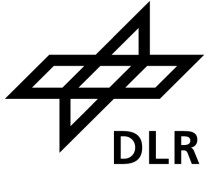
Research software context





- multi-discipline background
- strong variation in RSE proficiency
- high fluctuation of employees (many PhD, Master students & 10 year federal limit)

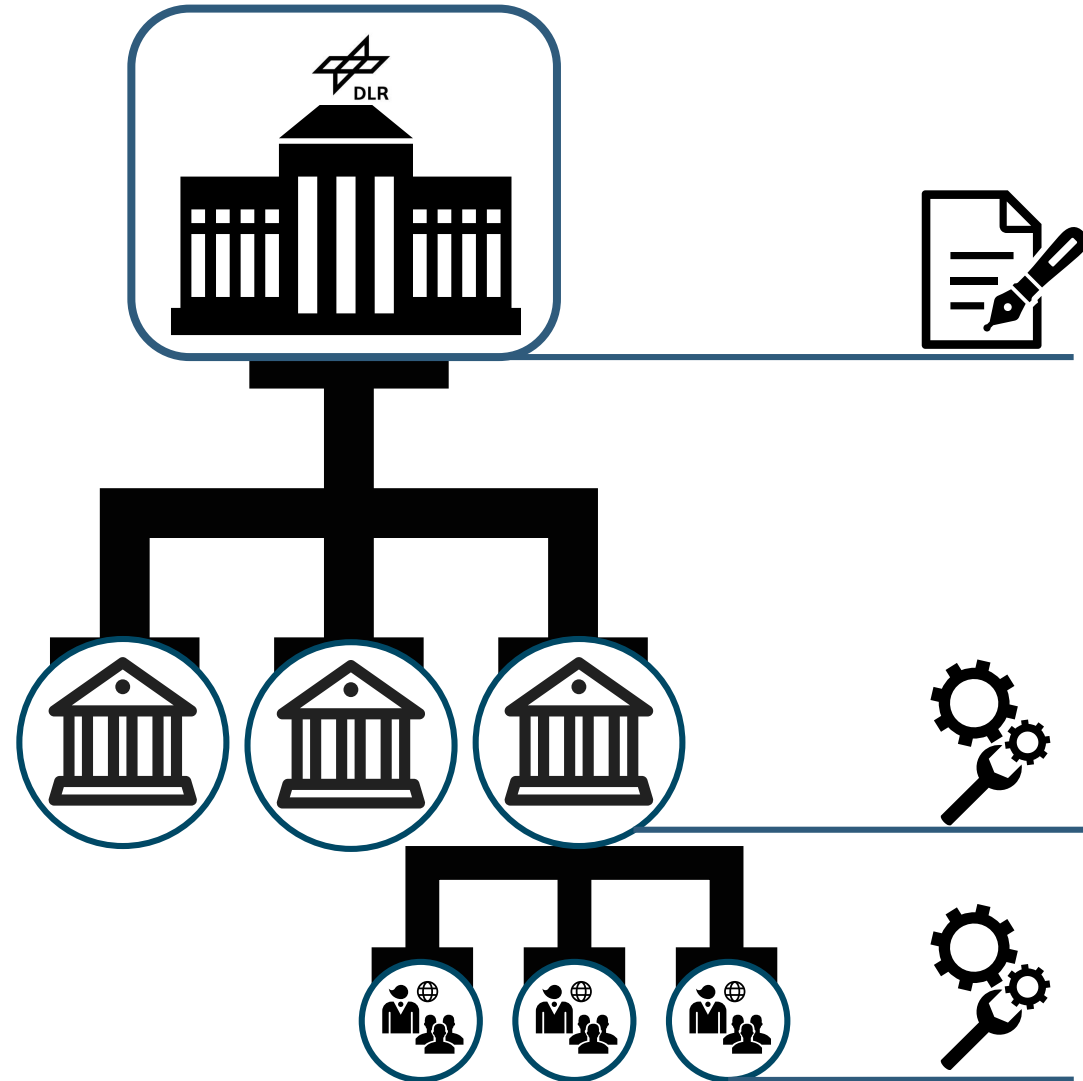
RSE policy context



top down policy scheme
general guidelines on DLR level

Implementation in institute
processes and quality guidelines

implementation in departments
support and mentoring



The tasks



- How to transfer RSE knowledge *effectively*, *efficiently* and *targeted*?
- How to ensure *knowledge redundancy* in critical aspects?
- How to *estimate*, *guide* and *fulfill* qualification needs?

The tasks



- How to transfer RSE knowledge *effectively*, *efficiently* and *targeted*?
- How to ensure *knowledge redundancy* in critical aspects?
- How to *estimate*, *guide* and *fulfill* qualification needs?

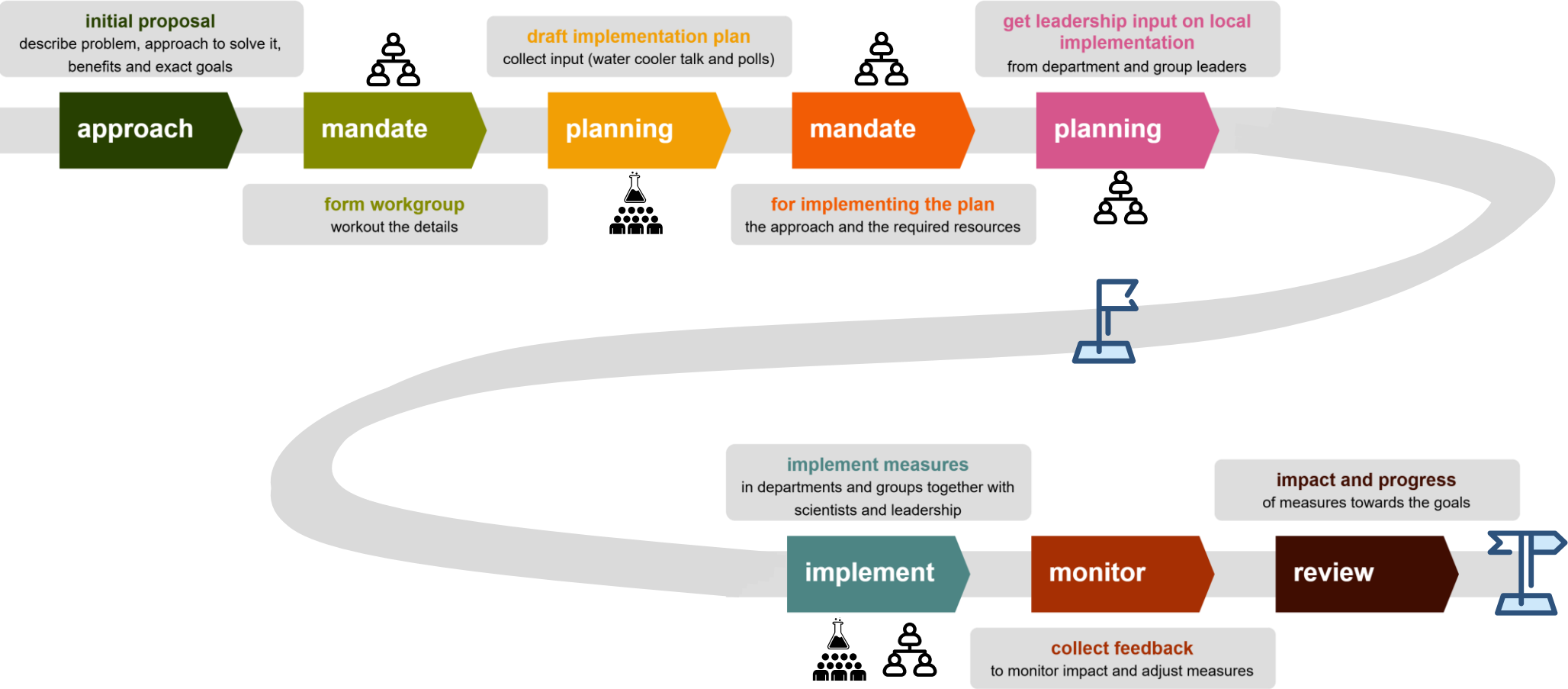
Goal: improve quality, leverage synergies and improve effectiveness

Approach

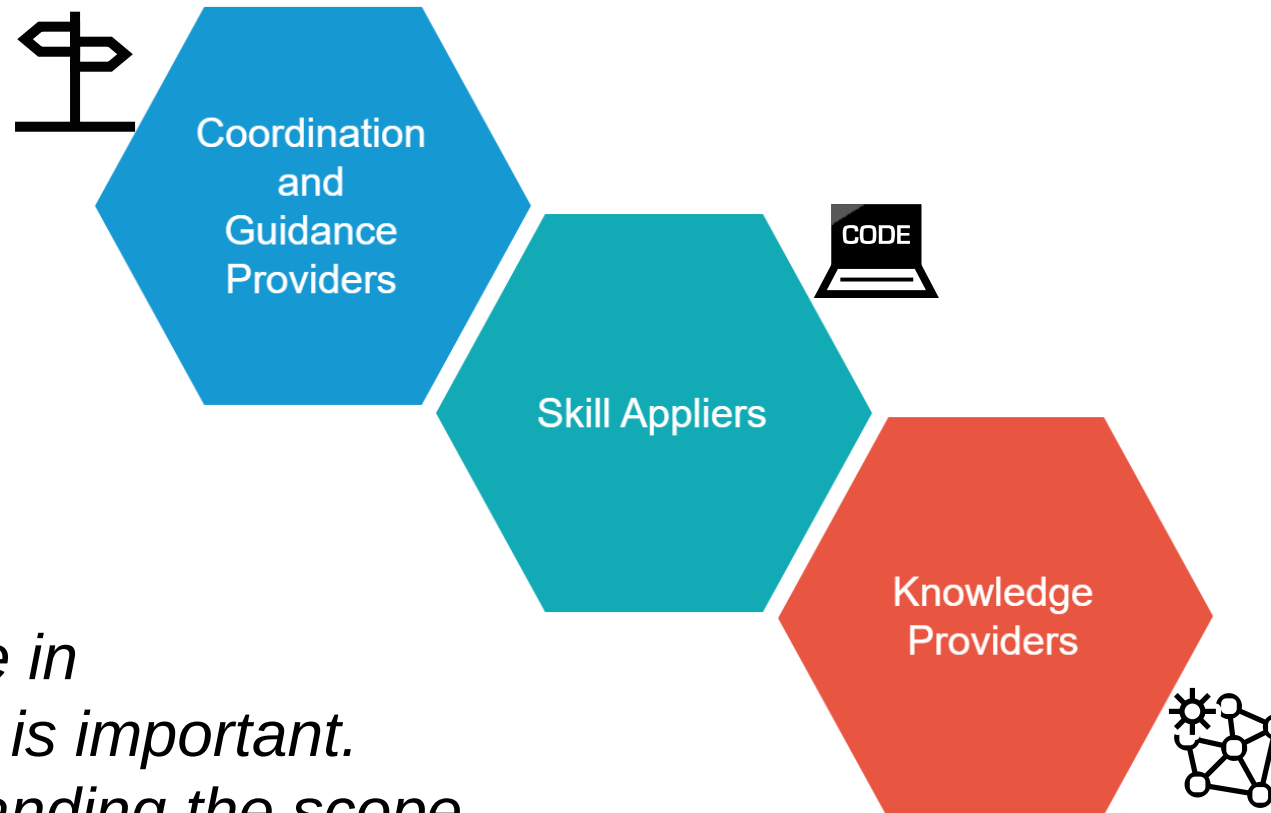


- **Specialization**: maximize benefits from experience and implicit knowledge
- **Transparency**: enable everyone to participate and contribute
- **Cooperation**: adaptability and clear scopes to leverage synergies

Implementation

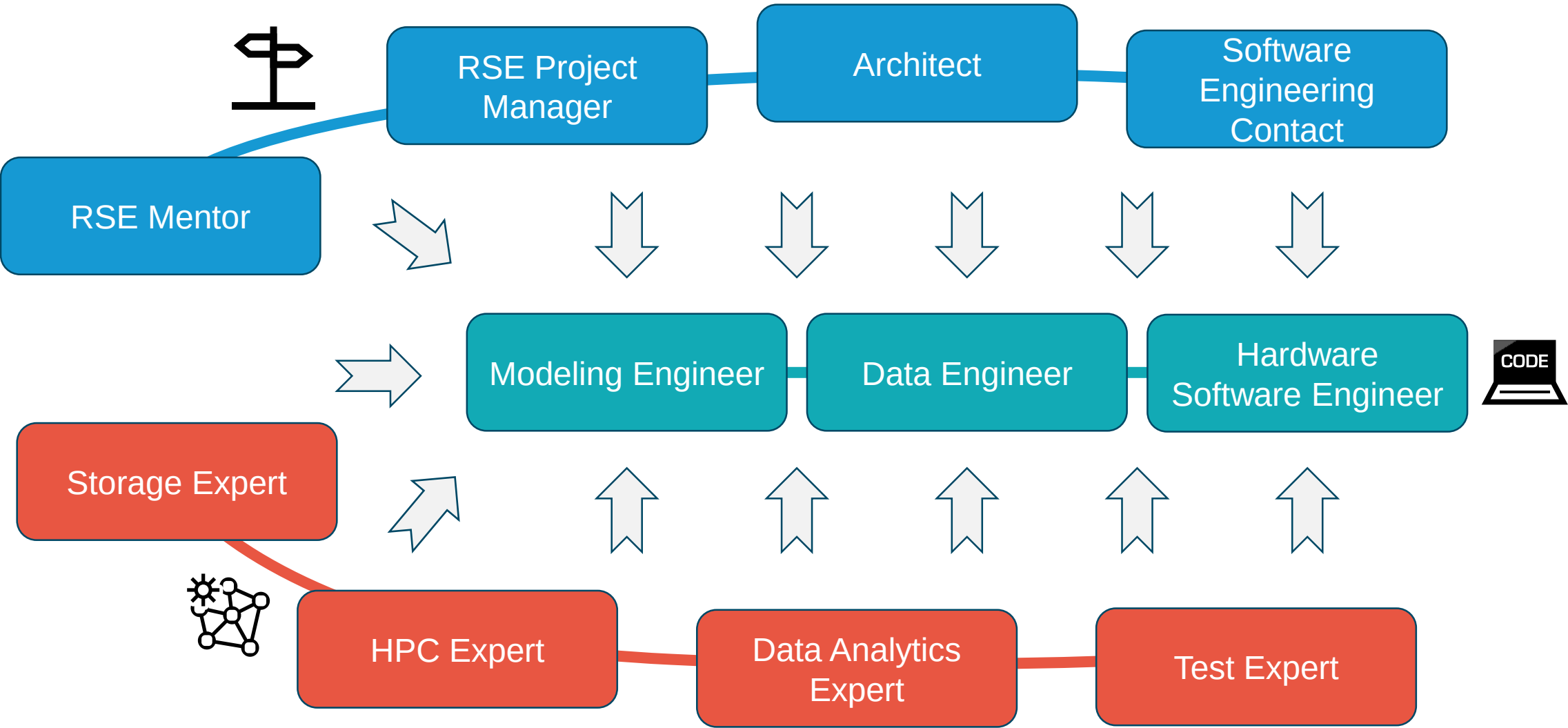


- Define roles with clear scope, function and responsibilities
- Associate Roles with skill sets and levels
- Create transparency by forming a **Role-Skill-Function Matrix**
- Link the **RSF Matrix** to the training program and mentoring roles
- Implement a feedback system



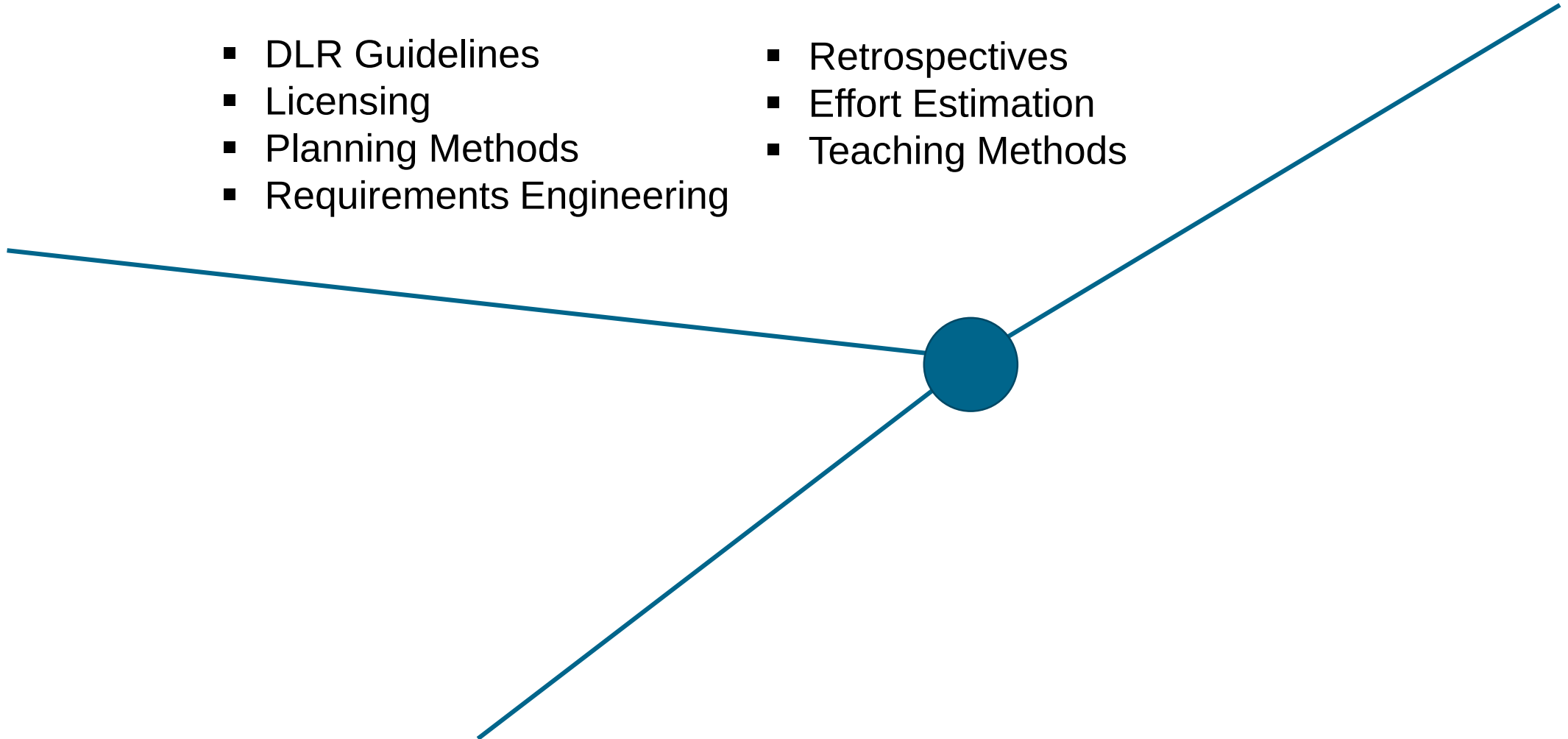
Defining the function of a role in the organization is important. It helps understanding the scope, the task and the purpose of a role.

Roles



Guidance & Communication

- DLR Guidelines
- Licensing
- Planning Methods
- Requirements Engineering
- Retrospectives
- Effort Estimation
- Teaching Methods

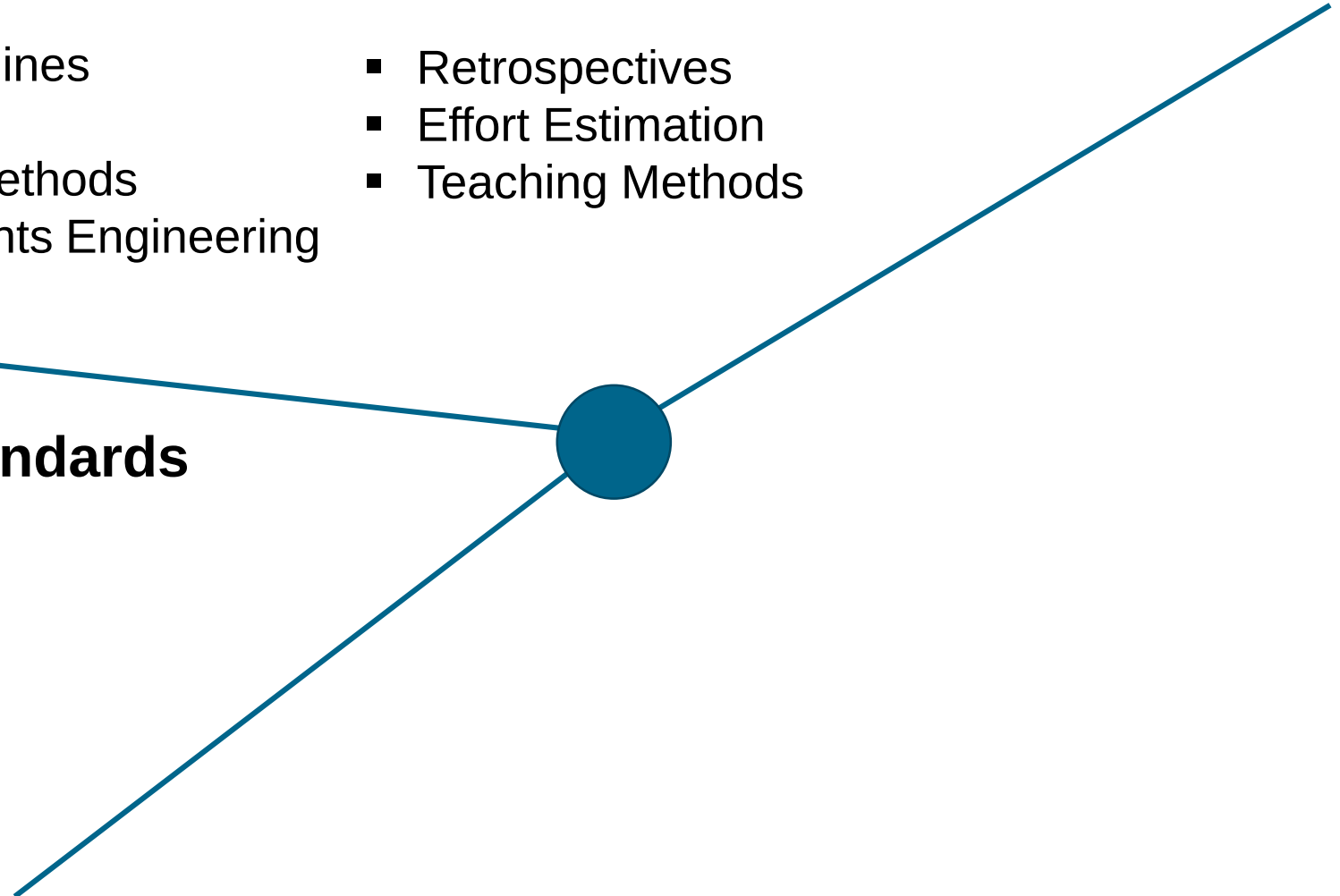


Guidance & Communication

- DLR Guidelines
- Licensing
- Planning Methods
- Requirements Engineering
- Retrospectives
- Effort Estimation
- Teaching Methods

Best Practices & Standards

- Design Patterns
- Code Reviews
- Clean Code
- FAIR
- Test Paradigms



Guidance & Communication

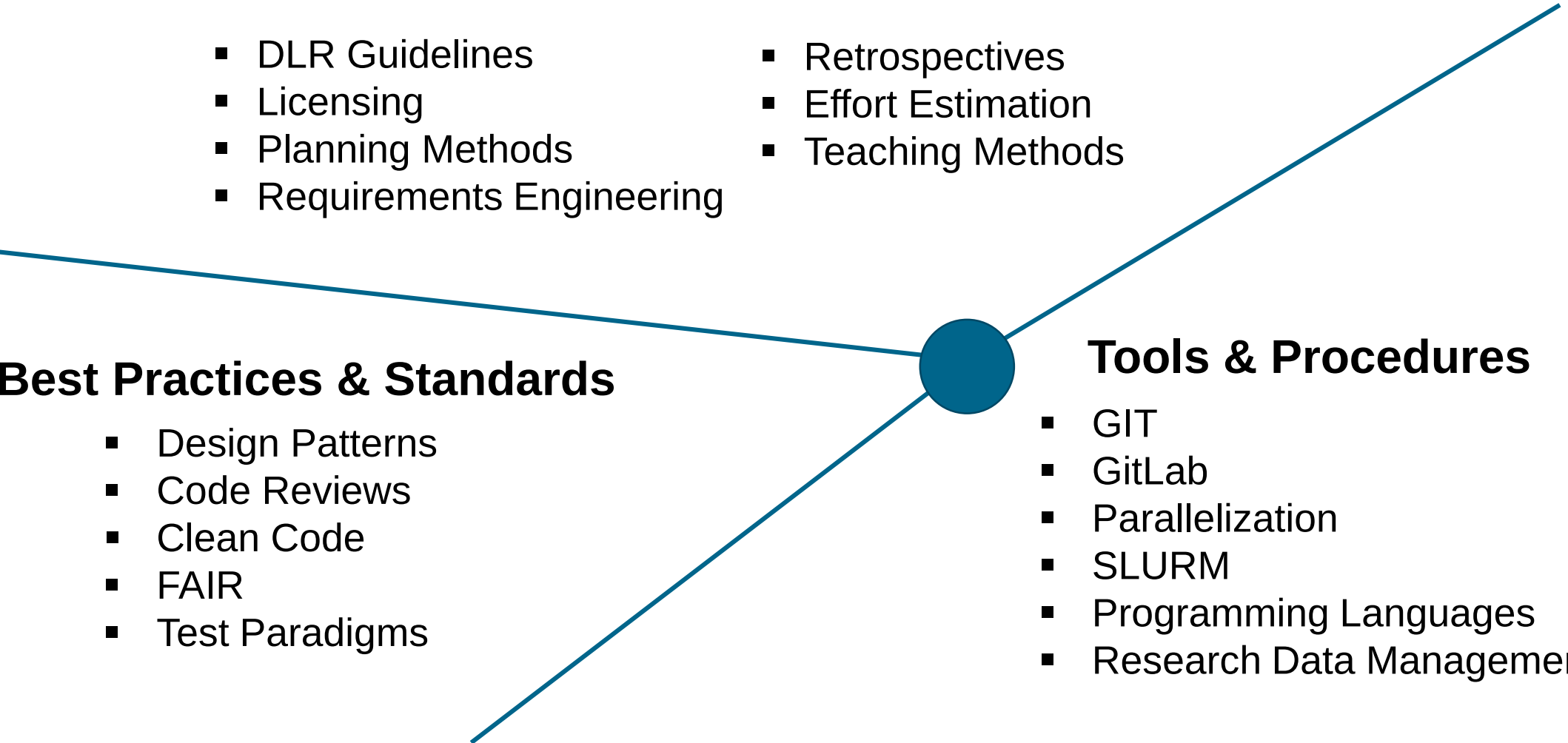
- DLR Guidelines
- Licensing
- Planning Methods
- Requirements Engineering
- Retrospectives
- Effort Estimation
- Teaching Methods

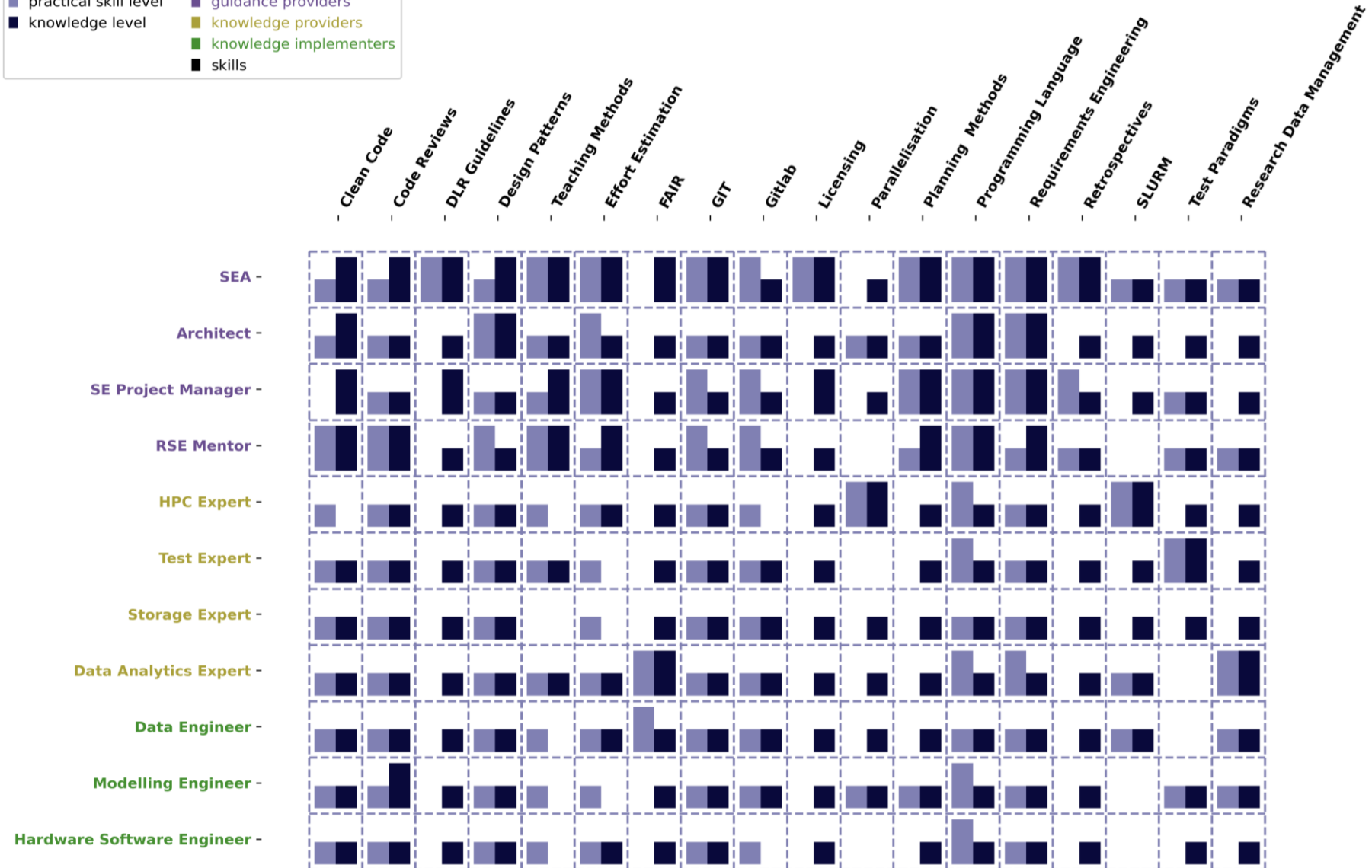
Best Practices & Standards

- Design Patterns
- Code Reviews
- Clean Code
- FAIR
- Test Paradigms

Tools & Procedures

- GIT
- GitLab
- Parallelization
- SLURM
- Programming Languages
- Research Data Management





- Curated and matched [training catalogue](#) linked to the RSF Matrix
- [Structured onboarding](#) guidelines for role adopters (not only new hires)
- [Feedback](#) system

What we learned



- Include leadership early and get a clear **mandate**
- Involve **leadership** in **designing** implementation and **scientists** in **measures**
- Roles and Skills need to be general to be adaptable to the departments
- Roles need to be clear in their task and responsibility
- Including **knowledge transfer methods** into the skills is important

What we learned



- Include leadership early and get a clear **mandate**
- Involve **leadership** in **designing** implementation and **scientists** in **measures**
- Roles and Skills need to be general to be adaptable to the departments
- Roles need to be clear in their task and responsibility
- Including **knowledge transfer methods** into the skills is important

Questions?

Topic: Definition and integration of RSE Roles in the context of a modern research organisation

Date: 2025-02-25

Author: Benjamin Fuchs

Institute: Institut für Vernetzte Energiesysteme

Image sources: All images “DLR (CC BY-NC-ND 3.0)”
unless otherwise stated