The DLR Software-Engineering-Initiative

„Building Communities“
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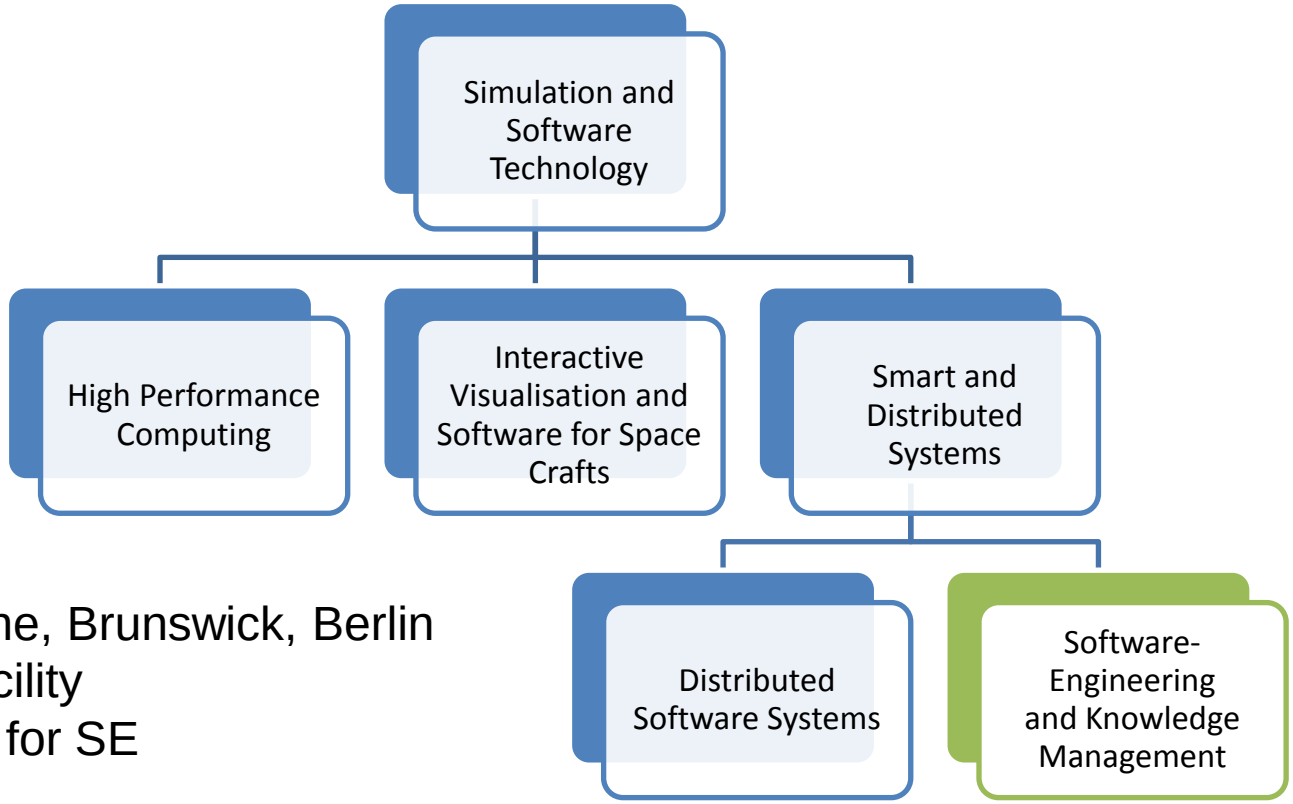
The German Aerospace Center (DLR)

Approx. 8000 employees across
33 institutes and facilities at 20 sites.
→ ¼ develop software

Offices in Brussels, Paris,
Tokyo and Washington.

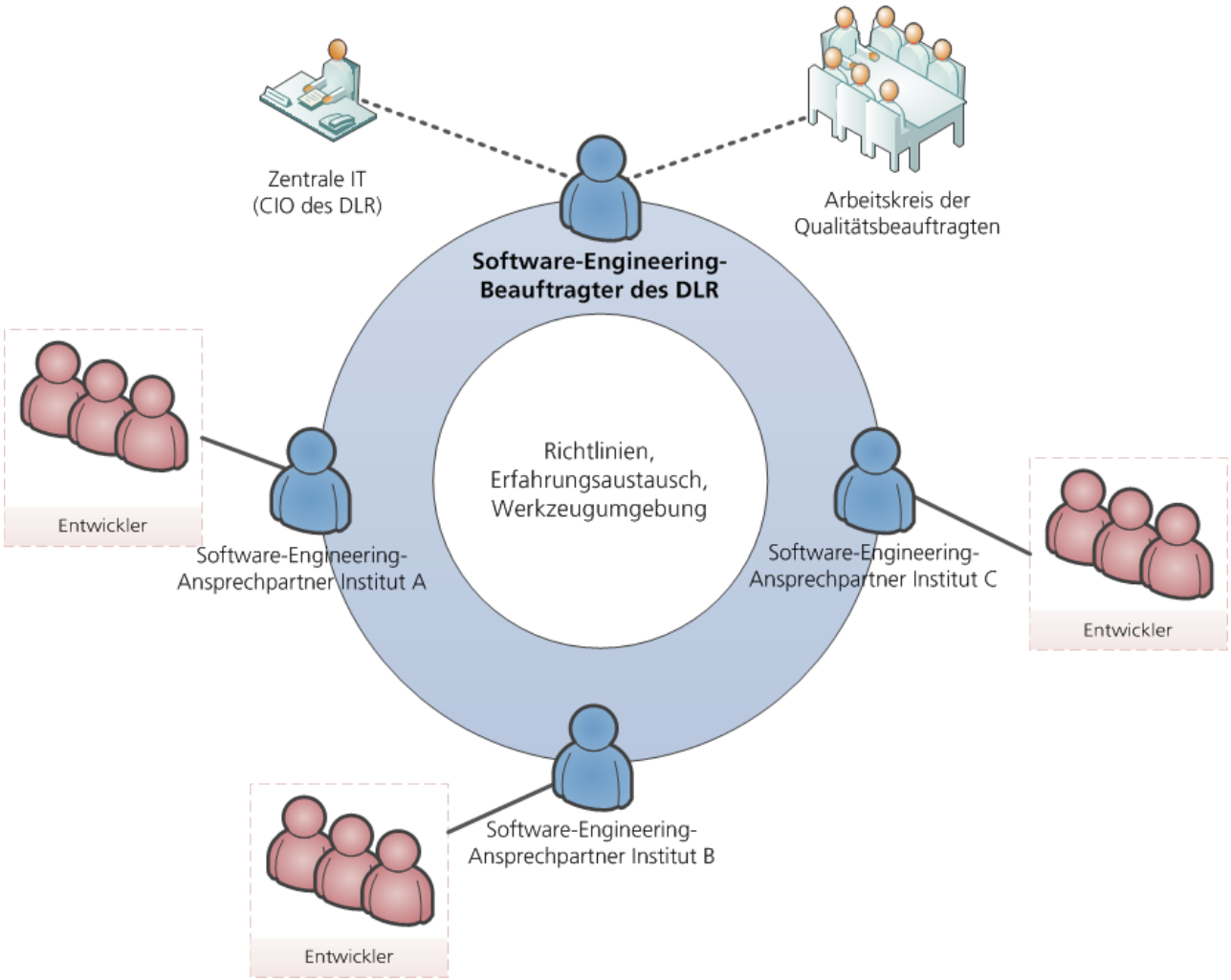
- Research Institution
- Space Agency
- Project Management Agency

DLR Simulation and Software Technology

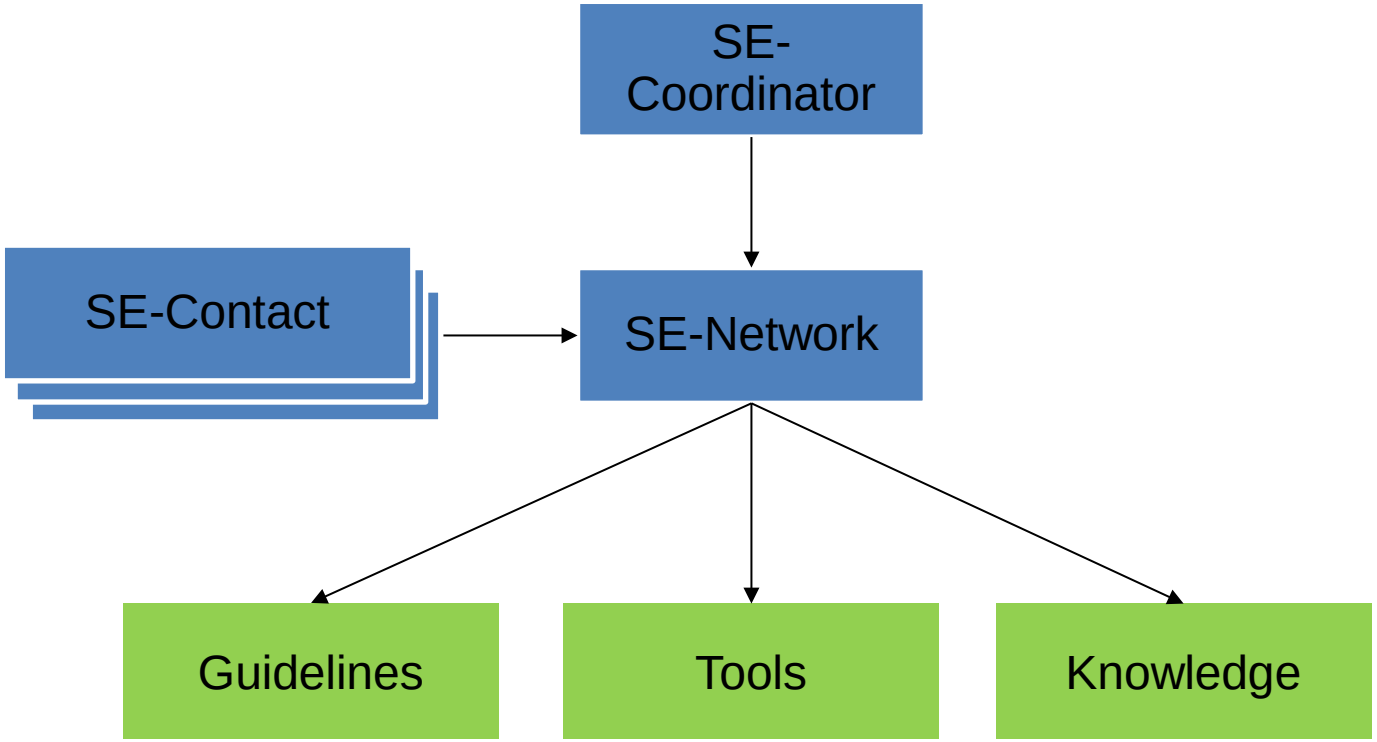


- 3 Sites: Cologne, Brunswick, Berlin
- Supporting Facility
- Basic Funding for SE

DLR Software-Engineering-Network



DLR Software-Engineering-Network
Roles



DLR Software-Engineering-Network
Way Of Working

- Yearly meeting of all contact persons
- Regular telefone conferences
- Active involvement in DLR process development
  - Steering of toolsuite
  - SE-Guideline

Joined approach to improve conditions for software development in DLR

DLR Software-Engineering-Network
Output

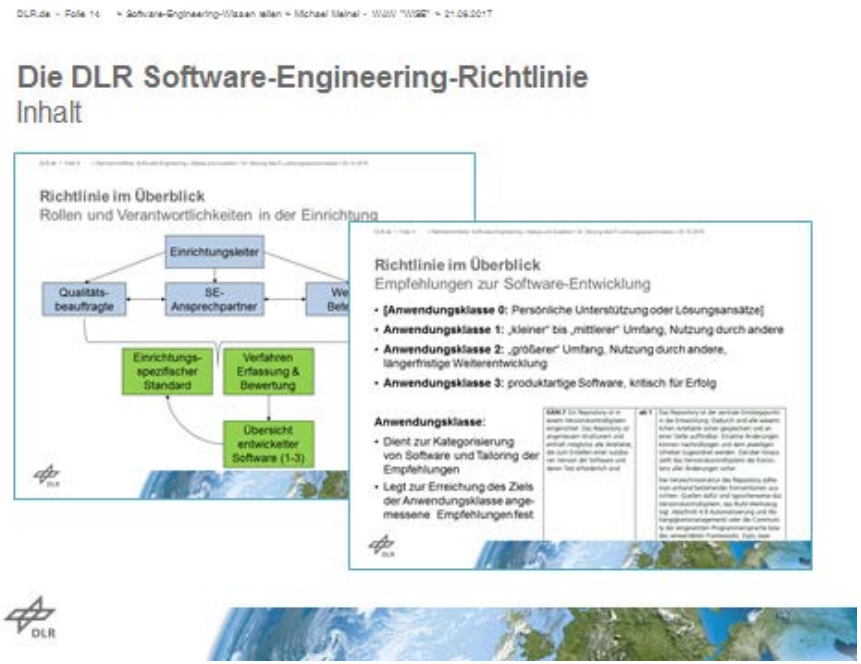
- **SoftwareEngineering.Wiki**
  - SE-Blog (Tools, Methods, Conferences, …)
  - „Ask a Question“
  - Tool Presentations

- **Introduction of new Tools**
  - GitLab
  - Jira
  - … permanent process …

- **New SE-Guidelines**
  - Collaborative approach → continued as Inner Source project

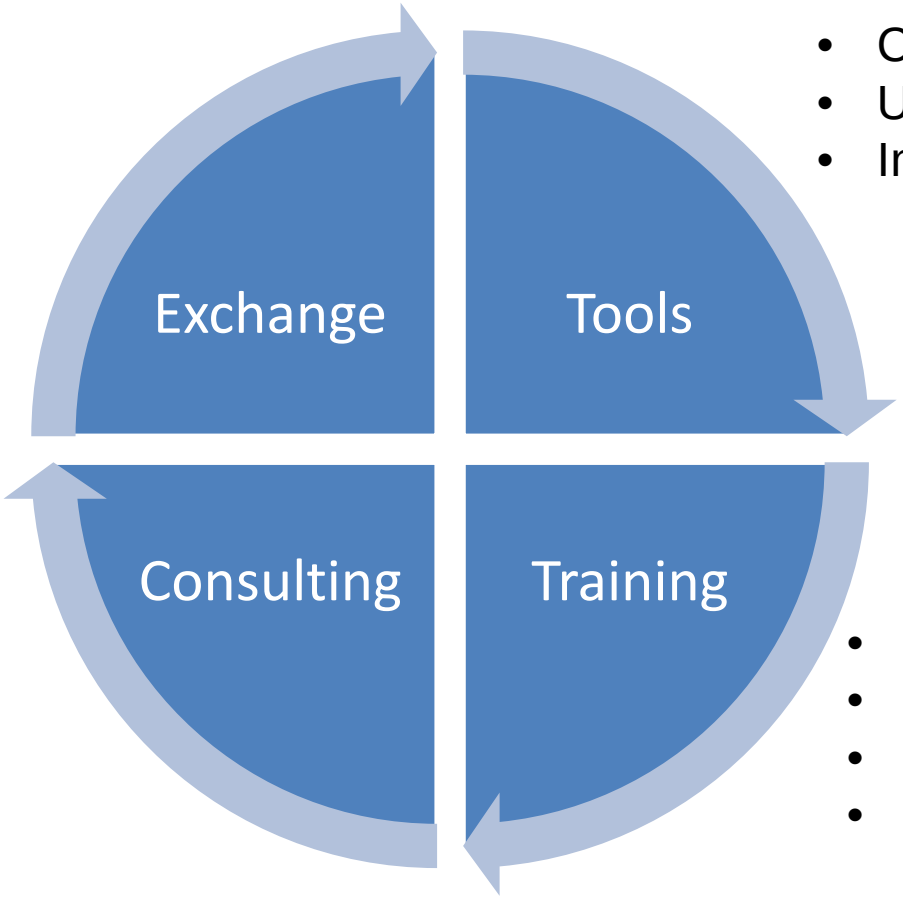
DLR Software-Engineering-Guideline

- Framework for sustainable software development
  - Roles and responsibilities
  - Application classes
  - Minimum requirements for SE
- Embedded in DLR QA
- Easy tailorable using Check-List
- English translation almost done
- Inspiration for Helmholtz guideline
  - Publication and sharing possible



Offerings for Developers

- Wiki
- Workshops
- Mailinglists



- Currently: SVN, Mantis
- Upcoming: GitLab, Jira
- Individual tools

- Tool-based SE
- Python Unit Testing
- Software Architecture
- Individual trainings

Offerings for Developers
Historical Development

Tool Training
- Usage of DLR tools Mantis and Subversion

Basic Training
- Iterative Development Process
- Application of tools in process

Individual Trainings
- Extended toolsuite
- Application in reality

New Offers
- Identification of relevant topics
- Extension of offered training modules

Insights
Our Success Story

- **Be clear about the role of the group**
  - Regular meetings
  - Specification of tasks
- **Provide offerings**
  - SE-Trainings
  - SE-Toolsuite
- **Involvement and networking**
  - Pool of Knowledge
  - Helping Hands
- **Be targeted**
  - Progress step-by-step
  - Integrate feedback and insights

Challenges
What we are lacking

- Currently: Top-down-apporach
  - Central funding of two persons
  - Included in general QA framework
  - (Initial) High steering afford

- Needed: Bottom-up-approach
  - Encourage more independent involvement
  - Self-organisation

- Needed: Structured feedback!
  - Incresing usage of tools and offerings
  - High demand for cooperation
  - No quantification of results yet (Publications!)

  → RSE-Research