German Priority Programme 1648
“Software for Exascale Computing”

SPPEXA – Findings & Goals

- Massive parallelism (on- and cross-chip) requires fundamentally new concepts
- Not “racks without brains”, but software is the key to this paradigm shift
- Fundamental research (→ DFG), in contrast to other (more application-oriented) initiatives (→ German Federal Ministry of E & R)
- Establish collaborative, interdisciplinary co-design of HPC applications and HPC methods
- Focus on six research directions:
  - Computational algorithms
  - Application software
  - Programming
  - System software
  - Data management and exploration
  - Software tools

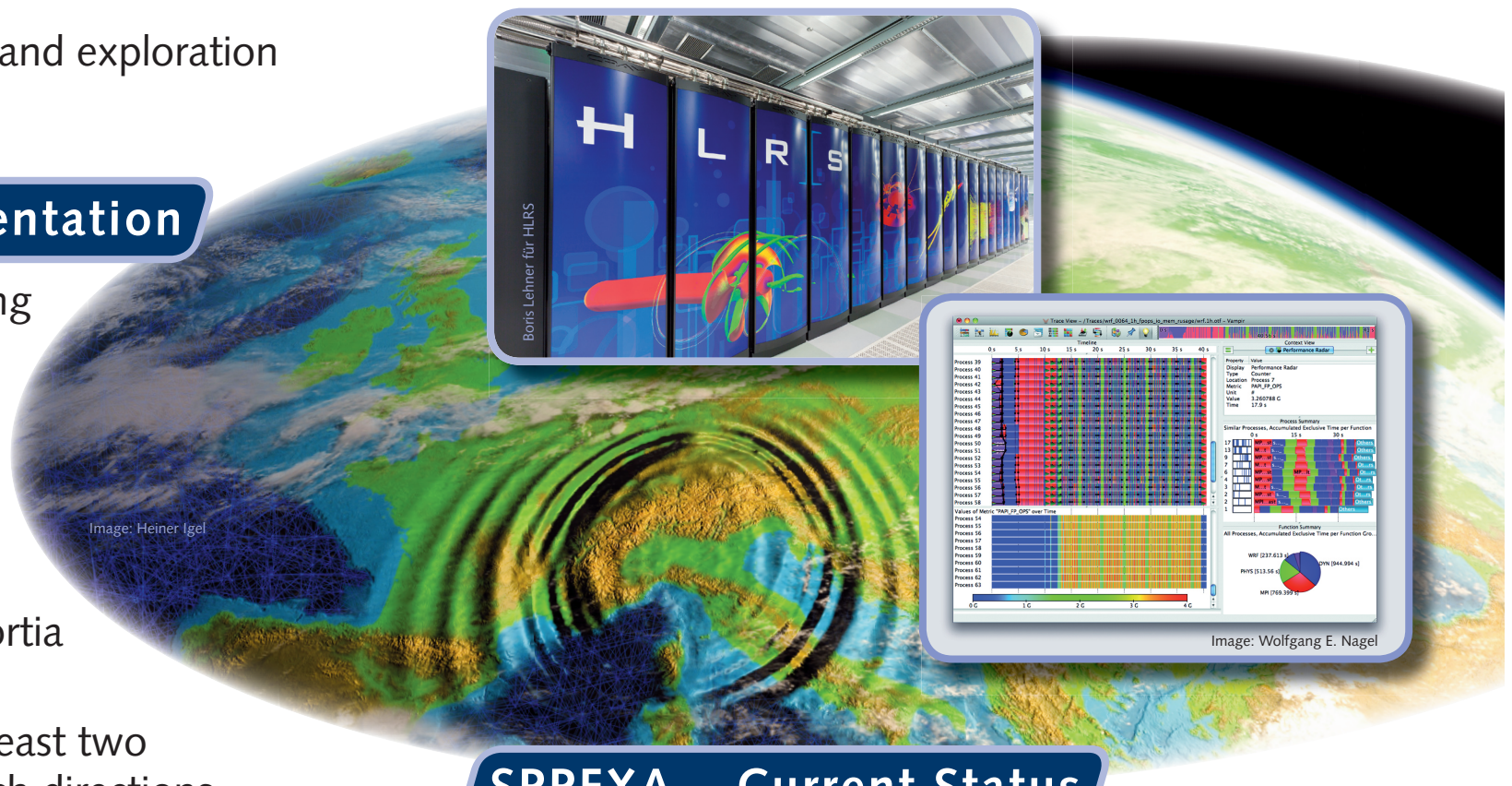
SPPEXA – Implementation

- Two three-year funding phases
- Overall budget of 3,7 M € per year
- Funded via DFG's strategy fund
- Interdisciplinary consortia of 3–5 groups
- Consortia address at least two of SPPExa's six research directions
- Two-stage application process with (1) sketches and (2) full proposals
- Global strategic coordination, following the established procedures of Collaborative Research Centres (SFB)
- Close collaboration with respective international programmes intended

www.sppexa.de

SPPEXA – Chronology

- 2006: discussion in the German Research Foundation (DFG) on the necessity of a funding initiative for HPC software
- 2010: initiative out of German HPC community, referring to increasing activities on HPC software elsewhere (USA: NSF, DOE; Japan; China; G8)
- 2010: discussion with DFG's Executive Committee, suggestion of a flexible, strategically initiated SPP
- 2011: submission of the proposal, international reviewing, and formal acceptance
- 2012: Review of project sketches and full proposals



SPPEXA – Current Status

- 68 sketches handed in, overall volume of 19 M € per year applied for
- 80 different universities, institutes and companies represented by 240 national and 15 international PIs
- 24 sketches invited for full proposals
- 13 full proposals accepted for funding
- Launch of programme and projects in January 2013