The Third Phase of PRACE
A User-centric Association

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PRACE Legacy

► Result of collaboration initiatives from 2004, for nearly 20 years

► PRACE, the Partnership for Advanced Computing in Europe, is a not-for-profit organisation incorporated in Belgium (AISBL) in 2010

► Over past decade, members, each representing one of the currently 25 member countries, coordinated their efforts to provide an HPC infrastructure to enable high-impact scientific research and innovation across all disciplines and industrial applications, thereby enhancing European scientific, technological and economic competitiveness for the benefit of society

PRACE Legacy (cont'd)

► Chiefly distributed resources on the Tier-0 world-class supercomputers of HM, on the basis of a globally recognized and transparent peer-review process based on scientific excellence
  ► Distributed more than 32.5 billion core hours to 947 scientific projects

► Mainly through its EU-funded PRACE-IP projects
  ► Promoted excellence in computational science and engineering by developing knowhow and expertise, e.g. via training, where 25.000 persons were trained
  ► Application support, technology watch, etc, across Europe

► Collaborating with European HPC industry and the promotion of innovation by supporting industrial HPC users in particular SMEs

Evolution of the European HPC Landscape

► **Establishment of EuroHPC Joint Undertaking (JU) in 2018**
  - ► JU to develop a World Class Supercomputing Ecosystem in Europe
  - ► PRACE ensured access to EuroHPC resources transparent for the users
  - ► PRACE has been proposing its Services to EuroHPC (so far no agreement of provision of services or formal role of PRACE in the JU)

► **End of provision of national resources**
  - ► PRACE 2 Programme ended 31 March 2023 (after several extensions)
    → No national resources to be distributed by PRACE at this point in time

► **Funding programmes run by EuroHPC**
  - ► Actions (training, users support, …) split across several calls (≠ PRACE-xIP projects)
  - ► Some actions through service procurement
  - ► Not all services by PRACE and its partners covered so far

Fundamentals of PRACE 3
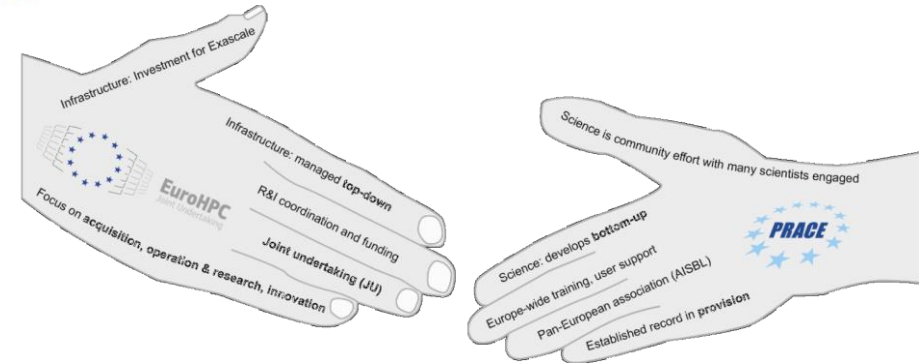
▶ PRACE 3 transforms PRACE into an
Association of Users and HPC Centres in Europe

  ▶ Acknowledging the gap in the new landscape to support users (Academia & Industry)
  ▶ Independent and beyond political frontiers
  ▶ Acknowledging the Infrastructure and Political leadership is with EuroHPC which PRACE wants to support as a successful and performing infrastructure

▶ Pillars and Principles of the third phase of PRACE

  ▶ PRACE **empowers** User Communities
  ▶ PRACE adopts a **user-centric** approach
  ▶ PRACE provides support for **best utilization** of EuroHPC Infrastructure
  ▶ PRACE fosters **International** Collaboration

General PRACE 3 Content structure

▶ Content of PRACE 3
  ▶ Long term perspective, ambitious outlook (open possible options)
  ▶ Feedback from current and future members following our bottom-up principle
  ▶ Evaluate feasibility and fix priorities and refine the definition of services
  ▶ Preparation of corresponding budget and fee for 2024 and plan beyond
  ▶ Assess PRACE 3 will have critical mass to start with

▶ Service-oriented approach
  ▶ Serve public interest with a (respectful) business management style

▶ Two categories of services
  ▶ Core Services funded by membership fees
  ▶ Complementary Services funded by projects or contracts

Core Services

▶ **PRACE as a representative of the user communities**

▶ Publish HPC-HPDA-AI-QC Scientific & Industrial Cases
  ▶ *The users perspective – Formerly PRACE Scientific Case*
▶ Recommendations on access mechanisms
  ▶ *Readability and efficiency of review process*
▶ Recommendations on support services or programmes
  ▶ *Training, applications support, …*
▶ Recommendations on architecture / technology availability

Structured collection of user communities feedback

▶ Analysis of HPC-HPDA-AI-QC impact
  ▶ *Achieved scientific excellence and innovation incl. sound methodology dev^ment*
▶ Maintain close relationship with all European HPC stakeholders
  ▶ *EuroHPC, Centres of Excellence, Competence Centres, …*
  ▶ *European research infrastructures , …*
  ▶ *Other European initiatives*
▶ Maintain close relationship with actors beyond Europe (International collaboration)

Scientific and Innovation Case 2024 Kick-Off

► **Preliminary highlights**

► **Volunteers for topics**

Core Services (cont'd)

► **Communication and dissemination activities**
  ► Recognise and promote Excellence & Achievement in HPC
    ► *Maintain and develop awards (Ada Lovelace and HPC Excellence)*
  ► Collect and structure information on HPC-HPDA-AI-QC in Europe
    ► *Serve as single point of information/library, for example*
      ► Fact sheets on new systems
      ► News from the communities, systems, calls also international
      ► Job ads
      ► Views from industry associations
      ► Community life (appointments, obituary…)
  ► Networking platform
    ► *Organise access to information depending on audience (e.g. members or not)*
  ► Publish information on different channels
    ► *Newsletter, website & social media*
  ► Annual HPC conference for Science and Industry
    ► *Formerly PRACEdays*
  ► Journal with scientific and technical information
    ► *Targeting HPC-HPDA-AI-QC and including industry*

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Core Services (cont'd)

► **Networking and cooperation with HPC Centres in Europe**
  - ► Identify and promote cooperation & collaboration opportunities
    - ► *Collect and review call for proposals*
  - ► Organise workshops on selected topics of interest to users
  - ► Maintain up-to-date contact database
    - ► *Including CRM supporting activities of the Association*
  - ► Meeting room in Brussels for members

Complementary Services

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▶ **Peer Review based services**
  ▶ Run Peer Review service (knowhow and platform) for third parties

▶ **Training**
  ▶ Implement missing element of roadmap on training (or pilot prospective elements)
  ▶ Define and maintain high-quality training standards
  ▶ Deliver training as fit for user needs

▶ **Efficient use of leadership computers and readiness for innovative computing technologies**
  ▶ Forward-looking software solutions for efficient use of leading HPC systems
  ▶ Benchmarking (e.g. on *proxy applications* defined by Industry)

▶ **Defining & designing demonstrators and testing of new technologies**

▶ **Other activities identified by the PRACE Assembly**

PRACE 3 in 2024

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▶ Publish the 2024 Edition of the Scientific and Innovation Case

▶ Develop a methodology to analyse impact of HPC-HPDA-AI-QC

▶ PRACE Ada Lovelace and PRACE HPC Excellence Awards

▶ Implement a networking platform & grow membership

▶ Inform the members special focus on our complex landscape

▶ Promote funding opportunities and identify relevant consortia

▶ Run workshops on selected topic (benchmarking, training, …)

▶ Restart the PRACEdays, *Where Science meets Industry*

▶ Deliver expertise within EC-funded projects and dedicated services

Governance structure = Two-tier structure

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┌──────────────┐        ┌────────────────────────────┐
│  Executive   │ ◄────► │       PRACE Council        │
│   Board      │        │                            │
└──────────────┘        └────────────────────────────┘
       ▲                              ▲
       │                              │
       ▼                              ▼
┌──────────────────────────────────────────────────┐
│           Assembly of PRACE Members              │
└──────────────────────────────────────────────────┘
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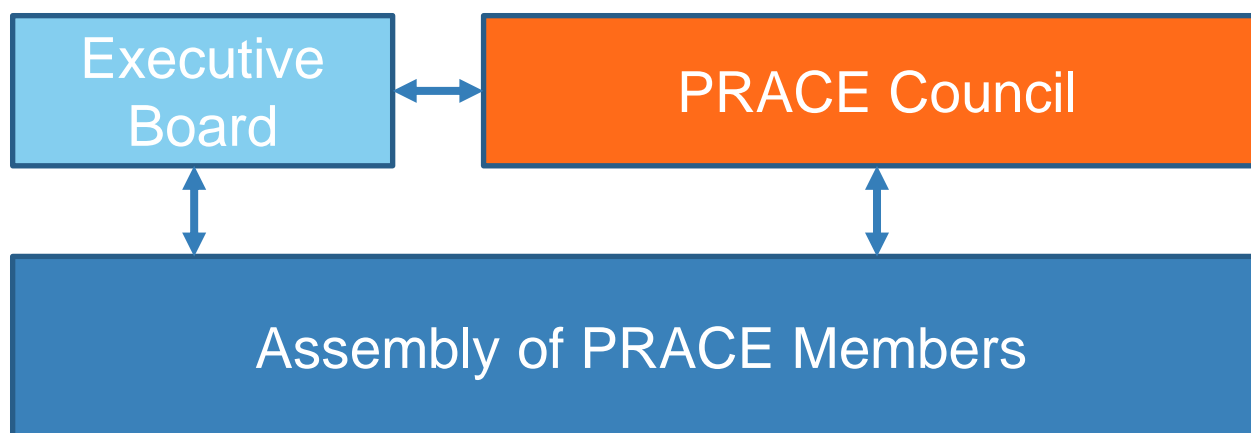
► **Assembly** = supreme *deliberative* body of PRACE (an assembly of people for the purpose of unhurried consideration and discussion)

► **Council** = operative decision making body steering the actual actions and programmes of PRACE

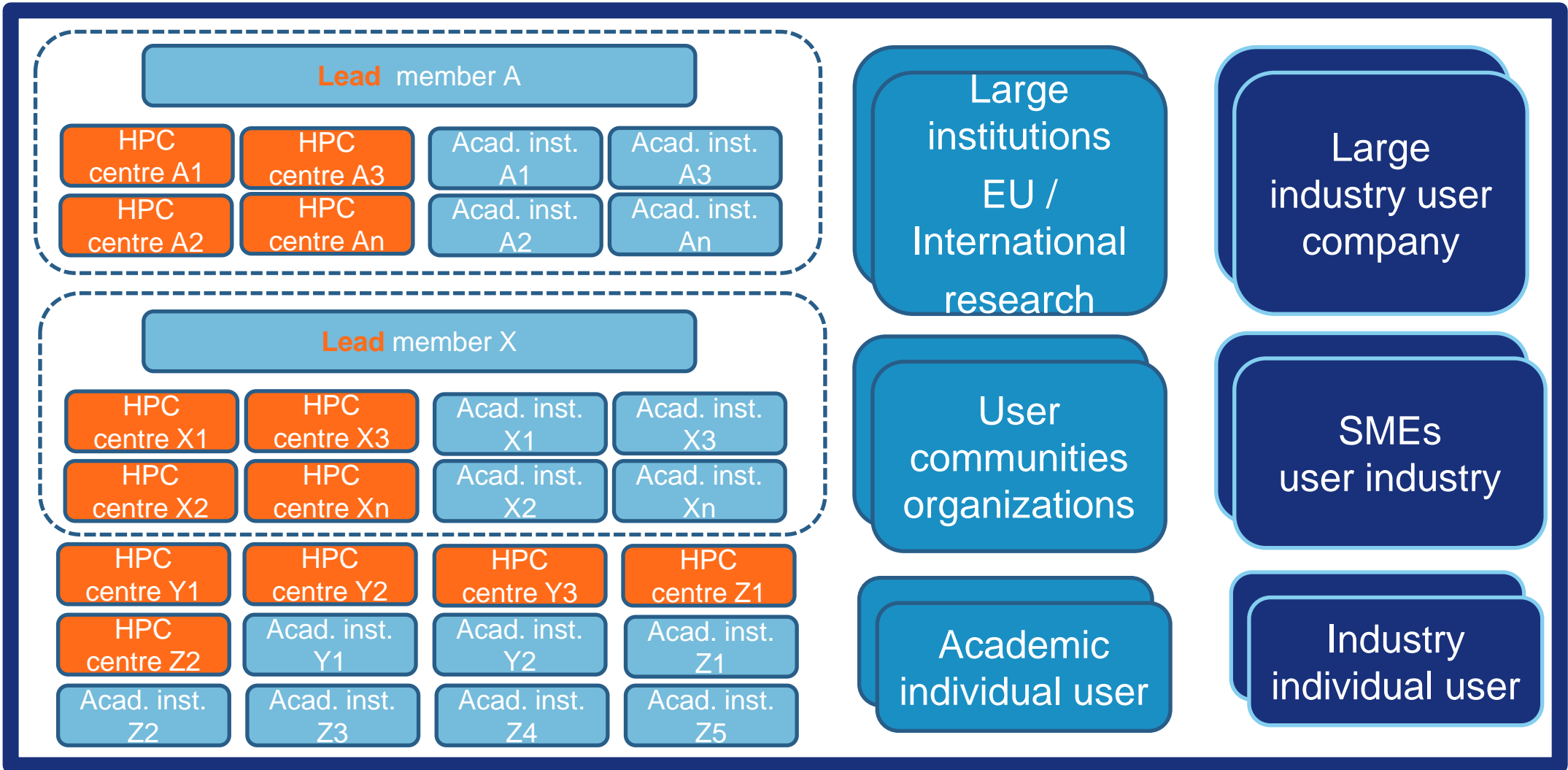► **Executive Board** = day-to-day management

Assembly of members

▶ **Type of members**
  - ▶ Organisations (legal persons)
    - ▶ *HPC centres or HPC agency organizations*
    - ▶ *Academic institutions*
    - ▶ *Commercial companies using HPC*
    - ▶ *Legal entities representing user communities*
    - ▶ *European or international research organizations*
    - ▶ *Lead members*
  - ▶ Individual users (natural persons)

▶ **Lead members**
  - ▶ Countries may wish to gather national institutions and appoint a lead member paying a consolidated fee covering all (max 10) these national institutions (e.g. to accelerate the process of recruiting new members)
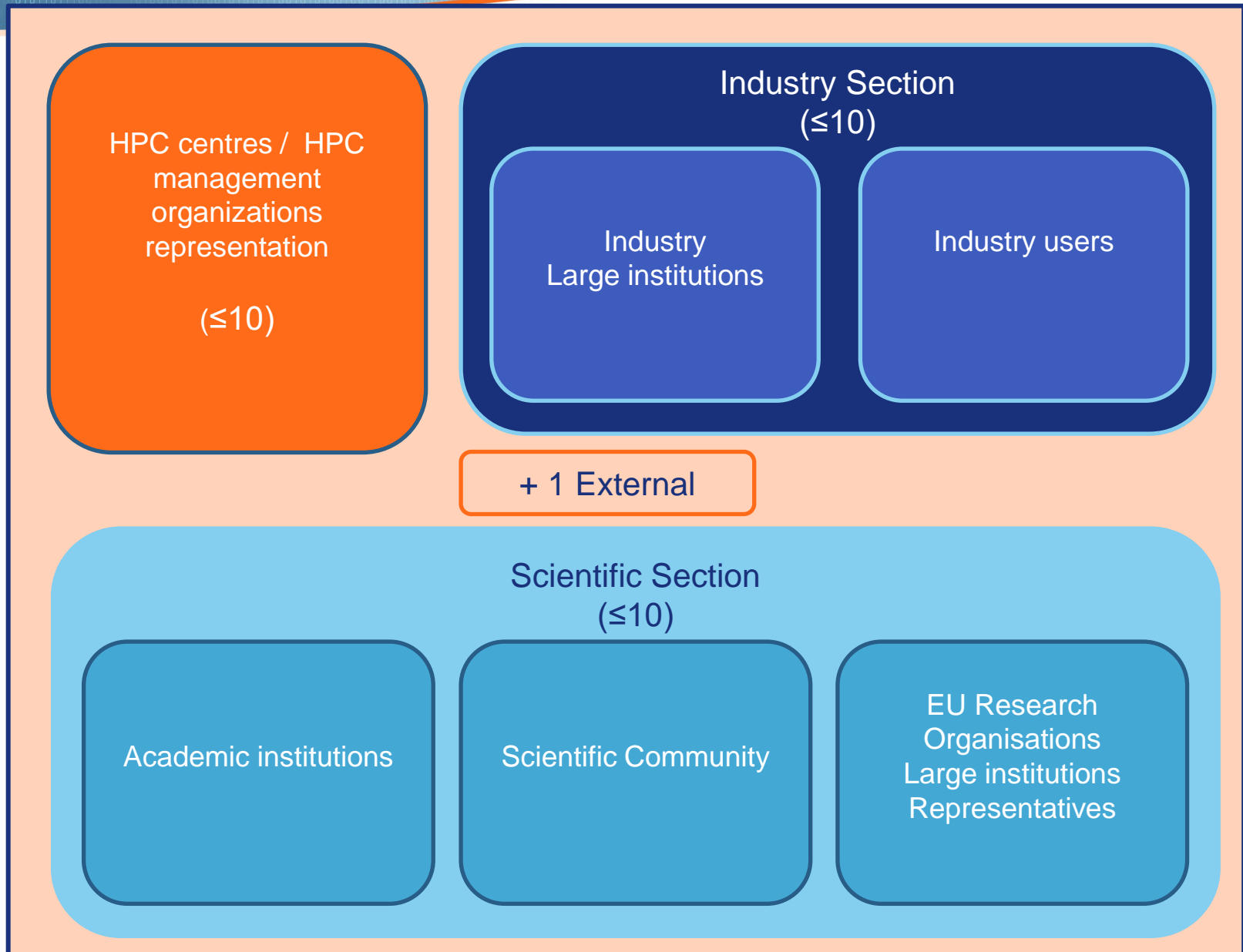
PRACE Assembly of Members

Lead member A

HPC centre A1	HPC centre A3	Acad. inst. A1	Acad. inst. A3
HPC centre A2	HPC centre An	Acad. inst. A2	Acad. inst. An

Lead member X

HPC centre X1	HPC centre X3	Acad. inst. X1	Acad. inst. X3
HPC centre X2	HPC centre Xn	Acad. inst. X2	Acad. inst. Xn

HPC centre Y1	HPC centre Y2	HPC centre Y3	HPC centre Z1
HPC centre Z2	Acad. inst. Y1	Acad. inst. Y2	Acad. inst. Z1
Acad. inst. Z2	Acad. inst. Z3	Acad. inst. Z4	Acad. inst. Z5

Large institutions EU / International research

Large industry user company

User communities organizations

SMEs user industry

Academic individual user

Industry individual user

Council

HPC centres / HPC management organizations representation

(≤10)

Industry Section
(≤10)

Industry
Large institutions

Industry users

+ 1 External

Scientific Section
(≤10)

Academic institutions

Scientific Community

EU Research Organisations
Large institutions
Representatives

Council

- ▶ **Representative**
  - ▶ Representative of the Assembly but not directly related to any given membership
  - ▶ Representative of the communities PRACE supports, also in their diversity, with members that are recognised as authoritative by their peers

- ▶ **Size**
  - ▶ Maximum 30 members, distributed equally amongst the HPC Centres, the Scientific, and the Industry Sections + 1 external member (outsider of the HPC community)

- ▶ **Appointed by the Assembly**
  - ▶ Rules to ensure balanced representativity across the members categories and beyond (emerging communities) **but also** against other criteria (gender balance, geographic spread, type of actor / community, renown, …)
  - ▶ Max 2 consecutive terms; each term max 2 years and/or annual replacement of 1/3 of the Council each year

PRACE 3 | LUMI-BE User Day | Brussels (Belgium)
6 November 2023

www.prace-ri.eu

Executive Board

▶ Role

    ▶ Responsible for the day-to-day management of the Association and its office and the proper execution of the Association governance

    ▶ Responsible for the implementation of the actions and programmes decided by Council (close collaboration with the Chair and Vice-Chair of bodies and WG)

▶ Composition = Directors of the Association

    ▶ Managing Director (responsible for overall management of the organisation)

    ▶ Operations Director (responsible for projects and service contracts execution)

    ▶ Are amongst permanent personnel of the organisation

▶ Appointment and Supervision

    ▶ Directors are appointed by the Assembly

    ▶ Council oversees the performance of the Executive Board

With a few (not so minor) details

▶ Quorum = majority of Institutional Members

▶ Decisions at simple majority (abstentions do not influence) one member one vote + weights and limits

  ▶ Lead and Large Members = 4 tokens
  ▶ Small and Individual Members = 2 tokens
  ▶ Associated Members = 1 token
  ▶ Limit of Individual Members voted tokens to 20%

▶ Six (6) decisions at qualified majority

  ▶ Including Budget and Fees & Amendment of Statutes

▶ Right to reconsider

Steps to implement PRACE 3

► **Amended Statutes approved!** on 18 September 2023 (50th Council)
  ► Result of a constructive consultation process (and unanimous decision)
  ► Enabled the implementation of the new governance structure
  ► Does not yet constitute commitment into PRACE 3

► Approval of non-profit purpose
  ► Notary records new Statutes and sends it for approval by Ministry of Justice
  ► The new structure comes into force when the later approval is published (<Decembre)
  ► Until then we can start implementing *between us*

► Call for members (ongoing)
  ► Current members to state their intent (and revalidate their admissibility)
  ► Opening for new members to join

→ Target to constitute the new Assembly and discuss the content
  ► Target date 13 December 2023 for first Assembly meeting with initial decisions

Still on time to get involved!

▶ Comment in the content of PRACE 3 and priorities for 2024

▶ Intent to join (possibly with *boundary conditions*)

▶ Any other input is welcome

THANK YOU FOR YOUR ATTENTION

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