

The process and key questions for reviewing the ACH's performance

After three years of providing computational expertise to EUROfusion code developers through the established Advanced Computing Hubs (ACHs) since 2021, it is sensible to evaluate the effectiveness of the work, the profile of expertise, and customer satisfaction with the current implementation. Consequently, the E-TASC scientific board (SB) plans to conduct a comprehensive review of five operational ACHs, presenting recommendations to the programme manager for activities covering up to the end of 2025 and the extension period of 2026-2027.

The **review process** will unfold in several stages:

1. Survey Distribution:

All involved parties, including code developers, ACHs, and Thrusts, will be approached to complete a questionnaire regarding the current situation and suggestions for improvements. Tailored questions will be directed to different groups. (Deadline for responses: **April 19, 2024**)

2. Information Sharing:

Collate and share the received information within the E-TASC community, involving the Scientific Board, ACH coordinators, and Thrust facilitators. A window will be provided for clarifications on the points raised. (Deadline: **May 10, 2024**)

3. Meeting Organization:

Conduct a meeting, possibly in person, involving the Scientific Board, Thrust facilitators, TSVV Principal Investigators, and ACH coordinators. This meeting aims to discuss outcomes, challenges, proposed solutions, and recommendations.

4. Recommendation Report Drafting:

The Scientific Board chair and the PMU FSD will draft the recommendation report. After incorporating comments from all involved parties, the finalized report will be submitted to the programme manager. (Deadline: **June 21, 2024**)

This structured review process aims at comprehensive assessment, collaborative input, and transparent communication within the E-TASC community, leading to informed recommendations for the continuous improvement of support activities.

Following **key questions** shall be addressed by the review.

1. Customer satisfaction

Customer satisfaction is the ultimate key performance indicator (KPI) driving the maintenance of support teams. While other KPIs indirectly contribute to this goal, direct measurement is achieved through customer surveys. Key questions for these surveys include:

- Was it possible for customers to receive the support they requested, up to the desired level?
- Were reported issues or requested developments resolved within the allocated time, or do requests remain open indefinitely?
- Do customers find the current mode of interaction with the ACH team effective, or do they see opportunities for improvement? If so, how?

- Do customers think that the process of assigning ACH resources is easy and transparent, or can it be further improved?

2. ACH competences

Ensuring the right competences within ACHs, with a balanced mix and sufficient manpower, is crucial for the support teams' effectiveness. With emerging techniques such as increased use of artificial intelligence, machine learning methods, and a potential shift in computing resources toward greater GPU utilization, it becomes essential to reevaluate the ACH profiles established several years ago. Key questions for these surveys include:

- Are the competences customers requiring for enhancing their codes available within the existing ACHs? If not, need to be specified.
- Do customers anticipate potential obstacles to the progress of their codes due to a shortage of ACH manpower with specific competences?
- Do customers believe the current balance between High-Performance Computing (HPC), Integrated Modelling (IM), and Data Bases (DB) needs reconsideration? If so, in which direction?

3. ACH satisfaction

Ensuring the continuous, smooth operation of ACH teams and the maintenance and development of essential competences requires addressing emerging issues in personnel allocation or task distribution over recent years. Key questions for these surveys include:

- Were ACHs able to fulfil all requests with the required competences and manpower? If not issues and solutions to prevent recurrence need to be indicated.
- Was it feasible to maintain the human resources of ACHs at the level agreed from the beginning of the work programme? If not, the challenges faced and propose corrective measures taken or recommended need to be specified.
- Was it possible to provide training to ACH team members and/or enhance the overall competences of the ACH? If not, challenges and propose solutions for future improvement need to be indicated.
- Does the current process of assigning tasks to ACHs facilitate the smooth and continuous operation of support teams, or are there opportunities for further enhancement? If so, improvements are to be suggested.