

**HORIZON-EUROHPC-JU-2021-COE-01**

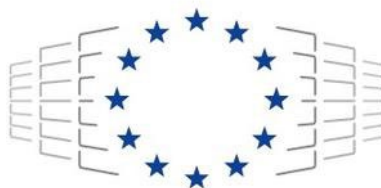


**The European Centre of Excellence for Engineering  
Applications**

**Project Number: 101092621**

**D7.3**

**First Updated Report on Communication,  
Dissemination, Collaboration and Community Building**



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## List of Abbreviations

AHM	All-Hands Meeting
AI	Artificial Intelligence
CFD	Computational Fluid Dynamics
CoE	Centre of Excellence
DOI	Digital Object Identifier
EPI	European Processor Initiative
ESP	EXCELLERAT Service Portal
EuroHPC JU	European High Performance Computing Joint Undertaking
GA	Grant Agreement
GPU	Graphics Processing Unit
HPC	High-Performance Computing
HRB	Horizon Results Booster
KPI	Key Performance Indicator
M	Month
MS	Milestone
NCCs	National Competence Centres
P2	Phase 2 (referring to EXCELLERAT)
PMT	Project Management Team
SME	Small and Medium-Sized Enterprises
UC	Use Case
WP	Work package
X	Formerly Twitter (social media platform)

## Executive Summary

This report is an updated overview of the communication, dissemination, and community-building efforts carried out under WP7 of EXCELLERAT P2 during the reporting period M13–M30 (January 2024–June 2025). Building on the strategy outlined in D7.1 and the previous report D7.2, the activities reported here reflect a maturing phase of the project, in which outreach has become increasingly targeted, strategic, and impact-oriented. The collaboration activities are reported in D7.6, and thus out of the scope of this present deliverable.

During this period, the project has continued to use a diverse set of communication channels and formats. These include regular blog updates and a bi-monthly newsletter, which successfully transitioned from MailPoet to LinkedIn Newsletters, surpassing the original subscription targets. Social media engagement remained strong on LinkedIn, which now serves as the project’s main channel following the gradual phase-out of Twitter/X. Early activity was also established on BlueSky as a potential alternative microblogging platform. Video content was further expanded with the launch of two YouTube playlists – the “Partner and Use Case” series and the more technical “Deep Dives” – providing digestible, visual insights into the project's outputs.

Scientific publications have increased in this period, with peer-reviewed articles and conference proceedings highlighting EXCELLERAT P2’s maturing research outputs. Similarly, the podcast continued with six new episodes, some of which were additionally featured in the CASTIEL 2/EuroCC 2 “Supercomputing in Europe” podcast series. While media relations remained a selective tool, one press release was distributed in connection with the Automotive Testing Expo 2024.

A major advancement was the introduction and implementation of a structured concept for success stories from EXCELLERAT P2. Based on input from use case leaders and collaborative story development within WP7, three success stories have been published to date (see section 3.9), highlighting technical achievements, cross-institutional collaboration, and practical impact. The approach is well-established, and more stories are being developed to meet the final project targets.

Community building efforts continued with webinars targeting internal and external stakeholders and the strengthening of links with relevant actors in the High-Performance Computing (HPC) ecosystem, such as CSC with their LUMI supercomputer. WP7 also collected and structured information from project partners regarding existing collaborations with industry and other target audiences, contributing to a clearer picture of EXCELLERAT P2’s ecosystem interactions. Section 4 of the deliverable provides further detail on these actions and future plans.

Overall, communication and dissemination activities remain fully aligned with the project's KPIs. The strategy has proven adaptable to changing platforms and audience behaviours, and it continues to support EXCELLERAT P2’s visibility and impact within the European HPC and engineering communities.

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## 1 Introduction

As EXCELLERAT P2 entered its next reporting period M13–M30, the focus of WP7 continued to evolve from establishing foundational communication frameworks to deepening engagement, visibility, and collaboration both within the project and externally. This deliverable is an update of D7.2 [1], which was based on D7.1 Plan for dissemination and exploitation, including communication activities [2]. Building on the communication and dissemination roadmap laid out in D7.1, WP7 has further implemented and refined its activities in line with the objectives of the second project phase. This deliverable reports on the progress and outcomes achieved up to M30 across the full scope of WP7, covering communication, dissemination, and community building. All collaboration activities are reported separately in D7.6, to be submitted at the same time as this deliverable.

WP7 spans the entire duration of EXCELLERAT P2, from M1 to M48, and is structured around four key tasks:

- 7.1: *Communication and dissemination*
- 7.2: *Collaboration with CASTIEL 2*
- 7.3: *Further collaboration with the ecosystem*
- 7.4: *Community Building*

An overview of the associated WP7 deliverables, their timelines, and status is presented in Table 1 below:

Number	Title	Due	Status
D7.1	Plan for dissemination and exploitation including communication activities	M6	Submitted
D7.2	Report on communication, dissemination, collaboration, and community building	M12	Submitted
D7.3	First Updated Report on communication, dissemination, collaboration, and community building	M30	Submitted
D7.4	Final report on communication, dissemination, collaboration, and community building	M48	To be submitted
D7.5	Collaboration plan with definition of common objectives and activities including milestones	M6	Submitted
D7.6	Updated collaboration plan with definition of common objectives and activities including milestones	M30	Submitted

**Table 1: WP7 Deliverables**

In addition to the deliverables, WP7 contributes to the achievement of several project milestones. The status of these milestones is summarised in Table 2. While most were achieved on schedule, MS11 faced a delay due to prolonged legal coordination processes among the involved other projects. Despite this, EXCELLERAT P2 signed the collaboration agreement in time and made sure to support the ongoing process. The remaining milestones will be reached in the coming reporting phases.

Number	Title	Due	Status
MS1	Project Kick-Off	M1	Done
MS2	Plan for dissemination and exploitation including communication activities available	M6	Done
MS8	The verification and update phase of the EXCELLERAT P2 services has been performed. More Success stories available	M32	Pending
MS10	Final Reports of all project outcomes and project close	M48	Pending
MS11	A collaboration agreement has been signed	M6 (still delayed)	Pending (delayed)

**Table 2: Milestones with WP7 contribution**

Deliverable D7.3 reflects the progress achieved within WP7, except for collaboration activities, and serves as an update on the implementation of the dissemination and communication strategy defined at the project’s outset.

Section 2 provides an overview of communication performance, with an assessment of the key performance indicators set for the current phase. Section 3 outlines updates to communication tools and formats, including brand materials (3.1), the project website (3.2) and blog (3.3), newsletters (3.4), social media channels (3.5), the video series (3.6) and podcast news (3.7), media outreach and scientific publications (3.8), as well as the development and release of success stories (3.9). Section 4 focuses on community building and includes updated plans, concrete activities (4.1), and anticipated next steps (4.2). The concluding remarks in Section 5 summarise the overall achievements of this period.

Overall, several new success stories were developed and published during this reporting period, showcasing technical achievements in collaboration with use case leaders and partners. In addition, scientific outreach efforts have continued with multiple publications in peer-reviewed journals and conferences. The project also experienced a notable shift in the social media landscape, with a continued strategic emphasis on LinkedIn and the gradual phasing out of Twitter/X, reflecting broader changes in audience engagement patterns. The blog and newsletter formats have also been further established, providing recurring updates and insight into project developments. Highlights made in community building include the organisation of targeted webinars and the systematic mapping of stakeholder interactions across the consortium. In EXCELLERAT P2, community building refers to the strategic and structured engagement of stakeholders – such as internal stakeholders, industrial end users, HPC resource providers, engineering communities, and open-source contributors – through targeted outreach activities (e.g. webinars, interest groups, onboarding initiatives). These efforts aim to foster sustained collaboration and integration of stakeholders into the ecosystem beyond the project's lifetime.

Throughout this reporting period, WP7 has intensified its efforts to maximise the visibility and impact of EXCELLERAT P2’s results while maintaining alignment with the project’s evolving objectives. Communication activities have remained agile and responsive, adapting to the growing maturity of the project and its increasing number of outputs. WP7 will continue to support the broader dissemination of results and foster meaningful engagement with its stakeholders.

## 2 Communication Performance Status

To ensure the effectiveness and visibility of EXCELLERAT P2’s communication and dissemination activities, WP7 established a set of measurable Key Performance Indicators (KPIs) aligned with the project’s overarching communication strategy in D7.1 [3]. These indicators not only help track impact but also support internal engagement by demonstrating tangible progress.

Throughout the reporting period up to M29, all KPIs have been regularly monitored through a dedicated tracking system combining analytics from social media platforms, the project website, and media mentions. Where necessary, corrective actions have been initiated early to align performance with set objectives.

The communication strategy targets a range of stakeholders, from academic researchers and HPC users to industry representatives and policy actors. Platforms are strategically selected based on stakeholder profiles: LinkedIn [4], for instance, is the primary channel to reach business and institutional stakeholders, while scientific contributions are disseminated through journals, conference presentations, and webinars.

Table 4 below provides an updated overview of KPI progress up to M29 (May 2025).

Dissemination and Communication KPIs	Target Value by M48	Status in M29
Scientific Publications	At least 20 journal publications and 10 conference papers	7 conference papers 4 journal publications
Workshop attended/organised	At least 10/2	7/14
Conferences attended and exhibitions	At least 20 conferences and 4 exhibitions	19 conferences, 4 exhibitions
Web Seminars organised	10	4
Participants per web seminar activity	20-50, depending on the scope of the webinar	26
Unique website visitors	3,000 average per month = total of 144,000 in M48	7,194 average per month, total: 193,635 in M29
LinkedIn	(raised after the amendment of GA) 1,300 total followers At least 4 updates per month (average) 4,000 average monthly impressions 4.0% average engagement rate	1,044 11 monthly updates (average) 4,714 average monthly impressions 7% average engagement rate
X/Twitter (or short message service) → used until January 2025, change of plan	(decreased after the amendment of GA) 700 total followers	603 followers 12 monthly updates (average)

	At least 10 updates per month (average) 1,200 average tweet impressions 2.0% average engagement rate	1,396 average tweet impressions 6.86% average engagement rate
BlueSky (new, started in January 2025)	n/a	59 followers 11 monthly updates
Press clippings	20 neutral-positive media articles released with mention of EXCELLERAT 2	7 media clippings
Newsletter	250 total subscribers Bi-monthly issues, starting in M4, total = 23 issues	321 subscribers 14 issues

**Table 3: KPIs and target values**

Overall, the performance indicators show encouraging progress. Traffic to the EXCELLERAT P2 website remains consistently high and well above expectations, driven by event outreach and regular content updates. Social media engagement, particularly on LinkedIn, continues to outperform targets in terms of visibility and interaction rates.

Following the amendment of the Grant Agreement (GA) and internal strategy reassessment, the project team began phasing out the use of X (formerly Twitter) in January 2025. The decision stemmed from reputational and ethical considerations linked to the platform ownership and moderation policies [5]. At the point of taking the decision, it was also not possible anymore to export the statistics of the platform, necessary for assessing the overall performance on the platform. While this transition was planned, X/Twitter metrics up to M29 still reflect strong performance, particularly in terms of engagement rates. The introduction of BlueSky as an alternative microblogging platform to X, with quite similar features, has shown promising early results, with regular posting activity and an initial follower base already taking shape. To date, engagement rates cannot be extracted from the BlueSky statistics view. With an increasing user community, it is expected that this function will be added to the platform at a later stage.

In terms of content dissemination, the pace of journal and conference publications is expected to accelerate during the final third of the project, as more mature research outcomes become available. The scientific publication process naturally involves long lead times, which explains the current numbers being lower relative to other indicators.

Participation in conferences and organisation of technical workshops (find more details and examples in Table 11) continues at a steady rate. Additionally, the team will intensify the organisation of webinars in the coming months, offering deep dives into EXCELLERAT P2's technical innovations, use cases, and training materials.

As it stands, the communication and dissemination activities of EXCELLERAT P2 remain fully on track. No major deviations are reported, and all KPIs are either met or progressing toward their respective targets. The flexible approach to platform management, regular performance reviews, and a strong content pipeline ensure strong ongoing visibility and stakeholder engagement through to project end.

### 3 Update on Activities

As outlined in the previous sections, this subsection will provide more details on the channels the EXCELLERAT P2 team is using in order to reach their external stakeholders and the targets set.

#### 3.1 Brand Material

To strengthen the identity of EXCELLERAT P2 as the European Centre of Excellence in Engineering Applications, a broad range of branded communication materials has been produced since the start of the second project phase. These materials support both general outreach and target-specific engagement, ensuring consistent visibility at key scientific and industrial events and in digital spaces. As explained in D7.1 [3], the brand of the first project phase has continued to evolve the visual language and core messaging to reflect the current project structure. All materials are made available in both digital and print formats as appropriate, and they are regularly adapted based on audience needs and event profiles.

From M13 to M29, the EXCELLERAT P2 flyer has been revised to reflect the project’s focus on use cases rather than core codes in this project phase (see Figure 1). As there are several in person events coming up, the team has printed it via a printing service. In addition, the flyer is available for download on the project website [6].

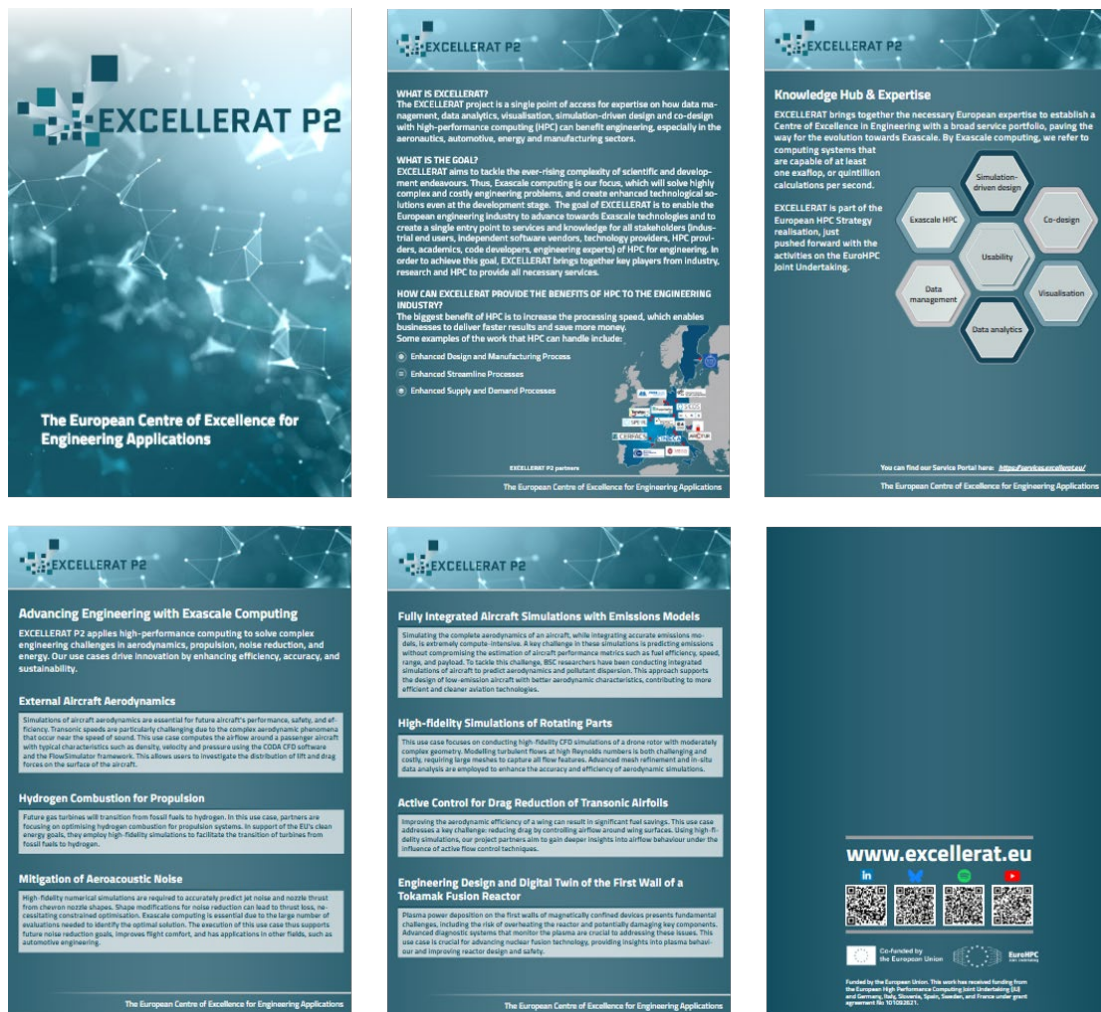


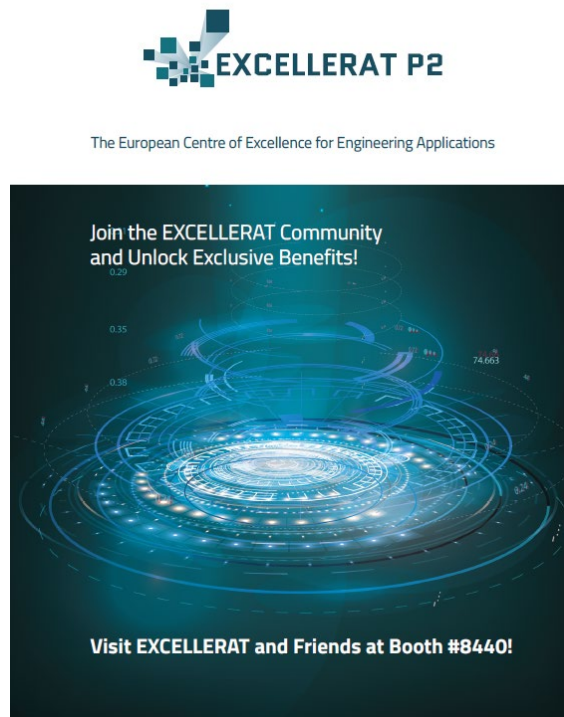
Figure 1: Updated General Flyer

The EXCELLERAT P2 roll-up, originally produced for SOR23 [7], was updated and used for other events, too. A minimalist business card (see Figure 2) featuring key project contact information and branding was created specifically for the Automotive Testing Expo 2024 [8], and used for several smaller events thereafter. The card format offers a convenient handout option to engage industry participants during quick exchanges at booths and events.



**Figure 2: Business Card Front**

For use in industry-facing outreach, particularly at the Automotive Testing Expo 2024 [8], a concise A5 one-pager was developed. Tailored to industrial end-users in the automotive domain, the content focuses on EXCELLERAT P2’s relevance to their specific simulation and HPC needs. An updated version of the one-pager has recently been developed for use at the Automotive Testing Expo 2025 (see Figure 3). This event will be reported on in more detail in D7.6.



**Figure 3: A5 One-Pager Automotive Sector**

For ISC25 [9], the project poster (see Figure 4) has been updated with new success stories from this project phase. It will be displayed at the EuroHPC Joint Undertaking's booth at the exhibit in June 2025.

The poster features the EXCELLERAT P2 logo at the top, with the website [www.excellerat.eu](http://www.excellerat.eu) and the text 'The European Centre of Excellence for Engineering Applications'. Below the logo, the 'Project Objectives' section states that EXCELLERAT is a single point of access for expertise on data management, data analytics, visualization, simulation-driven design and co-design with high-performance computing (HPC). It highlights that EXCELLERAT P2 strives to show the contribution of HPC, HPC+ and AI in engineering to a low-carbon, more environmentally friendly and socially responsible product development and manufacturing, as well as the mobility and energy sector.

The 'Success Stories from EXCELLERAT 2:' section is divided into three columns:

- Automated workflow for the HI-fidelity simulation of propulsion devices: application to after burners**
  - CHALLENGE:** Safran Group's efforts in decarbonization and depollution are driving innovation in burner technologies. However, the volume of after-burner flames and the unpredictable nature of new fuels challenge meshing practices born of more classical, no longer computationally affordable, configurations.
  - SOLUTION:** A first version of the ASMR workflow, based on tools like PyTSP and Katipatos, enables efficient, user-controlled mesh refinement and is already in use at Safran. A parallel version is under development to replace the current sequential approach.
  - BENEFITS:**
    - Affordable simulations: Simulation can be adapted to available resources because the number of final degrees of freedom is directly input by the user.
    - Lower manpower: Automation cuts supervision time by up to 75% through logging and traceability.
    - Resource optimisation: Automation ensures a progressive and reasonable usage of resources.
- Advanced scalable workflow of ray tracing kernel for radiative heat loads assessment**
  - CHALLENGE:** Modeling the first wall of a tokamak reactor requires capturing complex physical phenomena to match experimental accuracy, which demands time- and memory-intensive computations. Optimizing CPU/GPU solvers for exascale performance is essential, a goal supported by EXCELLERAT through access to HPC resources and expertise.
  - SOLUTION:** A scalable workflow connects three simulation codes to create a digital twin of infrared camera measurements by computing heat flux, temperature distribution, and photon movement across the full reactor wall. By combining magnetic field-line tracing, heat transfer, and optical simulations, the workflow delivers synthetic images that closely match experimental data.
  - BENEFITS:**
    - Integrated simulations: Enables comprehensive reactor monitoring.
    - Automated workflow: Reduces computational overhead.
    - Accurate temperature detection: Effective even with surface reflections.
    - Hotspot prediction: Detects risks before component damage.
- High-fidelity simulation using Adaptive Mesh Refinement with Spectral Element Method solver**
  - CHALLENGE:** Simulating high-Reynolds-number turbulent flows is computationally demanding due to the wide range of flow scales and uncertain dynamics that complicate meshing. While turbulence models reduce resolution needs, they introduce errors—highlighting the need for accurate simulations to improve future turbulence modeling.
  - SOLUTION:** An Adaptive Mesh Refinement (AMR) workflow is being integrated into Nektar's CFD solver, enabling dynamic grid adjustment during runtime by splitting or merging spectral elements. This approach concentrates resolution where needed, guided by estimated computational error, improving accuracy and efficiency while minimizing computational cost.
  - BENEFITS:**
    - Control of computational error at optimal computational cost.
    - Reduced mesh size resulting in reduced computational cost.
    - Simplified meshing and possibility to model flow cases with unknown dynamics.

The bottom section includes 'Acknowledgements' (Project Runtime: 2023-01-01 until 2026-12-31), 'EXCELLERAT on Social Media' (Twitter: @excellerat.bsky.social, LinkedIn: EXCELLERAT, YouTube: EXCELLERAT), and 'Participating Partners' (ARCTUR, CERFACS, CINECA, E4, Fraunhofer, RWTH, SICOS, SIPE/RL, SSC, Teratec, EuroHPC, and Co-funded by the European Union).

Figure 4: Updated EXCELLERAT P2 Poster

### 3.2 Website Updates

The EXCELLERAT P2 website [10] remains the central hub for all project-related information and communication. It provides stakeholders with access to project updates, services, publications, and outreach materials, while linking to relevant tools such as the EXCELLERAT P2 Service Portal [11].

During the current reporting period, several incremental improvements were made to the website. Minor design adjustments included a revised footer and a more visible menu icon to improve navigation, especially on mobile devices. An arrow leading to the top of the page was added to all sub-pages for an improved user experience. Additionally, a call to action to become

a member of the EXCELLERAT Interest Groups was added to the start page. The landing pages for “Success Stories” and “Publications” were also streamlined to better support the growing content in those sections.

New content has been added on an ongoing basis. This includes updated descriptions of the core codes to reflect the latest technical developments, as well as newly published success stories (see Section 3.9). The general flyer was replaced on the downloads page, and smaller updates were made across various sections to reflect the project’s progress.

Overall, the website continues to be maintained actively and serves as a reliable and up-to-date platform for both external communication and internal reference. The following Figure 5 illustrates an example of a blog article that was well-received by the website visitors, with more than 300 views.



## Advancing Engineering Insights through Machine Learning: EXCELLERAT P2 and EuroCC Italy Workshop in Bologna



On October 18, 2024, EXCELLERAT P2 and EuroCC Italy collaborated on a dynamic workshop in Bologna, Italy, designed to advance the use of Machine Learning (ML) and Data Analytics in engineering. This event brought together engineers, data scientists, and researchers from EXCELLERAT and EuroCC National Competence Centre Italy to exchange expertise and dive into cutting-edge ML methods that are reshaping data-driven engineering processes.

The workshop was kicked off with an in-depth session on non-linear dimension reduction and clustering techniques, essential for handling high-dimensional engineering datasets. Facilitators introduced advanced non-linear techniques such as t-SNE, UMAP, and Diffusion Maps, which allow engineers to reduce data complexity while retaining critical structures and relationships. In practical terms, these techniques make it possible to visualise complex data in more accessible forms without losing essential insights. The session also featured clustering algorithms, including k-means, DBSCAN, and spectral clustering, widely applicable in engineering challenges like aerodynamics optimisation and climate modelling. Participants discussed practical use cases and witnessed these techniques applied to real-world scenarios.

The second session centered on machine learning workflows, focusing on end-to-end data processing and model development. Key topics included data cleaning, feature extraction, and setting up workflows to streamline the machine learning pipeline. With guided tutorials using popular Python libraries like Scikit-learn and PyTorch, participants engaged in hands-on exercises, learning practical skills to prepare, analyse, and model data. This session offered valuable insights into implementing ML for engineering simulations, showcasing how ML workflows can enhance model precision, improve scalability, and accelerate solution times.

The workshop wrapped up with a networking lunch, fostering meaningful discussions on next steps and potential joint initiatives. The attendees brainstormed future projects, with a particular focus on using ML to tackle specific engineering challenges. Closing remarks from representatives of EXCELLERAT and EuroCC Italy emphasised the value of collaborative learning and innovation to drive advancements in engineering ML applications.

Overall, the workshop highlighted the critical role of cross-organisational collaboration in advancing data analytics and machine learning. As EXCELLERAT and EuroCC Italy continue their partnership, they aim to pave the way for new applications of ML in engineering, supported by shared resources, research initiatives, and follow-up workshops that dive even deeper into topics like reinforcement learning and distributed ML.

Figure 5: Screenshot of a successful blog post

### 3.3 Blog Overview

Between M13 and M29, EXCELLERAT P2 continued to use blog articles as a key channel to showcase project activities, partner involvement, and participation in international events. The blog serves not only to disseminate knowledge to a broader audience but also to strengthen the project’s digital visibility through consistent website updates and engagement on social media, particularly LinkedIn. A total of 15 new blog articles were published in this reporting period (see Table 4).

Publication date	Title	URL
17.01.2024	HPC for Industry: an overview of the European landscape	<a href="#">Link</a>
23.01.2024	Transforming Engineering with Artificial Intelligence and High-Performance Computing	<a href="#">Link</a>
02.02.2024	EXCELLERAT P2 All Hands Meeting 2024	<a href="#">Link</a>
17.05.2024	EXCELLERAT P2 shines at ISC24	<a href="#">Link</a>
14.06.2024	Automotive Testing Expo	<a href="#">Link</a>
10.07.2024	ASHPC 2024	<a href="#">Link</a>
02.08.2024	HRB Collaboration 2024	<a href="#">Link</a>
19.08.2024	ICCP 2024	<a href="#">Link</a>
28.10.2024	AHM October 2024	<a href="#">Link</a>
30.10.2024	NCC Italy Workshop 2024	<a href="#">Link</a>
11.02.2025	EXCELLERAT P2 at HiPEAC 2025	<a href="#">Link</a>
21.03.2025	EXCELLERAT P2 at EuroHPC Summit 2025	<a href="#">Link</a>
08.05.2025	EXCELLERAT P2 All-Hands Meeting in Ljubljana, May 2025	<a href="#">Link</a>
19.05.2025	SCALES - A data management platform for easy-to-use high-performance computing for industry	<a href="#">Link</a>
26.05.2025	EXCELLERAT CoE and Service Portal highlighted at the ASHPC25 Conference	<a href="#">Link</a>

**Table 4: Blog Overview M13-M29**

### 3.4 Newsletter Progress

As outlined in D7.1 [3], the EXCELLERAT newsletter has been used since phase 1 as a key outreach tool to share project updates, featured content (such as blog posts and future success stories), and announcements related to events or training opportunities.

During the current reporting period (M13–M30), 9 issues were published on a bi-monthly basis, as can be seen in Table 5 below. Initially distributed via the MailPoet [12] plugin through the website, the team transitioned to LinkedIn Newsletters in September 2024 after technical limitations made further use of MailPoet for sending the newsletter unfeasible. In addition, feedback from project partners highlighted LinkedIn as a more effective channel for reaching wider, professional audiences. This change allowed EXCELLERAT P2 to continue distributing updates efficiently and with improved analytics. For archiving purposes, the MailPoet links are

still being created, in order to ensure that website users who don't use LinkedIn can also access the newsletter issues via the project website.

The newsletter currently has 321 subscribers, and thus already overachieved the original goal of reaching 250 by the end of the project phase.

Publication date	Number of newsletter issue	URL	Performance
Jan 2024	#19	<a href="#">Link</a>	9.6% click rate, 33% opening rate
Mar 2024	#20	<a href="#">Link</a>	10.8% click rate, 39.5% opening rate
May 2024	#21	<a href="#">Link</a>	6.7% click rate, 46.4% opening rate
Jul 2024	#22	<a href="#">Link</a>	9.2% click rate, 38.4% opening rate
Sep 2024	#23	<a href="#">Link</a>	53 views, 473 impressions, 34 clicks, 7.2% engagement rate
Nov 2024	#24	<a href="#">Link</a>	127 views, 788 impressions, 21 clicks, 2.7% engagement rate
Jan 2025	#25	<a href="#">Link</a>	129 views, 448 impressions, 19 clicks, 4.2% engagement rate
Mar 2025	#26	<a href="#">Link</a>	132 views, 403 impressions, 22 clicks, 5.5% engagement rate
May 2025	#27	<a href="#">Link</a>	127 views, 498 impressions, 23 clicks, 4.6% engagement rate

**Table 5: Newsletter issues released in M13-M30**

### **3.5 Updates on Social Media**

As outlined in D7.1 [3], EXCELLERAT P2 continued its use of social media to promote project activities, share news and outcomes, and engage with the HPC and engineering communities. As opposed to the original plan, the main platforms are now **LinkedIn**, **BlueSky**, and **YouTube**, with YouTube being covered in the following section (3.6).

During this reporting period, a number of changes and adaptations were necessary. The continued decline in performance and reliability of the platform X, including issues with analytics, slower follower growth, and general uncertainty around the platform's direction, led the team to explore alternative channels. A test phase on Threads [13] was initiated in January 2024, shortly after the platform became available in Europe. Despite several months of activity, the platform did not gain noticeable traction—community engagement was low, and follower growth remained stagnant. It became clear that Threads had not yet been widely adopted by the target audience, and the test run was subsequently discontinued.

Following this, the team initiated a presence on **BlueSky** [14] in January 2025, which appears to be emerging as a more viable alternative. While still in its early stages, BlueSky offers a less volatile environment than X and is being monitored closely to evaluate long-term potential. Both the structure, look, and feel, as well as the functionalities are quite similar to the former Twitter platform.

In parallel with these explorations, the KPIs for social media have been revised (see Section 2) to reflect both platform changes and strategic focus shifts. Rather than diluting efforts, the focus

has been on consolidating the most impactful channels. Among these, LinkedIn stands out as the best-performing platform. Engagement has been consistent, and the platform has proven valuable for professional outreach, especially for sharing technical news, announcing events, and drawing attention to blog posts or new tools. Interactive formats like quizzes, behind-the-scenes content, and short series (video content releases) have contributed to strong visibility.

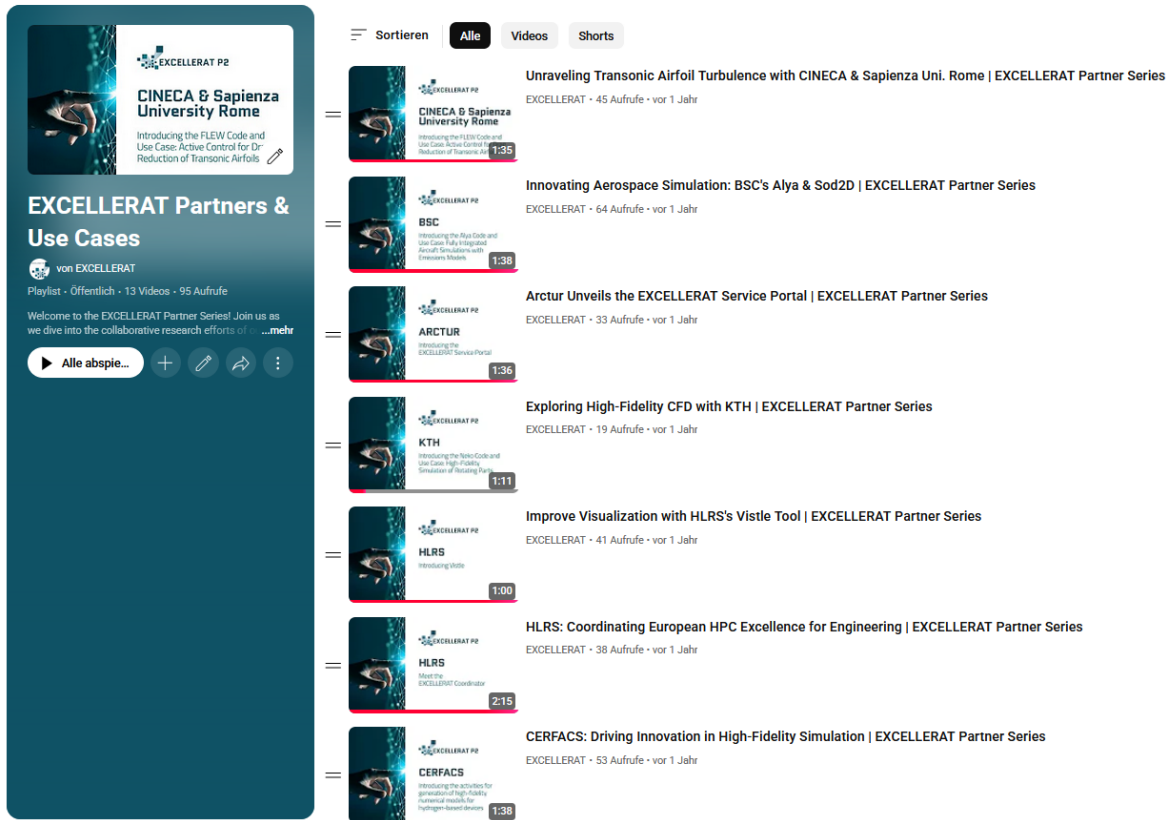
To maintain regularity and ensure diverse content, partners have continued to contribute via a shared rotating content plan in line with the project's social media guidelines. At the time of writing, LinkedIn has grown to 1,044 followers, and BlueSky has reached 59 followers. Both channels remain in use, but ongoing platform evaluations are part of the strategy to adapt to the fast-evolving social media landscape.

In line with the social media guidelines and shared rotating content plan set up in the beginning of EXCELLERAT P2, contributions to the accounts' content are regularly being made by project partners.

### **3.6 Video Series**

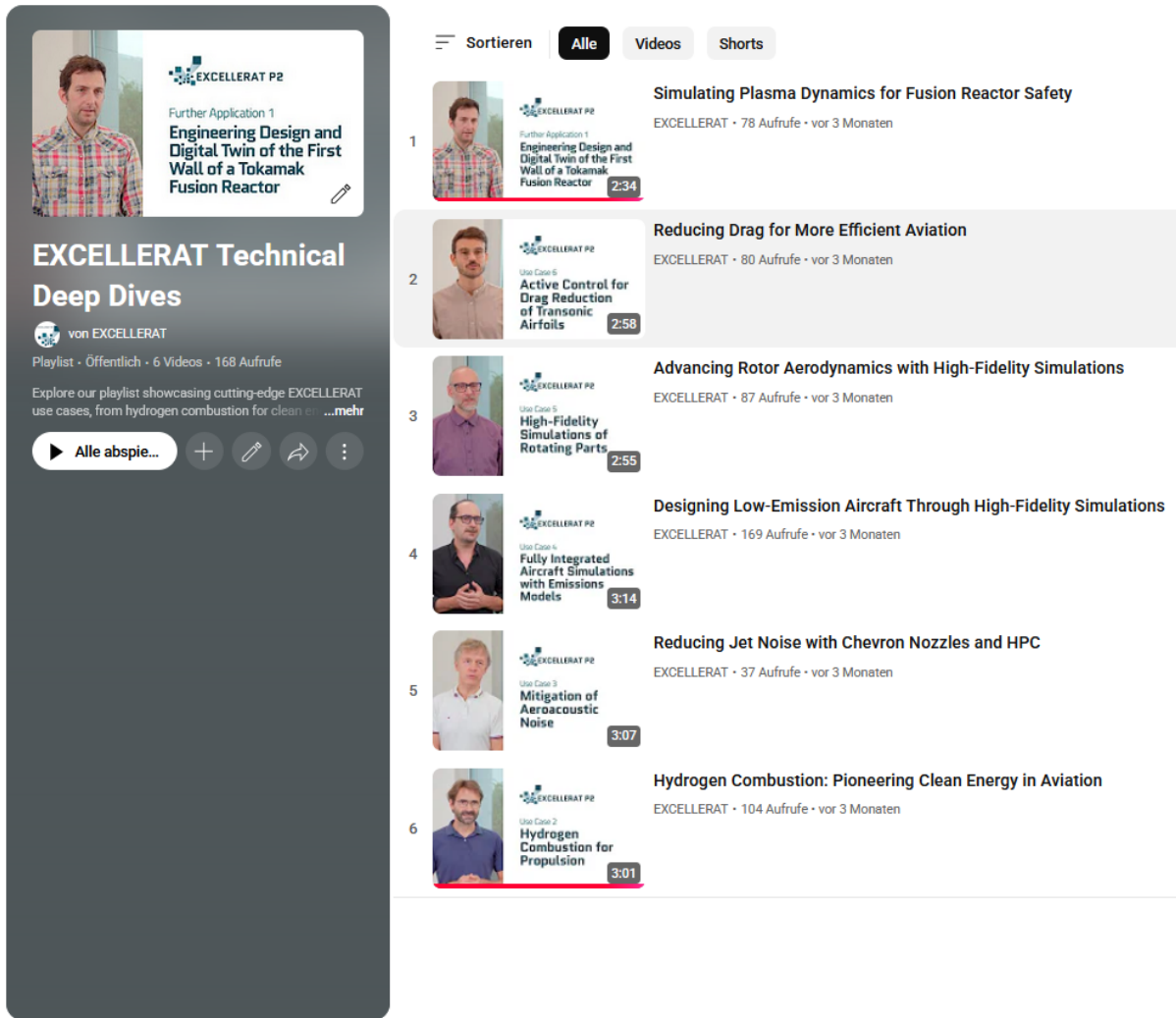
As outlined in D7.2 [1], a YouTube channel [15] is being used for hosting video content of EXCELLERAT P2. Until M30, this platform has served as a central hub for multiple video series aimed at different target audiences, including the broader technically-versed public, specific end-user groups, and industry, due to its digestible and personal format. These video initiatives have evolved into a key instrument for public engagement and outreach, supporting both technical and strategic communication goals.

One of the main initiatives has been the EXCELLERAT P2 Partner and Use Case series [16]. Published as a dedicated YouTube playlist in March 2024, this series is designed to introduce the EXCELLERAT P2 project's partner institutions and their respective roles within the use cases. The concept was developed around a clear visual identity and a coherent narrative structure: short interview clips of partners (recorded during the All-Hands Meeting in Barcelona in January 2024) are interwoven with visuals illustrating their contributions, whether through code development, simulation work, or research applications. The resulting videos are concise – each around 90 seconds long – making them highly suitable for dissemination via social media, newsletters, and conference booths. At the time of writing this deliverable, the playlist (see Figure 6) consisted of 12 videos and had accumulated over 600 views. This series has been instrumental in humanising the project, showcasing the people and institutions behind the research.



**Figure 6: Overview of YouTube Playlist on EXCELLERAT Partners & Use Cases**

Complementing this more general introduction to partners is the Technical Deep Dives series, launched in January 2025 [17]. This second playlist (see Figure 7) takes a more in-depth approach, targeting specific end user communities and researchers with an interest in the technical details of EXCELLERAT's P2 work. The videos follow a scripted structure developed in collaboration with the technical work packages. The use of subtitles, consistent music, and EXCELLERAT P2 branding enhanced the accessibility and recognisability of the series. Each video starts with a brief introduction to the use case, followed by a breakdown of the technical approach – including methods, tools, and simulations – before presenting preliminary results and outlining future research directions. Visual support in the form of simulations, code snippets, or lab footage is provided by partners, while the narration ensures consistency and clarity across the series. Six videos were produced for the launch, covering a wide range of use cases – from Computational Fluid Dynamics (CFD) simulations and noise reduction to pollutant modelling and tokamak reactor design. To date, the playlist has achieved over 600 views.



**Figure 7: Overview of YouTube Playlist on EXCELLERAT Technical Deep Dives**

Looking ahead, video content production will continue to play an important role in the project’s dissemination strategy. Following the first recordings conducted during the May 2025 All-Hands Meeting (AHM) in Ljubljana, further videos will be recorded at the location of partner organisations. The focus of the upcoming video series will shift toward showcasing success stories. These videos are intended to highlight specific technical achievements developed within EXCELLERAT P2, emphasising impact and real-world application. The narrative combines project context, expert interviews, and visual footage and serves as a model for future success story productions. Additional videos in this format will follow in the upcoming months.

### 3.7 Podcast

The “HPC Podcast powered by EXCELLERAT” continues to serve as a dynamic and accessible communication format, offering a more personal and conversational medium for engaging with various target audiences. Each episode is distributed via Spotify [18] and other platforms, embedded into the EXCELLERAT P2 website, and actively promoted through social media and newsletters to maximise its reach. Over the current reporting period, six new episodes have been published. See the full list of podcast episodes released in EXCELLERAT P2 in Table 6.

Episode 8, released in February 2024, explores the European Processor Initiative (EPI) and featured a discussion with EXCELLERAT P2 partner SiPearl. The following month, Episode 9 focused on how HPC can be made accessible to small and medium-sized enterprises. In June

2024, Episode 10 addressed the FFplus open call. Episode 11 appeared in December 2024 and examined the convergence of Artificial Intelligence (AI) and HPC in solving societal challenges, reflecting a growing emphasis on interdisciplinary applications within the project. In early 2025, the podcast continued with Episode 12, which introduced the topic of CFD in aerodynamics, presenting insights into how EXCELLERAT P2 technologies are being used in this field. Episode 13 was produced in collaboration with the FFplus project and dealt with access to HPC and AI resources for SMEs.

Episode	Date	Title	URL
E13	20 May 2025	HPC & AI for Industry: FFplus and the Road Ahead with Guy Lonsdale	<a href="#">Link</a>
E12	20 Jan 2025	Advancing Computational Fluid Dynamics in Aerodynamics	<a href="#">Link</a>
E11	3 Dec 2024	Leveraging AI and HPC for Societal Impact	<a href="#">Link</a>
E10	21 Jun 2024	Empowering SMEs with HPC and AI: the FFplus Project	<a href="#">Link</a>
E09	3 May 2024	Bringing High-Performance Computing to SMEs	<a href="#">Link</a>
E08	9 Feb 2024	The European Processor Initiative	<a href="#">Link</a>
E07	18 Dec 2023	Neko, a portable framework for high-order spectral element simulations	<a href="#">Link</a>
E06	7 Jul 2023	Data Management Solutions for Industry	<a href="#">Link</a>
E05	2 May 2023	Nuclear Fusion Research	<a href="#">Link</a>

**Table 6: EXCELLERAT P2 Podcast Episodes**

Beyond their channel, episodes 12 and 13 were also selected for inclusion in the Supercomputing in Europe Podcast [19], a wider European podcast initiative coordinated by the CASTIEL 2/EuroCC 2 team. This collaboration enhances the visibility of EXCELLERAT P2 content across the EuroHPC ecosystem and allows for broader dissemination beyond the project's immediate communication channels.

As of Month 29, preparations for further recordings are underway, ensuring that the podcast remains a living and evolving part of the project's dissemination strategy.

### **3.8 Media Relations and Publications**

Media relations continue to be an important, albeit selective, part of the EXCELLERAT P2 dissemination strategy. While outreach to specialised press can be challenging due to editorial thresholds and general information overload, earned media coverage remains a valuable asset for credibility and for reaching broader or new audiences beyond the immediate project community. During the current reporting period, one press release [20] was issued in May 2024 to announce EXCELLERAT P2's participation in the Automotive Testing Expo 2024 in Stuttgart. The release focused on highlighting the project's contributions to the automotive sector, particularly in simulation technologies, and showcased the involvement of key partners. Although no media clippings were generated from this particular release, the activity nonetheless served to increase EXCELLERAT P2's visibility in this domain and laid the groundwork for further engagement with industry press.

As before, media monitoring continues, and an overview of clippings is available in Table 7 below. Further press releases will be developed and distributed in an agile manner should particularly newsworthy results or milestones emerge. At least one final press release is already planned for the project's conclusion.

Media type	Source	Release date	URL
Online News Article	Landesportal Baden-Württemberg	10.12.2024	<a href="https://www.baden-wuerttemberg.de/de/service/presse/pressenmitteilung/pid/stuttgarter-konsortium-baut-europaeische-ki-fabrik">https://www.baden-wuerttemberg.de/de/service/presse/pressenmitteilung/pid/stuttgarter-konsortium-baut-europaeische-ki-fabrik</a>
Online News Article	BigData Insider	22.06.2023	<a href="https://www.bigdata-insider.de/europaeisches-innovationszentrum-fuer-digitalisierungsvorhaben-a-39abe54b4f3aeb22122690c2a660302b/">https://www.bigdata-insider.de/europaeisches-innovationszentrum-fuer-digitalisierungsvorhaben-a-39abe54b4f3aeb22122690c2a660302b/</a>
Online News Article	PR-Inside	24.05.2023	<a href="https://www.pr-inside.com/de/edih-suedwest-neues-europaeisches-innovationszentrum-r4921846.htm">https://www.pr-inside.com/de/edih-suedwest-neues-europaeisches-innovationszentrum-r4921846.htm</a>
Newsletter	NCC Bulgaria	11.05.2023	<a href="http://eurocc-bulgaria.bg/2023/05/data-analytics-for-engineering-data-using-machine-learning-june-12-14-online">http://eurocc-bulgaria.bg/2023/05/data-analytics-for-engineering-data-using-machine-learning-june-12-14-online</a>
Newsletter	NCC Slovenia	01.04.2023	<a href="https://informer.arnes.si/?p=preferences&amp;uid=b6e7cd58f5d36fbf0e01a82a9fa518">https://informer.arnes.si/?p=preferences&amp;uid=b6e7cd58f5d36fbf0e01a82a9fa518</a>
Online News Article	Bioengineer.org	03.02.2023	<a href="https://bioengineer.org/eurocc-and-castiel-begin-second-funding-phase-of-initiative-to-strengthen-hpc-capabilities-across-europe/">https://bioengineer.org/eurocc-and-castiel-begin-second-funding-phase-of-initiative-to-strengthen-hpc-capabilities-across-europe/</a>
Online News Article	InsideHPC.com	03.02.2023	<a href="https://insidehpc.com/2023/02/eurohpc-ju-renews-support-of-eurocc-and-castiel/">https://insidehpc.com/2023/02/eurohpc-ju-renews-support-of-eurocc-and-castiel/</a>
Online News Article	HPCwire	03.02.2023	<a href="https://www.hpcwire.com/off-the-wire/eurocc-and-castiel-begin-2nd-funding-phase/">https://www.hpcwire.com/off-the-wire/eurocc-and-castiel-begin-2nd-funding-phase/</a>
Online News Article	HPCwire	26.01.2023	<a href="https://www.hpcwire.com/off-the-wire/eurohpc-announces-launch-of-10-centers-of-excellence/">https://www.hpcwire.com/off-the-wire/eurohpc-announces-launch-of-10-centers-of-excellence/</a>

**Table 7: Media clippings & related publications**

On the academic dissemination side, activity has significantly increased as partners begin to share their first scientific results and participate in relevant conferences. Several new publications have been released since the last reporting period, these include both peer-reviewed journal articles and conference proceedings covering a diverse range of topics – from

performance analysis and solver development to turbulence modelling, in-situ visualisation, and software porting for exascale readiness. See Table 8 below for a full overview.

WP7 continues to support the involved partners in terms of open access compliance and acknowledgements, ensuring consistency across submissions. With the goal of achieving at least 20 journal publications and 10 conference papers by the end of the project, the current pace is in line with expectations at this stage.

<b>Title</b>	<b>Authors</b>	<b>Title of the Journal/Proc./Book</b>	<b>DOI</b>	<b>Repository Link</b>
<b>STREAmS-2.1: Supersonic turbulent accelerated Navier-Stokes solver version 2.1</b>	Francesco Salvatore, Giulio Soldati, Alessandro Ceci, Giacomo Rossi, Antonio Memmolo, Giacomo Della Posta, Davide Modesti, Srikanth Sathyanarayana, Matteo Bernardini, Sergio Pirozzoli	Computer Physics Communications	<a href="https://doi.org/10.1016/j.cpc.2025.109652">10.1016/j.cpc.2025.109652</a>	<a href="#">Link</a>
<b>Scale-resolved aeroacoustic simulations of propulsion systems</b>	Matthias Meinke, Ansgar Niemöller, Miro Gondrum, and Zhe Yang	In book: Measurement, Modelling and Simulations Techniques for Novel Aircraft Architectures	<a href="https://doi.org/10.35294/ls2025-01-meinke">10.35294/ls2025-01-meinke</a>	<a href="#">Link</a>
<b>Evaluating Performance and Scalability of the Sparse Linear Systems Solver Spliss</b>	Michael Wagner, Jasmin Mohnke, Olaf Krzikalla and Arne Rempke	Advanced Computational Methods and Design for Greener Aviation. Computational Methods in Applied Sciences, vol 59	<a href="https://doi.org/10.1007/978-3-031-61109-4_1">https://doi.org/10.1007/978-3-031-61109-4_1</a>	<a href="#">Link</a>
<b>Scalability Evaluation of the CFD Solver CODA on the AMD Naples Architecture</b>	Michael Wagner	Sustained Simulation Performance	<a href="https://doi.org/10.1007/978-3-031-18046-0_7">https://doi.org/10.1007/978-3-031-18046-0_7</a>	<a href="#">Link</a>

<b>A Look at Performance and Scalability of the GPU Accelerated Sparse Linear System Solver Spliss</b>	Jasmin Mohnke, Michael Wagner	Euro-Par 2023: Parallel Processing	<a href="#">10.1007/978-3-031-39698-4_43</a>	<a href="#">Link</a>
<b>Effect of Stokes number and particle-to-fluid density ratio on turbulence modification in channel flows</b>	P. Gualtieri, F. Battista, F. Salvatore, C.M. Casciola	Journal of Fluid Mechanics	<a href="#">10.1017/jfm.2023.851</a>	<a href="#">Link</a>
<b>Exploring the Ultimate Regime of Turbulent Rayleigh–Bénard Convection Through Unprecedented Spectral-Element Simulations</b>	Niclas Jansson, Martin Karp, Adalberto Perez, Timofey Mukha, Yi Ju, Jiahui Liu, Szilárd Páll, Erwin Laure, Tino Weinkauff, Jörg Schumacher, Philipp Schlatter, Stefano Markidis	SC '23: Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis	<a href="#">10.1145/3581784.3627039</a>	<a href="#">Link</a>
<b>EXCELLERAT CoE: The European Centre of Excellence for Engineering Applications</b>	Matic Brank, Tina C. Marc	ASHPC24 – Austrian-Slovenian HPC Meeting 2024	<a href="#">10.25365/phaidra.463</a>	<a href="#">Link</a>
<b>EXCELLERAT CoE: Tackling Next-Generation Engineering Challenges in the Exascale Era</b>	Sophia Honisch, Tina C. Marc, and the EXCELLERAT P2 Consortium Partners	ASHPC24 – Austrian-Slovenian HPC Meeting 2024	<a href="#">10.25365/phaidra.463</a>	<a href="#">Link</a>
<b>Interactive In Situ Visualization</b>	Dennis Grieger	Lecture Notes in Computer Science (LNCS, vol. 15058)	<a href="#">10.1007/978-3-031-73716-9_32</a>	<a href="#">Link</a>
<b>High-speed turbulent flows towards the exascale: STREAMS-2 porting and performance</b>	Srikanth Sathyanarayana, Matteo Bernardini, Davide Modesti, Sergio Pirozzoli, Francesco Salvatore	Journal of Parallel and Distributed Computing, Volume 196	<a href="#">10.1016/j.jpdc.2024.104993</a>	<a href="#">Link</a>

**Table 8: EXCELLERAT P2 Publications**

### **3.9 Success Stories**

To strengthen the dissemination of EXCELLERAT P2's results and better communicate its impact, a dedicated concept for success stories was developed and introduced during the AHM held in Bologna in October 2024. The idea behind this initiative was to move beyond general communication and transform the project's technical and scientific achievements into stories that demonstrate their relevance and benefit to specific target audiences.

In preparation for the AHM, initial ideas for potential success stories were collected in close collaboration with WP2 (Use-Case Execution). Each use case leader was asked to prepare a brief pitch outlining a possible story topic. These short presentations were followed by interactive discussions with the audience, which focused on identifying key challenges, measurable benefits, the broader impact of the achievement, the audiences the story would appeal to, and the potential for future collaboration. The aim of these sessions was not only to evaluate the potential of each idea but also to collaboratively define the main messages and angles for the story.

Following the AHM, a working group within WP7 (Awareness, Impact Creation & Outreach) began meeting regularly to develop the stories based on the input gathered. Typically, one of the use case owners would provide an initial draft, which was then further developed and refined by a member of the working group. The draft would go through several internal feedback loops before being reviewed for language quality by a native English speaker and submitted to the Technical Manager for final approval. Once published, the stories were disseminated through the EXCELLERAT P2 website hub [21], promoted on social media, and featured in the project newsletter.

The success stories follow a structured format based on the type of topic: industry collaboration, scientific achievement, or collaboration with other Centres of Excellence (CoEs), National Competence Centres (NCCs), or projects. Each story includes a short background section that outlines the organisations involved, the tools or codes used, the period, and contact information. It then focuses on the specific technical or scientific challenge, describes the solution that was developed, and explains the impact of the achievement in either business, scientific, or societal terms. Where applicable, the stories also highlight potential services and unique benefits and are visually supported with relevant illustrations. An example can be found in the following screenshot in Figure 8.



## Success Story: Automated workflow for the Hi-fidelity simulation of propulsion devices: application to after burners

**SUCCESS STORY ■ HIGHLIGHTS:**

- Keywords:
  - Automated workflow
  - Reactive simulation
- Industry sector: Aeronautics, Energy, Manufacturing & engineering, Mechanical engineering
- Key codes used: Airbus, PyIP, Kalpataru, Lemmings, Tekigo
- Collaboration with industrial users

**BENEFITS:**

- Affordable simulations: The simulation can be adapted to available resources because the number of final degrees of freedom is directly input by the user.
- Lower manpower: The automation decreases the need for run supervision, while the traceability and logs accelerate runtime. This saves up to three quarters (75%) of the supervision time previously necessary.
- Resource optimisation: The automation ensures a progressive and reasonable usage of resources. This avoids run outliers in performance or set-ups.



*Loera, E. Ribet, B. Cuenot, "NOx pathways in lean partially premixed swirling H2-air turbulent flame", In Proc. Combustion and Flame, Volume 248, 2023*

**ORGANISATIONS INVOLVED:**

**CERFACS**

Cerfacs is a science center that produces innovative solutions for the simulation of earth physics and engineering. Backed by several public and private partners, supported by European and national research projects, it is focused on research and training for high performance simulation. Cerfacs developed the simulation workflow.

**SAFRAN**

Safran Aircraft Engines draws on a legacy reaching back over 110 years to design, develop, produce and market, alone or in partnership, engines for civil and military aircraft. It tested and deployed the workflow on one of its actual after-burner studies.

**EXCELLERAT PRODUCTS AND SERVICES:**

**Lemmings:** an open-source helper for packaging simulation workflows with little work. It is a pure python package available on PyPI.

**PyIP:** a mesh handler tool used in the workflow as a wrapper for the MMG3D remeshing library (sequential remeshings). It is a C and python package available on PyPI.

**Kalpataru:** A hierarchical graph/mesh partitioning tool used in the workflow as a wrapper for the MMG3D remeshing library (parallel remeshings). It is a C++ library available on <https://github.com/cerfacs>.

**Tekigo:** A python tool used to compute and merge different remeshing criteria into a single metric. It is a pure python package available on PyPI.

**AUB3D:** A high fidelity solver for reactive simulations. The codebase is in Fortran90, available upon request from Cerfacs through a Non Disclosure Agreement.

**TECHNICAL CHALLENGE:**

The decarbonation and depollution efforts of Safran Group are pushing the innovation of new burner technologies forward. However, the volume of after-burner flames and the unpredictability of newer fuels such as hydrogen flames are challenging the meshing practices born of more classical, no longer computationally affordable configurations.



*Loera, E. Ribet, B. Cuenot, "NOx pathways in lean partially premixed swirling H2-air turbulent flame", In Proc. Combustion and Flame, Volume 248, 2023*

**SOLUTION:**

The first corner stone of the project was the creation of "Lemmings" during EXCELLERAT P1, a tool to package run workflows with low effort. Compared to job chaining, it provides portability, low impact on queues, exhaustive logging, and traceability of job sequences. Second was the creation of a remeshing criterion independent of the mesh resolution but globally controlled by the user. This was previously done by the Center of Excellence for Combustion (CECC) using Tekigo. Finally, the robustness of PyIP and the performance of Kalpataru, both remeshing tools backed by EXCELLERAT P2, pushed the solution to maturity.

The close collaboration and support of Safran Group engineers grounded the work in purpose and practicality, and the fact that the prototype version is already in the hands of the end users proves its maturity.

**ALTERNATIVE SOLUTION / AT THE MOMENT:**

A first version of the Automated Static Mesh Refinement workflow (ASMR) has been successfully tested by Safran engineers. This workflow allows for fast exploration and feedback on new meshes directly based on the physical phenomena observed and computational resources available. At the moment, the mesh adaptation is done and it is already deployed as an early prototype by the end user. A Cerfacs team is currently working on a second version that uses parallel instead of sequential mesh adaptation.



**IMPACT:**

Safran Group developed the capability to routinely execute high fidelity simulations during the after-burner design process. Without this workflow, the computational cost would have limited these simulations to exceptional runs on a case-by-case basis.

The same workflow is being evaluated for other Safran design fields: ignition phases, cruise runs, turbomachinery. An interesting feature is emerging: The meshes created by the workflow are born of physical meshing criteria, while current meshing practices come from years of experience. Comparing the two kinds of meshes is shedding a new light on present simulation practices.

A last but noticeable surprise was observed by user support. As a greater share of simulations are created via automated tools, the runs are more homogenous, with a higher traceability. User support reported that after an initial surge, less support was requested in the long run. This explains why this workflow, initially required by industrial users, is now also slowly gaining traction with academic users for simulations with lower technology readiness levels, especially for highly unpredictable hydrogen burners.

**POTENTIAL EXCELLERAT SERVICES:**

- The Lemmings workflow can be adapted to any simulation and meshing software, as long as the simulation process can be expressed as recursive runs with stop criteria. If remeshing is included, the target degrees of freedom must be a user input.
- The mix of meshing criteria being physics based and normalised are not specific to the simulation technique and could be used for alternative approaches (LBM, Spectral Differences).

**UNIQUE VALUE OF EACH SERVICE:**

- The Lemmings workflow is unique because it is small, lightweight, and yet complies with most cluster policies. It never submits more than one job at a time, avoiding flurries and providing excellent traceability.
- Kalpataru offers exceptional performance in mesh partition and adaptation, with excellent scaling over thousands of domain decompositions. Its modular structure using templates also allows for easy extension to other remeshing libraries.

Figure 8: Screenshot of one of the Success Stories

By M30, the project had already met its initial target of releasing between three and five success stories. These are available on the success story overview page [21]. This overview has been updated to reflect the progress of EXCELLERAT P2's second phase while maintaining access to earlier stories published during the first phase. To increase their visibility and reach, the existing success stories were also transferred into a CASTIEL 2 success story template, which is then being used by CASTIEL 2 for wider dissemination through the HPC in Europe hub and the CASTIEL 2 success story booklet.

The following Table 9 provides an overview of the success stories released so far:

<b>Title</b>	<b>Benefits</b>	<b>Release Date</b>	<b>Contributor Org.</b>	<b>Lead Author</b>	<b>URL</b>
<b>High-fidelity simulation using Adaptive Mesh Refinement with Spectral Element Method solver</b>	<ul style="list-style-type: none"> <li>- Control of computational error at optimal computational cost</li> <li>- Reduced mesh size, reduced computational cost</li> <li>- Simplified meshing for complex dynamics</li> </ul>	06.03.25	KTH	Adam Peplinski	<a href="#">Link</a>
<b>Advanced scalable workflow of ray tracing kernel for radiative heat loads assessment</b>	<ul style="list-style-type: none"> <li>- Integrated thermal/optical simulation for reactor monitoring</li> <li>- Automated workflow reduces computational overhead</li> <li>- Detection of hotspots before component damage</li> </ul>	11.03.25	UL	Matic Brank	<a href="#">Link</a>
<b>Automated workflow for the Hi-fidelity simulation of propulsion devices: application to after burners</b>	<ul style="list-style-type: none"> <li>- Adaptable to available resources</li> <li>- Saves up to 75% supervision time</li> <li>- Optimised resource usage, avoids performance outliers</li> </ul>	19.03.25	CERFACS	Antoine Dauplain	<a href="#">Link</a>

**Table 9: Released EXCELLERAT P2 Success Stories**

Looking ahead, the working group will continue to collaborate with the use case owners to define and produce the next round of stories, to be published before the end of the project. The overall objective of releasing 10-15 success stories remains realistic and is expected to be achieved on schedule.

## 4 Update on Community Building

### 4.1 Updated Plans and Performed Actions

During this reporting period, EXCELLERAT P2 worked on targeted interactions with the external ecosystem (see details regarding the targeted stakeholders in the previous deliverables D7.1 and D7.2). In order to ensure that there are valuable community building actions ongoing, and that the project keeps interacting with new relevant stakeholders from various institutions or sectors, WP7 worked on several types of actions in favour of community building. The main examples were:

- Interaction took place with LUMI [19] to offer them the opportunity to display their HPC resources on the EXCELLERAT P2 Service Portal (ESP). This was done to ensure that a potential user who would look at the ESP, would have the visibility of all the European available computing resources, and to show the potential links of EXCELLERAT P2 with the European ecosystem.
- Organisation of a hybrid webinar “HPC and sustainable programming” on June 28<sup>th</sup> 2024. There were 19 participants online (with 6 participants from the industry sector) and 8 participants onsite at CERFACS (with 4 participants from the industry sector).
- Organisation of a webinar in November 2024 called “HPC Talk for EXCELLERAT P2: ‘Accelerate time-to-science using the NVIDIA platform’”. 24 people attended, ranging from EXCELLERAT P2 consortium members to representatives from industry from several EU countries (this webinar had been promoted among the National Competence Centres from the EU project EuroCC 2).

In the meantime, in order to create an overview of how the project interacts with industry or with other target groups around the technical topics, information was gathered from the EXCELLERAT P2 technical partners about their interactions with industry or other target groups regarding the EXCELLERAT P2 topics, use cases or tools.

The current statistics are collected in Table 10 below (status: May 29<sup>th</sup> 2025).

Partner	Number of organisations they interacted with during the last year	Topic of interaction	Status of the interactions
SSC	6 organisations, including 2 SMEs	Pilot users’ cases: they tested the EXCELLERAT tool SCALES. The scope was to: <ol style="list-style-type: none"> <li>1) transfer simulation input decks to HPC resources</li> <li>2) start respectively to schedule a simulation with a scripted processing logic, and</li> </ol>	-

		3) retrieve the processing results from the HPC resources.	
<b>CINECA</b>	1 medium-sized enterprise (De Pretto industrie)	Development of a use-case: <a href="#">full description</a> available on the ESP.	Ongoing, it will be finalised in the next months
<b>DLR</b>	Ongoing cooperation with 1 big industry company (Airbus) and a public research organisation (ONERA)	Cooperation includes Use Case UC-1 and the application CODA	Ongoing
<b>CERFACS</b>	3 organisations, 1 big industry (Rolls Royce), and 2 research entities	They interacted about the tool “ <i>Anubis and Marauder’s Map: A Deep Dive Into Your Code Database</i> ” [22]  For one of the researchers, they did a small analysis (he was one of their early bird) and they sent him a small dashboard. For the 2 other stakeholders, they helped them to use the tool, it was done in the way of an advertisement for what can be done with those tools.	The stakeholders showed some prior interest during the short & light first interaction; further interaction might take place in the future
<b>BSC</b>	- 1 big industry (Airbus Defence)  - 2 institutes CSIC-IDAEA and INESC ID  - Independent research organisation SINTEF Ocean, Norway	- Using the software, SOD2D/Alya – one of the EXCELLERAT application codes – to simulate flow around various conceptual aircraft designs and estimate their aerodynamic performance. These activities benefit from the developments in EXCELLERAT P2 and vice versa.  - The plan is for them to use SOD2D for simulating underground water flow or scalability test  - Potential collaboration in the field of marine engineering using SOD2D.	- Ongoing  - Planned/Ongoing  - Planned

	(interaction initially started with NTNU, Department of Marine Technology, Norway)		
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**Table 10: Interaction with industry or other target groups about EXCELLERAT P2 use cases, tools and potential services**

## 4.2 Outcomes and Next Steps

For the period summer-fall 2025, it is planned to test a new format to support interaction within EXCELLERAT P2: an online webinar is in preparation to have the EXCELLERAT P2 partners discuss their potential services around their use cases. The idea would be for EXCELLERAT partners to present to the EXCELLERAT network, during these webinars, what was achieved in a use case, or what could potentially be achieved with a tool or method developed within EXCELLERAT as a service for future potential users or customers. A first example will be presented by CERFACS about their Codemetrics & Marauder map tool.

As an overview of further activities, a list of past and planned events can be found in Table 11 below. Other events might be scheduled later on to support the community building activities. Please note that more details regarding the Automotive Testing Expo participation are outlined in D7.6.

Date	Event name/URL	Type of event	Status
February 2023	<a href="#">Kick-off Meeting EuroCC 2/CASTIEL 2</a>	Participation/Representation	Past
March 2023	<a href="#">EuroHPC Summit 2023</a>	Conference Poster	Past
March 2023	<a href="#">AIAA 2023 IEEE Aerospace Conference</a>	Conference Participation	Past
April 2023	CoE/NCC Kick-off Workshop	Participation/Representation	Past
April 2023	<a href="#">Numerical methods for Large Eddy Simulation 2023</a>	Training Event	Past
May 2023	<a href="#">ISC High Performance 2023</a>	Booth Participation (EuroHPC JU)	Past
May 2023	<a href="#">ISC High Performance 2023</a>	Booth Presentation (EuroHPC JU)	Past
May 2023	<a href="#">ParCFD2023</a> , Presentation: "COMPRESSIBLE TURBULENT FLOWS AT THE EXASCALE: Streams-2 Design and Evaluation"	Online Conference Presentation	Past

June 2023	<a href="#">From Machine Learning to Deep Learning: A concise introduction</a>	Training Event	Past
June 2023	<a href="#">Data analytics for engineering data using machine learning</a>	Training Event	Past
June 2023	<a href="#">14. InnovationForum Smarte Technologien &amp; Systeme</a>	Conference Presentation	Past
June 2023	<a href="#">Platform for Advanced Scientific Computing (PASC) Conference</a>	Conference Participation	Past
July 2023	Kitware webinar	External industry stakeholder webinar	Past
August 2023	<a href="#">Europar 2023</a>	Conference Presentation	Past
September 2023	OpenFOAM Workshop with ExaFOAM and HiDALGO 2	Collaboration Workshop	Past
September 2023	<a href="#">HPCSIM Frontiers of High-Performance Computing in Modeling and Simulation</a>	Conference Presentation	Past
September 2023	<a href="#">SOR 23, International Symposium on Operations Research (Slovenia)</a>	Conference Presentation	Past
September 2023	<a href="#">SOR 23, International Symposium on Operations Research (Slovenia)</a>	Booth	Past
October 2023	Digital Innovation	Conference Presentation	Past
October 2023	<a href="#">Scientific Visualization with COVISE and Vistle</a>	Training Event	Past
October 2023	<a href="#">MikroSystemTechnik Kongress</a>	Conference Presentation	Past
October 2023	TRL internal discussion	Internal technical brainstorming discussion	Past
November 2023	<a href="#">Day of the Slovenian Supercomputer Network</a>	Conference Presentation	Past
November 2023	Workshop Uncertainty Quantification (HiDALGO2, CIRCE; SEAVEA)	Collaboration Workshop	Past

November 2023	<a href="#">Numerical methods for Large Eddy Simulation using AVBP</a>	Training Event	Past
November 2023	Webinar "OpenFoam, the open source CFD alternative?"	Workshop Participation	Past
December 2023	36th Workshop on Sustained Simulation Performance	Workshop Participation	Past
January 2024	eFlows4HPC Workshop	Collaboration Workshop	Past
March 2024	<a href="#">EuroHPC Summit 2024</a>	Workshop Participation	Past
March 2024	<a href="#">From Machine Learning to Deep Learning 2024</a>	Training Event	Past
April 2024	<a href="#">Numerical methods for Large Eddy Simulation Q2/24</a>	Training Event	Past
May 2024	<a href="#">ISC High Performance 2024</a>	Booth Participation (CASTIEL 2)	Past
May 2024	Teratec Forum 2024	Video Presentation	Past
June 2024	Automotive Testing Expo 2024	Booth at Exhibition	Past
June 2024	ASHPC24	Participation in an event that attracts approx. 200 visitors, mainly academia & researchers, just a few companies	Past
June 2024	<a href="#">ISC High Performance 2024</a>	Workshop and Booth Presentation (EuroHPC JU)	Past
June 2024	HPC and sustainable programming	Webinar organised for the EXCELLERAT P2 partners by WP7, Task 7.4	Past
July 2024	<a href="#">School on Computational Fluid Dynamics and SuperComputing (Third edition)</a>	Training Event	Past
August 2024	<a href="#">53rd International Conference on Parallel Processing</a>	Conference Presentation	Past
September 2024	<a href="#">Mini-Symposium Modernizing CFD</a>	Collaboration Event	Past
September 2024	<a href="#">Parallel Tools Workshop 2024</a>	Workshop Participation	Past

September 2024	<a href="#">Future Fusion Reactor Digital Twins</a>	Workshop Co-Organisation	Past
September 2024	4th Automotive CFD Prediction Workshop	Workshop Participation	Past
October 2024	Machine Learning and Data Analytics in Engineering - A Collaborative Workshop by EXCELLERAT and NCC Italy	Collaboration Workshop	Past
October 2024	<a href="#">HPC Workflows for Scientific Applications</a>	Workshop Organisation	Past
October 2024	EuroHPC User Day 2024	Panel Contribution	Past
October 2024	Scientific Visualization	Training Event	Past
November 2024	<a href="#">Baltic HPC and Cloud Conference 2024</a>	Collaboration with EU-funded projects	Past
November 2024	HPC Talk for EXCELLERAT 2: “Accelerate time-to-science using the NVIDIA platform”	Workshop organised for the EXCELLERAT P2 partners by WP7, Task 7.4	Past
November 2024	<a href="#">Numerical methods for Large Eddy Simulation Q4/24</a>	Training Event	Past
November 2024	<a href="#">Programming CFD in OpenFOAM</a>	Training Event	Past
December 2024	Sling Days	Booth during an event that attracts– approx. 100 visitors, mainly from academia, and some from industry	Past
January 2025	<a href="#">HiPEAC Workshop 2025</a>	Workshop Participation	Past
February 2025	<a href="#">ETP4HPC conference 2025</a>	Conference Participation	Past
March 2025	<a href="#">Data analytics for engineering data using machine learning</a>	Training Event	Past
March 2025	<a href="#">Presentation at DAS/DAGA 2025 - 51st Annual Meeting on Acoustics, March 17-20, 2025</a>	Conference Presentation	Past

March 2025	NCCs & CoEs Industry Workshop at EuroHPC Summit	Participation in an event with approx. 50 visitors, mainly researchers and academia	Past
March 2025	<a href="#">EuroHPC Summit 2025</a>	Poster Presentation	Past
March 2025	<a href="#">High order discontinuous spectral methods for massively parallel LES 2025</a>	Training Event	Past
May 2025	JLESC17 Workshop	Conference Presentation	Past
May 2025	automotive CAE Grand Challenge 2025	Conference Presentation	Past
May 2025	NAFEMS World Congress 2025	Conference Presentation	Past
May 2025	<a href="#">ASHPC25</a>	Poster & Conference Presentation	Past
May 2025	<a href="#">Automotive Testing Expo 2025</a>	Booth at Exhibition	Past
June 2025	<a href="#">ISC High Performance 2025</a>	Workshop & Representation at EuroHPC JU Booth	Planned
June 2025	Codometrics and discussion about KPIs standardisation	Workshop organised for the EXCELLERAT P2 partners by WP7, Task 7.4	Planned
September 2025	SOR 2025	Booth at Exhibition	Planned
October 2025	<a href="#">Advanced CFD and Turbulence Modelling targeting HPC 2025</a>	Training Event	Planned
October 2025	<a href="#">Scientific Visualization with COVISE 2025</a>	Training Event	Planned
October/November 2025	Webinar/Workshop with the other CoEs Plasma-PEPSC and HiDALGO2 as part of the Booster (previously HRB) service	Webinar/Workshop with other CoEs	Planned
November 2025	<a href="#">Numerical methods for Large Eddy Simulation using AVBP Q4/25</a>	Training Event	Past

**Table 11: Past and planned EXCELLERAT P2 events**

## 5 Conclusion

This deliverable summarises the progress made in Work Package 7 during the reporting period M13–M30 (January 2024–June 2025) of EXCELLERAT P2. It outlines the implementation and continuous adaptation of the communication and dissemination strategy, as well as community building activities defined in D7.1. The overall performance of EXCELLERAT P2 communication efforts remains on track, with all relevant activities tailored to engage key stakeholder groups effectively through a wide range of channels and formats.

The assessment of communication performance in section 2 highlights steady growth and engagement across various platforms, despite evolving trends in the digital media landscape. A strategic shift has been initiated to prioritise LinkedIn as the primary social media channel, while activities on Twitter/X have been scaled down due to a decline in relevance and reach. These adjustments demonstrate the consortium’s responsiveness to audience behaviours and communication trends.

As outlined in section 3, various communication tools and formats were maintained and further expanded. These include blog articles that offer insights into technical and collaborative achievements, a recurring newsletter format to ensure ongoing outreach, and the launch of new podcast and video content. In line with EXCELLERAT P2’s visual identity, updated brand materials have been produced to enhance visibility and consistency across dissemination activities. Several new scientific publications were released, and media relations efforts were supported through event-related communications.

A major focus of this period has been the launch and refinement of EXCELLERAT P2’s success stories. Introduced through a structured, participatory process during the Annual Meeting in Bologna in October 2024, the initiative has so far resulted in the publication of multiple stories showcasing technological, scientific, and collaborative achievements across use cases. The format and approach are now well-established, and additional success stories are in the pipeline to meet the overall goal of 10–15 stories by the end of the project.

During this reporting period, as part of the community building efforts, EXCELLERAT P2 organised two webinars targeting both the inner community of the project and the industry or other types of stakeholders from the European ecosystem. EXCELLERAT P2 also interacted with the HPC resource provider LUMI to initiate some first links or interactions that might be leveraged in the future. In parallel, while WP6 and the Project Management Team (PMT) continued working on future “onboarding” guidelines that will be used to attract industry stakeholders and monitor their interactions with EXCELLERAT P2, WP7 gathered information regarding the collaborations that the technical partners of the projects have with industry or other target groups. This information gives an overview of the “industry or other target groups” ecosystem around EXCELLERAT P2, and how the use cases and the tools of EXCELLERAT P2 are already tested and used in Europe.

In conclusion, WP7 has made solid progress across all areas of communication, dissemination, and community building. The foundations laid in the earlier project stages have matured into a comprehensive outreach effort that not only communicates results but positions EXCELLERAT P2 as a key contributor in the European HPC landscape. In the months ahead, efforts will continue to intensify around stakeholder engagement, content generation, and cross-project collaboration to ensure maximum visibility and long-lasting impact for EXCELLERAT P2.

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