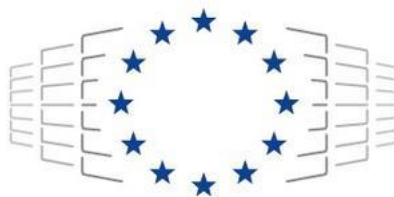**Coordination and Support for National Competence Centres on a European Level**

Project Number: 951740

D4.2

Final Report on Support of the NCCs on Industrial Interaction and Business Development

Deliverable D4.2 V1.1 is currently under review by the European funding agency and is therefore subject to change.

Work package:	4	Industrial Interaction and Business Development	
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List of abbreviations

AI	Artificial Intelligence
CC	Competence Centre
CoE	Centre of Excellence
DIHs	Digital Innovation Hubs
EC	European Commission
EDIH	European Digital Hubs
HPC	High Performance Computing
HPDA	High Performance Data Analytics
IWG	Industry Working Group
JU	Joint Undertaking
MX	Month X of the project
NCC	National Competence Centre
PMT	Project Management Team
Qx	Quarter x of the project
WP	Work Package

Executive Summary

CASTIEL is the Coordination and Support Action of the EuroCC[1] project which gathers 33 National Competence Centres (NCCs) in Europe. In order to identify and close the gaps due to the diverse levels of maturity between the different nations CASTIEL brought together a core consortium to setup a framework of activities that supported the evolution of all NCCs and facilitated their sharing of knowledge and expertise. The Work Package 4 (WP4) of CASTIEL was about "Industrial Interaction and Business Development". The two main objectives of this work package were:

- to support the NCCs in the development of their service offerings and for their interaction with the industrial ecosystem. This was done by collecting, producing and sharing common documents, templates, best practices documents and by organizing workshops. WP4 also supported the transnational access to the NCC's services with the creation of a cluster tool to allow interaction between the NCCs to find potential support and collaboration among themselves.
- to support the NCCs in connecting to European projects and initiatives, which were relevant to their missions. This was done by identifying the projects relevant for the NCCs and by organizing the interaction with other initiatives and projects, as for example with the FF4EuroHPC[2] project or with Digital Innovation Hubs (DIHs).

To achieve these objectives, the three tasks of WP4 performed various actions. Task 4.1 focused on "Support for Industrial Interactions". For this task, during M13-M28, WP4 organized with the industry working group (IWG) two rounds of "Industry short sessions + survey": one in January -February 2022 and one in October 2022. There were also several meetings and workshops organized within the EuroCC network or with external stakeholders. Following these sessions, meetings and workshops, best practices guides and summary notes were produced. Task 4.1 also interacted with the NCCs on the potential to elaborate a marketplace during EuroCC2. Task 4.2 worked about "Connecting the NCCs to other European initiatives and projects". Specific meetings with other initiatives like FF4EuroHPC or the CoEs took place so that these initiatives meet and interact with the NCCs throughout the EuroCC project. A webpage centralizing information about the existing EU funding opportunities, especially for SMEs, has been created on the EuroCC ACCESS website[3]. Task 4.3 of WP4 took care of the questions regarding transnational access to the NCCs' services. A specific task force was launched to think about the most relevant actions on this topic and to work on the set-up of a cluster tool for the NCCs.

The global work performed by WP4 allowed EuroCC and CASTIEL to better understand and monitor the NCCs main challenges, needs and issues regarding interactions with industry during the lifetime of the EuroCC project. WP4 also produced for the benefit of the NCCs various materials in order to provide answers to these needs or issues and to support the NCCs in their specific challenges. Lastly, WP4 organized targeted workshops and meetings that allowed the NCCs to hear about some users' perspectives, to exchange best practices and lessons learned and to interact with other EU initiatives working with SMEs and Big Industry.

This document is the final deliverable of Work Package 4. In this deliverable D.4.2, the performed work to support the NCCs on Industrial Interaction and Business Development and

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[1] CASTIEL and EuroCC projects EuroCC ACCESS: https://www.eurocc-access.eu/
[2] FF4EuroHPC: https://www.ff4eurohpc.eu/
[3] FUNDING & CONNECTION OPPORTUNITIES: https://www.eurocc-access.eu/services/resources/
[4] Deliverable D4.1: « Report on Support of the NCCs on Industrial Interaction and Business Development » submitted to the JU in September 2021

the main outcomes during the period M13-M28 (as the period M1-M12 is covered in the deliverable D4.1[4]) of EuroCC and CASTIEL are presented.

Table of Contents

List of Figures

List of Tables

1 Introduction

CASTIEL, as a Coordination and Support Action, aimed to contribute to the success of the 33 National Competence Centres (NCCs) taking part in the EuroCC project. The goal of CASTIEL was to create the infrastructure necessary for strengthening and maintaining excellence in the broad spectrum of high-performance computing.

The Work Package 4 (WP4) of CASTIEL was about "Industrial Interaction and Business Development". The two main objectives of this work package were:

- to provide support to the NCCs in the development of their service offerings and to their interaction with the industrial ecosystem. This was done by organizing the exchanges between those entities with more experience in the interaction with industry and those which entered a new domain through the collection of common documents, templates, the preparation of best practices documents or the organization of workshops. WP4 also supported the transnational access to the NCCs' services with the creation of a cluster tool to allow interaction between the NCCs to find potential support and collaboration among themselves.
- to support the NCCs in connecting to European projects and initiatives, which were relevant to their missions. This was done by identifying the projects relevant for the NCCs and by organizing the interaction with other initiatives and projects, as for example with the consortium implementing the EuroHPC-05-2019 action, via the FF4EuroHPC project or with the new Digital Innovation Hubs (EDIHs).

This final deliverable of WP4 summarizes information about the actions achieved during the CASTIEL project, particularly during the period M13-M28 (as the period M1-M12 is covered in the deliverable D4.1) by each task of WP4 with regards to the interaction with industry about services offerings, the interaction with the other EU initiatives and projects and the transnational access to the NCCs' sectorial services.

The second section of this deliverable describes the processes of the two rounds of "short industry sessions + survey" that took place respectively after one year and after two years of projects with the industry champions. This sections also explains the outcomes of these two rounds and how they were used by WP4 to plan relevant actions during the second year of CASTIEL and then for CASTIEL2.

Section three presents the actions and outcomes achieved by task 4.1 "Support for Industrial Interactions" during M13-M28.

The fourth section presents the actions and outcomes achieved by task 4.2 "Connecting the NCCs to other European initiatives and projects" during M13-M28.

Section five presents the actions and outcomes achieved by task 4.3 "Transnational access to sectorial services" during M13-M28.

Major achievements and concluding remarks are summarized in section six.

References and annexes[5] with the used documents, detailed results and reports are the final sections of this document.

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[5] As this deliverable is public and the annexes include sensitive information, they will be provided in a separate document.

2 Short industry Sessions + Survey Actions

2.1 Objectives

In order to establish an overview of the NCCs interactions with industry (SMEs and Big Industry) after one year, CASTIEL-WP4 proceeded during January – February 2022 with a first round of:

1.   One survey (using an excel sheet) per NCC
2.   One "Short discussions" meeting per NCC

The objective for this first round was for CASTIEL-WP4 to collect information about the NCCs' instruments to track KPIs regarding industry, about their reporting tools regarding industry and to better frame their needs or issues regarding the topic "Interaction with industry". This combined [Survey + "Short discussions" meeting] process allowed CASTIEL-WP4 to collect information about the current tools/processes/type of services available in the NCCs in order to then support the NCCs to streamline their interactions with industry.

A specific report (see Annex 01) was produced and shared with the industry champions in order to share with all NCCs the generic overview after one year of the NCCs status with regards to interactions with industry (SMEs and Big Industry), the commonalities, the best practices, potential documents or processes used in some NCCs; and it was used by WP4 to plan the actions or workshops for the industry working group for the second year of project.

Then, in order to update this first overview of the NCCs interactions with industry (SMEs and Big Industry), CASTIEL-WP4 proceeded again in October 2022 with one survey (using an excel sheet) per NCC and one "Short discussions" meeting per NCC. The objective for this second round was for CASTIEL-WP4 to update information about the NCCs' key figures regarding industry (their number of contacts, of initiated projects and of finalized projects) and to collect their remaining or new needs or issues regarding the topic "Interaction with industry". A specific report (see Annex 03) for this second round was produced and shared with the industry champions in order to share with all NCCs the updated overview of the NCCs status with regards to interactions with industry at the end of EuroCC1. The key outcomes of the report were or will be used by WP4 to plan the next relevant actions or workshops for the industry working group (IWG) either by end of the project when compatible with the time frame or for the next phase starting in 2023.

DISCLAIMER - Warning: The latest results and analyses provided in these reports about the "short industry sessions + surveys" and summarized here are the ones made available by the NCCs in November 2022. As the NCCs are in constant evolution, it must be noted that these reports provided a punctual overview of the situation (i.e. an instant screenshot) respectively after one and two years of project.

2.2 Methodology

For the two rounds, the global process was the same. The NCCs were asked to fill in a survey before the short session, the short sessions were held in face-to-face with the representatives of the NCCs via a visio-conference tool. Then the surveys were reviewed by the industry champions to validate the updates/new elements amended together with CASTIEL-WP4 representatives during the short session. Finally, after processing of all the materials and analysis of the outputs, CASTIEL-WP4 produced a complete report with the key figures, the main outcomes and the proposal of the next actions to be performed afterwards (respectively for the two rounds: during year 2 of CASTIEL1 and during CASTIEL2) with the industry working group.

2.3 Topics of the "short industry sessions" and the related surveys

During the first round, the survey and the discussions were structured in four main parts:

- The first part was about <u>interaction with SMEs:</u> the NCCs were asked about their existing instruments to track their KPIs, about their assessment tools used as a first step with SMEs, about their reporting tools (i.e. all documents that they could share with the other NCCs) and more generally about what they would need from CASTIEL -as coordination and support action- and their potential topics of expertise with regards to industry interactions.
- The second part displayed the same kind of questions but <u>targeting Big Industry</u>.
- The third part was oriented about the topic <u>"access & security"</u> with questions about the used access policies, the needs from CASTIEL (as coordination and support actions) and their potential topics of expertise (with regards to industry interactions).
- The fourth and last part was a table to collect <u>their key figures regarding their interactions with industry</u> (number of contacts with SMEs/Big industry, number of projects initiated, number of projects finalized, the sectors concerned)

The results of the survey, combined with the outcomes of the short sessions in face-to-face (the short sessions allowed to refine together the NCCs questions and their needs) were presented in a specific report (see Annex 01). Given the high number of various key information's pieces, of collected templates and documents to be shared with the NCCs, the complete report was quite big. Therefore, to facilitate the readability and the use of these outcomes, summary notes, key figures and elements and a templates list were also produced and shared with the industry champions (see Annex 02).

During the second round, the topics were modified a little in order to leverage on the experience of the first round. For this second round, the focus was set on the key elements to frame the NCCs evolutions (i.e. key figures regarding their interactions with SMEs or big industry) and their remaining or new needs and questions. Also a new section was created to tackle the new mission of CASTIEL-WP4 regarding the elaboration of a marketplace -following the CASTIEL amendment in June 2022. For the second round, the survey and the discussions were structured in three main parts:

- The first part was a table to collect the<u>ir updated key figures regarding their interactions with industry</u> (number of contacts with SMEs/Big industry, number of projects initiated, number of projects finalized, the sectors concerned). The requested figures were the same as the ones from the first round. They were also the same as the figures collected through the NCCs Technical progress reports (TPRs) in order to be able to see the evolution in time. CASTIEL-WP4 took this opportunity to collect these figures at this given time as since Q6 the figures from the quarterly TPRs were processed by the PMT along with all the information included in the TPRs hence they arrived at CASTIEL-WP4 with a longer delay. Using the figures collected with this survey in October 2022 allowed CASTIEL-WP4 to work on the corresponding analysis before the end of the projects.
- The second part was about <u>what was needed for the NCCs from CASTIEL</u> (e.g. workshops, booklets, best practices guides or other), when it comes to interaction with SMEs and also with Big Industry.
- The third part contained <u>questions regarding the marketplace</u>:
  - to ask what the NCCs would like at the local level (language of the local instances, specific needs or categories to consider, specific national identification of the companies, etc.)

- o about what would interest them at the central "coordination/hub level" (to display information about their national services providers and service offers, to see information about infrastructure available in other countries, etc.)
- o about their readiness to collaborate on the implementation of a whole "marketplace" solution for EuroCC2 (either with some budget or with man power) and about their preferred potential providers for such a solution -at this preliminary stage- looking at the benchmark done by CASTIEL-WP4 during the Summer 2022 (see more details about the benchmark action in section 3.2.3).

These two rounds of short industry sessions and surveys allowed CASTIEL-WP4 to monitor the NCCs main challenges, needs and key figures when it comes to industry interactions and to directly interact with the industry champions to understand their needs and their questions.

The complete results are presented in the respective reports in Annex 01,02,03 &04. These results were used by Tasks 4.1, 4.2 and 4.3 of CASTIEL-WP4 to plan the relevant actions during respectively year 2 of EuroCC and the phase 2 of EuroCC (to be started in early 2023).

The next sub-sections present the main key elements that characterised the NCCs gathered thanks to these sessions and surveys.

2.3.1   Challenges and needs of the NCCs

Interactions with SMEs

The main challenges for the NCCs to interact with SMEs or to develop their current interactions with them (challenges collected during the two rounds of "short sessions + survey" in January-February 2022 and in October 2022) are gathered in the Table 1 below.

Table 1: main challenges for the NCCs to interact with SMEs or to develop their current interactions with them

Main challenges for the NCCs to interact with SMEs or to develop their current interactions with them	Short explanation	Percentage – Number of NCCs concerned in October 2022	Percentage – Number of NCCs concerned in February 2022
Awareness about the HPC/HPDA/AI benefits	• lack of awareness at national level, consequently a lack of interest and need among the SMEs	35% - 11 NCCs	21% - 7 NCCs

Budget-Funding	• the current budget isn't sufficient to provide enough PoCs which prevents SMEs to more interact with the NCC • a specific budget to provide other services would attract more SMEs	26% - 8 NCCs	*27% - 9 NCCs*
Staff or the skills availabilities	• EU projects are limited in time, the right people -with regards to the technical challenges to be addressed- can be hired for only a limited duration	16% - 5 NCCs	*21% - 7 NCCs*
Competition of commercial providers	• the NCCs face competition from commercial providers that can answer to requests faster or that keep data after the start of a previous project	13% - 4 NCCs	*3% - 1 NCC*
National regulation in their countries	• public infrastructure is not entirely available to private sector • the unclear status of the NCC can also represent an issue	10% - 3 NCCs	*15% - 5 NCCs*
Time and bandwidth	• there is sometimes a lack of time to start collaboration with SMEs. Starting collaboration takes time and there can be some bandwidth issues for the more mature NCCs	10% - 3 NCCs	-
Other reasons	• size of the country for the smallest NCCs • infrastructure availability • Security issues and legal questions	-	-

In order to address these challenges, WP4 performed during the second year of CASTIEL several responsive actions that are presented -linked to the corresponding needs- in the following tables.

The main categories of needs expressed by the NCCs -with regards to the support they were missing to interact with SMEs- collected during the first round of "short sessions + survey" are gathered in the Table 2, along with the actions performed by WP4 to address these needs during the second year of CASTIEL.

Table 2: main categories of needs expressed by the NCCs with regards to the support they need to interact with SMEs collected during the first round of "short sessions + survey" and the WP4 responsive actions

Type of needs	Potential answers or solutions that will be planned by WP4	Actions that were performed by WP4 during the second year of CASTIEL
Various needs	• Best practice guides • Workshops • Other actions like providing of templates and bureaucracy documents examples • Needs with regards to competences mapping, the corresponding information will be shared with WP2 of CASTIEL • Needs with regards to marketing and dissemination and this will be shared with WP5 of CASTIEL	• Production of best practice guide and several take-out notes (see section 3.2.2) • Organization of several workshops (see section 3.2.1) • Templates with a template list produced and shared (see section 3.2.2) • Info shared with WP2 • Info shared with WP5 and organization of a workshop about "best practices to communicate about services for industry" (see section 3.2.1)
Examples of available tools and instruments	• A report and a best practice guide will present the tools and instruments to interact with SMEs and to monitor the interactions, existing in EuroCC with the NCCs feedbacks	• A complete report and short flyers were produced to share information about the tools & instruments used by the NCCs (see section 3.2.2)
How to engage with the industry sector	• Best practice guide "Engagement with industry and the public sector" published in January 2022 by WP4 on the EuroCC ACCESS website • Regarding the needs linked with the dissemination and communication or marketing issues, these needs will be shared with WP5	• Best practice guide produced (see section 3.2.2) • Info shared with WP5 and organization of a workshop about "best practices to communicate about services for industry" (see section 3.2.1)
Better understanding of the EU funding opportunities and the linked processed	• A workshop in preparation with ETP4HPC which will present and explain them to the NCCs champions during Spring or Summer 2022.	• Workshop organized in May 2022 (see section 3.2.1)

Policy – management of the NCC	• These needs will be forwarded to the EuroCC PMT to be addressed at a central high-level with the NCCs WP Leaders.	• Done by e-mail and discussed via specific telcos during Summer 2022
Templates and ready-to-be-used documents	• WP4 collected several templates and forms through this action of the "industry survey and the short discussion sessions". These documents were made available to all the industry champions to be used as models and templates	• Templates and forms with a templates list produced and shared (see section 3.2.2)

The main challenges for the NCCs to interact with SMEs or to develop their current interactions with them (collected during the second round of "short sessions + survey" in October 2022) are available in the previous Table 1. The number and percentage of NCCs sharing each type of challenges are displayed in the previous Table 1 along with the number and percentage from January-February 2022 in order to see the evolution in time of each type.

Then the main categories of needs expressed by the NCCs (in October 2022 through the second round of "short sessions + survey") with regards to the support they need to interact with SMEs are gathered in the Table 3, along with the actions planned by WP4 to address these needs.

Table 3: main categories of needs expressed by the NCCs with regards to the information or the support they need to interact with SMEs collected during the second round of "short sessions + survey" and the actions planned by WP4 to address these needs

Type of needs	Potential answers or solutions that are considered by WP4 for end of EuroCC1 or for EuroCC2
• **Dissemination material (Handbook about HPC, database of success stories, etc)** • **Leverage LinkedIn & other tools to attract customers** • **Networking opportunities**	• needs with regards to dissemination, communications tools and networking/communication during public events will be shared with WP5 of CASTIEL to see how to collaboratively tackle this during EuroCC2
Lessons learned of phase I	• a dedicated meeting "Exchange of experience" will be organized in on-site mode early 2023 as a beginning of EuroCC2/CASTIEL2 for the industry champions to share their lessons learned and exchange on various topics.
How to engage with the industry sector	• between CASTIEL-WP4 and CASTIEL-WP3 (Twinning & mentoring) to organize a common workshop with experienced NCCs to share lessons learned or new feedbacks and recommendations with all the NCCs during the beginning of EuroCC2/CASTIEL2 to allow presence of relevant speakers and availability of all the industry champions.

Communication about the EU funding opportunities, the EU processes and deadlines and the EU strategic	• these topics will be discussed during a workshop or a webinar with ETP4HPC in preparation for the end of 2022/beginning of 2023 and could also be topics of interactions for workshops next year. • regarding communication through specific emails or newsletters of the EU deadlines, this will be discussed with CASTIEL-WP5 to see how to formally address it during EuroCC2
Competition with commercial providers	• following the "Exchange of experience" meeting to be organized in on-site mode early 2023 with the industry champions, a workshop for instance about the specific topic "competition with commercial providers – need for a lobbying activity" could be organized on this topic for Spring 2023 depending on the relevant speakers to be found. This strategic topic will also be shared with PMT in order to interact at a higher level on these strategic issues.
Guides and catalogues	• the requested catalogues should quite naturally be set up through the future "marketplace" (market portal/market access) solution to be created and tested during EuroCC2. In parallel, WP4 will investigate whether this kind of catalogues and if the mentioned guides already exist in other projects to be shared with the industry champions.
Templates, ready-to-be-used documents and legal aspects	• this need will be shared with the Project Management Team to be addressed beginning of the next phase of EuroCC by the future new Legal team/task of EuroCC2.

Interactions with Big Industry

The main challenges to interact with Big Industry specific to the Big Industry format (additionally to the existing challenges that are the same as the ones encountered with SMEs) are gathered in Table 4. Regarding interactions with Big Industry, the collected challenges and the needs were the same for the two rounds as the NCCs are in general more focussing on interactions with SMEs, mainly due to these specific challenges and needs for Big Industry.

Table 4: main challenges to interact with Big Industry specific to the Big Industry format (valid for the two rounds of "short industry sessions + surveys")

Main challenges for the NCCs to interact with Big Industry or to develop their current interactions with them	Details	Percentage – Number of NCCs concerned in October 2022 (roughly the same numbers and percentages as in January-February 2022)
High level of requirements from the Big Industry	• Specific norms or ISO policies before launching interactions with NCC • The NCC are not always using the same certifications as in private sectors or don't have legal teams to ensure a regular support for Big Industry contact people	• 25% - 8 NCCs
In-house infrastructure or competition with commercial providers	• Big industry stakeholders often already have their own infrastructure and expertise in-house • Here again the NCCs face competition with commercial providers	• 19% - 6 NCCs
Difficulty to point to the right contact person in a Big Industry + TIME factor	• Much harder to get to the right person and it takes a long time (and uncertainty) to close a deal with a Big Industry	• 16% - 5 NCCs
NCCs often primarily focused on interaction with SMEs	• Initial requirement from the EC (as written in the Grant Agreements) • Need to focus their efforts on the prior set-up of interaction with academia and SMEs	• 100% - All NCCs
Data location issue	• In some countries, it is not possible to have data managed outside the countries	• 3% - 1 NCC *(in October 2022)*

The main categories of needs expressed by the NCCs with regards to the support they need to interact with Big Industry are gathered in the Table 5 below.

Table 5: needs expressed by the NCCs with regards to the support they need to interact with Big Industry (valid for the two rounds of "short industry sessions + surveys")

Type of needs	Details
Various needs	• the NCCs indicated that they did not have any particular needs with regards to how to improve their interactions with Big Industry • or they mentioned the same various types of needs as the ones expressed in the SMEs (dissemination material and templates, how to engage with industry – Big Industry stakeholders, guides and catalogues, how to address competition of the commercial providers, etc.) • or they indicated that interaction with Big Industry is very special and doesn't allow to develop lots of interactions at the moment

Following the first round of "short industry sessions", in order to address the topic of interactions with Big industry and their specific challenges and needs, WP4 organized a "big industry workshop" in March 2022 for industry stakeholders to exchange with the NCCs about their specific needs and their visions of the Big Industry interactions with the NCCs (more details in section 3.2.1).

Additionally, the topics of access and security was addressed during a specific workshop in September 2022 (more details in section 3.2.1). And the topic of competition with commercial providers will be tackled during EuroCC2/CASTIEL2 as this will be managed in coordination with the PMT at a higher level.

2.3.2 Key figures regarding interactions with industry

Following the first round of the "short industry session + survey" in January-February 2022, it was decided to quarterly collect the key figures regarding interactions with industry through the Technical Progress Reports (TPRs) of the NCCs starting at Q6 (December 2021-February 2022). The dedicated tables in the TPRs were created by WP4 and included by the PMT in the templates in February 2022. The figures collected for Q6, Q7 and through the second round of "short industry sessions + survey" in October 2022 (after Q8) were processed and analysed in a specific report available in Annex 04. The main outcomes are summarized in the two following paragraphs.

Interactions with SMEs

Regarding projects with SMEs, the group of NCCs (27 NCCs), that initially reported between 1 and 20 projects at Q6, had the fastest dynamic between Q6 and October 2022 (after Q8) as they succeeded – as a group – on average to double their number of initiated and finalized projects with SMEs. However, this is not the case for each individual NCC (see more details in Annex 04).

The collected figures regarding "contacts with SMEs" also showed that NCCs continuously have more and more interactions initiated and ongoing with SMEs: the total number of contacts/interactions made with SMEs since the beginning of EuroCC increased from 486 to 1932 between Q6 and after Q8 (see details in Annex 04).
This category "contacts with SMEs" will be refined during EuroCC2/CASTIEL2 with the specification to only consider active interactions with SMEs – with real feedback, e.g. through

meetings, interviews, phone calls, etc. This will allow less variability in the collected figures of this category "contacts with SMEs" for a more detailed analysis.

<u>Interactions with Big Industry</u>

Regarding projects with Big Industry, 4 NCCs in Q6 and Q7 then still 3 NCCs after Q8 don't work with Big Industry (and 3 other NCCs didn't provide any answer on this topic). Interaction with Big Industry is in all cases more limited than with SMEs: for instance, the total number of contacts/interactions made with Big Industry since the beginning of EuroCC only slightly increased from 141 to 255 between Q6 and after Q8 (see details in Annex 04).

As discussed in the "short discussions sessions" performed with the industry champions in January-February 2022 (see the detailed report in Annex 01) and the second round in October 2022 (see the detailed report in Annex 03), this could be linked to the fact that i) Big Industry was not in the scope of the Grant Agreement of EuroCC1, ii) Big Industry stakeholders are not priority targets for some NCCs (for instance, due to a lack of Big Industry stakeholders in some small countries, or very frequently to the fact that Big Industry players already have their own resources in HPC/HPDA/AI or for other national reasons).

After Q8, 14 NCCs still did not have any project with Big Industry finalized yet (even if some projects with Big Industry have been initiated and are ongoing for the majority of the NCCs). However, this is explained by the given timeline -only two years of project for EuroCC1- and by the very specific requirements and timelines for working with Big Industry that are explained in the previous paragraph.

2.3.3 Marketplace topic

During the "Short discussions" meetings performed in October 2022 and in the last part of the survey to be filled-in by the NCCs, the "marketplace" topic for EuroCC2 was formally addressed for the first time with the NCCs. CASTIEL-WP4 took this opportunity to discuss in live (through visio-conference tool) with each NCC about their potential specific needs or feedbacks regarding a future marketplace or market portal solution.

Previously, a benchmark had been done by WP4 during Summer 2022 to study the state-of-the-art of the existing potential solutions for a marketplace (see section 3.2.3). The results of this benchmark along with proposition of concepts for a "marketplace/market portal" solution were shared with the industry champions through a preliminary report in September 2022 (see Annex 05). Using this preliminary report and the outcomes of the discussions of the industry working group meeting on September 22nd, 2022, the industry champions had first elements at their disposal in order to be able to answer some first questions:

- o what the NCCs would like at the local level (e.g. language of the local instances)
- o what would interest them at the central "coordination/hub level" (to display information about their national services providers and service offers, to see information about infrastructure available in other countries, etc.)
- o their readiness to collaborate on the implementation of a whole "marketplace" solution for EuroCC2 (either with some budget or with man power) and about their preferred potential solutions providers -at this preliminary stage- looking at the benchmark done by CASTIEL-WP4 during the Summer 2022 (see more details about the benchmark action in section 0).

The key results of this part of the survey -filled in by the NCCs- were:

- the majority of the NCCs (65%) estimate that to ensure the use of the future "marketplace/market portal" by their local ecosystem. The solution will have to be in English and the national language. For 6% of the NCCs, it would be better to have it also in the national language even if it could be first tested in English. For 19% of the NCCs, it would be ok to have the solution running only in English whereas for 10% of the NCCs the solution is needed only in the national language. These numbers are summarized in Figure 1.
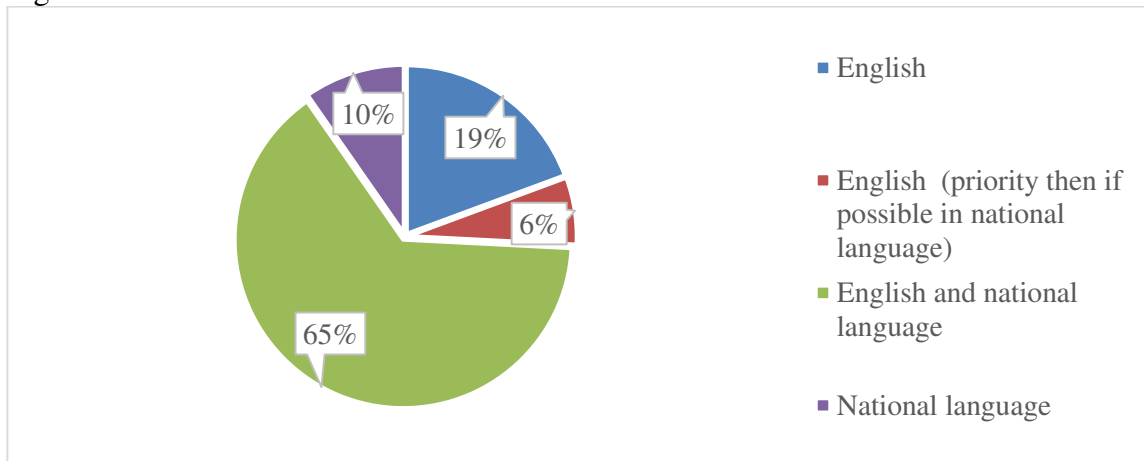
Figure 1: Needed language for the marketplace

- in general, the majority of the NCCs expressed interest for the future potential functionalities of the marketplace (like to "Have information about services provided in another country" or to have a "Possibility to promote out offers at the EU level"). Indeed, for all the questions in this category, between 68% and 90% of the NCCs answered "Yes" to the questions like "Do you have potentially interest in [Having information about services provided in another country]?"
- The NCCs indicated their two favourite options at this stage. The two providers that had the most votes were contacted by the "marketplace" task force (see details about this task force in section 3.2.3) to plan interviews with them in order to further investigate what they could provide, to detail with them the specifications and check the estimated costs and processes.
- The majority of NCCs are potentially ready to cover costs (for branding or local management) for their local national instances of the "marketplace/market portal" – during the project EuroCC2 and after the end of the project (of course, only in case the marketplace solution shows relevant results during the project).
- The majority of NCCs are potentially willing to collaborate (mostly to manage their local national instances of the marketplace) with CASTIEL2 on this topic – during the project EuroCC2 and to maintain collaboration in some way after the end of the project.

All the summaries and detailed answers to these questions about a future "marketplace/market portal" solution are available in Annex 05.

Disclaimer: all these questions -during these short industry sessions and in the survey- were asked with the simple purpose to understand the NCCs current opinions and interests, and to see what could be reasonably undertaken by CASTIEL2 with regards to the marketplace topic or what should be avoided (in order to ensure interest and the engagement of the NCCs in the future chosen solution).

3   Task 4.1 "Support for Industrial Interactions"

3.1   Objectives and strategy implemented for task 4.1

The objective of task 4.1, set in the CASTIEL Grant Agreement, was to coordinate the exchange among the NCCs on best practices for a fruitful interaction with industry, and on their respective service offerings. To achieve this objective, an Industry Working Group set up an industry working group at the beginning of CASTIEL/EUROCC with "industry champions" from the 33 NCCs who acted as contacts and intermediaries with the NCCs on industry-related topics. Moreover, several external experts were invited to workshops of the IWG to share relevant information, for instance regarding the European vision on the European Digital Innovation Hubs (EDIHs) in June 2022 or to interact with experts on the topic "licencing and software" in September 2022.

Task 4.1 also organized face-to-face teleconferences with the 33 industry champions for the "short industry sessions" which main outcomes presented in Section 2 were then used by Task 4.1 to plan with Tasks 4.2 and 4.3 and with the other WPs of CASTIEL specific corrective or new actions and to create the required best practices guides and documents (list of templates, summary notes, etc.) presented in the paragraph 3.2.2 .

Following the amendment validated by the European Commission in June 2022, Task 4.1 of CASTIEL received the new action to manage the "Elaboration on the potential to implement and promote -during the second phase of EuroCC and CASTIEL- a marketplace at the national and European levels when relevant and identification of potential pilot NCCs".

To provide elements of answers or potential solutions regarding this topic, CASTIEL-WP4 gathered details about existing "marketplaces" (and similar objects) offers from various providers. The collected information during this benchmark was summarized in a specific report (see Annex 05) along with the proposition of relevant potential solution providers for a "marketplace/market portal" solution at the national/EU level to be implemented during the next phase of EuroCC and CASTIEL.

These results and propositions were first discussed with the industry champions (i.e. NCCs contact people in charge of industry topics to interact with CASTIEL) of the NCCs -through a global common meeting on September 2022 then in face-to-face short discussions- so that the most relevant potential solution providers can be targeted for further discussions with the CoEs during the next phase.

3.2   Actions undertaken during year 2 and results

3.2.1   Meeting and workshops for the industry working group

WP4- task 4.1 organized IWG meetings and workshops on specific topics. For the second year, the topics that were considered in priority were the ones reported by the industry champions during the first round of the "short industry sessions+ survey" performed in January-February 2022. The workshops for the IWG that were organized during year 2 of the projects by Task 4.1 were the following:

- **Workshop #5 "Licensing & software" on September 20th, 2021:** Academic experts from INRIA presented the main rules and EU regulations with regards to software questions and discussed the topic of free licences. Then the commercial software providers COMSOL and Matlab presented their solutions along with their best practices and main challenges. The detailed agenda is available in Annex 06.

- **Workshop #6: "Big Industry" workshop on March 14th, 2022:** CASTIEL WP1 and WP4 organized, with specific support from the German and the French NCCs a CASTIEL Studio session "Big Industry workshop" with participation from major Big Industry stakeholders from Germany and France: Airbus, Bosch, EDF and Safran. This workshop was an opportunity for the NCCs to understand the users' perspectives. The invited industry speakers presented their companies and their respective needs, constraints and plans with regards to HPC and potential interest for the EuroCC offers. The panel session allowed to interact on several questions linked to the specific needs and constraints from Big Industry (Transfer data time limits, security issues with the impossibility to share and expose the companies' data, the long-term partnerships needed for Big Industry which cannot change their computing centers each two years -hence the sustainability question for the NCCs that are planned to end in 2026, etc.). The detailed agenda is available in Annex 06.

- **Workshop #7 "ETP4HPC[6] presentation of funding opportunities for SMEs & industry" on May 19th, 2022:** this event was organised by task 4.2, see section 4.2 for more details about this event.

- **Workshop #8: "Updates about EDIHs" on June 22nd, 2022:** as the first call for the new EDIHs[7] was closed and the accepted ones were supposed to start by end of 2022, the NCCs were interested in hearing updated news from the DG Connect[8] of the EC about the EC plans for the EDIHs and their potential interactions with the NCCs. Therefore, Anne-Marie Sassen from DG CONNECT (who already presented during the first workshop about DIHs and EDIHs in April 2021) presented the updates from the EC (deadlines, general principles for collaboration, results and figures from the first call for EDIHs, etc.). The detailed agenda is available in Annex 06.

- **Meeting "Industry working group meeting during the Montenegro conference" on September, 07th, 2022:** during the Montenegro conference, an industry working group meeting was organized in order for WP4 to interact in on-site mode with the industry champions. More particularly, this workshop was the opportunity to exchange with the industry champions about the cluster tool in preparation (to collect their potential questions and feedbacks) and to announce the second round of "short industry sessions "in face-to-face along with the topic of the "elaboration on potential implementation of a marketplace during the next phase". The detailed agenda is available in Annex 06.

- **Workshop #9 "Access and security" workshop on September 14th, 2022**: following a need expressed by the industry champions during the first round of the "short industry sessions", a workshop with representatives from two experienced NCCs was organized for the industry champions. This was the opportunity to present some best practices in terms of access and security within the NCCs, particularly to ensure interest of industry prospects. The detailed agenda is available in Annex 06.

- **Workshop #10 "Best practices for communication about industry services" on September 19th, 2022:** this event was organised by task 4.2, see section 4.2 for more details about this event.

- **Meeting 'Industry working group meeting to launch the second round of "short industry sessions" and initiate discussions about a future marketplace' on September 20th, 2022:** a meeting with the industry working group was organized online in order to present the results of the benchmark done during the Summer 2022 regarding

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[6] ETP4HPC: European Technology Platform for HPC: https://www.etp4hpc.eu/
[7] EDIH: https://digital-strategy.ec.europa.eu/en/activities/edihs
[8] DG Connect: https://ec.europa.eu/info/departments/communications-networks-content-and-technology_en#related

potential providers for a marketplace solution and to explain how the industry working group and the task force "marketplace" would for interactions on this topic. The detailed agenda is available in Annex 06.

3.2.2 Best practice guides, take-out notes, summary notes and template lists

Additionally, to these meetings and workshops, WP4 produced during year 2 of the project various documents for the benefit of the NCCs. All these documents are available on BSCW and on the EuroCC ACCESS website (depending if the content is public or only for the NCCs members). WP4 also collected materials from other projects and initiatives to share them and inform the NCCs (for instance, about the PRACE Peer review process).

Following a WP3 workshop on the topic "Engagement with industry and the public sector" organized in the frame of the mentoring actions performed by WP3, WP4 in coordination with WP3 and WP5 created for the NCCs a best practice/take-out document on "How to identify, attract and interact with the industry especially SMEs and the public sector". This document was shared in December 2021 with the NCCs, it is stored on BSCW and also available on EuroCC ACCESS website on the Resources[9] page. After each workshop organized by WP4, WP4 produced and shared with the NCCs the available slides, recordings, agenda and summary. For some workshops, there were specific take-out summary (like for the "Big industry" workshop in March 2022).

Then following the first round of "short industry sessions", summary notes[10] on various topics (Access & security, Key elements to interact with industry, key figures, instruments & tools used in the NCCs) and a catalogue of the available templates (collected among the NCCs) were produced and shared with the NCCs in May 2022 and stored on BSCW for the NCCs members only. The outcomes of the second sessions[11] were also shared with the report in November-December 2022 and stored on BSCW for the NCCs members only.

In collaboration with WP5, WP4 sorted and made an inventory of the best practices reported by the NCCs (regarding interaction with industry but also regarding communication or legal & security aspects – topics useful for industry interactions) with the production of a central summary document[12] listing all the best practices available. These documents were shared with the NCCs during July 2022 stored on BSCW for the NCCs members only.

The list of documents (that are not complete reports) like best practice guides, summary notes, take-out notes, overviews, lists of templates produced or collected by WP4 and shared with the industry champions during M13-M28) is summarized in Table 6.

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[9] Ressources page: https://www.eurocc-access.eu/services/resources/#section_library
[10] Folder with summary notes and templates list following the first round of "short industry sessions"
https://bscw.hlrs.de/sec/bscw.cgi/586300
[11] Folder of the outcomes of the second round of "short industry sessions"
https://bscw.hlrs.de/sec/bscw.cgi/798118
[12] Inventory of best practices achieved by the NCCs:
https://bscw.hlrs.de/sec/bscw.cgi/d718478/20220728_NCCs_existing_examples_list%20(BestPractices)_by%20WP4%26WP5.pdf

Table 6: List of documents produced or gathered and sorted by WP4 for the benefits of the NCCs

Type of documents	Produced by	Shared on
Best practices/take-outs document "Engagement with industry and the public sector**"**	WP4 & WP3 & WP5	20/12/2021
Creation of a webpage to list the EU opportunities for funding through projects & initiatives: https://www.eurocc-access.eu/resources/	WP4 & WP5	14/02/2022
Tutorial manual "How to feed in the cluster tool"	WP4 & WP5	25/03/2022
Material from FocusCoE webinars about "How to interact with SMEs"	FocusCoE	29/03/2022
Information from PRACE about the PRACE Peer Review Process	PRACE	29/03/2022
Take-out summary after the Big Industry workshop in March 14ᵗʰ	WP4	29/03/2022
Agenda, slides, recordings for all workshops of WP4	WP4	After each workshop
Templates & forms list collected during the first round of "short industry sessions" in January-February 2022	WP4	04/05/2022
Summary notes produced following the first round of "short industry sessions" in January-February 2022 • *Summary notes* "Key figures wrt industry" • *Summary notes* "Access & security" • *Summary notes* "Instruments & tools" • *Summary notes* **"Key elements wrt industry interactions"**	WP4	04/05/2022
List of the NCCs existing examples / best practices	WP4 & WP5	28/07/2022
Thematic overviews of the NCCs existing examples/best practices in: • Industry • Communication • Organisation • Legal & security aspects • Technical • Training	WP4 & WP5	28/07/2022

3.2.3 Investigations about the options for a "Marketplace" and task force

Regarding the new mission (amendment in June 2022) for Task 4.1 to manage the "Elaboration on the potential to implement and promote -during the second phase of EuroCC and CASTIEL- a marketplace at the national and European levels when relevant, and identification of potential pilot NCCs", Task 4.1 organized several actions.

Initial benchmark: state-of-the-art study

First, during Spring and Summer 2022, CASTIEL-WP4 gathered details about existing "marketplaces" offers from various providers. 13 potential providers were contacted to learn more about their offer, their recommendations for the global solution we are looking for and their estimated conditions to provide such a solution. The methodology, the objectives, the collected information during this benchmark and the main outcomes were summarized in a specific report for the NCCs (see Annex 05) along with the proposition for potential solution providers for a marketplace at the national/EU level to be implemented during the next phase of EuroCC and CASTIEL. These results and propositions were first discussed with the industry champions during a global common industry working group meeting on September 2022. Following this industry working group, two new potential providers were added to the benchmark report. This updated version of the report was sent to the NCCs for their consideration and review before the face-to-face short discussions in October 2022 (as part of the "short industry sessions + survey"). The results concerning this topic from the "short industry sessions + survey" actions are available in section 2.3.3.

"Marketplace" task force

In addition, a dedicated task force "Marketplace" was launched in October 2022 with voluntary participants from 2 NCCs (NCC Sweden and NCC Belgium) and partners from WP4. This task force worked on the process to be used with the two potential providers that were mostly selected by the NCCs (Cyfronet who worked on the EOSC and EGI marketplaces, and Teratec who worked on the French marketplace). Therefore, the task force prepared a detailed list of specifications (see the excel and the word document in Annex 07) to be filled in by the potential providers by email before the meeting and to be used as guidelines during a dedicated interview. The interviews with the two potential providers took place on November 2022, 28th and 30th. It was decided within this task force that the outcomes of these two interviews will be shared with the NCCs then all the gathered information will be used in early 2023 as support of discussion with the CoEs and with the other WPs of CASTIEL to refine the solution and finalize the specifications to be shared with the future selected provider(s) (i.e. the final selection of a provider will be done only in 2023 after confirmation of the compatibility with the CoEs).

3.2.4 WP4 management

In addition to these workshops, creations of various documents and "marketplace" investigations, WP4 held bi-weekly telcos for only WP4 partners to organize the IWG events and the various actions, to monitor the progress of work of the three WP4 tasks and to ensure interactions with the other work packages of CASTIEL in order to coordinate the efforts and to share useful information for our WP4 actions. In parallel with the email distribution list, a slack channel was also used for the Industry Working Group to ensure that all information is passed on to all industry champions, and to allow these champions to interact between themselves.

3.3 Plans for the next steps

The workshop series initiated by task 4.1, and described in Section 3.2, will be continued during the phase 2 of EuroCC and CASTIEL by focussing on the topics of interests expressed by the

industry champions during the second round of the "short industry sessions". Task 4.1 will continue to support the NCCs in connecting to relevant business associations and to various stakeholders of the EU ecosystem (for instance EDIHs when they will be operational) at national and European level, supporting the NCCs with regards to their industrial interactions and business development. Task 4.1 will also continue working on the "marketplace/market portal" topic, by integrating the CoEs in the discussions with the NCCs and with the "marketplace" task force in order to be able during the phase 2 to implement a relevant solution after discussions with the CoEs too.

4   Task 4.2 "Connecting the NCCs to other European initiatives and projects"

4.1   Objectives and strategy implemented for task 4.2

The objectives of task 4.2 set in the CASTIEL Grant Agreement were to identify other European initiatives and projects which can be of support to the NCCs in fulfilling their missions and establish connections between the NCC and the identified European initiatives. The strategy for this task was divided into two phases. In the first year, the NCCs were introduced and connected to those EU projects, that either structure the HPC landscape (e.g. FocusCoE) or connect HPC to industry (e.g. FF4EuroHPC). In the second phase, the needs of the NCCs were matched with the corresponding specific EU projects through a series of events, where projects can introduce themselves, as well as material provided by this task. During both phases, the exchange among the industry champions regarding EU projects was fostered.

4.2   Actions undertaken during year 2 and results

During year 2, the two formats of workshops started in year 1 were kept and the new format (of internal meeting among the NCCs themselves) was tested. The organized workshops were:

1. **Industry champions & various projects**: This is a format where EU projects can introduce themselves and offer possibilities for Q&A session. During the second year of EuroCC, ETP4HPC was introduced and presented **the workshop#7 "ETP4HPC presentation of funding opportunities for SMEs & industry" on May 19th, 2022.** In this session, ETP4HPC gave an in-depth intro about ETP4HPC and the European Ecosystem as a whole, which helped especially the NCCs that are relatively new to the EuroHPC ecosystem. The insights included sources about funding opportunities to work with industry and helpful hints for the application processes. The detailed agenda is available in Annex 06.

2. **CoEs meet NCCs:** As the CoEs have been identified as very relevant points of contact for the NCCs, the series of workshops started during year 1 with representatives from each side to present ideas or requests for cooperation and open matchmaking were continued. The following workshops took place during this reporting period, with detailed agenda is available in Annex 06:

- CoEs meet NCCs v2 (Topic: CFD) September 22nd, 2021 with presentations from COEC[13], EoCoE[14], EXCELLERAT[15], CompBioMed [16]and RAISE CoE[17]
- CoEs meet NCCs v3 (Topic: Code optimisation) November 23rd, 2021 with presentations from PerMedCoE[18], POP CoE [19]and T-Rex[20]
- CoEs meet NCCs v4 (Topic: Complex Workflows and Data Analysis) February 7th, 2022 with presentations from BioEXCEL[21], CoEC, RAISE CoE and EoCoE II.
- CoEs meet NCCs v5: September 1st, 2022 with speakers from NCC Czech Republic and NCC Austria.

During the second year, it was decided to test a new format (in v5): To give the opportunity to the CoEs to get insight into the NCCs work and see where they see cooperation potentials, the roles were reversed. Two NCCs presented a use case from their centre and the CoEs were invited to comment and discuss. This format was well received. The task will share the experience of these sessions with the Work Package responsible for connecting NCCs and CoEs in the second project phase.

3. **Exchange among the NCCs:** NCC Turkey and NCC Luxembourg shared their best practices and lessons learned with regards to the topic "Best practices for communication about industry services" during **the workshop #10 on September 19th, 2022.** While Turkey presented about their systematical approach for proof of concepts, Luxembourg talked about reaching the target groups and pricing mechanisms within their entities. Both topics were derived from needs that the NCCs expressed in earlier workshops.

These workshops targeted the need for information and familiarity with EU initiatives and projects detected by the NCCs. In addition to these meetings or workshops, a subpage[22] on the project web portal where NCCs can share their project involvements with each other and the public was conceptualised in interaction with WP5 of CASTIEL. This was implemented by end of 2021 in addition to the already existing possibilities offered by CASTIEL to the industry champions (Slack for WP4, direct emails, meetings and workshops of the IWG…) to exchange knowledge and learn about potential funding opportunities for interaction with industry by the European Commission (EC). Feedbacks from the industry champions were collected in November-December 2022 in order to improve this webpage and to facilitate the users' readability.

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[13] COEC: Center of Excellence in Combustion : https://coec-project.eu/

[14] EoCoE: Energy oriented Centre of Excellence for computer applications: https://www.eocoe.eu/

[15] EXCELLERAT: European Centre of Excellence for Engineering Applications:
https://www.excellerat.eu/

[16] CompBioMed: European Center of Excellence in Computational Medicine
https://www.compbiomed.eu/

[17] RAISE CoE: European Center of Excellence in Exascale Computing "Research on AI- and Simulation-Based Engineering at Exascale": https://www.coe-raise.eu/

[18] PerMedCoE: European Center of Excellence in Personnalised medicine https://permedcoe.eu/

[19] POP CoE: Performance Optimisation and Productivity Centre of Excellence in HPC: https://pop-coe.eu/

[20] T-Rex: Centre of Excellence in HPC for Quantum Chemistry: https://trex-coe.eu/

[21] BioEXCEL: Centre of Excellence for Computational Biomolecular Research:
https://bioexcel.eu/events/introduction-to-hpc-for-life-scientists/

[22] EuroCC Funding opportunities webpage: https://www.eurocc-access.eu/services/resources/#section_funding

Finally, during the last quarter of 2022, WP4 also informed regularly via specific emails the industry champions about the EC or the JU last opportunities and deadlines to apply for projects or grants related to industry and services.

4.3 Plans for the next steps

The global aim of task 4.2 was to provide a comprehensive overview of the EU projects and initiatives, easily accessible by the industry champions. Therefore, the workshop series presented in Section 4.2 will be continued and optimised and the experiences will be shared with the respective work packages in CASTIEL 2. During the last quarter of 2022, interactions with GAIA-X[23] and ETP4HPC were initiated in order to organize workshops by end of the year 2022 for the industry champions to hear about the new initiative GAIA-X and to receive the results of the market studies performed by ETP4HPC during Spring/Summer 2022. However, GAIA-X was only starting and initiating their collaborative works and ETP4HPC was still working on their market studies results during October-December 2022. Therefore, specific workshops will rather take place during early 2023. In the meantime, thanks to discussions between WP4 and ETP4HPC, industry champions were invited to the ETP4HPC webinars on the main outcomes of their Strategic Research Agenda (SRA) in order to hear about the EU key orientations and visions for HPC/HPDA/AI in the next years (this being one of the needs expressed by the industry champions during the "short industry sessions + survey").

Also, in interaction with WP5 of CASTIEL a process to share European deadlines regarding funding opportunities and projects will be set up to be tested during the beginning of EuroCC2. Additionally, since the industry champions expressed a need for information about interacting with target groups (more specifically through social media for instance), a tighter interaction with the communication working group will be established during EuroCC2/CASTIEL2 and a transfer of knowledge will be initiated. The goal is to stronger connect the individuals within the NCCs, since the two fields of expertise are tightly interconnected. This will be mutually beneficial to both groups.

5 Task 4.3 "Transnational access to sectorial services"

5.1 Objectives and strategy implemented for task 4.3

The objective of the task 4.3 was to foster the transnational access to the most relevant sectorial expertise proposed by the network of NCCs for companies for which the local Competence Centre (CC) cannot offer support. In order to attain this objective, an analysis of each NCC's roadmap with regards to sectorial services was done during the first year. As presented in the deliverable D4.1, this analysis showed that the 33 NCCs together possessed an expansive range of service offerings and planned to target a broad range of industry sectors. On a transnational scale, the entire CC-ecosystem covers a large and diverse array of a total of twenty-nine industry sectors. Therefore, in order to support the NCCs to find a specific service offer or expertise by another NCC and to enhance their collaboration, WP4 -with the help of a dedicated task force launched in 18 November 2021- worked on the creation of a Cluster tool. The Task Force – members were:

- Wahid Rofagha (Belgium – leader of Task 4.3)
- Marie-Françoise Gerard (France- partner of CASTIEL-WP4)

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[23] GAIA-X: Gaia-X European Association for Data and Cloud AISBL: https://gaia-x.eu/

- Miriam Koch (Germany- partner of CASTIEL-WP4))
- Markus Stohr (NCC Austria)
- Martina Blazkova (Spain- partner of CASTIEL-WP4))
- Tim Jaenen (NCC Belgium)
- Sven Karlsson (NCC Denmark)
- Lilit Axner (NCC Sweden)

5.2 Actions undertaken during year 2 and results

During the discussions in the task force "cluster tool", several key topics were addressed during the second year of CASTIEL. These key topics are presented in the following paragraphs.

How to fulfil all the requests from the potential industry prospects

Some NCCs mentioned during the "short industry sessions + survey" (see section 2.3.1) a bandwidth issue to fulfil all the requests they receive from potential clients. Consequently, they expressed some interest in a solution within the EuroCC network to find other NCCs that also manage these sectorial services in order to collaborate with them to provide the requested service.

This is one of the reasons why the task force brainstormed to find an answer as to how requests from industry could be addressed in the most efficient manner, considering the different levels of technological maturity and experience in client interaction within the large group of thirty-three NCCs. It led to the concept of the 'Cluster Tool' which is based on the observation that even if a service might not be available at one NCC (or if there is a bandwidth issue), it can be found in a different country. As a consequence, no client inquiry remains unanswered because it can be escalated or collaboration can be organized between NCCs. Additionally, the task force-members also concluded at an early stage the necessity of a single point of contact for the client in his/her region throughout the process from initial inquiry until service delivery (even if the request has not been made directly to the local NCC).

Therefore, the task force worked on the process to cope with requests from industry to ensure when need be transnational access to the sectorial services available in the EuroCC network. The designed concept for this process is visible in Figure 2.
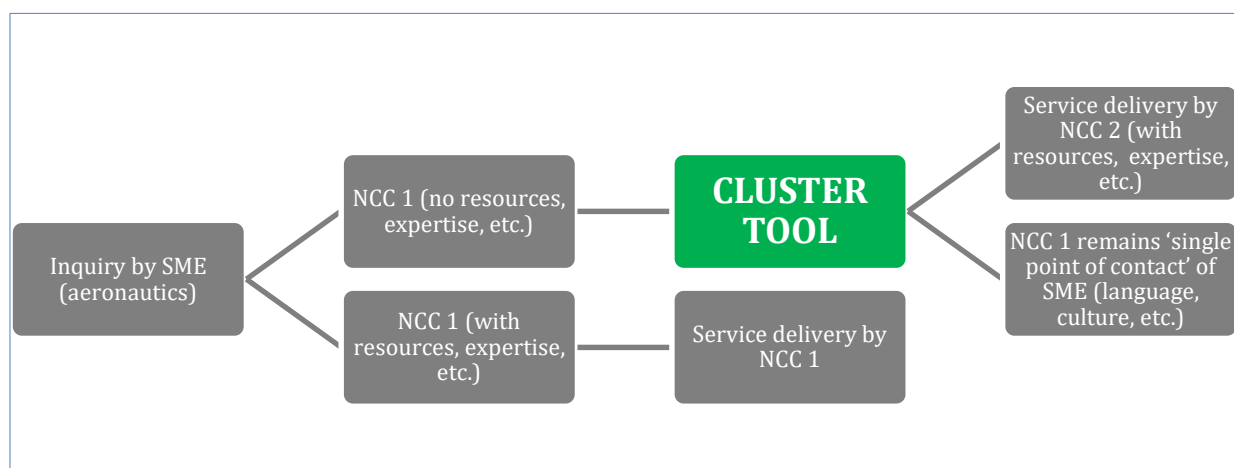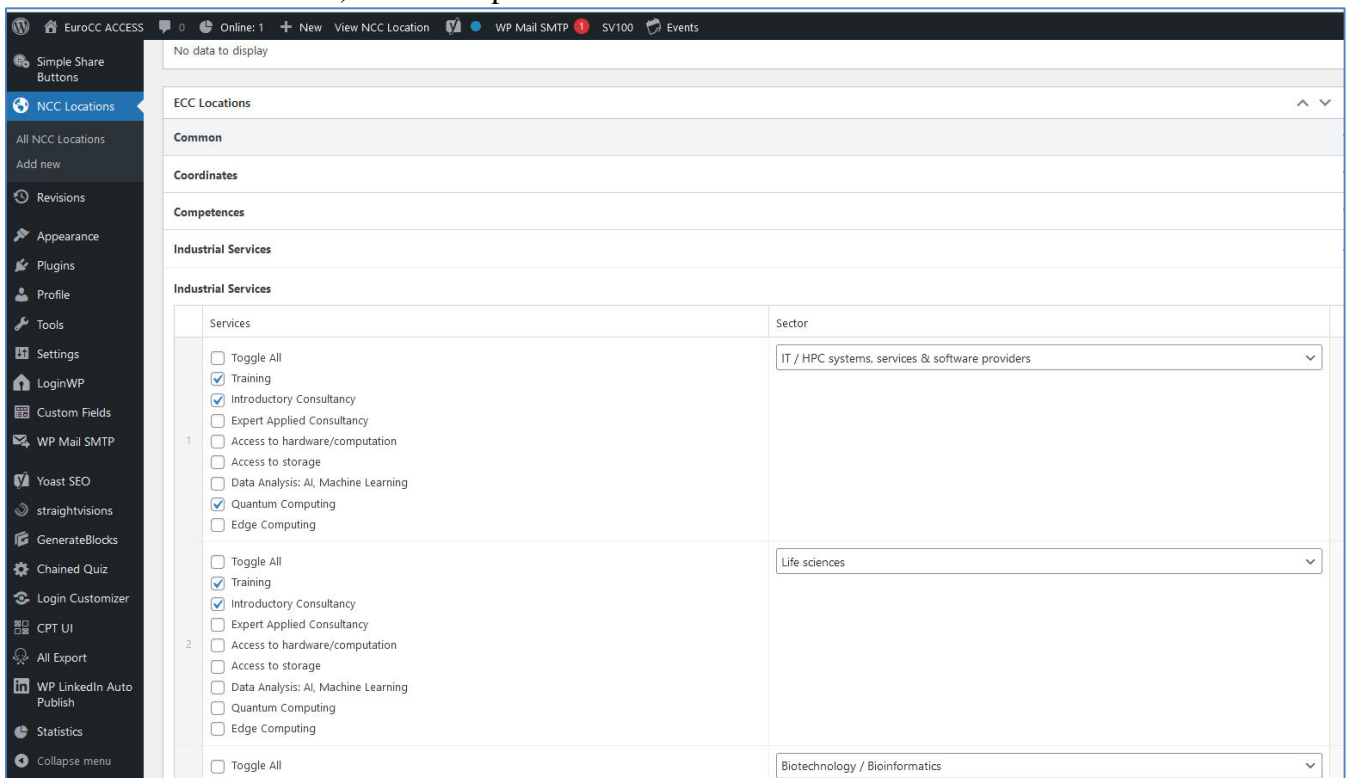

Figure 2: Process to cope with requests from industry to ensure transnational access to services

The interfaces of the cluster tool

Regarding the aspects of the cluster tool (internal and external), several discussions were held and many ideas were considered and tested:
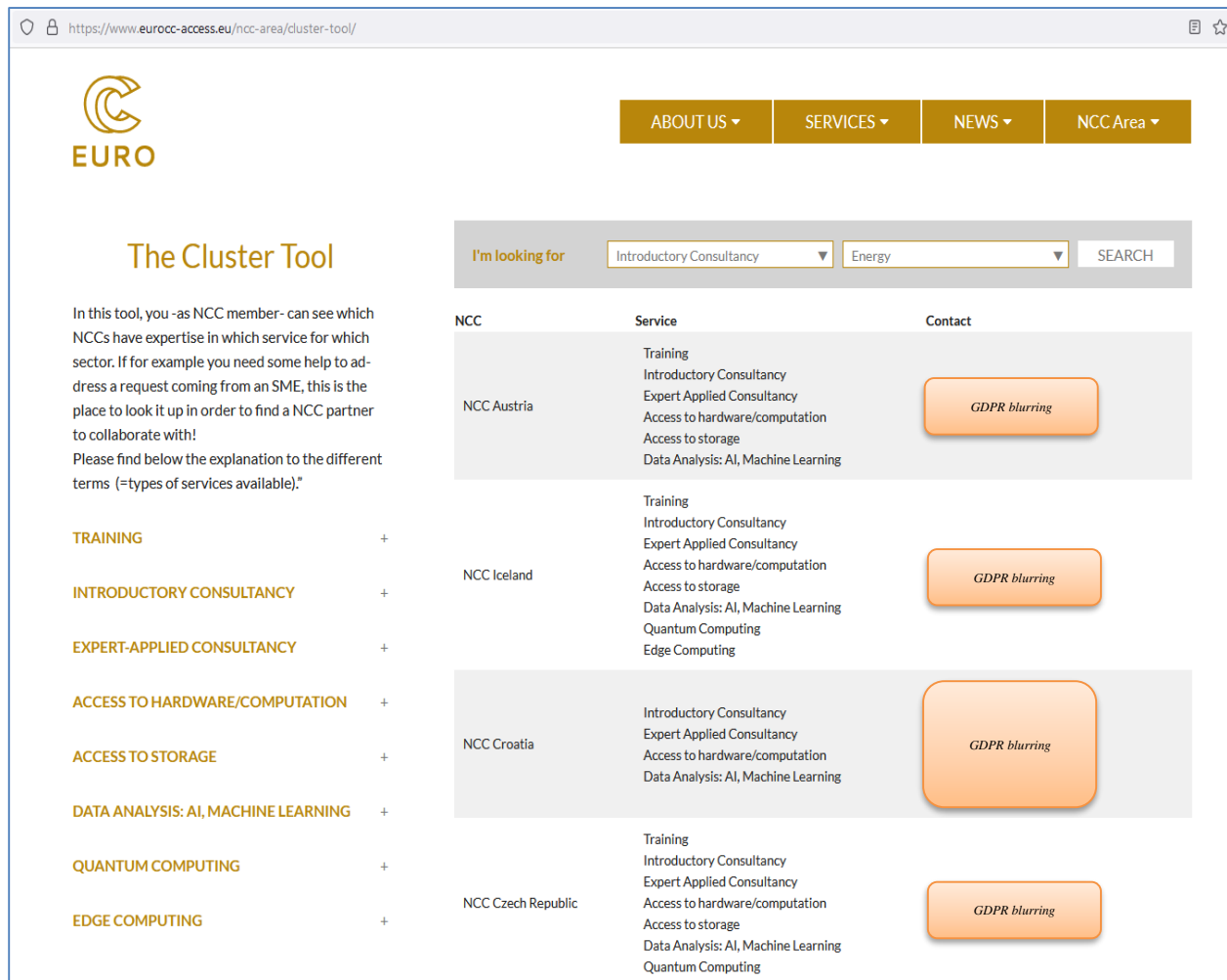
- The public interface was, at the end, set as an easily accessible and readable webpage with generic information about the EuroCC available services for industry. Interested industry stakeholders can select one from the eight service proposals which are at the heart of the Cluster Tool (Training, Introductory Consultancy, Expert Applied Consultancy, Access to Hardware, Access to storage, Data Analysis: AI and Machine Learning, Quantum computing, Edge Computing). Each proposal has a brief description and a 'Contact Us'-button where the user is invited to leave his/her contact details. A 'ticketing system' to track the inquiries was examined at one stage but put on hold following mixed feedbacks from other EU projects that used this system. For the moment, the request is sent to PMT who re-directs it to the local national NCC to manage the request and choose the other NCC to collaborate with (this NCC being found through the cluster tool to see where the sectorial service is available). It is planned to revisit the concept next year in order to improve it if need be when the cluster tool is established and creates more traffic.

- The internal interface (accessible only by the NCCs representatives when they are logged in the NCC area) was conceptualised with two entries:

Figure 3: Screenshot of a NCC "upload of information" entry point in the cluster tool

1. One entry **"upload of information"** is for a given NCC (logged in the NCC Area of EuroCC ACCESS website) to enter or upload their available services for industry in the cluster tool. For this first entry, a user-friendly click and tick form was created in WordPress (see the screenshot in Figure 3). The NCCs were invited to use it to enter their available services for industry sectors.

2. The second entry **"available sectorial services"** is for a given NCC (logged in the NCC Area of EuroCC ACCESS website) to see which service is available in a given sector by other NCCs. For this entry, to ensure equality in the display of information, at the beginning (in March 2022), a random display of the NCCs' names in a circle -when someone is looking for one sector and one service- was

considered. However, this was not technically feasible (and the tests took many months due to the issues with the web agency). Therefore, by November 2022, it was decided to have a classical display in list, but with a random classification of the NCCs' names in the appearing list. In other words, when someone selects one service in one sector, a list of NCCs appear. The order of the NCCs' names changes every time a user does this action. This way, it is not always the same NCC which is visible first in the list. A screenshot of this final entry "available sectorial services" is available in Figure 4.

Figure 4: Screenshot of the entry "available sectorial services" in the NCC area of EuroCC ACCESS website

Link between the cluster tool and the competence map of WP2

Then the task force brainstormed about the best way to link the cluster tool with the competence map of WP2. The cluster tool and the competence map of WP2 are complementary tools. Indeed, the competence map presents all the expertise and infrastructure available throughout the EuroCC network while the cluster tool focuses on the services available in the EuroCC network for industry in terms of business opportunities. Therefore, regarding the link between the cluster tool and the competence map of WP2, it was decided to go for a simple and clear solution: a URL link for the cluster tool is available in the competence map webpage[24] when a user is looking at

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[24] Competence map by WP2: https://www.eurocc-access.eu/services/competences/

the category "Business and project consultancy" (they can click on a "different sectorial and application domains" link to arrive on the public interface of the cluster tool). Reciprocally, a URL link for the competence map is available on the public interface of the cluster tool[25] when a user wants to know "more about the competences available in EuroCC" in general.

Inquiry: projected time investment

In parallel, another topic investigated by this task force "cluster tool" was the time investment each NCC was potentially able to dedicate to work for SMEs or industry contacts in other countries. A questionnaire was designed and sent to all NCCs (first in January 2022 with reminders until March 2022) about the topic "*How much time can each NCC dedicate within CASTIEL to support projects from private/public sector of another EU country?*". The two questions were:

- How many P/Ms can your NCC consider to use within the EuroCC/CASTIEL-project to support projects in the following services from private/public sector of NCCs in other countries? [with the display of the 8 categories of services]
- Are there obligations on your national level (f. ex. regulations from your national funding agency, etc.) that prevent your NCC from supporting private/public sector of other countries?

19 NCCs provided answers to this questionnaire by March 2022. The answers to the first question are available in Figure 5
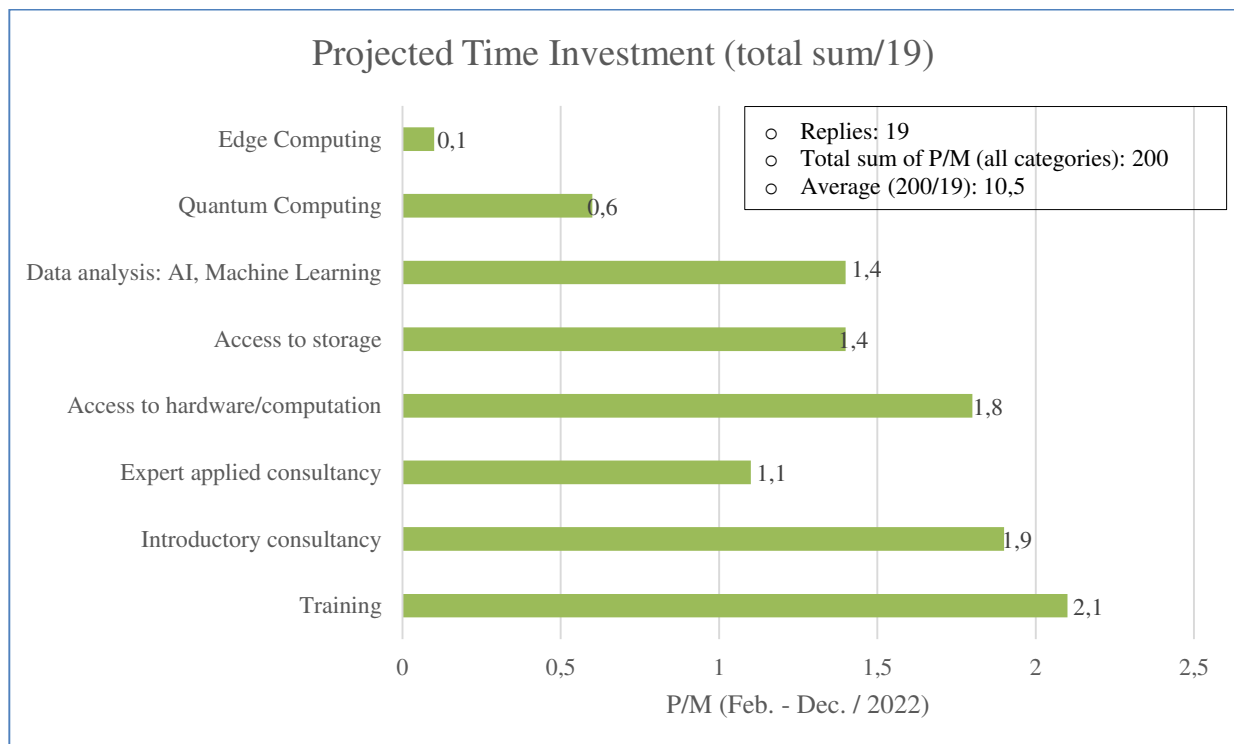
Figure 5: Projected Time Investment on average

For the second question, a vast majority replied that they did not have preventions from national level for supporting private or public sector in other countries. There were four exceptions that reported that:

- "30% of efforts reserved for national clients."
- "This question was not addressed at the beginning of the project. It was not the goal, cf. DoA and GA of EuroCC. We have no actions and no budget in EuroCC to support projects from private/public sector of NCCs in other countries. We just have PM, actions to support private/public sector in our own country."
- "Assessment of restrictions on the type of service we can provide to private/public sector of another NCC will have to be carried out on a case-by-case basis."
- "Nationally funded infrastructure is only allowed to support academic and private/public sectors at the national level."

These collected issues were escalated to the PMT that reported them to the JU. There were no specific answers at this time (March-April 2022). Therefore, this would be considered looking at the feedbacks about the uses of the cluster tool and by seeing how exactly the collaborations between the NCCs on this specific topic concretely take place during EuroCC2.

Management of the creation of the cluster tool (technical aspects and interactions with the industry champions for them to enter data of the NCCs)

A general meeting of the industry working group with all industry champions was organized on March 9th, 2022 during which the industry champions were introduced to the concept of the cluster tool and how they could contribute to the success of it by entering information of the sectorial services available in their NCCs in the tool. Furthermore, a tutorial was prepared for the NCCs industry champions to guide them for entering their data. A dedicated telco was organized on March 25th, 2022 to demonstrate the tutorial in live and to have a Q&A session with the champions. Finally, during the general meeting in Montenegro in September 2022, industry champions were invited to share their first hand-experience as users of the cluster tool.

Unfortunately, due to the procurement process for the web interface of the cluster tool on the EuroCC ACCESS website, there were multiple delays to test the different entries of the tool, to implement the whole cluster tool (both internal and external sides) and to put it online between March 2022 and November 2022. This prevented to launch during EuroCC1/CASTIEL1 a communication campaign about the cluster tool both internally to EuroCC and externally to the whole European ecosystem in order to announce that this tool is online and its available functionalities. Therefore, this will be done during the phase 2 of EuroCC and CASTIEL, after collection of the first users' tests results ongoing in December 2022 and leveraging them to improve the cluster tool. Indeed, users' tests were prepared with SMEs and NCCs to check the usability of the cluster tool (the user journey through the webpages) and the test took place beginning of December 2022. For these tests, forms were prepared to lead the visio-conferences and the tests to be performed by the willing SMEs users and NCCs users. These forms are available in Annex 08.

At date of 25/11/2022, the internal[26] and external[27] sides of the Cluster tool were finally online. Except for 8 NCCs (for them, there might be still users' bugs to be checked and individually

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[26] NCC Area- Cluster tool: https://www.eurocc-access.eu/ncc-area/cluster-tool/
[27] EuroCC ACCESS webpage about industrial services (= external aspect of the cluster tool): https://www.eurocc-access.eu/industrial-services/

corrected by the website master to ensure registering of their information about sectorial services), all NCCs have entered available sectorial services online.

5.3 Plans for the next steps

During the next phase, the cluster tool should be completely finalized with all information from all the NCCs entered in the tool and available to all NCCs. Following the users' tests, the improvements will be implemented in the tool. Lastly, in collaboration with WP5 a specific communication campaign will be launched by the NCCs and by the external stakeholders to inform the potential users and industry prospects about this tool that can help them to find sectorial services in EuroCC.

Ultimately, this cluster tool will enable the NCCs to reply all inquiries from all industry sectors in Europe. It is built for a real business life scenario in which an NCC may not be able to accommodate an inquiry in the home country itself. With the help of the tool, the inquiry will be escalated to a different country, which possesses the necessary expertise.

6 Major achievements and concluding remarks

During the second year of the CASTIEL project, WP4 performed various and numerous actions.

Regarding "Support for Industrial Interactions", Task 4.1 organized with the industry working group (IWG) two rounds of "Industry short sessions + survey": one in January-February 2022 and one in October 2022. Using the corresponding outcomes, Task 4.1 organized several meetings and workshops within the EuroCC network or with external stakeholders. Following these sessions, meetings and workshops, best practice guides and summary notes were produced for the benefit of the NCCs. Additionally, Task 4.1 interacted with the NCCs on the potential to elaborate a marketplace during EuroCC2. A benchmark was performed in Summer 2022, the results were shared with the industry champions in order to opt by end of 2022 for some potential solutions schemes and for a few potential providers. A dedicated task force "marketplace" was created in order to think about how to set up a solution for this "marketplace/market portal" during EuroCC2/CASTIEL2, including also the CoEs (that will be new partners in EuroCC2) in the future process. This task force worked on more detailed specifications and organized at the end of November 2022 interviews with the two providers mostly selected by the industry champions (who received for this purpose the report produced after the benchmark). The outcomes of these interviews will be leveraged during EuroCC2/CASTIEL2 for discussions with the CoEs and the other WPs of CASTIEL2 to select a solution and a provider -among the pre-selected ones collected through these actions performed in EuroCC1/CASTIEL1- to implement a technical solution during EuroCC2/CASTIEL2.

Regarding "Connecting the NCCs to other European initiatives and projects", Task 4.2 organized specific meetings with other initiatives like FF4EuroHPC or the CoEs to make these initiatives meet and interact with the NCCs throughout the whole EuroCC project. A webpage centralizing information about the existing EU funding opportunities, especially for SMEs, has been created and is available on the EuroCC ACCESS website[28]. During the year 2 of CASTIEL, Task 4.2 interacted for instance with new initiatives of the European ecosystem like GAIA-X and with already experienced initiatives like ETP4HPC in order to share with the NCCs the broad diversity of EU initiatives that can support them in order to find funding for projects with industry, to hear

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27 FUNDING & CONNECTION OPPORTUNITIES: https://www.eurocc-access.eu/services/resources/

about the EU visions for HPC/HPDA/AI and industry, and to collaborate with for development of relevant services for industry.

Regarding "Transnational access to the NCCs' services" Task 4.3 coordinated the work of a specific task force "cluster tool" to think about the most relevant actions on this topic and to work on the set-up of a cluster tool for the NCCs. An internal interface (with two types of entries: one to upload information and the other to access and find information) for the NCCs only and a public interface were designed and developed, despite numerous and lengthy technical blockers (due to contractual issues between HLRS and the web agency in charge of EuroCC ACCESS website). In parallel, Task 4.3 investigated about the NCCs potential to take care of requests from SMEs from other countries. Also, Task 4.3 established a concept for the mechanism of escalation in order to cope with requests coming from SMEs to be addressed by a not local NCC (i.e. a NCC from another country).

As a conclusion, the global work performed by WP4 allowed EuroCC and CASTIEL to better understand and monitor the NCCs main challenges, needs and issues regarding interactions with industry during the lifetime of the EuroCC project. WP4 produced for the benefit of the NCCs various materials (take-out notes, templates list, summaries of best practices, etc.) in order to provide answers to these needs or issues and to support the NCCs in their specific challenges. WP4 also organized targeted workshops and meetings on specific topics that allowed the NCCs to hear about some users' perspectives, to exchange best practices and lessons learned and to interact with other EU initiatives working with SMEs and Big Industry. Lastly, the development of a cluster tool will enable the NCCs to collaborate together in order to fulfil all potential requests coming from the European industrial ecosystem.

During EuroCC2/CASTIEL2, WP4 will include the CoEs in the current discussions and actions, for instance regarding the "marketplace/market portal" topic. Otherwise, following the second round of "short industry sessions + survey" done in October 2022, topics for workshops, meetings and other actions are already selected by WP4 which is planning to start working on those in early 2023. Collaborative actions are also in preparation with the other WPs of CASTIEL2 in order to fulfill the needs expressed by the industry champions to overcome specific challenges with regards to industry interactions.

References and Applicable Documents

[1]   CASTIEL and EuroCC projects EuroCC ACCESS: https://www.eurocc-access.eu/

[2]   FF4EuroHPC: https://www.ff4eurohpc.eu/

[3]   FUNDING & CONNECTION OPPORTUNITIES: https://www.eurocc-access.eu/services/resources/

[4]   Deliverable D4.1: « Report on Support of the NCCs on Industrial Interaction and Business Development » submitted to the JU in September 2021

[5]   ETP4HPC: European Technology Platform for HPC: https://www.etp4hpc.eu/

[6]   EDIH: https://digital-strategy.ec.europa.eu/en/activities/edihs

[7]   DG Connect: https://ec.europa.eu/info/departments/communications-networks-content-and-technology_en#related

[8]   Resources page: https://www.eurocc-access.eu/services/resources/#section_library

[9]   Folder with summary notes and templates list following the first round of "short industry sessions" https://bscw.hlrs.de/sec/bscw.cgi/586300

[10]   Folder of the outcomes of the second round of "short industry sessions" https://bscw.hlrs.de/sec/bscw.cgi/798118

[11]   Inventory of best practices achieved by the NCCs: https://bscw.hlrs.de/sec/bscw.cgi/d718478/20220728_NCCs_existing_examples_list%20(BestP ractices)_by%20WP4%26WP5.pdf

[12]   COEC: Center of Excellence in Combustion: https://coec-project.eu/

[13]   EoCoE: Energy oriented Centre of Excellence for computer applications: https://www.eocoe.eu/

[14]   EXCELLERAT: European Centre of Excellence for Engineering Applications: https://www.excellerat.eu/

[15]   CompBioMed: European Center of Excellence in Computational Medicine https://www.compbiomed.eu/

[16]   RAISE CoE: European Center of Excellence in Exascale Computing "Research on AI-and Simulation-Based Engineering at Exascale": https://www.coe-raise.eu/

[17]   PerMedCoE: European Center of Excellence in Personalised medicine https://permedcoe.eu/

[18]   POP CoE: Performance Optimisation and Productivity Centre of Excellence in HPC: https://pop-coe.eu/

[19]   T-Rex: Centre of Excellence in HPC for Quantum Chemistry: https://trex-coe.eu/

[20]   BioEXCEL: Centre of Excellence for Computational Biomolecular Research: https://bioexcel.eu/events/introduction-to-hpc-for-life-scientists/

[21]   EuroCC Funding opportunities webpage: https://www.eurocc-access.eu/services/resources/#section_funding

[22]   GAIA-X: Gaia-X European Association for Data and Cloud AISBL: https://gaia-x.eu/

[23]   Competence map by WP2: https://www.eurocc-access.eu/services/competences/

[24]   Public interface of the cluster tool developed by WP4: https://www.eurocc-access.eu/industrial-services/

[25]   NCC Area- Cluster tool: https://www.eurocc-access.eu/ncc-area/cluster-tool/

[26]   EuroCC ACCESS webpage about industrial services (= external aspect of the cluster tool): https://www.eurocc-access.eu/industrial-services/

[27]   FUNDING & CONNECTION OPPORTUNITIES: https://www.eurocc-access.eu/services/resources/

Table of Annexes

Annex 01 - Report "short industry sessions and survey" Round 1. Complete version

PDF (**106 pages**)

Annex 02 - Take-out notes and templates lists summarized from the report about the "short industry sessions and survey" Round 1

PDF (5 files of 1-4 pages)

Annex 03 - Report "short industry sessions and survey" Round 2. Complete version

PDF (33 pages)

Annex 04 - Report "key figures regarding interactions with industry" from the TPRs and the second round of the "short sessions + survey"

PDF (22 pages)

Annex 05 - Initial benchmark: state-of-the-art study for potential marketplace providers and solutions

PDF (100 pages)

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Annex 06 - Workshops and meeting agendas of the Industry Working Group

Time	Topic	Speaker
14:00-14:10	Introduction by WP4	Marie-Françoise Gerard (Teratec)
14:10-14:40	Introduction, state of the art by an academic specialist of software	François Pellegrini (INRIA)
14:40-15:10	Rules, EU regulations with regards to licencing and software	Marie Lorphelin (INRIA)
15:10-15:30	Discussions about academic and regulations aspects	
15:30-15:40	Coffee break	
15:40-16:10	Presentation by a software developer/software solutions provider	Per Backlund (COMSOL)
16:10-16:40	Presentation by a software developer/software solutions provider	Shubo Chakrabarti (Matlab, Mathworks)
16:40-17:15	Open Discussions - Conclusion	

Table 7: Workshop #5 "Licensing & software" on September 20th, 2021

Time	Topic	Speaker
14:00-14:05	Opening	Bastian KOLLER (HLRS)
14:05-14:15	A glance on the NCC activity	Bastian KOLLER (HLRS)
14:15-14:30	JU talk on industrial programs	Daniel OPALKA (JU EuroHPC)
	Talks of Big Industrial Players	
14:30-14:45	Airbus	Gerd Büttner - Research and Innovation Manager at AIRBUS
14:45-15:00	EDF	Cyril BAUDRY- Scientific Information System Architect - EDF R&D
15:00-15:10	*Break*	
15:10-15:25	Bosch	Steffen Poppitz - HPC Team, Robert Bosch GmbH
15:25-15:40	Safran	Christophe HESTERS - Safran Group Chief Data Officer Frédéric FEYEL - Head of the Digital Sciences & Technologies Department within the Safran Group Strategy, Technology and Innovation Direction
15:40-15:50	*Break*	
15:50-16:40	Panel Discussion and Q/A	Moderated by Bastian KOLLER
16:40-17:00	EuroHPC Hosting sites and their support of industrial access	
17:00-17:10	Closing	Bastian KOLLER (HLRS)

Table 8: Workshop #6: "Big Industry" workshop on March 14th, 2022

Project 951740   CASTIEL Deliverable D4.2

Time	Topic	Speaker
10:00-10:05	Opening	Miriam KOCH (HLRS)
10:05-11:30	Opportunities for industry activities in EU HPC (ETP4HPC activities for SMEs, current HPC landscape, EuroHPC calls)	Jean-Philippe NOMINE (CEA, ETP4HPC)

Table 9: Workshop #7 "ETP4HPC presentation of funding opportunities for SMEs & industry" on May 19th, 2022

Time	Topic	Speaker
10:00-10:05	Opening	Marie-Françoise Gerard (Teratec)
10:05-10:35	Updates and news about the EDIHs - foreseen interactions with the NCCs - (with the European Commission)	Anne-Marie Sassen, DG CONNECT
10:35-11:00	Q&A session	Moderated by Marie-Françoise Gerard (Teratec)

Table 10: Workshop #8: "Updates about EDIHs" on June 22nd, 2022

Time	Topic	Speaker
10:00-10:05	Opening	Marie-Françoise Gerard (Teratec)
10:05-10:35	Presentation of the two tools in preparation (Cluster tool) or under thinking for EuroCC2 (marketplace)	Marie-Françoise Gerard (Teratec)
10:35-11:00	Q&A session	Chaired by Marie-Françoise Gerard (Teratec) and Wahid Rofagha (PRACE)

Table 11: Meeting "Industry working group meeting during the Montenegro conference" on September 07th, 2022

Time (CET)	Title	Speaker
14:30-14:35	Opening	Marie-Françoise Gerard (Teratec)
14:35-15:25	Lessons learned and best practices from NCC Uk	NCC UK - Mark Sawyer
15:25–16:00	Lessons learned and best practices from NCC Italy (use case of Leonardo)	NCC ITALY - Nicolo Magini

Table 12: Workshop #9 "Access and security" workshop on September 14th, 2022

Time (CET)	Title	Speaker
14:00-14:05	Opening	Miriam KOCH (HLRS)
14:05-14:45	Presentation of their structure and their process for industry user acquisition by NCC Turkey	NCC Turkey - Kerem KAYABAT

| 14:45–15:30 | About reaching the target groups and pricing mechanisms within their entities by NCC Luxembourg | NCC Luxembourg – Matthieu LEFEBVRE |

Table 13: Workshop #10 "Best practices for communication about industry services" on September 19th, 2022

Time	Topic	Speaker
14:00-14:30	Presentation of the process to be launched for the second round of the short industry sessions and about the preliminary report shared with the champions that included a benchmark done for potential solutions for the marketplace	Marie-Françoise Gerard (Teratec)
14:30-15:15	Q&A session and discussions with the industry champions	Chaired by Marie-Françoise Gerard (Teratec)

Table 14: Meeting 'Industry working group meeting to launch the second round of "short industry sessions" and initiate discussions about a future marketplace' on September 20th, 2022

Time	Topic	Speaker
13:00-13:05	Opening by FocusCoE Coordinator	Guy Lonsdale (SCAPOS)
13:05-14:00	CoEs presentations & interactions with industry champions	CoEC - Daniel Mira CompBioMED - Jonas Latt EoCoE - Herbert Owen EXCELLERAT - Ralf Schneider RAISE - Andreas Lintermann, Wolfgang Schröder

Table 15: CoEs meet NCCs v2 (Topic: CFD) September 22nd, 2022 with presentations from COEC, EoCoE, EXCELLERAT, CompBioMed and RAISE CoE

Time	Topic	Speaker
15:00-15:05	Opening by FocusCoE Coordinator	Guy Lonsdale (SCAPOS)
15:05-16:00	CoEs presentations & interactions with industry champions	PerMedCoE - Gaurav Saxena POP - Bernd Mohr T-Rex - William Jalby

Table 16: CoEs meet NCCs v3 (Topic: Code optimisation) November 23rd, 2021 with presentations from PerMedCoE, POP CoE and T-Rex

Time	Topic	Speaker
14:00-14:05	Opening by FocusCoE Coordinator	Guy Lonsdale (SCAPOS)
14:05-15:00	CoEs presentations & interactions with industry champions	BioEXCEL - Doug Lowe CoEC - J.Goebbert RAISE - Marcel Aach EoCoE-II - Bruno Raffin and Julien Bigot

Table 17: CoEs meet NCCs v4 (Topic: Complex Workflows and Data Analysis) February 7th, 2022 with presentations from BioEXCEL, CoEC, RAISE CoE and EoCoE II

Time	Topic	Speaker
10:00-10:05	Opening by FocusCoE Coordinator and CASTIEL-WP4	Guy Lonsdale (SCAPOS) and Miriam KOCH (HLRS)

10:05-11:00	NCCs presentations & interactions with CoEs representatives	Tomas Karasek, NCC Czech Republic Soner Steiner, NCC Austria

Table 18: CoEs meet NCCs v5: September 1st, 2022 with speakers from NCC Czech Republic and NCC Austria

Annex 07 - "Marketplace" specifications list to be filled in by the potential providers by the "marketplace" task force

Extract from the excel specifications list
PDF

Extract from the Word specification details document
PDF

Annex 08 - Forms for the cluster tool users' tests

<u>**NCC tests**</u>

USER TEST 'CLUSTER TOOL'_NCC

1. **INTRO**

   Introduce Wahid, Marie-Françoise, Miriam. Explain reason of testing. Ask for recording consent.
   "Please open (https://www.eurocc-access.eu/) *and log in with your credentials"*

2. **TASKS**

"Which tab attracts your interest the most? Please click on it."
<u>(CHOSEN TAB:)</u>
<u>NOTES</u>:
"Please find the Cluster Tool and open it."
<u>NOTES</u>:
"Please take a moment. Do you understand what the tool is about? What is not clear?"
<u>NOTES</u>:
"Please find the definition of 'Edge Computing'."
<u>NOTES</u>:
"Please find out <u>which</u> NCC offers 'Quantum Computing'?"
<u>NOTES</u>:
"Please find out <u>which</u> NCC offers 'Access to storage' in the energy-sector?"
<u>NOTES</u>:

3. **GENERAL / OPEN QUESTION:**

"Anything you've noticed? Incoherences? Expectations which were not meant? Etc."
<u>NOTES</u>:

SMEs tests

<div align="center">

USER TEST 'CLUSTER TOOL'_SME
</div>

1. **INTRO**

   Introduce Wahid and Marie-Françoise. Explain reason of testing. Ask for recording consent.

<div align="center">

"Please open (https://www.eurocc-access.eu/)"
</div>

2. **TASKS**

"Which tab attracts your interest the most? Please click on it."
(CHOSEN TAB:)
NOTES:

"Please find info on the NCC of your country."
NOTES:

"Would you know how to get in touch with them?"
NOTES:

"You want to see if 'Quantum Computing' is offered as a service. Where would you look?"
NOTES:

"You want to know <u>which</u> NCC offers 'Quantum Computing' as a service. How would you find out?"
NOTES:

3. **GENERAL / OPEN QUESTION:**

"Anything you've noticed? Incoherences? Expectations which were not meant? Etc."
NOTES: