

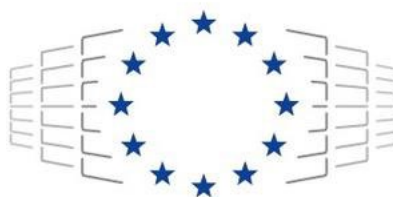
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Coordination and Support for National Competence Centres on a European Level

Project Number: 951740

**D5.3
The CASTIEL Gate**



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Change Log

- Added a chapter about reviewers' comments and how they were addressed (See 2.)
- Added new chapters about new functionalities/content sections (See 5.)
- Added new image material (See 5.)
- Changed sections, when not up to date (See 3.4, 8.)

List of abbreviations

CD	Corporate Design
CMS	Content Management System
DoA	Description of Action
HPC	High Performance Computing
HLRS	Höchstleistungsrechenzentrum Stuttgart (High Performance Computing Center Stuttgart)
IPR	Intellectual Property Rights
NCC	National Competence Centre
SME	Small and Medium Enterprises
WP	Work Package

Executive Summary

This version 2.0 of the deliverable gives an overview of the status of the EuroCC ACCESS after the project review following the recommendations provided during the review. It describes the implementation of the suggested improvements and provides an overview of the current shape of the website.

The concept of the EuroCC ACCESS was developed from the initial information defined in the Grant Agreement and a survey among the competence centres. It is technically implemented using the WordPress content management system (CMS) and designed according to corporate design guidelines of the projects.

Public Area: The platform features a public area, which contains information about the platform, the NCCs and HPC itself, as well as an interactive map of competences and services, a table of training opportunities offered by the NCCs as well as content and outcomes from within the EuroCC project and the respective NCCs.

NCC Area: This Area is password protected with content reserved exclusively for the NCCs. It contains an overview page with further information offerings, a forum to navigate through the HPC-landscape and initiate cooperation and matrixes for collecting and structuring knowledge from NCCs. Additionally, the NCC Exchange, a repository for sharing materials such as codes or training materials, is available to the competence centres.

It is important to note that the EuroCC ACCESS is subject to constant active development and future changes, as it needs to be tailored to the competence centres' needs, thus content will be continuously updated. Subsequent changes will be reported in D5.5 and 5.6.

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1 Introduction

As the NCCs need a place to exchange knowledge, files and ideas, CASTIEL will provide a website for this purpose. The new web platform will feature a number of functionalities, that were, on the one hand, defined in the DoA and, on the other hand, based on the results of a survey among the respective champions, contact persons nominated by the NCCs for the topic of communication (see Annex 8.2). The following chapters will give an overview of structural, technical and design aspects, as well as the connection to other work packages of CASTIEL and the EuroCC project.

2 Overview of project review recommendations received in M12

In the first project review (M12), one of the main points addressed was the EuroCC ACCESS. The main action points are listed below:

- 1) Clearer usability needed: From a user perspective, it was unclear what to expect from the page and what to find on it.
- 2) Higher visibility of content: Outcomes and materials from the project should be uploaded in the public section and prominently placed.
- 3) More fine-grained Competence Map
- 4) More NCC visibility: The NCCs have so far only been linked on a map and not yet prominently featured.
- 5) Improvement of Training Portal: The training portal was buggy and contained a number of dead links.

Work Package 5 addressed the action points in the new version of the EuroCC ACCESS:

Action point	Measures taken
Clearer usability	The page was restructured to resemble a typical company structure. This will give the users more ease and security in navigating the page.
Higher content visibility	On the project level, efforts have been made to produce more outputs from the activities undertaken. This will be fed into the website in the form of recordings, best practice guides, recordings of workshops and more, in a dedicated section.
Competence map	The competence map will be implemented in greater detail so that the competences are available to the user.
NCC visibility	NCCs will get more visibility through dedicated subpages, and they will have more opportunities to work on the page, through directly submitted blogposts, control over competences and more. More possibilities will be continuously added throughout the project.
Training portal	On this point, there was a strong collaboration with WP3. The output mechanism from the database was overhauled completely and altered to our needs.

Table 1: Action Points and Responses

Since the platform is becoming more and more complex in functionality, a web development agency was contracted with performing a technical relaunch. This new version, with the new content and functionality to address the reviewer's comments, will be online by mid-March and will be finalised until the interim review in April 2022.

This revised deliverable will reflect the changes made in response to the review and also further changes introduced in the meantime. Most changes are covered in Section 5.1.

3 General Information

3.1 Naming

While creating the concept of the web platform in discussions within WP5 and the NCCs' communication champions (for more information on the champions, please see Annex 8.2, the EuroCC & CASTIEL principle), it became obvious that the initially intended name CASTIEL Gate would not be the best choice for the envisioned platform. Since the aim of the platform is to connect the public to the NCCs and the NCCs among each other, this should be reflected in the name choice. This working group collectively decided for **EuroCC ACCESS** as a more suitable name. This new naming emphasises the access to the European NCC community and also builds a bridge to the EuroCC project.

3.2 Domain and previous webpages

Since the project started, two separate microsites were created to represent the CASTIEL and EuroCC projects. The new EuroCC ACCESS will be built on eurocc-project.eu and then transferred to the domain www.eurocc-access.eu. As the new platform will include all necessary information about CASTIEL and EuroCC, the preliminary webpages will be shut down and the domains will redirect to the EuroCC Access site.

3.3 Target Groups

EuroCC ACCESS aims to provide useful contents for a variety of target groups:

- Individuals from the NCCs, who might want to use the features of the NCC area, seek out information about the status of the project, as a possibility to contact the project management team etc.
- NCCs, who want to add or change their input to the page (NCC page, blogposts, Competence map etc.)
- Members from CASTIEL who would like to manage events on the page or utilise other features
- Industry (especially SMEs), who get access to information about the project and the NCCs in their countries and a first touch point with the topic of HPC.
- Individuals working in other (EU-funded) projects, who might be looking for possibilities regarding interaction and exchange of knowledge.
- General public, that could get information about what the EU is funding and how the project is helping to develop the competencies in the participating states.

In order to design the contents in a way that creates benefits for both the NCCs and the target groups, a survey with the NCCs was conducted.

3.4 Multi-User, Multi-Rights approach

To enable the three first target groups to efficiently use the web portal, different user types with different access rights have been implemented:

Type	Rights Frontend	Rights Backend
Administrator	All	All
Coordinator	All	Event Calendar, Competence Map

Contributor	All	Add/Edit pages and blogposts (revision system, approved by admin), competence map
Member	All	None
Standard visitor (normal visitor)	Public area	None

Table 2: Multi-User, Multi-Rights

3.5 Survey

The survey (See Annex 8.1) consisted of the two parts most relevant for the NCCs, since the other parts were either clearly defined at the beginning of the concept development or have no direct effect on the competence centres (e.g., the information page with information about EuroCC and CASTIEL).

The questionnaire was distributed via the respective mailing list in a word format, as there were several open questions included. The champions had two weeks to fill it out and send it back to WP5.

In the first part of the questionnaire, questions about the *NCC Area* were asked, which is a part of the website that is only accessible to members of the NCCs. Notable results were that the individual competence centres are willing to share different material (see Figure 1), from training material to private codes and libraries. Another clear outcome was the variety of other platforms in the HPC community, which the champions were asked to name (see Figure 2). Lastly, a variety of desired features was collected in this section. The answers were crucial to develop an area as useful for the NCCs as possible, and with the least redundancy to other platforms.

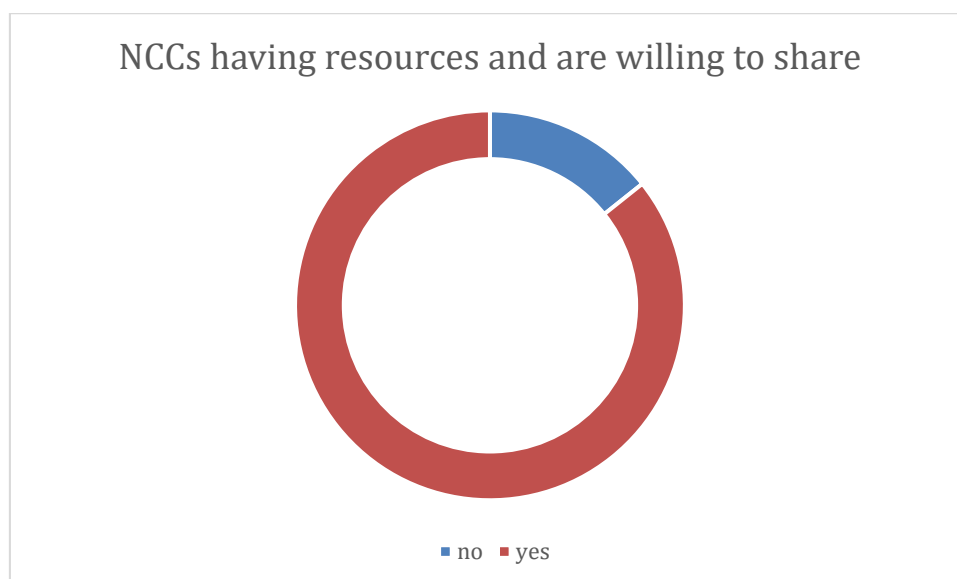


Figure 1: Evaluation of NCC willingness and availability to share resources.

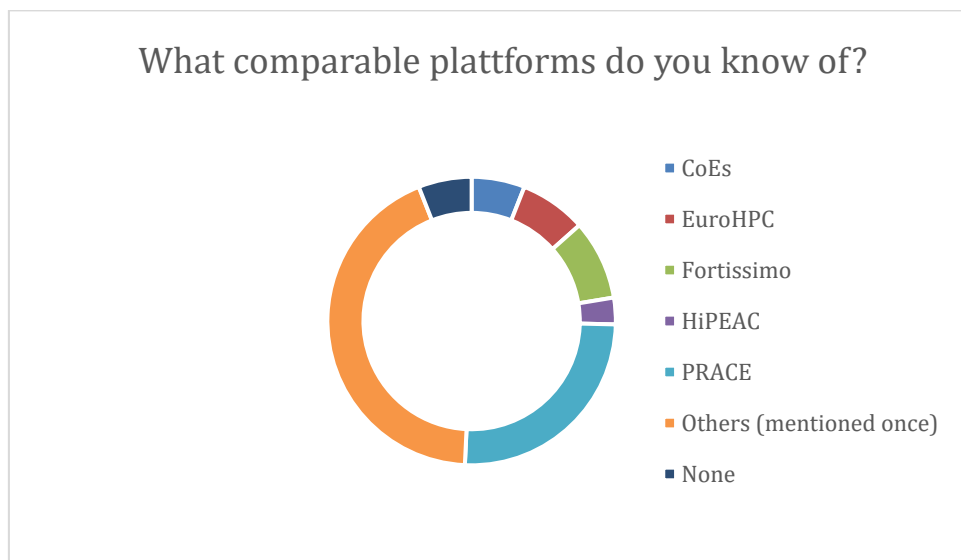


Figure 2: Overview about different known portal solutions.

Secondly, the questionnaire featured a section about *the connection between NCCs and other stakeholders*, which aimed to find out what kind of interactions the competence centres would find useful and complementary to existing services. The results of this section were not nearly as consistent as the ones about the *NCC Area*. Answers varied from brokering services for providers and users to no forum at all.

4 Presumed User Behaviour

While EuroCC ACCESS was conceptualised and implemented, WP 5 had to presume that the NCCs will use the EuroCC ACCESS as indicated through the questionnaires. This means mainly:

1. Sharing of private materials (e.g. code, training material)
2. Willingness and ability to cooperate and share knowledge

The web platform was built according to these presumptions. In the first year of the project, the functionalities were taken up to different extents by the NCCs. Overall, NCC participation on the platform was not as extensive as hoped. By giving the NCCs more opportunities to participate and integrating central features, such as the budget application, the uptake will increase.

5 Structure of EuroCC ACCESS

This chapter will give an overview of the different sections of the EuroCC ACCESS with explanations regarding the aims of or gaps filled by the respective contents. The site map in Figure 3 shows the structure of the website.

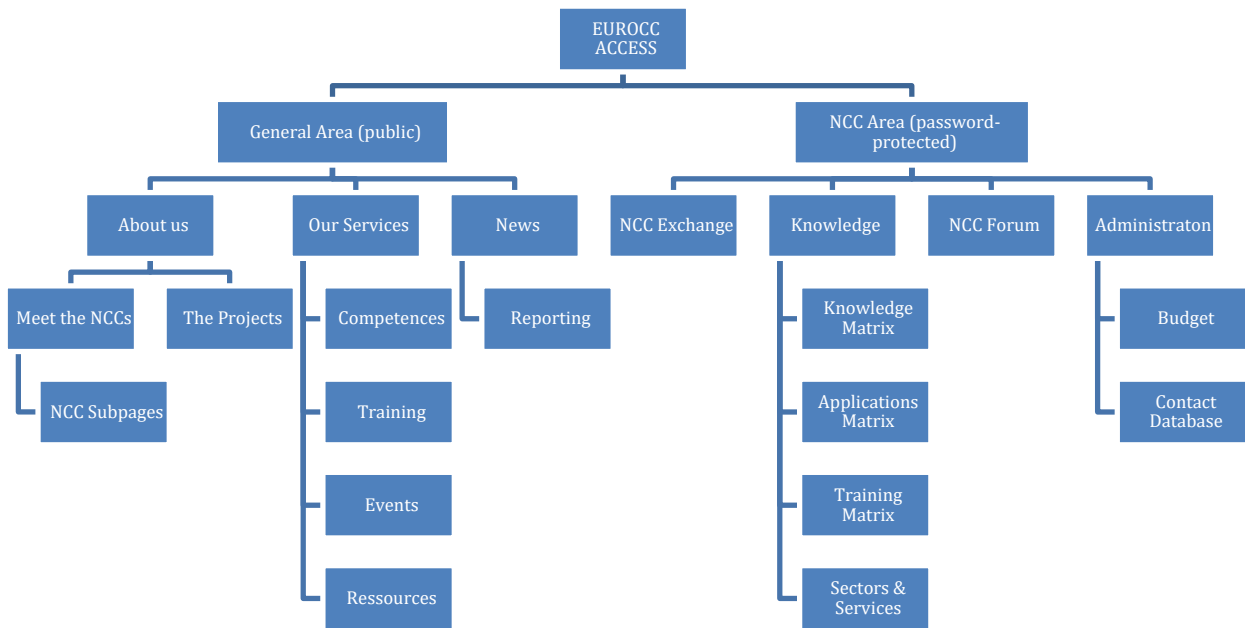


Figure 3: Site map of the EuroCC ACCESS website.

5.1 General Area

As mentioned before, some parts of the website will be accessible to the public. They aim at giving visitors extensive and precise overviews over the NCCs and their activities and competences. Possible user stories are industrial organisations who look for guidance in the European HPC landscape or individuals from the general public who want to inform themselves about HPC in the European context. To achieve this, the contents in the following subchapters were defined by the working group in WP5 responsible for the EuroCC ACCESS.

5.1.1 About us

When visiting a website, the first page a user sees must give a quick and understandable overview of the purpose, context and aims of a website, which is a complex matter in our case as the platform, the projects and the factual contents of HPC are not self-explanatory. To keep it short and simple, the page will feature the produced image video with a short summary of the NCCs tasks, followed by a map of the NCCs and teasers from the Blog section.

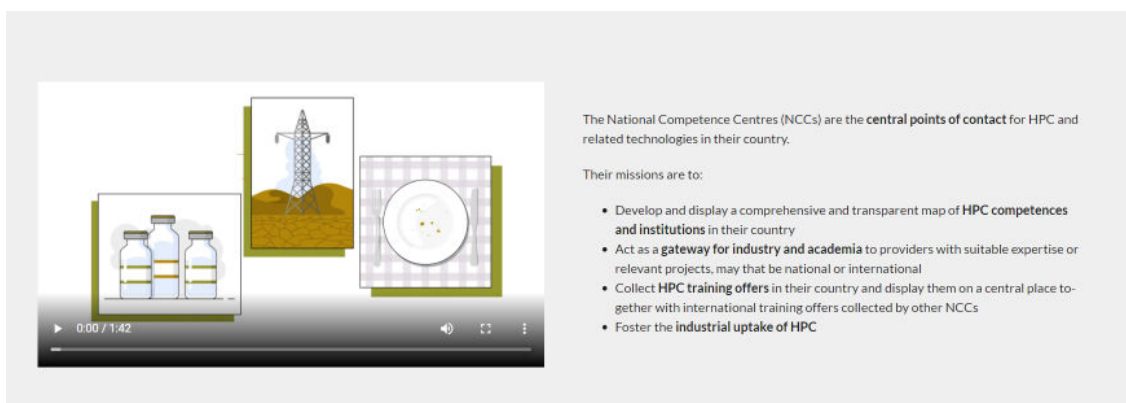


Figure 4: Embedded Image Video and Summary

5.1.1.1 Meet the NCCs

To represent the NCCs, each NCC can edit their own page, add information on their WP, media and links. To ensure uniformity, a header element has been included that will stay the same throughout all NCC pages.

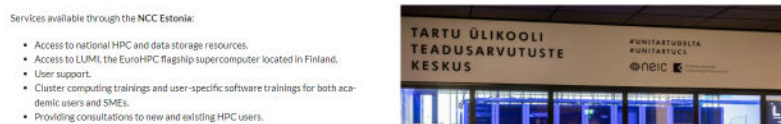


Figure 5: NCC Page of NCC Estonia

5.1.1.2 The projects

To give detailed information about funding, partners and aims of the project, a dedicated section was implemented for the visitors who want to get to know more the project in more detail.

5.1.2 Our Services

This page features an overview about the different service categories to enable the users to gain a quick overview over the services offered.

5.1.2.1 Competences

This content is developed in cooperation with WP2 in CASTIEL. The page contains an interactive map of Europe, with competences and services in the participating countries to achieve a transparent overview of the European HPC+ landscape. WP2 developed and collected the specifications in cooperation with the respective champions. WP5 provides the visualisation. The competences can be edited and updated in the backend by the NCCs themselves.

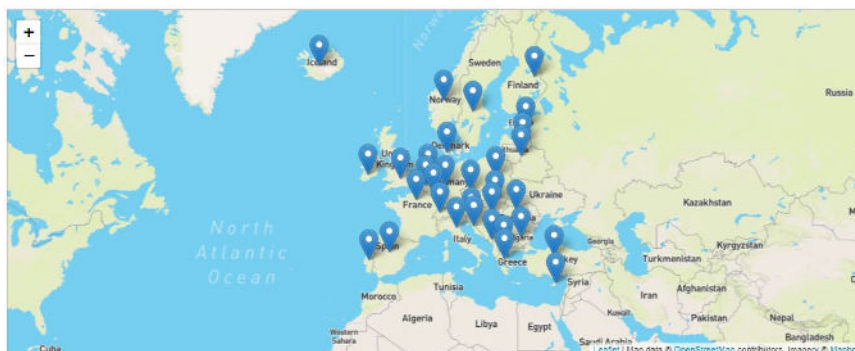


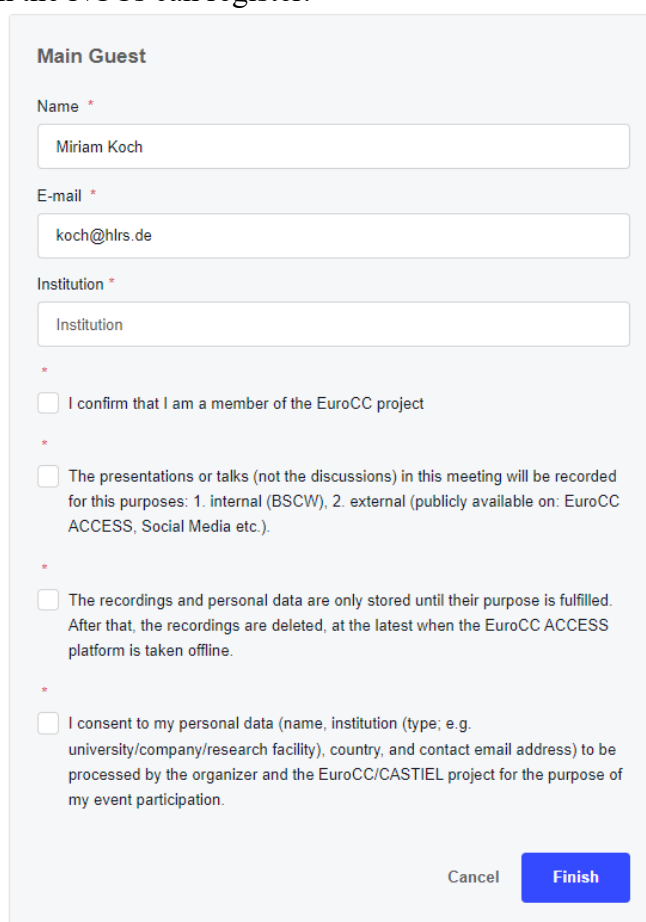
Figure 6: Visualisation of Competence Map

5.1.2.2 Trainings

EuroCC ACCESS includes a page listing training offers of all NCCs. Since PRACE has developed a widespread hosting and visualisation tool for this exact purpose, their solution was altered to CASTIEL's and EuroCC's needs and embedded in a separate training page. Following the reviewers' suggestions, a new version of the embedding was developed with a new look and feel, the dead links have been removed. This content is developed in strong collaboration with WP3.

5.1.2.3 Events

This page features an event calendar with export and subscribe functionalities. All events within EuroCC and CASTIEL will be listed here. The calendar also features a registration functionality. For the public events, everybody can register, for the EuroCC-exclusive ones, only individuals from the NCCs can register.



The registration form is titled "Main Guest" and contains the following fields and options:

- Name ***: Text input field containing "Miriam Koch".
- E-mail ***: Text input field containing "koch@hirs.de".
- Institution ***: Text input field containing "Institution".
- I confirm that I am a member of the EuroCC project.
- The presentations or talks (not the discussions) in this meeting will be recorded for this purposes: 1. internal (BSCW), 2. external (publicly available on: EuroCC ACCESS, Social Media etc.).
- The recordings and personal data are only stored until their purpose is fulfilled. After that, the recordings are deleted, at the latest when the EuroCC ACCESS platform is taken offline.
- I consent to my personal data (name, institution (type; e.g. university/company/research facility), country, and contact email address) to be processed by the organizer and the EuroCC/CASTIEL project for the purpose of my event participation.

At the bottom right, there are two buttons: "Cancel" and "Finish".

Figure 7: Registration Form for internal Events

5.1.2.4 Resources

To get more visibility and provide useful content to the website visitors, this page will display three types of content:

LET US HELP YOU!

The EuroCC Network consists of people, institutions and companies with decade long HPC experience. In this section, we collect material about any area of HPC that might be useful to you!

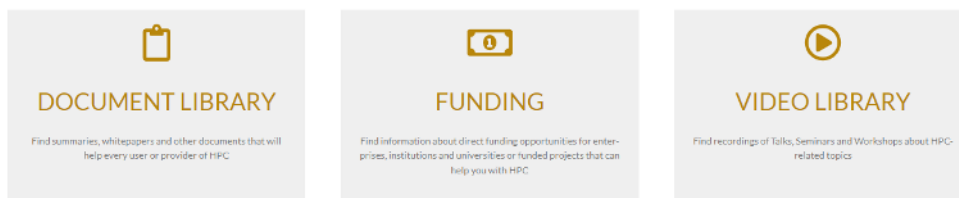


Figure 8: Structure of Resources Section

In the document library, there will be different types of PDF files, for example Best Practice Guides or Take-Out Documents. In the section “Funding”, interested individuals from within or outside of the project can find comprehensive information on funding opportunities. The Video Library will feature recordings of workshops and studio sessions.

5.1.3 News

News from the NCCs will be displayed on this page. NCCs can create blogposts themselves. These blogposts will be automatically posted to the EuroCC social media channels and sent in a newsletter every 4-6 weeks. On the page, there also is the opportunity to subscribe to the newsletter.

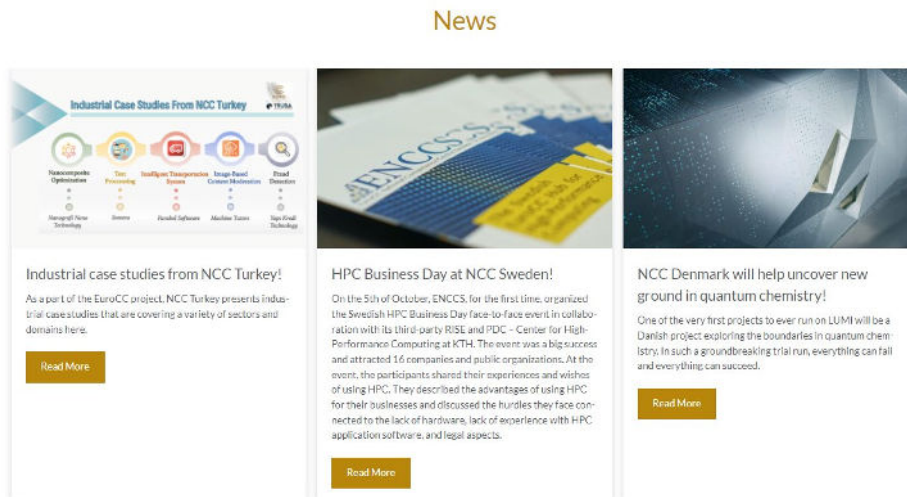


Figure 9: News: Collection of Blogposts

5.1.3.1 Deliverables

The public deliverables of the CASTIEL and EuroCC projects will be collected here and are available for download.

5.2 NCC Area

Opposed to the public section, the NCC Area is reserved for the NCCs to ensure connection on different levels. The functionalities were derived from the survey’s results as well as research

of comparable platforms. The aim is the connection and exchange between the NCCs as well as building a shared knowledge base to give the NCCs a common ground to profit from.

This page features a help section, an overview of the functionalities reserved for the NCCs with explanations and directions. Furthermore, there are definitions of scope (e.g. differences to the project's other communication channels), general information about the EuroCC ACCESS as well as a possibility to subscribe to newsletters covering different topical clusters. Figure 4 shows the different types of newsletters. These newsletters will collect materials sent to CASTIEL from different HPC actors and distribute them to the NCCs who are interested in the respective area.

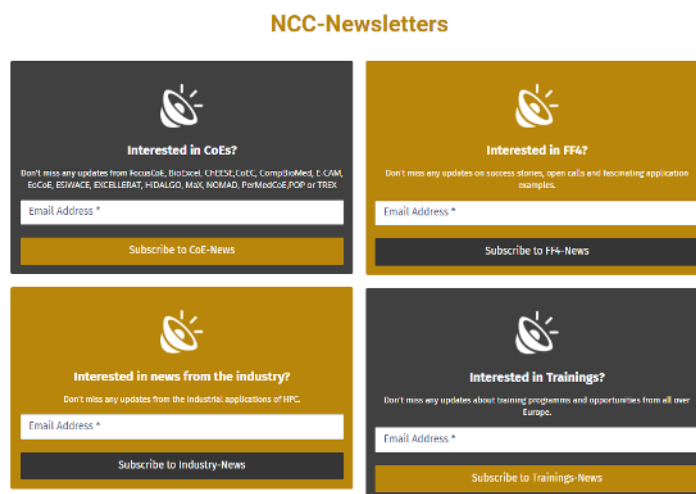


Figure 10: Newsletter offerings in the NCC Area

5.2.1 NCC Exchange

To share material like private codes, training materials or best practices, a database was implemented on BSCW (a collaborative online repository hosted by HLRS) and linked to the NCC Area. As the champions provided extensive information on what kind of material they would like to send and receive, the repository was structured in a way that corresponds to the survey results. To ensure a regulated exchange regarding intellectual property rights (IPR) as well as terms of service, a template that should accompany every uploaded file was provided (See Annex 8.3 – Template for property protection). BSCW was a reasonable choice for the repository, as it is safe, scalable and user friendly. Depending on the usage of the NCC exchange, cloud solutions that are embeddable in the underlying WordPress CMS could be a sustainable option.

5.2.2 Knowledge

This menu point collects opportunities to exchange knowledge among the NCCs.

5.2.2.1 Knowledge Matrix

In every NCC, different people are used to accessing different resources to look for different solutions or information. The knowledge matrix (see Figure 5) aims to collect and structure this information. NCCs can distribute and access sources on every HPC related topic. As a result, the knowledge matrix acts as a first point of orientation for specific topics, profiting from individual members of the competence centres.

This is a place to collect knowledge about different topics, e.g. codes, frameworks etc. Feel free to edit the source [here](#), the table below should then synchronise automatically.

Knowledge Matrix : Sources & Descriptions

Topic	Subtopic	Source	Description
Specific Topics	CoEs	www.excellerat.eu	Applications in Engineering
	BigDataBlock	https://bigdatablock.com/	Blockchain, Big Data & HPC
Industry	FF4	https://www.ff4eurohpc.eu/	Project for funded industrial HPC applications
Joint Undertakings	ECSEL	https://www.ecsel.eu/	Joint undertaking for Electronic Components and Systems, funds projects
	EuroHPC	https://eurohpc-iu.europa.eu/	Joint undertaking for HPC, funds projects
General Platforms	BDVA	https://www.bdva.eu/	Platform to develop the Innovation Ecosystem that will enable the data and AI-driven digital transformation in Europe
	EOSC	https://www.eosc-portal.eu/	Funding opportunities, marketplace, use cases
	HIPEAC	https://www.hipeac.net/	platform for cross-disciplinary research collaboration
	INNOHPC	http://www.interreg-danube.eu/	Danube region - Framework for projects, joint actions in the region
	PRACE	https://prace-ri.eu/	European organisation that provides initiatives for HPC
	OpenHPC	https://openhpc.community/	Open Source codes and best practices
International Platforms	XSEDE	https://www.xsede.org/	USA - Network of providers and users of HPC
Coding Platforms	GitHub	Github.com	
	Gitlab	Gitlab.com	
Science Platforms	ask cyberinfrastructure	https://ask.cyberinfrastructure.org/	Q&A platform for the global research computing community
Training Material	HPC Carpentry	https://hpc-carpentry.github.io/	set of teaching materials designed to help new users take advantage of high-performance computing systems

Figure 11: Initial version of the Knowledge Matrix

5.2.2.2 Application Matrix

Similar to the knowledge matrix, the application matrix collects and structures open source codes, libraries and tools. Users can share experiences, common problems and application examples of mentioned resources. Thus, NCCs can directly benefit from the experience of other competence centres.

5.2.2.3 Training Matrix

In collaboration with WP3, a tool was developed for the NCCs to exchange best practices in training. NCCs can add an entry with links, material and more. The list can then be filtered according to different criteria.

Filters

Filters work per category. Multiple selections per category are possible. Only list results containing any of the tags:

Topic

Best practices for in-person teaching
 Best practices for online teaching
 Course organisation and administration
 EuroCC Mentoring/Twinning

Free Access Yes No

NCC

Austria
 Belgium
 Bulgaria
 Croatia

Hands-on Yes No

Set filter
Reset filter

Figure 12: Filters of Training Matrix

5.2.2.4 Sectors and Services

In collaboration with WP4, the sectorial cluster tool was implemented here. NCCs can enter their services for different sectors in the backend. If an NCC looks for a collaboration on a certain service or sector, they can search the tool and contact the resulting NCCs.

5.2.3 NCC Forum

As the central coordinating point, the forum will mainly act as a guidance tool for the NCCs. Users can discuss about knowledge resources like the Centres of Excellence or Open Source repositories and initiate collaborations, e.g. in projects. The second purpose of this forum is to enable a more high-level exchange that is independent from the operative work such as questions of hardware procurement, service models or marketing concepts.

5.2.4 Administration

This menu point collects features that are useful for project-administrative issues; until now those are the budget application tool as well as the contact database.

5.2.4.1 Budget Tool

In the scope of training, twinning and mentoring, NCCs can apply for budget from CASTIEL. On this page, templates for application and a form that adapts to the selected funding mechanism can be found to easily apply for said budget.

5.2.4.2 Contact Database

In the contact database, individuals from the NCCs can enter their contact details and fields of expertise. The goal is to create a database of contact people for every topic, to strengthen and simplify the collaboration between the NCCs.

6 Implementation

As the website is developed in WordPress, most of the functionalities were implemented via WordPress plugins, that offer an easy way to extend the basic features of WordPress and custom the website according to its purpose.

7 Design

The EuroCC ACCESS is designed following the Corporate Design (CD) developed with the NCCs (see Figure 6). Colours and typography as well as overall design is implemented in a minimalistic way to emphasise the functional character of the website and the technological aspect of HPC. The three user types mentioned in Chapter 5 of this deliverable have different user stories, these were considered while designing the page structure and interactive elements. Icons were used throughout the website to give additional orientation to the user.

Welcome to the NCC Area



This Area of the EuroCC Access is reserved to NCCs and features a variety of functionalities that are explained below. It was created according to the Grant Agreement and the survey filled out by the communication champions.



The NCC Forum

As there are many different solutions and knowledge hubs to different topics on the market, this forum should be a help for **orientation and initiation of collaborations**.

"Where do I find help to applications in engineering?" "We plan a project on the topic of xy, is anybody interested in cooperating with us?" "We want to start a prototyping project with a company in automotive, where can we find help?"

As there is nearly no platform that offers exchange on a **higher operative level**, there is a second forum section to discuss about that as well.

"We want to build a new high performance computer, what cooling systems would you recommend?" "We want to take business clients stronger into account, what kind of services make sense?" "We've read about the new Trend XY in HPC, what do you guys think about it?"

The Knowledge Matrix

In this table you can collect knowledge about different topics related to HPC. As seen in the survey, there are many platforms out there with different aspects. The NCCs can collect and structure them in the Knowledge Matrix to give a good overview about different platforms, portals, collections etc.

The Application Matrix

Similar to the Knowledge Matrix, this table collects Links to open source codes, libraries and tools. There are

Figure 13: Application of design elements, embedding of icons.

8 Conclusion and Outlook

After the rework addressing the reviewers' comments and the technical relaunch, the platform is better structured with regard to our target groups and technically more stable. The functionalities and contents will be further developed according to the needs of the NCCs and the two projects. Taskforce meetings will be held with the NCCs to further optimise design and usability. Especially with the NCCs being able to fill the platform with life themselves, this working group is certain that the platform is in a good shape to represent the projects and be expanded in functionality and contents to all future needs.

9 Annex

9.1 Questionnaire Survey



Questions for the *dissemination/awareness* *champions of EuroCC*

Intro:

CASTIEL will implement a web platform called CASTIEL Gate, which will include the following features:

A. Information:

The Website will include an overview as well as facts and figures about the project itself, its partners and success stories, among other content. The information section is directed towards the interested general public or stakeholders who want to gain an understanding of the EuroCC project.

B. Competences & Services:

The CASTIEL Gate will feature the competence map as well as a link collection to the NCCs' services. This is for industrial or academic actors as well as the NCCs themselves. With the information, every interested party can get an overview over the HPC competences and services in their own and other countries.

C. Exchange

The website will furthermore include two sections for exchanges between several actors in the European HPC landscape. The first will be a section reserved for the NCCs, where libraries, codes and knowledge can be exchanged and connections between the competence centres are fostered. The second section will be a forum designed for the interactions between the NCCs and other stakeholders, may it be from the industrial, academic or public sector. This can be an opportunity to further establish the NCCs in the European HPC system.

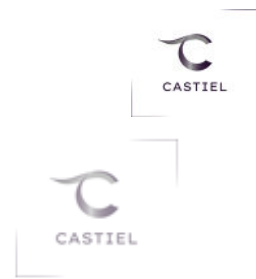


This questionnaire seeks information regarding the "Exchange" functionalities. As this might have an overlap with the fields of industrial interaction as well as training, twinning and mentoring, please interact with the other champions of your NCC to ensure valid information.

Thank you!

Your CASTIEL WPS Team

(In case of questions please contact Miriam Koch at koch@hirs.de)

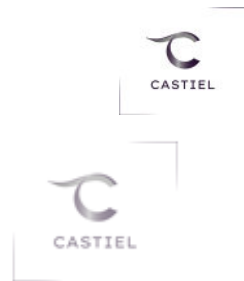


Part 1: The Exchange Forum (reserved for NCCs):

1. What kind of content would you like to receive from the other NCCs?
 - Libraries
 - If yes, what kind of libraries?
 - Codes
 - If yes, what kind of codes?
 - Tools
 - If yes, what kind of tools?
 - Other (please specify):
2. What kind of content could you share with other NCCs?
 - Libraries
 - If yes, what kind of libraries?
 - Codes
 - If yes, what kind of codes?
 - Tools
 - If yes, what kind of tools?
 - Other (please specify):
3. Are you aware of any other platforms that are already available for the exchange of HPC knowledge?
 - Yes
 - If yes, which ones?
 - No
4. What kind of functionalities should such an exchange platform have (multiple answers possible)?
 - A forum
 - A structured database
 - Information regarding regulations of usage, e.g. IP log
 - Other (please specify):
5. AOB: If you have further thoughts or ideas regarding this exchange tool, please note them here:

Part 2: The public Forum (Interaction between NCCs and others):

1. What would you use such a forum for?
 - Getting in contact with other EU initiatives / projects
 - Getting in contact with industrial actors
 - Getting in contact with academic actors
 - Getting in contact with other sectors
 - Other (please specify):



2. To reach your goal, what kind of content would be needed?
 - o Text
 - o Images
 - o Videos
 - o Other (please specify):

3. What kind of forum would make more sense for you?
 - o Moderated
 - o Unmoderated

4. AOB: If you have further thoughts or ideas regarding this forum, please note them here:

Part 3:

1. Apart from the Exchange forum and the Public forum, what else would you like to see in the section "Exchange"? Please write your ideas here:

9.2 The EuroCC & CASTIEL principle



Supplementary Information



The aim of CASTIEL is to run it always in a manner which does not put unnecessary extra burden on the NCCs to deliver extra content, but to use best possible synergies. This should become more clear when reading Section 5 and 6 of this document

4.1 The Working Groups

The working groups ideally consists of members of each of the 33 National Competence Centres. The abovementioned three initial working groups are defined as follows:

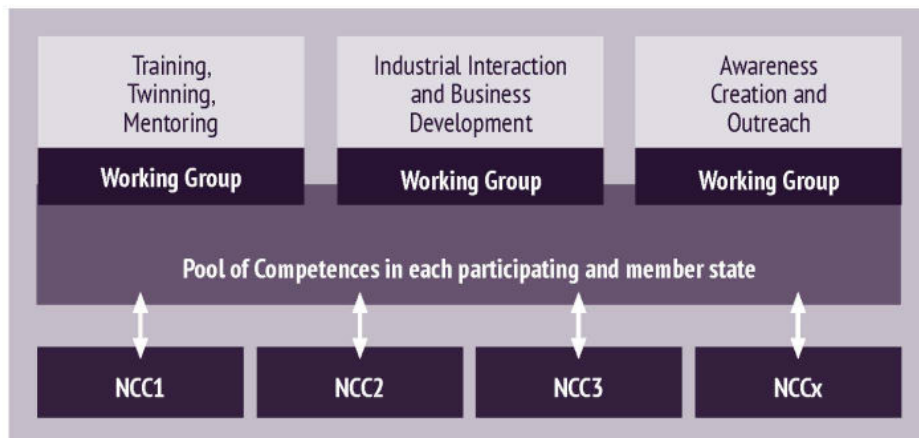


Figure 2- The CASTIEL Working Groups

4.2 Training, Twinning and Mentoring

This working group promotes the consolidation of a complete and comprehensive European HPC Training programme supporting the NCCs requirements and needs. The focus will be to identify and catalogue the current state-of-the-art of training in HPC, HPDA and AI in the NCCs but also across Europe and at the same time to identify the gaps and needs. This will lead to an initial training proposal aimed to cover the identified training needs as well as the relevant actors but also into a comprehensive implementation of the twinning and mentoring programme, amongst others through workshop organisation.

4.3 Industrial Interaction and Business Development

This working group will identify and catalogue the current state-of-the-art in the continuum of HPC/HPDA/AI industrial interactions. Therefore, the core of the interactions with the industry champions will be to identify and learn more about the competences and the needs of the NCCs on these topics, through specific workshops. On base of this, this working group can support those NCCs, needing it, on the questions related to industrial interaction and business development by, for instance, presenting new potential connections to business associations and new potential connections with the identified European initiatives. In addition, there will be support for transnational access to services. This will allow companies to benefit from a symbiotic collaboration between NCCs, where the local NCC can extend its portfolio with the knowledge and the expertise of another NCC. Furthermore, the access to other activities, such as the FF4EuroHPC project with open calls for business experiments or the PRACE Shape program will be fostered within this working group.



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4.4 Awareness Creation and Outreach

This group supports the NCCs in their current dissemination of activities and to foster exchange of best practices between the NCCs and to create a EuroHPC NCC brand which represents the NCCs in a uniform design and integrated language on the European level. In addition to this, the baseline will be formed by the identified different sets of available competences and needs, taking into account the diverse target groups from industry, academia, public. In collaboration with the other working groups, best practices are collected and a joint NCC knowledge base is implemented, including the highlighting of the NCCs added value for the respective target groups. This will also lead to a set of common dissemination and communication guidelines (regarding means, frequency, language, look and feel as well as style). The means to be used for this can be participation at relevant conferences and activities of linked projects, distributing press releases and establishing media relations, newsletters and social media activities (e.g. the joint Twitter channel).

4.5 The “Champions”

In the starting phase of the activities, each nation was asked to identify their representatives for the respective working areas. They will create precisely the base for the pool of competences (the champions representing their NCC), which is then used for further alignments and the evolution of the work plan and activities of the working groups. Within the first weeks/months of the working groups, the Champions will be categorized to understand which Nations provide the means to support others in evolving their portfolio in terms of already available competences.

4.6 Competence identification and competence mapping

One part of the NCC activities (and consequently supported by CASTIEL) is the support of entities from industry, academia, public to get aware and understand potential access to HPC and related technologies and the expertise around these topics. Furthermore, the NCCs will need to take requests from potential customers and to map them to available competences.

Before being able to do this, there is a need to know, who has the competences in each nation (e.g. in nation X, the entities setting up the NCC have some competences in all the fields, but e.g. if you go deeper into AI, there are other entities such as Y or Z). It is a clear requirement to EuroCC to ensure that it does not only stick to the competences of those entities, which are setting up the NCC frame, but also to extend the competence overview on the whole nation. This leads to the competence map, which is a pre-requisite for gap identification as well and will be part of the deliverables of each of the NCCs.

Obviously, there will be a national process how to integrate and how to check if entities want to be integrated in the portfolio of expertise (it might happen that an entity on national level does not want to collaborate with the NCC, but then it's a national issue). Thus it is up for each nation to decide how to do that nationally.

CASTIEL has the task to cover the competence map on a European level. Thus it will seek for alignment with the NCCs to ensure that they provide the information in a way which puts minimal additional effort on them, ideally using similar tool(s) and where the produced information sets are useful both on national and European level.

5 The EUROCC Work plan

The EuroCC project is set up in a very slim way, a management work package and then one work package each per NCC.



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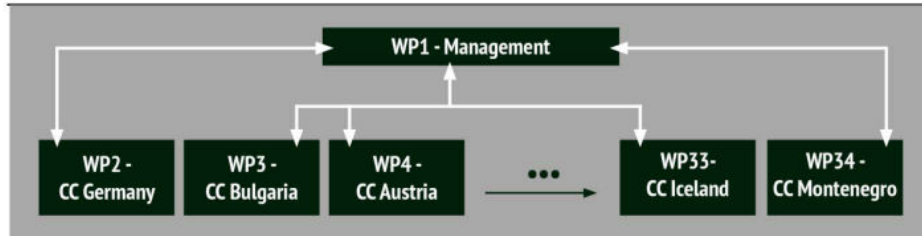


Figure 3- The EuroCC Work packages

All the NCCs will follow the common project structure of Tasks (cf. Figure 4), also the duration of tasks and the WPs will be similar. However, the level of activities in each of the tasks will be different, depending on the existing capabilities in the nations.



Figure 4 - Similar work package structures for each NCC

Each of the NCCs will produce a set of deliverables over time which are described below.

Content of the deliverables

The deliverables of the respective NCC work packages were aligned and thus have the same definition. Thus the definition in the WP descriptions will link to this text here. They are:

Dx.1: - NCC Roadmap (WP Leader) <M4>: This deliverable will provide an extended and detailed roadmap for the National Competence Centre, to define the concrete work plan until M24 and beyond

Dx.2: - First year report on the NCC Activities (WP Leader) <M12>: This deliverable will provide an overview about the progress and achievements of the NCC in its first year, including an updated roadmap.

Dx.3: - Second year report on the NCC Activities (WP Leader) <M24>: This deliverable will be an update of Dx.2 with reports on the second year.

6 The CASTIEL Work plan

The CASTIEL work plan is aligned with the work plan of EuroCC to ensure an in-time transfer of the knowledge and at the same time to ensure that the NCCs do not get unnecessary tasks to fulfil. Figure 5 shows the different project phases of CASTIEL including the milestones. A clear point of synchronization is meant to be the milestone in Month 2, which will cover two days of interactions between both projects and to identify next steps and further needs. Then, the Month 4 milestone, the CASTIEL gate, will be the implementation of information gained and also provide a first base implementation of the Competence Maps.



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Project Phases

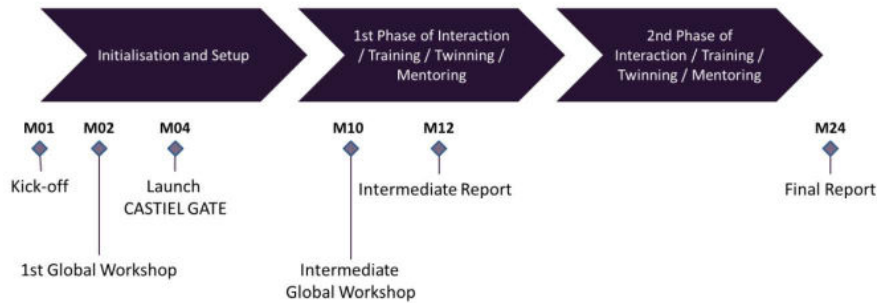


Figure 5 - The CASTIEL project phases

Figure 6 presents the WP structure of CASTIEL and the interactions between the WPs.

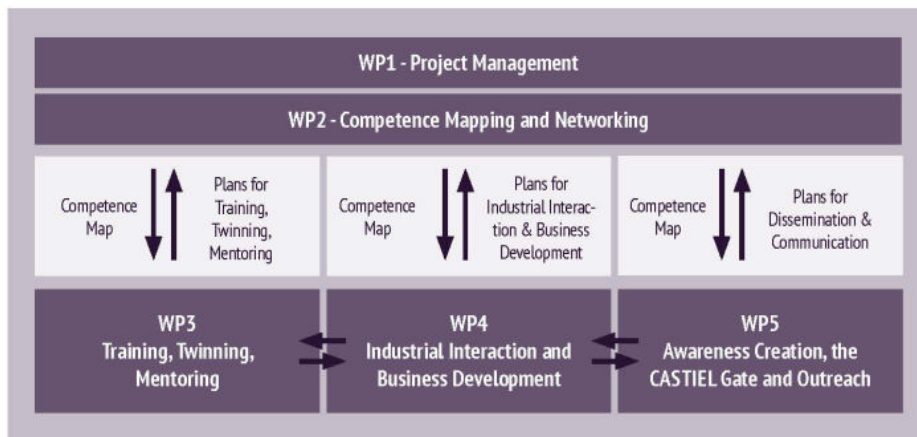


Figure 6 - The CASTIEL WP Structure

WP1 is straightforward dealing with the management of the project.

WP2 has the following main objectives:

- To produce an initial competence map by categorizing and clustering the competences of all the national Competence Centres
- To maintain the competence map during the project lifetime
- To identify topics of interests for focused events and to organize and execute those events
- To identify further mechanisms of networking

WP2 will produce the initial Competence map representing the available competences, expertise, skills and technologies in each of the National Competence Centres. The map will be organized clustering and categorising each component and player including their levels of maturity and readiness for the potential users. The map will be available to users in a given section of the CASTIEL Gate and act as a baseline for continuous updates. These updates will happen based on regular surveys and interviews. Furthermore, the



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evolution of the single National Competence Centres with regard to their initial states is getting visible and the Competence Map will always be up to date for the stakeholders. Additionally, one major task of this work package consists of organising and supporting the organisation of the CASTIEL workshops. Together with the other WP leaders and the respective working groups, this WP will identify and then prioritise necessary workshops in different locations. Each workshop will be preceded by an extensive invitation and planning phase. The Kick-Off, intermediate and final workshop are organized as bigger conferences, other workshops on a smaller scale, depending on the topics they address. Finally, taking into account the results of the competences map, its evolution during the project, and specifics needs of the NCCs, we will promote clustering of the NCCs around specific topic of interest, as well as mentoring, training and twinning activities in line with other WPs. Webinars and workshops will be organized to address the sharing of knowledge and methodology among the NCCs, and NCC's clusters, as well as mentoring, training and twinning activities in line with other WPs.

WP3 has the following main objectives:

- To establish across-Competence Centre working group on Training, Twinning and Mentoring
- To provide an overview of existing (and upcoming) training activities in close interaction with similar initiatives, such as the PRACE Training registry, the FocusCoE training registry EXDCI-2 and others
- To identify training gaps and the needs of support of the different competence centres
- To organize, Twinning and Mentoring to support the inter-Competence-Centre interactions on training.

WP3 will set up a working group with the appropriate expertise to identify and catalogue the current state-of-the-art in HPC, HPDA and AI Training. The workgroup consists of consortium members and of subject-matter-experts as identified in the National Competence Centres. One goal of this WP is to collect and share best practices, available resources and mechanisms for Training to allow the national Competence Centres to get easy access to this knowledge. Starting from the identification of key players and their offer, a comprehensive catalogue of training opportunities in Europe will be developed. Furthermore, this WP will elaborate a Training plan to fill in the training gaps not properly covered by the existing activities. Based on the state of play overview and the competence map in WP2, WP3 will issue recommendation of the skills and activities needed by the NCC to complement the currently available European training activities. Whenever possible, these recommendations will include specific actions and actors that could enable the establishment of this training programme. Finally, it is important that those in need of evolution get the necessary support and guidance by the more experience/mature Competence Centres. Thus, within WP3 CASTIEL will implement actions enabling those European countries or regions in need to benefit from the experience of more matured Competence Centres. The Twinning and Mentoring plan will include a set of activities and the most appropriate partners to develop a homogeneous baseline.

WP4 has the following main objectives:

The work package provides support to the NCCs in the development of their service offerings and their interactions with the industrial ecosystem. It will organise exchanges between those entities with more experience in the interaction with industry and those which enter a new domain. These workshops will also include, when appropriate, industrial stakeholders, such as ISVs or cloud providers. It will also support the transnational access to NCC's services. The second objective of this work package is to support the NCCs in connecting to European projects and initiatives, which are relevant to their missions. It will identify the projects relevant for the NCCs and organise the interaction with these other initiatives and projects, as for example with the consortium implementing the FF4EuroHPC action.



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WP4 will coordinate the exchange between the NCCs on best practices for a fruitful interaction with industry, and on their respective service offerings. It will set up a working group with the corresponding expertise to identify and catalogue the current state-of-the-art in the continuum of HPC/HPDA/AI industrial interactions. The group will consist of consortium members and of subject-matter-experts as identified by the National Competence Centres, and will also interact when relevant with HPC industry providers (ISVs, cloud providers). It will identify relevant business associations together with the NCCs, which could contribute to this action, in their respective countries and in general support the NCCs in connecting to business associations at national and European level.

Furthermore, it will identify the projects relevant to the NCCs, and organize the interaction with these other initiatives and projects, as for example with the consortium implementing the FF4EuroHPC action. Finally, it will foster the transnational access to the most relevant sectorial expertise proposed by the network of NCCs for companies for which the local Competence Centre cannot offer support. Thus it will provide support for the duplication of services (from one CC to another CC) and develop and deploy with all the NCC a process to cope with requests from another European company.

WP5 has the following main objectives:

Within this work package, CASTIEL will operate on two levels regarding dissemination and awareness creation. The main goals are, firstly, to integrate and disseminate information on the activities, results and success stories of the National Competence Centres allowing for the building of a common brand of the European Competence Centre and further strengthening the public awareness of the European HPC landscape. Secondly, it will support the National Competence Centres in achieving their dissemination and awareness creation goals, for instance through trainings and workshops on how to most effectively reach the target groups and stakeholders.

The main objectives of this work package are:

- Promotion of the capabilities of and services offered by the Competence Centres to academia, industry and public administration
- Provide added value and specific services for the Competence Centres in terms of outreach, communication and dissemination
- Internal communication of news between the Competence Centres
- Implementing the CASTIEL Gate as a joint forum for interaction and knowledge access

WP5 will create the European NCCs brand including an overall corporate design. Within this WP, this design and the brand will be used in materials such as graphics, brochures and the appropriate channels such as Twitter. Communication channels to promote the NCCs on a European Level and to report about achievements will be the CASTIEL Gate, social media channels (e.g. Twitter, LinkedIn, YouTube) or newsletters. General material such as leaflets, roll-ups or power point templates will be designed and implemented. The Competence Map resulting from WP2 and success stories from the NCCs will be published in a Year 1 and Year 2 booklet. Further material or activities will be performed on a case-by-case basis. Moreover, it will set up a working group with the appropriate expertise to identify and catalogue the different best practices in communication and dissemination. The workgroup will consist of consortium members and of subject-matter-experts as identified in the National Competence Centres. The working group will collaborate through a suite of mechanisms including teleconferences, online tools and in-person workshops to support and educate the National Competence Centres how to most efficiently implement communication and dissemination on a national level. Additionally, it will design and implement the interface of CASTIEL to its stakeholders, the NCCs, but also wider audiences such as other projects, the public etc. – the CASTIEL Gate. Whilst there are already a variety of portal-like interfaces hosted mainly by project activities out there, the CASTIEL Gate will only act as a proxy to collect links to the offerings within



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a single place, extended only by some small own-created offerings, mainly a) information about the NCCs and CASTIEL and b) the competence map. The Gate will as well realize a forum for the NCCs and other stakeholders (e.g. the Centres of Excellence or PRACE) and a platform to exchange/share tools, libraries and knowledge in general. Finally, it will define and implement an IP-log, where the different items handled in CASTIEL will be registered and described. This includes interaction with the NCCs on their respective IP items and to offer them to become part of the log to arrive at a complete picture. This will support them in handling their results.

Figure 7 shows the interconnection between the CASTIEL work packages and the corresponding EuroCC tasks. It can be seen that CASTIEL provides support for each task. A close collaboration between the NCCs and the CASTIEL working groups is essential. This will be achieved by the representatives of the NCCs (champions), who contribute to the bilateral flow of information between the two projects. Especially those champions, which have the mission to extend the competences and available services in their NCC benefit of this consultation with the working groups and are the ones which can drive the agendas of the working groups.

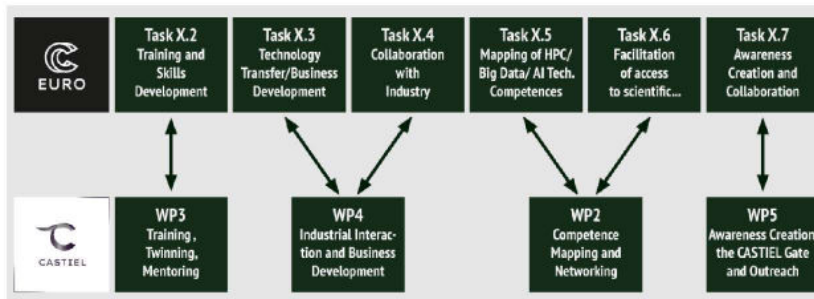


Figure 7- Interdependencies between EuroCC tasks and CASTIEL work packages.

The resulting outputs of the project, namely the deliverables are listed in Figure 8 below.

Deliverables

Project Management D1.1 Intermediate Report M12 D1.2 Final Report M24	Workshop, Networking, Competence Map D2.1 Initial Competence Map M03 D2.2 Report M12 D2.3 Final Report M24	Awareness Creation, the CASTIEL Gate and Outreach D5.1 The CASTIEL Website M01 D5.2 Initial Dissemination Plan M03 D5.3 The CASTIEL Gate M04 D5.4 Report on Communication and Dissemination of and by CASTIEL M12 D5.5 Final Report on Communication and Dissemination of and by CASTIEL M24 D5.6 Report on Innovation Management and Exploitation M12 D5.7 Final report on Innovation Management and Exploitation M24
Training, Twinning and Mentoring D3.1 Initial opportunities & needs M05 D3.2 Plans and Achievements M12 D3.3 Final Report M24	Support of NCCs on Industrial Interaction & Business Development D4.1 Report M12 D4.2 Final Report M24	

Figure 8- CASTIEL Deliverables

Here we would like to point out again that the only purpose of CASTIEL as a Coordination and Support Action (CSA) is to support the achievement of the objectives of the Research and Innovation Action (RIA) EuroCC. Results from CASTIEL will shape the deliverables of EuroCC, so that the NCCs will benefit directly from the effort they invested in the exchange with CASTIEL.



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The EUROCC and CASTIEL Principle

1 What is a National Competence Centre?

A National Competence Centre on HPC (NCC) is the framework within each nation to address the need for a single reference point for access to knowledge and getting support for the use of High Performance Computing and associated technologies (e.g. High Performance Data Analytics, Artificial Intelligence).

The potential users/customers of the NCCs are settled in the areas of academia, industry and public.

A NCC is not necessarily at the moment a single entity. Depending on the diverse national setup and strategies of HPC it can consist of one single entity, but it can also be represented by a consortium of entities. However, the NCC, as stated above, could be transferred at a point into a new legal entity. This is up to be decided on a national basis.

Nonetheless it is important to understand the NCC (independent from the legal entity discussion) as a framework. It is a single reference point which though will need to address/represent all the available competences in the nation. Thus, it must not focus only on the capabilities and competences of the organisations setting it up, but also find mechanisms to identify and (if they agree) integrate other competences in the country.

As an example: Partner A and Partner B set up the NCC. However, there is an entity C which does work in Artificial Intelligence. Thus, C should be identified and represented as an available competence in the nation. Work hereby refers to everything around e.g. consultation, optimization or training and lecturing.

2 EUROCC

EuroCC is the Research and Innovation Activity, which sets up National Competence Centres (NCC) in each of the participating 33 nations. Within EuroCC the abovementioned framework is set up to run the NCC, including the identification and implementation of a fitting governance structure. Then, the potential services to be provided are meant to be identified and coordinated, all based on the corresponding needs of the stakeholders/users from public, academia and industry. Especially for the latter group, one part of EuroCC is to set up the mechanisms and tools to interact with industrial users and to provide them with tailored support - thus, to advent the use of HPC and associated technologies for their production activities.

Some nations already cover a variety of the expected capabilities of the NCCs, whilst some only have (stronger) competences available in parts of it. It is therefore part of the action to identify those available competences and to also identify the needs in terms of existing gaps, to prepare a clear and to the point roadmap, which can also act as a baseline for finding synergies with other NCCs.

Exactly this identification of synergies between the NCCs is a cumbersome activity, if each NCC is left alone with finding out, what the other NCCs are exactly planning and at which level of maturity they are. This is where CASTIEL enters the game, which is the activity supporting this information and knowledge flow and providing the means to foster guided and tailored interaction between the centres.



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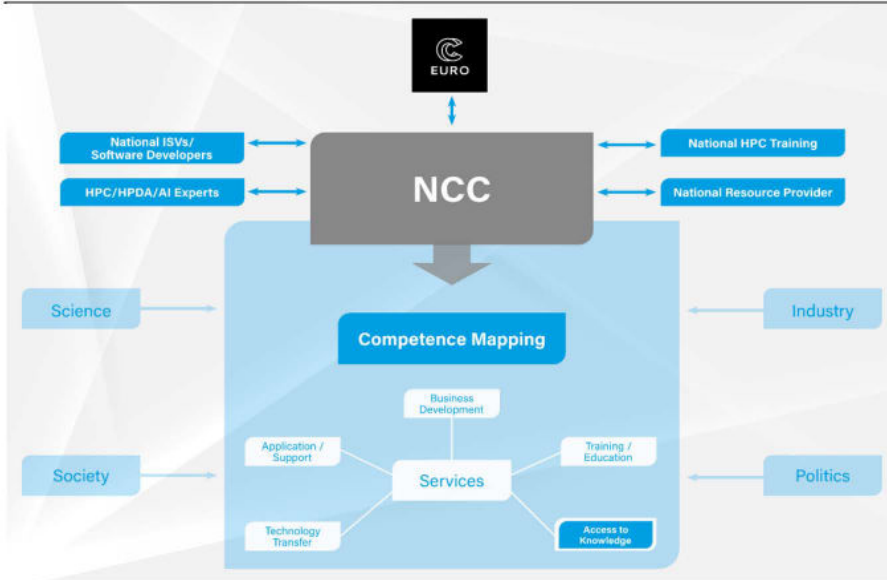


Figure 1 - The high level set up of the facets of a National Competence Centre

3 CASTIEL

The CASTIEL Coordination and Support activity was designed to contribute to the success of the activities of the National Competence Centres as realized in EuroCC.

Its main mission is to implement a framework of activities that will support the evolution of each single National Competence Centre and enable them step by step to get closer together in terms of capabilities and expertise. The greatest challenge hereby is the integration of the single nations into the overall strategy at the European level while preserving their autonomy and without interfering with their national strategy.

The main concept for the initial phase of the project (two years) will be to set up different working groups, which will elaborate on the best practices and needs of the National Competence Centres. These working groups are intended to use diverse communication mechanisms to ensure a strong interaction with and between the National Competence Centres on common topics, thus enabling an acceleration in evolution through the exchange of experience, knowledge and best practices. As a result of this, CASTIEL will, amongst others, also take over the implementation of exchange programs, workshops and other support activities.

4 Interactions between EUROCC and CASTIEL

During the writing of the proposal, we identified three major topics, which would clearly need exchange and support to boost the implementations of the National Competence Centres.

Note: It is obvious that the maturity of the activities, knowledge and experience in the different topics is diverse and also the involvement of the different nations in the exchanges and in the CASTIEL activities will be different. As a starting point, CASTIEL implements three working groups to start finding the baseline for the exchange and support, which we expect to evolve then during the runtime of the activity.

9.3 Template for property protection



Regulation sheet

Topic	Description
Specifications	e.g. Presentation for Training, Code for xy ...
Ownership	
Usage regulations	
Other	

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1/1