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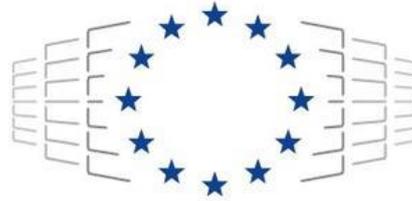
HPC INNOVATION FOR EUROPEAN SMES

Innovating and Widening the HPC use and skills base

Project Number: 951745

D4.1

Questionnaire to collect the SMEs' needs and priorities within the FF4EuroHPC experiments

Work package:	4	Exploitation/Business Development Support
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Dissemination Level	Public	

Date	Author	Comments	Version	Status
2021-01-27	Samir Ben Chaabane	Initial draft	V0.1	Draft
2021-01-28	Paul d'Escodeca de Boisse	Internal revision	V0.2	Draft
2021-01-29	Lucile Garnier	Internal revision	V0.3	Draft
2021-01-29	Samir Ben Chaabane	First version	V0.4	Version submitted to Reviewers
2021-02-18	Samir Ben Chaabane	Update after review	V0.5	Draft final version
2021-02-18	Lucile Garnier	Internal revision	V0.6	Draft final version
2021-02-18	Samir Ben Chaabane	Submitted to PMT	V0.7	for approval by PMT
2021-02-24	Samir Ben Chaabane	Revised version	V0.8	for approval by PMT
2021-02-26	Samir Ben Chaabane	Final version	V1.0	Final version

List of abbreviations

BD   Business Development
DIHs   Digital Innovation Hubs
DoA   Description of Action
EC   European Commission
GA   Grant Agreement
GDPR   General Data Protection Regulation
HPC   High-Performance Computing
HPDA   High-Performance Data Analytics
NCCs   National Competence Centres
PMT   Project Management Team
SME   Small and Medium Enterprise
WP   Work Package

Executive Summary

The objective of Work Package (WP) 4 "Exploitation / Business Development Support" is to ensure the maximum output of the overall FF4EuroHPC[1] activity and of the selected experiments.

Deliverable D4.1 presents the questionnaire designed and implemented on the *EUSurvey* platform [2] in order to collect information about the SMEs involved in the FF4EuroHPC experiments. The questionnaire will help understand the SMEs' market and learn more about their business development (BD) practices. This information can later be used to address the SMEs' needs better.

The SMEs selected for the experiments will be asked to answer the survey after the procedure of selection is closed (by mid May 2021 for the first open call). They will have one month to respond to the survey.

The survey contains 42 questions with single-choice, multiple-choice and open-ended questions. The questions are classified into four categories: 1) information about the company, 2) its computational resources, 3) technical needs and 4) business development needs.

The results of the survey will be used to reach the WP4 objectives mainly, Exploitation and Business Development Support, but will not be made public, due to the sensitive character of the collected information.

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1 Introduction

As stated in the DoA, the WP4 "Exploitation / Business Development Support" has the main objective to ensure the maximum output for the overall FF4EuroHPC activities. To achieve this goal, two leading actions are planned:

- Supporting the business development of FF4EuroHPC activities.
- Sustaining the experiments participants, in particular the SMEs, to maximise their business development and innovation potential arising from the experiment outcomes and help them to communicate about it.

Two open calls are organised by the FF4EuroHPC project (managed by WP2) to select high quality experiments, involving innovative SMEs. The first open call has closed at the end of January 2021 and the second open call will start in June 2021 to be closed in September 2021.

To ensure a better business impact of the experiments, the WP4 team set up the survey "Questionnaire to collect the SMEs' needs and priorities within the FF4EuroHPC experiments". All the selected SMEs after the two open calls will be asked to respond to the survey. This will help to define the appropriate actions and provide the best support to the overall FF4EuroHPC activity, ensuring an outstanding exploitation of the outcomes of the experiments, in terms of business development and enhancing the use of HPC/HPDA services in industry.

2 Survey setup

This section will present the objective of the survey, the methodology adopted by the questionnaire, the list of questions, and the timeline of the questionnaire.

2.1 Objective of the survey

The main objective of the survey is to collect all the information concerning the participating SMEs, which will be useful for WP4 to carry out the aforementioned actions in supporting the BD of FF4EuroHPC activities efficiently and sustaining the SMEs to the best exploitation of experiments' results. We can point out the following actions:
- Helping the SMEs to communicate about the experiments they have carried out,
- Making the best use of the results of the experiments in which they are involved,
- Producing success stories related to the experiments,
- Collaborating closely with partners such as NCCs[3], DIHs and professional associations to facilitate the sustainable use of technologies such as HPC and HPDA.

2.2 Methodology of the questionnaire

Given that the questionnaire was due before the experiment partners for the first call were selected and no information about the chosen SMEs could be known, the WP4 team focused on asking about general information concerning the SMEs. The results of the questionnaire will help to identify the SMEs' strengths and weaknesses in the technical, financial, collaboration, dissemination and marketing areas as well as their respective needs in these fields.

This survey is based on a set of single-choice, multiple-choice and open-ended questions. Forced-choice questions were generally preferred to help the statistical processing of the answers.

The questions are divided into four categories which are listed below:

> 1) Information about the SME activity and its market: this kind of information will help us to understand the context in which the company operates: as example we can point out its market, its stakeholders, its involvement in R&D projects, its experience in HPC/HPDA, etc.

> 2) Information about the SME computational resources: these questions aim to understand the activity in relation to numerical simulation for engineering or data analytics problems inside the company and the human and material resources dedicated to this activity.

> 3) Information about the technical needs of the company in relation to HPC, HPDA and AI. We can point out staff needs, training needs, partnership needs, financial needs, etc.: this pool of questions has the objective to identify the future needs of the SME in terms of computational resources (software, hardware, services and access to HPC resources).

> 4) Information about SME practices and needs related to BD: this last set of questions aims to identify a potential lack in the communication and marketing plans of the company and tries to guide them towards dissemination channels ensuring the best exploitation of the experiment results (NCCs, DIHs, industry associations, etc.). As an example of the asked for information, we can mention appropriate communication channels, prospection methods and tools, marketing tools, business development and outreach.

This work constitutes a first step which will help to define the best exploitation plan of the experiments' results for each SME. It will be followed by concrete actions (these will be finally defined once the selection process is completed) to improve the comprehension of the activity of each SME and its needs in relation to the experiments. As example of actions, we can mention the organisation of one-to-one interviews and collective workshops (in collaboration with WP3) to support the involved SMEs to develop efficient dissemination plan and collaborations, especially, but not only, with their NCCs, about the exploitation of the innovations issued from their experiments helping the development of their business using HPC services.

The results gathered by this survey will be used to define and set up the appropriate actions (some of them mentioned above) necessary to guarantee a maximum impact of the project and to support the participating SMEs to establish an HPC-related innovation, ensuring their business development and improving European competitiveness and productivity.

Apart from the individual exploitation of the answers of the questionnaire, a statistical processing of the results will be performed, which will also give us an idea about the profile of the SMEs participating in the FF4EuroHPC project and their general needs within

computational aspects. It will also pave the way for the identification of innovative SMEs that can benefit from the advantages of HPC and HPDA technologies to foster their innovation.

2.3 Implementation of the survey:

The survey is implemented on the *EUSurvey* platform:

https://ec.europa.eu/eusurvey/runner/Q1_FF4EuroHPC

This platform, provided by the European Commission [2], generates an email with a unique link, inviting each SME to answer the survey. Each SME cannot answer the survey more than once. *EUSurvey* guarantees an anonymous processing of the collected information [4].

2.4 Timeline of the questionnaire

Two campaigns of open calls are planned to select very innovative experiments. The first open call was closed on 27th January 2021. The second open call is planned to be open by end of June 2021 and to be closed by end of September 2021.

After each open call campaign, the selected SMEs who will be participating in the experiments, will be asked to answer the questionnaire.

For the first open call we expect to invite selected SMEs to the survey by mid-May 2021. The SMEs will have one month to answer the survey. Then the answers will be analysed, and a synthesis presented to FF4EuroHPC WP4 partners. The results will be used to set up an appropriate strategy to support each SME to achieve the best exploitation of their experiment results and help develop their business as mentioned in precedent paragraphs.

2.5 FF4EuroHPC questionnaire

The questionnaire was extracted from the *EUSurvey* platform (PDF format) and is inserted below.

FF4EuroHPC Questionnaire

Fields marked with * are mandatory.

Welcome and thank you in advance for answering this survey

This survey aims to collect information on SMEs involved in the experiments carried out within the framework of the FF4EuroHPC project, as well as their needs in relation to the implementation or development of HPC/HPDA activities. The objective is to help these SMEs define and implement the exploitation process of the experiment results, guaranteeing the maximum impact of the project and to support them in the implementation of innovations related to HPC/HPDA, ensuring their business development. As stated in the Terms and Conditions, by applying to FF4EuroHPC Open Call you agree to provide us information about your company and the consortium applying to the Open Call. You grant us permission to publish statistical information about your company and its needs and other equivalent metrics. FF4EuroHPC undertakes that all such data will be anonymised before publication, and that we will not publish any other information concerning the work you will perform during the FF4EuroHPC experiments, without your explicit permission. For more details, please see our full Data Privacy Policy.

This questionnaire is quite important because it will help us to ensure you an effective support during FF4EuroHPC project.

* 1. What is the name of your company?

Text of 2 to 30 characters will be accepted

* 2. What is your activity sector?
- ◯ Agriculture
- ◯ Banking
- ◯ Finance
- ◯ Chemistry
- ◯ Defense
- ◯ Energy
- ◯ Environment
- ◯ Climate
- ◯ Health care
- ◯ Life sciences

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   ⊙ Manufacturing
   ⊙ Meteorology
   ⊙ Space/Aeronautics
   ⊙ Transport/Mobility
   ⊙ Data analytics and Data Science
   ⊙ Other

2.1 Which other sector?

Text of 2 to 30 characters will be accepted

[   ]

* 3. What is the size of your company (total number of employees)?
   ⊙ Less than 10
   ⊙ From 10 to 49
   ⊙ From 50 to 99
   ⊙ From 100 to 249
   ⊙ More than 250

* 4. What is the proportion of technical employee (all except administrative and financial) from your staff?
   ⊙ Less than 50%
   ⊙ 50 to 70%
   ⊙ 70 to 90 %
   ⊙ More than 90%

* 5. What is your annual turnover?
   ⊙ Less than 500k€
   ⊙ 500k€ to 10M€
   ⊙ 10M€ to 30M€
   ⊙ 30M€ to 50M€
   ⊙ More than 50M€

* 6. Who are your customers?

between 1 and 6 choices
   ☐ Academic
   ☐ Technology providers
   ☐ Technology end-users
   ☐ Service suppliers
   ☐ OEMs
   ☐ B2C
   ☐ Others

6.1 Which other customers

Text of 2 to 30 characters will be accepted

[   ]

2

* 7. If your customers are companies, your customers are mostly:

between 1 and 3 choices

☐ SMEs

☐ Mid-size companies

☐ Large enterprises

* 8. What is your short-term objective in using HPC/HPDA/AI?

between 1 and 9 choices

☐ Reduce production cost

☐ Increase quality of my products

☐ Enter new market segments

☐ Acquire a greater market share in segments where we are already present

☐ Respond to competitors' moves

☐ Adapt to technological/market trends

☐ Respond to customers' requests

☐ Increase ease of use/flexibility for customers

☐ Other

8.1 Please, specify your other short-term ojective.

Text of 2 to 30 characters will be accepted

_____

* 9. What is your long-term objective in using HPC/HPDA/AI?

between 1 and 9 choices

☐ Reduce production cost

☐ Increase quality of my products

☐ Enter new market segments

☐ Acquire a greater market share in segments where we are already present

☐ Respond to competitors' moves

☐ Adapt to technological/market trends

☐ Respond to customers' requests

☐ Increase ease of use/flexibility for customers

☐ Other

9.1 Please, specify your other long-term ojective.

_____

* 10. Do you have already a computational service (staff performing numerical simulation) inside your company?

○ Yes

○ No

* 11. What is the workforce dedicated to your computational service (persons)?

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◎ Less than 4
◎ 5 to 10
◎ 10 to 20
◎ More than 20

* 12. For which workflows are you currently using computational services?

between 1 and 9 choices

☐ Simulation
☐ Visualization
☐ Data analytics
☐ Optimization
☐ Artificial Intelligence
☐ Design
☐ PLC Programming
☐ PLM
☐ Other

12.1 Which other workflows ?

Text of 2 to 30 characters will be accepted

* 13. Which type of software do you use for your workflows?

between 1 and 3 choices

☐ Commercial
☐ Our own software
☐ Open Source

* 14. What kind of infrastructure do you use for your workflows?

between 1 and 5 choices

☐ Desktops or workstations
☐ Private cloud
☐ Public cloud
☐ Private HPC
☐ Public HPC

* 15. In general, are you satisfied with your current resources?

◎ Yes
◎ No

* 16. What is your monthly use of core/hours (refers to the number of processor units (cores) used to run a simulation multiplied by the duration of the job in hours)?

◎ Less than 100
◎ 100 to 500
◎ 500 to 1000
◎ More than 1000

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⊙ I don't know

* 17. Do you use outsourcing to carry out your computational tasks?
⊙ Yes
⊙ No

17.1 Have you considered using outsourcing?
⊙ Yes, but we are not using it
⊙ No

17.2 What are the barriers to the adoption of outsourcing?
☐ Cost
☐ Lack of experience
☐ Data security/confidentiality
☐ Lack of expertise
☐ Flexibility
☐ Data transfer
☐ Availability
☐ Requires software re-engineering

* 18. Have you ever been asked to participate in a European project?
⊙ Yes
⊙ No

* 19. Have you ever participated in a European project?
⊙ Yes
⊙ No

19.1 In which project did you participate?
Text of 2 to 30 characters will be accepted

* 20. Have you ever participated in a national R&D project?
⊙ Yes
⊙ No

20.1 In which project(s) did you participate?
Text of 2 to 30 characters will be accepted

* 21. Have you ever had interactions with simulation or computational stakeholders?
⊙ Yes
⊙ No

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21.1 Who were these stakeholders?

Text of 2 to 30 characters will be accepted

* 22. Do you have any experience in HPC/HPDA/AI?
   ○ Yes
   ○ No

* 23. Have you already used HPC/HPDA/AI resources or services?
   ○ Yes
   ○ No

* 24. Do you presently have an HPC/HPDA/AI Strategic Plan for your company?
   ○ Yes
   ○ No

24.1 Does your company plan to adopt a specific strategy for HPC/HPDA/AI?
   ○ Yes
   ○ No

* 25. Do you already have interactions with HPC/HPDA/AI actors or do you have expectations from FF4EuroHPC about that?
   ○ Yes
   ○ No

* 26. Who are your partners in the FF4EuroHPC project?

between 1 and 5 choices
   ☐ ISV
   ☐ HPC services providers
   ☐ Industrial company
   ☐ SME
   ☐ Other

* 27. Is it your first collaboration with these partners?
   ○ Yes
   ○ No

* 28. How did you meet your partners?

between 1 and 9 choices
   ☐ From DiH or Cluster
   ☐ With the help of one National Competence Center
   ☐ With the help of an FF4EuroHPC project partner
   ☐ Partners and friends
   ☐ We Googled it

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☐ Conferences and events
☐ Dedicated marketplaces
☐ Promotional service providers 'visits
☐ Other

28.1 Please, specify how did you meet your partners.

Text of 2 to 30 characters will be accepted

[ ]

* 29. Do you plan a long-term collaboration with these partners?
○ Yes
○ No

29.1 What are your objectives of the collaboration with theses partners?

between 1 and 6 choices
☐ Solve my challenge
☐ Strengthen relations with the partner
☐ Initiate collaboration with the partner
☐ Learn about HPC/HPDA/AI activities
☐ Share experience with the partner
☐ Other

29.1.1 Please, specify your other collaboration objectives.

Text of 2 to 30 characters will be accepted

[ ]

* 30. Do you have expectations to find other partners for the development of your company?
○ Yes
○ No

30.1 What type of partnership would you need to identify?

at least 1 choice(s)
☐ Software provider
☐ Hardware provider
☐ Simulation competency provider
☐ HPC competency provider

* 31. How much do you estimate your financial need for your HPC/HPDA/AI Strategic plan?
○ Less than 50k€
○ 50k€ to 100k€
○ 100k€ to 200k€
○ More than 200k€

* 32. Do you have links with Digital Innovation Hubs ?

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○ Yes
○ No

32.1 Who are the names of DIHs you are working with?

[   ]

* 33. Do you know about National Competence Center (NCC), the EUROHPC initiative started last September?

○ Yes
○ No

* 34. What type of partnership do you still need for execution of a post-experiment strategic plan?

between 1 and 6 choices

☐ Software provider
☐ Hardware provider
☐ Simulation competency provider
☐ HPC competency provider
☐ DIHs
☐ NCC

* 35. Which type of software do you need for a better execution of your workflows?

between 1 and 2 choices

☐ Commercial
☐ Our own software
☐ Open Source

* 36. What kind of infrastructure do you need for a better execution of your workflows?

between 1 and 3 choices

☐ Desktops or workstations
☐ Private cloud
☐ Public cloud
☐ Private HPC
☐ Public HPC
☐ Data repositories

* 37. Do you need any training in HPC?

○ Yes
○ No

37.1 Which training would you require?

between 1 and 3 choices

☐ Development Support
☐ Consulting
☐ Account management
☐ Code validation

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☐ Optimization tools
☐ Use of HPC platforms
☐ Software usage support
☐ Other

37.1.1 Please, specify your your other training requirement.

Text of 2 to 30 characters will be accepted

[text field]

* 38. What are your communication channels?

between 1 and 5 choices

☐ Magazines
☐ Brochures
☐ Events
☐ Face-to-face sales
☐ Cold Calls
☐ LinkedIn Posts/ads
☐ Instagram Posts/ads
☐ YouTube Posts/ads
☐ Twitter Posts/ads
☐ Facebook Posts/ads
☐ Email Ads
☐ Websites
☐ Blogs
☐ Newsletters
☐ Mobile App
☐ Text Message Marketing
☐ Google Advertising
☐ Other

38.1 Please, specify your other communication channel.

Text of 2 to 30 characters will be accepted

[text field]

* 39. What do you use to identify and attract new customers?

between 1 and 4 choices

☐ CRM tools
☐ App Marketplace
☐ Sales Hub
☐ SalesHandy
☐ Social media
☐ Google Alerts
☐ Datanyze
☐ Evernote

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☐ Kixie
☐ Events
☐ Other

39.1 Please, specify.

Text of 2 to 30 characters will be accepted

* 40. Which marketing tool do you usually use?

Text of 2 to 30 characters will be accepted

* 41. Where did you receive the information on the FF4EuroHPC Open Call?
  ⊙ From DIH
  ⊙ From NCCs
  ⊙ From business/project partners
  ⊙ On Twitter
  ⊙ On LinkedIn
  ⊙ On conference or event
  ⊙ Via digital news portals or magazines
  ⊙ We Googled it
  ⊙ Other

41.1 Please, specify which conference or event.

Text of 2 to 30 characters will be accepted

41.2 Please, specify which one.

Text of 2 to 30 characters will be accepted

41.3 Please, specify.

Text of 2 to 30 characters will be accepted

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3 Major Achievements

During the first five months of the project, we designed, set up and implemented on the *EUSurvey* Platform a questionnaire to collect the SMEs' needs. The questionnaire and its implementation were discussed several times between FF4EuroHPC partners during WP4 meetings. The use of the *EUSurvey* platform allows an anonymous processing of the survey to be in conformity with the EU General Data Protection Regulation (GDPR)[5]. A test of the *EUSurvey* platform is performed at the time of writing by FF4EuroHPC partners and will be finished by the end of February 2021.

4 Next steps

The next steps will include the following actions:

- Sending invitations to selected SMEs to ask them to answer the questionnaire,
- Gathering and analysing the answers, including a statistical analysis.

We will capitalise on the survey results on two levels:

- The first level concerns the analysis of the particularities of each company to set up the appropriate actions for the successful operations of the FF4EuroHPC project and for the best possible exploitation of experiment results allowing the development of the SME's business for a long-term implementation of their use of HPC/HPDA.
- The second level corresponds to a global processing of the results concerning all the SMEs, allowing us to identify the SME's profile for which the use of HPC may be profitable.

Globally, the results of the survey will allow us to adjust our actions to the needs of each SME and to adapt our communication with the SMEs accordingly (adaptation of interview or workshop contents).

5 Conclusion

This deliverable presents the survey to be sent to the SMEs participating in the experiments in the FF4EuroHPC project to gather information on the SMEs and their needs. It is implemented on the European platform *EUSurvey* provided by the EC. The methodology adopted to set up the questionnaire and its goals are also introduced in this document, as well as the timeline of the operations. The analysis of the answers to this questionnaire will be used to provide the best possible support to the SMEs participating in the experiments. The answers to the questionnaire cannot be made public because they may contain sensitive data. They will be used by the WP4 team to undertake the appropriate actions and to ensure a better business impact of the experiments and to help reaching the global objectives of FF4EuroHPC project.

6 References and Applicable Documents

[1] FF4EuroHPC project, https://www.ff4eurohpc.eu
[2] EUSurvey platform, https://ec.europa.eu/eusurvey/
[3] https://www.eurocc-project.eu/
[4] https://ec.europa.eu/eusurvey/home/about
[5] European Commission GDPR https://ec.europa.eu/info/law/law-topic/data-protection/reform/what-does-general-data-protection-regulation-gdpr-govern_en