STAIRWAI

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Stairway to AI: Ease the Engagement of Low-Tech users to the AI-on-Demand platform through AI, H2020

Support Program report- 1st version

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Document Control Sheet

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0.1	6 February 2023	First draft	Andrea Borghesi, Federico Ruggeri (UNIBO)
0.2	28 February 2023	Document review	Urszula Sobek (FBA)
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0.4	14 April 2023	Revised version after the two late SMEs submitted their report	Andrea Borghesi (UNIBO)
0.5	17 April 2023	Final document review	Urszula Sobek (FBA)

Table of contents

1.   Content of the document - Executive Summary

The objective of this deliverable is to present the results of the Support Program, in particular we address the support provided to the first batch of low-tech companies selected during the 1st Open Call for Pilots (launched on 13 January 2022 and closed on 15th March 2022).

The 14 selected SMEs were invited to participate in the 6-month Support Program **and received up to € 60.000 to** perform a feasibility study and pilot for the adoption of AI. The SMEs have been supported by technical and business mentors.

In this document, we provide details about the activities performed within this program and we illustrate the support (both from the technical and business point of view) provided to the companies. We will start by discussing the assignment of technical and business mentors to each SME. Then we illustrate the set of milestones defined to evaluate the activity performed by the SME and the AI expert – and to gauge its success (or failure). Subsequently, we describe in detail how the feasibility plan was prepared by the SMEs in conjunction with technical and business mentors.

Afterwards, we summarize the results obtained by the SMEs in conjunction with the AI experts assigned to them, and we show the results of the validation, grouped by different milestones.

As this deliverable is public, the support program details concerning personal data or sensitive information will not be disclosed in this document.

The deliverable has been completed with some delay compared to the estimated data due to the fact that a couple of SMEs were behind in the preparation of the final reports (technical, business, and ethical) and thus were granted additional time.

2.　　Support Program Details

The support program had the aim of providing assistance to the 14 SMEs selected for the first Open Call programme organised within the project. The preparation of the Open Call, its execution and results (together with full details about the selected SMEs) can be found in D7.7.

As a first important note, it is important to distinguish between **AI experts** and **mentors**, as these are two different roles (both devised to assist SMEs) performed by different people. The experts handled the actual work together with the SME, namely the development, implementation and testing of the solution; their contribution ranges from the discussion with the SME to understand the models and algorithms most suited for the SME to the actual development and deployment of the chosen technique. Conversely, the mentors are mostly an interface with StairwAI, but they provided assistance in the initial phase (feasibility study and business plan definition) and continued support during the development phase (e.g., check whether the progress is proceeding as expected and/or advice on the solution implemented).

2.1.　　Support Program Timeline

The support program started with a kick-off meeting (remotely) with all SMEs involved, together with the entire pool of technical and business mentors; see Fig. 1 for the details about the meeting. During this event, beneficiaries were introduced to the StairwAI Support Program process, documents and tools, and had their first mentoring sessions with business (FBA) and technical (UNIBO) mentors assigned to them.

time	duration	session topic	speakers	participants
CEST			30 June 2022	
10:00 - 10:05	5 min	Welcome	UNIBO / FBA	All
10:05 - 10:35	30 min	StairwAI project introduction (scope, tools and services) + AI-on-demand platform introduction (what kind of resoures are available for StairwAI Pilots)?	UNIBO (Michele Lombardi)	All
10:35 - 11:05	30 min	Support Program Overview (goals, timeline, overal process)	Urszula Sobek (FBA)	All
Break				
11:30 - 11:45	15 min	MIRO introduction	Łukasz Cieśla, Business Mentor (FBA)	
11:45 - 12:30	45 min	How to prepare IMP?	Business / Technical mentor (FBA/UNIBO) + budget (FBA)	All
12:30 - 12:45	15 min	Q&A	UNIBO / FBA	All
Break				
13:30 - 16:15		Individual Sessions - in parallel	14 sessions moderated by mentors (technical + business)	Individual sessions

Fig 1: Kick-off meeting of the Support Programme

In addition to the meeting with all partners, a series of meetings between SMEs and the assigned mentors (see Sec. 2.2) have been scheduled. In this individual session of 45 minutes the SMEs explained in detail their use case and what their desired goals; at the same time the mentors asked for details and clarifications, when necessary.

The activity to be performed by the SMEs was divided into two main stages:

1. An initial preparatory phase when the work plan and the feasibility study were to be conducted; this phase was fundamental to help SMEs in translating their ideas into actionable items and to better focus on realistic goals. In this stage SMEs received the most intense support from the mentors, as they helped the SMEs in i) understanding what was technically doable and what was not and in ii) devising a business plan that could lead to economic exploitation of the AI-based solutions.
   a. This phase occupied the first two months of the programme and terminated at month n. 2.
   b. In this phase the assignment of AI experts to SMEs took place as well.
2. A second phase where the actual development, implementation, deployment and validation of the AI-based solutions were to be carried out. In this phase the SMEs collaborated with the AI experts to reach the goals declared in the work plan and in the feasibility study.
   a. This phase lasted until the end of the programme, that is month n. 6.

WHO?	DEADLINE	DESCRIPTION
STAGE 1 - IMP (JULY 2022)		
Pilot	**Until 15 July 2022**	- **Upload the final version of IMP to FBOX platform**
	Until 22 July 2022	- **IMP validation and comments**
		- **1st Payment**
	Additionally:	- **Ethical Committee Deliverables review (if needed)**
STAGE 1 (JULY – SEPTEMBER 2022)		
Pilot	**Until 15 September 2022**	- **Upload the Progress & Deliverable Report to FBOX platform**
	Until 30 September 2022	- **Review and comments**
		- **2nd Payment**
	Additionally:	**Ethical Committee Deliverables review (if needed)**
STAGE 2 (SEPTEMBER – JANUARY 2023)		
Pilot	**Until 16 January 2023**	- **Upload the Progress & Deliverable Report to FBOX platform**
	17-24 January 2023	- **Final review and comments**
	Additionally:	**Ethical Committee Deliverables review (if needed)**

		- **Final payment**

Table 1: Milestone´s evaluation calendar

To evaluate the activity performed by the SMEs a series of milestones were designed (the timeline is presented in Table 1):

1. First milestone – definition of a project work plan for the AI use-case implementation
   a. It belongs to the first stage, feasibility plan
   b. Measures for the KPIs: a project work plan including planning, KPIs and budget
   c. Deliverable/ mean of verification: Project Work Plan
2. Second milestone - identification whether the desired goals can be reached within the proposed time-frame, including confirmation of availability of recovery centres for data collection; definition of several business layers related to the planned pilot implementation of the use-case, assuming that the AI component is already applied to the company Solution
   a. It belongs to the first stage, feasibility plan
   b. Measures for the KPIs: a feasibility study containing at least (i) the definition of the data collection process, (ii) a clear identification of the AI task, (iii) the definition of the quality metrics, (iv) the analysis of the required resources; a business Model for pilot implementation including at least the definition of the target group, value proposition / expected results, distribution channels, partners, budget / monetization model
   c. Deliverable/ mean of verification: feasibility study (document); business model for pilot implementation (document)
3. Third milestone - evaluation of the implementation of the Minimal Viable Product and of the soundness of the business plan
   a. It belongs to the stage 2: Pilot Implementation
   b. Measures for the KPIs: existence of the demonstrator and its proper functioning, reports about its implementation and deployment within the SMEs environment (if needed), evaluation metrics, compliance with the desired improvement (if specified); business Model for commercialization / go-to-market plan, focused on scaling the solution on the market / within the company - including at least the definition of the target group, value proposition / expected results, distribution channels, partners, budget / monetization model
   c. Deliverable/ mean of verification: demonstrator, i.e., the successful implementation of the Minimal Viable Product; Business Model for commercialization / go-to-market plan (document)
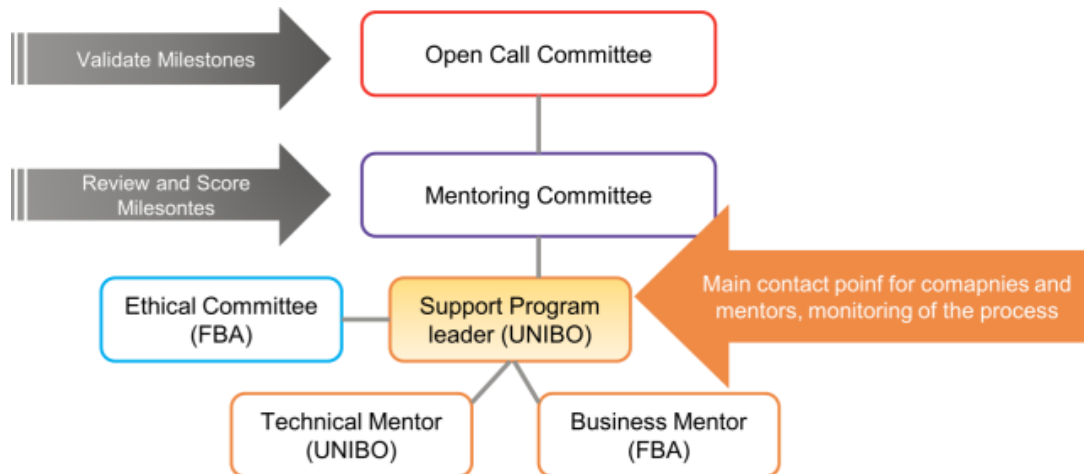
Fig 2: StairwAI Support Program management structure

After reaching the expected date of the milestone, the results obtained by the SMEs were evaluated, in order to keep track of the progress and intervene with corrective actions if needed. The payment was handled by UNIBO and conditioned on the successfully attainment of the milestone (see Fig. 2). The milestones are based on a series of KPIs that were established at the beginning of the collaboration between SMEs and mentors and agreed upon.
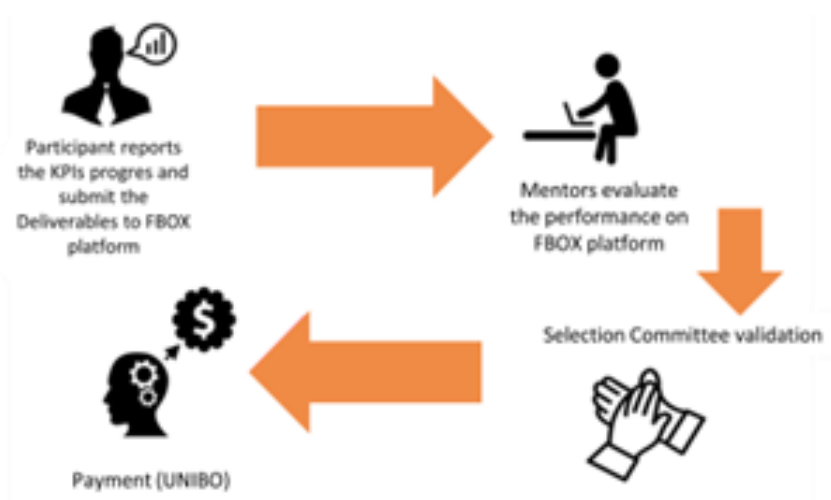

Fig 3: Support Program Milestone validation process

2.2.   Mentors Assignment

The first step of the support program has been the assignment of (at least) a pair of mentors to each SME. There is one technical mentor from UNIBO for each SME and one business mentor from FBA. The business and technical mentors have the purpose of guiding the SMEs in all phases of their activities, but especially during the initial stage when the feasibility plan must be written. The actual development and implementation of the proposed solution has instead been performed directly by SMEs and the AI experts assigned to them; during these second stage the mentors provided a supporting role.

2.3.   Feasibility Plan Preparation

The preparation of the feasibility plan has been a cornerstone of the support program, as it has served the essential purpose of formalising the problem to be solved and helped the SMEs in calibrating their

expectations and identifying what was technically feasible and what was not. In this phase the cooperation between SME and both technical and business mentors have been fundamental.

On one hand, the technical mentors helped SMEs formalizing their aspirations and goals, which needed to be grounded with what was realistically doable within the allowed time frame. The technical mentors provided support thanks to their knowledge of multiple fields in the AI domain and expertise in the implementation and verification of AI solutions. The business mentors were instead extremely valuable in helping the SMEs in framing their idea in a sound business case, including market analysis and identification of business opportunities and challenges.

2.4.   AI Experts assignment & HPC Resources

After the preparation of the feasibility study, SMEs were associated with AI experts that have assisted them in the development and validation of the solution. The SMEs were matched with AI experts chosen from the pool of experts who applied to the Call for AI Experts (https://ai-talents.fundingbox.com/). Multiple criteria were used to choose the best AI expert for each SME, considering aspects such as the AI readiness of the SME, the digitalization level of the SMEs, the internal expertise in IT, the scope of the project and the types of goals to be reached, etc.

The matching between SMEs and experts was performed in a semi-automated manner: initially, a selection of experts was obtained through the horizontal matchmaking component, in particular using its first version (described in D5.1); subsequently the list was manually refined by the developers of the matchmaking prototype. Then, two lists of experts were presented to each SME: 1) a list containing 5 AI experts and a 2) broader list containing 20 experts (including the 5 included in the first list). The SMEs were there invited to examine the lists and express their opinion on the selection; each AI expert indicated in the list was accompanied by relevant information to characterize his/her skillset. Each SME independently contacted one or multiple AI experts from the list and then chose the most suited AI expert.

The matching process provided lists of AI experts rather than single candidates as the matchmaking component was still in its first version and we didn't want to restrict the possibility of choice for the SMEs. Furthermore, the feedback obtained by the SMEs about the set of experts presented to them has been a very valuable source of information for the refinement of the horizontal matchmaking component, feedback that can be seen reflected in the second version of the prototype, described in D5.2.

In addition to the assignment of AI experts, in this phase the SMEs were offered the possibility to select partner from a list of High-Performance Computing (HPC) providers, in the case that the implementation of their project required computational capabilities not already available to them. In particular the list of providers (validated by StairwAI consortium partners) was shared with SMEs after the end of Stage 1.

2.5.   Ethical Review

Beneficiaries followed the Ethical Committee recommendations provided at the beginning of the program and submit the Ethical Self Assessment form (available here: https://stairwai-ethics-evaluation.fundingbox.com/) and additional documents within the established deadline (if requested). Those were evaluated by Ethical Committee and in case of not fulfilling the payment for the Stage could be questioned. The Ethics Committee was meant to evaluate the projects; it did not mean to evaluate the general ethicality of the particular company/institution as it does not have any power or capabilities thereof, but only the Pilots that are proposed/selected to receive funding from the given H2020 project.

The ethics assessment procedure has been done in the following phases, including the described tasks and outcomes:

- 1st stage Initial Assessment: this initial assessment was based on the Proposal and the Ethics Self-assessment Form completed by the beneficiaries themselves. Outcome: Ethics Individual Report (EIR) Initial Report.
- 2nd stage Final assessment: this final stage aims at checking of the ethics deliverable or implementation of comments or requirements established during the initial assessment (if any) and at validating Final Approval. Outcome: EIR Final Report.

If the quality/completeness of the information provided at any stage of the programme/project execution was not sufficient, the respective Ethics Report contains requirements or recommendations for necessary corrective actions to be undertaken by the SME was prepared.

All SMEs successfully completed the ethics evaluation.

3.   Support Program Results

In this section, we evaluate the results of the support program. In particular, we analyse the results reported by the SMEs. We discuss the results obtained at each milestone and we complete the evaluation by analysing the answers provided by each SME about the quality of the support programme from their point of view. This feedback is extremely important as it will allow to improve the support actions for the second and third open calls foreseen in the StairwAI project.

In the following sections we provide mostly aggregated details and perform a general, broad analysis, without examining in detail the individual solutions developed by the SMEs. This is done for two reasons: 1) for the sake of compactness and clarity of this document and 2) not to provide sensitive information that could harm the SMEs (e.g., from the business perspective). However, all reports and demonstrators prepared by the SMEs are available upon request.

3.1.   First Milestone Validation

In this section we report the estimated (and approved) costs for the two stages of the activities, according to the project work plan done in collaboration with the mentors. The plans proposed by the SMEs have been validated by the technical and business mentors according to a series of Key Performance Indicators (KPIs) selected by the SMEs in collaboration with the experts. The KPIs cannot be shared in this public document as they are strictly related to the SMEs' business activities. Broadly speaking the KPIs of the first stage refer to the creation of a technically and financially sound feasibility plan (e.g., in the form of written document and report); the KPIs of the second stage revolve instead around the performance of the implemented demonstrator (the performance metrics are closely related to the activity to be carried out).. These plans have been all validated by the technical and business mentors. All project plans were submitted on time, namely at the end of the first month. Table 2 reports the amount to be paid at each stage.

SME	Project Name	ID	Budget 1st stage	Budget 2nd stage

Hidronav Technologies SL	STRATOS-DS	Star_1OC1	10,000 €	50,000 €
StreamOwl	ZeroDefectWeld	Star_1OC2	10,000 €	50,000 €
VERTLINER	AI4BIM	Star_1OC3	10,000 €	43 419,36 €
Binare Oy	CySAI	Star_1OC4	10,000 €	50,000 €
Senso4s	AI4Production	Star_1OC5	10,000 €	50,000 €
iBreve	EscalAItor	Star_1OC6	10,000 €	50,000 €
Orqa	ORQAI	Star_1OC7	10,000 €	50,000 €
MB Noselfish	AiPIC	Star_1OC8	10,000 €	49,930 €
Chronosurveys Lda	BiostratAI	Star_1OC9	10,000 €	40,000 €
LA SIESTA TECHNOLOGIES	SIGLOC_AI	Star_1OC10	10,000 €	50,000 €
CareAcross	AIC4CPAE	Star_1OC11	10,000 €	50,000 €
ConnectedCare Services	Robot-AI	Star_1OC12	10,000 €	40,000 €
Interfaces Hombre Máquina Avanzados	HELIOS-AI	Star_1OC13	10,000 €	50,000 €
DS Transport Solution	FreightEmissions	Star_1OC14	10,000 €	50,000 €
Total			*140,000 €*	*673 349,36 € €*

Table 2: SMEs and budget

SME	Country	Project Scope	Challenge Addressed
Hidronav Technologies SL	Spain	AI applied to the Continuous Monitoring of the state of the Atmosphere through high resolution ground Cosmic Rays real time data	Challenge 6: Environmental issues
StreamOwl	Greece	Automated defect detection in welds with computer vision and machine learning	Challenge 5: Zero defect manufacturing
VERTLINER	Greece	Autonomous robotic UAV platform for precision indoor inspection of building assets	Challenge 1: Rethinking and visibility of supply chains

Binare Oy	Finland	Automating cybersecurity (vulnerability discovery, correlation, defense) by applying AI solutions	Challenge 7: Cyber Security
Senso4s	Slovenia	AI-supported predictive maintenance and optimization of the production line for electronic products	Challenge 4: Predictive maintenance
iBreve	Ireland	Emotion Sensing Chatbot And Lingual AI Treatment in Oncology Rehabilitation based on lingual analysis & real-time sensing	Challenge 9: Chatbots
Orqa	Croatia	Optimisation of the manufacturing process for drone and video electrical components in the assembly and testing line using AI solutions	Challenge 5: Zero defect manufacturing
MB Noselfish	Lithuania	AI-based image analysis solution for clothes parameters recognition and measurement from photo (dimensions, size, type, color, etc.)	Challenge 2: Human resources
Chronosurveys Lda	Portugal	Automated identification of fossils under the microscope	Challenge 8: Logistics
LA SIESTA TECHNOLOGIES	Spain	Detection of behavioural patterns, sickness and death in small location and activity trackers for animals	Challenge 3: Management of data generated by Internet of things (IoT)
CareAcross	United Kingdom	A cancer support chatbot driven by scientific evidence and ethical AI, leading to deep data & metadata collection for R&D & patient empathy	Challenge 9: Chatbots
ConnectedCare Services	Netherlands	Advanced natural dialog for a digital health coach - supporting frail seniors through "humanlike" interaction	Challenge 9: Chatbots
Interfaces Hombre Máquina Avanzados	Spain	Predictive maintenance for a public lighting control system	Challenge 4: Predictive maintenance

DS Transport Solution	Bulgaria	Helping transport & logistics companies track and report their carbon footprint	Challenge 6: Environmental issues

Table 2: SMEs and project scopes

3.2.   Second Milestone Validation

The second milestone coincided with the feasibility plan, involving both business and technical aspects. The preparation of this document followed the creation of the project plan prepared in month n. 1 and evaluated as a first milestone. While the project plan had the purpose of identifying the key performance indicators and organize the tasks and activities within the allowed time frame, the feasibility plans deal with the technical soundness and business sensibleness of the AI-based solutions to be implemented.

The expected deadline for the production of this document by SMEs was month 2. All SMEs respected this deadline. The preparation of the feasibility study has been the result of a tight collaboration between mentors and SMEs, as in this first stage the support activities were particularly important; they were mostly conducted through regular calls and remote meeting, interleaved with email exchanges. After the initial consultation, the SMEs were tasked with preparing the actual feasibility plan, which was then evaluated at month 2 by technical and business mentors (the second milestone). All feasibility plans have deemed to be more than satisfactory.

As the feasibility studies might contain sensitive information for the involved SMEs, we do not report them into this document. However, the feasibility studies are available in the internal project repository. We can summarize the technical evaluations by mentors after Stage 1 as being very positive. All SMEs except one were completely in-line with the IMP, with 3 SMEs being even ahead of the projected time-line; one SME was judged to be slightly behind the desired goal and was advised to increase the effort. Each SME was assigned three different scores by the technical mentors:

1.   A score between 0 and 100 that evaluated the degree of satisfaction in terms of KPI (higher values corresponding to better met KPIs).
2.   A score between 0 and 3 and indicating whether the SME had respected the deadline (e.g., 3 indicating being completely in-line with the deadlines and estimated progress).
3.   A score between 0 and 1 indicating the quality of the deliverables submitted so far (higher values representing deliverables of better quality).

According to these scores the SMEs performed very well, obtaining an average KPI score of 81.43, an average deadline score of 2.81, and average deliverable score of 4.12.

3.3.   Third Milestone Validation

The evaluation of the third milestone was conducted at the end of stage 2, when SMEs were supposed to produced documents describing the activities performed in conjunction with the AI experts. Most SMEs provided documentation (e.g., written technical reports) as well as demonstrators (e.g., screen capture and/or videos of the hardware components) to illustrate how the solutions have been implemented. The majority of the SMEs (12 out of 14) managed to complete the development and validation activities within the allotted time frame (end of month n. 6); however, two SMEs incurred in unexpected implementation

issues and asked for a one-month extension to complete their work, an extension accepted by the project consortium. In the end, the late SMEs required a little more than a one-month extension and the final reports were submitted within extended deadlines, scored and validated by the Selection Committee by 14 April 2023. . Again, the implementation details and the actual demonstrators are not directly attached to this document due to privacy concerns; however, everything is available in the internal StairwAI shared repository, and can be accessed upon request.

Concerning the technical evaluation, the average KPI score at the end of Stage 2 is 83.33, the average deadline score is 2.48, and average deliverable score is 3.96. Similarly, the business mentors evaluated the activities of the SMEs as well, obtaining the following average scores: KPI score 87, deadline score 2.91, deliverable score 4.1. Broadly speaking, the results are very good: all SMEs have developed and deployed their solution in a satisfying manner, as highlighted by the high scores provided by the evaluators. Summarizing, the final average technical score is 4.14 and the final average business score is 4.31. As the overall score is the sum of the scores provided by the technical and the business mentors, the final average overall score is 8.45 (the overall score range is from 0 to 10). All SMEs manage to carry out all envisioned activities and complete the tasks described in the feasibility plan.

3.4.   Ethical Report

The SMEs were asked to fill in the Ethics Self-assessment Form (online or by other means) according to the common H2020 template[1]. After the 1st Stage the information collected has been examined, considering the proposal and the Ethics Self-Assessment. Then, an Ethics Individual Report has been produced for each SMEs. In this report the Ethics recommendations and the deliverables that the beneficiaries have to share with the Ethics Experts in the next phases of the assessment were included. All SMEs have submitted the Ethics Self-Assessment and the ethics experts asked 8 SMEs to provide the ethical deliverable – according to the specific nature of the data used by the SME and the tasks to be carried out.

In the 2nd Stage the ethics deliverables resulting from 1st phase were evaluated, and they were deemed satisfactory, as the ethics requirements were successfully addressed by the 6 SMEs. Once the ethics deliverables or additional documentation has been provided, the Ethics Experts performed the final ethics assessment and produced the final EIRs for each project. All SMEs successfully passed the ethical evaluation.

3.5.   Feedback from SMEs

At the end of Stage 2, we collected feedback from SMEs about their experience via a questionnaire. Out of 14 SMEs, 9 responded to the questionnaire. We summarize received feedback in sections.

General

The first section of the questionnaire concerns general impressions concerning the StairwAI project.

We observe that SMEs gave positive feedback about the idea behind StairwAI, where financial and technical mentorship are the most valuable assets. This might be unsurprising, as I) budget considerations are, understandably, very relevant for an SME and II) most SMEs lacked any background in AI, so the technical support was very important in guiding the realisation of the feasibility plan.

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[1] https://ec.europa.eu/research/participants/portal/doc/call/h2020/msca-rise-%202014/1597696-ethics_issues_table__checklist_en.pdf

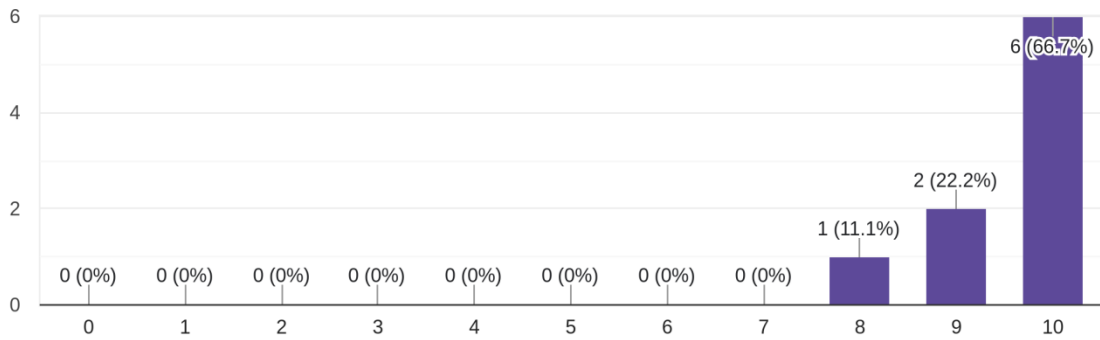How likely is it that you would recommend StairwAI to other low-tech companies?

9 responses

Fig 4: Appreciation for the StairwAI project

Has StairwAI encouraged you to participate in other EC Programs? Please mark one of the following options
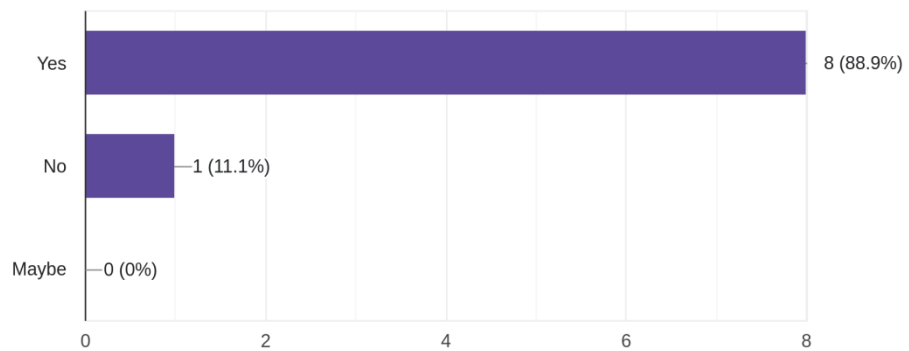
9 responses

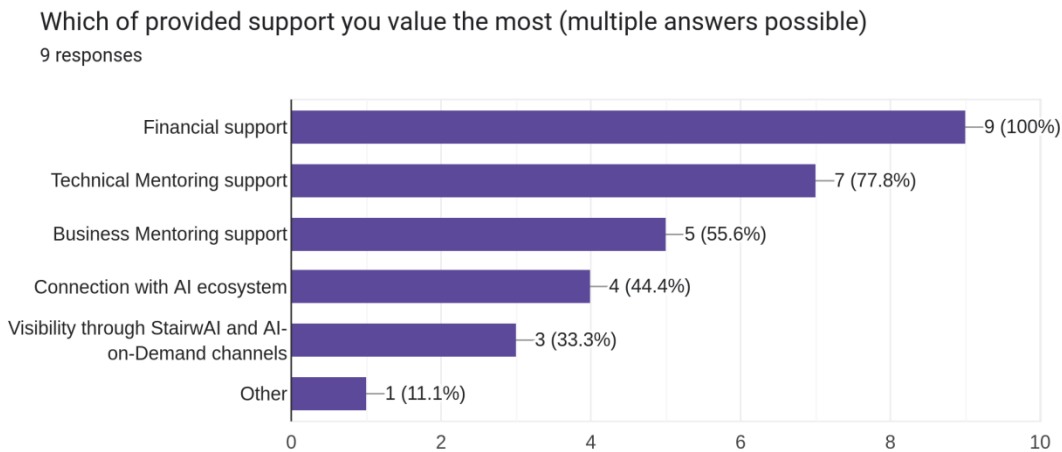*Fig 5: Interested raised towards other EC programs*

Which of provided support you value the most (multiple answers possible)

9 responses

Fig 6: Preferred support actions

Regarding the prototype implementation, we observe a relevant improvement on the TRL level since the start of the prototype session. While the majority of products still require improvements, this is an expected result of the prototype period, mainly designed to guide SMEs throughout the development funnel. It must be noted that this improvement is quite impressive, given the short amount of time available for the entire project.

Would you implement the project without the StairwAI funding support? If the same project would not be funded by FSTP, would you still pursue it?

9 responses
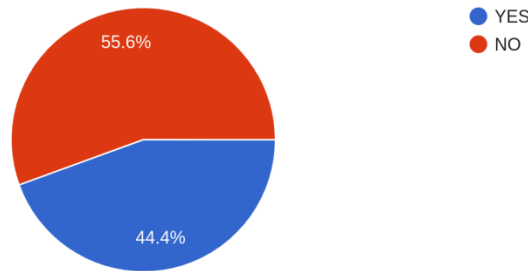
Fig 7: Importance of the financial support

Is your solution ready-to-use or does it still need some improvements to become adapted to the market standards?

9 responses

Yes, it's ready to use
No, it needs improvements

88.9%

11.1%
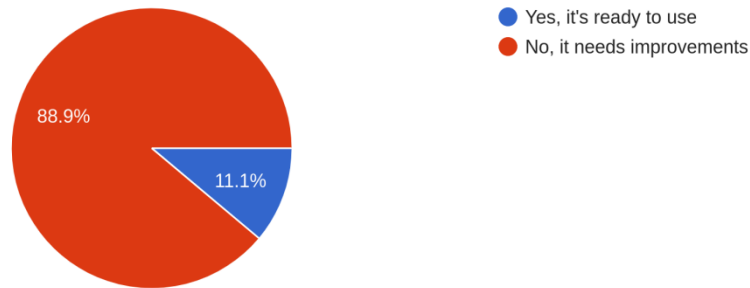
Fig 7: Final solution readiness (can it already be used in production?)

What was the initial TRL - Technology Readiness Level of your solution (during the application phase)?

9 responses

- TRL 1
- TRL 2
- TRL 3
- TRL 4
- TRL 5
- TRL 6
- TRL 7
- TRL 8
- TRL 9

22.2%

44.4%

11.1%

11.1%

11.1%
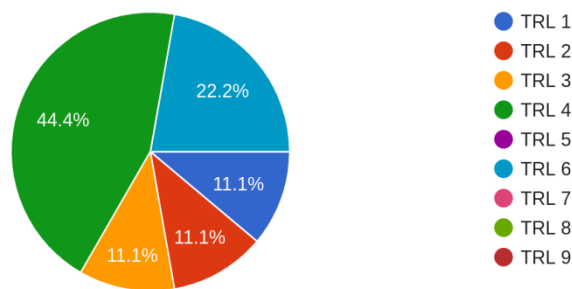
Fig 8: Initial TRL

What is the TRL - Technology Readiness Level of your solution at the end of the support period (now: January 2023)?

9 responses

- TRL 1
- TRL 2
- TRL 3
- TRL 4
- TRL 5
- TRL 6
- TRL 7
- TRL 8
- TRL 9

22.2%

77.8%
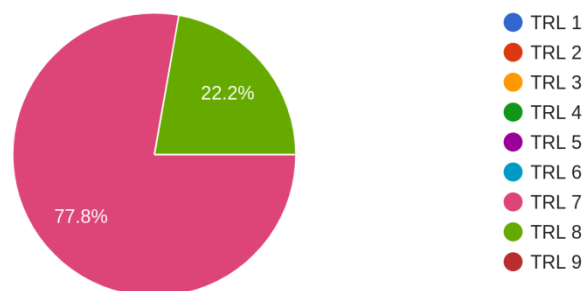
Fig 9: Final TRL

Feasibility Plan

The second section of the questionnaire concerns the feasibility plan. We observe that the majority of SMEs have taken benefit from the proposal of working by first designing a feasibility plan. Figure 10 backs up this statement, demonstrating that most SMEs placed the definition of the feasibility plan in high regard.

Feasibility Plan: how important has the development of the Feasibility Plan been for your company?
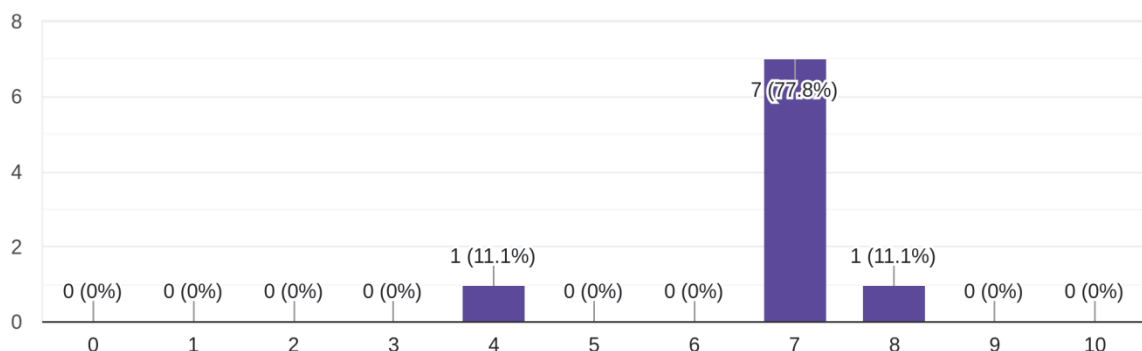9 responses
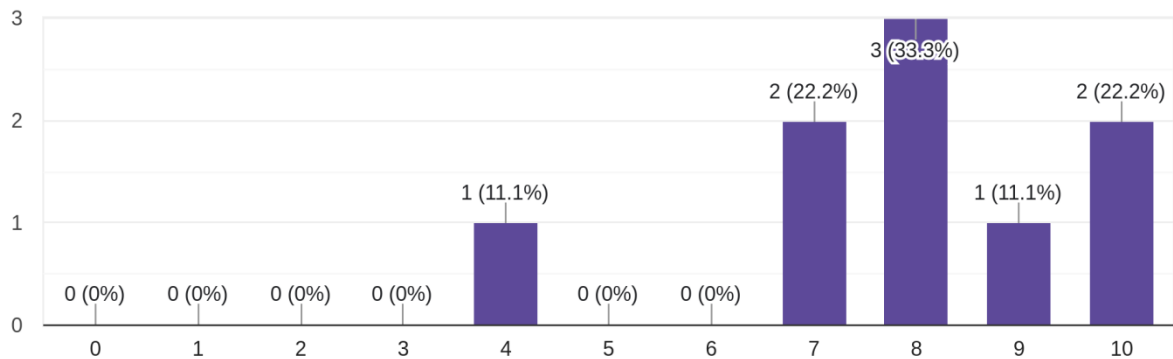
Fig 10: Importance of the feasibility plan

Prototype Implementation

The third section of the questionnaire concerns the prototype implementation stage. In particular, SMEs evaluated their assigned technical and business mentors (overall satisfaction, coordination time, etc..). We observe that SMEs were satisfied with their mentors, while expressed some suggestions on extending the time window of the prototype implementation stage.

How challenging was it for you to implement the project within the given time frame and resources?
9 responses

Fig 11: Difficulty of the implementation of the project

Please rate your overall satisfaction with the cooperation with your Technical Mentor
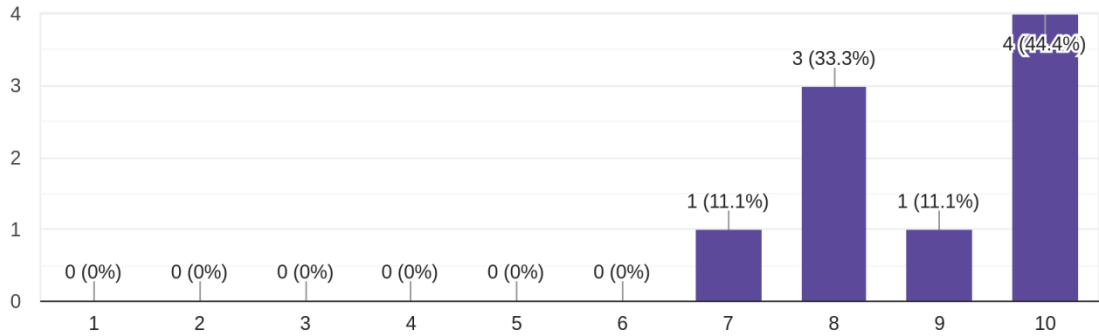9 responses

Fig 12: Satisfaction with the technical mentors

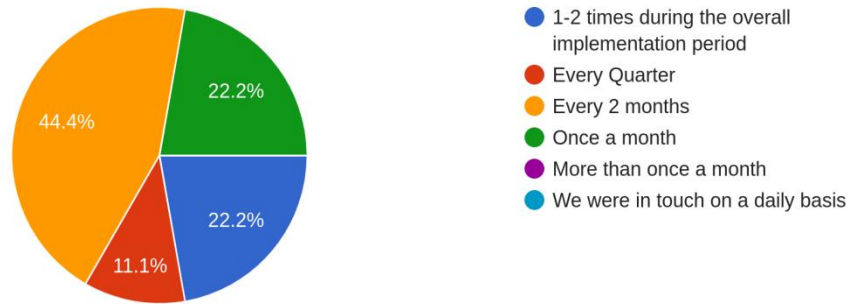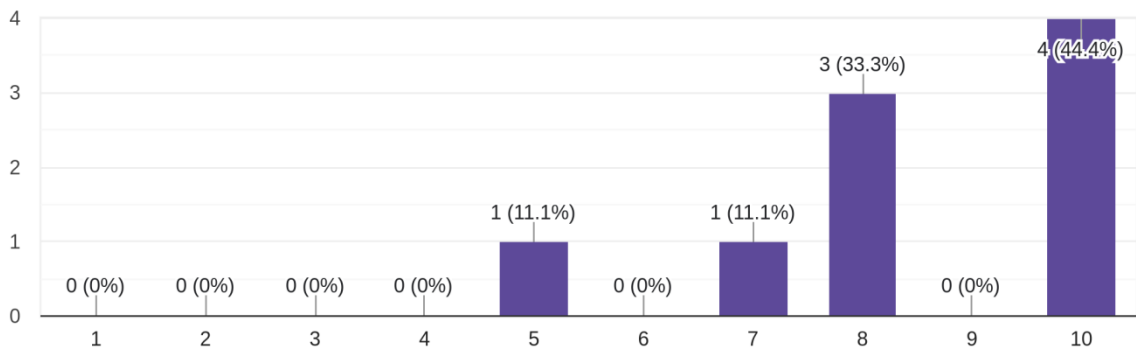**How often did you get in touch with your Technical Mentor?**
9 responses

- 1-2 times during the overall implementation period
- Every Quarter
- Every 2 months
- Once a month
- More than once a month
- We were in touch on a daily basis

44.4%   22.2%   22.2%   11.1%

Fig 13: Frequency of contacts with technical mentors

How likely is it that you would recommend your Technical Mentor to other companies?
9 responses

Fig 14: Degree of appreciation of technical mentors

Please rate your overall satisfaction with the cooperation with your Business Mentor
9 responses
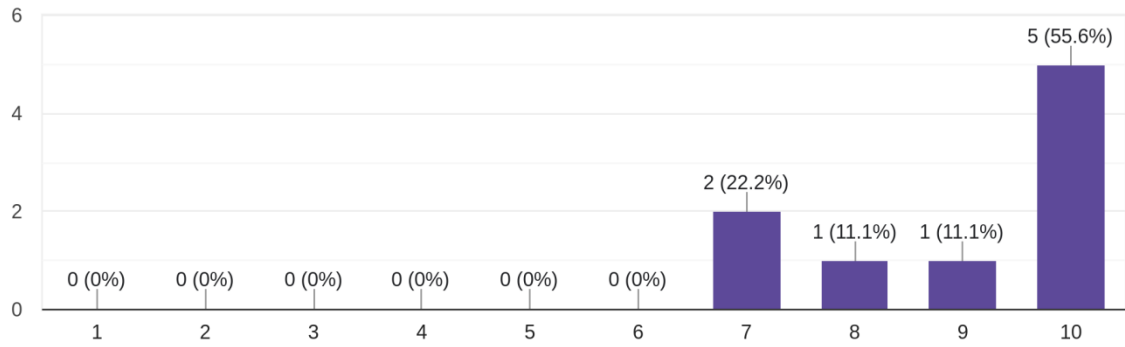
Fig 15: Satisfaction with the business mentors

How often did you get in touch with your Business Mentor?
9 responses

- 1-2 times during the overall implementation period
- Every Quarter
- Every 2 months
- Once a month
- More than once a month
- We were in touch on a daily basis
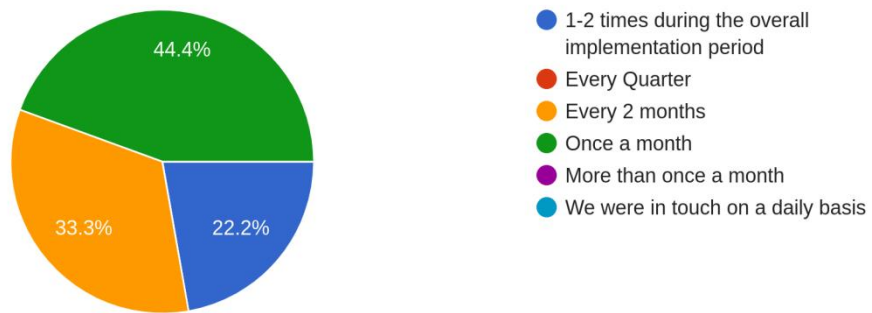
Fig 16: Frequency of business with technical mentors

How likely is it that you would recommend your Business Mentor to other companies?
9 responses
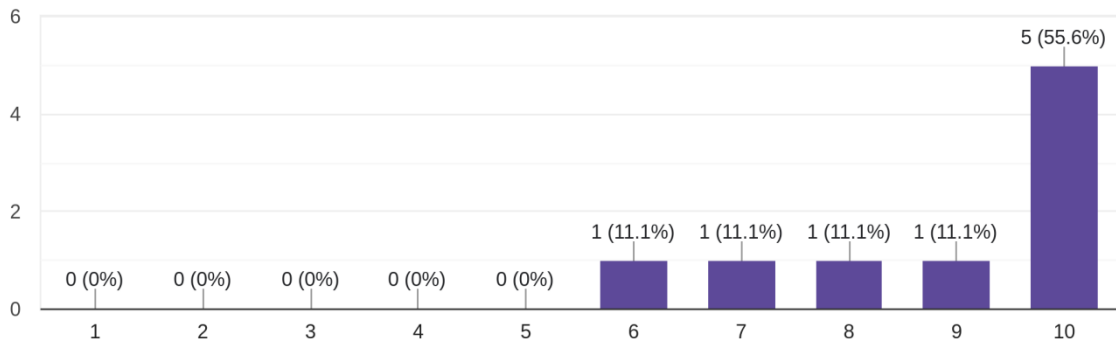
Fig 17: Degree of appreciation of business mentors

Matchmaking with AI resources

The fourth section of the questionnaire concerns the AI resources matchmaking system. The system was offered to assign SMEs the best-fitting AI experts for the prototype implementation stage.

We observe that SMEs were satisfied with their AI experts, where around 45% were the ones selected by the version of the matchmaking system available at that time. The remaining 55% mainly opted for privately looking for an AI expert, while only a minority wasn't satisfied with the matched AI experts provided by the system. Overall, the collaboration with the experts has been very positive; all SMEs have collaborated with one or multiple experts and were generally very satisfied with said collaboration (as portrayed in Figures 18-20).

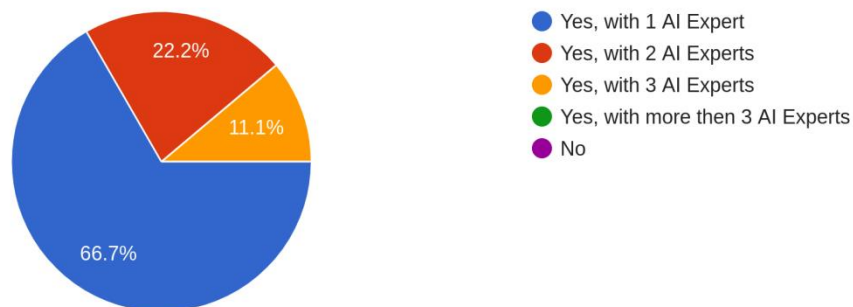Did you work with AI Expert (using voucher)?
9 responses

Fig 18: AI experts usage

Please rate your overall satisfaction with the cooperation with AI Expert(s)
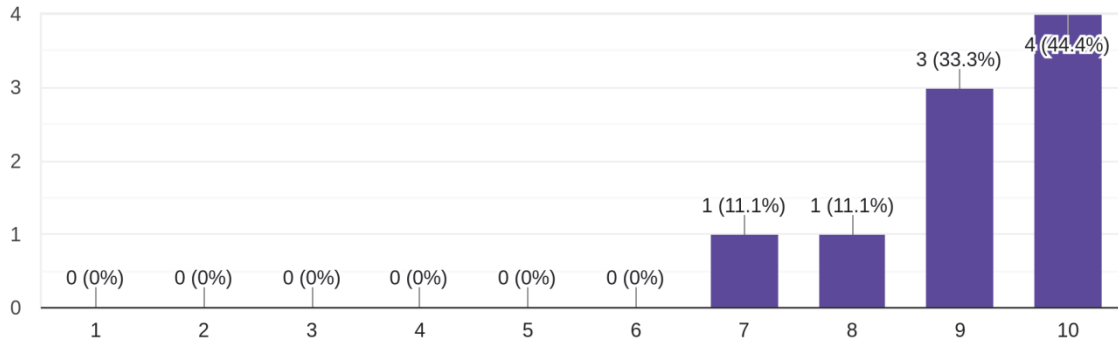9 responses

Fig 19: Satisfaction towards AI experts

How difficult it was for your company to set up the cooperation with AI Expert(s)?
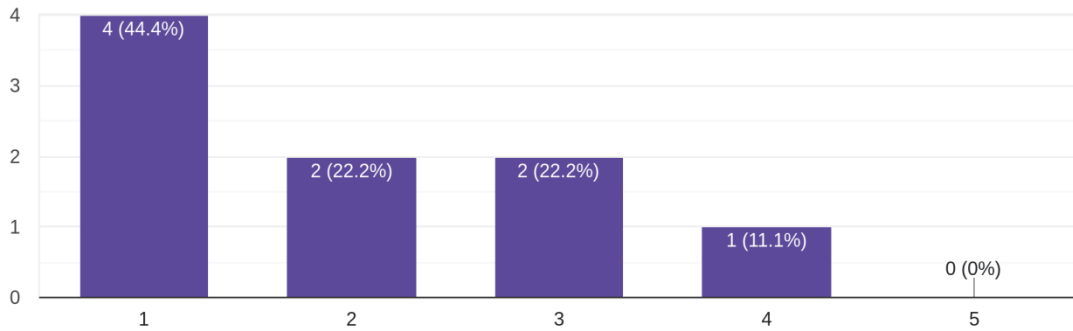9 responses

Fig 20: Difficulty of the cooperation with AI experts

Did you involve the AI Expert(s) proposed by the matchmaking tool?
9 responses

- ● Yes
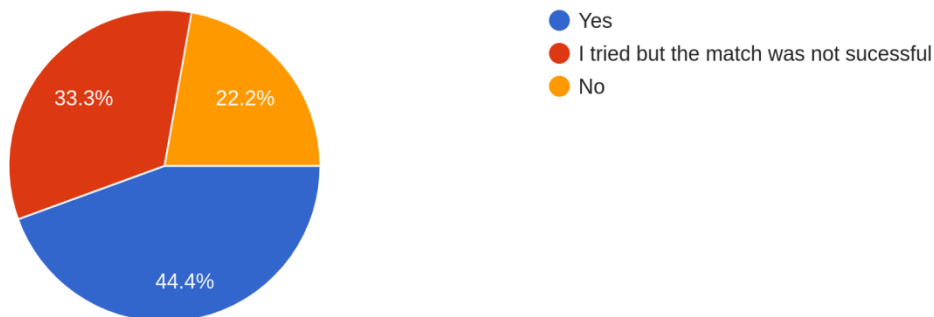- ● I tried but the match was not sucessful
- ● No

Fig 21: Horizontal matchmaking usage

Among other various insights from the SMEs' feedback, we can notice that the SMEs did *not* use the HPC providers identified by StairwAI (accessible through voucher), as shown in Fig. 22. While it is hard to speculate about the reason in not using the HPC providers without further enquiries, it can be noted that most SME actually used HPC resources in the form of commercially available HPC providers such as Amazon AWS and Microsoft Azure services. This might have been originated by a variety of factors: 1) a major ease of access of the well-established commercial platforms, 2) a wider range of pricing options more tailored to the specific SME's needs, 3) pre-existing familiarity with the commercial providers by the AI experts, who might have guided the HPC choice.

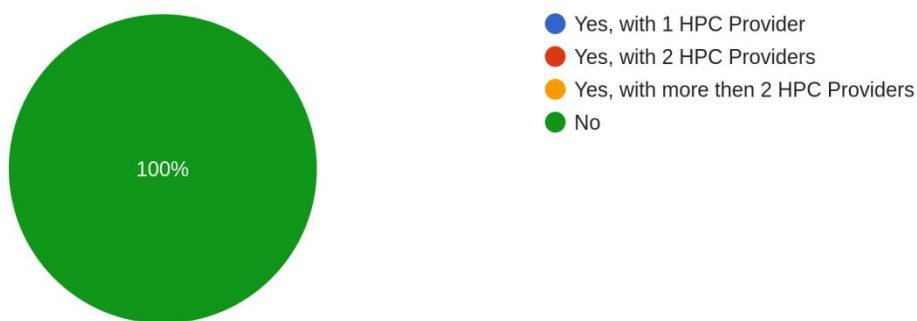Did you work with HPC Provider (using voucher)?
9 responses

- ● Yes, with 1 HPC Provider
- ● Yes, with 2 HPC Providers
- ● Yes, with more then 2 HPC Providers
- ● No

Fig 22: HPC Providers usage

Another relatively weak point (albeit not on the same scale as the HPC providers) is the matchmaking software service, which was considered to be in need of some refinement (see Figures 21 and 23). In the end the horizontal matchmaking service was successfully used by most but not all SMEs.

How likely is it that you would recommend the matchmaking tool to other users?
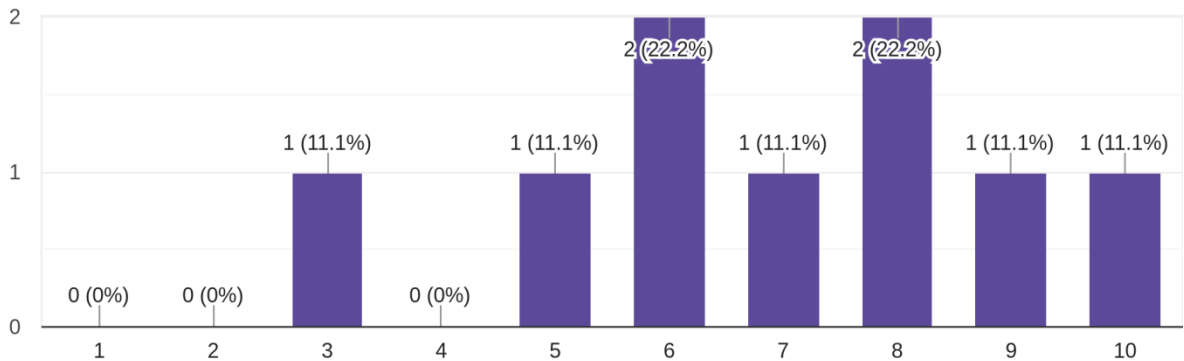9 responses

Fig 23: Satisfaction towards the horizontal matchmaking service

Communication

The fifth section of the questionnaire concerns general communication throughout the development process under StairwAI supervision. The communication has been very good, with all SMEs being satisfied (as seen in Fig. 24)

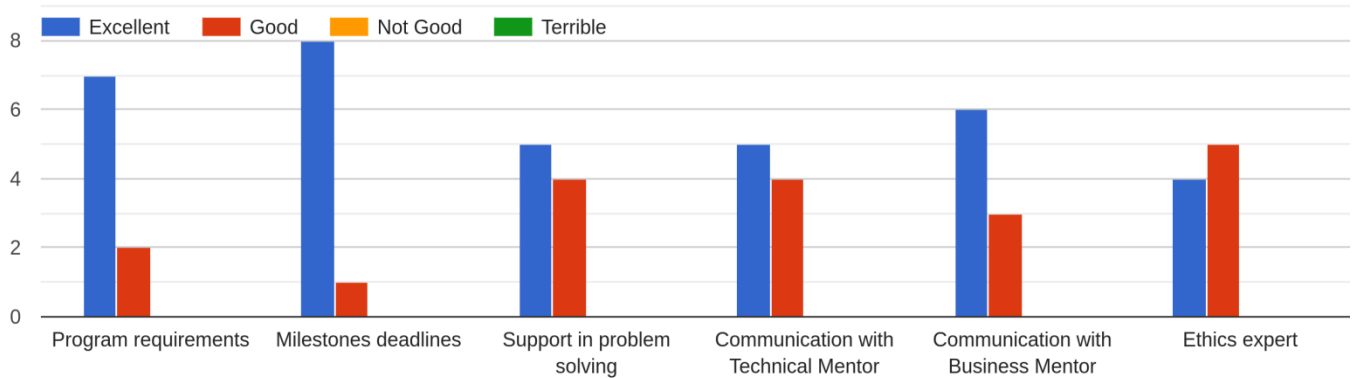StairwAI communication. Please rate the general communication with each of the StairwAI aspects

Fig 24: Satisfaction towards communication within the support programme

4. Conclusion

This document described the support programme activities carried out to support the SMEs who were selected during the first Open Call. The results have been very positive, with all SMEs completing the milestones established during the initial preparation of the feasibility plan. 12 out of 14 SMEs managed to complete all activities on time (within 6 months from the start of the activity), while 2 requested a one-months extension to finalise the validation of the solution developed and the creation of the demonstrator.

Overall, the support received by technical and business mentors has been well received by SMEs, as highlighted by the positive feedback and good evaluations provided by SMEs at the end of the support program. However, the feedback has been thoroughly analysed and will be used to improve the support programme for the second and third Open Calls. For instance, a common observation shared by multiple SMEs is the fact that the AI experts suggested by the horizontal matchmaking component were only partially in line with the requirements of the SMEs; this issue was mitigated by the provision of multiple experts to each SME. Albeit partially disappointing, this problem was to be expected, as matchmaking is a complex challenge and the horizontal matchmaking component was still in its first prototypical version – the comments from the SMEs have thus been exploited to refine the component and improve it.

4.1.   Support Programme Impact

The support programme clearly had a very beneficial impact on the positive outcome of the 1st OC. In particular, most SMEs have greatly appreciated the technical and business support offered by the StairwAI mentors; indeed, this mentorship (which formed the cornerstone of the support programme) was identified as the second most important element that contributed to the successful completion of the project (the most important element being the financial support). The most important aspects of the mentorship have been the assistance in properly framing the desired goals of the SMEs as a set of actionable, technically sound items and in the definition the feasibility plans; this especially true from the technical point of view, as the SMEs had only a limited exposure to AI.

The importance of the support programme has its roots in their crucial role in the preparation of the feasibility plan, which was identified by most SMEs as a fundamental step for the overall success of the project. This is due to the importance of having identified a clear set of actions to be taken in order to reach the desired goal, and to the identification KPIs which were clear and mutually agreed upon (understanding how to measure the success of the project helped guide the implementation choices as well). The feasibility plan was particularly important in projects with such a tight time-frame to be completed.

There are as well some areas of improvement. In particular, the SMEs were not entirely satisfied with the horizontal matchmaking mechanism that was set up to find the best AI expert for each SME. This was partially to be expected as the matchmaking module was still under development and refinement during the 1st support programme, and its results still required some manual fine-tuning. Additionally, some aspects that were highly valued by SMEs in selecting the right AI expert (e.g., the possibility of speaking the same native language) were partially under-valued in the matchmaking module. However, it must be noted that in the end all SMEs managed to find the most suited expert within the list provided by the matchmaking mechanism – and they were very satisfied with the collaboration with the AI expert. As another bright spot, the feedback from the SMEs about the matchmaking process has been dutifully gathered and used to improve the service itself.

Another partially missed opportunity was the offering in terms of HPC providers, which were first identified and validated by StairwAI partners and then made available through the voucher programme. In fact, no SME actually contacted nor used the HPC resources of the suggested providers, albeit most of them declared not to have sufficient in-house computational resources. In this case, the wider set of different hardware configurations and pricing schemes offered by traditional HPC providers (e.g., Amazon, Microsoft, Google, etc.) must have played a role, in conjunction with the greater familiarity of the AI experts with the traditional solutions, both elements that have swayed the decision of the SMEs not to employ the HPC vouchers offered by StairwAI.