Digital Europe Programme (DIGITAL)

Application Form

Technical Description (Part B)

(Digital Europe Standard)

Version 1.0
01 November 2021

<div align="center">

TECHNICAL DESCRIPTION (PART B)

</div>

COVER PAGE

Part B of the Application Form must be downloaded from the Portal Submission System, completed and then assembled and re-uploaded as PDF in the system.
Note: *Please read carefully the conditions set out in the Call document (for open calls: published on the Portal). Pay particular attention to the award criteria; they explain how the application will be evaluated.*

PROJECT	
Project name:	AI & ROBOTICS ESTONIA (EDIH)
Project acronym:	AIRE
Coordinator contact:	Kirke Maar, Tallinn University of Technology Email: Kirke.Maar@TalTech.ee, +372 51 64025

TABLE OF CONTENTS

PROJECT SUMMARY

Project summary
The artificial intelligence (AI) and robotics EDIH AIRE (AI & Robotics Estonia) facilitates innovation in the Estonian manufacturing sector by bringing together the core competencies of universities, science parks and research centres in the fields of AI and robotics, and SMEs in Estonia and Europe, working in close collaboration with other AI-related centres and initiatives in Estonia and Europe. The hub is run by a highly capable and experienced consortium composed of the Tallinn University of Technology (lead partner), University of Tartu, Estonian University of Life Sciences, Tehnopol Science and Business Park, Tartu Science Park, and IMECC competence centre, supported by other key stakeholders as associate partners. AIRE's objectives are (1) to increase the digital maturity of manufacturing SMEs, (2) to increase investments into industrial digitalisation, (3) to create a sustainable EDIH ecosystem in Estonia and involve relevant stakeholders from the EU, (4) to improve the target groups' competences in AI and robotics, (5) to increase market maturity and market creation potential of Estonian innovations. To achieve this, the focus is on the 'test before invest' activities (WP2), incl. digital maturity assessment and related individual consulting and roadmapping for clients, implementation of proof-of-concept AI and robotics demo projects and experiments with manufacturing companies. This is supported by AI and robotics related trainings (WP3), access to financing (WP4) and ecosystem development (WP5). AIRE will contribute to the long-term policy objectives of Estonia and the EU. Based on the strategic view of the Estonian state, in 2022-2025 AIRE focuses on the manufacturing industry as the primary target group and up to 10% of the budget is allocated to cross-sectoral AI pilots in health technology and tourism to widen the impact and illustrate transferability. From 2025+, AIRE will more strongly address a wider range of sectors in promoting the use of AI.

1. RELEVANCE

1.1 Objectives and activities

Objectives and activities
Describe how the project is aligned with the objectives and activities as described in the Call document. How does the project address the general objectives and themes and priorities of the call? *What is the project's contribution to the overall Digital Europe Programme objectives?„*
AI & Robotics Estonia (AIRE) as the Estonian EDIH candidate clearly supports the objectives of the **Digital Europe Programme (DEP)** by reinforcing competencies and focusing on the key areas of artificial intelligence and other related areas, like cybersecurity, advanced computing, data infrastructures (HPC), data governance and processing, the deployment of these technologies and their best use **for manufacturing** (horizontal piloting also in the health sector for exploiting results of AI and robotics in the era of COVID-19 battle). Estonian manufacturing sector employs every fifth employee (every fourth in private sector) and constitutes 70% of Estonian export[1]. **AIRE** as EDIH centre drives innovation in manufacturing by bringing together the core competencies of universities, science parks and research centres in the field of **AI and robotics** and the needs of SMEs in Estonia and Europe while working in close collaboration with other AI-related centres and initiatives in Estonia and Europe. The core target group of AIRE are the **manufacturing companies aiming to exploit AI and robotics for digitalisation.** This focus on manufacturing SMEs is the strategic priority of the Estonian state within the EDIH programme after mapping the critical development needs in Estonia. Big data, AI and the use of robots enable manufacturing huge opportunities to make processes more digitalised, efficient and optimised – to increase productivity, quality, workplace safety (especially in the context of AI in robotics), predictive maintenance and energy efficiency to reduce production waste, contributing to achieving the goals of the European Green Deal. Close synergies and links have been agreed and developed with other existing state-funded artificial intelligence

---

[1] Swedbank (2021), Survey of Manufacturing Enterprises. Tallinn: Swedbank

support schemes for the public sector and other fields of the private sector (e.g., service sector) and with other innovation centres as described in Figure 1:
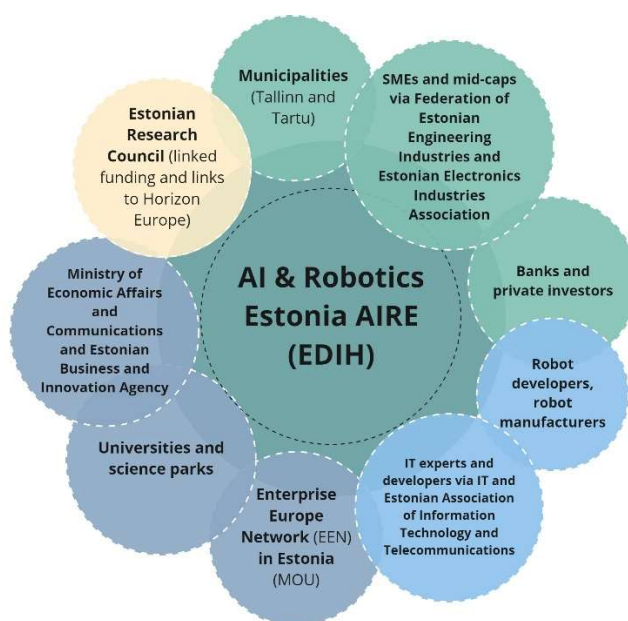

Figure 1: Collaboration partners of AIRE

AIRE as a consortium of universities, research institutes and science parks brings together knowledge about artificial intelligence, IT, engineering, robotics and electronics to create **an AI competence platform** for manufacturing companies for digitalisation and automation. AIRE also provides companies access to scientific and research laboratories as well as competencies related to cybersecurity and supports big data management within High Performance Computing centres of the universities (including facilities of the LUMI consortium that Estonia is a member of). AIRE as the Estonian EDIH aims to bring universities and research centres closer to the needs of the manufacturing sector by **deploying and testing tailor-made innovative solutions of AI and robotics** – testing of new technology and software, methods for data analysis, cloud-based solutions, preventive maintenance, or development of digital twins for AI workflows in addition to **finding scalable solutions that could be benefited by numerous similar clients in the future.** Linkages to Horizon 2020 and Horizon Europe results will be established to demonstrate AIRE's clients the digital innovations that are 'market mature' (also linked to the Joint Research Centre's (JRC) Innovation Radar methodology).

Objectives of the AIRE project:

1. **Increased digital maturity rate of manufacturing SMEs** that have used the services of the EDIH network. KPI: AIRE will consult at least 150 unique manufacturing SMEs (in total 360 DMA assessments) and their DMA is expected to increase by at least 25% by 2025.
2. **Increased investments (public and private) into industrial digitalisation** (including AI and robotics) and better access to finance in Estonia. KPI: 3 MEUR worth of public and private investments made with AIRE support in 2022–2025.
3. **Sustainable EDIH ecosystem in Estonia and involvement of relevant stakeholders in EU**. KPI: 750 persons involved as stakeholders in Estonia and EU; 30 key collaboration partner organisations in Estonia and 25 in the EU (total reach 100+ organisations).
4. **Improved skills and better AI-related awareness** of managers, experts, engineers, developers, researchers and other key stakeholders in the field of industry digitalisation. KPI: 1650 participants in trainings and awareness-raising events.
5. **Increased market maturity and market creation potential of Estonian innovations** related to artificial intelligence, as defined in the JRC's Innovation Radar methodology. KPI: 15 innovation projects submitted to Innovation Radar.

Main target groups (clients) of AIRE:
- **Manufacturing SMEs** (production of machinery, equipment, metal-working industry, electronics, timber production, food production, ship-building, production of chemicals).
- **Mid-caps** according to state aid rules.

- 10% involvement of large companies as role models and potential sponsors of AIRE in the future (based on *de minimis rule*).
- 10% pilots in the health sector to demonstrate cross-sectoral applications of AI and robotics (related to COVID-19 consequences and importance of cross-sectoral collaboration).
- Through all services 150 unique clients are involved (many clients receive multiple services in 36 months).

Secondary target groups through active collaboration and spread of best practices:

- **Public sector organisations** through collaboration with **Estonian AI programme** for public sector (kratid.ee).
- **Logistics sector** (collaboration with Estonian Association of IT and Telecommunications (ITL) and Intelligent Transport Systems Estonia (ITS))
- **Start-ups and spin-offs in the field of AI** (in collaboration with Tehnopol, an AI development scheme is initiated to support start-ups and spin-offs in the field of AI as service providers or developers, **ai.tehnopol.ee)**.
- **Health sector and health technology developers** as a horizontal pilot target group to spread the best practices of AI and robotics (in collaboration with **Connected Health Cluster** run by AIRE partner Tehnopol).
- **Researchers and research related collaboration** with TalTech and the University of Tartu in the field of AI and robotics: FinEst Twins (Horizon 2020 Teaming) led by TalTech; TRUST-AI (Horizon 2020 in the budget of 3.9 MEUR); Estonian Centre of Excellence in ICT Research (EXCITE) with the University of Tartu and TalTech as partners with Cybernetica; Estonian Scientific Computing Infrastructure, which is part of the EuroCC network (H2020) and the LUMI consortium.
- **Tourism sector in applying AI based mobile robots (hotels, airports)**.

Table 1: SERVICES AND PRICE LIST OF AIRE for 36 months (average per client*), including all costs:

SERVICES of AIRE	TARGET KPI (number of CLIENTS) – 36 months**	PRICE (EUR) – cost per client***	TOTAL (EUR)
1.Test before invest (WP2), including:		**15 000 EUR** (average per client)	**4 338 000**
Digital maturity assessment (DMA) and related individual consulting and digitalisation roadmapping for clients	*360*	*800*	*288 000*
AI and robotics suitability assessment (including mapping potential projects to Innovation Radar)	*300*	*3000*	*900 000*
Test before invest AI and robotics demo projects and experiments	*54*	*55 000*	*2 970 000*
Use of labs/ test-beds	*150*	*1200*	*180 000*
2.Skills and trainings (WP3), including AI and robotics related awareness raising.	**900**	**1000**	**900 000**
3. Access to finance (WP4)	**150**	**2000**	**300 000**
4. Networking and ecosystem development (WP5)	**750**	**616**	**462 000**
TOTAL budget for 36 months			**6 000 000**

*Average, not limit. **Not unique clients (clients take part in several services and on multiple occasions)
***Costs include all budget costs like project management, dissemination and communication and 7% overheads.

Based on the DMA, companies are consulted on how they stand as compared to similar companies from Estonia (and in the EU, subject to data availability) and what could be the priority steps to take for digitalisation. Public annual reports include analysis of the Estonian DMA developments. AIRE has also developed a detailed price list **according to service categories to calculate the budget passed on to clients and state aid received** (please see **Table 2** below).

Table 2: Price list for AIRE

PRICE LIST FOR AIRE					
Description of service	Market price	Unit of measure	Reduced price offered to SMEs 2022*	Reduced price offered to SMEs 2023*	Reduced price offered to SMEs 2024-2025*
Testing robots	500	Day	0 EUR	100	200
Using university labs for experiments related to AI and robotization (test-beds)	500	Day	0 EUR	100	200
AI and robotisation related consulting	500	Day	0 EUR	100	200
AI and robotisation related trainings	1000	Day	0 EUR	200	400
Carrying out R&D AI and robotics demo projects to **test before invest** (WP2)	800	Day	0 EUR	160	320

* incentive effect analysed based on state aid rules.
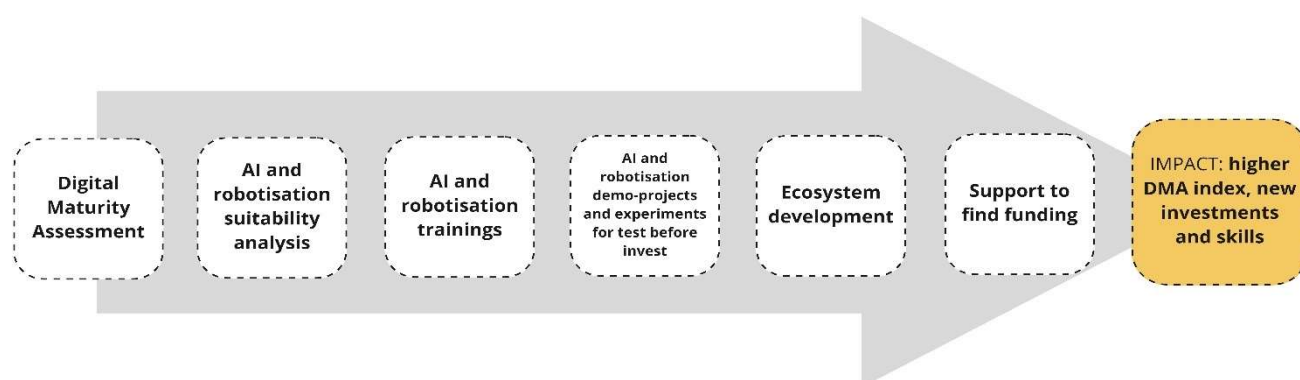
Services of AIRE are listed in Figure 2 below.

Figure 2: Services of AIRE

To reach the KPIs of EDIH, **AIRE offers the following services** (also in collaboration with other EDIHs in Europe):
1) **Digital Maturity Assessment** (**DMA**) based on JRC methodology. Currently, a privately developed DMA platform has been used in Estonia, developed and owned by the consortium partner IMECC. The JRC platform will be used in the context of the EDIH activities or an API developed for IMECC platform, which is an industry-based DMA solution valued highly by the companies and tested internationally, currently including data from 500 companies since 2018.
2) **AI and robotization suitability analysis of SMEs and mid-caps** (test before invest) *(WP2 Test before invest).*
3) **AI and robotisation trainings** for skills development and awareness raising – a 16-hour training focused on robotics was tested in November 2021 (30 participants) and an AI project development course in January-February 2022 (35 participants) (*WP3 Skills and Training*).
4) **Test before invest "proof-of-concept" AI and robotics demo projects and experiments** with manufacturing companies (mainly SMEs and mid-caps) to support companies in taking the risks and in the preparation of investing in **AI and robotics** (*WP2 Test before invest*). Companies for the demo projects are selected in an open and transparent way and designed with "use-case principle" based on actual problems companies are facing in applying AI and robotics for their manufacturing or product development and where R&D and novel solutions can help to overcome the challenges. For each AI demo project, company-based KPI-s are defined (productivity rate, production cycle and time, quality and reduction of waste, energy efficiency, etc.) and monitored (also DMA carried out). **For test before invest, also test-beds** are offered by providing SMEs access to **university labs related to the fields of AI and robotics** – and for active promotion of collaboration on TRL5-TRL6 level (*WP2 Test before invest*).
5) **Ecosystem development and networking for collaboration and awareness raising** (AIRE Clubs, best practice seminars, gala event on Month 33) linked to support finding funding.
6) **Support to find funding** – local, regional, state and EU-level public funding as well as private funding (investments, options, loans) to support companies to invest in AI and robotics. Individual consultation is carried out with companies and financing is an important content of monthly AIRE Clubs (*WP4 Support to find funding*).
7) **Awareness raising and promotion of AI and robotics related digitalisation** through trainings (*WP3*) and communication and dissemination (*WP6*).

8) **Active collaboration with other EDIHs** to offer AIRE services to clients of other EDIHs in Europe and bring the expertise of other EDIHs to Estonia. During 2021 and the beginning of 2022, for the preparation of the EDIH, AIRE services have been developed in collaboration with experts and SMEs themselves and tested on companies (50 clients involved by February 2022), please see aire-edih.eu. Regarding **collaboration with other EDIHs**, collaboration has been discussed and cooperation has been planned with the following EDIH candidates described in Table 3 below.

Table 3: Collaboration with EDIHs in Europe

Name of the EDIH and region	Main ways of collaboration
Alliance of Baltic Sea Region EDIHs for Manufacturing SMEs support: AIRE EDIH led by TALTECH (Estonia) Latvian Digital Innovation Hub led by Latvian IT Cluster EDIH4IAE.LT led by Lithuanian Innovation Center EDIH Vilnius led by Sunrise Valley Technology Park MIGHTY EDIH led by RISE (Sweden) ROBOCOAST EDIH led by Prizztech Ltd (Finland) PDIH - Pomerianin Digital Innovation Hub led by Pomerianin Special Economic Zone Ldt.	**The alliance has agreed (MoU signed):** • To organise at least 2 study visits to other partners by each alliance partner (3 years) • To design regional collaboration and information exchange and knowledge base platform • To submit at least one joint project proposal with each partner (Interreg BSR, Horizon or similar calls) • AI Roundtable events for matchmaking based on companies' needs related to international markets.
Finnish AI Region - FAIR (Finland) SIX MANUFACTURING (Finland) AI Center of Hamburg (ARIC) REACH IRELAND CAMPUS CYBER, PARIS, FRANCE Lodz Special Economic Zone (POLAND) SUSTAIN BRUSSELS EDIH via collaboration with Confederation of Laboratories for Artificial Research in Europe (CLAIRE) AGORA DIH, SPAIN, MURCIA EDIH Sachen-Anhalt, Magdeburg, GERMANY	• Joint webinars to our clients in English in the field of AI, HPC, cybersecurity, AI ethics, big data and IoT. • Matchmaking of SMEs and mid-caps interested in services related to AI developments (service providers, developers, manufacturing companies, smart city, health sector and public sector development examples). • Networking between EDIHs and exchange of best practices. • Use of AIRE test-beds (university labs).

The list of EDIHs is preliminary and AIRE is open for collaboration and networking with all regions of Europe based on the needs of stakeholders and the **final EDIH funding decisions**. **AIRE as the Estonian EDIH will act as an access point to the European network of EDIHs**, helping local companies and/or public actors to get support from other EDIHs in case the needed competencies fall outside their range, ensuring that every stakeholder gets the needed support wherever it is available in Europe.

1.2 Contribution to long-term policy objectives, policies and strategies — Synergies

Contribution to long-term policy objectives, policies and strategies —   Synergies
Describe how the project contributes to long-term policy objectives of the call's domain/area and to the relevant policies and strategies, and how it is based on a sound needs analysis in line with the activities at European and national level. What challenge does the project aim to address? The objectives should be specific, measurable, achievable, relevant and time-bound within the duration of the project.
The key challenge that AIRE aims to address is unlocking the untapped potential of digital technologies for increased competitiveness and resource-efficiency in Estonia´s SMEs in the manufacturing sector. According to the European Commission's Digital Economy and Society Index (DESI) 2021 report[2], Estonia ranked 9th on the Integration of digital technologies by enterprises, which is slightly above the EU average (a step up from the 14th place in 2020). Regarding the adoption of AI in enterprises, however, Estonia ranks below the average – with 15% of Estonian enterprises using AI against an EU average of 25%. Estonia is 4% below the EU average on the use of ICT for environmental sustainability. All in all, while Estonia is acknowledged as one of the leading digital societies of the world and firmly holds the 1st place in DESI index regarding digital public services, the DESI 2021 country report concludes that the country needs to continue its efforts to better integrate digital technologies in SMEs and more traditional businesses. The latter clearly include the manufacturing companies where sustainable digitalisation is particularly important given that Estonia is among the most emission-heavy economies in the EU, being also among the top energy users[3], and the manufacturing sector plays a significant role in this.

The focus of AIRE is defined in coherence with the objectives of the Digital Europe Programme[4], particularly regarding its key capacity area of artificial intelligence, as well as supporting developments in the capacity areas of advanced digital skills and ensuring a wide use of digital technologies across the economy and society, including through Digital Innovation. In line with these goals, AIRE supports the implementation of AI & Robotics solutions and increases the digital maturity of SMEs via a coherent set of services (described in more detail in section 1.1 and work packages), with an aim to facilitate the digitalisation, automation, and competitiveness of Estonian manufacturing companies.

In terms of the long-term policy objectives at the EU level, the Europe fit for the digital age[5] defines specific digitalisation targets for 2030 – AIRE contributes directly to the "Digital transformation of businesses" goal which sets the following targets: 1) Tech-up take: 75% of EU companies using Cloud/AI/Big Data, 2) Innovators: grow scale-ups & finance to double EU Unicorns; 3) Late adopters: more than 90% of SMEs reach at least a basic level of digital intensity. AIRE works towards reaching these targets through all of its four key service groups (i.e., test before invest, training and skills development, support in finding investments and innovation ecosystem building and networking), collaborating with a wide range of partners in the national and EU-level AI, robotics and SME support ecosystem.

The purpose of the European Green Deal[6] is to set a framework that will transform the EU into a "modern, resource-efficient and competitive economy". The specific policy targets include: 1) No net emissions of greenhouse gases by 2050; 2) Economic growth decoupled from resource use and 3) No person and no place left behind. While focusing on environmental challenges, digitalisation is seen as a key enabler for achieving the core EU environmental targets. There is a strong focus on the decarbonisation and modernisation of energy-intensive industries, including manufacturing. Here the EC stresses the role of digital technologies, including AI, IoT and others to optimise the efficiency within EU industries to make them less wasteful and more energy-efficient. In line with the above, AIRE is particularly focused on digitalising energy-intensive and production-based industries and achieving higher resource efficiency in Estonian manufacturing SMEs, as well as ensuring a human-centred approach facilitating digital skills development, incl. reskilling, among various target groups.[7] As an example of one AIRE's demo project, a tailor-made university-driven AI-based preventive maintenance system for industries with process control system(s) will be piloted for manufacturing companies to avoid system and production shortages and reduce down-time. In addition to digitalisation, increasing productivity, reducing the use of energy and waste contributes directly to overcoming the EU environmental challenges.

Regarding the Coordinated plan on artificial intelligence (CPAI)[8], the updated version of the plan published in 2021 put forward four key policy objectives: 1) Set enabling conditions for AI's development and uptake; 2) Build strategic leadership in high-impact sectors; 3) Make the EU the right place to thrive; 4) Ensure AI technologies work for people. In the context of the CPAI, AI and robotics go hand-in-hand, as AI is an enabling technology for the use of robotics in several different industries, jointly forming one of the key elements for achieving EU green and digital transition objectives. The plan has direct connections with the EDIH network, with one of the focuses being Testing and Experimentation Facilities (TEF) to experiment and test state-of-the-art technology in real-world environments & Digital Innovation Hubs, one-stop shops to provide access to technical expertise and experimentation, so that companies can "test before invest". The AIRE EDIH focuses on achieving this in the context of Estonia, by establishing a digital innovation hub where AI and robotics technology can be tested and developed in real-life settings and a range of support services is available to SMEs.

At the national level, AIRE's strategic focus is directly in line with the Estonian smart specialisation (RIS3) approach[9] and the national Research and Development, Innovation and Entrepreneurship (RDIE) development plan 2021-2035[10], as well as the Estonia 2035 Strategy, highlighting the need to increase the competitiveness of Estonia´s industry and manufacturing sectors. The services of AIRE are highly relevant for all of the smart specialisation growth areas: (1) ICT horizontally through other sectors – the proposed EDIH makes a particular contribution to this domain; the RDIE plan outlines both AI ("AI and machine learning – innovative solutions for automated systems, incl. in the health care system" and robotics ("Collaboration of robots and humans and IoT in manufacturing, incl. digitalisation of industry and optimisation of processes") under the specific priority fields; 2) Health technologies and services – Estonia´s potential here is primarily seen in the development of e-solutions

---

[4] https://digital-strategy.ec.europa.eu/en/activities/digital-programme
[5] https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age_en
[6] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en
[7] To bring an example of the ongoing activities, one of AIRE´s key demonstration projects is focused on machine learning-based power consumption diagnostics and testing for preventive maintenance in energy intensive industries.
[8] https://digital-strategy.ec.europa.eu/en/policies/plan-ai
[9] https://www.mkm.ee/en/objectives-activities/economic-development/smart-specialisation
[10] https://www.hm.ee/et/TAIE-2035

Call: DIGITAL-2021-EDIH-INITIAL-01 - European Digital Innovation Hubs
AI & Robotics Estonia (EDIH) – AIRE (SEP-210814614)

EU Grants: Application form (DEP): V1.0 – 01.11.2021

and personal medicine, making use of advanced technological solutions. The potential is closely related to intelligent data management systems and AI applications, and the development of exportable technologies and services. Medicine has also been one of AIRE´s focus areas in the hub´s pilot phase; 3) Enhancement of resources – related to this RIS3 priority field, AIRE´s activities support the goal of achieving higher resource efficiency in manufacturing and sustainable valorisation of local resources, boosting the development of bio- and circular economy. This priority is in sync with the goals of the EU Green Deal; 4) Smart and sustainable energy solutions – while the initial RIS3 approach focused on the three growth areas outlined above, the RDIE plan puts an additional emphasis on the field of energy, outlining the particular importance of "increasing the energy efficiency of manufacturing processes, in order to untie the GDP growth of Estonia from increased energy consumption". The document states that to support the energy transition, Estonian scientists and enterprises need to be in the frontline of technological developments.

Another important strategic framework is the National Artificial Intelligence Strategy[11]. In 2019-2021, the strategy focused on the actions of the Estonian Government to 1) Promote the uptake of AI in both the private and public sector; 2) Increase the relevant skills and R&D base; and 3) Develop the legal environment necessary to promote the use of AI in the country. More than 12 MEUR of public investment has been targeted on AI in the past 2 years, most of which came from EU structural funds. AIRE has been set up directly in line with this strategy, with high-level support by the Ministry of Economic Affairs and Communications. In 2022-2023, "data as enabler" is outlined as an additional focus area and Estonia commits another 20 MEUR in this period to implement the strategy. The strategy explicitly outlines a set of preparatory activities for AIRE as the proposed national EDIH, incl. company-level digital maturity assessments, training and counselling of manufacturing companies regarding digitalisation and setting up development projects in the fields of AI and robotics, as well as counselling regarding financing opportunities related to these activities, development of demo projects, carrying out network development events (AIRE Clubs), etc. The strategy foresees 499 450 EUR for these activities and also states that in case of approval of AIRE´s application as the Estonian EDIH, the Ministry commits 0.4 MEUR annually to complement the AIRE consortium´s co-financing of 0.6 MEUR and the EC´s financing of 1 MEUR per year in the period of 2022-2028. In addition, the strategy foresees AI-related bootcamps and an acceleration programme, plus the development of pilot projects in 2022-2023, as well as including AI and robotics in a variety of horizontal support measures available for Estonian companies.

Synergies with EEN, Startup Europe, cluster organisations and other ecosystem stakeholders
To achieve its goals, AIRE will work in close collaboration with a range of strategic partners, including the Enterprise Europe Network (EEN), Startup Europe, cluster organisations and also the EU-wide EDIH network to provide a seamless service within the SME support ecosystem nationally and internationally. The collaboration with EEN and cluster organisations will follow the respective guidance document by the EC.[12] This means working in alignment with the annual plans of the EU-level Working Group for coordinating the EDIH-EEN-cluster cooperation, collaborating on awareness-raising events, organising demonstration projects, matchmaking events, exchanging technology offers/requests and cooperation profiles, co-organisation of joint investor-related events. Particular emphasis will be placed on building well-elaborated client referral systems and joint client journeys.

A cooperation agreement detailing the cooperation methods and joint actions will be signed at the national level, outlining the specific collaboration modalities and signposting as well as joint service offering procedures on how to coordinate EEN and EDIH activities and enhance the joint value proposal to SMEs (preliminary discussions on this have already taken place at the proposal preparation phase). To outline some clear synergies between AIRE and EEN Estonia, the two consortia have agreed that the basic digital assessment for Estonian SMEs will be carried out in a coordinated way, using the same methodology and tools in order to allow for each individual client easy signposting and provision of additional value-adding services from both EEN and EDIH side in a synergetic mode. Also, a particular goal is to facilitate cross-border cooperation between SMEs and the two networks, serving the SMEs with specialised services on internationalisation, as well as services related to access to finance (venture capital, business angels and other types of private investors as well as public funding programmes – advice on access to finance has been one of the most valued services of the EEN Estonia consortium in previous years).

1.3 Digital technology supply chain - not applicable

---

[11] https://mkm.ee/sites/default/files/kratikava_2022-2023.pdf
[12] Guidance for the Cooperation between THE European Digital Innovation Hubs, Enterprise Europe Network Partners and Cluster Organisations

1.4 Financial obstacles

Financial obstacles
Describe to what extent the project can overcome financial obstacles such as the lack of market finance.
⚠ *This criterion might not be applicable to all topics — for details refer to the Call document.*

One of the most recent key EU recommendations for Estonia is to "Focus investment on the green and digital transition, in particular on digitalisation of companies, research and innovation, clean and efficient production and use of energy, resource-efficiency, and sustainable transport, contributing to a progressive decarbonisation of the economy. Support the innovation capacity of small and medium-sized enterprises, and ensure sufficient access to finance"[13]. This key EU recommendation has remained the same over the last years highlighting the profoundness of the challenge.

Regarding the access to finance, substantial challenges exist in Estonia. 47% of the industrial enterprises active in Estonia lack their own funds for the development activities, as concluded in the recent study on the development barriers of the industry[14]. This was a major concern both for the SMEs and large enterprises, and especially relevant for the manufacturing industry where 57% admitted the lack of funding. As the potential source for the funding of development activities, support is sought from the government (70% of the respondents), banks (50%) and shareholders (29%). This reflects the rigid conditions of the banks (demand for extensive collaterals, for example), or the innovation and R&D intensity (and risk level) of the development projects, not generally suitable for the bank funding. Owners' additional capital as a source of funding for developmental projects has become even more limited due to the impact of Covid-19 and the energy crisis of 2021. Furthermore, since 2014, policymakers in Estonia have put an emphasis on shifting from grants to state-backed loans and guarantees[15], but these are less suitable for supporting development projects that demand basic and applied research, and experimental development, such as the AI and robotics related initiatives.

Limited funding is also highlighted in the latest high-level report, stating that "The biggest practical obstacle to increasing the rate of innovation in Estonia is the lack of 'absorptive capacity' or R&D capability in industry… Enterprise Estonia should take on the role of acting as an innovation agency. To do this, Enterprise Estonia will need new technological and programming skills /…/ The agency will need to implement a hierarchy of instruments to support companies at different levels of developing absorptive capacity. The innovation agency function will need substantial funding, over and above what is spent on Enterprise Estonia today."[16] However, the substantial increase in the recently reorganised Estonian Business and Innovation Agency is not feasible and additional external funding is very much needed.

Furthermore, the same report emphasises that in addition to increasing the innovation and R&D funding, the system of 'intermediary organisations' able to support industrial innovation should be strengthened considerably, in particular with the "university industrial extension services, whose job is to keep at least one step ahead of industry's innovation knowledge needs and to provide research and technical services to industry based on that more advanced knowledge"[17]. **AIRE consortium is uniquely positioned to fill this gap in the fields of AI and robotics,** especially in cooperation with other European EDIHs active in this domain. In selecting test before invest demo projects with manufacturing companies (AI and robotisation pilots and experiments with universities), future transferability and scalability is analysed as one additional KPI – how many other companies in Estonia (also in Europe) struggle with the same challenge/problem? Can we support the raise of AI spin-offs with AIRE for larger impact over Europe (a parallel state-funded measure is also designed specifically for AI spin-offs as solution providers, a scheme currently coordinated by the AIRE consortium partner TEHNOPOL in close connection with AIRE). These considerations, supported by many other studies on the financial and innovation obstacles in Estonia, were behind the development of AIRE services, and allocation of most of the budget for the 'test before invest' activities, complemented by training activities and consulting, to contribute to the digital and green transition, in particular to increasing the innovation of SMEs in the field of digitalisation, as recommended by the EU.

To address the above shortcoming regarding the funding capacity of SMEs, AIRE will also facilitate public and private funding through consulting and networking. Close collaboration is planned on policy level (design of new schemes), with state agencies responsible for managing EU and state funding (associate partner Estonian

---

[13] European Commission (2020). Council Recommendation on the 2020 National Reform Programme of Estonia and delivering a Council opinion on the 2020 Stability Programme of Estonia. Brussels, https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1591720698631&uri=CELEX:52020DC0506
[14] Estonian Export Study (2021). Estonian Ministry of Economic Affairs and Communications, Ministry of Foreign Affairs and Enterprise Estonia, https://mkm.ee/et/uudised/ekspordiuuring-eesti-majandus-ja-eksport-tavalisest-keerukamate-majandusoludega-hasti
[15] OECD. 2020. Inclusive Entrepreneurship Policies, Country Assessment Notes. Estonia. Paris: OECD.
[16] Peer review of the Estonian R&I system (2019). European Commission, Directorate-General for Research and Innovation, https://ec.europa.eu/research-and-innovation/en/statistics/policy-support-facility/peer-review-estonian-research-and-innovation-system
[17] Ibid.

Business and Innovation Agency, former Enterprise Estonia) and organisations linked with private funding. For private funding, in WP4 AIRE will validate and conduct basic **due diligence of the companies**, match them with potential investors and other financial sources, and have companies fundraised private capital investment. Through dissemination and communication (WP6), special attention is given to broad awareness raising and all future AIRE clients have access to success stories based on initiated AIRE test before invest demo projects – the road from proof-of-concept phase to actual investments and reached KPIs of previous clients. Through testing and piloting AI and robotics in AIRE test before invest demo projects, **client-based KPIs** are also monitored e.g. optimised production cycles, higher productivity rate, higher quality, more efficient production in terms of energy and use of materials, less production waste, lower rate of production down-time, etc.

2. IMPLEMENTATION

2.1 Maturity

Maturity

Explain the maturity of the project, i.e. the state of preparation and the readiness to start the implementation of the proposed activities.

AIRE was selected as the Estonian candidate for the EDIH programme in August 2020 based on public and open selection procedure by the Ministry of Economic Affairs and Communications of Estonia. AIRE consortium is coordinated by the Tallinn University of Technology, the partners include the University of Tartu, the Estonian University of Life Sciences, Tallinn Science Park Tehnopol, Tartu Science Park and IMECC (competence center). In 2021, the preparation of services for EDIH started and, in this process, several associated partners were involved in the partnership: Federation of Estonian Engineering Industries, Estonian Association of IT and Telecommunications (ITL), Estonian Electronics Industries Association, Estonian Chambre of Commerce, Business and Innovation Agency (former Enterprise Estonia). Around 20 online meetings have been held with other EDIHs in Europe to discuss collaboration from 2020-2022. The first network collaboration seminar to plan EDIH/ AIRE was carried out in August 2021 with 31 participants from the AIRE team and the Ministry of Economic Affairs and Communications, Enterprise Estonia (all associated partners included for AIRE).

Due to the long time period between the selection of the Estonian candidate and the final opening of the EDIH Call in November 2021, the Estonian government financed the preparation of AIRE services based on mapping the needs of the target group (preparatory project budget 499 450 EUR in 2021-2022). The channels such as website, social media pages on Facebook and LinkedIn (reach approximately 200 000) and the ecosystem contact list have been created for networking. AIRE services have been tested from October 2021 by involving around 50 manufacturing companies. A series of AIRE Clubs (networking events contributing to preparing the EDIH proposal and setting up the centre) were initiated and three clubs related to AI and robotics were held in November, December and January with a total of 145 participants (universities, science parks, chamber of commerce, EEN network, Enterprise Estonia, representatives of state ministries, research centres, robot developers, AI developers, IT specialists, investors, etc.). In the preparation phase, special attention was paid to team building, network development in Estonia, division of roles with collaboration partners (Enterprise Estonia, AI and Industry digitisation projects, state measures in AI support). By February 2022, AIRE has involved already around 60 clients (testing services). **As AIRE is ready to be start wider activities (full-scale service provision) in case of EC EDIH funding, the beginning of the project is planned from 1st of July 2022 already (earliest eligible starting date is after 22.2.2022).** Estonian state is also ready to fund AIRE from July 2022 after the financing decision from EC. Starting the preparation in July and offering AIRE services from September-October 2022 is important for Estonian clients of AIRE who are ready and waiting for support. Also, state funding schemes are opening in 2022 for digitalisation (also AI, robotics) and clients need consulting for larger AI related investment projects.[18]

In November 2021, AIRE robotics training format was tested with novel active training methods (company-based robot suitability analysis) with 30 participants (manufacturing companies) and in January 2022 AI-focused online training was tested with 35 participants for the preparation of the EDIH AIRE centre. Six innovative AI and robotics demo projects with universities have been selected in collaboration with manufacturing companies to demonstrate innovative AI and robotics solutions in an actual environment with the intention to use the results later for awareness raising in Estonia and Europe. A team of 25 qualified people have been working for the preparation of the AIRE centre since autumn 2021 (including full-time project manager, assistant, financial expert, legal and IP advisor, AI experts, 14 researchers, digitalisation experts and consultants, etc.). AIRE EDIH builds upon long-term experiences and collaboration of previous DIHs in Estonia established with H2020 funding (Smart Industry Centre,

---

[18] Estonian state is funding industry digitalisation projects (including AI, robotisation) with 56 M euros grant scheme from summer 2022 (investments combined with digitalisation support for integration).

SmartIC Robotics, e-Estonia Show-Room, STACC, Tallinn Science Park Tehnopol DIH, ELIKO, DIH Tartu). Tallinn University of Technology and IMECC as AIRE partners are also participating in a H2020 DIH[2] project including 25 digital innovation hubs in Europe (including SmartIC from Estonia) and focusing on robotics and digitalisation.

2.2 Implementation plan and efficient use of resources

> **Implementation plan**
> *Show that the implementation work plan is sound by explaining the rationale behind the proposed work packages and how they contribute to achieve the objectives of the project. Explain the coherence between the objectives, activities, planned resources and project management processes.Show how the project integrates, builds on and follows up on any pre-existing work or EU funded projects. Provide details (including architecture and deliverables) about pre-existing technical solutions.*

AIRE implementation work plan is designed based on Estonian target group needs and state priorities in digitalisation and AI, EDIH Work Programme 2021-2023, Digital Europe Programme 2021-2023, EDIH handbook, EDIH webinar materials and FAQ of the call:

Table 4: The implementation work plan of AIRE

Objective	WPs and tasks	Planned resources
Objective 1: Increased digital maturity rate of Estonian manufacturing SMEs (average measured at least once a year).	WP2 Test before invest: Task 2.1: Digital Maturity Assessment (according to JRC methodology), Task 2.2: AI and robotics suitability assessment (also mapping JRC's Innovation Radar potential candidates), Task 2.3: Demo projects and experiments with companies and Task 2.4: Lab testing (AI, big data, HPC, cybersecurity and robotics).	WP2 total budget 3 789 000 EUR linked to all other WP-s to reach actual impact and investments.
Objective 2: Increased market maturity and market creation potential of Estonian innovations	WP1 Project management and coordination: Task 1.5 Monitoring impact based on DMA index WP5 Networking and ecosystem development: Task 5.1: Development of ecosystem, Task 5.2: Networking: AIRE Clubs (also JRC Innovation Radar links), Task 5.3: Best practice seminars for awareness raising (also linked to JRC's Innovation Radar potential candidates). Task 5.4: Collaboration with other EDIHs in Europe	WP1 total budget 474 756 EUR, including with full-time AIRE/EDIH manager with 20 years international experience; WP5 total budget 312 000 euros linked to WP2 test before invest.
Objective 3: Increased investments (public and private) into industrial digitalisation	WP4 Support to find funding: Task 4.1: Roadmap for financing measures related to AIRE for 2022-2025, Task 4.2: Involvement of state and EU funding, Task 4.3: Involvement of private funding and investors, Task 4.4: Initiation of related AIRE consortium projects in AI and robotics (DEP, Horizon Europe, ERASMUS, Interreg, etc). Also linked to JRC's Innovation Radar projects support).	WP4 total budget 221 900 euros (linked to WP1 and WP5 project manager and networking experts).
Objective 4: Sustainable EDIH ecosystem in Estonia and involvement of relevant stakeholders in EU	WP5 Networking and ecosystem development Task 5.1: Development of ecosystem, Task 5.2: Networking: AIRE Clubs, Task 5.3: Best practice seminars for awareness raising and mapping JRC's Innovation Radar projects. Task 5.4: Collaboration with other EDIHs in Europe.	WP5 budget for coordination 312 000 euros, but linked to outputs of all WPs with the total EDIH budget of 6 M euros for 3 years.
Objective 5: Improved skills and competences and better digitalisation and AI related awareness	WP 3 Skills and trainings: Task 3.1: Analysis of training needs and training plan, Task 3.2: Training in the fields of digitalisation technologies, AI and robotics, Task 3.3: Analysis of training impact. WP5 Networking and ecosystem development: Task 5.2: Networking: AIRE Clubs Task 5.3: Best practice seminars for awareness raising linked to WP 6 Dissemination and Communication (all tasks relevant for awareness raising).	WP3 total budget of 437 294 euros direct costs link to WP1, WP5, WP6 budgets in total service provision (management, networking, dissemination and communication).

Project management standards and methodology (like PCM, the Waterfall method, the Critical Path Method (CPM) and the Critical Chain Project Management (CCPM). A CPM generates a graphical view of the project and is used to calculate how much time and resources are required to complete an activity. It also determines critical activities requiring attention so the project can be completed on time. Tasks have been planned in Gantt format.

List of EU funded projects and pre-existing technical solutions used in AIRE:

1) **AIRE preparation phase** was funded in 2021-2022 by the Estonian state with **499 450 EUR** to involve stakeholders, analyse division of roles in the Estonian ecosystem and design AIRE (EDIH) services based on clients' (manufacturing SMEs and mid-caps) needs. The tested services include trainings, AI and robotisation suitability analysis, preparation of test before invest, AI and robotics demo projects (proof-of-concept use-case projects with companies) and involving clients and associations in AIRE Clubs. AIRE Clubs were started already for the planning of this EDIH proposal to involve clients and the network in the actual design of EDIH services. By February 2022, three AIRE Clubs have hosted 147 participants since Nov 2021.

2) **AI spin-off programme** was created by the Estonian state in collaboration with the AIRE consortium (led by TEHNOPOL, the biggest start-up incubator in Estonia) in January 2022 to support start-ups and spin-offs in the use of AI in various sectors, focusing the first Call for proposals (deadline 13.2.2022) for the manufacturing companies linked to AIRE clients and EDIH preparation work.

3) **AI public sector initiative programme from 2018 – present** (www.kratid.ee) to support public sector AI pilots (data used in public sector institutions), collaborative meetings with AIRE are held since spring 2021.

4) **SmartIC Estonia and SmartIC Robotics (DIH)** led by TALTECH – operating since 2016 to carry out TRL4-TRL5 research with companies to support Industry 4.0. SmartIC Estonia is also included in the list of key research infrastructures in Estonia from 2018 focusing on fields of robotisation, quality control, energy-efficiency, additive manufacturing, big data, IoT and VR&AR solutions, smart sensors.

5) **FinEst Twins (Horizon 2020 Teaming)** led by TalTech to support regional collaboration between Estonia and Finland (Tallinn and Helsinki as smart cities), innovative pilots are carried out also in the field of self-driving vehicles and robotics.

6) **TRUST-AI (Horizon 2020 in the budget of 3,9 M EUR),** University of Tartu as partner;

7) **Estonian Centre of Excellence in ICT Research (EXCITE)** with University of Tartu and TalTech as partners with Cybernetica;

8) **Estonian Scientific Computing Infrastructure**, which is part of the EuroCC network (H2020) and the LUMI consortium.

9) **InnoCAPE (Interreg Baltic Sea Region)** – the University of Tartu as Estonian partner – operating from January 2019 until December 2021. The InnoCAPE project helped public authorities create favourable conditions for digital innovation hubs (DIHs) that serve as intermediary bodies bringing together Research & Development and industry into digital industrial platforms.

10) **INforM (Interreg Baltic Sea Region)** – from January 2019 until December 2021, the project INforM mapped challenges in the regions, the regions' specific competencies and existing best collaboration practices. A transregional collaboration model for Innovation Support Digital Framework provides SMEs with access to analyses, knowledge, solutions and case studies.

11) **Research project PSG605:** Towards Improving the Performance of Optimization Based Motion Planning and Control – ran from January 2021 until December 2021. A research project which makes optimisation-based motion planning reliable and computationally efficient (ideally real-time) by developing practical, intuitive, yet theoretically grounded techniques to improve the solution process of optimisation problems encountered in the context of applications like autonomous driving, collaborative manufacturing, mobile manipulation, multi-robot formation control, object transportation, etc. Results will be used for test before invest pilots of AIRE (WP2).

12) **E-ROS4PRO –** development ran from January 2021 until December 2021 and the created platform is in active use. An education platform to train engineers to use open-source robotics software: The Robot Operating System (ROS).

13) **European Smart Anything Everywhere (SAE) initiative called TETRAMAX** is the #1 innovation hub for digitizing European industries in the domain of customized and low-energy computing. Run from 2017-2021 (and TalTech as a partner) it provided funding for almost 50 technology transfer experiments.

14) **Smart4All runs from 2020 to 2022**, TalTech as a partner and will finance up to 88 cross-border Pathfinder Application Experiments in the domain of Cyber-Physical systems and IoT.

Project management, quality assurance and monitoring and evaluation strategy
Describe the measures planned to ensure that the project implementation is of high quality and completed in time.
Describe the methods to ensure good quality of monitoring, planning and control activities.
Describe the evaluation methods and indicators (quantitative and qualitative) to monitor and verify the outreach and coverage of the activities and results. The indicators proposed to measure progress should be specific, measurable, achievable, relevant and time-bound.

The project governance structure is carefully designed to ensure sound project management and internal communication in the consortium, efficient monitoring of progress and quality control, as well as timely risk

management and contingency actions. Regularity and efficiency of internal communication and clarity in the division of work at the level of specific tasks are crucial to ensure high-quality implementation of the project to reach the set objectives and complete the agreed deliverables on time. AIRE builds synergy and collaboration based on high-level competencies of six partners (three universities, two science parks and one competence center in AI, robotics, digitalisation, business development; see section 2.3 for the full list. In addition to service providers (partners), a wide list of associate partners is involved who also provide digitalisation related serviced and take part of ecosystem development.

Successful implementation starts from efficient work at the level of WPs and involved tasks. Bi-monthly WP meetings are held that include relevant task leaders and allow coordination between linked tasks. At the project level, operational progress is discussed at bi-monthly Project Management Team meetings. Quarterly Steering Group Meetings allow validating the progress with legal representatives of all partners. The Strategic Review Meetings assess annually the strategic process regarding all service areas, project KPIs and milestones. In addition, the Advisory Board (AB), which includes external experts who have excellent industry and policy expertise, will provide strategic guidance and input to the project via its annual meetings. Please see also the figure and additional information in section 2.3 Consortium management and decision-making.

The above-described structure and procedures will allow keeping track of the developments regarding all planned activities and monitoring work progress throughout the process, taking account of any risks that might arise. Any issues arising will be solved at the appropriate level. Larger setbacks and potential problems with achieving key milestones will be discussed at the Steering Group meetings where the need of involving the AB will be decided.

Ad hoc **meetings** will be used to address any issues needing attention at any level of the project to take corrective action as soon as possible. The Project Coordinator (PC) will have the key responsibility for efficient and timely implementation of the project as well as ensuring quality and risk management; she will also initiate the *ad hoc* meetings and corrective actions as need be, negotiating these with all related partners.

Quality procedures
The AIRE consortium is dedicated to the highest quality levels in all EDIH tasks. More specifically, the consortium will follow formal quality procedures defined in a jointly agreed **Quality Plan** developed as part of D1.1 Project Management Handbook which meets the needs of all partners and keeps in mind the needs of the EDIH target groups. The handbook will define communication and reporting procedures, templates for deliverables, project meeting agendas, meeting minutes as well as conflict resolution procedures. As outlined above, overall quality management responsibilities lie with the PC, which includes timely submission of high-quality deliverables. The PC will be supported by the respective Work Package Leaders to ensure a "four-eyes-principle" taking into account technical and formal quality checks.

Quantitative and qualitative progress indicators related to project management
A focused quantitative and qualitative progress review will be carried out **annually in the context of the Strategic Review Meetings.** In these meetings, qualitative evaluation of progress is carried out mainly based on a) WP leaders reporting on the extent to which objectives set to the WPs and specific tasks have been carried out; b) feedback gathered so far from the target groups related to services received (level of satisfaction; c) DMA reports related to improvement in the digital maturity levels of the clients serviced.
On the quantitative level, the key indicators are the following (measured annually):
1) Min 85% of the foreseen tasks to be carried out that year (based on the detailed work schedule) have been carried out.
2) 100% of the target levels of the project´s KPIs (see section 3.1 Impact) agreed to be achieved that year have been achieved.

Concrete measures will be discussed and agreed upon at the Strategic Review Meetings in order to accelerate progress related to tasks where the results have been substandard or mediocre. The need for potential changes in any tasks will be discussed in the context of the Mid-term report (M18) in order to coordinate potential adjustments with the EC.

Cost effectiveness and financial management *(n/a for prefixed Lump Sum Grants)*
Describe the measures adopted to ensure that the proposed results and objectives will be achieved in the most cost-effective way.
Indicate the arrangements adopted for the financial management of the project and, in particular, how the financial resources will be allocated and managed within the consortium.
⚠️ *Do NOT compare and justify the costs of each work package, but summarize briefly why your budget is cost effective.*

The AIRE EDIH consortium has been assembled based on the cost-benefit logic so that we have 6 core partners and 8 associated partners, to balance between cost and benefits for the project. Also, all but 1 (IMECC) full partner are not for profit (IMECC is a competence centre). Core activities of the project are implemented by the partners without service markup costs. **Yet, some activities are sub-contracted to avoid market disturbance and**

support competition and involvement of private sector and public-private collaboration (pool of AI mentors, Task 2.2). AIRE WPs, tasks, budget and division of roles between AIRE consortium partners are all planned based on PM cost and service prices (list in section 1.1) and each service output is measured with quantitative KPIs and procedures for **cost effectiveness**, as follows:

1) Service fees are calculated based on market prices, including all EDIH project management, administration, dissemination and communication costs and 7% overheads;
2) Cost type based detailed budget was planned with each partner and Task Manager;
3) Clear division of roles between partners based on expected outputs of services (KPIs as numbers of clients) is made to achieve all the objectives of AIRE;
4) All staff costs are budgeted based on each partner organisation's internal rules and existing salary levels (person-month cost);
5) All sub-contracting items are purchased in an open and sound manner according to tendering rules and procedures.

For each of the services in the below table, detailed unit cost planning was implemented. For example, for the DMA, it will take ca 10 hours per client at an averahe cost of 80 EUR/hour, 800 EUR/client, considering prior practices, market prices and partner expenditure. Similar analysis was done for all other services as well.

Table 5: Service delivery by Partner (KPI-based division of roles)

	SERVICE (NB! not direct costs, including all management and dissemination costs)*	Number of clients (KPI)**	TAL-TECH	UT	EMU	TEHNO-POL	TSP	IMECC
1	**Test before invest (average per KPI)*:**							
1.1	*Digital maturity evaluation**	360,00	0	0	0	0	140	220
1.2	*Consulting: AI and robotics suitability analysis**	300,00	0	0	0	150	90	60
1.3	*Demo projects for the preparation of investments (number of companies)**	54,00	36	12	3	0	0	3
1.4	*Use of uni labs (testing and experiments, test-beds for clients, including HPC)**	150,00	70	55	25	0	0	0
2	**Skills and trainings**	900,00	345	345	30	0	0	180
3	**Support to find funding***	150,00	110	0	0	40	0	0
4	**Ecosystem and networking**	750,00	225	200	75	75	175	0

Financial Management of the project is secured by:

1) Each partner appointing a Financial Manager role to manage their budget and submit reporting to the PC;
2) Quarterly detailed financial reporting and annual financial reporting with full documentation (timesheets, copies of invoices, payment orders and all relevant accounting documentation and proof) to the PC.
3) The support provided by the Estonian state to AIRE as EDIH is subject to State aid control (coordinated by lead partner TALTECH in cooperation with relevant state aid control institutions in Estonia (including *de minimis* amount registered in the state registry);
4) An experienced Project Manager and a Financial Manager coordinate the allocation and use of the project resources (e.g. clear rules, templates and project management handbook developed).

At the beginning of the project, relevant state aid rules are analysed and indicated for each EDIH service, depending on the content of the service and the size of the client. In case *de minimis* is applied, previous amounts of aid received are controlled not to exceed 200 000 EUR within 3 years. Article 28 GBER: Aid for Innovation Advisory Services, Article 25 of the GBER: support for RDI projects or the *de minimis* can be applied. AIRE will fully pass on all the State aid to their clients.

Critical risks and risk management strategy
*Describe critical risks, uncertainties or difficulties related to the implementation of your project, and your measures/strategy for addressing them. Indicate for each risk (in the description) the impact and the likelihood that the risk will materialise (high, medium, low), even after taking into account the mitigating measures.**Note:** Uncertainties and unexpected events occur in all organisations, even if very well-run. The risk analysis will help you to predict issues that could delay or hinder project activities. A good risk management strategy is essential for good project management.*

Risk No	Description	Work Package No	Proposed risk-mitigation measures
1	Lower interest from AIRE main target group than expected (not meeting the target of 150 unique SMEs to be serviced), difficulty in attracting enough participants to AIRE trainings, events, etc. Likelihood: low Potential impact: high	All WPs	In case of lower interest from companies, we will further strengthen the awareness-building activities and targeted outreach to potential clients. If the key KPI (growth of digital maturity level) is lower than expected, we will gather additional insights from the companies about their needs and revise the service offerings accordingly. In case training groups are not completed or the registration rate for events is low, changes in a) timing or b) content of the event should be made. Timely and appropriate communication (supported by WP6) is the key.
2	Effect of the pandemic and prolonged COVID-19 restrictions Likelihood: medium Potential impact: medium	All WPs	The virtual presence will replace physical to facilitate interaction if necessary. However, if possible, physical participation will be preferred over virtual and hybrid formats can be used. Regarding both day-to-day project management as well as provision of services and organising events, suitable e-platforms and tools will be used, e.g., Zoom, Teams Slack, Discord, Worksup, etc.
3	Difficulties in project (financial) management – partners do not deliver the expected quality/ do not fulfil key tasks in time/ run into problems with financial management Likelihood: low Potential impact: high	WP1	Project planning (incl. financial planning), monitoring and quality management will detect potential lack of quality, delays or problems with financial management. Quality assurance and risk management procedures will be put in place under WP1 Project management. The risk is mitigated by all partners having clearly defined roles, tasks and responsibilities outlined in the work plan and Consortium Agreement, as well as the project coordinator´s extensive experience in large-scale EU project management. Also, Estonian state is co-financing EDIH AIRE from national budget as a strategic project.
4	AIRE clients underestimate the importance of digital maturity assessment (DMA) in implementing developments in AI and robotics Likelihood: medium Potential impact: medium	WP2	Additional efforts will be made to explain to the companies the substance, necessity and importance of DMA and how it is related to the development of the company. We will set up best practice examples to illustrate the pathways and organise experience exchange meetings between company representatives to enable sharing of DMA preparation experience so that the follow-up batches of companies can understand better the value of DMA.
5	Companies decide not to invest in AI and robotics after proof-of-concept demo projects. Likelihood: low Potential impact: medium	WP2	Special attention is paid to selecting partners for AI and robotics demo projects, based on DMA and selection of high-level AI and robotisation experts (please see the team in section 2.3). The number of companies going through DMA is considerably larger than the number of potential demo projects, hence only highly motivated companies will be selected for the implementation of the demo projects.

6	Content of AIRE trainings in AI and robotics does not match the needs of the target groups Likelihood: low Potential impact: high	WP3	Before each training, the content is tested and validated with 1-2 SMEs representing the target group (regarding format, content, methodology, experts, etc). The feedback from the first rounds of trainings will be highly instrumental to adapt and change the training programmes if necessary.
7	Lack of appropriate funding measures available for AIRE clients who need financial support to invest in AI and robotics (state and EU funding) Likelihood: medium Potential impact: high	WP4	Close collaboration is already in place with the Estonian state to design digitalisation measures to support the industry (currently several funding measures for the industry are open by Enterprise Estonia). Collaboration within the EDIH network to provide input to planning appropriate financing measures at the EU level is also foreseen. Specific attention will also be placed on attracting private financing (which is sometimes more flexible than public measures).
8	Limited resources and capacity to provide AIRE services to SMEs outside Estonia (clients of other EDIHs) Likelihood: low Potential impact: Low	WP5	Services are designed by an internationally experienced team and experts (English is the default working language). AIRE is committed to providing at least 5% of the services to clients and partners from other EDIH regions (outside Estonia). Active collaboration with the EU-wide EDIH network as well as EEN will ensure efficient signposting to ensure the right support for each client.

2.3 Capacity to carry out the proposed work

Consortium cooperation and division of roles (if applicable)
Describe the participants (Beneficiaries, Affiliated Entities and Associated Partners, if any) and explain how they will work together to implement the project. How will they bring together the necessary expertise? How will they complement each other?
In what way does each of the participants contribute to the project? Show that each has a valid role and adequate resources to fulfil that role.
Note: When building your consortium you should think of organisations that can help you reach objectives and solve problems.

Table 6: The competencies, tasks and role of consortium partners

Consortium partner	Competences and expertise	Tasks, role and complementarity
Tallinn University of Technology (TalTech), including Innovation Centre Mektory, Department of Mechanical and Industrial Engineering, Department of Software Sciences, Department of Computer Systems, Johan Seebeck Department of Electronics and Department of Electrical Power Engineering and Mechatronics.	Competencies: AI and machine learning, robotics, smart and digital manufacturing, industry 4.0 - 5.0, automated production systems and real-time monitoring, predictive maintenance, production digitalisation and manufacturing optimisation, digital twins, internet of things, smart industry, communication systems, virtual reality, virtual environments, self-driving vehicles, mobile robots, mobility engineering, big data, HPC, cyber-security, data security, formal methods for mission-critical systems, mechanical and industrial engineering, electrical engineering, smart electrical grids, e-med systems and health-care technology development, trainings, consultations. Test before invest labs: FMS and Robotics Demo-centre, Laboratory of Industrial Robotics, Industrial Virtual and Augmented Reality Lab (IVAR), Protolab, XR Centre, Laboratory of Microgrids, Power System Laboratory (RTDS), Laboratory of Electrical Machines, Power Electronics Lab, Digital Data Hub, Embedded AI	WP1 Project management and coordination (TalTech) WP2 Test before invest: Task 2.3 Demo projects and experiments; Task 2.4 Lab testings for companies WP3 Skills and training: Task 3.2 Trainings in the field of digitalisation technologies, AI and robotics. WP4 Support to find funding: links to research funding and Horizon, DEP, ERASMUS etc projects.

	Research Lab, Center for Intelligent Systems, Language Technology Lab, Proactive Technologies Lab, High-assurance Software Lab, Academic 5G Standalone Network Lab.	WP5 Networking and ecosystem development: academia-industry links, transfer of innovative solutions and research results into the industry.
University of Tartu (UT) including the Institute of Computer Science, Institute of Technology, Centre for Entrepreneurship and Innovation, High Performance Computing Centre and Tartu Observatory.	Competencies: AI and machine learning (incl. deep neural networks), cyber security and data security, business process mining, language technology, self-driving technologies, big data technologies, IoT, computer graphics and virtual reality, high performance computing, ROS (Robot Operating System), full robotics system development, hardware integration, process automation, motion planning and control theory, system identification, data fusion, electronics design, simulations and digital twins, algorithm development, engineering, prototyping, image processing, human-computer interaction, machine learning, computer graphics, trainings, consultations. Test before invest labs: Robotics Lab, Electronics Lab, Radio Lab, Prototyping Lab, Intelligent Computer Vision Lab, Autonomous Driving Lab, Intelligent Transportation Systems Lab, Computer Graphics and Virtual Reality Lab, Internet of Things Lab, Natural Language Processing Lab, and space technology laboratories.	WP 6 Dissemination and Communication: dissemination: involvement of students, academia, researchers. Key role of universities is to take part in test before invest tasks to support clients with novel ways of how to appy AI in their company and introduce robots carrying out demo projects and experiments with companies (Task 2.3) and inviting companies in university test-beds (Task 2.4). In Task 2.3 demo-projects are carried out and companies are selected in open and transparent ways (twice a public year a call for interest). In three years, 54 companies are involved to the task.
Estonian University of Life Sciences (EMU) Institute of Forestry and Engineering, Chair of Biosystems Engineering.	Competencies: Mechanical and industrial engineering, electrical engineering, smart electrical grids, self-driving technologies, computer-aided design and computer-aided manufacturing, robotics and drone technology, hardware integration, process automation, prototyping, trainings, consultations. Test before invest labs: Prototyping Lab, Robotics Lab, Laboratory of Electrical Machines, Computer Tomography Lab for quality control, object scanning (for data modelling).	In Task 2.4 university labs and test-beds are used for AI and robotization experiments.
Tallinn Science Park TEHNOPOL	Competencies and services: supporting technology companies throughout the growth stages (startups, scale-ups, and corporations) focusing on the green, health and deep technology (including smart industry and manufacturing) verticals. Business development services help the companies to enter export markets, conduct product and business model development, find private or public capital for scaling and to engage successful sales and marketing strategies. Tehnopol business campus has more than 300 resident technology companies and the business development services are provided to more than 200 companies annually. TEHNOPOL has more than 10 years of knowledge about managing a startup incubator; has a wide network in Europe with previous Horizon, COSME and CB Interreg project partners; is a full member of IASP (International Association of Science Parks and Areas of Innovation).	Science parks are responsible for providing AI suitability assessment service to clients (Task 2.2 for test before invest), build the bridge between AIRE and start-up/spin-off initiatives (including ESA Business Incubator), Tehnopol runs state-funded AI programme to support start-ups and spin-offs in the field of AI (first call for proposals 13.2.2022 in cooperation with AIRE). Other tasks: WP4, Task 4.3 involvement of private funding, WP5 all tasks relevant to networking and ecosystem and WP6
Tartu Science Park (TSP)	Competencies and services: business mentoring, business network building & management, business incubation, SME capacity building, technology transfer, digitalisation, access to finance, sustainability, cross-	

	border partnering, internationalisation, infrastructure (office and room rent). TSP has operated incubation programs for technology and knowledge intensive companies for over 9 years and is currently running **European Space Agency Business Incubator for start-ups** with space connection and S2B Launchpad dedicated to the development of deep-tech companies.	Dissemination and Communication. TSP coordinates WP5 Net-working and deve-lopment of the ecosystem, including the AIRE Club – monthly networking meetings with clients, financers, stakeholders, policy planners, AI developers, telecom companies and banks.
Innovative Manufacturing Engineering Systems Competence Centre – IMECC	**IMECC** was established to provide high-tech solutions and engineering support for Estonian companies and strengthen the position of the Estonian manufacturing industry both domestically and internationally. Competencies and services: over 12 years of experience in providing R&D services to companies, incl. robotisation suitability analysis, AI-based production optimisation, automatisation and digitalisation, creation of digital twins, process optimisation, digital maturity assessment based on an IT tool created by IMECC. IMECC has strong competencies in project management and financial management, being project coordinator in various national and international projects. IMECC has organised and performed trainings (robotisation, process automation) and developed training courses and curricula in mechatronics and robotics (in cooperation with TalTech and vocational education institutions). Acting as a competence centre, IMECC has a strong network of manufacturing companies, universities and other educational institutions, industry associations and R&D companies.	WP2 Test before invest: Task 2.1 Digital maturity evaluation and Task 2.2 Robotics suitability analysis – performing evaluations and analysis, Task 2.3 Demo projects and experiments – participation and development of demo projects and experiments; WP3 Skills and training: Task 3.2 Trainings in the field of digitalisation technologies, AI and robotics – organising and performing intensive trainings and webinars; WP 6 Dissemination and Communication: project dissemination (conferences, direct contacts, etc).
Estonian Business and Innovation Agency (EBI) – currently legally merging with Credit and Export Guarantee Fund Kredex (PIC code used as associate partner)	**EBI (formerly Enterprise Estonia)** coordinates and supervises state-planned financial instruments for the private sector, including the manufacturing industry. Collaboration is established in designing services for the manufacturing SMEs (consulting, training, support to funding, networking), EBI will be legally merged to Kredex by 2022 spring (PIC code of Kredex used as Associate partner in Participant Portal).	WP4 T4.2 Support to public funding. WP5 Ecosystem Development and Networking – T5.1 Ecosystem Development, T5.2 AIRE Clubs. WP6 Dissemination and Communication – helping AIRE to be visible.
Tallinn University	Tallinn University's main focus is providing higher education for teachers and trainers, developing novel teaching methods and didactic skills. AIRE collaborates in WP3 Skills and training (training of trainers, outside EDIH budget), WP5 networking and trainings, ecosystem development.	WP3 Skills and training (collaboration in training the trainers for didactic skills and contemporary learning methods), WP5 Ecosystem development and networking.

Estonian Chamber of Commerce and Industry (EEN coordinator in Estonia). **Estonian Federation of Engineering Industries** (EML). **Estonian Electronics Industries Association** (EEIA). **Estonian Association of Information Technology and Telecommunications** (ITL)	**The EEN coordinator (Estonian Chambre of Commerce and Industry) is actively involved (MoU also signed) to collaborate in providing services to clients.** **EML** and **EEIA** are included to involve the target group and disseminate results for awareness raising. They take part in monthly AIRE Clubs and help to involve the target group in AIRE events and services. AIRE consults EML and EEIA in preparing AI and robotics trainings and demo projects for test before invest by encouraging companies to take risks for digitalisation and use of AI and robotics in their companies. EML and EEIA also support in **mapping possible innovations for the Innovation Radar.** **ITL** is included to involve private sector AI and robotisation developers, IT and telecommunication companies and consultants for test before invest activities. ITL also helps to include and submit proposals of Estonian AI-related innovation projects to Innovation Radar.	WP5 Ecosystem Development and Networking – T5.1 Ecosystem Development, T5.2 AIRE Clubs. WP5 Dissemination and Communication – helping AIRE to be visible. EEN, EML, EEIA and ITL are invited to the Advisory Board of AIRE to give the project a regular expert review and to select test before invest demo projects based on the companies' needs (open call for ideas) twice a year.
Tallinn City Government (Tallinn Strategic Management Office) **Tartu City Government** (Entrepreneurship Service)	Taking part in networking and ecosystem development, collaboration in the organisation of entrepreneurship days in Tallinn and Tartu (annual events) reaching for the target group. Spreading information, taking part in monthly AIRE Clubs and other networking events. Introducing municipal support schemes for digitalisation (test before invest and access to finance).	WP4 Support to find funding – introducing municipal funding schemes for AIRE clients during AIRE monthly Clubs (both Tartu and Tallinn have digitalisation support schemes)
200+ EDIHs in Europe	Networking with other EDIHs to provide cross-sectoral and cross-border services. Around 25 online meetings have already been organised from 2020 to 2022 to build collaboration. AIRE takes actively part in Digital Transformation Accelerator (DTA) activities to build synergy from 2023.	All WPs in bridging 200+ EDIHs' services to Estonian companies and making AIRE's services visible outside of Estonia.

Project teams and staff
Describe the project teams and how they will work together to implement the project. *List the staff included in the project budget (budget category A) by function/profile (e.g. project manager, senior expert/advisor/researcher, junior expert/advisor/researcher, trainers/teachers, technical personnel, administrative personnel etc. and describe briefly their tasks.*

Name and function	Organisation	Role/tasks/professional profile and expertise
Kirke Maar The Head of AI & Robotics Estonia AIRE	TalTech	20 years of experience working as a project manager, incl. coordination of large project teams and ensuring efficient administration. Kirke has worked as a financing consultant in the private sector for 18 years and helped many Estonian projects in R&D, business, tourism and social affairs find support, set targets and clear goals, and cooperate to achieve them. **WP1 leader**, involved in T1.2 - 1.3, 1.5; T2.3; T3.1 - 3.3; T4.1 - 4.4; T5.1 - 5.5; T6.3, 6.4, supervision of all tasks.
Triin Ploompuu Industry involvement expert	TalTech	Triin Ploompuu was the CEO of Estonian Federation of Engineering Industries for 7 years and joins AIRE team from February 2022 for the preparation of EDIH (industry involve-ment). Involved in: T1.1-T1.5, T2.1-T2.4, T5.1-5.5, T6.1-T6.4

Reet Pärgmäe Member of Steering Committee	TalTech	Head of the Innovation and Business Centre at TalTech and an expert in technology law and data protection. Involved in T1.1 - 1.3; T4.1 - 4.4; T.5.1 - 5.5.
Sven Illing Expert in business cooperation	TalTech	Vice-Rector for Entrepreneurship of TalTech, an experienced software entrepreneur, technology consultant and investor. T1.1 - 1.2; T4.1 - 4.4; T.5.1 - 5.5.
Gert Jervan Expert in computer systems	TalTech	Professor of dependable computer systems and the Dean of the School of Information Technologies at TalTech. Involved in T1.1 - 1.3, T4.2, 4.4.
Tauno Otto Expert in production digitalisation	TalTech	Professor of production technology at TalTech and the head of SmartIC, the core infrastructure for smart production in Estonia. Member of the EC`s Made in Europe partnership. Involved in T1.1, 1.2; T2.3; T4.2, 4.4.
Juhan-Peep Ernits Expert in AI applications in robotics	TalTech	Associate Professor at TalTech, whose research work focuses on applications of artificial intelligence in robotics (focus on computer vision and creation of reliable software for robots). Involved in T1.1, 1.2; T2.3, 2.4.
Argo Rosin Expert in Smart Grids and Microgrids	TalTech	Professor at the Department of Electrical Power Engineering and Mechatronics, co-founder of the Horizon Europe Teamnig Smart City Center of Excellence FinEst Twins and Estonian Centre of Excellence for zero energy and resource-efficient smart buildings and districts. Involved in T1.1, 1.2; T2.1.
Kristo Karjust Expert in production optimization	TalTech	Head of Department of Mechanical and Industrial Engineering, specialised in production optimization and monitoring, manufacturing processes control and analysis. Involved in T1.1, 1.2; T 2.3; T4.2, 4.4.
Vahur Kotkas Expert in logic-based AI	TalTech	Heads an applied Artificial Intelligence Group at TalTech focused on creating logic-based solutions for artificial intelligence that can be used in practice. Involved in T2.3, 2.4.
Gert Kanter Expert in robot software development	TalTech	Lecturer of robot software development at TalTech with extensive practical experience in autonomous robotics software development and autonomous system testing. Involved in T2.3, 2.4.
Tõnu Pihelgas Lawyer	TalTech	Experienced business lawyer (both in public and private sector). Role/task in AIRE: legislative consulting, contract management and formalisation. WP1, T1.1-T1.5.
Evelin Ebruk AIRE info-coordinator and events manager	TalTech	Dissemination and information coordinator and supporting general day-to-day organisational and administrative tasks of AIRE. Involved in T1.1-1.5, T5.1-5.3, T6.1-6.4, supporting role in all other WPs.
Sirli Kasepuu Entrepreneurship coordinator (IT, AI)	TalTech	Sirli Kasepuu works for the IT faculty of TalTech and is responsible for client relations with clients and collaboration partners (IT and telecom companies). Sirli joins AIRE team to support client management, coordination of contracts and relations (mainly T2.3 test before invest demo projects).

Otto Mättas AI expert and client management	TalTech	Involved as AIRE client manager (linked to T2.1), coordinator of company AI suitability assessment (T2.2), technical AI expert and coordinator of internal teamwork for test before invest demo projects (experiments, tests and pilots). Additionally, they focus on academia-industry collaboration and bridging research results and industry needs in the field of AI.
Jaak Vilo Member of Steering Committee	University of Tartu	Head of the Institute of Computer Science at UT, Professor of bioinformatics leading the Chair of Data Science, which handles data mining, machine learning, algorithms, bioinformatics and computational neuroscience. Board member of the Informatics Europe Association. Involved in T1.1-1.3.
Meelis Kull Expert in Artificial Intelligence	University of Tartu	Associate Professor of machine learning with extensive expertise in the field of AI. His research team develops machine learning methods that produce predictions and well-calibrated self-assessments. Involved in T.1.1 - 1.2; T2.3, 2.4; T3.1 - 3.3.
Karl Kruusamäe Expert in human-robot interaction	University of Tartu	Experienced researcher in robotics, incl. electronics and mechanical design, software development, systems integration, device prototyping, and professional training. Involved in T1.1-1.2; T2.3, 2.4, T3.1 - 3.3.
Alvo Aabloo Expert in intelligent materials and systems	University of Tartu	Professor at the Institute of Technology at UT, head of the Intelligent Materials and Systems laboratory, expert in robotics, and intelligent materials and systems. Involved in T1.1, 1.2; T2.3, 2.4.
Arun Kumar Singh Expert in collaborative robotics	University of Tartu	Head of the collaborative robotics group at the Institute of Technology. The group's research covers a wide range of applications, from human-robot collaboration and robot manipulation to autonomous driving. Involved in T2.3, 2.4.
Annet Muru Coordinator at UT	University of Tartu	Coordinates collaboration of the UT Institute of Computer Science with private and public sector institutions, developing new formats for cooperation with both students and researchers, and popularising the field of data science. Involved in T1.1, 1.2; T3.1 - 3.3; T5.1 - 5. **WP3 leader.**
Ülle Jaakma Member of Steering Committee	Estonian University of Life Sciences	Vice-Rector for Research at EMU, member of the Research Policy Committee of the Ministry of Education and Research. Involved in T1.1-1.3. Synergy with cross-sectoral impact with agriculture and farming.
Marten Madissoo Expert in manufacturing engineering and cutting tools	Estonian University of Life Sciences	Assistant Professor and researcher at the Institute of Forestry and Engineering at EMU. Involved in 2.3, 2.4. Building synergy with AI and robotics pilots in agriculture (parallel projects).
Margus Arak Expert for industry digitalisation	Estonian University of Life Sciences	Director of the Institute of Technology at EMU with key expertise in environmental physics. Building synergy with AI and robotics pilots in agriculture (parallel projects). Tasks 2.3, 2.4.
Martin Goroško Member of Steering Committee	Tallinn Science Park Tehnopol	Head of business services at Tehnopol who has worked with more than 200 early-stage companies. Member of the Estonian Business Angels Network. Involved in T1.1 - 1.3, T4.2 - 4.4. Manager of AI spin-off propgramm of TEHNOPOL (synergy with EDIH). **WP4 leader**.

Anu Puusaag Project management expert	Tallinn Science Park Tehnopol	Senior expert at TSP within the field of Smart City and deep technologies (AI, robotics etc), supporting local companies to create new products and services and helping them to expand their markets. Involved in 4.1, 4.3, 5.2, 5.2, 6.1, 6.2, 6.3, 6.4.
Kristi Jõeäär Marketing expert	Tallinn Science Park Tehnopol	Responsible for marketing communication on a strategic level at Tehnopol and execution of larger marketing activities and projects. Kristi has been managing the marketing of AIRE since its first activities. Involved in T5.1 - 5.3; T6.1 - 6.6.
Brait Pilvik Marketing expert	Tallinn Science Park Tehnopol	Marketing project manager at Tehnopol, responsible also for marketing at the Latitude59 startup conference; passionate about growth hacking. Involved in T5.1 - 5.3, T6.1 - 6.6.
Maarit Jalakas Project management expert	Tallinn Science Park Tehnopol	Project management expert at Tehnopol with extensive experience in project (financial) planning and monitoring, internal and external communication and event management. Involved in T4.2 - 4.4. Building synergy with spin-off programs of TEHNOPOL.
Ingrid Hunt Expert in Financial and Project Management	Tartu Science Park	Project Manager at Tartu Science Park focused on innovation and smart specialisation. Involved in T1.1, 1.2; T3.1 - 3.3; T5.1 - 5.5. Also involved in ESA Business Incubator and EEN network to build synergy with EDIH.
Andrus Kurvits Expert in Strategic Planning	Tartu Science Park	Project Manager at Tartu Science Park focused on innovation and smart specialisation. Building links between ESA Business Incubator and AIRE. Involved in T1.1, 1.2; T2.2; T5.1 - 5.5. **WP5 leader.**
Jüri Riives Expert in industry digitalisation	IMECC	R&D manager in IMECC. Key fields: industrial robotics applications, AI in robotics, robot-cell design and performance monitoring, knowledge driven- performance and suitability analysis in robotics. Involved in T1.1 - 1.3; T2.1 - 2.4; T3.2. **WP2 leader**.
Tõnu Lelumees Expert for industry digitalisation	IMECC	Expert in digital maturity evaluation and robotics with key skills in technological innovation, automation, productivity, robotics, digitalisation and management. Involved in T1.1, 1.2; T2.1 - 2.4; T3.2.
Kaia Lõun Expert in industry digitalisation	IMECC	Expert in industry digitalisation, financial and communication management and project development expert of IMECC. Involved in T1.1 - 1.3; T2.1 - 2.3; T3.2.
Edvin Teekivi IT and AI expert	IMECC	Technical IT and AI expert, including technical support. Involved in T2.1-2.3.
Madis Moor Robotics expert	IMECC	Robotics expert. Involved in robotics demo projects and trainings, T2.3, T3.2.

Outside resources (subcontracting, seconded staff, etc)
If you do not have all skills/resources in-house, describe how you intend to get them (contributions of members, partner organisations, subcontracting, etc.) and for which role/tasks/professional profile/expertise
If there is subcontracting, please also complete the table in section 4.

Sub-contracting is planned in total amount of 570 795 euros, which is 9,35% of the total budget of 6 M euros. Most of the tasks are carried out with in-house competences of 6 partners but external expertise is planned in the following based on state tendering rules in an open and transparent process and procedure:
1) Advisory Board expert fees (Task 1.4).
2) AI suitability assessment of AIRE clients (Task 2.2) – a pool of AI mentors (external expertise) is created for public-private collaboration and enrichment of expertise.

3) External experts for test before invest demoprojects and experiments (AI and robotics) (Task 2.3) – public-private collaboration to include extra skills like AI, robotics, cyber security, big data, HPC, etc.
4) AI and robotics experts to trainings (Task 3.2) – some best practices trainers are involved.
5) External consultants for private and public funding (Task 4.2 and 4.3).
6) External contracts for AIRE brand and Digital Show-Room concept (Task 6.4 Show-room concept, design, production, videos). Please see section 4.4 Sub-contracting, including sub-contracting budget.

Consortium management and decision-making risk(if applicable)
*Explain the management structures and decision-making mechanisms within the consortium. Describe how decisions will be taken and how regular and effective communication will be ensured. Describe methods to ensure planning and control. **Note:** The concept (including organisational structure and decision-making mechanisms) must be adapted to the complexity and scale of the project.*

Coordination of the AIRE centre will be based on a management structure reflecting the EDIH project context and complexity, to ensure efficient consortium management and to make sure that all project objectives are achieved within planned time, budget, and quality. Project management will rely on procedures and techniques jointly agreed on by all project partners (please see more under WP1 and section 2.2 Project management, quality assurance and monitoring and evaluation strategy). Highly competent AI, data management, big data, cybersecurity, HPC, IoT, Industry 5.0 and robotics experts are involved based on the common vision and expectations of AIRE clients and follow in line with the coordination of the consortium (please see section 2.3 for the full consortium description).

Management structure and decision-making
The management structure and related procedures of AIRE are defined to facilitate operations and management of the centre´s services and project WPs. Simple and effective procedures will be set up to reduce the complexity The management of the project will be structured in three layers:

1) The **Project Management Group (PMG)** consists of the project coordinator (PC), WP leaders (WPL) and task leaders (TL). The PC – Kirke Maar, TalTech – is liable for global project management and coordination (planning, implementation, and control of all project activities), administrative and financial aspects and reporting of project financial and budgetary status to the EC. Furthermore, the PC will oversee the quality of the project implementation through dedicated quality management procedures and is also responsible for risk management and mitigation. The WPLs are responsible for convening the work package team meetings and thus checking that the work is carried out according to the agreed plans and deliverables are ready in time. The WPLs are also responsible for managing the resources allocated to the WP, supervising the work of the TLs and the team, acting as a link between the WP team and the PC, reporting on the problems, results, progress of the work. The TLs are responsible for specific tasks inside the WP and producing the first versions of related deliverables of interactions and project overhead. The AIRE general governance structure is outlined in the following figure.
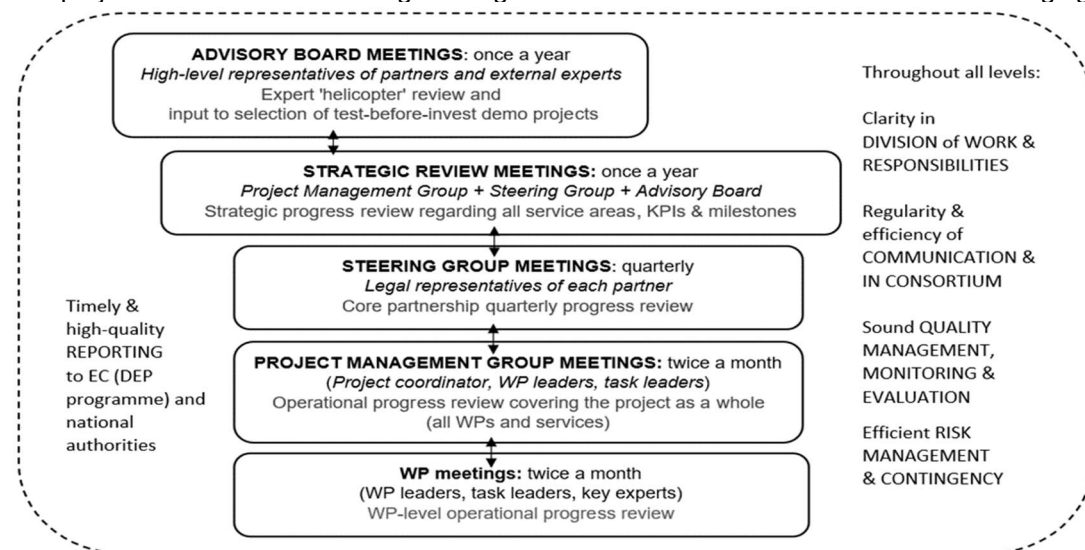
Figure 3: The general governance structure of AIRE

2) The **Steering Group (SG)** is led by the project coordinator (PC) and consists of the legal representatives of all partners. The SG is the primary decision-making body of the project and supports the PC in strategic project management issues. The SG will ensure that project activities are properly monitored, coordinated, and kept on budget. The SG will have the ultimate authority in resolving any issues that may arise (scientific, contractual, commercial or otherwise).
3) The **Advisory Board** (AB) will have a strategic advisory function in the project. The AB will include high-level external experts of industry, robotics and AI. The AB will support strategic implementation by providing project

partners with the necessary feedback to increase the project's relevance to the needs of its target groups. Moreover, the AB will provide a vital link between the project and policy level and support the consortium in its networking activities as well as align it with relevant other regional/national/EU initiatives. The AB will also be instrumental in evaluating the strategic documents, key deliverables, and impact of the AIRE project. AB members will be appointed at the beginning of the project.

Consortium Agreement

The Consortium Agreement (CA) will be defined and signed before the start of the project activities to codify the responsibilities of each partner. The CA will specify the organisation of work between all parties involved, use of project budget and payment procedure. It will define the partners´ rights and obligations, including their liability and indemnification. It will also supplement the provisions of the Grant Agreement (GA) concerning Access Rights, ensure adequate attention to gender equality and set out rights and obligations of the parties supplementing but not conflicting with those of the GA. The CA will also cover the following issues: confidentiality, IPR issues, with specific provisions; internal licensing of results during and after the end of the project; agreement on exploitation rights and cost-sharing at sales activities after the end of the project.

Dispute and conflict resolution

Any disputes and conflicts will be resolved, wherever possible, through mediation. The partners in dispute will first present their case to their respective WPL, who will then represent their case to the PC. The aim is to resolve the issue in a manner as simple as possible. However, if the partner(s) is/are not satisfied with the outcome, the dispute will be presented to the SC, where the legal representatives of all partners will jointly decide on how to solve the issue in alignment with the CA and the national legislation.

3. IMPACT

3.1 Expected outcomes and deliverables — Dissemination and communication

Expected outcomes and deliverables
Define and explain the extent to which the project will achieve the expected impacts listed in Call document.

Five key outcome indicators are identified in the Call text and are fully addressed by AIRE.
First, regarding the **number of businesses and public sector entities** that have used the EDIH's services – AIRE will consult at least 150 unique manufacturing SMEs and mid-caps. The focus is on the manufacturing SMEs, especially in the fields of the production of machinery, equipment, metal-working industry, electronics, timber production, food production, shipbuilding, production of chemicals as these are the most important manufacturing industries in the Estonian economic context, considering their employment, exports, value-addedness, strong linkages and clustering with other industries. A small number of strategically important large companies will be also involved as role models and potential sponsors – we expect to involve ca 15 of such companies. Particular attention is also paid to AI and robotics in the health technology targeted with dedicated awareness raising and horizontal cross-sector dissemination activities.

To maximise the impact, AIRE has decided to focus on and co-operate with 150 strategically chosen companies. There are approximately 7,000 manufacturing companies in Estonia and of these 8% are planning to introduce advanced AI solutions (such as machine learning technologies) in the upcoming two years[19]. So, some 500-600 companies have interest, basic capacities and thus potential to benefit from technologies that AIRE is concentrating on. At the same time, some 100 of these companies belong to global value chains and the introduction of such innovative technologies is instructed by the technology development centres of the headquarters. Thus, AIRE's aim to focus on 150 SMEs directly is justified and a large share of the potential beneficiaries will be benefitting from WP2 services. Even more SMEs will be benefitting from WP3-WP5 services.

The long-term aim is to build up a sustainable EDIH ecosystem in Estonia and involvement of relevant stakeholders in the EU. Estonia is a small country and AIRE's involvement of 30 key collaboration partner organisations in Estonia and 750 individuals covers the whole current relevant community. Furthermore, AIRE will be also improving skills and competencies and better AI-related awareness of managers, experts, engineers, developers, researchers and other key stakeholders in the field of industry digitalisation, so an additional 900 people will be involved and that will be a fertile ground for the further improvement of the AI & robotics fields in Estonia.

Second, extensive collaborations are foreseen with other EDIHs and stakeholders outside Estonia at the EU level. **A strategic partnership will be created with 10 key EDIHs** and **50 SMEs and mid-caps** from all over Europe that will benefit directly from AIRE services (in addition to Estonian clients). In-depth collaboration will be established with 25 key organisations from Europe that have been identified due to their strategic nature for the achievement of AIRE impacts.

---

[19] Swedbank (2021), Survey of Manufacturing Enterprises. Tallinn: Swedbank

Third, AIRE is also contributing to the **increased investments** (public and private) into industrial digitalisation (including AI and robotics) and better access to finance in Estonia. The demand for AI and robotics related solutions to be implemented in the companies is much higher than AIRE activities can provide. Thanks to the dissemination of information and good practices and to the facilitation of the networking between public actors and companies, we expect a substantial increase in the SME investments in AI and robotics by (1) co-funding of the AIRE supported projects and other AI/robotics projects in the amount of 1 MEUR, (2) as new successful applications to the national funding bodies, to the European R&D programs and investors (in the amount of 2 MEURs. We also expect the Estonian public sector to continue the funding of AIRE in the following years (0.5 MEUR per annum), so more SMEs could benefit from the services. Thus, additional public and private investments should amount to at least 3 MEUR in the fields of AI and robotics, due to the direct activities of AIRE. Result indicator "Amount of additional investments successfully triggered" will be monitored and reported by AIRE.

More specifically, **fourth**, AIRE's main contribution is related to **increasing the digital maturity** of the Estonian SMEs in the manufacturing sector. We expect at least a 25% increase by 2025 in the digital maturity of companies that have used the services of the AIRE network based on a digital maturity assessment (DMA) tool developed by the Joint Research Centre (JRC). This is a core impact indicator to be collected and analysed.

In the following, **fifth**, the current status of the Estonian companies is analysed, based on the DMA's dimensions. The analysis is based on the IMECC's analysis on digital maturity assessment that has been carried out in Estonia since 2017 and has been also used internationally – for performing digitisation analyses also in Denmark, Finland, Poland, Latvia and Lithuania (Innoreg CBR project (INForM). In Estonia, the survey has been carried out annually in 2018-2021 and it covers more than 600 Estonian manufacturing companies. It is comparable to JRC's DMA in scale and scope (more than 50 questions in the survey) and provides a good basis for the Estonian analysis.

The conclusions of IMECC correspond fully with the findings of other studies[20], concluding that generally Estonian companies are close to the EU average in digitalisation and that some improvement has taken place over the years (see section 1.2). According to IMECC, the annual improvement of 2 percentage points in the digitalisation of the Estonian companies is recorded for 2018-2021 (from the level of 24% to 30%).

Estonian situation is quite good in the field of **Digital Business Strategies** (dimension 1 of the JRC's DMA). There are strong achievements already regarding the digitalisation of project management, customer relations and management of resources, while less so regarding the digitalisation of logistics, delivery and cybersecurity.

However, companies are less prepared for (more) digitalisation. For example, in a recent study, only a third of the companies surveyed saw ICT investments as an opportunity to further their competitive advantages[21]. There is a limited alignment of digitalisation and business objectives and respective management, the ICT funding is not strategic, and there is a lack of ICT specialists. These are important challenges, although the ICT infrastructures are rather well developed and ready to support digitalisation. Overall, based on the existing empirical data and the opinion of experts, Estonian position is average, scored 4/10 in the JRC's DMA.

Digital Readiness (dimension 2) measures the uptake of mainstream as well as more advanced technologies. The update of some mainstream technologies (such as connectivity infrastructure, web-based communication channels, teleworking, Intranets, e-government services) is excellent but more limited regarding chatbots, e-commerce and some information management systems.

However, advanced digital technologies are generally applied in a limited way in Estonian SMEs. While computer-aided design (CAD) & manufacturing (CAM) and manufacturing execution systems are increasingly implemented, simulation & digital twins, virtual/augmented reality, blockchain technology, additive manufacturing and Internet of Things (IoT) and Industrial Internet of Things (I-IoT) are less spread. There is a lack of general awareness and more specifically awareness on how it can contribute to the competitiveness of companies, and there is a lack of ICT specialists and funding. This is aligned with the finding that regarding the adoption of AI in enterprises, Estonia ranks below the EU average – with 15% of Estonian enterprises using AI against an EU average of 25% (see section 1.2). The limited application of advanced digital technologies drives also down the score for this dimension, expected to be 3/10.

Human-centric digitalisation (dimension 3) looks at how staff are skilled, engaged and empowered with and by digital technologies, and their working conditions improved, with an aim to increase their productivity and wellbeing. The current score is 5/10.

While re-skilling and up-skilling of staff for basic/mainstream digitalisation are rather common, it is more complicated regarding advanced digital solutions. There is generally lower levels of awareness and strategic approach to radically novel technologies (incl. AI and robotics), and thus there are major shortcomings regarding the facilitation of staff awareness, development and communication of digitalisation plans to staff, addressing of acceptance-related issues, redesigning workflows, etc.

---

[20] Ibid.
[21] Estonian Export Study (2021). Estonian Ministry of Economic Affairs and Communications, Ministry of Foreign Affairs and Enterprise Estonia, https://mkm.ee/et/uudised/ekspordiuuring-eesti-majandus-ja-eksport-tavalisest-keerukamate-majandusoludega-hasti

Data Management and Connectedness (dimension 4) captures how data is digitally stored, organised within the enterprise, made accessible across connected devices (computers, etc.) and exploited for business purposes, keeping an eye on ensuring sufficient data protection via cybersecurity schemes.
The score is 6/10 as data is generally stored digitally, integrated and accessible, while improvements could be made regarding the systematic use of the data for the decision-making (incl. via the usage of the AI tools) and in the visualisation/communication for the management. Also, improvements could be implemented regarding the data security policy and measures.
Automation and Artificial Intelligence is the key challenge for Estonian SMEs (scored 2/10) – the level of automation and intelligence facilitated by digital means that is embedded in business processes is on a rather low level. For example, regarding AI, Estonian industry is characterised by some world-class companies applying AI extensively (such as Bolt, Cleveron, Milrem Robotics, Starship, telecom companies and banks) in optimising business processes, automating customer service, in product quality control and risk mitigation. However, most of the other industries are lagging behind. A significant share of them do not see AI, or ICT more generally, as a source of competitive advantage. So, major improvement could be implemented in Estonia to develop further and implement solutions that are based on Natural Language Processing, computer vision / image recognition, audio processing, robotics and autonomous devices, and regarding the business intelligence, data analytics, decision support systems, all explicitly addressed in the JRC's DMA framework. These are also the focus fields of the AIRE.
Regarding **Green Digitalisation** (6), the position of Estonian SMEs is also rather weak (2/10). Estonian companies do not undertake digitalisation with an explicit long-term approach that takes responsibility and cares about the protection and sustainability of natural resources and the environment. Circular economy related issues are currently rather treated as an expensive obligation and not a way of building a competitive advantage out of this (see also section 3.3). **AIRE will support 150 unique manufacturing SMEs in the fields of AI and robotics, and it is expected that the DMA of those companies increases at least by 25%.** However, depending on a benefitting company and its current level of DMA, we could see much higher impacts (50-70%) in many cases due to the low starting point. This is one of the core indicators monitored and reported in WP2 Deliverables.
Finally, **fifth**, we expect the **increased market maturity and market creation potential** of Estonian innovations related to artificial intelligence and robotics, as defined in the JRC's Innovation Radar methodology. This is a core impact indicator to be collected and analysed. AIRE will enter innovators from the Estonian ecosystem in the Innovation Radar database, so that these will be found by other EDIHs or by investors and technology scouts. We expect the number of those projects resulting directly from AIRE activities to be 15. Furthermore, we expect to map and submit information on additional projects to the Innovation Radar database that could be of particular interest to the EU stakeholders, to help Estonian companies and public organisations to scale up, and such visibility would contribute to that.

Dissemination and communication of the project and its results
If relevant, describe the communication and dissemination activities, activities (target groups, main messages, tools, and channels) which are planned in order to promote the activities/results and maximise the impact. The aim is to inform and reach out to society and show the activities performed, and the use and the benefits the project will have for citizens. Clarify how you will reach the target groups, relevant stakeholders, policymakers and the general public and explain the choice of the dissemination channels. Describe how the visibility of EU funding will be ensured. ⚠️ In case your proposal is selected for funding, you will have to provide a more detailed plan for these activities (dissemination and communication plan), within 6 months after grant signature. This plan will have to be periodically updated; in line with the project progress.

The communication and dissemination activities serve **two primary goals**: to 1) increase the EDIH and AIRE brand awareness and 2) raise awareness of digitalisation and the value of AI and robotics. In addition, the aim is to generate the participants' feed to the AIRE's services, such as DMA, trainings, test before invest demo projects, webinars, AI and robotics consultations, monthly AIRE Clubs, matchmaking and networking activities and involvement of other EDIHs in Europe. The goals are set to support the achievement of KPIs listed under section 1.1 (number of AIRE clients). The **primary target audience (TA)** of the project is SMEs and mid-caps in the manufacturing sector who have the ability and strategic decision to integrate AI solutions using big data and who would gain efficiency by integrating robots into their production or logistics. The overall knowledge level of TA about the value and opportunities of AI is rather low; or if it is not low, then the primary obstacle of digitalising the production is shortage of capital. So, the goal is to introduce the benefits of AI, provide needed support on the path, offer tailor-made solutions and help the target audience to find financing to start using AI in their processes and production. The companies will be segmented into smaller target groups and offered the solution that is specifically needed by them (depending on the level of knowledge and assessed digital maturity) as the basis of the segmentation, consortium will use digital maturity assessment and survey that gains insights from the companies. In addition, max 10% of the clients can be large companies (*de minimis* rule followed) as role models and possible future sponsors of AIRE and 10% horizontal test before invest pilots (demo projects and experiments in the health sector). The **secondary target audience** is AI and Robotics ecosystem stakeholders, such as universities, science parks, start-ups, unions, network organisations (e.g., EEN Estonia), support

organisations, corporations, IT development companies, spin-offs and other EDIHs. Ecosystem stakeholders are welcomed to follow AIRE channels and participate in the networking and AIRE club events. They will be invited if relevant to the trainings, webinars, podcasts and content providers to the services. **Main messages** to the target audience will be finalised together with the consortium, then tested and fine-tuned after getting the feedback from the survey. As communication activities either increase the brand awareness and basic knowledge of AI and the benefits of using it or emerge the desire to participate in the project, the messages are designed accordingly (e.g., unlock your company's potential with AI and robotics; AI helps your company to gain competitive advantage! Join our AI training; How to make AI work … eventually, learning from the mistakes of the best practitioners, etc.). For the bigger campaigns, the A/B testing of visuals and messages will be held.**Channels** will be used based on the OSEP (Owned-Shared-Earned-Paid) model. As the current consortium created AIRE as the candidate of EDIH already in summer 2021, the first owned channels were set up in autumn 2021 (to prepare the EDIH candidature). Currently, AIRE has a website aire-edih.eu (6100 visits since autumn 2021), Facebook page (reach ~200 000), direct mailing list (~1000 manufacturing companies), LinkedIn page. The goal is to increase the followers of the owned channels, use consortium partner's channels and create an ecosystem and partner list, to reach the audience even better. The consortium partners' channels sum up to 32 000 social media followers, 180 000 homepage visitors, more than 6500 newsletters contacts and nearly 2000 mailing list contacts.

Communication and dissemination activities will be finalised with consortium partners. Below is indicated the list of the key activities that will either provide needed insight for the plan and relevant messaging for TA or create the content needed to gain the objectives of this WP. **aire-edih.eu website update:** The map of European Digital Innovation Hubs will be added to the page; digital maturity level of AIRE clients (manufacturing companies) and future KPIs will be added; training centre that consists of passive e-learning opportunities such as webinars, templates, guidelines, video trainings, podcasts.

Insights survey: The survey will be held linked to DMA at the beginning of the project and will serve two goals: to get insights and feedback to the messages planned to engage TA; to delicately introduce the project objectives and initiatives that are organised by AIRE and get direct feedback. The insights survey will be organised either as a focus group study or as 1-on-1 pilot interviews.

Events and activities pre- and post-communication to introduce the value that AIRE creates to the companies (trainings, webinars, AIRE Clubs, matchmaking and networking events, final event gala) and how it boosts the field of AI and its stakeholders. **Calls for ideas** will be held twice a year to find demo projects that will be supported by AIRE throughout the path until the successful adaptation of AI into processes.

Digital Maturity Assessment results will be compiled once a year and introduced to the wider audience as the important KPI that measures the digitalisation level of the target audience. **AIRE services** that are introduced under the WPs will be advertised and communicated to find users. When possible, the communication will use the actual clients and their recommendations as well as positive experience/impact sharing. **Video blogs and videos of best practices** will be created and disseminated by the consortium partners through their channels and AIRE channels. The produced material will be partly used also in the Digital Showroom (see below) and during the biggest events in the region that focus on AI and robotics.

Digital Showroom concept will be designed. The benefit of a digital showroom is the possibility to expand it easily to different locations (e.g., events, Estonian Embassies, unions, universities, consortium partners' showrooms or screens, Estonian Innovation Agency's digital hub, etc.). The specific solution will be created in cooperation with professional AR and VR producers in Estonia and it will introduce the state of art AI and robotics solutions that are related to AIRE.

Links to other EU projects and funding (Horizon, DEP, ERASMUS, Interreg) will be created to maximise impact, include more financing for AI and robotics and thus build synergy:

1) **WP4 Task 4.4** is planned with budgetary ressourses to prepare new projects to Digital Europe Programme, Horizon, EIC Accelerator (AI spin-offs), Interreg, Erasmus and others. At least 3 new projects will be submitted from 2023. This activity is planned in collaboration with other EDIHs.
2) Enterprise Europe Network (EEN) is involved to consult AIRE clients in taking part of EU level call for proposals (EIC Accelerator, Hoizon, open call for companies to carry out use-case type of AI projects).
3) **DEP Testing and Experimentation Facility (TEF)** links will be created in collaboration with the Ministry of Economic Affairs and Communication of Estonia to build synergy. Active involvement of EDIH-s and collaboration through the Digital Transformation Accelerator (DTA), for matchmaking, training and capacity building events.
4) Buidling links and collaboration with **Europen Partnership on AI, Data and Robotics** (https://ai-data-robotics-partnership.eu/) through their events.
5) Collaboration agreement has been signed with **CLAIRE (Confederation of Laboratories for AI Research in Europe).**

By **Month 6** Detailed Dissemination and Communication Plan is developed.

3.2 Competitiveness and benefits for society

Competitiveness and benefits for the society
Describe the extent to which the project will strengthen competitiveness and bring important benefits for society
AIRE is unlocking the untapped potential of digital technologies for increased competitiveness and resource-efficiency in Estonia´s SMEs in the manufacturing sector, addressing an important strategic challenge in Estonia (see section 1.2). The intervention is mostly related to the actual implementation of innovative AI and robotics projects in the Estonian SMEs, thus addressing the R&D and innovation funding gap (see section 1.4), complemented by training activities, consulting and networking, and contributing to the Estonian digital (see section 3.1) and green transitions (section 3.3). The main direct contribution of the AIRE, in addition to raising awareness of all aspects of AI, is to considerably strengthen the Estonian industry's AI and robotics related knowledge base and actual innovation, by providing research and technical services to the industry based on the most advanced knowledge available in Estonia and the EU (via collaboration with the EDIH network and other strategic collaboration partners). Companies directly receiving AIRE services as well as a wider set of companies are expected to benefit from this. Scalable AI pilots are preferred as test before invest demo projects that could be transferred to other companies, other sectors and domains. **In the long run, this should contribute to increasing the economic performance of Estonian companies.** For example, the labour productivity of Estonian companies in the Estonia's key exporting industries is 2-3 times less than that of Finland and Sweden, and this gap has not improved significantly in the last decade. There are many factors that have led to this, but the relatively slow digital transformation is also a key reason – digital transformation has been one of the most important sources of economic productivity growth in OECD countries in recent decades. Please see Figure 4 below: *Figure 4: Additional benefits created from the operation of AIRE* Another key contribution of the project is related to the overall improvement in the ecosystem. AIRE brings together the universities, science parks, research centres and the SMEs. Furthermore, the networking spans across the borders as active cooperation is foreseen with other EDIHs, to provide access to the top EU level knowledge. This way, a national competence centre – central to the EDIH ecosystem – is established, able to raise funds for its future activities, act in a sustainable manner, and continue providing the services in the long run. Awareness of the benefits of AI will be significantly improved. Also, the connections created between the investors and the SMEs, and the increased private investments are important. While the focus of AIRE is currently on the manufacturing industry, we can expect considerable spillovers to other sectors of the economy, such as service industries, and the public sector. Namely, with the increase of awareness and the dissemination of best practices, we can also expect other key sectors of the Estonian economy (such as logistics), to become more interested in innovative AI and robotics related solutions. By encouraging the further introduction of AI and robotics in the public sector, we are also creating additional benefits for society. In addition, the policymaking capacities will be increased. Also, as AIRE is facilitating the cooperation of the researchers and the companies, we can expect a significant increase of academic research, as reflected by the increased number of publications, patents, etc.

3.3 Environmental sustainability and contribution to European Green Deal goals

Environmental sustainability and contribution to European Green Deal goals
Describe the extent to which the project will contribute to environmental sustainability and in particular to European Green Deal goals
In addition to economic and societal impacts, AIRE is committed to achieving positive environmental impacts via its package of services targeted at Estonian manufacturing SMEs. **All AIRE´s services are designed to promote and support circularity and sustainability, incl. higher resource-efficiency, reduced energy consumption and GHG emissions in manufacturing** – this is done most directly via test before invest service provision but also through training and consultation activities, as well as via support in finding green investment opportunities and creating linkages with the right partners in the innovation ecosystem for the green and digital twin transition. At a strategic level, these activities are aligned with the European Green Deal and Estonia´s 2030 National Energy and Climate Plan (NECP 2030) as well as the General Principles of Climate Policy until 2050 (GDPCP2050).[22]
The **EU Green Deal** (see also section 1.2) serves an undoubtedly ambitious end goal – making Europe the first climate neutral continent in the world. Reaching this goal calls for a new economic model for Europe and requires making all sectors in the EU's economy fit to jointly meet the challenge of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.[23] Estonia has confirmed to follow the EU climate targets and set itself an even more ambitious national target for 2030: a 70 % reduction in greenhouse gases (compared to 1990). According to 2019 data, Estonia's emissions have already decreased by 62%, mainly due to major structural changes in the early 1990s. However, **Estonia's carbon footprint still remains the fourth largest per person in Europe**, mainly due to the energy sector (89% of Estonia's total emissions), which in turn accounts for the lion's share of oil shale (75% of electricity production).[24] To untie the GDP growth of Estonia from increased energy consumption, higher energy-efficiency is important in all sectors, as well as increased use of various renewable energy sources. Regarding energy consumption in manufacturing industries, the NECP 2030 sets the indicative target level at 460 GWh/y by 2023. Digital technologies and increased use of innovative AI, data and robotics solutions are considered as 'critical enablers' in reaching the expected goals and impacts of the Green Deal and AIRE will provide the tools and skills to Estonian manufacturing companies necessary to implement the digital and green twin transition.
Industry data vividly shows that there is a clear need for targeted support services and activities to Estonian SMEs (both in manufacturing and other domains). While in the context of the DESI index (using input from across the industry and public sector), Estonia ranked 4% below the EU average on the use of ICT for environmental sustainability in 2021, the situation at the level of SMEs is actually worse. The 2019 Small Business Act (SBA) Factsheet, focusing on implementing the SBA across the EU and in different member states, outlines that the environment dimension is Estonia's worst-performing area. **The proportion of SMEs in Estonia that have taken resource-efficiency measures was the lowest in the EU based on data from 2017 (47% vs. EU average 89%)**. Estonia also remains below the EU average in percentage of SMEs that offer green products or services (18% vs. EU average 25%). By contrast, Estonia continues to have one of the highest rates of SMEs with a turnover share of more than 50% generated by green products and services in the EU (30% in Estonia vs. EU average 20%). The report concludes that despite the country's inferior performance, it has made significant policy progress since 2008, with the most notable changes taking place since 2016. However, there is undoubtedly a long way to go to close all the gaps.
In sum, it is clearly understood at the national as well as the EU level that Estonia needs to strengthen its efforts to meet the set climate and circularity objectives. **AIRE is strategically positioned to accelerate progress towards making Estonia´s manufacturing sector perform better in terms of its environmental impacts and sustainability via advanced digital technologies**. AIRE will facilitate the uptake of AI and robotics as well as the use of advanced computing, data infrastructures (HPC) and support digitalisation in a broader sense in Estonian manufacturing SMEs, contributing to resource optimisation and minimisation of waste in different manufacturing industries (from agri-food to textile to shipbuilding and electrical equipment production, etc). Overall, this means making a clear contribution to SMEs' sustainability programs and strategies to reduce their ecological footprint, cutting costs, and contributing to important social and environmental impacts at the same time.
SPECIFIC CONTRIBUTION TO GREEN DEAL GOALS, MEASURING THE IMPACT AND KPIs
The following table provides an overview of the main Green Deal goals addressed by AIRE, the activities of AIRE contributing to reaching these goals, indicators used and target levels to be achieved by the end of the project. While the table outlines the Green Deal goals where AIRE´s activities will make the biggest contribution, AIRE is also expected to contribute to goals such as a zero-pollution ambition for a toxic-free environment, building and renovating in an energy and resource-efficient way, from "Farm to Fork": a fair, healthy and environmentally friendly

---

food system, and accelerating the shift to sustainable and smart mobility. The level of contribution here depends on the sectors and specific characteristics of manufacturing SMEs serviced by AIRE.

Table 7:The main Green Deal goals addressed by AIRE

EU GREEN DEAL GOALS	AIRE ACTIVITIES	INDICATORS AND TARGETS
Increasing the EU´s Climate ambition for 2030 and 2050: ●Reducing EU greenhouse gas emissions to at least 50% by 2030 and towards 55% by 2050 compared with 1990 levels. ●This includes the clean energy transition and **smart integration of renewables, energy efficiency** and other **sustainable solutions across sectors** that will help to achieve decarbonisation at the lowest possible cost. **Mobilising industry for a clean and circular economy** – Achieving a climate neutral and circular economy requires the full mobilisation of industry. Important goals here include: ●better use of resources ●more energy-efficient processes ●reduced waste ●reduced pollution **Mobilising research and fostering innovation to support the development of circular economy** via new technologies, sustainable solutions and disruptive innovation ●Fostering (interdisciplinary) **experimentation** ●**Working towards accessible and interoperable data** that is at the heart of data-driven innovation to support achieving the goals of the Green Deal **Financing the Transition** ●Supporting green and sustainable investments both by the public and private sector	**I Test-before-invest:** ●The Digital Maturity Assessments will allow to identify the Green Digitalisation dimensions where each company is performing the weakest and needs the most help. ●Close attention to these dimensions will be provided in the context of the related consulting services for improving the company´s performance. ●Contribution to sustainability and circular economy goals is an important element in the context of the AI demo projects and tests/lab experiments to be carried out – in the design of these activities, such contribution will be defined and planned before the intervention to make sure that circularity/sustainability aspects are addressed in the implementation phase. AIRE will support experimentation that connects SMEs with leading researchers and industry experts to facilitate sustainable innovation. **II Skills development and trainings** – the trainings offered by AIRE related to various dimensions of AI and robotics and their efficient implementation at the company level will support the development of sustainable business models, circular design of products, services, processes, incl. less waste and higher resource-efficiency. These issues are expected to be addressed in the majority of AIRE´s trainings. **III Networking and ecosystem development** Reaching the ambitious circularity and climate goals both nationally and in the EU needs time and effort from all ecosystem stakeholders. The AIRE club events as well as AIRE´s various networking and best practice seminars will also take a closer look at various circular economy and sustainability issues. At these events, the focus is on collaboration between different counterparts of the ecosystem, promoting quadruple helix cooperation to form a stronger ground for a general movement towards meeting the Green Deal goals and supporting knowledge transfer via the exchange of good practices and valuable information. AIRE will also contribute to accessible and interoperable data in the management manufacturing companies to facilitate data-driven innovation making use of AI and robotics. **IV AIRE´s "access to finance" services** will help the client companies to understand which (green) finance opportunities, offered either by public or private sector financing providers, are available to support implementing their green innovations and/or and circularity.	**KPI1: increased use of digital technologies (DTs) to contribute to environmental sustainability – 30% increase compared to baseline** (from T0 i.e., before the EDIH intervention to T2). *This corresponds to DMA 10.1-10.11; incl. DTs used for management of emissions, pollution and/or waste; for sustainable energy generation in own facility; for a sustainable business model, service provision, products; sustainable production & manufacturing methods, materials & components); for optimi-sation of raw material consumption/cost; reduction of transport & packaging costs, encouraging responsible consumer behaviour, paperless administrative processes)* **KPI2: increased consideration of environmental impacts in the companies´ digital choices and practises– 30% increase** compared to baseline. *This corresponds to DMA 11.1 -11.5 (environmental concerns and standards are embedded in the enterprise's business model and strategy; an Environmental, Mana-gement System/certification is implemented; environ-mental aspects are part of digital technologies/ suppliers' procurement criteria; energy consumption of digital technologies and data storage are monitored and optimised.*

4. WORK PLAN, WORK PACKAGES, TIMING AND SUBCONTRACTING

4.1 Work plan

Work plan

Provide a brief description of the overall structure of the work plan (list of work packages or graphical presentation (Pert chart or similar)).
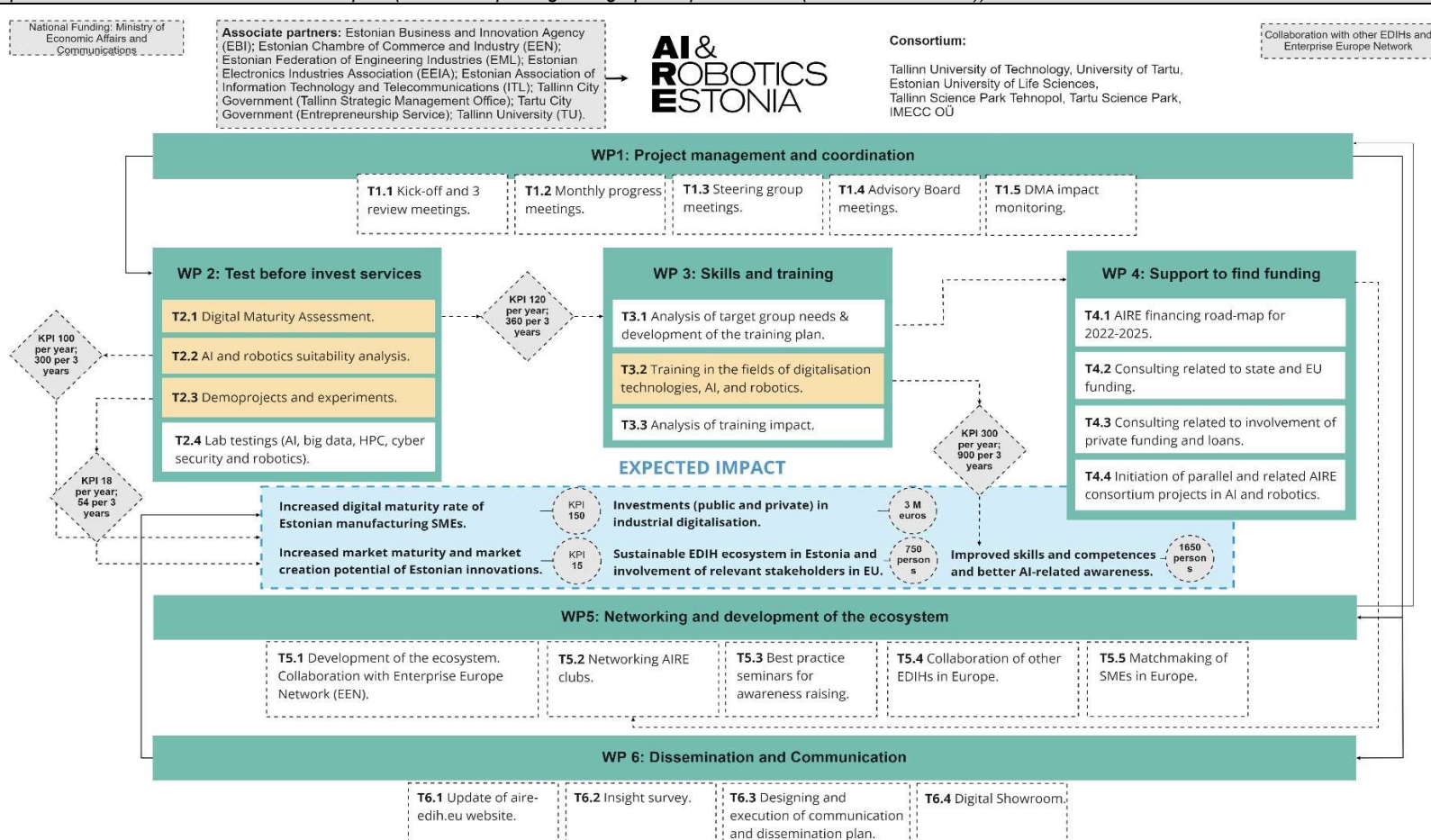
Figure 5: The PERT chart of AIRE

4.2 Work packages and activities

<table>
<tr><td>WORK PACKAGES</td></tr>
<tr><td>This section concerns a detailed description of the project activities.
Group your activities into work packages. A work package means a major sub-division of the project. For each work package, enter an objective (expected outcome) and list the activities, milestones and deliverables that belong to it. The grouping should be logical and guided by identifiable outputs.
Projects should normally have a minimum of 2 work packages. WP1 should cover the management and coordination activities (meetings, coordination, project monitoring and evaluation, financial management, progress reports, etc) and all the activities which are cross-cutting and therefore difficult to assign to another specific work package (do not try splitting these activities across different work packages). WP2 and further WPs should be used for the other project activities. You can create as many work packages as needed by copying WP1.
For very simple projects, it is possible to use a single work package for the entire project (WP1 with the project acronym as WP name).

Work packages covering financial support to third parties (⚠ only allowed if authorised in the Call document) must describe the conditions for implementing the support (for grants: max amounts per third party; criteria for calculating the exact amounts, types of activity that qualify for financial support (closed list), persons/categories of persons to be supported and criteria and procedures for giving support; for prizes: eligibility and award criteria, amount of the prize and payment arrangements).

⚠ Enter each activity/milestone/output/outcome/deliverable only once (under one work package).</td></tr>
</table>

Work Package 1: Project management and coordination

Work Package 1: Project management and coordination				
Duration:	M1 – M36	**Lead Beneficiary:**		1-TalTech

Objectives
The specific objectives of this WP1 are to coordinate the project, manage administrative and financial matters, organise the Steering Group and the high-level Advisory Board of AIRE (level 3 management) and control quality and monitor impact based on milestones, KPIs and DMA methodology.

Activities (what, how, where) and division of work
Provide a concise overview of the work (planned tasks). Be specific and give a short name and number for each task.
*Show who is participating in each task: Coordinator (COO), Beneficiaries (BEN), Affiliated Entities (AE), Associated Partners (AP), indicating **in bold** the task leader.*
Add information on other participants' involvement in the project e.g. subcontractors, in-kind contributions.
Note:
In-kind contributions: In-kind contributions for free are cost-neutral, i.e. cannot be declared as cost. Please indicate the in-kind contributions that are provided in the context of this work package.
The Coordinator remains fully responsible for the coordination tasks, even if they are delegated to someone else. Coordinator tasks cannot be subcontracted.
If there is subcontracting, please also complete the table below.

Task No	Task Name	Description	Participants		In-kind Contributions and Subcontracting (Yes/No and which)
			Name	Role (COO, BEN, AE, AP, OTHER)	

T1.1	Kick-off and 3 review meetings	Once a year a joint meeting is held with the AIRE team (project manager, WP leaders and other key experts), the Steering Group and the Advisory Board. Project management handbook is prepared for the kick-off meeting taking place at M3. Review meetings are planned M12 and M24 and M36. Also mapping the current situation of supporting AI-related innovation pojects to Innovation Radar is given a special priority.	**TALTECH** UT EMU TEHNOPOL TSP IMECC Associated partners (all)	**COO** BEN BEN BEN BEN BEN AP	NO
T1.2	Monthly progress meetings	Monthly progress meetings are organised with WP managers and key experts of AIRE/EDIH to coordinate and plan EDIH services to the target group, monitor the progress of each service and WP (each WP meetings are held twice a month).	**TALTECH** UT EMU TEHNOPOL TSP IMECC	COO BEN BEN BEN BEN BEN	NO
T1.3	Steering Group (SG) meetings (internal management)	Once a quarter Steering Group meetings are organised to monitor the financial management and organisation of the AIRE/EDIH project. The SG consists of legal representatives of each partner or staff delegated by the legal representative. Also, reviews of AB members are presented to SG once a year. Among others, overiew of possible Innovation Radar projects is given.	**TALTECH** UT EMU TEHNOPOL TSP IMECC	**COO** BEN BEN BEN BEN BEN	NO
T1.4	Advisory Board (AB) meetings (external reviews)	Twice a year, an Advisory Board meeting is organised with Associated Partners, external experts and their formal reviews prepared and presented. In addition to a review of KPIs and impact, Advisory Board takes part in the selection of AIRE test before invest demo projects. Total of 6 AB meetings organised. Also, mapping the current situation of supporting AI-related innovation pojects to Innovation Radar is given a special priority.	**TALTECH** UT EMU TEHNOPOL TSP IMECC Associated partners (ITL, EML, EEL)	**COO** BEN BEN BEN BEN BEN AP	YES (sub-contracting of experts of AB)
T1.5	Monitoring impact based on DMA	Evaluation after 36 months for impact monitoring of AIRE based on the annual reports and final evaluation M34-M36. Monitoring of impact based on DMA index and other impact criteria considered, like macro-economic factors. Impact report presented at M36. Also mapping the current situation of supporting AI-related innovation pojects to Innovation Radar is given a special priority.	**IMECC** TALTECH UT EMU TEHNOPOL TSP	**BEN** COO BEN BEN BEN BEN	NO

Milestones and deliverables (outputs/outcomes)
Milestones are control points in the project that help to chart progress. Use them only for major outputs in complicated projects. Otherwise leave the section on milestones empty.
Means of verification are how you intend to prove that a milestone has been reached. If appropriate, you can also refer to indicators.

> **Deliverables** are project outputs which are submitted to show project progress (any format). Refer only to major outputs. Do not include minor sub-items, internal working papers, meeting minutes, etc. Limit the number of deliverables to max 10-15 for the entire project. You may be asked to further reduce the number during grant preparation.
>
> For deliverables such as meetings, events, seminars, trainings, workshops, webinars, conferences, etc., enter each deliverable separately and provide the following in the 'Description' field: invitation, agenda, signed presence list, target group, number of estimated participants, duration of the event, report of the event, training material package, presentations, evaluation report, feedback questionnaire.
>
> For deliverables such as manuals, toolkits, guides, reports, leaflets, brochures, training materials etc., add in the 'Description' field: format (electronic or printed), language(s), approximate number of pages and estimated number of copies of publications (if any).
>
> For each deliverable you will have to indicate a due month by when you commit to upload it in the Portal. The due month of the deliverable cannot be outside the duration of the work package and must be in line with the timeline provided below. Month 1 marks the start of the project and all deadlines should be related to this starting date.
>
> The labels used mean:
>
>   Public — fully open (⚠ automatically posted online on the Project Results platforms)
>   Sensitive — limited under the conditions of the Grant Agreement
>   EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444.

Milestone No (continuous numbering not linked to WP)	Milestone Name	Work Package No	Lead Beneficiary	Description		Due Date (month number)	Means of Verification
MS1	All project management structures and procedures in place	WP1	TALTECH	A detailed overview of project management structures and procedures is provided in D1.1 Project Management Handbook		M3	D1.1 Project Management Handbook
MS2	AIRE is fully operational	WP1	TALTECH	Service provision in all areas started		M9	List of beneficiaries receiving the services across different service areas
Deliverable No (continuous numbering linked to WP)	**Deliverable Name**	**Work Package No**	**Lead Beneficiary**	**Type**	**Dissemination Level**	**Due Date** (month number)	**Description** (including format and language)
D1.1	Project management handbook	WP1	TALTECH	R	PU	M3	Project management handbook, consisting of all relevant templates and forms for effective coordination, administration and financial management created by M3. (ENG, pdf).
D1.2	Data Management Plan	WP1	UT	R	PU	M6	Data Management Plan prepared (ENG, pdf).
D1.3	Mid-term report	WP1	TALTECH	R	PU	M18	Mid-term report prepared for mid-term evaluation by EC. (ENG, pdf and Excel).
D1.4	Final report	WP1	TALTECH	R	PU	M36	Final report prepared, accepted by the SG and ready for EC. (ENG, in pdf and Excel).

Work Package 2: Test before invest services

Work Package 2: TEST BEFORE INVEST				
Duration:	M1 - M36	**Lead Beneficiary:**		IMECC

Objectives

The aim is to carry out experimentation with new digital technologies related to AI and robotics – software and hardware – to understand new opportunities and return on investments, also including demonstration facilities and piloting. Digital maturity assessment (DMA) monitors the increase in the digital maturity of EDIH-AIRE clients (manufacturing SMEs) that received support from EDIH. The specific objectives of WP 2 are to support manufacturing SMEs in investing in **AI and robotics** through digital maturity assessment (T2.1), AI and robotics suitability analysis (individual consulting, T2.2), AI and robotics demo projects with the industry for testing, piloting and experimenting (T2.3) and lab experiments (T2.4). Up to 10% of the budget, for transferability and awareness raising, AI pilots are carried out in other sectors (like health technology and tourism).

Activities (what, how, where) and division of work

Task No	Task Name	Description	Participants		In-kind Contributions and Subcontracting
			Name	Role	
T2.1	Digital Maturity Assessment (including individual consulting)	All AIRE clients that receive funding under the Digital Europe Programme will be monitored regularly to measure their effectiveness based on the JRC's DMA methodology. DMA evolution of each AIRE client is measured over time according to DMA methodology. Preparations will be made by M3 on how to integrate data for JRC's DMA from the IMECC platform. DMA is linked to analysing possible innovation projects to Innovation Radar (support of best practices). KPI: 360 assessments (150 unique companies).	**IMECC** TSP TALTECH	COO BEN BEN	NO
T2.2	AI and robotics suitability assessment	To support AI and robotisation awareness and investments SMEs and mid-caps are consulted for their maturity specifically in adapting AI solutions and/or robotics.This consulting in company premises is linked to all services – building the roadmap to new developments and investments (mapping possible pilots, training needs, funding gaps, inviting companies to AIRE Club, etc). KPI: 300 assessments made (not unique from 2022-2025, some may receive support annually.)	**TALTECH** TEHNOPOL IMECC TSP	**COO** BEN BEN BEN	YES, sub-contracting (Pool of AI experts)
T2.3	Demo projects and experiments (testing and pilots)	To support digitalisation, increase awareness and support investments, the AIRE consortium collaborates with the industry in carrying out AI and robotics demo projects and experiments (proof-of-concept phase of innovation projects).	**TALTECH** UT EMU IMECC	**COO** BEN BEN BEN	YES, sub-contracting is used to test technologies and involve AI, big data, HPC cyber-security experts.

36

	planning and implementation	Projects/clients are selected openly (call for ideas twice a year). This is not cascade-funding (only consortium-related costs are budgeted). KPI: Total of 54 companies use-cases are involved to test-before invest pilots in 2022-2025. This service is followed with consulting related to access to funding. Best practices (AI pilots) are mapped and also considered as Innovation Radar candidates.			
T2.4	Lab testings (AI, big data, HPC, cybersecurity and robotics test-beds)	Open access to to the labs of TALTECH, University of Tartu (UT) and Estonian University of Life Sciences (EMU) is promoted to SMEs **as AI and robotics test-beds for SMEs and mid-caps.** Total of 150 companies as KPIs (36 months).	**UT** TEHNOPOL EMU	BEN COO BEN	NO

Milestones and deliverables (outputs/outcomes)

Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Description	Due Date	Means of Verification
MS3	JRC DMA reporting procedures established	WP2	IMECC	JRC DMA API integration work is completed and tested	M9	Data exchange has been piloted
MS4	Test before invest client engagement target on track by M18: 50% of the total number of clients serviced by M18	WP2	TALTECH	50% of the target number of clients i.e. 144 companies serviced in all test before invest service categories (DMA, AI and robotics suitability assessment, demo projects, use of labs) by M18	M18	WP2 mid-term report

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date	Description
D2.1	Digital Maturity Assessment (index) ANNUAL REPORT no1.	WP2	IMECC	R	PU	M12	Annual report no 1 in English is prepared (including DMA index). 100 DMA evaluations carried out by M12. Format: pdf.
D2.2	Digital Maturity Assessment (index) ANNUAL REPORT no2.	WP2	IMECC	R	PU	M24	Annual report no 2 in English is prepared (including DMA index). Format: pdf.

D2.3	Digital Maturity Assessment (index) ANNUAL REPORT no3.	WP2	IMECC	R	PU	M36	Annual report no 3 in English is prepared (including DMA index). Format: pdf.
D2.4	WP2 mid-term report (TEST BEFORE INVEST mid-term report.	WP2	TALTECH	R	PU	M18	Mid-term report of WP2 (ENG) including suitability analysis, demo projects and lab testing summary) + demonstrative materials of all demo projects (please see WP6). Format: pdf.
D2.5	WP2 FINAL report	WP2	TALTECH	R	PU	M36	Final report of WP2 (ENG, pdf).

Work Package 3: Skills and Training

Work Package 3: Skills and Training			
Duration:	M1 - M36	**Lead Beneficiary:**	UT
Objectives			
The objective of WP3 is to improve the industry's knowledge, awareness and skills in the fields of digitalisation technologies, AI and robotics.			
Activities (what, how, where) and division of work			

Task No	Task Name	Description	Participants		In-kind Contributions and Subcontracting
			Name	Role	
T3.1	Analysis of target group needs and development of the training plan.	To identify knowledge gaps and training needs of manufacturing SMEs, an analysis will be conducted (incl. interviews and/or surveys among the target group, publicly available reports, input from Associated Partners, etc.)	**UT** TALTECH IMECC EMU TSP TEHNOPOL	BEN COO BEN BEN BEN BEN	NO

| T3.2 | Trainings in the fields of digitalisation technologies, AI and robotics | Different training formats will be used and the most appropriate chosen for each topic. Formats include, but are not limited to intensive courses, short webinars and MOOCs (Massive Open Online Courses). KPI: 900 participants from 2022-2025. | **UT**
TALTECH
IMECC
EMU
TSP
TEHNOPOL | COO
BEN
BEN
BEN
BEN
BEN | Yes, sub-contracting (some trainers and experts in AI and robotics) |
| T3.3 | Analysis of training impact | Analysis of skills development (including comparison with DMA methodology), 2 annual reports and 1 final report of WP3. | **UT** | BEN | NO |

Milestones and deliverables (outputs/outcomes)

Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Description		Due Date	Means of Verification
MS5	2/3 of targeted participants have received relevant trainings by M24	WP3	UT	2/3 of targeted participants i.e. 600 persons trained by M24, 85% reporting positive impact on skills development (end of year 2 as in year 1 training offers may still be adjusted)		M24	WP3 Report on trainings and feedback analysis in M24 (ENG). Format: pdf.
Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date	Description
D3.1	Report of analysis of AIRE target group needs.	WP3	UT	R	PU	M3	A survey among AIRE's clients is done to map training needs in AI and robotics (15 company interviews by AIRE consortium partners) with a prepared online questionnaire. Format: Survey Report in ENG, pdf. Consulting with Enterprise Europe Network (EEN).
D3.2	Report on trainings and feedback analysis.	WP3	UT	R	PU	M12, M24, M36	Annual reports are made (2 annual reports, 1 final report) on trainings carried out (including a list of participants, company profiles, obtained skills and feedback). ENG, pdf.

Work Package 4: Support to find funding

Work Package 4: Support to find funding					
Duration:	M3 - M36	**Lead Beneficiary:**		P4- TEHNOPOL	
Objectives					
The objective of WP4 is to consult clients (mainly manufacturing companies) in finding state, regional, EU and private funding and loans (collaboration with banks) for financing AI and robotics related digitalisation projects and thus supporting investments to innovation.					
Activities (what, how, where) and division of work					
Task No	Task Name	Description	Participants		In-kind Contributions and Subcontracting
			Name	Role	
T4.1	Financing roadmap for 2022-2025 for the support of finding funding.	Through the analysis of all relevant funding schemes for AI and robotisation (also industry digitalisation) a financing roadmap is made. Collaboration with EEN.	**TALTECH** UT EMU TEHNOPOL TSP IMECC	COO BEN BEN BEN BEN BEN	YES (sub-contracting, by involving some private consultants)
T4.2	Consulting related to state and EU funding (including collaboration with EEN).	Consulting AIRE clients (mainly manufacturing companies) in finding state and EU funding.	**TALTECH** All beneficiaries EBI (state funding)	COO BEN AP	YES (sub-contracting, by involving consultants)
T4.3	Consulting related to the involvement of private funding and loans.	Consulting AIRE clients involving private funding and loans for AI and robotics investments and innovation projects.	**TEHNOPOL**	BEN	YES (sub-contracting, by involving consultants)
T4.4	Initiation of parallel and related AIRE consortium projects in AI and robotics (DEP, Horizon Europe, ERASMUS, Interreg, etc).	To build synergy with R&D projects (state, SF, Horizon funded, etc), AIRE acts as an active initiator of and participant in new projects in the field of AI and robotics. Collaboraiton with other EDIHs.	**UT** in collaboration with all beneficiaries	BEN	YES (sub-contracting, by involving consultants)
Milestones and deliverables (outputs/outcomes)					

Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Description		Due Date	Means of Verification
MS6	Support-to-find-funding client engagement target on track by M18: 50% of total number of clients serviced	WP4	TEHNOPOL	50% of the target number of clients consulted related to financing opportunities (regarding both public and private funding sources) by M18		M18	Project mid-term report (D1.3 will include an overview of progress in all activities, incl. WP4), ENG, pdf.

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date	Description (including format and language)
D4.1	Roadmap of funding for AIRE 2022-2025	WP4	TEHNOPOL	R	PU	M6	AIRE funding roadmap covers a list of funding measures, keywords, eligibility, co-financing rules, budget limits, etc as a tool for for consulting clients in finding funding, as well as other pojects with EDIHs. ENG, pdf.
D4.2	Final WP4 report	WP4	TEHNOPOL	R	PU	M36	The final report provides an overview of the results of all WP4 activities and outlines total public public (state, regional and EU) and private financing engaged by 1) AIRE´s clients and 2) key stakeholders (incl. consortium projects). ENG, pdf

Work Package 5: Networking and development of the ecosystem

Work Package 5: Networking and development of the ecosystem			
Duration:	M3 – M36	**Lead Beneficiary:**	Tartu Science Park (TSP)
Objectives *List the specific objectives which this work package aims to achieve*			
The objective of this WP is to coordinate networking activities and develop a sustainable EDIH ecosystem in Estonia in collaboration with a variety of relevant stakeholders from Estonia and the EU. Collaboration is operational with other EDIH-s in Europe based on the needs of EDIH clients from all over Europe.			
Activities (what, how, where) and division of work			
Task No	Task Name	Description	Participants

			Name	Role	In-kind Contributions and Subcontracting
T5.1	Development of the ecosystem	Development of the ecosystem (including with other EDIHs and involvement of clients in Europe). Collaboration with Enterprise Europe Network (EEN) based on the Memorandum of Joint Agreement. The AIRE partnership network is designed to promote communication between industrial companies, researchers, IT and electronics companies, and funders of innovation projects. AIRE also prioritises cooperative creation and communication with professional associations.	TSP TalTech UT IMECC Tehnopol EMÜ Associated Partners	COO COO BEN BEN BEN BEN AP	Yes, (sub-contracting, by involving consultants, venue, catering)
T5.2	Organising AIRE Clubs (networking events)	To strengthen cooperation AIRE is launching AIRE Club as a unique series of events that create a free and open atmosphere in a space where our partners can communicate and network together. The events will be held every month in Tartu, Tallinn or other regions of Estonia (7 clubs per year for 3 years from September to May, collaboration with the network, including with EEN).	TSP TalTech UT IMECC Tehnopol EMÜ Associated Partners	COO COO BEN BEN BEN BEN AP	Yes, (sub-contracting, by involving consultants, venue, catering)
T5.3	Organising best practice seminars for awareness raising of AI and robotics	To raise awareness about AIRE services (including other EDIH-s in Europe) and to spread knowledge about innovative demo projects, AIRE is organising best practice seminars/events (2 events per year for 3 years). At the best practice events, SMEs will share their experience about AIRE tailor-made solutions for individual businesses while achieving results that are universal, so that the solutions, products or services that emerge from the project can be transferred to other businesses and other sectors.	TalTech UT IMECC Tehnopol EMÜ TSP Associated Partners	COO BEN BEN BEN BEN BEN AP	Yes, (sub-contracting, by involving consultants, venue, catering)
T5.4	Collaboration with other EDIHs in Europe	AIRE is a member of a pan-European network of more than 200 EDIHs in the EU, so AIRE will collaborate closely with their international partners (including offering services to SMEs in Europe (clients of other EDIHs)). AIRE Club can be a	TalTech UT IMECC Tehnopol TSP	COO BEN BEN BEN BEN	Yes, (sub-contracting, external services)

| | | physical meeting space for presenting not only local services and success stories but also the work of foreign hubs that may be of interest to Estonian manufacturing companies. | EMÜ | BEN | |
| T5.5 | Matchmaking of SMEs in Europe (between Estonian and European SMEs). | „Light" mathchmaking (mainly through individual contacts between SMEs, AI developers, etc) in collaboration with EDIH and EEN. **MoU is signed between EEN coordinator (Estonian Chambre of Commerce and Industry) and TalTech.** Task leader TSP is partner in both EDIH and EEN to build synergy and avoid any over-lapping. | **TSP** TalTech EEN consortium in Estonia as associate partner ITL, EML, EEIA (associations of companies) | BEN COO AP APs | NO |

Milestones and deliverables (outputs/outcomes)

Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Description	Due Date	Means of Verification
MS7	Collaboration agreements in place with strategic partners among other EDIHs in Europe, the EEN and other key ecosystem partners	5	TALTECH	Key areas of collaboration specified and agreed upon with strategic ecosystem partners nationally and in Europe	M6	MoUs/written agreements with each strategic partner

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date	Description (including format and language)
D5.1	Mid-term report of WP5	5	TSP	R	PU	M18	Mid-term report describes progress related to all WP5 activities. ENG, pdf.
D5.2	Final WP5 report	5	TSP	R	PU	M36	Final report covers the results of all WP5 activities. ENG, pdf.

Work package 6: Dissemination and Communication

Work Package 6: Communication and dissemination			
Duration:	M1 – M36	**Lead Beneficiary:**	**TALTECH**

Objectives					
List the specific objectives which this work package aims to achieve					
●Create brand awareness of AIRE among target audience as well as AI and robotics ecosystem on the level that emerges interest towards the value that AIRE creates in Estonia and Europe and makes them follow AIRE's communication channels					
●Generate sufficient applications feed and participants to the AIRE services, trainings, initiatives, services, events, and AIRE Clubs.					
Activities (what, how, where) and division of work					
Task No	Task Name	Description	Participants		In-kind Contributions and Subcontracting
			Name	Role	
T6.1	Updating aire-edih.eu website (created already in preparation phase in 2021)	Add EDIH map, DMA progress of clients monitoring (average), visual KPIs, services, team, news, gallery, events (AIRE Clubs, trainings).	**TALTECH** UT EMU IMECC TSP TEHNOPOL	**COO** BEN BEN BEN BEN BEN	YES, a website developer and a designer partner
T6.2	Gathering target audiences' insights for AIRE's key messages and branding (linked to Task 3.1).	The survey to map expectations as well as insights and make the first intro of AIRE to potential customers will be organised. Insight survey is also a tool to reach new AIRE clients (25 companies CEOs or development managers interviewed).	**TALTECH** UT EMU IMECC TSP TEHNOPOL	**COO** BEN BEN BEN BEN BEN	No
T6.3	Design and execution of communication and dissemination plan	Designing a detailed plan for communication and dissemination (D6.1). Execution of activities according to the plan and project needs: campaign for call for ideas of AI demo projects through social media, direct mail and consortium channels; events, trainings and activities pre- and post-communication to provide visibility and participation according to the project KPIs; production and dissemination of videos about demo projects (linked to T6.4), best practices, services and events.	**TALTECH** UT EMU IMECC TSP TEHNOPOL	**COO** BEN BEN BEN BEN BEN	Yes, a design partner will be used for producing the campaign idea and materials and a video production partner will be used for producing videos (S 6.2).
T.6.4	Development of the Digital Showroom of EDIH AIRE (digital materials).	The digital showroom concept will be developed, linked to T6.3 competition to find a design partner. Production will be organised and the content produced with	**TALTECH** UT EMU IMECC	**COO** BEN BEN BEN	Yes, digital showroom producer and production partner

| | | | | the chosen partner. All AIRE partners who showcase the digital content of AIRE Show-Room in their screens, during conferences and exhibitions (around 250 screens of AIRE consortium). | TSP TEHNOPOL | BEN BEN | |

Milestones and deliverables (outputs/outcomes).

Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Description	Due Date	Means of Verification
MS1	Outreach covering at least 50% of the AIRE key target groups by M12	WP6	TALTECH	Outreach to at least 50% of the key target groups (see section 1.1; key focus on manufacturing SMEs) ensuring a high level of awareness regarding AIRE´s services	M12	Report on the execution of communication and dissemination plan M12

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date	Description
D6.1	Dissemination and Commu-nication Plan	WP6	TALTECH	R	PU	M6	Dissemination and Communication Plan ready and submitted in ENG to EC. Format: pdf
D6.2	Updated website published	WP6	TALTECH	DEC	PU	M6	EST and ENG website updated according to the Task 1.1/WP6 listed above
D6.3	Report on the execution of communication and dissemi-nation plan	WP6	TALTECH	R	PU	M36	EST and ENG plan developed together with the consortium partners and executed alongside with the partners Format: pdf

Estimated budget — Resources (n/a for prefixed Lump Sum Grants).

Participant		Costs (EUR)									
		A. Personnel	B. Sub-contracting	C.1 Travel and subsistence	C.2 Equipment	C.3 Other goods, works and services	D.1 Financial support to third parties		D.2 Internally invoiced goods and services	D.3 PAC procure ment costs	E. Indirect costs	Total costs
TALTECH	529	2 380 500	273 750	65 616	53 460	169 451	0	0	82 700	0	211 783	3 237 260

UT	147	661 500	17 265	9 340	29 700	193 295	0	0	35 700	0	66 276	1 013 076
EMU	64	192 000	25 380	5 076	7 614	18 730	0	0	5 000	0	17 766	271 566
Tehnopol	46	204 792	224 400	4 000	0	11 108	0	0	0	0	31 101	475 401
TSP	93	372 000	0	2 000	0	19 800	0	0	0	0	27 566	421 366
IMECC	103	501 301	30 000	3 000	0	8 999	0	0	0	0	38 031	581 331
Total	**982**	**4 312 093**	**570 795**	**89 032**	**90 774**	**421 383**	**0**	**0**	**123 400**	**0**	**392 523**	**6 000 000**

*Associated partners not included, as they take part in AIRE without EDIH budget (please see template A for the list of Associated partners).

Overview of Work Packages *(n/a for Lump Sum Grants)*

Staff effort per work package (*Fill in the summary on work package information and effort per work package).*

Work Package No	Work Package Title	Lead Participant No	Lead Participant Short Name	Start Month	End Month	Person-Months
1	Project management and coordination	1	TALTECH	1	36	107
2	Test before invest	6	IMECC	1	36	602
3	Skills and trainings	2	UT	3	36	98
4	Support to find funding	4	TEHNOPOL	3	36	47
5	Networking and ecosystem development	5	TSP	1	36	74
6	Dissemination and communication	1	TALTECH	1	36	54
					Total Person- Months	**982**

Staff effort per participant
Fill in the effort per work package and Beneficiary/Affiliated Entity.
Please indicate the number of person/months over the whole duration of the planned work.
Identify the work-package leader for each work package by showing the relevant person/month figure in **bold**.

Participant	WP 1	WP2	WP3	WP4	WP5	WP6	Total Person-Months
Tallinn University of Technology (TALTECH)	63	338	37	31	30	30	529
University of Tartu (UT)	8	95	33	2	2	7	147
Estonian University of Life Sciences (EMU)	12	40	8	0	2	2	64
Tallinn Science Park TEHNOPOL (TEHNOPOL)	8	14	0	14	5	5	46

Tartu Science Park (TSP)	8	50	0	0	30	5	93
IMECC OÜ (IMECC)	8	65	20	0	5	5	103
Total Person-Months	**107**	**602**	**98**	**47**	**74**	**54**	**982**

4.3 Timetable

	ACTIVITY	2022		2023				2024				2025	
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
WP1	Task 1.1 Kick-off and 3 review meetings	■				■				■			■
	Task 1.2 Monthly progress meetings	■	■	■	■	■	■	■	■	■	■	■	■
	Task 1.3 Steering Group meetings (once a quarter)	■	■	■	■	■	■	■	■	■	■	■	■
	Task 1.4 Advisory Board (AB) meetings (external reviews)	■											■
	Task 1.5 Monitoring impact based on DMA	■	■	■	■	■	■	■	■	■	■	■	■
WP2	Task 2.1 Digital Maturity Assessment	■	■	■	■	■	■	■	■	■	■	■	■
	Task 2.2 AI and robotics suitability analysis (AIRE methodology developed)		■	■	■	■	■	■	■	■	■	■	■
	Task 2.3 AI and robotics demo projects and experiments (test before invest)		■	■	■	■	■	■	■	■	■	■	■
	Task 2.4 Lab tests for clients (university test-beds of AI, big data, HPC, cybersecurity and robotics)			■	■	■	■	■	■	■	■	■	■
WP3	Task 3.1 Analysis of target group needs and development of the training plan	■											
	Task 3.2 Training in the fields of digitalisation technologies, AI, and robotics		■	■	■	■	■	■	■	■	■	■	■
	Task 3.3 Analysis of training impact											■	■
WP4	Task 4.1 AIRE financing roadmap for 2022-2025	■	■	■	■	■							
	Task 4.2 Consulting related to state and EU funding			■	■	■	■	■	■	■	■	■	■
	Task 4.3 Consulting related to the involvement of private funding and loans			■	■	■	■	■	■	■	■	■	■
	Task 4.4 Initiation of parallel and related AIRE consortium projects for AI			■	■	■	■	■	■	■	■	■	■
WP5	Task 5.1 Development of the ecosystem	■	■	■	■	■	■	■	■	■	■	■	■
	Task 5.2 AIRE Clubs networking events (once a month from Sept to May)	■	■	■	■	■	■	■	■	■	■	■	■
	Task 5.3 Best practice seminars for awareness raising (2 events per year)									■			■
	Task 5.4 Collaboration with other EDIHs in Europe	■	■	■	■	■	■	■	■	■	■	■	■
	Task 5.5 Matchmaking of SMEs in Europe		■	■	■	■	■	■	■	■	■	■	■
WP6	Task 6.1 Update of aire-edih.eu website	■	■	■	■	■	■	■	■	■	■	■	■
	Task 6.2 Insight survey of the industry (linked to T2.1 and T3.1)	■	■	■	■								
	Task 6.3 Designing and execution of communication and dissemination plan	■	■	■	■	■	■	■	■	■	■	■	■
	Task 6.4 Digital Showroom			■	■	■	■	■	■	■	■	■	■

4.4 Subcontracting *(n/a for prefixed Lump Sum Grants)*

Subcontracting

Give details on subcontracted project tasks (if any) and explain the reasons why (as opposed to direct implementation by the Beneficiaries/Affiliated Entities).

Subcontracting — Subcontracting means the implementation of 'action tasks', i.e. specific tasks which are part of the EU grant and are described in Annex 1 of the Grant Agreement.

Note: *Subcontracting concerns the outsourcing of a part of the project to a party outside the consortium. It is not simply about purchasing goods or services. We normally expect that the participants have sufficient operational capacity to implement the project activities themselves. Subcontracting should therefore be exceptional.*

Include only subcontracts that comply with the rules (i.e. best value for money and no conflict of interest; no subcontracting of coordinator tasks).

Work Package No	Sub-contract No (continuous numbering linked to WP)	Subcontract Name (subcontracted action tasks)	Description (including task number and BEN to which it is linked)	Estimated Costs (EUR)	Justification (Why is subcontracting necessary?)	Best-Value-for-Money (How do you intend to ensure it?)
WP1	S1.1.	Advisory Board expert fees for annual quality and impact review (external experts). 4-5 external experts are involved to analyse AIRE outcomes, deliverables and impact once a year. AB also evaluates possible Innovation Radar projects developed in AIRE EDIH.	Task 1.4: Involvement of AI and robotics experts for annual reviewing and selection of demo projects (TALTECH)	24 000,00	For quality and annual reviewing of AIRE impact, external experts are included	Open and transparanent selection of experts (state tendering rules applied) with quality criterias and methodology.
WP 2	S2.1	**A pool of external AI mentors is involved by TEHNOPOL (one tender for the consortium)**. Tasks: Mapping AIRE client's potential and suitability in developing and applying AI in their company either in production digitalisation or product digitalisation (in case of own products). Mapping company's need for training (WP3), funding (WP4), test-beds and demo-projects with universities (Task 2.3 and Task 2.5). A pool of private AI mentors is also relevant to build a bridge between clients and private sector service providers.	Task 2.2 AI suitability assessment (TEHNOPOL)	210 000,00	**To avoid market disturbance** and to have the best AI mentors on board who will help the AIRE clients with AI suitability assessment and mapping possible innovation projects (also for Innovation Radar potential) for T2.3 (S2.2).	Open and transparanent selection of AI mentors (state tendering rules applied) with quality criterias and methodology.
WP2	S2.2	External experts for test before invest AI and robotics demoprojects and experiments. Universities carry out demoprojects with a total of 54 companies (use-case type of pilots) and where necessary, external experts are also	Task 2.3 Test before invest AI and robotics demo projects – involvement of external AI experts	224 520,00	To include expertise that is not available internally and have the best technical experts available on market outside universities for	Open and transparanent selection of AI, robotics, big data, cybersecurity experts (state tendering rules applied) with quality

		involved (AI, cybersecurity, HPC, big data, robotics, data management, etc).	(TALTECH, UT, EMU, IMECC)		public-private collaboration.	criterias and methodology).
WP3	S3.1	External experts are involved as trainers to AI and robotics related trainings to SME.s – involvelment of external experts as trainers, for example company representatives to describe AI and robotics use-cases as best practices.	T3.2 AI and robotics trainings to SMEs and mid-caps (TALTECH, UT, EMU, IMECC)	30 575,00	To include expertise that is not available internally	Open and transparanent selection of experts (state tendering rules applied) with quality criterias and methodology.
WP4	S4.1	External expert for involvement of private funding (private consultants involved to AIRE clients).	T 4.3 Support to find private funding (TEHNOPOL)	14 400,00	To include expertise that is not available internally	Open and transparanent selection of experts (state tendering rules applied) with quality criterias and methodology.
WP4	S4.2	External experts and consultants are involved to prepare AI and robotics projects applications to Horizon Europe, DEP, etc.	T4.4 Initiation of Horizon, DEP, EIC Accelerator and other projects in the field of AI and robotics (TALTECH, UT)	30 500,00	To include expertise that is not available internally	Open and transparanent selection of experts (state tendering rules applied) with quality criterias and methodology.
WP6	S6.1	External expert is involved to for dissemination materials and content (translation, editing and design).	T6.3 for dissemination and communication (translation, editing and design). TALTECH and UT	7 800,00	To include expertise that is not available internally	Open and transparanent selection of experts (state tendering rules applied) with quality criterias and methodology.
WP6	S6.2	External expert for development of videos and design of AIRE brand materials for the AIRE Show-Room content.	Task 6.4. Show-room concept and digital materials of AIRE brand and AI awareness raising materials (incl videos).	29 000,00	To include expertise that is not available internally	Open and transparanent selection of experts (state tendering rules applied) with quality criterias and methodology.
Other issues: *If subcontracting for the entire project goes beyond 30% of the total eligible costs, give specific reasons.*			Not applicable **(total sub-contracting costs 570 795 euros i.e. 9,51 %)**			

Call: DIGITAL-2021-EDIH-INITIAL-01 - European Digital Innovation Hubs
AI & Robotics Estonia (EDIH) – AIRE (SEP-210814614)
01.11.2021

EU Grants: Application form (DEP): V1.0 –

5. OTHER

5.1 Ethics – *Ethics issues are addressed in the annexed "Ethics issues table"*

5.2 Security *– Not applicable*

6. DECLARATIONS

Double funding	
Information concerning other EU grants for this project *Please note that there is a strict prohibition of double funding from the EU budget (except under EU Synergies actions).*	**YES/NO**
We confirm that to our best knowledge neither the project as a whole nor any parts of it have benefitted from any other EU grant *(including EU funding managed by authorities in EU Member States or other funding bodies, e.g. Erasmus, EU Regional Funds, EU Agricultural Funds, European Investment Bank, etc)*. If NO, explain and provide details.	YES
We confirm that to our best knowledge neither the project as a whole nor any parts of it are (nor will be) submitted for any other EU grant *(including EU funding managed by authorities in EU Member States or other funding bodies, e.g. Erasmus, EU Regional Funds, EU Agricultural Funds, European Investment Bank, etc)*. If NO, explain and provide details.	YES

Financial support to third parties (if applicable) *If in your project the maximum amount per third party will be more than the threshold amount set in the Call document, justify and explain why the higher amount is necessary in order to fulfil your project's objectives.*
Not applicable.

ANNEXES

LIST OF ANNEXES

Standard

Detailed budget table/Calculator (annex 1 to Part B) — *not applicable*

CVs (annex 2 to Part B) — *not applicable*

Annual activity reports (annex 3 to Part B) — *not applicable*

List of previous projects (annex 4 to Part B) — *annexed*

Special

Other annexes (annex 5 to Part B):

Proof of Member State Designation