AI-BOOST

Delivering the next level of European
AI Open competitions

AI BOOST AI CHALLENGE COMPETITION

GUIDELINES FOR APPLICANTS

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EXECUTIVE SUMMARY

This guide aims to assist all potential applicants of the AI Challenge Competition. You can discover the competition and prizes and learn all the steps and procedures you need to follow once you decided to apply.

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1 AI-BOOST AT A GLANCE

1.1 WHAT IS AI-BOOST?

AI-BOOST is an **EU-funded prominent open challenge prize program** that will serve as a benchmark for the European artificial intelligence (AI) community.

The overall objective of the project is to create and run highly replicable **AI Challenge Competition** that attracts outstanding talent all over EU and Associated Countries **to drive scientific progress in the major AI Areas**. The project will foster collaboration between the key stakeholders in AI community to define attractive AI challenges with the potential to lead trustworthy and human-centric real-world solutions.

- A **unique sound methodology** capable to define high social impact AI challenges.
- A highly **replicable and attractive AI Challenge Competition** capable to lead breakthroughs technologies and solutions with substantial scientific progress.
- Provide **access to infrastructure and expert knowledge** and promote its adoption through effective training and troubleshooting during the challenges implementation.
- **Attract outstanding talent** and the best research teams to tackle AI challenges.
- **Engage private and public sponsors** capable to provide funding, attractive rewards, and expertise.
- An **AI community** to foster interaction among all relevant stakeholders.

1.2 WHO RUNS AI-BOOST?

AI-BOOST consortium is formed by 7 partners from 6 European countries (Spain, Portugal, Ireland, Hungary, Italy and Slovakia).

ZABALA – Zabala Innovation Consulting, S.A.

Website: https://www.zabala.eu/

We are a leading international consultancy firm in innovation strategy and R&D&I financing. Since 1986, we have been supporting our clients in their entrepreneurial drive through the search for financing and the management and promotion of innovation. We work with European Institutions, National and International Public Bodies, SMEs & Startups, Large Companies, Research & Academia

F6S – F6S Network Ireland Limited

Website: https://www.f6s.com/

Brief description: F6S is a European based entity that has become the largest Startup/SME community globally with over 1.5 million Startups/SMEs and 2.0 million entrepreneurs. F6S delivers more than €2 billion every year to Startups and SMEs with with leading CRM for deal flow, corporate challenges, structured programs, startup services, corporate partnering, recruiting, government grants, and free startup resources.

F6S is the leading platform for application management for commercial, corporate, government, university, and other accelerator programs, helping more than 17.000 such initiatives worldwide.

CINECA - Cineca Consorzio Interuniversitario

Website: https://www.cineca.it/

Brief description: CINECA's aim is to accelerate the scientific discovery by providing high performance computing resources, data management, as well as HPC services and expertise. Moreover, CINECA (a not-for-profit Interuniversity Consortium with 117 members) provides technical and scientific services related to high-performance computing to the Italian and European research community.

The staff dedicated to HPC supports the users and offers consultancy in tools and techniques in several disciplinary fields ranging from medicine to meteorology, from seismology to fluid dynamics, to bioinformatics and chemistry, to provide a solid and reliable computing environment for the scientific community.

CINECA is the hosting site for EuroHPC JU pre-exascale system LEONARDO.

INESC TEC - Instituto De Engenhariade Sistemas e Computadores, Tecnologia e Ciencia Porto

Website: https://www.inesctec.pt/en

Brief description: INESC TEC is a private non-profit research association, with Public Interest status, dedicated to scientific research and technological development,

technology transfer, advanced consulting and training, and pre-incubation of new technology-based companies. The 13 R&D Centres of INESC TEC are structured in four thematic domains - Computer Science, Industrial and Systems Engineering, Networked Intelligent Systems, and Power and Energy.

UPJS - Univerzita Pavla Jozefa Safarika V Kosiciach

PAVOL JOZEF ŠAFÁRIK UNIVERSITY IN KOŠICE

Website: https://www.upjs.sk/

Brief description: UPJŠ is a research-based university generating its highest level of scientific knowledge through a vibrant community of young researchers in collaboration with their supervisors. The Faculty of Science is the strongest contributor to the research outputs of the university and key partners in EDIH CASSOVIUM (EDCASS). Within their Law Faculty have experts on AI Legal issues.

EIT DIGITAL -EIT Digital

28 DGTL

Website: https://28digital.eu/

Brief description: 28DIGITAL is a pan-European multi-stakeholder open-innovation ecosystem of top European corporations, SMEs, startups, universities and research institutes, where students, researchers, engineers, business developers and investors address the technology, talent, skills, business and capital needs of digital entrepreneurship.

28DIGITAL build the next generation of digital ventures, digital products and services, and breed digital entrepreneurial talent, helping business and entrepreneurs to be at the frontier of digital innovation by providing them with technology, talent, and growth support.

UPF - Universitat Pompeu Fabra

upf. Universitat Pompeu Fabra Barcelona

Website: www.upf.edu/web/etic

Brief description: UPF is a public, international and research-intensive university that, in just thirty-two years, has earned a place for itself among the best universities in Europe. UPF is the third Spanish university in the world Top 200 (THE2023). The Department of Information and

Communication Technologies (DTIC) of UPF has an important track record of active participation in EU projects (67 H2020 projects, many ERC grants (21)). DTIC-UPF is the only Spanish university ICT department that has been awarded a second time the *Maria de Maeztu* research excellence seal by the Spanish government.

2 AI BOOST AI CHALLENGE COMPETITON

2.1 CONTEXT AND OBJECTIVES

The AI Challenge Competition (teams from academia and/or industry) will launch 4 attractive Generative AI challenges addressing strategic industrial and societal domains: autonomous robotics, engineering design and simulation, healthcare AI, and automotive safety. The competition aims to drive significant research and technological progress by advancing innovative Generative AI solutions from Technology Readiness Level (TRL) 2–3 to TRL 4–5.

The AI-BOOST competition follows a two-phase funnel approach designed to identify, support and accelerate the most promising teams from academia and industry. This approach enables the AI-BOOST consortium, evaluators and Challenge Owners to progressively focus resources and support on the strongest candidates, while ensuring continuous monitoring of scientific and technical progress throughout the competition. The methodology builds on the experience and best practices of previous European open innovation programmes, including DAPSI, EDI, REACH and BLOCKCHERS.

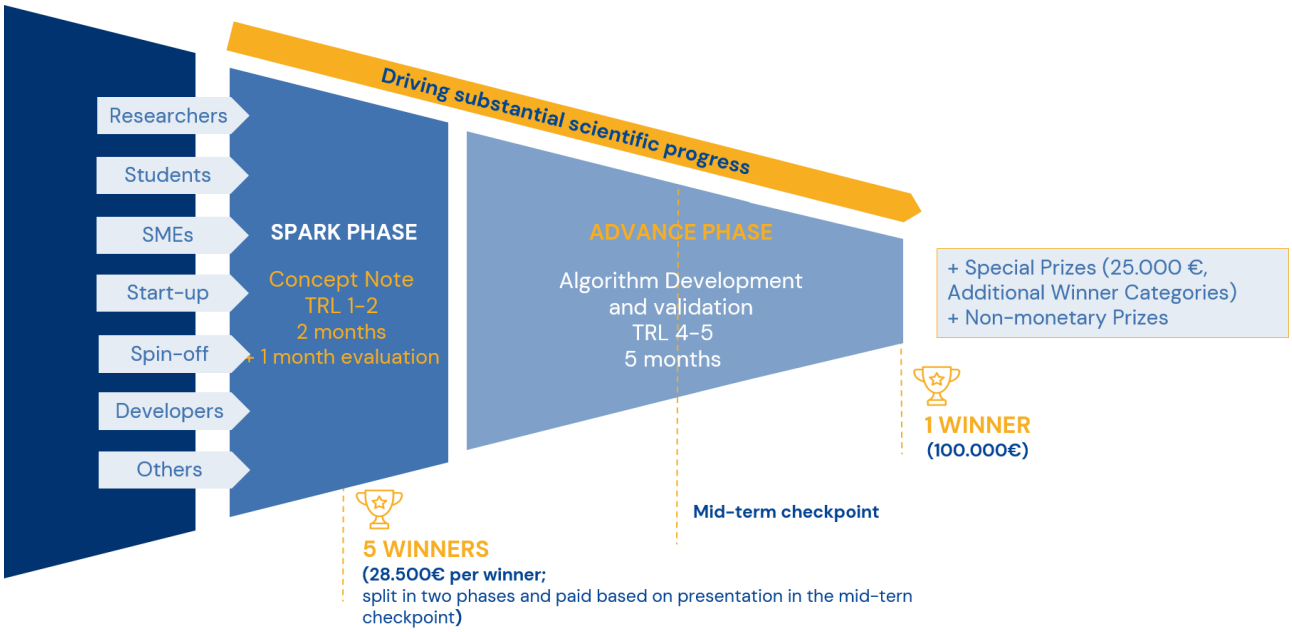

FIGURE 1 FUNNEL APPROACH

The competition consists of the following phases:

- **Spark Phase I:** Submission and evaluation of a Concept Note. Five winners will be selected for each challenge and awarded a prize of EUR 28,500 each.
- **Advance phase:** Development, model validation and demonstration of AI solutions. The five winners of the SPARK Phase will enter a five-month development programme involving algorithm development, validation activities, conceptual and technical monitoring, and a final live demonstration. One winner will be selected for each challenge and awarded a final prize of EUR 100,000.

The AI-BOOST competition is expected to generate 20 breakthrough AI solutions, contributing to substantial scientific and technological progress in the targeted AI domains. Among these, four solutions (one per challenge) will be recognised as the most promising for industrial adoption and real-world deployment.

The two-phase competition structure incorporates dedicated monitoring and support mechanisms to ensure continuous progress throughout the development process, while fostering close collaboration between participants, Challenge Owners, industry stakeholders and AI-BOOST.

2.1.1 SPARK PHASE

Participation will be opened to one or more individuals or entities (teams and consortiums) from academia and industry (incl. start-ups and SMEs, students, rising stars and newcomers professionals). The teams registered will choose one challenge, depending on their interests, and provide a solution to the problem statement(s).

At the end of this phase, participants will propose ideas to develop an algorithm that may solve a specific published challenge. The submission of the concept note will be performed through the F6S platform.

Spark Phase Winners: Five winners per challenge will receive 28.500€ each and they will be invited to the Advanced phase.

Before entering the Advance Phase, selected participants will be required to sign a participation agreement with the AI-BOOST consortium and the corresponding Challenge Owner. Upon signature of this agreement, participants will receive the first instalment corresponding to 50% of their SPARK Phase prize.

2.1.2 ADVANCE PHASE

The Advance Phase will be open exclusively to the **five winners of the SPARK Phase** for each challenge. This is the main phase of the competition, during which participants will further develop, train, validate and demonstrate their AI-based solutions in response to the challenge problem statements.

The Advance Phase will start with a dedicated **kick-off meeting** organised by the AI-BOOST consortium and the Challenge Owner. During this session, participants will receive a detailed introduction to the challenge objectives, datasets, evaluation methodology, available resources, any

challenge-specific technical constraints, if applicable, and expected outcomes. Participants will also have the opportunity to discuss technical and challenge-specific questions directly with the Challenge Owner and consortium experts.

Throughout the phase, participants will work with the datasets, infrastructure and technical resources made available by AI-BOOST and the Challenge Owners. Further information on the datasets is provided in the specific Challenge Description. Additional technical details, including access conditions, data specifications and challenge-specific requirements, will be presented during the kick-off meeting.

Where required, participants may also access the high-performance computing (HPC) infrastructure provided by CINECA, together with the associated training and technical support services necessary for the development, training and validation of their solutions (see section 2.4). Applicants must indicate in the SPARK Phase Application Form whether they intend to request access to CINECA's infrastructure, so that the technical requirements and feasibility of such access can be properly assessed.

The Advance Phase will last five months. Throughout this period, participants are expected to continuously improve their solutions and may submit their algorithms on a monthly basis for automatic scoring. The automatic scores will be used to generate a **leaderboard**, allowing participants to monitor their performance and benchmark their progress against the other teams participating in the same challenge. The leaderboard will periodically communicated by email to participants and other relevant members of the AI-BOOST community.

During the five-month period, AI-BOOST and the Challenge Owner will provide continuous support to participants through technical guidance sessions, Q&A activities, webinars and other support mechanisms designed to facilitate the successful development of the proposed solutions.

Approximately two months after the start of the Advance Phase (December 2026), participants will take part in a mandatory **Mid-Term Checkpoint**. During this checkpoint, teams will present the work carried out during the first part of the phase, including the technical specifications of the solution, the progress achieved in the technical development and the preliminary results obtained through the automatic scoring framework.

The Mid-Term Checkpoint will be assessed on a pass/fail basis and will not contribute to the final score of the competition. Its purpose is to verify that participants are actively engaged in the challenge and making sufficient progress towards the development and validation of their solution. Participants successfully completing the Mid-Term Checkpoint will receive the remaining 50% of their SPARK Phase prize.

Following the Mid-Term Checkpoint, the Challenge Owner and relevant AI-BOOST consortium experts will provide **qualitative feedback** to the participants. This feedback will be intended to support the further improvement of the solutions and may include technical recommendations, clarifications on challenge-specific requirements and guidance on the next development steps. Participants will also have the opportunity to raise technical or challenge-related questions during the session.

Where necessary, challenge clarifications or corrections identified during the competition may be introduced following the Mid-Term Checkpoint. Any such changes will be communicated equally to all participants and implemented in a manner that preserves fair competition and equal treatment.

At the end of the Advance Phase, participants will be required to submit their final algorithm, a Final Report describing the developed solution and its results.

The phase will conclude with a **Final Live Competition event**, expected to take place in February 2027 in Brussels. During this event, participants will publicly present and demonstrate their solutions before a panel of evaluators, Challenge Owners, AI-BOOST consortium representatives and relevant stakeholders. The live demonstration will allow participants to show the functionality, performance and practical relevance of their solution in relation to the challenge objectives. The Final Event will also include a public pitch session and audience voting.

The final ranking will be based on the technical quality of the solution, the automatic performance score of the final algorithm submission, the Final Report, the quality and effectiveness of the live demonstration during the Final Live Competition, and audience voting, according to the weighting defined in the evaluation section of this document (see section 4).

One winner per challenge will be selected and awarded the final challenge prize of EUR 100,000.

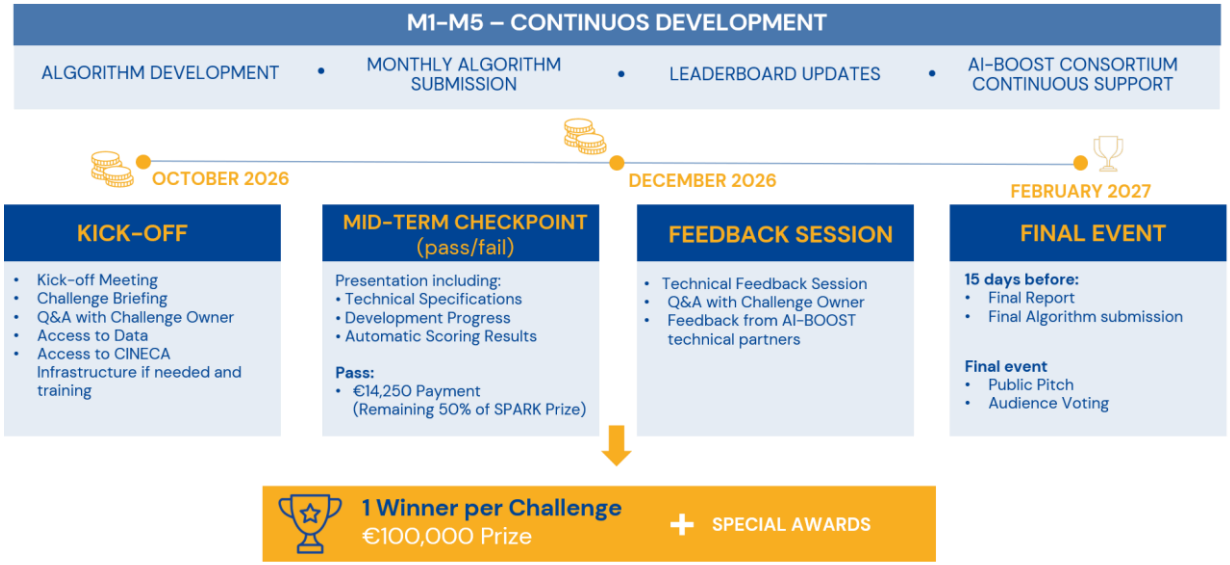

FIGURE 2 ADVANCE PHASE STRUCTURE

In addition to the main challenge prize, AI-BOOST will award two Special Awards per challenge to recognise solutions that demonstrate outstanding achievements in key dimensions aligned with the objectives of the programme.

The total budget available for the Special Awards is EUR 25,000 per challenge.

- Innovation Excellence Award – EUR 12,500
- Responsible AI Award – EUR 12,500

2.2 AI BOOST CHALLENGES

AI-BOOST challenges address key Generative AI domains and are designed to foster the development of innovative, impactful, and market-oriented AI solutions. Each challenge focuses on a specific technological area and is promoted by a Challenge Owner who defines the challenge objectives, expected outcomes, and application context.

The present Guidelines for Applicants provide only a brief overview of each challenge, including its scope, objectives, and thematic focus. The full description of each challenge is provided in a dedicated Challenge Document.

Challenge Documents:

- Challenge-1-GenAI-based-Natural-Language-Mission-Generator-for-Autonomous-Robots-in-Agriculture.pdf
- Challenge-2-Agentic-AI-for-Automated-CAD-Generation-and-Autonomous-Simulation_v2.pdf
- Challenge-3 - Challenge 3 Generative AI for Enhancement of Clinical Datasets
- Challenge-4 - Challenge 4 Generative AI for Automatic Test Case Generation from Crash Databases & Standards

These documents contains detailed technical, functional, and operational information necessary to participate in the challenge, including the challenge context, objectives, expected outcomes, applicable requirements, data and infrastructure conditions where relevant, evaluation approach, and any additional challenge-specific rules.

The Challenge Documents contain all information necessary to participate in the challenge and shall be considered the main reference document for the preparation of applications and the development of solutions. Applicants are therefore strongly encouraged to consult both these Guidelines for Applicants and the corresponding Challenge Document before preparing and submitting their application. In the event of any discrepancy between the summary presented in these Guidelines and the detailed information contained in the relevant Challenge Document, the latter shall prevail.

2.2.1 CHALLENGE 1: GENAI-BASED NATURAL LANGUAGE MISSION GENERATOR FOR AUTONOMOUS ROBOTS IN AGRICULTURE

The “GenAI-Based Natural Language Mission Generator for Autonomous Robots in agriculture” competition, lead by Consorzio Intellimech and JOiINT LAB, aims to eliminate the barrier of specialized technical knowledge required to program robots. Currently, robotic frameworks like ROS require expert scripting, which limits scalability for non-technical operators; this challenge addresses the issue by developing a Generative AI system that translates spoken or written natural language into structured, executable robotic commands. At the core of this innovation is the use of Vision-Language-Action (VLA) models that process speech, text, visual data, and spatial maps to bridge the gap between human intent and standardized robotic execution. The primary objective is to create a functional Proof of Concept reaching TRL 5, capable of autonomously generating and executing missions in a controlled environment. While the initial demonstrative use case focuses on enhancing productivity in

agriculture—specifically within vineyards—the approach is designed to be modular and extendable to industrial maintenance, robotic inspection, and other autonomous field operations. Performance will be measured through key indicators including an intent recognition accuracy of at least 90%, a task execution success rate of at least 85%, and high robustness to linguistic variability. Participants will have access to labeled datasets of grape clusters, with final validation occurring on a physical robotic platform in a real-world outdoor vineyard row at the JOiINT LAB premises in Italy. By democratizing robotic control through AI, this challenge, seeks to accelerate the intelligent automation transition across the European industrial landscape.

Detailed information on the challenge context, objectives, datasets, infrastructure conditions, technical requirements, validation procedures, expected outcomes, and participation conditions is available in the dedicated Challenge Description document, accessible at: Challenge-1-GenAI-based-Natural-Language-Mission-Generator-for-Autonomous-Robots-in-Agriculture.pdf

2.2.2 CHALLENGE 2: AGENTIC AI FOR AUTOMATED CAD GENERATION AND AUTONOMOUS SIMULATION

The design and simulation of industrial piping systems and mechanical assemblies still depend heavily on experienced engineers who can interpret implicit geometric constraints, adapt components to existing assemblies, define meshing strategies, and, where relevant, conduct convergence studies. This challenge aims to develop an agentic AI system to support the workflow from design intent to simulation setup.

The system should be capable of interpreting engineering requirements expressed in natural language, automatically extracting geometric constraints from CAD (Computer-Aided Design) assemblies, generating compatible and editable parametric CAD components, and automating mesh generation and convergence analysis when needed. The purpose is specifically to support the routing of compressor tubes within a package or skid, in particular by determining suitable and efficient positioning between fittings and connected components.

Starting from existing CAD assemblies, 2D piping drawings, and natural language requirements, the system should generate compatible and parametric 3D CAD models or components. The solution is expected to interpret geometric relationships, mating logic, tolerances, functional requirements, and assembly constraints, even when these elements are only partially explicit in the input material.

The solution should demonstrate a measurable reduction in manual engineering effort and contribute to a more compact overall package or skid layout, with potential cost reduction. It should be validated against expert-defined CAD processes and relevant industrial engineering checks in relevant industrial environments.

Detailed information on the challenge context, objectives, datasets, infrastructure conditions, technical requirements, validation procedures, expected outcomes, and participation conditions is available in the dedicated Challenge Description document, accessible at: Challenge-2-Agentic-AI-for-Automated-CAD-Generation-and-Autonomous-Simulation_v2.pdf

2.2.3 CHALLENGE 3: GENERATIVE-AI-FOR-ENHANCEMENT-OF-CLINICAL-DATASETS

The challenge focuses on improving the quality, completeness, and representativeness of clinical imaging datasets through the use of Generative AI. Medical imaging datasets are often incomplete, imbalanced, or lack sufficient representation of specific patient populations, limiting the development and validation of reliable AI models for healthcare. Generative AI offers the opportunity to enhance these datasets by creating realistic synthetic data while preserving their clinical relevance.

The objective is to develop a Generative AI solution capable of generating synthetic patient cohorts from existing clinical and imaging data, identifying the key demographic, clinical, and imaging characteristics that drive the generation process. The solution should augment existing datasets, complete missing information, harmonize imaging data acquired under different conditions, and produce synthetic cohorts that closely match the statistical properties of real-world clinical data.

The project also aims to improve fairness and robustness of AI applications in medical imaging by reducing bias and increasing the representation of underrepresented patient groups. A key aspect of the challenge is ensuring that the generated data remain realistic, clinically consistent, and suitable for developing and validating trustworthy AI models that can support future medical research and clinical decision-making.

Detailed information on the challenge context, objectives, datasets, infrastructure conditions, technical requirements, validation procedures, expected outcomes, and participation conditions is available in the dedicated Challenge Description document, accessible at: Challenge-3 - Challenge 3 Generative AI for Enhancement of Clinical Datasets

2.2.4 CHALLENGE 4: GENERATIVE-AI-FOR-AUTOMATIC-TEST-CASE-GENERATION-FROM-CRASH-DATABASES-AND-STANDARDS

The challenge focuses on improving the validation and safety assessment processes for autonomous driving systems using Generative AI. Current validation methods rely heavily on manual work to convert accident investigations and regulatory requirements into simulation scenarios. This limits scalability, speed, and consistency, especially as autonomous vehicle technologies continue to evolve. The objective is to develop a solution that processes accident reports, visual materials, and international safety standards, transforming this information into structured data and simulation-ready test scenarios. These scenarios support the evaluation of vehicle behaviour under critical and real-world conditions.

The project also aims to strengthen the connection between real accident data and regulatory frameworks, enabling better identification of safety requirements, compliance gaps, and edge cases relevant to autonomous driving validation. A key aspect of the challenge is enhancing reports and datasets on scenarios that lead to dangerous conditions and accidents into fully fledged scenarios deployable in simulators and other validation platforms. In this way, technical and regulatory teams will interact with comprehensive sets of scenarios, improving accessibility and efficiency across validation and safety workflows.

Detailed information on the challenge context, objectives, datasets, infrastructure conditions, technical requirements, validation procedures, expected outcomes, and participation conditions is available in the dedicated Challenge Description document, accessible at: Challenge-4 - Challenge 4 Generative AI for Automatic Test Case Generation from Crash Databases & Standards

2.3 DATASETS

Detailed information regarding the datasets, data access conditions and challenge-specific requirements is provided in the corresponding Challenge Description document. Applicants are strongly encouraged to review this document carefully before preparing their application and throughout the competition.

2.4 INFRASTRUCTURE

Applicants selected to progress to the second phase of the AI Challenge Competition may request access to CINECA's computing infrastructure to support the development, training, testing, or demonstration of their AI solutions. This service is optional and intended for projects requiring additional computational capacity; applicants with adequate resources of their own may use their existing infrastructure.

CINECA will provide selected participants with access to a High-Performance Computing (HPC) environment designed to support advanced AI research and computationally intensive workloads. This environment is continuously updated to ensure access to state-of-the-art technologies and services.

The CINECA HPC environment offers a unified user experience, enabling participants to:

- Access data, software, and computational resources through a common environment.
- Work seamlessly across different computing platforms.
- Efficiently manage large-scale datasets and computational workloads.

Supercomputer Architecture

The HPC infrastructure is based on a standard supercomputing architecture comprising:

- Login nodes for user access and job submission.
- Compute nodes for workload execution.
- High-performance shared data storage systems.
- A workload scheduler for resource allocation and job management.

This architecture is designed to support scalable and reliable execution of compute-intensive tasks and to provide participants with the resources required for the different stages of AI solution development.

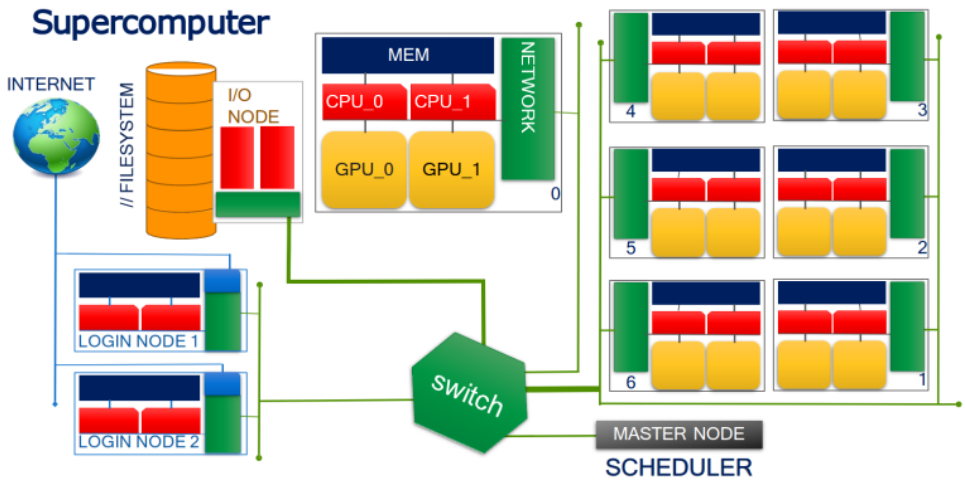

FIGURE 3 SUPERCOMPUTER ARCHITECTURE

LEONARDO Supercomputer

The main HPC system currently in operation is **LEONARDO** (Leonardo website), a **EuroHPC Joint Undertaking pre-exascale Tier-0 supercomputer** and one of Europe's most powerful computing systems..

Supplied by **Atos**, LEONARDO consists of two primary partitions:

- Booster Module:
  - Powered by NVIDIA Ampere GPUs
  - Delivers exceptional performance for GPU-intensive tasks
  - Entered production in summer 2023
- Data-centric Module:
  - Focused on **CPU-based computations**
  - Powered by **Intel Xeon Ice Lake processors**
  - Entered production in **February 2024**

These complementary partitions provide flexibility to support different computational needs depending on the characteristics of the proposed AI solution and the requirements of the challenge.

Technical Highlights

LEONARDO combines advanced hardware and software technologies to deliver high performance and scalability, including:

- NVIDIA Ampere GPU accelerators
- Intel Xeon Ice Lake processors
- Advanced InfiniBand HDR200 high-speed interconnects
- CUDA-aware and other HPC-oriented compilers
- Efficient node-to-node communication for large-scale parallel workloads

These capabilities make LEONARDO particularly suitable for AI model development, machine learning, data analytics, simulation, and other computationally demanding research activities.

Access to CINECA's infrastructure under AI-BOOST is intended to provide selected participants with additional technical capacity where needed and to facilitate the development and validation of AI solutions in a robust HPC environment. Detailed information on access arrangements, technical requirements, and onboarding procedures will be communicated directly to the selected participants.

2.4.1 TRAINING AND TECHNICAL ONBOARDING FOR CINECA'S INFRASTRUCTURE USERS

Participants who are granted access to CINECA's computing infrastructure will receive dedicated training and technical onboarding to support the effective use of the available HPC resources during the competition. This support is intended to help participants configure their working environment, access the infrastructure, and use the computing resources efficiently for the development, training, testing, and validation of their AI solutions.

The onboarding will be organised by CINECA and will be offered to participants selected to progress beyond the Spark phase who request access to the infrastructure. Detailed information on the format, schedule, and access arrangements will be communicated directly to the selected participants.

The training programme will introduce participants to the use of Artificial Intelligence (AI) techniques on High-Performance Computing (HPC) infrastructures at CINECA, with a particular focus on the LEONARDO supercomputer and GPU-based computing environments.

The training and onboarding activities may include:

- introduction to the CINECA HPC environment and access procedures
- user registration and environment configuration, including the use of dedicated software modules for AI applications
- creation and management of Python virtual environments for AI workloads
- guidance on job submission, workload execution, and resource allocation through the SLURM workload manager
- practical instructions for data access, storage, transfer, and the download of models and datasets from external repositories such as Hugging Face
- introduction to monitoring and visualisation tools for AI training processes, including TensorBoard and Weights & Biases
- overview of software environments, frameworks, and tools commonly used for AI development on HPC systems
- technical recommendations to support the efficient use of the infrastructure during the competition.

The training may also cover advanced parallelisation and scaling techniques for AI workloads, including approaches such as Distributed Data Parallel (DDP), Fully Sharded Data Parallel (FSDP), Accelerate,

DeepSpeed, and Ray. Practical examples may demonstrate how these techniques can be used to scale AI applications and integrate widely adopted frameworks such as PyTorch Lightning and Megatron-LM.

Training will be delivered through a webinar that includes a practical technical session. Participants will also receive written guidelines and supporting documentation in advance of the webinar.

In addition to the initial onboarding, participants using CINECA's infrastructure may receive technical support throughout the competition in relation to the use of the HPC environment. This support will focus on infrastructure-related aspects and will aim to facilitate the implementation of the proposed solution within the available computing environment.

The purpose of these activities is to ensure that selected participants can make effective and appropriate use of the infrastructure resources made available by AI-BOOST, regardless of their prior experience with HPC environments. Practical exercises and real-world examples will be used where appropriate to help participants acquire the skills needed to effectively leverage HPC systems for AI projects.

2.5 TIMELINE

The AI-BOOST Competition is organised as follows:

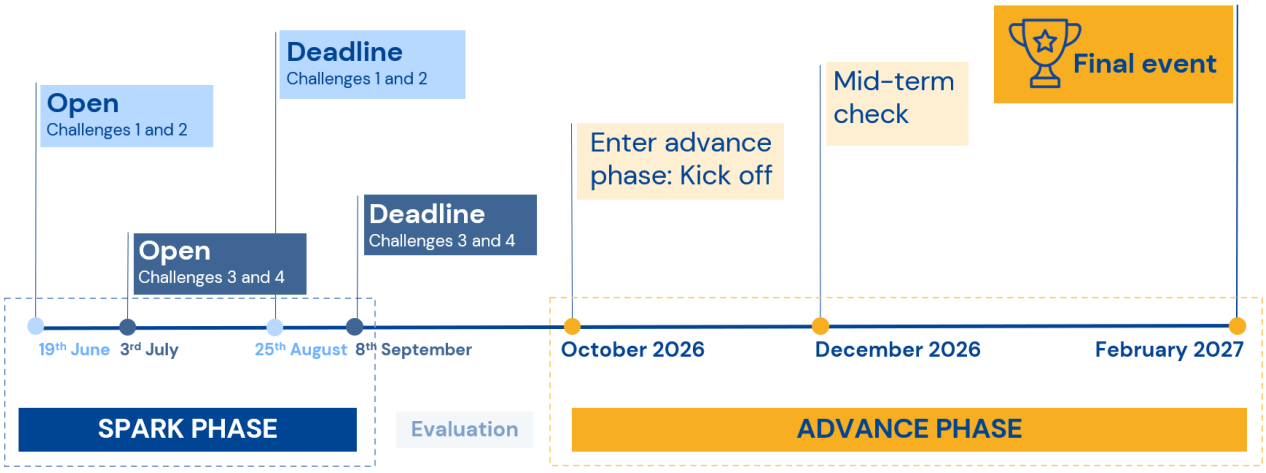

FIGURE 4 TIMELINE OF THE COMPETITION

Change in the timelines. The Challenge duration and any of the above-mentioned timelines may be modified, in case it is necessary to better fulfil the Specific Objectives of the Competition. This(these) potential change(s) will be notified in advance of all Participants and communicated to all the interested parties (e.g. press etc.).

SPARK Phase

Challenges 1 and 2

Call Publication and Application Period: The challenge will be published on the AI-BOOST website and the F6S platform on **19 June 2026**. From the publication date, applicants may prepare and submit their applications in accordance with the requirements set out in these Guidelines and the corresponding Challenge Description.

Deadline for Application. Applications must be submitted through the AI-BOOST F6S page from **19 June 2026 until 25 August 2026 at 17:00** (i.e., Closure of application period)**.** No Application will be admitted after the Closure of the application period.

Challenges 3 and 4

Call Publication and Application Period: The challenge will be published on the AI-BOOST website and the F6S platform on **3rd July 2026**. From the publication date, applicants may prepare and submit their applications in accordance with the requirements set out in these Guidelines and the corresponding Challenge Description.

Deadline for Application. Applications must be submitted through the AI-BOOST F6S page from **3 July 2026 until 8 September 2026 at 17:00** (i.e., Closure of application period)**.** No Application will be admitted after the Closure of the application period.

Evaluation of proposals from SPARK Phase

Eligibility Assessment period (approximately 1 week). Following the closure of the application period, all applications will undergo an eligibility assessment conducted by the AI-BOOST consortium to verify compliance with the eligibility requirements defined in these Guidelines.

Internal Pre-Assessment (approximately 1 week) (if applicable): If more than 20 eligible applications are received for a given challenge, an internal pre-assessment will be carried out by the AI-BOOST consortium. The objective of this stage is to identify the 20 highest-ranked proposals that will proceed to the external evaluation stage.

External evaluation (approximately 3 weeks): The shortlisted proposals will be evaluated by independent external experts according to the evaluation criteria described in Section 4 of these Guidelines.

Notification of Results. Applicants will be informed of the outcome of the evaluation process by email. The selected participants will also be announced through the AI-BOOST website and other official communication channels.

Advance Phase

Signature of Participation Agreement (October 2026): The five winners of each challenge will be invited to enter the Advance Phase. Selected participants will sign the Participation Agreement.

Kick-off Meeting (October 2026)**.** The Advance Phase with a dedicated kick-off meeting organised by the AI-BOOST consortium and the corresponding Challenge Owner. During this session, participants will receive detailed information on the challenge objectives, datasets, evaluation methodology, available resources, infrastructure access conditions, and expected outcomes. Participants will also have the opportunity to discuss technical and challenge-specific questions directly with the Challenge Owner and AI-BOOST experts.

Development and Validation Period (From October 2026 to February 2027). Participants will develop, train, validate and optimise their AI-based solutions using the datasets, infrastructure and technical resources provided by AI-BOOST and the Challenge Owner. Throughout this period, participants may submit updated versions of their algorithms on a monthly basis for automatic scoring. The resulting

scores will be used to generate a leaderboard, allowing teams to benchmark their performance and monitor their progress against other participants within the same challenge.

Technical Support and Capacity Building (From October 2026 to February 2027). During the Advance Phase, AI-BOOST and the Challenge Owner will provide continuous support through technical guidance sessions, Q&A activities, webinars, and infrastructure-related assistance. Participants requesting access to CINECA's HPC infrastructure will also receive dedicated onboarding and training to facilitate the effective use of the available computing resources.

Mid-Term Checkpoint (December 2026). Approximately two months after the start of the Advance Phase, participants will take part in a mandatory Mid-Term Checkpoint. Teams will present the work carried out during the first part of the programme, including the technical specifications of their solution, development progress achieved, and preliminary results obtained through the automatic scoring framework. The Mid-Term Checkpoint will be assessed on a pass/fail basis and will serve to verify active participation and satisfactory progress towards the challenge objectives. Participants successfully completing the checkpoint will receive the remaining 50% of their SPARK Phase prize.

Feedback Session. Following the Mid-Term Checkpoint, participants will receive qualitative feedback from the Challenge Owner and AI-BOOST experts. This session will provide technical recommendations, clarification of challenge-specific requirements, and guidance on further improving the proposed solutions. Participants will also have the opportunity to raise technical and operational questions regarding the next development steps.

Final Submission (February 2027). At the end of the Advance Phase, participants will be required to submit their final algorithm, a Final Report describing the developed solution and achieved results, and a Final Pitch Presentation. These deliverables will form part of the final evaluation process.

Final Live Competition and Award Ceremony (**February 2027**): The Advance Phase will conclude with a Final Live Competition in Brussels. During this event, participants will publicly present and demonstrate their solutions before the evaluation panel. The event will include live demonstrations, final pitch presentations and audience voting. Following the final evaluation, one winner per challenge will be selected and awarded the final challenge prize of EUR 100,000, together with the announcement of the Special Awards.

2.6 TYPES OF BENEFICIARIES

AI-BOOST aims to attract and mobilise wide participation of top scientists from academia and industry including start-ups and as well as young teams and rising stars from all over EU and Associated countries. Therefore, the target audiences for AI Challenge Competition are students (above 18-years old), scientists and researchers, developers, high-tech SMEs, spin-off, start-ups, etc.

The participants (or contestants) can apply as individuals or linked to a legal entity. Hence, eligible applicants are:

- Individuals (students, researchers…);
- Single legal entity;
- Small and medium-sized enterprises (SMEs), this includes startups;

- Academia, universities, NGOs, non-profit organizations or a consortium of these;
- Have technical capacity AND experience working on AI systems. Also consider that projects must focus exclusively on civil applications;
- Be established in one of the Member States (MS) of the European Union (EU), including overseas countries and territories (OCTs) and also some Associated Countries (consult the guide for applicants for the complete list of eligible countries)

2.7 ELIGIBLE COUNTRIES

Single Legal entities **established in one of the eligible countries**:

- **the Member States (MS) of the European Union (EU)[1]:**
  Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.
- **the Overseas Countries and Territories (OCTs) linked to the Member States[2];**
  Aruba (NL), Bonaire (NL), Curação (NL), French Polynesia (FR), French Southern and Antarctic Territories (FR), Greenland (DK), New Caledonia (FR), Saba (NL), Saint Barthélemy (FR), Sint Eustatius (NL), Sint Maarten (NL), St. Pierre and Miquelon (FR), Wallis and Futuna Islands (FR).
- T**he following Associated Countries to Horizon Europe:**
  Albania, Armenia, Bosnia and Herzegovina, Georgia, Iceland, Israel, Kosovo[3], Moldova, Montenegro, New Zeeland, North Macedonia, Norway, Serbia, Tunisia, Ukraine and Turkey.

2.8 SPECIFIC ELIGIBILITY AND FIT TO PROGRAM REQUIREMENTS

The following additional Eligibility Criteria:

- The competitions open only to individuals and entities with **technical capacity AND experience** working on AI models.
- Eligible activities are the ones described in the challenge conditions. Applications will only be considered eligible if their content corresponds, wholly or in part, to the challenge description for which it is submitted.
- Actions must, moreover, comply with EU policy interests and priorities (environment, social, security, industrial policy, etc.).

[1] https://european-union.europa.eu/principles-countries-history/country-profiles_en
[2] https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-13-general-annexes_horizon-2023-2024_en.pdf
[3] This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

- Alignment with AI-BOOST services and value proposition: Applicants must demonstrate willingness to actively engage with the AI-BOOST programme, making use of the services, infrastructure, and opportunities provided.
- Openness to work with the challenge owner: Applicants must be ready to collaborate with the challenge owner organisation(s), including solution development, and demonstration activities.
- Optional use of CINECA HPC infrastructure: Applicants may choose to use CINECA supercomputing resources to train and validate their algorithms. This is optional but encouraged where relevant.
- Participation in AI-BOOST trainings and events: Applicants must attend training sessions, webinars, or other capacity-building activities organised by AI-BOOST, which are designed to strengthen technical and business capabilities.
- Engagement with challenge owner and acceptance of terms: Applicants must engage with challenge owner in good faith, agree to the terms and conditions stipulated by the organisers, and acknowledge that **IP foreground exclusivity exists for challenge owner to use and implement free of charge the solutions developed within their specific challenge for a period of 6 months after the duration of the competition**. Following this period, any further collaboration, commercial exploitation, licensing arrangements, or intellectual property sharing agreements between the selected applicant and the challenge owner shall be subject to a separate agreement negotiated directly between the parties.

2.9 SPECIFIC EXCLUSION CRITERIA

No double financing rule: There is a strict prohibition of double funding for the same action. Actions that have already received and EU prize or Grant cannot benefit from the competition rewards for the same activities.

In the event of duplicated funding, it will be deemed a breach and may lead to the withdrawal of funds, as well as potential legal actions. This provision aims to prevent resource duplication and ensure the fair allocation of funding across different projects.

2.10 DECLARATION OF HONOUR – EXCLUSION

As part of the application form, applicants must confirm compliance with EU norms and regulations by ticking the Declaration of Honour checkbox. By doing so, they declare that they are not subject to exclusion grounds under the EU Financial Regulation 2018/1046, such as bankruptcy, breaches of tax or social security obligations, professional misconduct, fraud, corruption, money laundering, terrorism-related activities, child labour, trafficking, or the creation of entities to circumvent legal obligations. Agreement through the application form constitutes the official Declaration of Honour. Selected beneficiaries may also be subject to audits and controls by the European Commission, the European Court of Auditors, the European Public Prosecutor's Office, and the European Anti-Fraud Office.

3 APPLICATION PROCESS

3.1 HOW TO APPLY?

Applicants are invited to register, create a user profile, and complete the full application form, prepare the required supporting documents and submit them via the F6S platform and accessible through AI-BOOST website: AI Challenge Competition – AI-BOOST. All proposals must be fully completed and submitted via F6S platform before the deadline (see section 3.4)

Main steps required:

1) Registration via F6S platform
2) Dully complete the application form (all mandatory fields must be completed)
3) Submit the application form before the deadline (see section 3.4)

3.2 WHERE CAN I FIND THE APPLICATION FORM?

The applications must be built and submitted through the online F6S application form, available via AI-BOOST website: AI Challenge Competition – AI-BOOST.

To support applicants in preparing their submission, the questions included in the application form are provided in **Annex 1 - Concept note / Application form** of these Guidelines for Applicants. Applicants are encouraged to review the questions and prepare their responses in advance. Please note that only applications submitted through the official online application system will be considered. In the event of any discrepancy, the online version of the application form shall prevail.

Applicants are strongly encouraged to submit their proposals well in advance of the deadline to allow sufficient time to complete all required fields and address any potential technical issues that may arise during the submission process.

3.3 IS IT POSSIBLE TO SUBMIT THE DOCUMENTS IN NATIONAL LANGUAGE?

English is the official language for AI BOOST Competitions. Submissions done in any other language will not be evaluated. English is also the only official language during the whole execution of the AI-BOOST action.

3.4 WHEN TO SUBMIT THE APPLICATION FORM?

Challenges 1 and 2: All sections of the Application Form must be submitted electronically via F6S Platform (accessible via f6s.com/ai-challenge-competition/about **before 25th of August 2026, 17:00 Brussels time**.

Challenges 3 and 4: All sections of the Application Form must be submitted electronically via F6S Platform (accessible via https://www.f6s.com/ai-challenge-competition-2/about **before 8th of September 2026, 17:00 Brussels time**.

We recommend that applicants **submit their proposals well in advance of the specified deadline** to ensure that all required fields are completed and that their submissions are accepted.

3.5 CAN AN APPLICANT SUBMIT MORE THAN ONE PROPOSAL (MULTIPLE SUBMISSION)?

Given the fact this call is a competitive one, and the applicants will focus on a specific challenge, only one proposal per applicant will be evaluated and accepted for funding. In the case of multiple submissions, only the last one received (timestamp of the system) will enter our evaluation process, the rest being declared as non-eligible. If the last submitted proposal is declared then non-eligible or fails to reach the thresholds of the evaluation, the other proposals submitted earlier will not be considered for evaluation in any case.

4 EVALUATION

The evaluation process will be carried out in successive stages, ensuring a fair, transparent and structured selection of the best solutions. Each phase has specific requirements, deliverables and evaluation criteria, as outlined below:

- **Phase I – SPARK Phase**: Initial eligibility assessment and internal/external evaluation of concept notes, focusing on the novelty of the proposed approach, alignment with the challenge objectives, technical feasibility, and potential to deliver an innovative solution.
- **Phase II – ADVANCE Phase**: Continuous development, validation and demonstration of the proposed solution over a five-month period. Participants will undergo a Mid-Term Checkpoint to verify progress and active participation. The final evaluation will be based on the Final Report, the performance achieved through the final algorithm submission, the Final Pitch Presentation and Live Demonstration, and audience voting. The assessment will consider technical excellence, innovation, scalability, sector relevance, responsible AI principles, sustainability, and the practical applicability of the solution to the challenge objectives and target use case.

4.1 PHASE I - SPARK PHASE

Eligible participants are invited to submit a **concept note (see Annex 1)** that outlines their proposed solution for a specific challenge. The concept note should demonstrate the team's capabilities to address the challenge, any references or examples that substantiate their credibility. Additionally, participants must include an implementation plan that details code planning, the use of hardware infrastructure (which includes storage and processing), and other essential resources. Proposals will be evaluated based on the following criteria **excellence, impact and implementation:**

We are looking for solutions that best address the challenges, have technical and innovation novelty, have an achievable but ambitious implementation plan,

INTERNAL EVALUATION

If more than 20 eligible applications are received for a challenge, an internal pre-assessment will be conducted by the AI-BOOST consortium to shortlist the 20 highest-ranked proposals. The following criteria will be applied:

Criteria	Description	Weight
Innovation Novelty	Assesses the originality and creativity of the proposed solution, its potential to advance the state of the art, and whether it introduces new concepts, methods, or applications beyond existing approaches.	25%
Challenge Fit and Motivation	Evaluates how well the proposal addresses the specific challenge, including the clarity of the problem-solution fit, and the motivation of the team to tackle the defined objectives.	25%
Technical Implementation Plan and Team Capacity	Reviews the feasibility and robustness of the proposed technical plan, including methodology, resources, and	25%

	infrastructure, as well as the expertise, skills, and complementarity of the team to successfully deliver results.	
Alignment with the EU AI Scene, Replicability Potential and Sustainability	Examines how the proposal aligns with European AI priorities and values, its potential for replication across sectors or regions, and the long-term sustainability of the solution beyond the competition.	25%

This process will select 20 participants per challenge, which will be later evaluated by external independent experts.

EXTERNAL EVALUATION

Those best 20 proposals (selected by the internal evaluation) will be evaluated by 3 external experts. The evaluation is scheduled over a period of 3 weeks. External evaluators will score all the submitted applications based on the defined criteria.

Where an insufficient number of proposals reach the thresholds, AI-BOOST reserves the right, upon recommendation of the Evaluation Committee, to select fewer participants or to invite additional high-ranking proposals that demonstrate sufficient quality.

The external experts will be subcontracted, and they will sign a Non-Disclosure Agreement (NDA) prior to the proposal evaluation. The experts' evaluators will be selected considering their experience and knowledge in the field. Thus, the challenge collects an external evaluation per call completed by three external experts who will score all the concept note. The following criteria will be applied:

External evaluation criteria:

Criteria	Description	Weight
Excellence	• Originality of the idea • The soundness of the proposed concept • Inclusion of data management strategies and ethical considerations	50%
Impact	• Potential to transform the industry • Transferability and scalability • Social and economic benefits, including SDG impact assessment • Sustainable AI practices and solutions • Consideration of environmental impact • Potential for collaboration and scalability	25%
Quality of Implementation	• Work plan and resources (DEVELOP & DEMO) • Relevant expertise and track record • Strength and diversity of the team • Capacity to develop their solution until TRL 5	25%

Technical evaluation:

For applicants choosing to use CINECA's infrastructure, they will be required to specify several technical requirements. These include the partition name, the expected wall clock time for a typical job execution, the amount of GPU/CPU hours requested, and the maximum terabytes of storage needed. Applicants must also outline their software requirements, indicate how many models they need to train along with their parameters, and provide details on whether previous scalability and

performance tests have been conducted on devices similar to those available in the CINECA infrastructure.

4.2 PHASE II – ADVANCE PHASE

The final evaluation of the Advance Phase will be based on four complementary assessment components:

- Final Report (50%)
- Final Algorithm Automatic Scoring (25%)
- Final Pitch Presentation and Live Demonstration (20%)
- Audience Vote (5%)

The Mid-Term Checkpoint is assessed on a pass/fail basis and does not contribute to the final score. Its purpose is solely to monitor progress, verify active participation and trigger the payment of the remaining 50% of the SPARK Phase prize.

Final Report Evaluation (50%)

The Final Report will be evaluated by independent external evaluators appointed by AI-BOOST, with the support of the Challenge Owner and/or relevant technical experts where appropriate.

The report may contain confidential technica l information and will therefore not be made publicly available.

The evaluation will be based on the following criteria:

Criteria	Description	Weight

Technical Performance	• Accuracy, robustness, performance on real data, benchmarking.
	
	Clear documentation of:
	• Data sources and datasets used:
	  ◦ Exploratory Data Analysis
	  ◦ Techniques and models applied
	  ◦ Feature weightings used in decision-making
	• Full technical documentation of algorithms and methods
	• Citations and references supporting outputs
	
	Bias mitigation using intersectional approaches :
	• Continuous performance optimization
	• System must maintain integrity while adapting.
	• Human oversight mechanisms for final decisions
	  ◦ Cognitive science principles
	  ◦ Direct user observation
	  ◦ Both between-subject and within-subject study designs
	• GDPR and AI ACT compliance, privacy-by-design, security measures, responsible data governance.
		60%

Innovation Scalability & Sector Relevance	• Cross-sector flexibility, integration potential, alignment with data provider needs, go-to-market readiness. • Novel algorithms, originality in technical approach, competitive advantage, use of cutting-edge AI.	25%
Societal Acceptance & Responsible AI	• Bias mitigation, transparency, explainability, HITL mechanisms, ethical alignment with EU AI values. • Algorithmic efficiency (observable complexity, scalability, streamlined models, carbon footprint and energy-efficient system design)	15%

**Only some of the technical performance components are assessed through the automatic scoring framework. All other criteria are evaluated by expert reviewers.*

Final Algorithm Automatic Scoring (25%)

The final algorithm submission is mandatory for all participants.

The submitted algorithms will be evaluated through the automatic scoring framework defined for each challenge. The specific evaluation metrics, benchmark datasets and scoring methodology will be described in the corresponding Challenge Description.

Depending on the challenge, the evaluation may include metrics such as:

- Accuracy and predictive performance.
- Robustness and generalisation capabilities.
- Precision, recall, F1-score or area under the curve.
- Mean squared error or other regression metrics.
- Time-to-solution and computational efficiency.
- Image similarity or generation quality metrics.
- Challenge-specific performance indicators.

Only the final mandatory algorithm submission will be considered for the final score.

Final Pitch Presentation and Live Demonstration (20%)

During the Final Live Competition, participants will present their solution before a panel of evaluators, Challenge Owners and AI-BOOST representatives.

The evaluation will consider both the Final Pitch Presentation and the Live Demonstration of the solution.

The objective of this assessment is to evaluate the participants' ability to clearly communicate the value of their solution and demonstrate its practical applicability in relation to the challenge objectives.

The evaluation will be based on the following criteria:

Criteria	Description	Weight
Demonstration of the Solution	Assessment of the functionality, maturity and practical applicability of the developed solution, including: • Demonstration of the core functionalities of the solution.	65%

	• Evidence that the solution addresses the challenge objectives and requirements. • Demonstration of performance, robustness and reliability. • Quality and relevance of the demonstration scenario. • Consistency between the demonstrated results and the information provided in the Final Report. • Ability of the solution to operate under realistic conditions and constraints.	
Communication and Presentation Quality	Assessment of the quality and effectiveness of the presentation, including: • Clarity and structure of the presentation. • Ability to explain complex technical concepts to a mixed audience. • Quality of the supporting materials. • Effectiveness in communicating the problem addressed, the proposed solution and the achieved results. • Professionalism and overall quality of the presentation.	35%

Audience Vote (5%)

Audience members (public) attending the Final Live Competition will be invited to vote for their preferred solution through a dedicated voting mechanism.

The audience vote will contribute 5% of the final score and is intended to recognise the solution that generates the highest level of interest and engagement among the audience.

Final Ranking

The participant obtaining the highest final score within each challenge will be declared the winner of that challenge and will receive the corresponding final prize during the **Final Live Competition event.**

4.3 SCORING PROCESS

The scoring process will follow the same general approach as Horizon Europe evaluations. Each applicable criterion will be scored from 0 to 5, with 0.5-point resolution, according to the following scale:

- 0 – Failure - The application fails to address the criterion or cannot be assessed due to missing or incomplete information.
- 1 - Poor - the criterion is inadequately addressed, or there are serious inherent weaknesses.
- 2 - Fair - the application broadly addresses the criterion, but there are significant weaknesses.
- 3 - Good - the application addresses the criterion well, but a number of shortcomings are present.
- 4 - Very good - the application addresses the criterion very well, but a small number of shortcomings are present.
- 5 -Excellent - the application successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

The scores will be calculated by applying the corresponding weighting to the average marks obtained under each criterion.

4.4 SPECIAL AWARDS

The Special Awards will be evaluated by the same evaluation panel responsible for the final assessment of the challenge. A solution may receive both the main challenge prize and one of the Special Awards.

Innovation Excellence Award – EUR 12,500

This award recognises the solution that demonstrates the highest degree of scientific and technological innovation and contributes most significantly to advancing the state of the art within the challenge domain.

The evaluation will be based on:

- Novelty and originality of the proposed solution.
- Degree of innovation compared to existing approaches.
- Ambition and breakthrough potential of the solution.
- Potential to advance the state of the art in the challenge domain.

Responsible AI Award – EUR 12,500

This award recognises the solution that best demonstrates the principles of trustworthy, human-centric and responsible AI, in line with European values and regulatory frameworks.

The evaluation will be based on:

- Transparency and explainability of the solution.
- Human oversight and user-centric design, where applicable.
- Fairness and bias mitigation measures.
- Privacy, security and responsible data governance practices.
- Alignment with European values and Responsible AI principles.

5 COMMUNICATION FLOW WITH APPLICANTS

5.1 IS THERE ANY SUPPORT FOR THE APPLICANTS?

For more information about the AI Challenge Competition, please check the AI-BOOST website: AI Challenge Competition – AI-BOOST

For additional details concerning the AI Challenge Competition, any inquiries regarding eligibility criteria, questions about the required information in the Application Form, or if you encounter technical

difficulties or issues with the Application Form, please reach out to the AI-BOOST Technical Helpdesk via email at: info@aiboost-project.eu

We also recommend following us on LinkedIn to stay updated on the latest news and events: *https://www.linkedin.com/company/aiboost-project/*

5.2 HOW ARE THE RESULTS COMMUNICATED TO APPLICANTS?

After the evaluation process is concluded, applicants are informed via e-mail about the results, although AI-BOOST website will also publish the list of prize-winners. Moreover, the rejected elegible applicants will also receive an Evaluation Summary Report (ESR) with the reasons for exclusion.

Applicants are strongly encouraged to check Spam inbox.

5.3 HOW LONG DOES IT TAKE TO RECEIVE THE RESULT?

The evaluation of the SPARK Phase is expected to take approximately one month from the closure of the call. Applicants will be informed of the outcome once the evaluation process has been completed.

The Advance Phase lasts five months and includes continuous monitoring of participants' progress. During this phase, participants will receive regular performance feedback through the automatic scoring system and leaderboard, as well as qualitative feedback at the Mid-Term Checkpoint.

The Mid-Term Checkpoint will take place approximately two months after the start of the Advance Phase. Participants will be informed of the outcome of this checkpoint once the review has been completed.

The final evaluation of the Advance Phase will be carried out at the end of the phase, on the basis of the final report, the final mandatory algorithm submission, the final pitch presentation and demonstration, and the audience vote at the Final Event. Final results will be announced during the Live Competition and Award Ceremony.

5.4 CAN APPLICANTS APPEAL A REJECTION?

If, at any stage of the evaluation process, the applicant considers that a mistake has been made or that the evaluators have acted unfairly or have failed to comply with the rules of AI-BOOST first open call, and that her/his interests have been prejudiced as a result; the following appeal procedures are available.

A complaint should be drawn up in English and submitted by email to: info@aiboost-project.eu

Any complaint made should include:

- contact details,
- the subject of the complaint,
- Reference or code of the application form

- information and evidence regarding the alleged breach.

Complaints should also be made within five (calendar) days since the evaluation results are presented to the applicants.

As a standard procedure, the AI Challenge Competition office will thoroughly investigate any complaints with the aim of reaching a decision to either issue a formal notice or close the case. This process will typically be completed within **twenty days** from the date of receiving the complaint, assuming that all necessary information has been provided by the complainant. In the event that this time frame is exceeded, the AI-BOOST will promptly notify the complainant via email.

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6 ADDITIONAL INFORMATION

No commitment for prize: Invitation to the Advance Phase does NOT constitute a formal commitment for prize award. The AI-BOOST will still need to make various legal checks before prize award: legal entity validation, financial capacity, etc.

6.1 REQUIRED DOCUMENTS TO ENTER THE ADVANCE PHASE

Selected beneficiaries to enter the advance phase will be requested to provide the following documentation:

- **Legal Entity Form:** All selected beneficiaries need to provide the Legal Entity Form dully filled and signed by the legal representative. In addition, the beneficiary must attach copies of official supporting documents to proof the data provided in the form. The editable form can be downloaded in all EU languages from the following website[4].
- **Financial Identification Form:** All selected beneficiaries need to provide the Financial Entity Form dully filled and signed according to the instructions provided in the form[5].
- **Additional documents:** In the specific cases additional documents to prove the SME condition.

6.2 PRIZE PAYMENT PROCEDURE

Prize payments will be made by **bank transfer** and are subject to the successful completion of the corresponding competition phase, compliance with the participation requirements, and the submission of all requested administrative and legal documentation.

For the **SPARK Phase winners**, the prize will be disbursed in two instalments:

- **First instalment (50%)**: upon signature of the Advance Phase participation agreement with the AI-BOOST consortium and the corresponding Challenge Owner.
- **Second instalment (50%)**: upon successful completion of the Mid-Term Checkpoint during the Advance Phase.

The **final challenge prize** will be awarded to the winning participant of each challenge following the completion of the Advance Phase, the final evaluation process, and the official approval of the competition results by AI-BOOST.

AI-BOOST reserves the right to suspend or withhold payments in cases where participants fail to comply with the competition requirements, fail to submit the required deliverables, fail to actively participate in the competition activities, or do not provide the necessary documentation required for payment processing.

[4] https://commission.europa.eu/publications/legal-entities_en
[5] https://commission.europa.eu/publications/financial-identification_en

6.3 DISSEMINATION AND COMMUNICATION DUTIES

The prize-winners must **actively promote the action and its results** by providing targeted information to multiple audiences (including the media and the public).

Unless otherwise agreed with the AI-BOOST, communication activities of the winners related to the action (including media relations, conferences, seminars, information material, such as brochures, leaflets, posters, presentations, etc., in electronic form, via traditional or social media, etc.), dissemination activities and any infrastructure, equipment, vehicles, supplies or major result funded by the grant must acknowledge EU support and display the **European flag** (emblem) and **funding statement** (translated into local languages, where appropriate)[6].

The emblem must remain distinct and separate and cannot be modified by adding other visual marks, brands or text.

Apart from the emblem, no other visual identity or logo may be used to highlight the EU support.

When displayed in association with other logos (e.g. of beneficiaries or challenge owner), the emblem must be displayed at least as prominently and visibly as the other logos.

For the purposes of their obligations under this Article, the beneficiaries may use the emblem without first obtaining approval from the granting authority. This does not, however, give them the right to exclusive use. Moreover, they may not appropriate the emblem or any similar trademark or logo, either by registration or by any other means.

Any communication or dissemination activity related to the action must use factually accurate information.

Moreover, it must indicate the following **disclaimer** (translated into local languages where appropriate):

"Funded by the European Union under GA No 101135737. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them."

6.4 INTELLECTUAL PROPERTY RIGHTS (IPR)

The awarding entity does not acquire ownership of the outcomes generated within the framework of the prize.

The granting authority has the right to use non-sensitive information relating to the action and materials and documents received from the prize-winners (notably summaries for publication deliverables, as well as any other material, such as pictures or audio-visual material, in paper or

[6] https://ec.europa.eu/regional_policy/information-sources/logo-download-center_en

electronic form) for policy, information, communication, dissemination and publicity purposes — during the action or afterwards.

By submitting an application, applicants acknowledge and accept that, for the specific challenge in which they participate, the corresponding challenge owner shall have the exclusive right, for a period of six (6) months following the end of the competition, to use, test, evaluate and implement, free of charge, the solutions developed within that challenge. Following this period, any further collaboration, commercial exploitation, licensing arrangements, or intellectual property sharing agreements between the selected applicant and the challenge owner shall be subject to a separate agreement negotiated directly between the parties.

Photos and videos taken by the awarding authority either in preparation of the award ceremony or during the award ceremony are the sole property of the awarding authority.

Regarding the evaluation and the review processes, each evaluator will sign an Agreement including confidentiality clauses before receiving access to the applications database to protect the applicants' intellectual property and sensitive non-disclosed information.

6.5 ON CONFLICTS OF INTEREST

Applicants must not have any actual and/or potential conflict of interest with the AI-BOOST selection process and during the project implementation. All cases of conflict of interest will be assessed case by case.

6.6 ETHICAL ISSUES

AI-BOOST is committed to upholding the highest ethical standards and complies with the principles set out in the *European Code of Conduct for Research Integrity*, as well as applicable European legislation and guidelines related to Artificial Intelligence, data protection, and research ethics.

AI-BOOST is committed to promoting trustworthy, human-centric, and responsible AI development. To support this objective, AI-BOOST has established an **Ethical Committee**, which provides independent oversight and guidance on ethical, legal, societal, and Responsible AI matters. The Committee ensures that the competition and the solutions developed within it are aligned with European values and principles, including fairness, transparency, non-discrimination, accountability, explainability, human oversight, privacy, and sustainability.

Applicants are required to identify and disclose any potential ethical issues associated with their proposed solution. In particular:

- If the applicant identifies potential ethical issues related to their proposal, they should contact the AI-BOOST Ethical Committee at **ethics@aiboost-project.eu** for guidance.
- AI-BOOST will review the consistency between the ethical declarations provided and the content of the application and may contact applicants for clarification or to request additional information.
- Applications that fail to adequately address ethical issues, data protection requirements, privacy concerns, or other relevant ethical considerations may be deemed ineligible and rejected.

All members of the AI-BOOST ecosystem, including participants, evaluators, sponsors, Challenge Owners, and consortium partners, are expected to adhere to the following principles:

- **Respect:** Treat all individuals with dignity and courtesy, regardless of gender, age, ethnicity, nationality, ability, religion, sexual orientation, gender identity, language, or professional background.
- **Inclusion:** Foster an environment that promotes equity, diversity, accessibility, and equal opportunities.
- **Integrity:** Act with honesty, fairness, transparency, and accountability in all activities and interactions.
- **Care:** Contribute to an environment free from harassment, discrimination, intimidation, or any form of abusive behaviour.

Additional information on the AI-BOOST Responsible AI framework and the Ethical Committee can be found at: https://aiboost-project.eu/ethics-responsible-ai/

6.7 DATA PROTECTION

In order to process and evaluate applications, and manage project implementation, the AI-BOOST consortium will need to collect Personal and Industrial Data.

- F6S Network Ireland Limited, will act as Data Controller for data submitted through the F6S platform for these purposes. Please see our privacy policy here.
- A Data Protection Officer (DPO) has been appointed by F6S generally, to ensure compliance with data protection regulations, such as the General Data Protection Regulation (GDPR), and that personal data is collected, processed, and stored in a secure manner.
- The F6S platform's system design and operational procedures ensure that data is managed in compliance with the General Data Protection Regulation (EU) 2016/679 (GDPR).
- Each applicant will accept the F6S terms to ensure compliance. Please refer to https://www.f6s.com/privacy-policy to review the F6S platform's privacy policy and data security policy.
- Apart from the F6S platform, data will also be stored in the F6S Google Drive, and in the project repository on Microsoft Sharepoint managed by the project coordinator Zabala Innovation.
- Note that the AI-BOOST consortium must retain generated data until five years after the balance of the AI-BOOST project is paid or longer if there are ongoing procedures (such as audits, investigations or litigation). In this case, the data must be kept until their conclusion.

6.8 CONFIDENTIALITY

Confidentiality obligations:

- Selected applicants are required to maintain confidential any project data, documents, invoices and other materials (in any form) during the implementation of the activities and for 5 years after project completion.

- This confidentiality period can be extended by agreement with the EC and the AI-BOOST consortium.
- Information shared during the project, whether written or spoken, is only considered confidential if the AI-BOOST agrees and confirms it in writing within 15 days.
- Confidential information must only be used for project implementation, unless otherwise agreed upon.
- Any information shared during the application stage will be treated as confidential.

6.9 GENERAL PRIZE TERMS

General Prize Terms – Delays or Cancellation

The Participants acknowledge and accept that all or part of the prizes:

- might not be granted in case of termination of the competition;
- might be granted with delays in case of extension of the competition;
- might not be granted or granted with delays if the requirements are not fulfilled.

In case the Competition is terminated for any reason, no further prize(s) shall be awarded. AI-BOOST may cancel the contest or decide not to award the prizes without any obligation to compensate participants, in particular where its objectives cannot be fulfilled.

The prize(s) already awarded at that time may not be revoked.

The monetary prize to be paid will always be subject to the availability of EC funds to be transferred by the AI-BOOST Coordinator in the bank account during the relevant payment period.

7 ANNEX 1 - CONCEPT NOTE / APPLICATION FORM

Admin

1. **Full Name / Team Name / Organization Name**
2. **Email Address**
3. **Phone Number**
4. **Country of Residence / Registration**
5. **Legal Status (Individual, SME, University, Research Institution, NGO)**
6. **In case you are applying as a consortium, please elaborate on the consortium structure**

EXCELLENCE

1. **Project Title**
2. **What specific problem does your AI solution aim to solve?**

   > Challenge 1: GenAI-Based Natural Language Mission Generator for Autonomous Robots in Agriculture _ Intellimech

   > Challenge 2: Agentic AI for Automated CAD Generation and Autonomous Simulation _ SIAD Group

   > Challenge 3: Generative-AI-for-enhancement-of-clinical-datasets

   > Challenge 4: Generative-AI-for-automatic-test-case-generation-from-crash-databases-and-standards

3. **Problem Fit & Contribution** *(Max 1500 characters)*
   Explain how your AI solution effectively addresses the identified problem/challenge and benefits key stakeholders, ensuring alignment with industry needs.

4. **Quantifiable Outcomes** *(Max 1500 characters)*
   Define KPIs, performance benchmarks, and measurable improvements expected from your solution. Provide data-driven projections demonstrating impact on efficiency, accuracy, or scalability. (KPIs, benchmarks, performance improvement, etc.).

5. **Innovation & Novelty** *(Max 1300 characters)*
   Describe the unique elements of your approach compared to existing technologies. Highlight the novelty in methods, algorithms, applications, or integrations. Specify how your solution overcomes limitations of current systems or introduces groundbreaking improvements in AI methodologies.

6. **Technology Readiness** *(Max 1500 characters)*
   Describe your current TRL (e.g., TRL2) and justify your ability to reach TRL5.

7. **AI Technology & Justification** *(Max 2000 characters)*
   Detail the specific AI techniques, architectures, or models supporting your proposal. Explain why these technologies are ideal for your solution and how they will enhance efficiency,

accuracy, and scalability. Discuss how AI interacts with complementary technologies, such as cloud computing or edge AI, to boost performance.

8. **Trustworthy, Responsible AI & Compliance** *(Max 2000 characters)*
   Summarize how your AI model ensures robustness, transparency, and explainability. Demonstrate adherence to EU AI risk classification and regulatory frameworks, including responsible AI principles such as human-in-the-loop oversight, bias mitigation, and ethical evaluation.

9. **Ethics & Data Governance** *(Max 1500 characters)*
   Explain how your solution manages data ethically and complies with GDPR. Provide insights into data collection, processing, security, and privacy-by-design principles. Address bias mitigation, informed consent procedures, and dataset integrity to ensure responsible AI development.

IMPACT

1. **Sustainability & Scalability AI** *(Max 2000 characters)*
   What steps will ensure sustainability and continued impact of the AI model? Discuss plans for continued retraining, ethical data reuse, community engagement, and legal compliance (e.g., GDPR, AI Act). Provide a roadmap for exploitation and adaptation to evolving challenges. Include references to transparency, accountability, and data privacy in design, deployment, and stakeholder interactions.

2. **Social & Environmental Impact** *(Max 1500 characters)*
   What are the expected societal, environmental, and economic benefits of your solution? Connect your project to EU Green Deal policies or SDGs, demonstrating contributions to economic, social, or environmental sustainability. Include AI-driven energy efficiency strategies, emissions reduction, or infrastructure enhancements.

3. **Fairness, Diversity & Open Science** *(Max 1500 characters)*
   How are gender, diversity, and inclusion considered in the dataset of your project?
   Mention inclusive team composition, stakeholder engagement, and accessibility of data or results through open science principles.

4. **Exploitation, and Potential for Collaboration** (max 2000 characters) What are your plans to exploit and scale the solution beyond TRL 5? Explain how the AI solution is structured for adaptability and industry-wide adoption, including plans for cross-sector collaborations, open-access research contributions, and public-private partnerships.

QUALITY OF IMPLEMENTATION

1. **Work Plan** (ADVANCE Phase) *(max 3000 characters)*
   Outline the roadmap for AI solution development, detailing key milestones and validation strategies. Explain how each phase contributes to reaching TRL5, ensuring feasibility and scalability.

2. **Do you need access to CINECA Infrastructure?**
   Yes/no

3. **Resources/Infrastructure** *(max 1500 characters)*
   Please indicate CINECA resources and infrastructure you will use. (if needed).
   - Partition name
   - Wall clock time of a typical job execution
   - Amount of GPU/CPU hours requested
   - Max TB storage needed
   - Software requirements
   - How many models do you need to train? Parameters?
   - Are there previous tests available on scalability and performance computed on similar devices as the ones available on CINECA infrastructure?
4. **Team Credentials & Expertise** *(Max 1750 words)*
   Provide evidence of the team's technical experience, achievements, and domain expertise. Highlight participation in AI research, industry collaborations, publications, competitions, and previous impactful projects.
5. **Risk Management & Mitigation** *(Max 1500 characters)*
   Identify key risks to implementation and how you'll address them.

DECLARATION

1. **Please check the following boxes**

☐ I declare that my organization is not subject to exclusion grounds under EU Financial Regulation 2018/1046.

☐ I acknowledge that selected beneficiaries may be subject to audits and controls by the European Commission, ECA, EPPO and OLAF.

☐ If selected as a prize-winner, agree to sign the official Declaration of Honour available on the AI-BOOST website.