

## MAGICIAN – AUTONOMOUS DEFECTS DETECTION AND REPAIR IN MANUFACTURING

# Open call 1, Guide for Applicants

February 3<sup>rd</sup> 2025

**Closing date for the 1<sup>st</sup> Open Call: 02.05.2025, 5 pm** (Brussels Time)

**Important:** MAGICIAN offers 2 opens calls, the second one will open in  
December 2025

## Short Description

The Guide for Applicants contains the basic information needed to guide you in preparing a proposal for submission to the MAGICIAN Open Calls. It gives an introduction on how to structure your proposal. It also describes how the proposal should be submitted, and the criteria on which it will be evaluated.

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## LIST OF ABBREVIATIONS

ACRONYM	DESCRIPTION
AS	Application Solution
FSTP	Financial Support To Third Party
IP	Intellectual Property

## General information

The **Guide for Applicants** contains the basic information needed to guide you in preparing a proposal for submission to the MAGICIAN Open Calls. It gives an introduction on how to structure your proposal, how to submit the proposal and what are the evaluation criteria applied.

### **Please note:**

Every selected applicant will be required to sign a Standard Agreement, a model example will be provided to applicants before the Notification of Results at the MAGICIAN website [Home | MAGICIAN](#).

This Guide for Applicants does not supersede the rules and conditions laid out, in particular, in Council and Parliament decisions relevant to the Horizon Europe framework program.

## MAGICIAN Summary

MAGICIAN project takes on the challenge of producing a modular automation solution in which robots are used to detect and rework production defects before the last production phases commence and the aesthetics of the product is finalised. The project will produce two robotic solutions, one for defect analysis (sensing robot - SR) and one for the defects' rework (cleaning robot, CR). The SR and the CR can be used separately, with the humans remaining in charge of some of the activities, or in combination, with the CR operating on the defects identified by the SR. The solution will be developed around a human-centered approach, which will allow to evaluate the impact of the innovation on the production processes and remove the most important asperities along this path. MAGICIAN project will generate research and human-centered processes in automation/robotics that considers effects and potential impacts on the workers and society, by improving collaboration, productivity and quality along with the enhancement of working conditions.

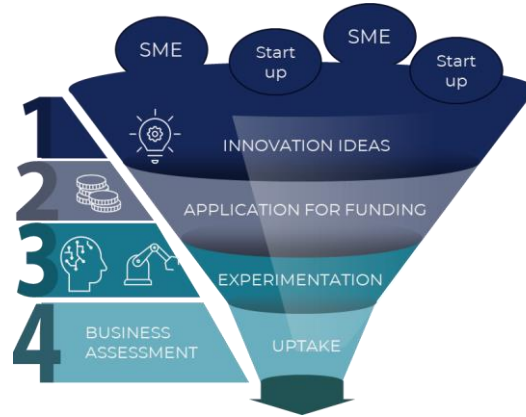
## MAGICIAN consortium

The MAGICIAN consortium brings together the following members:



- UNITN, Italia
- ALTINAY, Turkey
- FORTH-ICS, Austria
- HWH, Germany
- IIT, Italy
- Lund University, Sweden
- Centro Ricerche FIAT (CRF), Italy
- Pipple, Netherlands
- Tofas, Turkey
- Zabala Innovation Consulting, Belgium
- Steinbeis Innovation gGmbH (SIG), Germany

## 2. Scope of the Call



The first open call focuses on the integration of new functionalities within MAGICIAN project solutions through close collaboration with MAGICIAN partners, with the ultimate aim to enhance the capabilities of the SR (Sensing Robot) and CR (Cleaning Robot) through advanced technologies such as improved defect detection algorithms, more efficient rework techniques, or complementary AI modules that optimize their performance in real-time production environments.

More precisely, the MAGICIAN project integrates collaborative robotics, AI-driven defect detection and repair, and human-centered design principles to produce a system that enhances productivity, safety, and ergonomics in manufacturing, while also considering ethical and social dimensions. The technical MAGICIAN solution foreseen by the consortium is summarized in what follows:

### Collaborative Robotic Platforms:

- **Platform for defect detection (SR):** Uses advanced sensors (visual, tactile) to identify surface imperfections on automotive parts.
- **Platform for defect reworking (CR):** Equipped with a high-payload robotic arm and specialized grinding tools to repair identified imperfections.

### Human-Robot Interaction Design:

- **Human-centered interfaces** for safe and ergonomic interaction between workers and robots.
- Active **involvement of end-users** (workers) throughout the design and testing phases to ensure usability, safety, and worker acceptance.

### Perception and Learning Systems:

- **Multi-modal perception system** combining visual and tactile data for

defect detection and classification.

- **AI models for defect categorization** and skill transfer from humans to robots using Learning from Demonstrations (LfD) and semi-supervised learning.

#### **Control and Motion Systems:**

- Motion and force control strategies for safe, precise, and efficient defect reworking tasks.
- Planning and scheduling tools to optimize robotic operations, including path planning and task execution in collaborative environments.

#### **Ethical and Social Frameworks:**

- Incorporation of ethical, social, and gender considerations in the design and deployment of robotic solutions.
- Ongoing evaluation of the social and psychological impacts of robotic systems on workers' trust, comfort, privacy, and quality of life.

#### **Configuration Optimization and Validation Tools:**

- A configuration optimization tool to tailor robotic system settings to various manufacturing use cases for efficient deployment.
- Closed-loop control for welding processes to detect and address defects in real-time.

#### **Validated Datasets and Algorithms:**

- Comprehensive datasets for training and testing AI algorithms for defect detection and reworking.
- Tools and models for inline defect analysis, leveraging techniques like FFT, PCA, and deep learning.



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**Funded projects must provide a solution to be integrated in the above described framework, while focusing on a single module between the ones described below (F1 or F2) and proposing a maximum of two functionalities for integration within that module<sup>1</sup> (applicants must specify their chosen module when applying):**

## **F1. PERCEPTION**

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**F1.1 Sensors for accurate defect detection and classification:** MAGICIAN Consortium seek to advance defect detection and classification by integrating alternative non-invasive sensing modalities into the current vision-based system. The current implementation of that system integrates a polarized camera paired with polarized side lighting to enhance the visibility of surface irregularities. The system is optimized for rapid image acquisition, balancing fast exposure times with sufficient contrast to maintain high detection accuracy. Proposed solutions may include technologies such as laser scanners, structured light, Time-of-Flight (ToF) sensors, acoustic emission sensing, thermographic cameras, photometric stereo methods, microwave imaging, eddy current sensors, or ultrasonic techniques. This list is only indicative, and any other sensing modality demonstrably suitable for the needs of MAGICIAN is also welcome. Proposals should aim to meet key performance indicators (KPIs), such as detecting defects as small as 0.3 mm, achieving strict scan time requirements, and ensuring computational efficiency for near real-time performance on commodity hardware. The focus is on developing reliable, scalable prototypes capable of enhancing defect detection accuracy and throughput.

**F1.2 Polarized camera system:** We invite proposals that focus on optimizing the MAGICIAN polarized camera system for defect detection, with an emphasis on improving its robustness, compactness, and suitability for real-world deployment. The current prototype includes a polarized camera with an upgraded 16mm lens, six polarized light sources, and Time-of-Flight (ToF) laser range sensors for plane measurement. While effective for the project's current needs, the system could be further optimized to better address industrial constraints such as size, weight, power efficiency, and seamless integration into robotic platforms. Proposals are encouraged to address these challenges, exploring solutions like modular designs, improved power delivery mechanisms, enhanced structural stability and optimized lighting control for polarization-specific imaging. The goal is to deliver a refined, production-ready camera system capable of maintaining or surpassing the defect visualization quality achieved by the current prototype, while ensuring compatibility with high-throughput industrial operations.

**F1.3 Increase defect removal and rework abilities:** The MAGICIAN CR has the limit of reworking the body-in-white only for abrasion and removal of excess

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<sup>1</sup> Of the five selected projects, three will be funded under the first set of functionalities (F1), and two under the second (F2).

material. However, dents can be also reworked by the design of a hammer-like end-effector that can be used for small dents repair. Moreover, The CR developed by the MAGICIAN Consortium is endowed with a commercial grinding tool able to rework welding spatters and other defects that come with an excess of material on the body in white. A possible improvement is to design a specific grinding tool for the defect reworking activities that is not general purpose but tailored on the MAGICIAN solution and that can be co-designed with the robot end-effector and the control algorithms to be applied.

**F1.4 Annotation Tools for Multi-Modal Data:** Given the importance of annotated datasets for training defect detection models, this topic seeks innovative annotation tools tailored for multi-modal data (e.g., polarized imaging, tof measurements and possibly other modalities). Proposed solutions could include semi-automated or AI-assisted annotation frameworks, making it easier to handle large-scale data labeling tasks while maintaining high accuracy and consistency. Proposals may also explore user-friendly interfaces for annotators or tools that generate synthetic data to augment real-world datasets.

**F1.5 Innovative approaches and architectures for improved defect detection and classification:**

We invite innovative approaches to improve defect detection, localization, and characterization of defects, using annotated visual data acquired from the polarized camera system developed within MAGICIAN. Proposals may focus on leveraging machine learning algorithms, including convolutional neural networks (CNNs) and transformer architectures, to enhance classification accuracy and reduce misclassification rates. Alternative approaches, such as traditional computer vision techniques, hybrid methods, or novel algorithmic strategies, are also encouraged. The aim is to leverage the existing data to develop techniques that achieve real-time defect analysis by training models, and integrating features such as defect size, type, and severity. The resulting systems should aim to match human performance in accuracy and precision or potentially exceed it in specific aspects. The proposed solutions should have the potential to account for industrial constraints, such as computational efficiency and scalability, ensuring compatibility with real-time processing requirements on production lines.

**F1.6 Wearable Tactile Systems for Capturing Operator Expertise in Defect Detection and Classification:** The current tactile system developed within the MAGICIAN project relies on piezoresistive force sensors and an analog accelerometer to extract tactile features from force and acceleration signals. While this handheld device is practical for initial testing, it does not fully align with the natural exploration techniques used by operators during defect inspections, as it impairs their natural scanning modality. Addressing this limitation requires the design of a wearable solution that allows seamless data acquisition while preserving operator expertise and transparency. Additionally, exploring alternative sensors such as microphones, Bragg fiber sensors, and visual-tactile systems could enhance defect detection by capturing features beyond those measured by the current system. Acquiring a larger dataset will

enable comprehensive testing of various tactile sensors, improving our understanding of operator strategies and identifying the most effective technologies for robust and accurate defect detection.

## **F2. HUMAN-ROBOT COLLABORATION**

**F2.1 Human Observation:** The MAGICIAN first solution currently employs Dynamic Motion Primitives (DMPs) and Riemannian manifolds to model and transfer human skills for defect detection and correction to the CR. This approach captures nonlinear motion patterns and allows robotic systems to replicate precise, adaptable motions in real-time, ensuring smooth human-robot collaboration in manufacturing scenarios. To enhance this framework, the Consortium invites innovative proposals that explore cutting-edge learning techniques capable of improving the modeling of complex dependencies and relationships across motion trajectories. Additionally, approaches such as zero-shot learning could enable robots to generalize effectively from limited examples, facilitating adaptation to new and unseen tasks with minimal training. The goal is to improve human-level precision in motion modeling while addressing key needs like scalability, computational efficiency, and robustness.

**F2.2 Human Interface and Interaction:** One of the selling points of the project MAGICIAN is to let the SR or CR robot to be a working apprentice. After a first learning phase, that can be carried out on the plant of interest or otherwise learned from previous applications, the human worker has to check if both the SR and the CR are correctly performing their tasks and if they need some fine tuning, e.g., in the detection phase or in the reworking phase. To this end, a simple user interface is needed. In its first version, the MAGICIAN solution comes with a simple GUI on a tablet in which the human worker can check if the defects are correctly detected and classified by the SR and then if they are correctly removed by the CR. The Consortium is looking for more flexible interfaces, such as augmented reality glasses that allows a more intuitive and flexible interaction of the worker with the working piece under investigation. Such interfaces should demonstrate bidirectional functionality. They should be able to communicate with the MAGICIAN robotic platform, augment and display relevant information gathered from the perception system of the robot as well as serve as input interface enabling the human operator to also interact and command the robotic platform on the basis of the augmented information received.

**F2.3 Human worker speaking system:** In the spirit of a simple and effective interaction. Between the human worker and the robots, MAGICIAN Consortium is planning to add a intuitive natural language interface to let the human worker speak aloud, communicate and guide/control the robot during the execution of the task. Such vocal interface can be for example employed in situations where the robot has mistakenly detected a defect or incorrectly reworked it, Application must suggest alternative procedures and operations to the defect detection or the reworking operation. In addition, the speech interface can provide an

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efficient communication channel through which the human operator can provide commands to control the general workflow of the defect detection and correction operations. The proposals should provide both the software components of the speaking system and their interfaces, as well as ergonomic, yet reliable solutions for the integration of the physical sensors (microphones).

**F2.4 Motion improvements:** In the MAGICIAN first solution, the CR and the SR are supposed to be fixed on the ground or to be placed on a mechanical slider. In the former case, robots have limited mobility and make it hard to respect the foreseen takt time. In the latter case, the mechanical slide is bulky and requires time to be deployed, modified or removed. In both cases, the motion of the human worker will be impaired by the robot mounting system. To increase flexibility and productivity, and reduce the impact on the working cell, the Consortium is looking for a mobile robot solution that can host the robotic arm and increase the mobility of the system. The proposed solutions should also provide the necessary perception and control components enabling reliable and safe navigation as well as the coordination of the mobility/navigation and manipulation motion generation and control in whole body fashion demonstrated in relevant mobile manipulation task scenarios. This robotic system should be able to share the working cell with the human being, and hence planning and executing safe trajectories. Moreover, the Consortium aims to increase interoperability, safety and worker acceptability.

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## 3. Rules and conditions

To avoid conflicts of interest, applications involving or coming from persons or organizations who are partners in the MAGICIAN consortium or who are formally linked to partners of the MAGICIAN consortium will not be accepted. For the purposes of this call for proposals, “organizations formally linked to the partners” of the MAGICIAN consortium are understood according to the definition of affiliated entities and third parties with a legal link to a beneficiary described within the Horizon Europe Annotated Model Grant Agreement – Art. 12 — CONFLICT OF INTEREST (available at: [aga\\_en.pdf \(europa.eu\)](#)).

### 3.1 ELIGIBLE COUNTRIES

Legal entities established in the following countries are eligible to receive funding through this Open Call:

- Member States (MS) of the European Union (EU), including their overseas departments
- The Horizon Europe Associated Countries

The EU Associated Countries participate in Horizon Europe under the same conditions as the EU Member States. A list with all eligible associated Countries can be found here:

[list-3rd-country-participation\\_horizon-euratom\\_en.pdf](#)

Legal entities established in any other country or region cannot receive funding in this open Call.

### 3.2 TARGETED COMPANIES

MAGICIAN is targeting the following types of companies from the eligible countries mentioned above:

- Startups
- Small and Medium Sized Enterprises<sup>2</sup>

A legal entity will be considered **an SME** if it complies with the European Commission's definition. The main factors defining an enterprise as an SME are (i) staff headcount and (ii) either turnover or balance sheet total, as specified in the table below:

Table 1: SME definition

Company category	Staff headcount	Turnover	Balance sheet total
Medium-sized	< 250	≤ € 50 m	≤ € 43 m
Small	< 50	≤ € 10 m	≤ € 10 m
Micro	< 10	≤ € 2 m	≤ € 2 m

Further requirements on the European Commission's SME definition can be found at: <https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/>

Any applicant commits itself:

- 1) to have at the moment of the submission of the application, or at the latest by the kick-off of the AS activities (corresponding to the entry into force of the Standard Agreement), the necessary stable and sufficient resources to implement the MAGICIAN Solution;
- 2) to guarantee that its organisation is not in any situation which would exclude them from receiving financial support (including pending financial procedures concerning frauds or inappropriate management or undue previous appropriation of funds from

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<sup>2</sup> [http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition\\_en](http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en)

other funding programs),

3) not to cumulate the MAGICIAN funding with other forms of financial support for the same work (i.e. exclusion of double funding case).

### 3.3 ETHICAL ISSUES

MAGICIAN complies with the European policies regarding data protection and privacy and respects fundamental ethical issues particularly those outlined in the “European Code of Conduct for Research Integrity”.

Each AS is responsible to respect European policies regarding data protection and privacy, in particular to be GDPR compliant.

All data that are involved (collected, generated, stored) into an Application Solution or that are processed in an AS must be GDPR compliant and therefore completely anonymized beforehand.

For more information on ethical issues, please consult the documentation provided by the European Commission: [how-to-complete-your-ethics-self-assessment\\_en.pdf](https://ec.europa.eu/eip/eip-ai-ethics/how-to-complete-your-ethics-self-assessment_en.pdf) ([europa.eu](https://europa.eu))

The MAGICIAN consortium respects the European Ethics Guidelines Trustworthy AI, with the guarantee that AI systems are not only ethical and socially robust, but also operate harmoniously throughout their entire lifecycle, promoting trust in new AI technologies.

For more information on Ethics Guidelines Trustworthy AI please consult the documentation provided by the European Commission: [Ethics Guidelines for AI](https://ec.europa.eu/eip/eip-ai-ethics/ethics-guidelines-for-ai_en.pdf) ([europa.eu](https://europa.eu))

All applicants have to confirm if their proposal does or does not have ethical issues by selecting the relevant checkboxes in the proposal template. If you suspect that you have to answer “Yes” to any of the questions in the template, please contact a MAGICIAN Partner for guidance the issue.

The MAGICIAN consortium may check during the evaluation of a proposal if this declaration is in line with the contents of the proposal itself and reserves itself the right to contact the companies for clarification and eventually take necessary steps depending on the ethical issues.

### 3.4 FINANCIAL SUPPORT TO THIRD PARTIES RULES

As per European Commission's rules, companies have the possibility to participate in different open calls during MAGICIAN entire duration. In that case, the maximum possible financial support per MAGICIAN project is limited to **200 000 €**. Financial support to third parties is called cascade funding.

The limited amount does not include any EC contribution that your organization receives or has received via an EU-funded project (within Horizon Europe) as a fully associated beneficiary.

As per the European Commission's rules, financial support will not be awarded for work that was previously or is currently funded under any other (Regional, National or EU) program.

### 3.5 FUNDING OF PROPOSALS

The funding of proposals will follow the Financial Support to Third Party rules detailed in the previous section (§3.4).

The **maximum funding** per Application Solution is **200 k€**, at a funding rate of **70%** of the budget for **SMEs**, reaching up to **100%** of the budget in case of **Start-ups**. This refers to the base configuration, more details in section §3.6.

Each **Application Solution budget** will include justifications of cost and resources. The total European Commission available funding per Application Solution will represent 70% of the total cost involved by selected **SMEs**, and 100% of the costs involved by selected **Start-ups**.

The amount of financial support will be calculated on the basis of the estimated costs. Each AS will include an implementation plan including milestones and deliverables, and a cost estimate justifying the costs and resources in relation to the implementation plan. The selected company(-ies) will receive funding distributed in three stages:

1. **Pre-financing (up to 50%)**: An initial payment of up to 50% of the total funding amount will be provided upon the successful completion of the Kick-off Meeting (KoM).
2. **Intermediate Payment (up to 35%)**: A second instalment of up to 35% will be disbursed following the submission and approval of a status report. This report should include updates on the Work Package (WP) progress, a risk assessment, and financial reporting for the pre-financing amount.
3. **Final Payment (remaining balance, up to 15%)**: The final payment, covering the

remaining funding amount, will be made at the conclusion of the AS, contingent upon the successful achievement of milestones and/or deliverables.

The **AS budget** must follow Horizon Europe rules, among them:

- It must respect the limit of 15% for specific subcontracting tasks that neither the MAGICIAN partners nor the Third Party can carry out
- The Third Party shall not make a profit from the EC funding

### **Budget categories/activity types:**

#### A. Personnel costs:

- A.1 Employees, A.2 Natural persons under direct contract, A.3 Seconded persons
- A.4 SME owners and natural person beneficiaries

#### B. Subcontracting costs

#### C. Purchase costs

- C.1 Travel and subsistence,
- C.2 Equipment,
- C.3 Other goods, works and services

#### E. Indirect costs

**Indirect costs** will be reimbursed at the flat-rate of 25% (categories A-D, except volunteers' costs, subcontracting costs, financial support to third parties and exempted specific cost categories, if any).

It is strongly recommended that travel costs for dissemination in the "*other direct costs*" budget are included in the budget up to a limit of 10k.

Please consider that all budgeted costs must comply with the applicable national law on taxes, labor and social security and must be in compliance with the rules and conditions laid out in Council and Parliament decisions relevant to the Horizon Europe framework program, in particular - but not exclusively - "[Regulation \(EU\) 2021/695 of the European Parliament and of the Council of 28 April 2021](#)"

Provisions for possible future losses or charges, exchange losses, costs related to return on capital, costs reimbursed in respect of another Union action or program, debt and debt service charges and excessive or reckless expenditure are **ineligible costs** and **cannot be included** into the budget.

The expected **duration** of an Application Solution is **targeted for 12 months**.



### 3.6 PARTNERS IN APPLICATION SOLUTION

MAGICIAN partners support selected third parties in different ways and roles: AS can be promoted by one single applicant (Single AS) or by a small consortium of maximum 2 organizations (Twin AS), as summarized in the following table.

Single AS	Twin AS
<p>BASE CONFIGURATION</p> <ul style="list-style-type: none"> <li>• One Third party (= the applying company)</li> <li>• MAGICIAN Competence partner</li> <li>• Cascade funding partner (ZAB)</li> <li>• 200 k€ max of cascade funding for the applying company</li> </ul>	<p>BASE CONFIGURATION</p> <ul style="list-style-type: none"> <li>• Two Third parties (= the applying company(ies))</li> <li>• MAGICIAN Monitoring partner</li> <li>• Cascade funding partner (ZAB)</li> <li>• Each applying consortium receives a max of 200 k€ of cascade funding each</li> <li>• One of the two legal entities in the applying consortium will be designated as the <b>coordinator</b> and will serve as the <b>sole point of contact</b> with the MAGICIAN counterparts</li> </ul>

For Twin AS, one of the two legal entities applying will have to be designated as **the coordinator** of the project at application phase. Its duties are i) to ensure that the proposal is in line with the companies expectations and targets, ii) to make sure that both the administrative declarations and the ethical issues section (§4) of the proposal are fully completed on behalf of the two third parties, iii) to be the privileged contact with the MAGICIAN partners and ensuring smooth communication, iv) will be the point of contact receiving the fund and distribute them among the consortium.

MAGICIAN competence partners will support and collaborate with third party(ies) during the execution of the selected single AS. They will report on the AS status to the cascade funding partner and the validation of the defined milestones.

MAGICIAN monitoring partner will ensure the project follows its work plan as a single point of contact for the third party(ies) during the execution of the selected twin AS. They will relay the AS status to the cascade funding partner and the validation of the defined milestones.

MAGICIAN coordinator partner (UniTN) is in charge of the cascade funding (FSTP) payment to the coordinator of the two Third parties or the unique applicant in case of Single AS, following the payment schedule described in the standard contract and the

validation of the Status report, milestones and associated deliverables by the competence or monitoring partners, depending on the AS type.

### 3.7 AVAILABLE MAGICIAN TECHNOLOGIES

MAGICIAN provides access to advanced technologies and industrial platforms that are developed by the Consortium, such as:

- Collected datasets (defect collections, human motions inside the working cells for defect detection and reworking, camera and touching sensor data)
- CAD design and mounting instructions for the designed sensing system and grinding tool
- Testing facilities, including testing robots, for solutions fine-tuning
- Support in software integration and solution adaptation
- Application domain knowledge

Beneficiaries must integrate their solutions with the foreseen MAGICIAN platform. Indeed, it is essential that the proposed solutions are fully compatible with MAGICIAN's current software and hardware specifications, communication system, and computational requirements to enable effective collaboration. These specifications include:

- Robotic system, which consists of a Doosan H2515 with a tool output flange (Standard ISO9409-1-50-4-M6) and a maximum payload of 25 kg
- The rated power outlet at the end effector (1000W)
- Computing power of the onsite workstation that consists of one high-end desktop computer with one CPU and one dedicated NVIDIA GPGPU.
- API and software interfaces, which build upon Linux 22.04 as operating system and ROS2 Humble as communication middleware, together with a description of the developed algorithms and functionalities
- The software developed by the consortium to provide vision capabilities to the Magician platform is based on Keras 3+/Tensorflow 2.18.0+ and is written in Python 3.10+ , C and C++. Usage of mature standard open-source libraries such as OpenCV and NumPy is preferred. Docker containers could be used to facilitate integration to our platform, however targeting a similar development environment reducing code surface will be ideal.
- Git and GitHub version control software to host the code
- Hardware interfaces for the onsite workstation (e.g., USB and Gigabit Ethernet)
- Comply with the automation standard

- Time and quality requirements of the defect inspection and removal production line according to the automotive standards

### 3.8 APPLICATION SOLUTION TYPE: SINGLE AS # TWIN AS

Two types of Application Solutions are supported by MAGICIAN in this open call:

- **SINGLE AS:**

*Base configuration*

- *a single AS involves one European company that brings an idea of innovation can be integrated to the existing MAGICIAN solution and that thus will have a potential market vision. The maximum cascade funding grant available for the company is 200 k€.*
- *One MAGICIAN technical partner brings the technical expertise to the European company.*
- *One MAGICIAN innovation partner is associated, bringing its expertise on innovation management and business.*
- *Together with UNITN as project coordinator, they will constitute a dedicated unit of work, committed together through the signed standard and specific AS agreement, if selected.*

- **TWIN AS:**

- *a twin AS involves two European companies, preferably but not mandatorily from different countries, that are associated in a small consortium to build together a proposal and to manage it to its realization, if selected. The maximum cascade funding grant available will be **200 k€ for each consortium.***
- *Company #1 brings an idea of innovation, a clear market vision and needs complementary expertise to validate the concept. This legal entities within the applying consortium will be designated as the **coordinator** and will be the sole point of contact for all communications with the MAGICIAN counterparts.*
- *Company #2 brings the complementary expertise to realize the Solution.*
- *One MAGICIAN partner is associated to monitor the good realization of the project, based on the defined workplan.*
- *Together with UNITN as project coordinator, they will constitute a dedicated consortium, committed together through the signed standard and specific AS agreement, if selected. Both European companies will receive cascade funding based on the workplan and payment schedule conditions defined in the standard and specific AS agreement.*

### 3.9 TECHNICAL AREAS

MAGICIAN welcomes proposals including, but not limited to, the following fields (see section 2 for detailed description of targeted solutions): Robotics, Automation, Artificial Intelligence, Machine Learning, Computer Vision, Sensor technologies, Smart Manufacturing, Human-robot collaboration, Advanced Materials, Data Analytics, Digital technologies, Adaptive Process control.

## 4. Proposal creation and submission

### 4.1 ONE STAGE SUBMISSION

Proposals for a MAGICIAN Application Solution are submitted in a single stage, by submitting a complete proposal through our submission portal → [Application Form | MAGICIAN](#).

After completing the fields indicated in the application form, each applicant needs to upload a proposal description file, a technical description (including a business-oriented description): small document (max 15 pages) written in English and submitted under pdf format.

### 4.2 PROPOSAL DESCRIPTION LANGUAGE AND LENGTH

The proposal description has to follow the structure of the proposal template provided in Annex 1 of this document. The template can be downloaded from the open call website as a Microsoft-Word file: [Resources & Findings | MAGICIAN](#)

The proposal has to be written in English. Proposals submitted in any other language will not be evaluated. The proposal has to be submitted under a pdf format.

The proposal (technical sections, i.e. Excellence, Impact and Implementation) **should not exceed 15 pages in length** (recommended Arial or Times New Roman font, minimum font 11), not including the title page, the administrative declarations and section 4. (Ethical Issues) of the proposal. Applicants are free to provide limited additional information such as letters of support or additional data or references in the Appendix that does not count to this page count. It is recommended that applicants include in their proposals also innovation management/business development actions to be subsequently implemented.

### 4.3 SUPPORT DURING THE CREATION OF THE PROPOSAL

Applicants are **strongly encouraged to contact MAGICIAN partners through the following email [OpenCall@magician-project.eu](mailto:OpenCall@magician-project.eu)**, in order to get more information on the technologies available, the Innovation management services and advice on how to create a successful proposal prior to submitting.

Applicants can contact MAGICIAN thanks to:

- MAGICIAN weekly helpdesk (every Wednesday, 17h00 – 18h00): [Join the meeting now](#)
- Direct contact with MAGICIAN partners (link)
- Participation in webinar and by accessing its recorded session

**Past experience indicates that proposals with engagement before submission are more likely to succeed.**

#### 4.4 SUBMISSION OF PROPOSALS

Proposals in MAGICIAN are submitted through our dedicated proposal submission portal.

Only proposals submitted through this portal before the closure of the call will be evaluated after its closure. Proposals must be received by the closing time and date of the call (**02/05/2025 Wednesday at 5:00pm, Brussels Time**). Late proposals or proposals submitted to any other address or by any other means will not be evaluated.

If one of the mandatory documents is missing (pdf file), the proposal will be considered as incomplete and therefore will not be evaluated.

If you discover an error in your proposal, you can at any time - provided the call deadline has not passed - submit a new version of your proposal in our portal. Only the last version received before the call deadline will be considered in the evaluation.

All proposals will be evaluated as submitted; after the close of a call, no additions or changes to received proposals will be taken into account.

**Do not wait until the last minute to submit the final version of your proposal. A complete proposal includes the proposal description (pdf document). Failure of your proposal to arrive on time for any reason, including communication delays, is not acceptable as a delay circumstance. The time of receipt of your submission as recorded by the portal system will be definitive.**

#### 4.5 ACKNOWLEDGEMENT OF RECEIPT

The submission of a proposal will be confirmed by the proposal submission system through an automated email received from [OpenCall@magician-project.eu](mailto:OpenCall@magician-project.eu).

The acknowledgement of receipt will be emailed to you by MAGICIAN project (**see Annex 2** of this document).

The sending of an acknowledgement of receipt does not imply that your proposal has been accepted as eligible for evaluation.

## 5. Proposal evaluation and selection

### 5.1 ADMISSIBILITY AND ELIGIBILITY CHECK

A proposal is eligible if it complies to the following requirements

1. The proposal description is written in English

2. It was submitted by a legal entity established in one of the countries mentioned in section 3.1 Eligible countries
3. Its content corresponds to the call topic description (in scope/out of scope)
4. The proposal is cross-border and the company(ies) are from Eligible countries (see §3.1)
5. The company(ies) are Start-up or SME (see definition in §3.2)

A proposal will only be deemed “out of scope” in clear-cut cases when there is no obvious link between the proposal and the scope of the call (referring to F1 and F2 and challenges/features are reported therein). If the proposal is partially within the scope of the call, it will be evaluated in any case.

If any of the above criteria do not apply to a proposal, the applicant will be informed about it and the proposal will not be furthered into the evaluation process. In any other case, the proposal will be evaluated as described in the following sections 5.2 and 5.3 of this document.

## 5.2 PROPOSAL EVALUATION OVERVIEW

MAGICIAN project will evaluate proposals received in the open calls in the light of the criteria that govern the European Commission’s original evaluation and selection of their projects. All evaluations are carried out in the light of the same basic principles:

- **Excellence:** The proposals selected for funding must demonstrate a high quality in the context of the topics and criteria set out in the call
- **Transparency:** Funding decisions are based on clearly described rules and procedures, and all applicants will receive adequate feedback on the outcome of the evaluation of their proposals
- **Independence:** Evaluators assess proposals on a personal basis. Evaluators represent neither their employer nor their country.
- **Impartiality:** All proposals submitted to a call are treated equally. They are evaluated impartially on their merits, irrespective of their origin or the identity of the applicants<sup>3</sup>.
- **Objectivity:** Evaluators assess each proposal as submitted<sup>4</sup> not on its potential if certain changes were to be made.
- **Accuracy:** Evaluators make their judgment against the official evaluation criteria of the call or topic the proposal addresses, and nothing else.
- **Consistency:** Evaluators apply the same standard of judgment to all proposals.
- **Confidentiality:** All proposals and related data, knowledge and documents are treated in confidence

The evaluation of Application Solution proposals is based on scores given according to three criteria:

---

<sup>3</sup> In the frame of any restrictions provided for in the call

<sup>4</sup> This includes the input made during phone interview for the business case evaluation as described below

Criteria	Associated documents
Excellence	These 3 criteria will be evaluated through the proposal description (pdf document).
Impact	
Implementation Quality	
	<u>The impact section must provide a business case-oriented description.</u>

The evaluation criteria and the scoring system are described in detail in the next section of this document. The evaluation process in MAGICIAN follows the three basic steps:

- External experts will evaluate all the proposals with regards to the criteria of *Excellence, Impact and Quality of implementation*.
- A business case evaluation will be done through business case-oriented description in the impact section inserted by the applicant
- MAGICIAN evaluation committee will perform a global evaluation of the proposals based on the results of both the technical and business case evaluation, in regard to the criteria of Excellence, Impact and Quality

The external experts are individuals from different sectors: science, industry or academic and with experience in the field of innovation. These experts are internationally recognised authorities in the relevant specialist area and are independent of any member of the consortium and of any proposer. They will also sign a non-disclosure form with MAGICIAN to ensure the confidentiality of the proposals.

Each of the three steps, described above will assign a score to each proposal in the following way:

- Each external expert will assign a score between 1 and 5 to each of the criteria mentioned above. The assigned scores of the experts will be averaged for each criterion to get one single score for each criterion.
- MAGICIAN evaluation committee will assign a score between 1 and 5 to each of the criteria mentioned above.

During MAGICIAN evaluation & selection meeting, each proposal will be discussed, and a consensus formed on the scoring. To achieve a single score for each of the criteria of *Excellence, Impact and quality Implementation the scores of MAGICIAN Evaluation committee and the score of the external experts (which has been combined into a single score for each criterion as described above) will be averaged.*

A total score of a proposal is reached by calculation the sum of all individual scores of the evaluated criteria of a proposal. Each criterion is equally weighted. Therefore, the overall maximum score for an Application Solution proposal is 15. However, in the event of proposals receiving the same score, the final ranking will depend on the best value achieved in excellence, giving priority to the best proposals in terms of innovation, technical soundness and feasibility of the robotics and automation solution proposed, specifically for defect detection, rework processes and human-centered approach.

**For a proposal to be considered for funding, each individual score must meet a minimum threshold, which is 3 out of 5 points. The total sum of the individual scores must reach the minimum threshold of 9 points.**

### 5.3 EVALUATION CRITERIA AND SCORE

The evaluation of Application Solution proposals will be based on scores given according to three basic criteria: *Excellence*, *Impact*, *Implementation* of the AS.

The **Excellence** is evaluated according to the following criteria:

- How well does the proposed solution address the identified automation challenge as detailed in the open call text?
- Are the proposed objectives clearly defined, measurable, and relevant to the automation goals of the MAGICIAN project?
- How well does the proposed solution incorporate the required functionalities (e.g., defect analysis, AI-driven rework decision-making, real-time monitoring)?
- How intuitive is the technology for the end-users? How easy can the technology be integrated into MAGICIAN existing functionalities? How robust is the technology?
- How well does the proposed work align with the broader goals of the MAGICIAN project?
- To what extent is the proposed work ambitious, has innovation potential, and is beyond the state of the art (e.g. ground-breaking objectives, novel concepts and approaches)?
- Is your solution expecting to achieve TRL7, aligning with MAGICIAN project target?
- Is the concept sound and shows a clear plan for the development of a working solution in collaboration with MAGICIAN?
- How effectively does proposal address gender and diversity considerations?
- Are potential ethical issues thoroughly identified and addressed?
- To what extent does the proposed work reflect a commitment to inclusivity and accessibility?

The **Impact** is evaluated according to the following criteria:

- Does the proposal enhance innovation capacity and the integration of new knowledge of the companies?
- Are the proposed measures to exploit and disseminate the project results (including management of IPR), to communicate the project, and to manage research data where relevant effective?



- How will data be organized, stored, and shared, ensuring compliance with relevant regulations and promoting transparency?
- How will the project contribute to responsible manufacturing practices?
- Are any other environmental and socially important impacts relevant? ( e.g. sustainability, workforce safety, and community engagement)

The impact session must include a **business case-oriented description** of the AS which will be evaluated according to the following criteria:

- What distinguishes your offering from competitors in the market? (e.g. specific features, benefits that offer a competitive edge)
- How does the proposed solution create tangible value for the company and the broader industry? (e.g. economic benefits, cost saving, potential revenue generation)
- What is the potential for scalability and adoption within the industry? (e.g. market needs, anticipation of future economical trends.)

The **Quality** and the efficiency of the implementation will be evaluated according to the following criteria:

- How effectively will the Application Solution be managed throughout the project lifecycle? Is the proposed work plan coherent and effective in achieving project goals?
- Are Tasks, deliverables, deadlines well defined, realistic and adapted to the goals of the proposals?
- Is the allocation of tasks and dedicated resources (e.g. human capital, equipment, person-hours, etc.) appropriate and necessary to perform the scope of the proposal and achieve its objectives?
- Are the costs clearly defined, aligned, and justified with the required efforts?
- Have crucial risk (technological, operational, financial, etc.) to the success of the Application Solution been identified and how effectively will those be managed
- Does the third party possess the technical skills and abilities necessary to perform the scope of the proposal?

The scores used during the evaluation process indicate the following with respect to the criterion under examination:

- 1 – Proposal fails to address the criterion or cannot be assessed due to missing or incomplete information or there are serious inherent weaknesses.

- 2 – Fair. The proposal broadly addresses the criterion, but there are significant weaknesses.
- 3 – Good. The proposal addresses the criterion well, but a number of shortcomings are present.
- 4 – Very Good. The proposal addresses the criterion very well, but a small number of shortcomings are present.
- 5 – Excellent. The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

## 5.4 AS SELECTION

The outcome of the evaluation will be a ranked list of all proposals, ordered in descending order by the total score obtained by the proposal.

As already mentioned in section 5.3, the priority in the selection process will be given to the best proposals in terms of innovation, technical soundness and feasibility of the robotics and automation solution proposed, specifically for defect detection, rework processes and human-centered approach.

Depending on the available budget for funding, the available resources for the technological offer of the MAGICIAN consortium members, the number of eligible and fundable proposals in the call, 5 proposals- based on this ranked list - will be selected for funding. Whilst normally the highest-ranked proposals will be selected for funding, there might be objective reasons (as mentioned above) for objecting to a specific third party. In this case, the choice may pass to the next-ranked proposal.

The 5 selected proposals will be reported the MAGICIAN project officer of the European Commission for a final granting decision. Any remaining FSTP budget will be considered for a potential extra solution funded in the OC2.

## 5.5 FEEDBACK TO APPLICANTS

After the evaluation of the proposals, all applicants will be informed if their application Solution was accepted or not. The first call notifications are planned to be released on 30 June 2025.

In case a proposal is selected, the applicant will receive a short summary of the evaluation outcome along with further information about the upcoming steps. In case a proposal is not granted, they will receive a full evaluation report, including an extended summary with the main remarks of the evaluation to allow the improvement of the proposal for future submissions. In any case, it is allowed to resubmit proposals to MAGICIAN's further Open Calls.

## 6. Additional information

### 6.1 CALL HELPDESK

For further information on the call, access to our weekly **helpdesk, available every Wednesday, from 17h00 – 18h00 during the three-month open call period: [Join the meeting now](#)**

**Email:** [OpenCall@magician-project.eu](mailto:OpenCall@magician-project.eu)

### 6.2 THE INDIVIDUAL PROPERTY RIGHTS

All partners involved in a funded and implemented Application Solution will sign a standard agreement before the Application Solution starts. All information of whatever nature and in whatever form or mode of communication, which is disclosed by a Party to any other during the implementation of the Application Solution and which has been explicitly marked as “confidential” at the time of disclosure, or when disclosed orally, has been identified as confidential at the time of disclosure and has been confirmed and designated in writing within fifteen (15) calendar days from oral disclosure, is “Confidential Information” and shall not be disclosed to any other third party.

Ownership of the developed product of an Application Solution will remain with the third party. In case any IP is transferred or developed during the implementation of the Application Solution, a bilateral contract between the involved parties will be concluded to define the exploitation rules.

## 7. Checklist for a successful proposal

Please consider this checklist as a helpful tool to maximize the chances of your proposal to be successful:

1. **Fill in with your information in our website** and **contact a MACIAN Partner for support, if needed.**
2. **Does your planned work fit with the call for proposals?** Check that your proposal does indeed address the topic in this open call.
3. **Is your proposal eligible?** The eligibility criteria are given in chapter 3 of the guide for applicants. Make sure that you satisfy the formal participation requirements (eligible country, written in English)
4. **Readability:** Check that your proposal printable and all information (especially in charts, figures etc.) is readable.
5. **Budgetary limits:** Check that you comply with the budgetary limits.
6. **Did you use the current template?** All proposals have to be based on the current proposal template available on the website [Home | MAGICIAN](#)
7. **Is your proposal complete?** Have you completed all mandatory questions?
8. **Does your proposal answer all requests/comments?** Proposals should be precise, concise and should answer to requested questions. Omitting requested information will almost certainly lead to lower scores in the evaluation.
9. **Have you submitted your proposal before the deadline?** It is strongly recommended not to wait until the last minute to submit the proposal. **The deadline is May 2<sup>nd</sup>, 2025 at 5 p.m. Brussels time**

## Annex 1- proposal template

### CALL INFORMATION

**IDENTIFIER:** Magician01 Call (OC1\_AS1)

**PROJECT FULL NAME:** Immersive Learning For Imperfection Detection And Repair Through Human-Robot Interaction

**ACRONYM:** MAGICIAN

**GRANT AGREEMENT NUMBER:** 101120731

**DEADLINE:** 02.05.2025, 5 PM (CET)

Note:

All parts of this document in **red** are explanatory guidance notes. Please delete these guidance notes and replace them with your own text.

Do not delete headings, subheadings and tables.

### **IMPORTANT NOTICE!**

The maximum total length of the technical proposal (Section 1-3) must not exceed 15 pages (minimum font dimension 11, font Calibri, minimum margins 1,5 up/down - 1,5 left/right) not including the title page, the administrative declarations and Section 4 - Ethical issues.

**Proposals exceeding the page length indicated will be penalized as any page beyond the allowed length will not be read or taken into account during the evaluation process.**

**Exceeded pages allowed:** Applicants are free to provide limited additional information such as letters of support or additional data or references in the Appendix that does not count to this page count.

**SINGLE AS**

**TWIN AS**

For a **Single AS proposal**, please fulfil below the column “Single AS”.  
For a **Twin AS proposal**, please fulfil below the column “Twin AS” for both companies.

Single AS One company	Single / Twin AS	
	Company #1: coordinator	Company #2
Participant organisation/company: <i>[Organization/Company name]</i>	Participant organisation/company: <i>[Organization/Company name]</i>	Participant organisation/company: <i>[Organization/Company name]</i>
Organization/Company Number: <i>[Organization/Company number or national equivalent if available]</i>	Organization/Company Number: <i>[Organization/Company number or national equivalent if available]</i>	Organization/Company Number: <i>[Organization/Company number or national equivalent if available]</i>
Organization/Company Website <i>[ URL /link if available]</i>	Organization/Company Website <i>[ URL /link if available]</i>	Organization/Company Website <i>[ URL /link if available]</i>
Country:	Country:	Country:
Contact person name: <i>[Name]</i>	Contact person name: <i>[Name]</i>	Contact person name: <i>[Name]</i>
Contact person phone number: <i>[Phone number]</i>	Contact person phone number: <i>[Phone number]</i>	Contact person phone number: <i>[Phone number]</i>
Contact person email: <i>[Email address]</i>	Contact person email: <i>[Email address]</i>	Contact person email: <i>[Email address]</i>
Contact person position in the organization/company: <i>[Position in company]</i>	Contact person position in the organization/company: <i>[Position in company]</i>	Contact person position in the organization/company: <i>[Position in company]</i>

Please make sure that your information here is the same that you entered in the submission portal.

**Email address to which the acknowledgement of receipt should be sent:**

*[insert]*



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## Administrative declarations

Please answer the following questions. Failure to answer them might render the proposal ineligible to be selected for funding.

- In case of a SINGLE AS with one applying company, to be fulfilled by the applicant
- In case of a TWIN AS with two applying companies, to be fulfilled by company #1 (coordinator) on behalf of the two companies.

1. We confirm that the proposed work has not previously, or is not currently been funded under any other (Regional, National or EU) program:

Yes       No <sup>5</sup>

*If you select "No" or do not select anything here, the proposal might be ineligible to be selected for funding. Please contact MAGICIAN Helpdesk for guidance if you do not know how to answer this.*

*If appropriate or necessary, please add a comment here, explaining your answer to the question above.*

2. We confirm that the company "*name of the company*" does exist, is not bankrupted and have or will have the necessary stable and sufficient resources to implement the MAGICIAN Application Solution,

Yes       No

*If you select "No" or do not select anything here, the proposal might be ineligible to be selected for funding. Please contact MAGICIAN helpdesk for guidance if you do not know how to answer this.*

*If appropriate or necessary, please add a comment here, explaining your answer to the question above.*

---

<sup>5</sup> If the option "No" has been selected but it is subsequently revealed that the proposed work has been previously funded by another program, MAGICIAN reserves the right to withhold the grant.

## LIST OF ABBREVIATIONS

ACRONYM	DESCRIPTION
AS	Application Solution
FSTP	Financial Support To Third Party
IP	Intellectual Property

---

## Proposal Summary

Mandatory (maximum of 2000 characters including spaces)

*Describe your proposal high level. It must be clear which module of functionalities (F1 or F2) your proposal is focusing on integrate (see section 2. Guide For Applicants)*

*Please note that this information may be used for dissemination purposes*

# 1. Excellence

## 1.1 CONCEPT AND OBJECTIVES

Describe the specific **concept and objectives** for the Application Solution, which should be **clear, measurable, realistic and achievable** within the duration of the Application Solution (max. duration 12 months)

Objectives should be consistent with the expected exploitation and impact of the Application Solution. Illustrate how each objective aligns with the overarching goals of the MAGICIAN project

Please indicate the specific two MAGICIAN functionalities (maximum) within the chosen module (F1 or F2) that you wish to integrate or apply for

Provide a clear list of the Application Solution objectives, along with related KPIs to demonstrate that the objectives are measurable, realistic, and achievable, and indicate the associated work package (WP).<sup>6</sup>

RECOMMENDED 2 PAGE

## 1.2 PROPOSED INNOVATION DESCRIPTION

Please provide an overview of the progress beyond the state of the art, the potential innovation and the targeted automation, defect management and system embedded:

Describe how you ensure to be GDPR compliant and how to respect security and privacy

- Describe the advance your proposal would provide beyond the state-of-the-art, and to what extent the proposed work is ambitious. You may indicate the TRL<sup>7</sup> of your application solution (start and target at the end of the project).

What is the main differentiator of your proposition compared to the state of the art or existing product?

- Describe the innovation potential, which the proposal represents for your company(ies). Where relevant, refer to products and services already available on the market. Please refer to the results of any patent search carried out.
- Describe the measures to respect European policies regarding data protection and privacy, how you ensure to be GDPR compliant.

---

<sup>6</sup> A work package (WP) is a major sub-division of the work plan of your project. (A single activity is not a WP, A single task is not a WP; A % of progress is not a WP e.g. 50 % of the tests; A lapse of time is generally not a WP e.g. activities of year. [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-funding-what-do-i-need-to-know\\_he\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-funding-what-do-i-need-to-know_he_en.pdf)

<sup>7</sup> <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/faq/2890>

- *Is the feasibility of the solution demonstrated already? Please explain if your solution is already developed considering that MAGICIAN project is targeting solutions already at TRL5 that aim to achieve TRL7(MANDATORY AS IT IS CONSIDERED AN EXCLUSION CRITERIA)*
- *Describe the level of innovativeness of your proposed solution*

RECOMMENDED 2 PAGES

### 1.3 HUMAN-CENTERED PERSPECTIVE

Please provide a description of how your Application Solution incorporates key human-centered principles to ensure inclusivity, ethical responsibility, and demonstrated expertise:

- *Describe how gender and diversity perspectives are integrated into your AS. Focus on the approach you will use to addressing these aspects within the project design and implementation*
- *Identify any ethical issues relevant to your sub-project and detail your strategies for managing them effectively.*
- *Highlight your team's experience in conducting human-centered projects, emphasizing the methods and methodologies you have successfully used in the past.*

RECOMMENDED 1 PAGE

## 2. Impact

### 2.1 INDUSTRIAL RELEVANCE & POTENTIAL IMPACT

Describe the industrial relevance of your project, potential impact (improved defect detection and prediction, minimization of production interferences, enhancement of workplace safety conditions, reduction of production time, and early-stage quality control. IP management sales, return on investment and profit), exploitation plan and business view.

*Provide insights on how your project will contribute to*

- *The potential impact on the industry, on your market, including the improvement of the innovation capacity of your company(ies). Provide specific examples of how the project will facilitate the adoption/integration of new technologies, processes, or methodologies by considering the compatibility with the ones currently used by MAGICIAN*

- Describe the plan for protecting innovations and ensuring that the benefits of the project are accessible while respecting IPR regulations.
- Outline how the project contributes to sustainability, workforce safety and responsible manufacturing practices
- Explain how your project will improve defect detection and correction in the early stages of production.
- Describe how your solution efficiently manages tasks across multiple robots, minimizing interference and adapting to the production environment.
- Describe how your solution reduces the need for human intervention in risky tasks, enhancing safety and working conditions.
- Detail the ability of your solution to adapt to different production stages and industrial environments.
- Explain how the solution contributes to reducing production times and maintaining uniform product quality.
- Explain how your project leverages data analytics and machine learning to enhance defect prediction, enabling proactive measures in quality control before final production stages.

Please be specific and provide only information that applies to the proposal and its objectives. Wherever possible, use quantified indicators and targets.

RECOMMENDED 3 PAGES.

## 2.2 BUSINESS PLAN ORIENTED DESCRIPTION:

- What is the market attractiveness of the proposal? Provide insights into how the solution meets current market needs and anticipates future trends.
- What is the business model/exploitation strategy?
- Explain your possible sales and marketing strategy. Detail the expected economic benefits, including cost savings, efficiency improvements, and potential revenue generation.

RECOMMENDED 1 PAGES.

## 3. Implementation

### 3.1 COMPANY(IES) DESCRIPTION

**Single/Twin AS: applying company(ies)**

*Provide a brief description of the legal entity (e.g., the type of company, age, size, country, focus domain(s), tech/non-tech, “newcomers” to EU programs or have prior experience), the main tasks and the previous experience relevant to those tasks. Provide also a short profile of the individuals who will be undertaking the work.*

*Describe the needed expertise from the involved MAGICIAN competences partners.*

*Specify the needed support for innovation management from MAGICIAN partners.*

RECOMMENDED 1 PAGE to 1.5 PAGES in case of two applying companies AS proposal.

### 3.2 COOPERATION AND PARTNERS ROLE

*Please describe who is your AS partner and what is your expectation in terms of their involvement (expertise, technical support, task & deliverables implication, etc.)*

RECOMMENDED MAX 0.5 PAGE

### 3.3 WORKPLAN INCLUDING THE PROJECT DURATION

*Please provide the following:*

- *Brief presentation of the overall structure of the work plan and timing of the work plan (6-12 months recommended)*
- *List of necessary competencies, MAGICIAN technologies that will be used or that are targeted*
- *Please add a GANTT-Chart to visualize the duration of the individual WPs over the duration of the Application Solution.*
- *Detailed work description (use the template provided below; 1 table per WP). Applicants are required to structure their proposals with a maximum of 5 Work Packages, including one dedicated to project management.*
- *Provide a comprehensive risk management plan, detailing strategies for mitigating identified risks and ensuring project resilience.*
- *Please add a list of deliverables using the provided table.*

RECOMMENDED 2 PAGES

<b>Work package number:</b>		<b>Start Date:</b>	
-----------------------------	--	--------------------	--



<b>Work package title:</b>	
<b>Planned Person-months<sup>8</sup>:</b>	

**Objectives**

**Description of work** (where appropriate, broken down into tasks)

**Deliverables** (brief description and month of delivery)

Table 1: List of Deliverables

Deliverable (number)	Deliverable name	Work package number	Participant Name	Type <sup>9</sup>	Dissemination level	Delivery date

<sup>8</sup> In case of more than one participating company, please assign values for all involved participants here.

<sup>9</sup> Use one of the following codes:

R: Document, report

DEM: Demonstrator, prototype

DEC: Patents filing, press & media actions, videos, etc.

OTHER: Software, etc.

### 3.4 JUSTIFICATION OF PLANNED COSTS AND RESOURCES

Please provide a summary of required efforts per WP using the table below.

RECOMMENDED 0.5 PAGE

Participant Name	WP Number	Estimated eligible costs					
		Effort (PM)	Personnel Costs (€)	Other Direct Costs (€)	Indirect Costs (€)	Total Costs (€)	Requested Funding (€)
Total							

In column 'Effort', insert the required person months for the work involved.<sup>10</sup>

In column 'Personnel Costs', insert your personnel costs for the work involved. **ATTENTION:** The personnel costs are to be consumed by the workforce in the country where the Third Party that has been granted the fund is registered (a transfer of funds to affiliated or associated organisations is not allowed and would fall within the subcontracting rules).

In column 'Other Direct costs', insert any other direct costs, for example, material or travel costs (technical meetings, dissemination activities, etc.)

In column 'Indirect costs', insert your indirect (overhead) costs, (...%) of all your direct costs.

In column 'Total costs', calculate the sum of all your indicated costs.

In column 'Requested Funding', insert your requested EC contribution.

You may **request up to 70% of the total costs\***.

<sup>10</sup> You may refer to the Guide of Applicants for further information on these different categories of costs.

*Up to 15% of the cascade funding may be used for specific subcontracting tasks that neither the MAGICIAN partners nor the Third party can carry out. Please provide sufficient justification on what and why you need to subcontract some of your tasks.*

*The maximum funding per Application Solution is **200 k€** at a funding rate of **70%** of the budget.*

*Please consider that all budgeted costs must comply with the applicable national law on taxes, labor and social security and must be in compliance with the rules and conditions laid out in Council and Parliament decisions relevant to the Horizon Europe framework program, in particular - but not exclusively - "REGULATION (EU) No 1290/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013"*

*Provisions for possible future losses or charges, exchange losses, costs related to return on capital, costs reimbursed in respect of another Union action or program, debt and debt service charges and excessive or reckless expenditure are ineligible costs and cannot be included into the budget.*

## 4. Ethical issues

MAGICIAN complies with the European policies regarding data protection and privacy and respects fundamental ethical issues particularly those outlined in the European Code of Conduct for Research Integrity<sup>11</sup> and Ethics Guidelines for Trustworthy AI<sup>12</sup>.

All data that is brought into an Application Solution or that is processed in an AS must be GDPR compliant and therefore completely anonymized beforehand.

Please answer the following questions.

Does your proposed work involve:

- |                                    |  |
|------------------------------------|--|
| 1. Human embryos and fetuses       | Yes <input type="checkbox"/> / No <input type="checkbox"/> |
| 2. Humans                          | Yes <input type="checkbox"/> / No <input type="checkbox"/> |
| 3. Human cells/tissues             | Yes <input type="checkbox"/> / No <input type="checkbox"/> |
| 4. Personal data                   | Yes <input type="checkbox"/> / No <input type="checkbox"/> |
| 5. Animals                         | Yes <input type="checkbox"/> / No <input type="checkbox"/> |
| 6. Third countries                 | Yes <input type="checkbox"/> / No <input type="checkbox"/> |
| 7. Environment & Health and Safety | Yes <input type="checkbox"/> / No <input type="checkbox"/> |
| 8. Dual use                        | Yes <input type="checkbox"/> / No <input type="checkbox"/> |
| 9. Misuse                          | Yes <input type="checkbox"/> / No <input type="checkbox"/> |
| 10. Other ethics issues            | Yes <input type="checkbox"/> / No <input type="checkbox"/> |

If the answer is 'YES' to any of the questions, please contact MAGICIAN project at [OpenCall@magician-project.eu](mailto:OpenCall@magician-project.eu) or one MAGICIAN partner, for guidance on the issue.

For more information on ethical issues, please consult the documentation provided by the European Commission: [how-to-complete-your-ethics-self-assessment\\_en.pdf](#)

<sup>11</sup> [european-code-of-conduct-for-research-integrity\\_horizon\\_en.pdf](#)

<sup>12</sup> [Ethics Guidelines for AI \(europa.eu\)](#)

## Annex 2 -Acknowledgement of receipt

Dear xxx,

Thank you for submitting your proposal for consideration as Application Solution in the Horizon Europe project MAGICIAN.

The evaluation will take place in the next few weeks. You will be notified as soon as possible after this whether or not your proposal has been successful.

MAGICIAN consortium as a whole would like to thank you for your interest in our activities.

Yours sincerely,