TWINRELECT

Twinning for excellence in reliable electronics

D4.5

DELIVERABLE REPORT

D4.5: 1st Report on Stakeholders Network

WP4: Enhancement of Networking Capacity

Document information

Deliverable/Title	D4.5 1st Report on Stakeholders Network	Work Package	4
Leading Partner	UOM	Participating Partner(s)	UTH, IHP, CNRS
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Deliverable Type	R	Dissemination Level	PU
Official Submission Date	M6 of Project	Actual Submission Date	31/03/25

Document history				
Version	**Date**	**Description**	**Editors**	**Comments**
0.1	01/03/2025	Initial Draft	Georgios-Ioannis Paliaroutis, Nikos Zazatis	
0.2	10/03/2025	Initial Stakeholder Tables	Georgios-Ioannis Paliaroutis, Nikos Chatzivangelis	
0.5	17/03/2025	Detailed Text	Davide Bertozzi	
0.8	21/03/2025	Final Academic Stakeholders	All Authors & Editors	
0.9	27/03/2025	Final Stakeholders Tables	All Authors	
1.0	28/03/2025	Final Draft	Davide Bertozzi	

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Funded by the European Union (Grant Agreement № 101160314). 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.

Contents

1. Introduction

Effective collaboration and engagement with a diverse group of stakeholders are essential for the success of any project, particularly those that aim to drive innovation and foster sustainable development. In this context, the TWIN-RELECT project aims to establish a ***robust*** and ***dynamic*** Stakeholders Network that will serve as a foundation for communication, idea exchange, feedback and collaboration throughout the project lifecycle. This network will bring together key actors from academia, industry, small and medium-sized enterprises (SMEs), legal institutions, and other relevant sectors, all working towards common objectives.

The Stakeholders Network will not only ***facilitate knowledge transfer and synergies*** between various sectors but also help ***shape the direction of the project*** by gathering valuable input and feedback. As the project progresses, ***the network will expand***, welcoming new stakeholders and ensuring that all participants are regularly updated on project activities and invited to contribute to relevant events and discussions. Through this collaborative approach, the network will contribute to ***creating long-term partnerships***, advancing shared goals, and ensuring the project's lasting impact.

This report outlines the structure, objectives, and activities of the Stakeholders Network, emphasizing its role in driving the project forward and ensuring its alignment with the broader goals of innovation, sustainability, and mutual cooperation.

This deliverable builds on, and expands, the initial list of stakeholders identified in D4.1 (Networking Plan), where the most suitable course of action for their actual engagement was defined. Dedicated networking events for stakeholders have in fact been organized as part of WP4.

a. Approach to Stakeholder Network Development

The Pool of Stakeholders outlined in this report represents the ***initial group of stakeholders*** we aim to engage with throughout the lifetime of the project. However, ***this list is not static;*** it will evolve and expand as the project progresses. The Pool has been developed to align with the roles and responsibilities of the Consortium members, ensuring smooth coordination of activities while remaining flexible enough to adapt to emerging needs and opportunities.

The first step in forming the Pool involved a ***thorough stakeholder analysis*** to assess each potential stakeholder's level of interest and influence on the project. Stakeholders who met the established criteria ***will be contacted*** to explore their potential involvement in the TWIN-RELECT project. Some stakeholders in the Pool have already provided their formal consent to participate and contribute to the project's goals and/or to attend project events.

The Pool of Stakeholders will be continuously ***refined and expanded*** throughout the project's implementation. This dynamic approach ensures that new stakeholders are identified and engaged as the project unfolds, ***addressing emerging needs and opportunities***. Communication efforts will be ramped up to actively involve stakeholders, fostering deeper collaboration and strengthening their influence on the project's outcomes. Each project partner will take an active role in identifying and reaching out to additional stakeholders, ***leveraging their networks to broaden the project's impact***. This approach will promote sustainable partnerships, facilitate knowledge exchange, and ensure the

long-term societal benefits of the project. By maintaining this adaptive, inclusive strategy, the project will develop a ***resilient and dynamic stakeholder network*** that can support continued progress and future innovations in the field.

The Stakeholder Network in this project is designed with a ***long-term perspective in mind***. Focusing exclusively on the execution phase of a project can present significant risks, particularly when it comes to the longevity and impact of the relationships formed during that time. Such an approach often leads to a narrow, short-term view of collaboration, where stakeholders may easily become disengaged soon after the project concludes. This can limit the potential for sustained innovation, knowledge exchange, and the continuation of productive partnerships. Rather than simply serving the needs of the project's immediate execution, the network aims to build a ***sustainable collaboration framework*** that supports ongoing partnerships beyond the project's lifecycle. This framework is rooted in building mutual trust, identifying shared goals, and bringing forward a continuous dialogue, ensuring that stakeholders remain engaged and that collaborative efforts can adapt to future challenges and opportunities.

A sustainable collaboration framework involves the promotion of long-term engagement and value creation. It focuses on nurturing relationships, identifying new areas for joint innovation, and ensuring that the collaboration extends beyond the formal conclusion of the project. By fostering such an approach, we aim to create a ***resilient network*** capable of supporting future initiatives, driving innovation, and having a lasting societal impact.

2. Objectives for Building the Stakeholder Pool

Below are the key objectives related to the formation of the initial Stakeholder Pool:

- **Identifying Relevant Stakeholder Groups**
  The first objective is to systematically identify relevant stakeholder groups whose expertise, needs, or influence align with the project's goals. This step is vital for effective project management, ensuring that activities such as stakeholder identification, analysis, communication, and engagement are carefully tailored to meet the unique needs of each group.
- **Selecting Key Stakeholders for Engagement**
  Once the broader groups have been identified, the next step is to prioritize and select specific stakeholders within those groups for direct engagement. This process involves evaluating the stakeholders based on their relevance to the project, their potential contributions, and their ability to influence or be influenced by project outcomes.
- **Analyzing Stakeholder Impact and Influence**
  A comprehensive analysis of stakeholders needs to be conducted to assess their potential impact on the project and the extent of their influence on its success. This analysis aims at informing the communication strategies, engagement approaches, and the level of interaction required with each stakeholder group.

Actions taken to achieve these objectives have been carried out in a structured and systematic manner. To address the first objective of identifying stakeholder groups, a mapping process was undertaken to identify individuals and organizations whose expertise, needs, or influence align with the overarching

goals of the project. This effort helped ensure the inclusion of diverse perspectives and interests, forming a solid base for effective engagement.

Building on this foundation, specific stakeholders within the identified groups were selected for engagement to meet the second objective. To ensure a targeted and effective approach, a prioritization framework was applied, evaluating stakeholders based on their relevance to the project, the value they could contribute, and their potential influence on the project's outcomes. This selection process was developed around the existing relevant networks of contacts from project partners, ensuring a broad and strategic representation of key actors while at the same time maximizing the probability of engagement success.

To address the third objective, an in-depth analysis of stakeholder influence and impact was conducted. This analysis uncovered critical opportunities and challenges in engaging with each group, shaping the communication strategies and engagement methods. The findings from this analysis are essential for fostering a collaborative and mutually beneficial approach to stakeholder relationships, ensuring alignment with the project's goals and the definition of shared goals.

The following sections report about methodologies and takeaways from the activities to pursue each objective.

3. Stakeholder Groups

Effective categorization of stakeholders is essential for optimizing project activities and ensuring clear accountability. Stakeholders are generally divided into two primary categories: internal and external. The internal group consists mainly of partner organizations, project participants, and administrative staff associated with these partner institutions. Their roles, responsibilities, and interactions are thoroughly detailed in key project documents such as the Grant Agreement, Consortium Agreement, and Operating Procedures. As internal stakeholders are already well-documented and integral to the project's framework, this document will focus on external stakeholders, with an emphasis on their identification, selection, and integration into the Stakeholder Pool. These external stakeholders are pivotal in advancing the project and ensuring it remains aligned with its objectives and expected outcomes.

The following groups of external stakeholders have been identified for the TWIN-RELECT project:

- ***Scientific community*** *in relevant fields, primarily* ***in the field of design technology for reliable electronics***
- ***Teams from other projects****, including currently active Twinning projects, as well as projects in related research areas*
- ***Educational institutions*** *(primarily higher education institutions)*
- ***Decision-makers***
- ***Business and industry representatives***
- ***General community***

The stakeholder identification and selection process has been carefully planned and flexible, tailored to the diverse needs of each external group. Recognizing their critical role in the project's success, this

approach emphasizes precision and inclusivity. By considering each group's unique expertise and potential contributions, the project aims to foster meaningful collaborations and maximize impact. Customized strategies were used for selecting and engaging the most relevant stakeholders.

A. Scientific Community

The identification of stakeholders from the scientific community focused on **researchers, scholars, and institutions** actively engaged in areas directly related to the project (reliable electronic design). This included analyzing recent publications, attending relevant conferences, leveraging professional networks to identify key contributors and monitoring the profiles of prominent scientists in the field on academic platforms and social media.
Selection criteria considered expertise, research impact, and potential for collaboration, ensuring that this group would provide valuable insights and foster knowledge exchange.

B. Teams from Other Projects

Collaborative teams from related projects were identified by reviewing databases of funded projects, conference proceedings, and networking platforms as well as following the websites, social media profiles and other dissemination channels and of active Horizon Twinning projects to identify collaboration opportunities.
Selection was based on thematic alignment, geographic relevance, and the potential for synergies. These stakeholders should be approached through targeted outreach, highlighting mutual benefits of cooperation and opportunities for shared dissemination and exploitation of results.

C. Educational Institutions

Stakeholders within educational institutions, including **universities, schools and training organizations**, were selected based on their potential to support knowledge dissemination and capacity-building activities. The identification process involved mapping institutions with established expertise in relevant disciplines and evaluating their capacity to engage with project activities. Outreach efforts will encompass direct communication with institutional representatives and leveraging existing partnerships to establish connections.

D. Decision-Makers

Policymakers, government officials, and regulatory bodies were identified as key stakeholders for their capacity to influence or implement project outcomes. Activities for identification included analyzing policy documents, consulting networks of partner institutions and assessing the roles, influence and responsibilities of local institutions involved in making decisions related to science and education development.
Decision-makers were selected based on their relevance to the project's objectives, their ability to contribute to or benefit from its findings and concrete reachability.

E. Business and Industry Representatives

Representatives from **business and industry** were identified through industry directories, trade associations, and professional networks, especially in the reliable electronics sector, focusing both on local and global companies.

Selection criteria prioritized stakeholders whose interests align with the project's goals, particularly those who could contribute to the practical deployment and/or commercialization of results. Initial engagement activities will focus on demonstrating the value of collaboration and exploring opportunities for mutual benefit.
These tailored activities ensure that stakeholders were not only identified but also effectively aligned with the project's needs and objectives, forming a solid foundation for strategic engagement and collaboration.

4. Stakeholder Analysis

Stakeholder analysis followed a structured approach to **assess** and **prioritize** individuals and organizations crucial for the project's success. In shaping the initial Stakeholder Pool, key activities involved evaluating the influence, potential contributions, and needs of selected stakeholders in relation to the project's goals. By utilizing tools like influence-impact matrices, network analysis, and focused consultations, stakeholders were categorized and ranked to identify those most pivotal for engagement. This process ensured the project's alignment with industry trends, addressed practical challenges, and cultivated partnerships with those who can drive the development, deployment, and adoption of design technology for reliable electronics.

The successful execution of the TWIN-RELECT project is deeply rooted in understanding the interests and influence of various stakeholder groups, each of which plays a crucial role in shaping the project's outcomes. These stakeholders offer distinct perspectives, expertise, and expectations, making their engagement vital for aligning the project's goals with real-world needs and opportunities. The scientific community drives innovation through thorough research and validation. Teams from other projects encourage collaboration and resource-sharing, building on previous advancements. Educational institutions contribute by advancing research and preparing a skilled workforce, while decision-makers influence the regulatory and ethical frameworks essential for responsible technology deployment. Business and industry representatives ensure the project's practical applicability and commercial viability, offering resources and real-world applications, while the general public offers societal feedback to ensure the project addresses broader community concerns. Together, the diverse interests and influence of these stakeholders create a dynamic ecosystem that drives the project's relevance, impact, and long-term sustainability.

a. Interest of Stakeholders

This project has the potential to influence all the identified stakeholder groups, providing them with various opportunities to achieve significant benefits. The main areas of interest for each group are hereafter described.

A. Scientific Community

The scientific community will be drawn to this project due to its potential to generate new knowledge, methodologies and tool flows in reliable electronics design. This will result in cutting edge contributions to end-to-end methodologies for reliability analysis of electronic circuits at different scales (from transistors to accelerators) and of different kinds (synchronous and asynchronous) toward cost-effective fault-tolerant design.

Researchers and academics will be particularly interested in deploying project tools at different abstraction layers, exploring the reliability of designs with different complexities and publishing findings in high-impact journals (with open access).
The project's focus on real-world testbenches will provide a valuable platform for bridging the gap between theoretical research and practical implementation, fostering innovation in the field.

B. *Teams from Other Projects*

Teams from related projects will be interested in exploring synergies, sharing insights, and leveraging collaborative opportunities to enhance their own initiatives.
This project will offer them access to complementary resources, especially fault models and tool flows for reliability analysis, creating a mutually beneficial environment. Projects including reliability among their target non-functional features will benefit from early access to TWIN-RELECT findings, using them to enhance their research and innovation.
Collaboration could also lead to joint dissemination efforts, broader impact, and the pooling of expertise to tackle shared challenges in reliable circuits and system design.

C. *Educational Institutions*

Educational institutions, including universities, schools and training organizations, would see this project as an opportunity to enhance their curricula and provide students with hands-on experience in reliable electronic devices. By integrating project findings into academic programs, institutions could ensure their students are trained in state-of-the-art techniques.
State-of-the-art teaching resources and lab exercises on digital electronic design and its reliable operation will be shared widely, supporting the modernization of educational programs.
Additionally, partnerships with the project could enable research collaborations, internships, and access to resources that benefit both students and faculty.

D. *Decision-Makers*

Decision-makers, such as policymakers and regulatory bodies, will be interested in this project due to its implications for technology governance, societal impact, and economic growth. The project could inform policy development by demonstrating the requirements and benefits of deploying reliable electronic devices in various sectors. Specifically, these insights will highlight how reliable electronic design can drive advancements in critical areas, from aerospace and aviation to medical devices, from autonomous vehicles to industrial control systems, from critical infrastructures to smart cities.
Decision-makers may also view this project as an opportunity to shape regulations that ensure the ethical, secure, and efficient implementation of emerging technologies in the field of electronics.

E. *Business and Industry Representatives*

Business and industry stakeholders would find the project appealing due to its potential to provide automated solutions for the design of reliable and cost-effective digital circuits and systems. For companies, this offers an opportunity to leverage innovative technologies to enhance efficiency, lower costs, or create new products and services. Additionally, industry representatives may view the project as a means to maintain competitiveness, forge strategic partnerships, and gain access to advanced tools with high practical relevance.

F. General Community

The general community will be interested in a project focused on designing reliable electronic devices because of its direct impact on everyday life. Reliable electronics is crucial for the proper functioning of essential services and technologies, such as healthcare devices, transportation systems, and communication networks. Citizens would likely appreciate the focus on creating safer, more durable, and efficient devices that improve their quality of life. Additionally, the community would value the project's emphasis on reducing the risks of electronic device failures in critical applications. The engagement of the general public would also foster awareness about the importance of reliability in electronic design and its implications for safety, sustainability, and innovation.

b. Potential Impact of Stakeholders

Stakeholders play a crucial role in shaping the TWIN-RELECT project by contributing expertise, resources, and strategic direction. An analysis of their potential impact is given below.

A. Scientific Community

The scientific community can significantly impact the project by strengthening its research foundation, introducing new methodologies, and providing valuable peer reviews.
Researchers have the opportunity to suggest innovative solutions, validate results, and boost the project's credibility through academic publications and conference presentations.
Their engagement ensures the project stays aligned with rigorous scientific standards while advancing the frontiers of design technology for reliable electronic design.

B. Teams from Other Projects

Teams from related projects will contribute to this initiative by enabling knowledge sharing, providing resources, and offering complementary expertise and experience. Through collaboration, they can introduce best practices, identify potential challenges, and foster opportunities for joint ventures.
Their involvement ensures the project builds on existing progress, avoids redundancy, works out the best solutions for the problems at hand and adds to the wider ecosystem of electronic design innovation.

C. Educational Institutions

Educational institutions play a key role in shaping the future of integrated circuit (IC) design by educating and training the next generation of experts. Faculty members can engage in collaborative research, while students can bring new ideas and innovative perspectives as interns or project contributors. By incorporating project outcomes into academic curricula, these institutions help ensure the long-term dissemination and practical application of the findings.
For high school students, this project can serve as an incentive to pursue scientific careers, addressing the growing demand for skilled professionals in these fields.

D. Decision-Makers

Decision-makers play a crucial role in defining the project's scope and execution by establishing the legal and ethical framework for IC design and for its applications. Their choices regarding funding, standards, and regulations can either drive or impede the project's advancement. Additionally, their endorsement or support can enhance the project's impact by building public trust and promoting industry adoption.

E. Business and Industry Representatives

Engaging with business and industry stakeholders will assist UTH in strengthening its capacity for knowledge transfer and commercialization. Industry-driven challenges and requirements help shape use cases, ensuring that the project's outcomes are both relevant and ready for the market.
Through strategic partnerships, these stakeholders can offer testbenches, testing environments, and commercialization pathways that expand the project's reach and enhance its overall impact.

F. General Community

The general community plays a key role in creating a supportive environment for reliable electronics. This group influences societal perceptions and acceptance of these technologies.
Public feedback can address ethical concerns, privacy issues, and identify areas where robust electronics can have the most significant impact.
Gaining the community's support and trust is essential for ensuring that project outcomes are well-received, driving widespread adoption and ensuring long-term sustainability.

5. Definition of the Stakeholder Network

The initial Pool of Stakeholders was formed by systematically starting from the identification of relevant stakeholder groups, as outlined earlier. However, when selecting specific stakeholders, we further refined these groups into subcategories, ensuring a more targeted and comprehensive selection process based on the specific contributions and expertise each subgroup could offer. This methodical approach ensured that a diverse and well-rounded group of stakeholders was identified, based on their expertise, influence, and potential contributions to the project.

a. Identification of Relevant Subcategories

More specifically, the following subcategories were identified:

B. Teams from Other Projects

B.1 Other Twinning Projects

Different twinning projects are likely to have an interest in establishing connections with each other, exchanging experiences, and identifying synergies. By collaborating and sharing insights, these projects can benefit from a wider pool of knowledge and resources, leading to more effective and innovative outcomes. Building a network between twinning projects can also help identify common challenges and solutions, enhance the impact of their activities, and create opportunities for joint initiatives. This collaborative approach can foster greater efficiency, mutual learning, and the alignment of goals, contributing to the overall success and sustainability of each project.

B.2 Reliability-Related Projects

TWIN-RELECT is focused on EDA (Electronic Design Automation) tools for reliable electronic design and has significant interest in creating connections with projects addressing the reliability of electronic circuits and systems and the associated applications. Despite the different size of the research component in Twinning projects, the benefits of such collaboration are still substantial.

Firstly, by engaging with such projects, TWIN-RELECT can gain valuable insights into the real-world challenges and requirements of ensuring reliability in complex electronic systems. This can help guide the development and refinement of EDA tools, ensuring they better address the practical needs of designing reliable circuits.

Additionally, exchanging experiences and identifying synergies between the two types of projects can lead to a better understanding of the intersection between design tools and reliability requirements. For example, lessons learned from reliability-focused projects can influence the design of EDA tools to incorporate features that help engineers anticipate and mitigate reliability risks early in the design process. At the same time, partners from other projects might see a strong opportunity in the exploitation of the TWIN-RELECT's project results. The development of improved EDA tools for cross-layer design-for-reliability can offer substantial commercial and technological advantages, especially for industries focused on creating more dependable electronic products.

B.3 Professional Associations and Networks

There are several prominent professional networks that play a critical role in advancing technological innovation and fostering collaboration within their respective sectors. Some of these networks are very well-established at the national level and play a fundamental role in fostering Greece's strong position in the high-tech sector, particularly in space technologies and digital innovation. TWIN-RELECT stands to gain significant benefits from establishing synergies with professional networks that are dedicated to technological innovation. By engaging with networks across various industries, the project can gain access to cutting-edge technologies and best practices that can be applied to ensure the reliability of electronic systems in diverse sectors. These collaborations will allow the project to explore cross-sector applications and refine its research, ensuring that the outcomes align with the practical needs of industries like aerospace, transportation, agriculture, and more. Engaging with such networks will accelerate TWIN-RELECT's impact and contribute to its relevance across multiple technological domains.

For these professional networks, connecting with TWIN-RELECT presents an opportunity to access valuable research and development on reliable electronic design, which is highly relevant for industries operating in high-stakes environments such as aerospace, defense, and critical infrastructure. The networks' members can benefit from TWIN-RELECT's expertise in designing dependable electronics for various applications, while also leveraging the project's results for innovation and commercialization. These collaborations can foster knowledge exchange, enhance the networks' credibility in cutting-edge electronic design, and create pathways for new partnerships and technological advancements that further strengthen the networks' global competitiveness and impact.

E. Business and Industry Representatives

E.1 Greek Companies

Reaching out to national companies to strengthen the ecosystem of applications based on reliability-sensitive devices is a strategic step toward technological excellence and sustainable innovation.

E.2 EDA Companies

For an EDA-focused project, establishing contacts with European and international companies in the EDA sector is strategic to facilitate the exchange of knowledge and best practices, access advanced technologies, and accelerate the adoption of innovative solutions in circuit and system design.

Additionally, these collaborations can enhance the project's competitiveness, open new market opportunities, and strengthen the integration of cutting-edge technologies to optimize the reliability and performance of integrated circuits.

E.3 Rad-Hard and Reliability Design Companies

Establishing collaborations with companies in the design-for-reliability sector can cross-fertilize design automation techniques in this area, contribute to the development of fault models suited to modern electronic technologies, and provide insights into the requirements of contemporary AI-based applications.

E.4 Semiconductor Foundries

Finally, partnerships with semiconductor foundries can provide valuable inputs for an end-to-end reliability analysis flow, covering interrelated aspects at different abstraction layers from technology to system-level design, going through circuit and architectural analysis.

b. Initial Stakeholder Pool

The table below lists the stakeholders already identified in the initial Pool. This list will continue to grow throughout the project's duration, with new stakeholders being identified and contacted through the ongoing activities outlined above.

A - Scientific Community	
Name	**Brief description**
Prof. Alex Yakovlev (University of Newcastle)	Head of Microsystems Group, with recent focus on automata approaches. TWIN-RELECT synergy: reliability analysis of Tsetlin Machines
Dr. Edoardo Manino (University of Manchester)	Lecturer in AI security with focus on automated verification of neural networks. TWIN-RELECT synergy: end-to-end neural network verification.
Prof. Rajit Manohar (Yale University)	John C. Malone Prof. of Electrical and Computer Engineering, with focus on asynchronous VLSI design. TWIN-RELECT synergy: open-source tools for asynchronous circuit design and verification.
Prof. Michele Favalli (University of Ferrara)	Associate Professor of Computer Science and Engineering. His scientific interests are in the field of testing and reliability of digital systems. TWIN-RELECT synergy: reliability analysis of asynchronous circuits.

A - Scientific Community	
Name	**Brief description**
Prof. Mihalis Psarakis (University of Piraeus, Athens)	Associate Professor of Dept. of Informatics Field of expertise: Design, verification, and testing of reliable and secure embedded systems TWIN-RELECT synergy: testing of embedded systems
Dr. Luis Entrena (Universidad Carlos 3 (UC3M), Madrid)	Field of expertise: Reliability of Processors TWIN-RELECT synergy: RISC-V and ARM based systems under radiation: characterization and hardening
Matteo Sonza Reorda (Politecnico di Torino)	Head of CAD - Electronic CAD & Reliabillity Group at Politecnico di Torino. Field of expertise: Test and fault tolerant design of ICs and systems TWIN-RELECT synergy: Reliability in Edge AI Systems
Prof. Hussam Amrouch (Technical University of Munich)	Head of the Chair of AI Processor Design at TUM. TWIN-RELECT synergy: machine learning modeling, aging analysis
Thomas Noulis (Technical University of Munich)	Assistant Professor at Aristotle University of Thessaloniki. TWIN-RELECT synergy: collaborate on integrating radiation hardness analysis into design flows across multiple abstraction layers.
Prof. Rene Krenz-Baath (University (UAS) TH-Wildau, Germany)	TWIN-RELECT synergy: collaborate on integrating reliability-focused data structures into EDA tools for more accurate and efficient design analysis.

B - Other Projects B.1 - Teams from Other TWINNING Projects	
Project	**Brief description**
AIDA4Edge https://aida4edge.elfak.rs/	Aims to enable the Faculty of Electronic Engineering, University of Niš (FEEUNI) to reach scientific and innovation excellence in the field of Edge AI and to become a strong driving force for boosting research and economic growth and for increasing the number of active researchers (especially women scientists and young researchers) and projects in Serbia
TAICHIP https://taichip.taltech.ee/	Aims to boost TalTech's and its Advanced Partners' scientific excellence and innovation capacity, and advance the industry and society in the interdisciplinary area of the design of reliable and efficient Artificial Intelligence chips
COIN-3D https://coin3d-project.eu/	Designed to build research capacity at the University of Thessaly (UTH). The project aims to establish strong collaborations with top European research institutions and creates opportunities for knowledge exchange in advanced VLSI systems

B - Other Projects B.2 - Teams from Other Reliability-Related Projects	
Project	**Brief description**
COCHISA *https://cochisa-project.eu/*	Aims to foster the European non-dependence in terms of critical RF components for space applications. For this, scalable multi-channel radiation-hard beamforming core-chips operating in X-band (10 GHz) as well as Ka-band (28 GHz) will be developed. Moreover, a fully European supply chain for the core-chips will be established, based on the European foundry and packaging partners. This includes the availability of a proven radiation-hard SiGe BiCMOS technology with qualified radiation-hard libraries.

B - Other Projects B.2 - Teams from Other Reliability-Related Projects	
Project	**Brief description**
CORENEXT https://corenext.eu/	Aims at a trustworthy-by-design platform based on a new computing architecture for base stations to push european capabilities in B5G/6G to the next level.
MIRELAI https://mirelai.eu	It is an EU-funded Industrial Doctoral Network with the ambition to address the challenges posed by the reliability, sustainability, and verification efforts related to the production of microelectronics components, and boost Europe's innovation capacity and competitiveness in the market. To achieve this goal, the project recruited doctoral candidates to investigate the physics of degradation and reduce testing and verification efforts across the value chain of electronic components and systems, while providing invaluable skills to the next generation of engineers.
SMARTEDGE https://www.smart-edge.eu	It is a European project on semantic low-code programming tools for edge intelligence, with use cases in manufacturing, automotive, and healthcare. The SmartEdge project aims to achieve dynamic integration of decentralized edge intelligence while prioritizing reliability, security, privacy, and scalability. This will be realized through a semantic-based interplay of edge devices in a cross-layer toolchain, allowing seamless and real-time distribution of autonomous intelligence swarms.
EBRAINS 2.0 https://www.ebrains.eu/projects/ebrains-2-0	Intents to foster a deeper understanding of brain structure and function with dedicated and mature software tools. In the context of the project, neuromorphic computing platforms are evolved in the direction of further scalability, efficiency and reliability.
RADNEXT https://radnext.web.cern.ch/	RADNEXT is an H2020 INFRAIA-02-2020 infrastructure project with the objective of creating a network of facilities and related irradiation methodology for responding to the emerging needs of electronics component and system irradiation; as well as combining different irradiation and simulation techniques for optimizing the radiation hardness assurance for systems, focusing on the related risk assessment

B - Other Projects B.2 - Teams from Other Reliability-Related Projects	
Project	**Brief description**
RADMEP https://master-radmep.org/	The 2-year (120 ECTS) European Master in Radiation and its Effects on MicroElectronics and Photonics Technologies (RADMEP) provides a multidisciplinary and innovative programme covering the interactions between Radiation and MicroElectronics and Photonics, two Key Enabling Technologies for the future of Europe.

B - Other Projects B.3 - Professional Associations and Networks	
Association	**Brief description**
Si-Cluster https://si-cluster.gr/el/home-page/	The Hellenic Space Technologies and Applications Cluster (si-Cluster) is a Greek innovation hub focused on space technologies. Established in 2009, it unites over 70 businesses, academic institutions, and public/private organizations. It operates on a quadruple helix model, fostering collaboration between industry, academia, government, and end-users. Si-Cluster promotes excellence in space technologies, benefiting sectors like agriculture, transportation, and security. It's internationally recognized, contributing to Greece's high-tech sector through its collaborative structure and strong partnerships.
HETIA https://hetia.org/	HETiA is a Greek alliance of industry and academia focused on digital technology and entrepreneurship. Originating from the Hellenic Semiconductor Industry Association (HSIA) in 2005, it has expanded to include numerous industrial and academic members. HETiA acts as a hub connecting high-tech enterprises across Europe, the Middle East, and Africa, while attracting companies from the USA and Asia. It leverages Greece's skilled workforce and EU regulatory framework to foster growth in emerging technology sectors.

B - Other Projects B.3 - Professional Associations and Networks	
Association	**Brief description**
EBIDITE - HASI https://www.hellenic-asi.org/	The Hellenic Association of Space Industry (HASI), established in 2008, unites Greece's leading space technology companies. Its members employ over 2,500 highly skilled professionals and represent the country's research and manufacturing capabilities in the space sector. HASI members have a proven track record, participating in over 50 international space programs since 2003, including ESA projects.

C - Educational Institutions	
Organization	**Brief description**
Department of Informatics and Telecommunications at the University of Thessaly (Lamia campus) https://dit.uth.gr/	Established in 2013 as the Department of Informatics, it was renamed in 2019 to reflect its expanded focus on both Computer Science and Telecommunications. The department aims to advance knowledge and innovation in these fields through cutting-edge research and high-quality education
Digital Systems Department of the School of Technology (University of Thessaly) https://ds.uth.gr/	The Digital Systems Department of the School of Technology (University of Thessaly) is based in Larissa and its modern facilities are located on the "Gaiopolis" campus, on the Larissa-Trikala ring road. The Department fully covers the complete range of knowledge in the field of Information and Communication Technologies (ICT), which it utilizes in the development of Digital Systems, that is, systems that store, process, and transmit data and information in digital form.
Faculty of Medicine at the University of Thessaly (Larissa) https://med.uth.gr/	The Faculty of Medicine at the University of Thessaly offers high-quality medical education and is located in Larissa. It provides undergraduate and postgraduate programs, with modern facilities, including laboratories and clinical units.
1st Experimental General High School of Volos http://1lyk-volou.mag.sch.gr/likeio/	This high school is known for its innovative teaching methods and emphasis on experimental and interactive learning. It offers a modern curriculum with a focus on both academic excellence and personal development. The school participates in various national and international projects, promoting critical thinking and creativity among students.
2nd Experimental General High School of Volos https://2lyk-volou.mag.sch.gr/	This school emphasizes excellence and innovative educational practices. It participates in Erasmus programs and encourages students to engage in competitions and extracurricular activities.
1st Lower Secondary School of Nea Ionia Volou - Experimental https://1gym-n-ionias.mag.sch.gr/	The school offers high-quality education and has developed a diverse range of activities for its students, both academically and extracurricularly. The school incorporates innovative teaching methods and activities to enhance students' skills in various fields.

D - Decision-Makers Local, National and EU authorities	
Organization	**Brief description**
EU Commission https://commission.europa.eu/index_en	The executive body of the European Union, responsible for proposing legislation, implementing policies, and managing the EU budget. It oversees various sectors, including research, innovation, education, and technological development.
Greek Ministry of Education https://www.minedu.gov.gr/	The government body responsible for overseeing education in Greece, including primary, secondary, and higher education. It also manages policies related to research, lifelong learning, and educational reforms.
Greek Ministry of Innovation, Science and Technology https://www.gsis.gr/	A governmental authority focused on promoting innovation, scientific research, and technological advancements in Greece. It supports initiatives related to digital transformation, R&D, and collaboration between academia and industry.
Hellenic Space Center (HSC) https://hsc.gov.gr/	Greece's national space agency, responsible for coordinating and promoting space research, satellite technology, and international collaborations in the space sector. It plays a key role in Greece's participation in European and global space initiatives.
Greek Ministry of Digital Governance https://mindigital.gr/	The Greek Ministry of Digital Governance is the government department responsible for the digital transformation of Greece. Established in 2019, it integrates all critical IT and telecommunications structures to modernize public services, enhance citizens' lives, promote transparency, and drive economic growth.
Executive Committee of Volos https://dimosvolos.gr/en/executive-committee	The Executive Committee is a collective coordinating and executive body of the municipality and monitors the implementation of municipal policy in all areas as well as the implementation of the municipality's operational plan, the medium, annual and five-year action plans.

E - Business and Industry Representatives E.1 - Greek Companies	
Company	**Brief description**
Creative Systems Engineering (CSE) Ltd https://creativese.eu/	Engineering firm that targets the provision of state-of-the-art products and services for Telecommunication, Defence/Space, Industrial Control and Automation, ATE.
EULAMBIA Advanced Technologies https://eulambia.com/	A hard tech company focused on photonic applications for security.
FEAC Engineering P.C. https://feacomp.com/	It is a leading engineering firm specializing in Digital Twins, physics-based simulations, and AI-driven solutions.
Space Asics https://spaceasics.com/	It develops innovative technologies for space applications, including satellite components and high-reliability electronic systems.
OHB Hellas https://www.ohb-hellas.gr/	The first dedicated Space Systems Company in Greece
Prisma Electronics https://www.prismaelectronics.eu/index.php/en/	It develops and manufactures a wide array of IT, smart-grid and wireless-based systems, and integrated electronic components
Leo Space Photonics https://leo-sprd.eu/	It develops high-speed optical transceivers and photonic ICs for satellite communications.
Alma Technologies S.A. https://www.alma-technologies.com/	Specializes in semiconductor IP design, providing high-performance hardware solutions for embedded systems since 2001.
Integrated Systems Development https://www.isd.gr/	An independent organization which develops Integrated Systems (IS) that exhibit guaranteed quality and performance
Hellas Sat https://www.hellas-sat.net/	A Satellite communications company that provides advanced satellite services since 2001.

E - Business and Industry Representatives E.2 - European and/or International EDA companies	
Company	**Brief description**
IROC Technologies https://www.iroctech.com/	It offers advanced analysis software, testing services, and expert consulting to help semiconductor industries manage reliability risks.
Cadence https://www.cadence.com	A leader in Electronic Design Automation (EDA), offering software and hardware solutions to optimize the design of ICs and systems.
Synopsys https://www.synopsys.com/	A leading provider of silicon-to-systems design solutions and one of the largest EDA tool providers.
TRAD Tests & Radiations https://www.trad.fr/	It focuses on radiation effects testing and analysis, supporting companies to predict and minimize radiation impact on their products. **(Several scientific actions with the partner CNRS)**
Siemens https://www.siemens.com/global/en.html	It provides software and hardware tools that enable the design, verification, and manufacturing of complex electronic systems, including integrated circuits and printed circuit boards.
Intento Design https://intento-design.com/	It provides EDA software that automates and accelerates the design and migration of analog and mixed-signal integrated circuits.

E - Business and Industry Representatives E.3 - European and/or International Rad-hard and reliability design companies	
Company	**Brief description**
Airbus Defense and Space https://www.airbus.com/en/node/1381	A major player in the global defense and aerospace industry, providing a wide range of products and services, including military aircraft, space systems, and secure communications
Thales Alenia Space https://www.thalesgroup.com/en/worldwide/space/thales-alenia-space	Specializing in the design, integration, and delivery of innovative space systems for telecommunications, navigation, Earth observation, environmental management, exploration, and orbital infrastructure
Arquimea https://www.arquimea.com/	Diversified technology company specializing in the development and deployment of innovative solutions across sectors like aerospace, defense, biotechnology, and critical infrastructure

E - Business and Industry Representatives E.3 - European and/or International Rad-hard and reliability design companies	
Company	**Brief description**
Redcat https://redcat.red/	A company with a strong focus on drone technology
DSI Aerospace https://www.dsi.space/	It specializes in high-speed, space-grade electronics for airborne and space missions, delivering reliable and optimized systems since 1997.
ICSense https://www.icsense.com/	IC design company specializing in custom ASIC development and supply for diverse industries
Nanoxplore https://nanoxplore.com/	Graphene producer that develops and integrates graphene-enhanced materials for diverse industrial applications
IDEAS https://ideas.com/	Delivers radiation detection and imaging systems with proprietary readout technology
Cobham Geisler https://www.cobham.com/	Develops high-performance microprocessors, advanced electronic components, and software solutions designed for space and other high-reliability applications

E - Business and Industry Representatives E.4 - Semiconductor Foundries	
Company	**Brief description**
GlobalFoundries https://gf.com/	An international leader in semiconductor foundries, providing cutting-edge technologies for chip production and electronic systems.
STMicroelectronics https://www.st.com/content/st_com/en.html	A global technology company focused on providing innovative solutions for automotive, industrial, and consumer electronics.
XFAB https://www.xfab.com/	A specialty foundry group that manufactures analog/mixed-signal integrated circuits for diverse industries
UMC https://www.umc.com/en/home/Index	A leading global semiconductor foundry providing diverse, high-quality IC fabrication services with a focus on logic and specialty technologies, operating multiple fabs across Asia

E - Business and Industry Representatives E.4 - Semiconductor Foundries	
Company	**Brief description**
TSMC https://www.tsmc.com/english	World's largest dedicated independent semiconductor foundry, specializing in manufacturing advanced integrated circuits for a wide range of global technology companies

F - General Community	
Name	**Brief description**
Thessaloniki International Fair https://thessalonikifair.gr/el	The Thessaloniki International Fair (TIF) is an annual, multi-sector international trade fair held in Thessaloniki, Greece, typically in the first week of September. Established in 1926, it is the most influential trade fair in Greece and has a significant impact on the entire Balkan region and neighboring Mediterranean area, making it politically relevant as well.
ECECON https://sfhmmy.gr/	Conference of Electrical and Computer Engineering Students, is the largest student conference in its field in Greece. It is organized annually by students for students, with the aim of disseminating knowledge, exchanging ideas, and networking among participants. It began in 2007 in Athens and, since then, has evolved into a significant institution that has been bringing together students, academics, and professionals in the field for over 15 years. During the conference, participants have the opportunity to attend speeches, workshops, presentations of research papers, as well as participate in competitions and other parallel activities.
Researchers' Night https://researchersnight.gr/en/home-page-en/	Researchers' Night is a European initiative held in over 400 cities across Europe, aiming to promote the value of research and science. In Greece, seven cities, dozens of researchers and scientists, universities, and research centers collaborate throughout the year to organize initiatives and events that bring research and science closer to the public. These activities culminate on the last Friday of September with the main Researchers' Night events.

c. Stakeholder Engagement per Event

This section outlines the targeted stakeholder engagement strategy for each event, ensuring relevant participation and maximizing the impact of our initiatives.

1. Webinars:

- Primary Stakeholders:
  - Teams from Other Projects (TWINNING and Related Projects)
  - Educational Institutions (Faculty, Researchers, Students)
- Engagement Strategy:
  - Presentations and Q&A sessions focused on project overviews and key findings
  - Online forums and discussion boards to facilitate interaction
  - Live demonstrations and tutorials

2. Business Forums:

- Primary Stakeholders:
  - Business and Industry Representatives
  - Decision-Makers
  - Teams from Other Projects (with potential business applications)
- Engagement Strategy:
  - Keynote speeches from industry leaders and project representatives highlighting potential collaborations and innovations
  - Panel discussions focusing on market trends, challenges, and opportunities related to the project's outcomes
  - Networking sessions and dedicated meeting spaces for fostering partnerships and business development
  - Presentations showcasing the project's tangible benefits and potential for commercialization
  - Interactive workshops on applying project findings to real-world business scenarios

3. Special Conference Sessions:

- Primary Stakeholders:
  - Scientific Community
  - Educational Institutions (faculty and researchers)
  - Decision-Makers (relevant policy advisors or funding bodies)
  - Teams from Other Projects (working in related fields)
- Engagement Strategy:
  - Targeted presentations within broader conferences.
  - Panel discussions with experts in specific fields
  - Poster sessions showcasing specialized research
  - Networking opportunities with targeted research communities

4. Scientific Workshops:

- Primary Stakeholders:
  - Scientific Community (researchers, PhD students)
  - Educational Institutions (research-focused departments)
  - Teams from Other Projects (with strong scientific overlap)
- Engagement Strategy:
  - Hands-on training and knowledge exchange
  - Collaborative problem-solving sessions
  - In depth technical presentations
  - PhD forums
  - Peer-to-peer learning and knowledge exchange among researchers

5. Research Center Visits:

- Primary Stakeholders:
  - Decision-Makers (funding agencies, government representatives)
  - Business and Industry Representatives (interested in potential technology transfer or collaboration)
  - Educational Institutions (students and faculty for potential collaborations or inspiration)
- Engagement Strategy:
  - Detailed discussions and demonstrations of facilities
  - Exploration of future research collaborations
  - Presentations on ongoing research and capabilities
  - Private meetings with key partners

A summary of the Event types and the Primary Stakeholders is shown in the Table below.

	Scientific Community	Teams from Other Projects	Educational Institutions	Decision-Makers	Business and Industry Representatives
Webinars	-	+	+	-	-
Business Forums	-	+	-	+	+
Special Conference Sessions	+	+	+	+	-
Scientific Workshops	+	+	+	-	-
Research Center Visits	-	-	+	+	+

Our engagement with the General Community takes a proactive approach, focusing on bringing information about the project directly to them rather than inviting them to our specialized events. This involves delivering accessible presentations at community centers and schools across Greece, participating in national and local events with informational booths, hosting public lectures, engaging with Greek media, and maintaining a public-friendly online presence. The goal of these outreach initiatives is to build understanding, trust, and demonstrate the project's relevance and impact within the broader Greek community.

UTH will organize three scientific workshops in Greece as part of TWIN-RELECT, with noteworthy contributions from all partners. These events will be a key opportunity for project members to interact with stakeholders from academia, fostering collaborations and exchanging knowledge on reliable electronic systems design.

The first Scientific Workshop, scheduled for July 21-23, 2025, will focus on reliability analysis through fault modeling. We have already invited outstanding keynote speakers who will communicate their findings in this field. Their details are given below, i.e., the subject of their presentation and a concise biography.

Keynote Speakers :

- **Radiation Detection Integrated Read out Front Ends - Design and methodology Challenges**

  Presenter: By **Prof. Thomas Noulis**, Assistant Professor, Physics Dept. of Aristotle Univ. of Thessaloniki, Greece (tnoul@physics.auth.gr)

  Abstract: The design challenges and the respective methodology of analog processing channels for radiation detection will be addressed. In particular the standard design methodology will be presented, and the respective gaps will be addressed in terms of radiation hardness. A new methodology will be presented as to enable early on the simulation of the radiation impact on analog circuits, radiation hardness of layouts and the process perspective will also be discussed. In addition an acceleration of the design flow will be also addressed using modern machine learning methodologies. As a design vehicle a charge sensitive amplifier will be used designed in 018um CMOS process.

  Bio: **Dr. Thomas Noulis** is an Academic and a Semiconductor Industry expert (INTEL Corp., INFINEON AG, HELIC Inc. (acquired by ANSYS)) with more than 15 years of international experience on Design System Development, Analog/RFMS circuit Design, Design Methodology and international project management. He holds B.Sc. Degree in Physics (2003), MSc. Degree in Electronics Engineering (2005), and a Ph.D. (2009) from Aristotle Univ. of Thessaloniki (collaboration with LAAS, Toulouse-France). He has participated and drived Integrated Circuit Design European, National and Industrial research projects. Dr. Noulis is the main author of more than 90 publications, holds one European patent and he is the Editor of three books. He is an active reviewer and a member of the editorial board of international scientific journals and conferences. He has given invited presentations on cross-talk and Readout from end IC design. His research interests are focused on Low noise circuit design, Signal and Power Integrity,

Instrumentation and sensor interfaces. Currently he is an Assistant Professor in the Physics Dept. of Aristotle Univ. of Thessaloniki, Greece.

- Title: **Soft Error Simulation: Challenges and Solutions at the Cell and SoC Levels**

  Presenter: By **Issam Nofal** (IROC)

  Abstract: Soft errors are one of the main factors affecting the reliability of electronic systems. Performing accelerated radiation testing is a good practice for measuring effective SER, but it is costly, requires significant experience with testing facilities, and is conducted at the end of the product manufacturing process, leaving no opportunity for system improvements if needed. Simulation, on the other hand, can be performed early in the design flow and enables the development of mitigation strategies at a lower overall cost. In this talk, we will discuss soft error simulation solutions at the cell and system levels and explore the challenges of building accurate and efficient simulation flows.

  Bio: Issam Nofal holds an engineer degree in Microelectronics and a Ph.D. on self checking arithmetic operators from INPG, Grenoble, France. He worked on different subjects related to the test and the functional reliability of electronic systems. He was involved in projects to define and implement test solutions for memories including Built-In-Self-Test and Error Correction Codes. He participated in European projects related to the radiation effects on electronics. Issam was the lead for many years on a first class soft error simulator at transistor and cell level and is a main contributor to the commercial and technical success of this tool. He is the CEO of IROC Technologies since July 2022.

- **Algorithm/Technology Co-Optimization Unleashed: The Art of Designing AI Chips for Brain-Inspired Edge Computing**

  Presenter: By **Prof. Hussam Amrouch**, Chair of AI Processor Design Technical University of Munich (amrouch@tum.de)

  Abstract: Edge computing for AI has emerged as a pivotal strategy for ensuring security and privacy, particularly in applications where personal data and sensitive biomarkers demand rigorous protection. Moreover, it profoundly helps reduce the carbon footprint associated with running AI algorithms on power-hungry GPUs. This talk explores a transformative approach that transcends traditional cloud infrastructures by executing AI algorithms directly at the end-user. We address the fundamental challenge of limited computing resources at the edge by introducing brain-inspired computational algorithms—specifically, hyperdimensional computing and spiking neural networks—that are inherently more energy efficient than classical deep learning methods. By leveraging innovative in-memory computing AI accelerators and custom RISC-V processor architectures augmented with specialized AI instructions, our work embodies a true algorithm-technology co-optimization. Experimental silicon measurements and results from our AI processor chip, fabricated in a 22 nm technology node, demonstrate both inference and training capabilities operating within a mW power envelope, thereby opening new doors for secure, efficient, and sustainable edge AI.

Bio: Hussam Amrouch is Professor heading the Chair of AI Processor Design within the Technical University of Munich (TUM). He is, additionally, the head of Brain-inspired Computing at the Munich Institute of Robotics and Machine Intelligence. Further, he is the head of the Semiconductor Test and Reliability department at the University of Stuttgart, Germany. He is also the Academic Director of TUM Venture Labs. Prior to that, he was a junior professor at the University of Stuttgart. He received his Ph.D. degree with the highest distinction (summa cum laude) from KIT in 2015. He has over 280 publications (including 120+ articles in many top journals like Nature Communications) in multidisciplinary research areas covering semiconductor device physics, circuit design and computer architecture. He is frequently a reviewer in Nature journals and many top IEEE journals. His research interest is AI acceleration, emerging technologies, in-memory computing with a special focus on reliability, and cryogenic circuits for quantum computing. His research in HW security and reliability have been funded by the German Research Foundation (DFG),BMBF, Advantest Corporation, and the U.S. Office of Naval Research.

- **Efficient representations of digital circuits in EDA-Applications**

  Presenter: By **Prof. Rene Krenz-Baath** professor for Cyberphysical Systems at the university (UAS) TH-Wildau in Germany

  Abstract: EDA-Applications apply different representations of digital circuits. Depending on the specific task, such as reasoning or simulation, EDA-tools use different models and data structures. The main motivation for using different data structures is deal with time complexity and space complexity challenges of the specific EDA-applications. The talk will introduce used data structures applied in modern EDA-applications. Afterwards several examples will be discussed how different data structures are applied in the context of different challenges.

  Bio: Prof. Dr. René Krenz-Baath is currently professor for Cyberphysical Systems at the university (UAS) TH-Wildau in Germany, where he is leading the IDEAS research group. He studied Computer Engineering, Parallel and Scientific Computation in Berlin (Germany), Reading (UK), and Newcasstle(UK). He received his PhD in electronic system design from KTH-Royal Institute of Technology Stockholm, Sweden. He worked for Philips Semiconductors, NXP and Mentor Graphics as Software Architect and Scientist.

6. General Engagement Strategy

To ensure a well-rounded and engaged Pool of Stakeholders, a systematic approach will be adopted to establish initial contact with relevant individuals and organizations. **Personal interactions** will play a key role, with direct communication during professional meetings, conferences, and networking events providing an opportunity to introduce the project and explore potential collaborations. At the same time, **formal outreach** will be conducted via email, with a Letter of Intent sent to prospective stakeholders outlining the project's objectives, the benefits of participation, and the expected level of engagement. This dual approach will facilitate both personalized discussions and a documented invitation, ensuring stakeholders clearly understand their role within the project.

7. Conclusion

This report presents the essential activities and outcomes involved in forming the initial Stakeholder Pool, outlining a systematic approach for identifying, selecting, and engaging stakeholders. Through a detailed analysis of relevant stakeholder groups and customized outreach strategies, the project has ensured the inclusion of highly committed and influential participants. The diverse mix of stakeholders, ranging from academic to industry leaders through members of the broader community, provides a solid foundation for fostering meaningful collaboration. Establishing the Stakeholder network plays a pivotal role for the project's capacity to drive innovation and amplify its impact.

The stakeholder engagement framework established within the project is designed to facilitate effective communication, cultivate strategic partnerships, and ensure ongoing involvement throughout the project's duration. The planned activities in WP4 are designed to deepen collaboration and encourage knowledge sharing. This structured, proactive approach is aimed at advancing design technology for reliable electronic design, enhancing UTH capabilities, and generating broader societal and economic benefits, while ensuring that the project stays aligned with technological developments and practical applications.

Looking ahead, maintaining active stakeholder engagement will be critical for sustaining the project's progress and maximizing its long-term impact. The strategies for a sustainable collaboration between project partners and with stakeholders covering scientific, educational and commercial aspects are defined in WP5, aiming at a long lasting collaboration beyond project lifetime.

Regular updates, collaborative initiatives, and stakeholder-driven dialogues will be instrumental in refining research directions, addressing emerging challenges, and uncovering new opportunities for application and commercialization. By fostering a dynamic and interactive stakeholder network, the project is positioned to stay flexible, responsive, and impactful in the fast-evolving field of reliable electronics and of design technology for it.