

T.I.M.E. Projects 2022-2023

Application Form

Deadline for submission: [December 14th, 2021](#)

Please submit the completed form to: gwenaelle.guillerm@time-association.org

Applications must be submitted by e-mail only. You are required to attach a scanned copy of a Letter of Support signed by the Head of your Institution.

Please remember that T.I.M.E. promotes international cooperation and therefore only applications from consortia of at least three T.I.M.E. members in three different countries can be accepted.

You will be notified of the results of the selection after the Advisory Committee meeting on **February 2022**. Projects run from February 2022 to January 2023.

Title of Project	
The role of digitalization in supporting the industrial circular transition.	
Details of the Applicant	
Name of Institution	Politecnico di Milano
Department	Department of Management, Economics, and Industrial Engineering
Contact Person/s and Details	Alessandra Neri Via Lambruschini 4b, 20156 Milano (Italy) alessandra.neri@polimi.it
Summary of the Project (max. 2000 characters)	
<p>The digitalization of industrial processes and the industrial circular transition are pivotal topics in current political and managerial debates. The academic literature suggests a strong connection between digitalization and the circular economy, and it is generally recognized that digital technologies can support the circular transition. However, specific aspects of the relationship are not addressed by current academic debates, resulting in an unclear picture for practitioners. Particularly, the connection between digital technologies and the circular economy has been addressed mainly from a theoretical and conceptual perspective, and empirical evidence is largely missing. The project aims thus at providing empirical insights and indications on the role of digital technologies in supporting the circular transition in the industrial sector, focusing on the adoption of circular economy practices.</p> <p>The project aims at conducting a survey in industrial firms to understand:</p> <ol style="list-style-type: none">The most adopted digital technologies.The most adopted circular economy practices.The support offered by digital technologies to the adoption of specific circular economy practices.What capabilities are generated by the introduction and application of digital technologies that can support the adoption of circular economy practices. <p>The investigation will focus on industrial firms characterized by different contextual factors, namely the sector, the size, the country, the maturity level for digitalization and the circular economy. In this way, the above-mentioned points of interest will be synthesized with the contextual factors</p>	

characterizing clusters of firms. Particularly, the contextual factors are expected to impact the possible role played by digital technologies.

Reason for applying for T.I.M.E. funding (max. 2000 characters)

The project will benefit from the capabilities and expertise of the consortium, ensuring the best possible outcomes from the investigation.

T.I.M.E. is the ideal platform for funding this project because:

- The addressed topic is of significance to the countries represented by the involved partners, particularly from a research and industrial perspective.
- The project promotes unique collaboration and partnership between world-leading universities and experts in delivering high impact research.
- The knowledge of the research team ensures the project will be finalized within the funding period.
- The outcomes of the project would impact research, industry, and education, in line with T.I.M.E.'s vision; the project would increase T.I.M.E.'s visibility and attractiveness.

Expected outputs of the project

The project would deepen the knowledge over the support offered by digital technologies to the industrial circular transition. The outcomes would be of relevance as they will:

- Shed light on pivotal industrial dynamics related to the integration of central aspects of the current debates.
- Foster the integration of digitalization and the circular economy, favoring proper exploitation of synergies and the understanding of the most promising scenarios towards which to dedicate resources.
- Increase the general knowledge on the topics.
- Act as a starting point for additional considerations related to the impacts of the project.

Besides, the project would foster collaborations and partnerships among the workgroup.

Detailed outputs of the project are addressed in the section related to deliverables.

Target group/s and expected impact

The project will focus on the investigation of the industrial sector to understand the role of digital technologies in fostering the industrial circular transition. Considering the topic addressed, impacts of the project can be identified at different levels:

- **Practitioners.** The practitioners would be provided with an extensive investigation over the possible role of digital technologies in supporting the industrial circular transition. The findings could help practitioners better understand how to properly organize their resources and exploit the synergies between digitalization and circular economy.
- **Academia.** The project would help cover a relevant gap in the academic literature, fostering additional research and confrontation. Moreover, the results could contribute to the development of teaching material on the topic.
- **Policymakers.** The insights deriving from the project would be of interest to policymakers, so to develop tailored incentives and support schemes, allowing industrial firms to unlock the potential of digital technologies in supporting the circular transition.

Sustainability of the programme

The sustainability of the project will be ensured from different perspectives.

- **Economic Sustainability.** Meetings and discussions would be preferably held via video conference, allowing the use of the budget for the survey implementation and the final workshop. Specifically, external support could be used to reach a higher number of industrial firms during the implementation of the survey, thus increasing the strength of the project.
- **Social Sustainability.** The final workshop will be held virtually or in a blended manner. Participants with limited resources availability - time and financial resources, or subject to Covid-19 restrictions would be given the fair opportunity to attend the workshop. Scientific

journal publications deriving from the project would be published, where possible, in Open Access journals, so as to guarantee fair access to the outcomes of the research. Professional and academic social networks will be used to advertise the initiatives related to the project and to provide updates to the scientific and managerial community.

- **Environmental sustainability.** Meetings and discussions would be preferably held via video conference.

Specific deliverables

The project will have the following deliverables, strongly connected to the outcomes of the project.

Deliverable 1. Definition of methods for investigating the role of digital technologies in supporting the adoption of circular practices in the industrial sector.

- *D.1.1. Definition of the sample.* The deliverable focuses on the definition of the sample, as for the amount and characteristics of the firms to be investigated.
- *D.1.2. Development of the questionnaire for the investigation.* The deliverable focuses on the development of the questionnaire for the investigation. The questionnaire could also act as a base for further research and replication studies in similar/different contexts.

Deliverable 2. Identification of the role of digital technologies in supporting the adoption of the circular economy in the industrial sector.

- *D.2.1. Identification of the most adopted digital technologies in the industrial sector.* The deliverable would allow identification of the most common digital technologies among industrial firms. From these results, it would be possible to evaluate the digital maturity level of the investigated firms and the level of integration among the different technologies.
- *D.2.2. Identification of the most adopted circular economy practices in the industrial sector.* The deliverable would allow identification of the most adopted circular economy practices among industrial firms. From these results, it would be possible to evaluate the circular economy maturity level of the investigated firms and the level of integration of the firms with the industrial system in which they operate for joint efforts towards circular transition.
- *D.2.3. Investigation over the support offered by digital technology to the adoption of specific circular economy practices.* The deliverable would foster understanding of the relationship between digital technologies and the circular transition. The results would underline the most promising digital technologies and their role in supporting the circular transition.
- *D.2.4. Investigation over the capabilities generated/enhanced using digital technologies and their role in supporting the adoption of circular economy practices in the industrial sector.* The deliverable will understand the capabilities within the industrial firms generated or enhanced by the digital technologies. Capabilities will be analyzed for their role in supporting the adoption of circular economy practices.

The results related to the different deliverables will be disseminated according to the following scheme:

1. Project reports detailing the progress in terms of investigation and outcomes, as requested by the T.I.M.E. Association:
 - 1.1. Interim Report (due by June 30th, 2022) - coherently with the planned project's organization, it will focus on the advancements of Deliverable 1.
 - 1.2. Report on outcomes to be presented to the 2022 General Assembly in Brisbane – It will focus on Deliverables 1 and 2, addressing particularly the outcomes obtained from the survey.
 - 1.3. Final Report to the Advisory Committee (due by January 29th, 2023) – it will focus on both Deliverables.
2. A workshop at the end of the project, presenting the outcomes of the investigation. It will focus on the dissemination of empirical evidence obtained from the investigation. The target of the workshop will be scholars, practitioners, and policymakers.
3. Series of scientific publications (to be developed after the end of the project). They will focus on the dissemination of the outcomes of Deliverable 2.

Total duration of the project
<p>The project would last 12 months in terms of conducting the survey, analyzing the results and first presentation of the outcomes. The planned organization of the activities is: (M1: February 2022 – M12: January 2023)</p> <ul style="list-style-type: none"> - M1 (February 2022): Roundtable with members to define the sample and the details of the project. - M2-M5 (March-June 2022): Development of the survey (questionnaire). - M6-M8 (July-September 2022): Implementation of the survey. - M9-M11 (October – December 2022): Analysis of the results. - M12 (January 2023): Presentation of the results in a workshop/dedicated seminar.
Planned budget
<p>€ 10,000</p> <p>The expenses incurred by the partners would include, according to the specific necessities:</p> <ul style="list-style-type: none"> - Reimbursement for travel and accommodation. - Costs relating to the survey implementation (external support; software). - Cost of promotional materials (only virtual, institutional websites). - Cost of final workshop (external support; software).
Requested financial support from T.I.M.E.
<p>The total requested financial support from T.I.M.E. will be € 10,000. The financial support would be, as far as possible, equally distributed among the T.I.M.E. Members of the consortium.</p>
Other sources of funding
<p>None</p>
Members of the consortium
<p>T.I.M.E. Members Politecnico di Milano (Italy) - Project Leader KTH Royal Institute of Technology (Sweden) Universidad Politecnica di Madrid (Spain)</p> <p>Other Members University of the West of England (UK) Aston Business School (UK)</p>
Key Staff
<p>T.I.M.E. Members <u>Politecnico di Milano (Italy)</u></p> <ul style="list-style-type: none"> - Alessandra Neri – Assistant Professor alessandra.neri@polimi.it - Enrico Cagno – Professor enrico.cagno@polimi.it <p><u>KTH Royal Institute of Technology (Sweden)</u></p> <ul style="list-style-type: none"> - Cali Nuur – Professor cali.nuur@indek.kth.se <p><u>Universidad Politecnica di Madrid (Spain)</u></p> <ul style="list-style-type: none"> - Alberto Urueña Lopez - Assistant Professor alberto.uruena@upm.es - Antonio Hidalgo - Professor antonio.hidalgo@upm.es <p>Other Members <u>University of the West of England (United Kingdom)</u></p> <ul style="list-style-type: none"> - Vikas Kumar - Professor vikas.kumar@uwe.ac.uk <p><u>Aston Business School (United Kingdom)</u></p> <ul style="list-style-type: none"> - Luciano Batista - Senior Lecturer L.Batista@aston.ac.uk

Check List

- *Attach a signed Letter of Support from the Head of the Applicant Institution ·
Send this form and supporting documents by e--mail only to:
gwenaelle.guillerme@time-association.org*

THE DEADLINE FOR THE SUBMISSION OF APPLICATIONS IS [DECEMBER 14th 2021](#)



POLITECNICO
MILANO 1863

DIPARTIMENTO DI
INGEGNERIA
GESTIONALE

Letter of Support to T.I.M.E. Projects Application

Dear Commission of the T.I.M.E. Association,

It's my pleasure to support the project "The role of digitalization in supporting the industrial circular transition" being submitted to the T.I.M.E. Call for Projects 2022 by Dr Alessandra Neri.

The project aims at investigating the role that digital technologies could play in fostering the adoption of circular economy practices within the industrial sector. This would be done through conducting an international survey, providing empirical-based insights and shedding light on important industrial dynamics. The relevance of the addressed topic cannot be stressed enough, as it plays a pivotal role in current political, managerial and academic debates.

The members included in the consortium are well-recognized experts in the field. The consortium includes members from Politecnico di Milano, KTH Royal Institute of Technology and Universidad Politecnica de Madrid. Additionally, as external members, the University of the West of England Business School and Aston Business School. The project would definitely benefit from the involved capabilities and expertise.

The project's outcomes could be of pivotal relevance for practitioners, policy-makers and academia, both in terms of research and teaching.

Milan, 9 dicembre 2021

The Head of the
Department of Management Engineering
Prof. Alessandro Perego