Management Engineering Challenge

STUDENTS SELECTION NOTICE

INTRODUCTION

In the context of the Master's in Management and Industrial Systems Engineering of the Department of Industrial Engineering (DII) at the University of Trento (hereinafter "Master"), the aforementioned University offers students the opportunity to take part in the Initiative named **"Management Engineering Challenge"** (hereinafter "Initiative") created in collaboration with Fondazione Hub Innovazione Trentino (HIT). The Initiative will take place in the period February - June 2026.

The Initiative is aimed at enabling students enrolled in Master's degree programs at the University of Trento and especially students enrolled in the Master's degree program in Management and Industrial Systems Engineering to learn methodologies for solving problems involving the analysis, optimization, and management of production processes (hereinafter, "Activities") involving enterprises and organizations, including public ones (hereinafter, "Challenge owners"), that will present technical problems to be solved or opportunities to be sought (hereinafter, "Challenges") by the students, according to the principles of the Challenge-based Learning. Completing the Initiative will allow the students to acquire a predefined number of ECTS.

Specifically, by way of example, we mean:

- *Challenge*: assembly line and manufacturing plant design, inventory and warehouse capacity forecasting and planning, inbound and outbound logistics systems planning, distribution systems and transportation, facility layout, industrial scheduling problems, machinery and industrial product failure analysis, multicriteria and dynamic decision-making methods, risk mitigation methods.
- *Activities*: application of advanced management engineering methods to develop actionable solutions that Challenge owners can use to innovate their processes and management practices according to the principles of production management and control (lean management, reconfigurable production systems, digital twins, just in time). The problem-solving process includes the use of advanced mathematical simulation and modeling software such as, but not limited to, Wolfram Mathematica, GAMS, CPLEX, etc.

The supervising person for the Initiative is Prof. Francesco Pilati (hereafter, "Supervisor"), head of the Master's degree program in Management and Industrial Systems Engineering. The faculty members involved are Professors Matteo Brunelli and Caterina Zanella.

ART. 1 – SUBJECT OF NOTICE

This Notice is aimed at defining the conditions for students of the University of Trento to apply, be selected, take part and complete the 2026 edition of the Management Engineering Challenge.

ART. 2 – CONDUCT OF THE CHALLENGE

The Initiative requires groups of students (hereinafter, "Teams") to work in parallel over the second academic semester (February - June) to carry out the aforementioned Activities on the Challenges proposed by the selected Challenge owners. For each Challenge, there will be one or more dedicated teams of problem solvers (hereinafter, "Solvers"), which will work independently in carrying out the Activities and in the production of a short final report containing information that emerged from the Activities performed and possible solutions for the assigned Challenge (hereinafter, "Results"). The selection of the students and the creation of the teams will be carried out by the Supervisor or one or more of his delegates.

The Initiative will engage the Solvers for approximately 75 hours and it will be organized according to the following schedule and means:

- **End February, 2026:** presentation of the Challenges (online or in presence) by the Challenge owners to the teams of Solvers, in coordination with the schedule of the Master.
- **From March to May, 2026:** execution of Activities by the Solvers, in person and partially remotely, in the manner defined by the Supervisor, also in consultation with the Challenge owners. Challenge owners are required to participate in progress follow-up meetings with the team, either in-person or remotely.
- **Beginning June, 2026:** Final day of presentations and delivery of the Results by the teams to Challenge owners, in a public form, in coordination with the schedule of the Master. The Team who developed the most relevant Result will be awarded by a committee appointed by the Contact Person.

ART. 3 – METHOD OF REGISTRATION OF PARTICIPATION APPLICATIONS

The Initiative is optional for the students. Students interested in participating in the Management Engineering Challenge as Solvers must fill out the application form accessible from the page https://docs.google.com/forms/d/e/1FAIpQLScZYhsD_MQ0BnALVnUTbUJxOl6HOlK3dNiAJL39d3aPLctjwg/viewform?usp=header by **14/12/2025**.

In any case, the University of Trento reserves the right to modify, suspend, extend, and revoke this procedure at any time or not to follow it up, if, at its sole discretion, it detects the need or opportunity.

Eligibility requirements for participation in the Challenge as a Solver are:

A. not be enrolled in Erasmus study, Thesis abroad, Traineeship abroad, or similar programmes for the indicated period of the Challenge;

and, alternatively:

    B. be enrolled at the University of Trento as a student in the second year of the master's program in Management and Industrial System Engineering in the 2025/2026 academic year;

    C. be enrolled in any other master's degree program of the University of Trento in the 2025/2026 academic year, and have successfully passed and included in their study plan at least one of the following classes:

        a. Design of digital production and assembly systems;

        b. Decision and risk analysis;

        c. Advanced manufacturing and sustainable products.

Once the registration will be concluded, candidates will receive an email communication. The Solvers will be grouped into teams and matched with the Challenge owners and Challenges, possibly taking into account preferences communicated in the application form. The composition of the teams and the matching with Challenges will be sole responsibility of the Supervisor.

ART. 4 – METHOD OF EVALUATION OF RESULTS AND AWARDING OF ECTS

A commission of experts will evaluate the Results presented by each Team and will formulate a ranking based on the following criteria:

- Criterion 1: ability to carry out the Activities correctly (from 1 to 5 points).
- Criterion 2: completeness and maturity of the Results (from 1 to 5 points).
- Criterion 3: innovativeness of the Results (from 1 to 5 points).
- Criterion 4: potential business impact of the Results (from 1 to 5 points).
- Criterion 5: effectiveness of the presentation of the Results (from 1 to 5 points).

To all Solvers who complete the Initiative, the University of Trento will provide a certificate of completion. To the Solvers who will complete the Initiative that who are also enrolled in a Master programme of the Department of Industrial Engineering UNITN, three (3) ECTS of type F will be recognized.

ART. 5 – CONFIDENTIALITY

In case of need, the Challenge owner may require the Solvers and the Supervisor to sign a Non-Disclosure Agreement (NDA) of up to two years' duration, prepared by the University of Trento.

In any case, the Results of the Initiative are deemed to be public and will be presented at the end of the Course to all students and possibly external participants (other faculty, researchers, external audiences, etc.).

ART. 6 – INTELLECTUAL PROPERTY

The intellectual property rights of the Results will belong to whom will contribute to their production (Solvers, Challenge owners, other parties involved), including possible joint ownership.

In case the Challenge owners wishes to acquire the property of the Results, it will have to come to an agreement with the Solvers and the University of Trento during or at the end of the Initiative, if necessary, in light of the current rules and regulations.

ART. 7 – PROCESSING OF PERSONAL DATA

Pursuant to art. 13 of the GDPR 2016/679, we inform you that all the data that will be in the possession of the University of Trento in carrying out the procedure provided for in this Notice will be used exclusively for the purposes specified therein and will be processed with the aid of information systems in full compliance with the aforementioned legislation. The data will not be communicated or disclosed to third parties. The Data Controller is the University of Trento, via Calepina n. 14, 38122 Trento (TN); email: ateneo@pec.unitn.it; ateneo@unitn.it. The Data Protection Officer (DPO) whom you can contact for information regarding your personal data can be contacted at the following email address: rpd@unitn.it. At any time, interested parties may exercise against the Data Controller the rights enshrined in Articles 15 et seq. of the GDPR, using the appropriate form that can be found on the "Privacy and Personal Data Protection" page of the University portal and send it to the Data Controller at the above-mentioned addresses. To view the complete information, please refer to: https://www.unitn.it/ateneo/2077/privacy-e-protezione-dei-dati-personali.

ART. 8 – AUTHORIZATION TO PUBLISH YOUR OWN IMAGE

Solvers agree that the University of Trento may publish their image in any form of media (print, websites, and the like) for the sole purpose of promoting and advertising the Initiative. The University of Trento undertakes not to use any image in such a way that it may harm or prejudice personal dignity or in any case for purposes other than those indicated therein and / or contrary to the law.