# Table of Contents

- **What is iSOL-MET?**  
- **Goals**  
- **Partners**  
- **Associated partners**  
- **Context**  
- **Project Activities**  
  - Phase 1: Collecting data for developing Case Studies  
  - Phase 2: Developing the Case Studies  
  - Phase 3: Teaching Courses based on Case Studies  
  - Phase 4: Maritime Soft Skills evaluation: Maritime Assessment Centre  
- **Project Deliverables**  
  - O1: Maritime Skills Courses for multidisciplinary and multicultural group of students  
  - O2: Maritime Case Study Handbook  
  - O3: Guidelines for using Case Studies as training material for the development of soft skills  
  - O4: Evaluation Tools of soft skills  
- **Partners contribution**  
  - University of the Aegean - Greece  
  - Maritime University of Szczecin - Poland  
  - Constanta Maritime University - Romania  
  - Piri Reis University - Türkiye  
  - Nikola Yonkov Vaptsarov Naval Academy - Bulgaria  
  - Conference of Peripheral Maritime Regions (CPMR) - France  
  - PPP Learn Single Member PC - Greece  
- **Publication of Papers**

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What is iSOL-MET?

iSOL-MET is a European project, funded by the Erasmus+ Programme under section KA2-Cooperation for innovation and the exchange of good practices (2014-2020) that promotes cooperation between six countries: Greece, Bulgaria, France, Poland, Romania, and Türkiye.

The overall objective of the iSOL-MET project is to bridge the gap between shipping world requirements, in respect to human resources soft skills and competences, through developing innovative educational material on the case study methodology.

Goals

iSOL-MET aims at the transformation of maritime education and training in the field of maritime soft skills, since currently there was not an integrated course programme in the academic curricula of relevant institutions.

To that extent, iSOL-MET can have significant impact in regional-institutional level since project can improve the learning offer of project partners and lead to a competitive advantage.

The gradual adoption of the iSOL-MET’s courses and tools may affect the total offer of more qualified personnel both ashore and at sea. The better preparation of students for their professional life can further contribute to the decrease of the percentage of early leavers from the sector, especially for the seafarers and subsequently to improve the image of seafaring as a profession. Thus, iSOL-MET can have an effect in national maritime industry since well trained and qualified personnel can handle better risks, can have better decision making and innovative thinking and as such to minimize errors and even to avoid more complex situations such as accidents.

To that extent, iSOL-MET has contributed to building the EU leading position and access to maritime skills and knowledge.

Finally, iSOL-MET has equipped learners with agency and a sense of purpose, and the competencies they need, to shape their own lives and contribute to the lives of others, which is of primarily importance for Education according to The Future of Education and Skills 2030 project of the Organization for Economic Co-operative and Development (OECD) for the UNs Agenda 2030 for Sustainable Development.

In this context iSOL-MET achieved to:

- Bridge the gap between shipping world requirements in respect to human resources soft skills and competences, through developing innovative educational material based on the case study methodology.
- Bridge the needs of maritime professionals for ongoing career opportunities even after completing their sea service on board.
- Bridge the experience gap of maritime universities’ students in respect to the on-board operations and the shipping practices.
- Exchange best practices and cultural awareness on maritime education and shipping issues.
Partners

- University of the Aegean (Lead), Greece
- Nikola Yonkov Vaptsarov Naval Academy, Bulgaria
- Conference of Peripheral Maritime Regions (CPMR), France
- PPP Learn Single Member Private Capital Company, Greece
- Maritime University of Szczecin, Poland
- Constanta Maritime University, Romania
- Piri Reis University, Türkiye

Associated partners

- “Maria Tsakos” Public Benefit Foundation – International Centre for Maritime Research & Tradition (Greece) hosted the event at the foundation’s building and at the Teens Private Maritime Professional High School installations as well.

- Tsakos Enhanced Education Nautical School (Greece). The High school students contributed to the success of the living lab where students at the Universities, the Maritime Academies and Teens students cooperated as teams and concluded a proposal on the topic they assessed.

- Hellenic Shortsea Shipowners Association (Greece)

- Ministry of Maritime Affairs & Insular Policy (Greece)

- Eugenides Foundation (Greece) has hosted the stakeholders’ workshop for the initiation of Goals of the iSOL-MET project and the Assessment Center event at the foundation’s building.

- Merchant Marine Academy of Engineers & Merchant Marine Academy of Captains (Greece). Marine Academies cadets contributed to the Spring School of the project and they in the same way as the Teens students. Additionally, they participated at the Eugenides foundation event where the Assessment Center was presented to the public.

- Maritime companies (Latsco, Livanos SA, Avin Intl). Maritime experts have provided us with precious guidance, material for the case studies as well as evaluation of Intellectual Outputs during all stages of design, development, and finalization of our project. [SK1]To be double-checked.

Context

The 2014 Communication from the European Commission to the European Parliament, the Council, the European Economic & Social Committee, and the Committee of the Regions “Innovation in the Blue Economy: realising the potential of our seas and oceans for jobs and growth” recognises the lack of a skilled workforce knowledgeable in the latest technologies and a range of other disciplines, as a challenging and hindering factor of the Blue Economy.

For shipping, based on BIMCO’s report, it is estimated that additional 147.500 officers will be needed by 2025 to serve the global fleet. There is an increasing need to fill in this gap to support career opportunities in the blue economy and especially in the maritime sector. However, maritime professions do not require only industry knowledge and experience, but also interdisciplinary skills to respond successfully to the multicultural environment and the constantly changing conditions of international shipping.

Maritime universities face several challenges in preparing students to meet workplace demands in an increasingly complex, knowledge and technology-based environment while lacking generic skills that are requested by employers, such as critical thinking, creativity, problem solving, communication and teamwork.

Project addressed the needs of the students for obtaining the required skills for entering the shipping market, covering the needs of the shipping industry, and provided educators with new educational tools.

Through iSOL-MET we have managed to:

- Enhance the quality and relevance of the learning offer in maritime education through developing innovative educational material, using the case study methodology.
- Help students recognize and adopt “growth” mindset.
- Develop competency and knowledge-sharing.
- Meet the demand of highly skilled maritime professionals.
- Bundle forces from intergovernmental organisations, research institutes and the shipping industry.
- Promote and support networks connecting education and training organizations at EU level.
- Change the professors’ mindset about teaching techniques helping them to improve their effectiveness.

iSOL-MET corresponds to the need of a systemic reform in higher Maritime Education and Training (MET) by:

- Helping students in maritime universities and marine academies to develop skills, knowledge, and attitudes necessary to achieve the goals they set out for themselves.
- Contributing to the preparation of students for their entrepreneurial endeavours.
- Improving the quality of maritime education in participant partners.
- Corresponding to the shipping industry’s needs through providing the content of updated education and training and further the tools for the assessment of skills and competences, for both existing employees and newcomers. As such we have contributed to better decision-making at the corporate level.
- Contributing to the sharing of ideas, knowledge, experience, and best practices among countries, stakeholders, and practitioners.
Project Achievements

Phase 1: Collecting data for developing Case Studies

During the very first stages of the project meetings, it became clear that a complementary framework had to be built on how to choose Case Studies eligible for our project. An unambiguous scheme was needed, to collect the necessary information from a wide array of professionals targeted. It was a tool with a twofold purpose: on the receiving end it would serve to filter, classify, and interpret the input received by the partners, the result of consultation with various stakeholders and field specialists. On the producing end, the framework was meant to provide a guide of integration of input in any form: content, skills, methodology, and their implications in a modern, appropriate, and theoretically sound manner which would maximize the synergy of the partnership. In the future, if more practitioners wish to compile similar sets of case studies, the framework will be available to help them navigate through the dangerous waters of life-narratives. Then research was conducted to define the steps and the tools of collecting data using the interview research method. During this phase we took five interviews in order to test and fine tuning of steps and tools for selecting the right interviewees and conduct a structured interview for collecting case study data. The outcome of this research was a Best Practice Methodology for conducting a structured interview and training material for this methodology. The training material included Best Practice Guide for methodology, a Power Point presentation, sample interview material (recording, data structure transcript, Case Study Interview Structure Tool (CSIST) and Case Study document) and training on interviewing skills.

Phase 2: Developing the Case Studies

Finally, following the indicated methodology established through phase 1, we have organized the collected material and wrote the narrative part of the Case Studies.

Every partner has conducted research for providing the “chain of evidence” for 2-3 case studies from 2 or more interviews. For this reason, partners selected relevant persons for identifying different soft skills in the maritime domain (different sectors or incidents). Finally, every partner had delivered video recorded interviews and Case Study scripts, following the indicated methodology, contributing to the objective of bridging the gap between shipping world requirements in respect to human resources soft skills and competences, through developing innovative educational material. The result of the work during phase 2 was the Maritime Case Study Handbook, which is a collection of all case studies identified and analysed during the project’s lifetime.

Each project partner was responsible for compiling two or three case studies, which have been assigned in the previous steps of the project, as well as the teaching and evaluating method which was used during the Intensive Study Programmes (ISP). In addition, the experience gained from teaching the case studies during the ISPs (phase 3) was integrated as part of the recommendation section of each case.

When the material was finalised, it was reviewed by all members of the consortium and proofread by Lead partner. The Handbook before publishing was presented to the Panel of Experts, to ensure consistency and validity of the content.

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During IMLA (International Maritime Lecturers Association) GENERAL MEETING in the framework of IMLA28 Conference at NVNA, Varna, prof. Nedko Dimitrov presented the results of the iSOL-MET project and opened a discussion during the IMLA 28 General meeting for the creation of a new IMLA sub-committee: International Conference on Soft Skills development (ICSSD).
Phase 3: Teaching Courses based on Case Studies

The main goal of the Intensive program was to implement the developed Maritime courses for soft skills, to a specific number of students coming from the institutions of the partners. More specifically, five students from each University and Marine Academy participated in the Intensive program, which was organized by the University of the Aegean, in Chios (Region of North Aegean, Greece). In addition, cadets from the Marine Academies of Chios and Oiausses were also invited to participate. During the ISP, the courses designed were tested as well as alternative teaching methods and styles in order to conclude to the most efficient ones per case. Each partner ran a conducting day of training based on one of the case studies created by the partner.

Participating students assessed through pre-defined criteria the quality and effectiveness of the courses thus we acquired a first evaluation of the material from the actual users.

Our goal was to endow students with critical thinking abilities and interpersonal skills.

Teaching methods contained communicative events analysis, role playing, and simulation practices were used, so as participants to:
1. Immediately apply the content of each course in a realistic context.
2. Engage themselves in the learning process.
3. Better interact with their course mates and
4. Diverge from the confines of their normal self-imposed limitations or boundaries.

The selected teaching methods helped students to shape experiences in a supportive environment, as proved by the assessment.

Phase 4: Maritime Soft Skills evaluation: Maritime Assessment Centre

During this phase a Maritime Assessment Centre was created further to the running of a pilot case. A short-term joint staff training, organised by PPP Learn, was addressed to all partners in respect to the Assessment Centre procedures and tools.

During the Transnational Meeting the participants explored ways to unveil the impact of the Assessment Centre procedures on the case study methodology. This way, an overall knowledge regarding the two methodologies was obtained, and partners were prepared for a workshop with industry experts, to discuss the project’s methodology. The last part was a workshop with the participation of industry’s stakeholders to receive practical feedback.
These guidelines for using case studies as training material for the development of soft skills are aimed at addressing the needs of trainers who are engaged in the maritime sector.

These guidelines are designed to:
- Build an understanding of the concepts of soft skills in maritime education.
- Offer a methodology for trainers to use case studies for developing soft skills in maritime education.
- Serve as a handbook for sample training sessions, materials, exercises, and case studies to be used during such training. This handbook comprises steps and activities for facilitating training on soft skills.

The iSOL-MET team organized various virtual meetings, due to the restrictions of COVID-19.

1. **O1: Maritime Skills Courses for multidisciplinary and multicultural group of students**

Output 1 (O1) was the development of soft skills courses through case studies in a well-structured and collaborative process. This ensures the integration of real-world scenarios and practical learning experiences into the maritime education curricula. That enriches students’ understanding of the complexities of the maritime industry but also equips educators with valuable soft skills for creating a dynamic and interactive learning process. The last part is a comprehensive practice-oriented course programme, to link theory and practice through concrete maritime case studies, for cultivating specialized soft skills.

2. **O2: Maritime Case Study Handbook**

The Case Studies Handbook is a collection of the case studies identified and analysed throughout the project. A Case Study Format was developed containing the description of the incident as structured from the interview, analysis of the factors that led to the specific incident and prevention or corrective activities. Originally, case studies were classified per theme (people management, wellbeing & resilience, emotional intelligence, growth mindset etc.) and have been presented in a uniform way; description of the incident as recorded, analysis of the factors that lead to the specific incident and prevention activities. It has been found that the above guidelines reinforce the innovative character of the Handbook and its integration could lead to a paradigm shift for educational, training, and evaluation methods in MET.

Each case study being unique and distinctive, with a wealth of information on the theory and practice of maritime industry across the globe. It has enhanced its value by having the incremental advantage of being filtered for relevancy, currency, actuality, validity, and street credit with the help of the framework created for that purpose. Engaging the case study methodology provides educators with a comparative analysis of practice and offers the process and contextual insights into how current theories are formulated, modified, and reconstituted within different contexts. The Handbook is available at the iSOL-MET website as well as the partners websites.

3. **O3: Guidelines for using Case Studies as training material for the development of soft skills**

The guidelines for the development of soft skills are a practical set of recommendations to course designers for developing, conducting, and evaluating a course focusing on soft skills using case studies. The objective of using the case study method is to increase student interest and engagement, have them practice various solution implementations by making decisions as well as getting feedback on them, and refine their awareness of a particular topic’s concepts and practices. This is the reason that teaching soft skills through case studies demands special teaching skills and methodologies.
This is a set of tools that an educator or a manager can use for evaluating the soft skills competences of students or employees. The aim was the creation of an Assessment Centre for systematizing the process of soft skills evaluation, through case studies, pre-defined check lists etc.

The developed case studies, appropriately adapted, have been used to enrich and enhance the activities of an Assessment Centre (AC) specialised for maritime companies. Assessment Centres have wide recognition as a systematic and rigorous means of identifying behavior for the purposes of recruitment, selection, promotion, and development within the workplace. While these are applied in other industries, ACs are not common practice in the shipping industry. In this context, this output aimed at organizing such an AC for the shipping industry. An Assessment Centre is a selection process that is often used in Graduate Recruitment Programmes. At an Assessment Centre, the candidates undertake a variety of exercises designed to evaluate various skills, whilst being observed and assessed against several pre-determined, job-related behaviors. This output contains a set of tools that an educator or a manager can use for evaluating the soft skills competences of students or employees. Assessment is done by rubrics.

Every assessor has a rubric form for every candidate. Rubrics are also a great tool for any instructor to have in their arsenal of soft skills assessments. Assessors' decisions (for assessment or development) are then made by pooling shared data. Essentially, the assessors get to see what you do, rather than relying on what you say you can do at an interview. The focal point of most Assessment Centres is the use of simulations. The principle of their design is to replicate the key aspects of situations that an employee/officer/manager would commonly encounter in the job for which they are being considered.

To gain a full understanding of a person’s range of capabilities, it is usually the case that several simulations are needed to develop a complete picture. A case study is a form of simulation. iSOL-MET case-studies generate not only experiential learning exercise for the classroom, but they can also be useful in an assessment center for selection and management development inside a maritime organization.

Running the iSOL-MET case studies for assessing the employees’ soft skills and for academic soft skills training, gives the advantage to compare the performance of maritime professionals with student performance. This comparison can be used as a tool to test or to measure to what extend academic education fulfills industry needs for soft skills. This comparison in the future will point out corrective actions for the alignment of academic education to industry needs regarding soft skills.
University of the Aegean - Greece
The University of the Aegean organised the first transnational meeting of the consortium during which all partners involved specified collectively the managerial details of the project, validated the action plan and further determined the methodological aspects for the development of the case studies - such as type of data required, sources, reporting style etc. During the kick-off meeting, the first workshop with the Panel of Experts was organized in order to share the practical experiences generated by the lack of specific soft skills material and further coordinate the collection of the necessary data.

The University of the Aegean organised the Chios Spring School. The main goal of the Intensive Study Programme (ISP) was to implement the developed Maritime courses based on Case Studies for developing soft skills, to a class containing students from the Universities of the Consortium and from Marine Merchant Academies based in Chios and Oinousses (Region of North Aegean, Greece).

During the ISP the case studies-based courses designed were tested as well alternative teaching methods and styles in order to identify the most efficient ones per case. The University of the Aegean also organised a transnational meeting in Greece where partners reported progress on intellectual outputs. During this meeting the second workshop of the Panel of Experts was organized in order to present to the industry the final versions of courses and assessment tools. Teachers from the University conducted one out of five case study-based courses, testing the way in which their case study should be used in the classroom.

Maritime University of Szczecin - Poland
A Transnational Project Meeting took place in Poland under the auspices of Maritime University of Szczecin on 12 May 2022. The meeting focused on a review of the case study methodology and the development of the Maritime Case Study Handbook. The meeting brought together all partners of the consortium in an effort to create coherent educational material for multidisciplinary groups of students.

Transnational meeting (Poland): Partners have discussed on the final amendments of courses content and reporting style in order to prepare the final version of the courses to be implemented during the first Intensive Study Visit in Greece and prepare a blueprint of the training programme.

Teachers from the University have created 2 case studies and conducted one out of five case study-based courses, testing the way in which their case study should be used in the classroom.

Constanta Maritime University - Romania
A Transnational Project Meeting was hosted by Constanta Maritime University on 4 May 2023. The meeting focused on the progress of the Intellectual Outputs of the project and included a session on quality assessment.

Teachers from the University have created 2 case studies and conducted one out of five case study-based courses, testing the way in which their case study should be used in the classroom.

Piri Reis University - Türkiye
Teachers from the University conducted one out of five case studies-based courses, testing the way in which their case study should be used in the classroom.

Nikola Yonkov Vaptsarov Naval Academy - Bulgaria
A transnational meeting and staff short training event were organised in Varna Bulgaria where partners finalised the details of the Intensive Study Program (students’ selection criteria, program finalization, social events etc.). Further they organized the necessary training sessions for the delivery of the actual courses and the training methods. During the Short-term staff training event various simulations of the actual teaching process took place so as to all partner educators who took part in the ISP to be well prepared for their classes. This was a necessary preparatory activity for the implementation of the Intensive Study Programme that was to take place in Chios (Greece).

Teachers from the Academy have created 2 case studies and conducted the fifth out of five-case study-based courses, testing the way in which their case study should be used in the classroom.

Conference of Peripheral Maritime Regions (CPMR) - France
The second Transnational Project Meeting of iSOL-MET took place on the premises of the CPMR Balkan & Black Sea Commission in Brussels in October 2022. The project partners had the opportunity to reflect on past activities (iSOL-MET Spring School) and discuss students’ evaluation about the procedure as well as the impact of the event on the experiences and behaviour. Also, the project partners discussed future events that were to take place, leading to the project’s closing in August 2023.

The active involvement of project partners in renowned international conferences, namely the workshop co-organised by the CPMR in the framework of the 2023 European Maritime Days in Brest (Brittany Region, France) and the SEArica (Seas, Rivers, Islands and Coastal Areas) Intergroup’s Conference on Blue Skills on 23 May 2022, exemplified a proactive stance towards disseminating knowledge and engaging stakeholders.
PPP Learn acted as the Soft Skills expert in the consortium. PPP Learn has contributed with knowledge and experience throughout the project.

During the preparation of the proposal together with the University of the Aegean, PPP Learn organised workshops with industry stakeholders to identify maritime industry’s needs and to identify, sort and prioritise soft skills requirements.

During the initial phase of the project, they conducted the first interviews and sorted out problems and obstacles with the interviewing process. Together with the University of the Aegean created a selection process for minimising the problems and eliminating the obstacles. They have created a structure for the interview and formed the Case Study Interview Structure Tool (CSIST) which has been used both to prepare for the interview and to record, analyze and put in the right order the data collected during the interview. PPP Learn also trained the partners in Interviewing Skills such as: questioning skills, probing skills, listening skills, creating rapport skills delivered in a virtual classroom. Also, they trained them in how to use the tool CSIST and how to collect and organise data, run a live demo interview, and provided a sample interview recorded and the corresponding tool filled up.

PPP Learn has created an outline formatted structure for writing the case studies so that all created case studies could have the same structure and format. They also wrote two of the case studies.

During the Transnational Projects Meeting in Varna (Bulgaria) PPP Learn presented the particularities of case study as a teaching tool for soft skills, emphasizing the need to shift from lecturing teaching style to a participative and learner-centered style. During the Chios Spring School, they pilot tested case studies and guidelines for using them as training soft skills material. They conducted the first, out of five, case study-based courses demonstrating the way in which a case study should be used in the classroom.

They have organised the pilot Maritime Assessment Centre event where they trained all project partners in respect to the Assessment Centre procedures and the application of assessment tools. During this three-day training program project partners not only have been trained on the various tools theoretically but also, they have participated as assessors in simulation activities based on maritime case studies.

Publication of Papers

The partnership has made notable strides in disseminating its research through the publication of three significant papers.

Among these:

- One was presented at the International Association of Maritime Universities Conference in 2022, held in Batumi, Georgia.
- The remaining two papers were made available through ResearchGate, and both were closely tied to the iSOL-MET project.

These two papers were titled:

- "Maritime Case Study Handbook"
- "Introducing the Use of Case Skills in Maritime Universities", which was presented in 2023 at the International Maritime Lecturers Association in Varna Bulgaria
Feedback

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Other notes

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