

International Master Erasmus Mundus in Maritime Spatial Planning (MSP)

Motivazioni della proposta – 1/2

Un nuovo quadro di governance per le questioni marittime in UE

- “Blue Book” *Integrated Maritime Policy for the European Union* 10.10.2007
COM(2007) 575
- Direttiva Quadro sulla Strategia per l’Ambiente Marino 17.06.2008 2008/56/CE
Strategia Nazionale - Prospettiva globale della regione o sottoregione marina interessata - «Buono stato ecologico» delle acque entro il 2020
- Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU, 25.11.2008, COM (2008) 791

Motorways of the sea – M.o.S - Maritime Transport Strategy 2018

- Decisione 884/2004 del Parlamento Europeo e del Consiglio del 29 aprile 2004 (che modifica 1692/96) Articolo 12 bis
- Commission Communication: Strategic goals and recommendations for the EU’s maritime transport policy until 2018, COM (2009) 8

La Gestione Integrata delle Zone Costiere (GIZC)

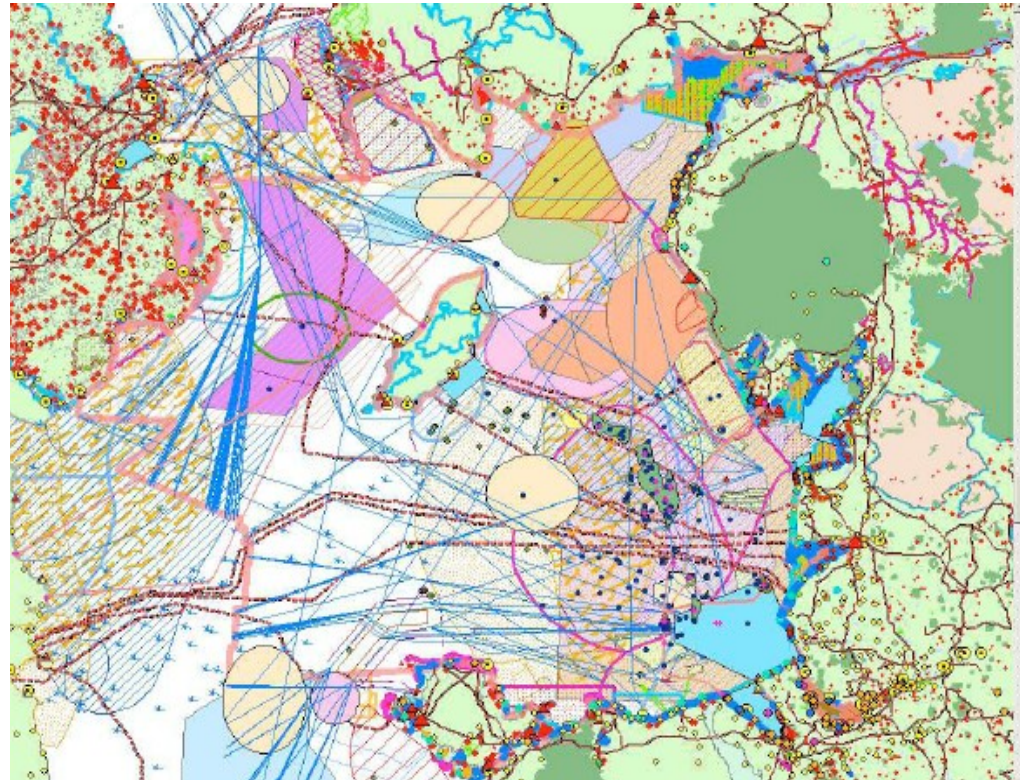
Commission Recommendation to the Council and the European parliament, Adottata il 30.05.2002. (2002/413/CE)

Motivazioni della proposta – 2/2

Emergenza ambientale: Il mare e la costa, degli spazi ambiti

“Lo spazio marittimo è limitato per profondità ed estensione e, nella maggior parte dei casi, l’uso di spazio per un tipo di utilizzo compete con altri. In altri termini non c’è sufficientemente spazio in mare per rispondere a tutte le domande di uso”.

F. Maes, *Un océan d'espace : vers un plan de structure d'aménagement pour la gestion durable de la mer du Nord*, Bruxelles. 2005.

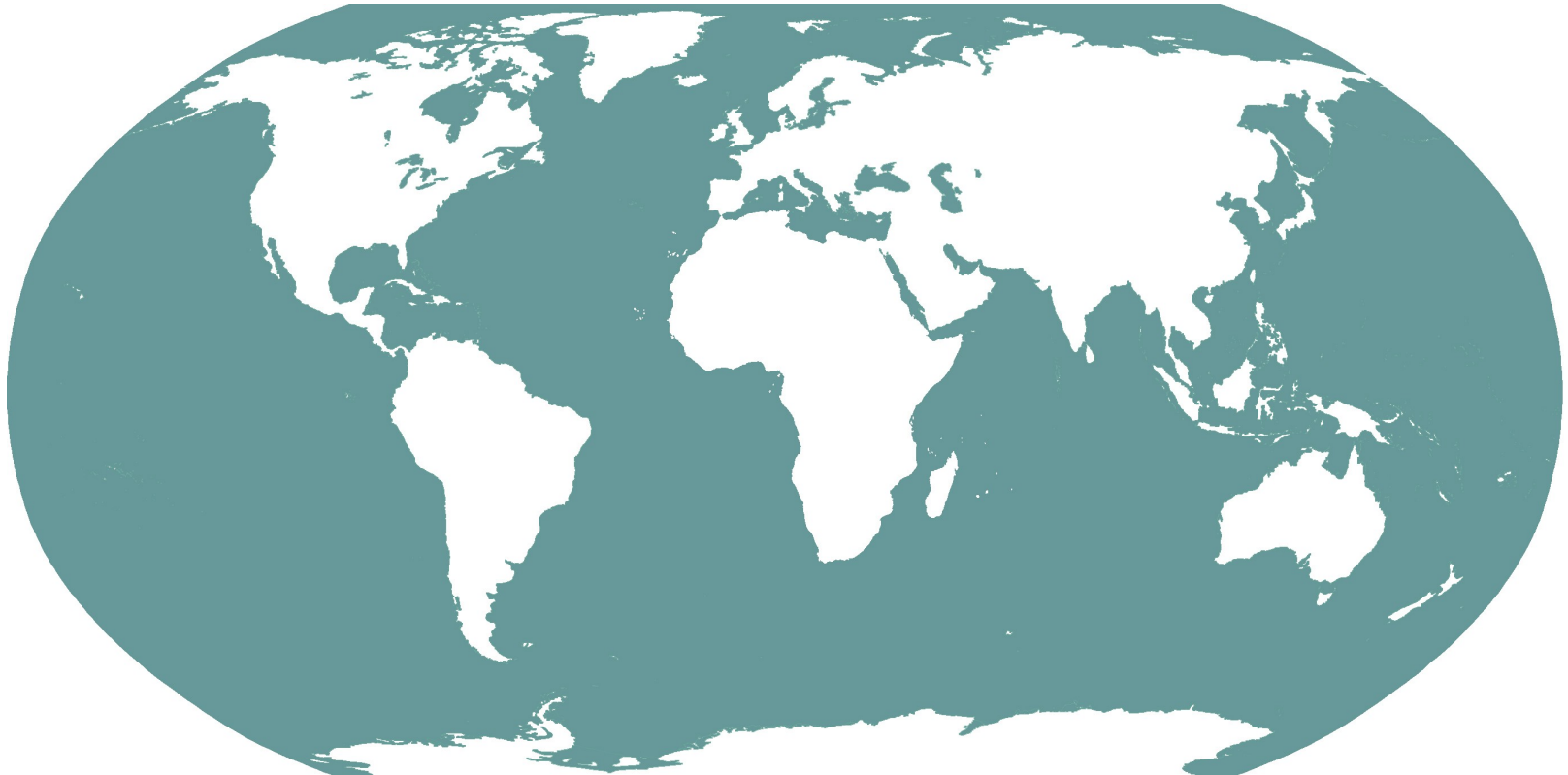


Motivazioni della proposta – 2/2

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Obiettivi formativi

“The International Master is an advanced professional master focused on Maritime Spatial Planning. The aim of the course is to prepare specialists – providing a multi-disciplinary background – to enable them to operate both in public institutions as well as independent professionals. As specialists they will have the know-how in planning, in designing and evaluating projects and policies, which consider terrestrial, coastal and marine dimensions. In addition, the course will provide the ability to manage decision processes towards an adaptive and integrated approach.

(...) As Marine Spatial Planning is not a substitute for single-sector planning and management, students will be invited in elaborating and using their knowledge and skills deriving from previous education experience with the aim of participating to the MSP integrated process.”

Obiettivi formativi

“Students will get in touch with those different realities through the direct experience and knowledge of scholars and professional, experts in different fields, so to acquire a capacity of analyzing and understanding.

Moreover, they will get in contact with several contexts so to become skilled in comparative analysis and scenario writing.

The scenarios might be considered as planning device to optimize spatial distribution of economic activities, to reduce conflicts arising from the use of a resource and to improve management effectiveness. The project centres factors as climate changes, exploitation of resources, pollution and impoverishment of ecosystems.”

Partnership – Consorzio sul MSP

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Full Partners (Higher Education Institutions)

- Iuav University of Venice, Italy;
- University of Rostock, Germany;
- University of Azores, Portugal;

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Associated Members (Membri associati)

- CORILA, Italy;
- UNESCO, Division of Ecological and Earth Sciences;
- Universidad Tecnica Particular de Loja, Ecuador;
- Tethys Research Institute, Italy;
- Dipartimento di Progettazione Architettonica e Urbana, Università di Trieste, Italy;
- Consorzio del trasporto intermodale, Croatia;
- FONAG Institute, Ecuador



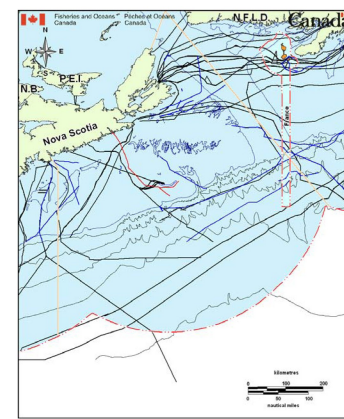
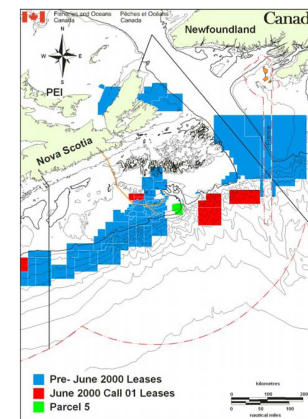
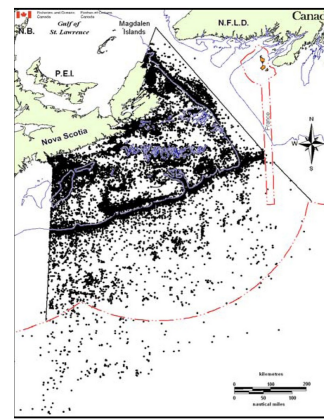
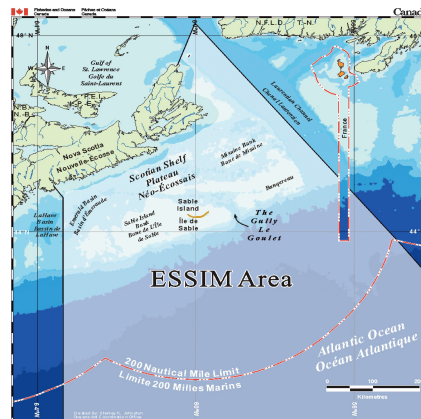
Esperienze 1/4

Canada - Piano di Gestione Integrata dell'Oceano, Nuova Scozia, Canada (Eastern Scotian Shelf Integrated Management (ESSIM) Initiative)

L'iniziativa ESSIM è stata lanciata nel 1998 dal Ministero della Pesca e degli Oceani a seguito della raccomandazione della "Sable Gully Conservation Strategy" che integrava approcci di gestione applicati alle zone offshore intorno alla Zona di protezione di Sable Gully (canyon marino profondo), designata come Area Marina Protetta nell'ambito dell'"Oceans Act". L'iniziativa ESSIM considera in maniera comprensiva gli ecosistemi, gli abitanti e gli utenti. Secondo un approccio di tipo collaborativo

L'obiettivo del Piano di Gestione Integrata dell'Oceano della Scozia Orientale (2008) consiste nel costruire una base comune per la partecipazione e per lo sviluppo in termini di sostenibilità del territorio. A tal fine, il Piano è strutturato rispetto a tre obiettivi principali che riguardano rispettivamente: la governance e la gestione integrata, usi antropici sostenibili ed ecosistemi sani.

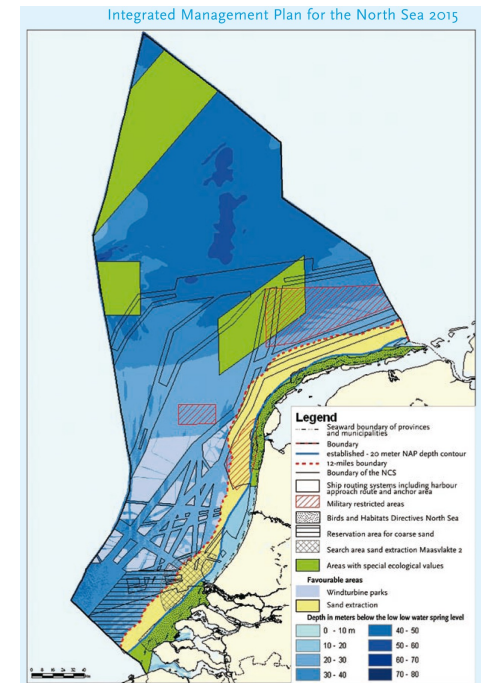
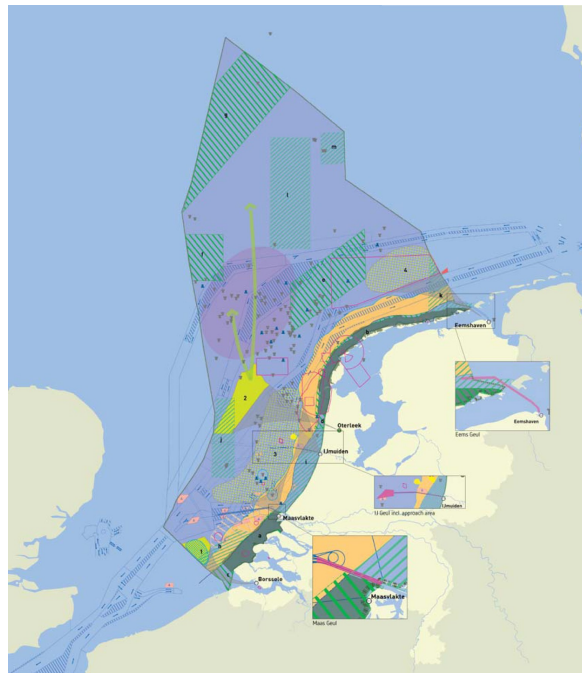
Il processo di pianificazione innescato dalla iniziativa ESSIM ha visto la partecipazione di un vasto panel di stakeholders come il governo, le attività industriali legate all'oceano e alle risorse, i gruppi per la protezione ambientale, le comunità costiere e la comunità scientifica.



Esperienze 2/4

Paesi Bassi – Piano di Gestione integrata del Mare del Nord

Nel 2005, l'Olanda ha strutturato il quadro per la pianificazione spaziale delle aree di propria competenza nel Mare del Nord, che copre un'area di circa 57.000 kmq, circa 1,5 volte la propria superficie terrestre. Il processo di pianificazione è stato stimolato dalla dal fatto che il spazi marini sono interessati da nuovi usi, come gli impianti eolici offshore. Mentre alcuni usi rimarranno stazionari, è previsto un incremento significativo per quanto concerne delle attività come l'estrazione minerale, attività sportive e ricreative, gli impianti eolici e la maricoltura, oltre alla necessità di individuare aree di zone marine per la protezione ambientale. Infine anche la crescente attenzione riguardo alla crescita del livello del mare dovuto ai cambiamenti climatici ha ulteriormente stimolato la discussione sulla pianificazione dello spazio marino.



Esperienze 3/4

Germania – Pianificazione del Mare del Nord e del Mar Baltico

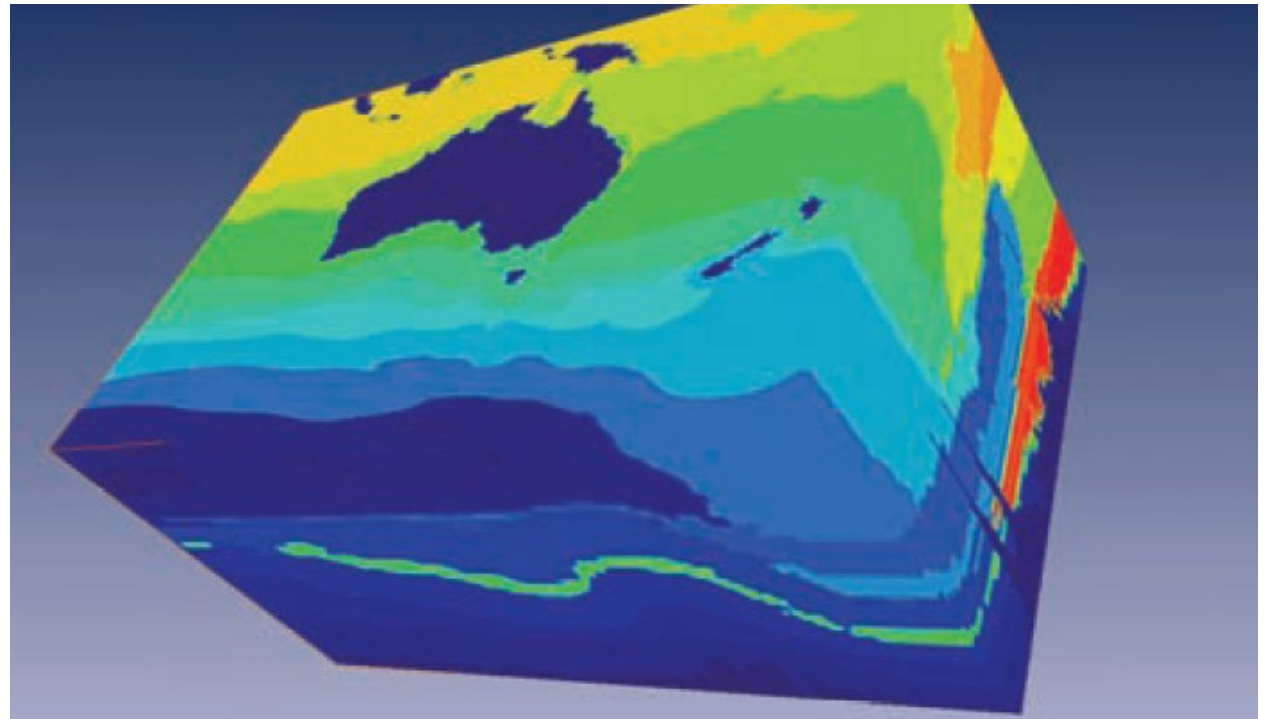
Nel 2007, l'agenzia federale marittima ha emanato il piano per gli usi degli spazi marini delle zone economiche esclusive del Mare del nord e del Mar Baltico, per circa 33.100 kmq. Il piano e' nato dall'urgenza di rispondere alle numerose proposte di vasti impianti di produzione di energia eolica off shore, che sarebbero potuti entrare in conflitto con altri usi (trasporti navali) e con la sopravvivenza di alcuni ecosistemi.



Esperienze 4/4

Australia - National Marine Bioregionalisation of Australia

Sin dal 2000, l'Australia ha utilizzato il concetto di bio-regionalizzazione delle zone marine come base per lo sviluppo della pianificazione degli spazi marini. La bio-regionalizzazione descrive i pattern spaziali degli ambienti marini (bentonici e pelagici) al fine di elaborare un piano per gli spazi marittimi. L'obiettivo è quello di definire una pianificazione che si basi su un approccio ecologico e che utilizzi le unità di gestione definite in base alla bio-regionalizzazione, anche al fine di individuare le aree di protezione ambientale e gli usi compatibili con le differenti unità. L'obiettivo considera anche la definizione di un quadro di lavoro per la valutazione ambientale delle politiche, per l'uso sostenibile degli ambienti e delle risorse marine.



Organizzazione e struttura del master

Moduli didattici

- **Modulo 1: Maritime planning experiences;**
- **Modulo 2: The law, rules, regulations and instruments on maritime planning management;**
- **Modulo 3: Maritime geography and ecumen ocean;**
- **Modulo 4: Marine and coastal environment;**
- **Modulo 5: Technologies and Geographical Information Systems;**
- **Modulo 6: Uses and activities;**
- **Modulo 7: Developing scenarios of integrated planning;**
- **Modulo 8: Guidelines for a sustainable maritime development;**
- **Modulo 9: Internship.**

Organizzazione e struttura del master

Modulo 1 - Maritime Planning Experiences

The module offers students the chance to hear maritime experts address various issues and to come in contact with European and international planning experiences. The course examines the relationship between strategies and planning systems, the effectiveness of regulatory procedures, the management and development of international cooperation.

Important experience (just to cite some of the most significant ones) includes:

- Mediterranean Action Plan, UNEP/MAP;
- Demonstration Programme on Integrated Coastal Zone Management (ICZM);
- INTERREG IIIB CADSES Project Plan Coast, the Region of Emilia Romagna;
- INTERREG IIIB projects BALANCE, BaltCoast;
- INTERREG IVB project BaltSeaPlan;
- INTERREG IVB project funded by the North Sea programme, called Northern Maritime University (NMU)¹;
- European Network on Coastal Research (ENCORA) 2006);
- Belgian Part of the North Sea, GAUFRE Project;
- Canada's Ocean Act and Eastern Scotian Shelf Integrated Management (off the coast of Nova Scotia);
- HELCOM Baltic Sea Action Plan, Helsinki Commission;
- OSPAR work on MSP;
- The Trilateral Wadden Sea Cooperation;
- Spatial Planning in the German Exclusive Zone of the North Sea, BSH.

An information system will be updated during the EMMC activities.

Organizzazione e struttura del master

Modulo 2 - The law, rules and regulations, and instruments on maritime planning, programming, and management

To date, maritime and coastal policies have been fragmented. At times such fragmentation has resulted in the adoption of contradictory measures, making the picture complex and disunited. The module outlines the main legal systems, the instruments and the legal problems. It also deals with some of the themes that have helped generate this discipline (for instance environmental conflicts and natural disasters).

The module covers the following areas:

- Conflicts and disasters: the origin of the doctrine;
- European environmental policy (with special reference to marine environments);
- European marine and coastal legislation (binding for Member States)¹;
- EU Integrated Maritime Policy;
- International Conventions, with special focus on Conventions to protect marine environments and Mediterranean coastal regions (the Convention of Barcelona²) and the United Nations Convention on the Law of the Sea (UNCLOS)³;
- EU environmental law;
- Differences between the legal, administrative and planning systems of the main European countries;
- Changes of environmental policies in European countries;
- Voluntary approaches and self-regulation;
- Public administration and the environment;
- International and national laws on the use of the sea.

Organizzazione e struttura del master

Modulo 3 - Maritime geography and ecumene ocean

The maritime area with its history is the first issue to be addressed to understand, plan and manage the maritime area both in its oceanic and coastal aspects.

The module covers the following areas:

- Physical geography of maritime spaces ;
- Biogeography of marine spaces ;
- Human and economic geography of maritime spaces.

Organizzazione e struttura del master

Modulo 4 - Marine and coastal environment

With the knowledge acquired from this module, in-depth issues on the state of the marine environment (the weather, quality of the water, the condition of the ecosystem) can be developed in relation to its different uses.

The module covers the following areas:

- Forms and processes in the coastal marine area;
- Elements of marine geology and Geodynamics;
- Elements of sedimentology and marine stratigraphy;
- Elements of physical oceanography and coastal oceanography;
- Coastline dynamic;
- The sea and climatic conditions (the effects of sea level variations, catastrophes);
- The dynamics of marine and coastal ecosystems;
- Identifying the resources;
- Studying the processes and driving forces that affect the dynamics of marine populations;
- Methods to identify stock and evaluate their number;
- Direct and indirect effects of exploitation, assessed from an ecosystem perspective;
- Defining the ecological value of marine zones using ad hoc indicators;
- Modelling future trends.
- The new tools to better understand the use of the seas, how human activities influence the conditions of the seas and how those influences can be properly managed.

Organizzazione e struttura del master

Modulo 5 - Spatial analysis, mapping and modelling through Geographical Information Systems and new technologies

The module teaches how to plan, design and manage spatial information systems (database, remote sensing, GIS and GPS). Because of the importance of spatial information systems, the module sets out to build solid technical skills, especially the processing of spatial data, acquiring skills in the field of ICT, developing design methods on information systems, integrating implementation skills for spatial governance (mapping conflicts, planning land use, etc.). In addition, essential elements to build an integrated product (multi-user and multi-purpose) are also provided to describe the relationship between biotic and abiotic resources and their current management system.

The module covers the following areas:

- Conceiving spatial data (land and marine);
- Mathematics, geometry and physics for spatial information;
- Geodesy and GIS;
- Spatial analysis and statistics (geo-statistics and alo-statistics);
- Remote sensing and image processing;
- Oceanic and coastal models;
- Models and morphology of spatial data (land and marine);
- DBMS for spatial data (land and marine);
- GIS: platforms and architectures;
- Sensors, interoperability and spatial integration models (land and marine);
- Positioning systems in marine environments;
- Operational oceanography and decision support system.

Organizzazione e struttura del master

Modulo 6 - Uses and activities: resources, marine use patterns and environmental changes

The goal is to grasp the underlying economic rationale behind marine use, namely the exploitation of sea resources in a broader sense, with particular focus on: renewable energy (tidal, wind and wave), fisheries, navigation, sediment extraction, CO2 stocking, filling and restocking the shoreline, cable, pipeline and platform installation, building artificial islands, tourism and recreational activities, production of fossil fuel power, ports, scientific research and military activities.

The module covers the following areas:

- the benefits of MSP to the ecosystem and related methodology;
- The value of resources (economic and non economic);
- The rules, the conflicts on the uses, the effects on the availability of resources and its enhancement;
- Integrated Coastal Zone Management (ICZM) as a component of MSP: principles, prospects and problems;
- Statutory and non-statutory plans (voluntary plans): environmental management(land and marine);
- Ports and the environment (access, navigation and shipping, maintenance, risk management, dredging, soil remediation, etc.);
- Cruiseships and local and offshore effects of large vessels;
- Maritime tourism and environmental management;
- Climate changes, adaptation and mitigation;
- Defence systems;
- Off-shore energy (cables and pipelines, wind parks, artificial islands, wave and tidal);
- Acquaculture as a sustainable activity;
- Fishing;
- Marine protected areas.

Organizzazione e struttura del master

Modulo 7 - Scenarios and strategies of integrated planning

Based on the availability of resources, on the mode and on the conflicts in using a resource, strategic scenarios are drafted to protect and improve marine space. The previously studied topics will be applied to the case studies.

The aim is to conceive plans centred on the following phases:

- Evaluating critical issues and conflicts that arise in maritime spaces;
- Developing scenarios and strategies;
- Integrated and pluralistic evaluation.

Organizzazione e struttura del master

Modulo 8 - Design for maritime environments: methods and techniques

The module explores the methods and techniques in conceiving policies and physical design of maritime environments. Some of the salient aspects include the need to optimize spatial distribution of economic activities to reduce the conflicts arising from the use of a resource and improve management effectiveness. The project centres on such factors as climate changes, the exploitation of resources, pollution and the impoverishment of ecosystems.

Guidelines involve the following themes:

- Analytical framework: meta data, legends and standards, certifications;
- Natural dynamics and conflicts;
- Planning, regulations, concessions (transport infrastructures and facilities etc.);
- Forecast models, simulation models, gaming and conflict resolution;
- Analysis and risk evaluation (danger, vulnerability and exposure);
- Measuring, assessment of the damage;
- Adaptation and mitigation strategies;
- Planning documentation: spatial schemes, legislation, implementation instruments, control and management;
- New ICT technology and monitoring of the sea;
- Searching for synergies between activities, developing clusters and networks.

Organizzazione del Master – quattro trimestri

Issues from the MSP experiences (temi e questioni dalle esperienze di MSP)

Primo trimestre, identificazione dei temi e delle questioni del MSP, con enfasi sul Modulo 1, MPEs (Maritime Planning Experiences), e sul Modulo 5, GIS (Technologies and Geographical Information Systems);

Legal Frames (quadro regolativo)

Secondo trimestre, enfasi sul Modulo 2, (LAW);

Internship

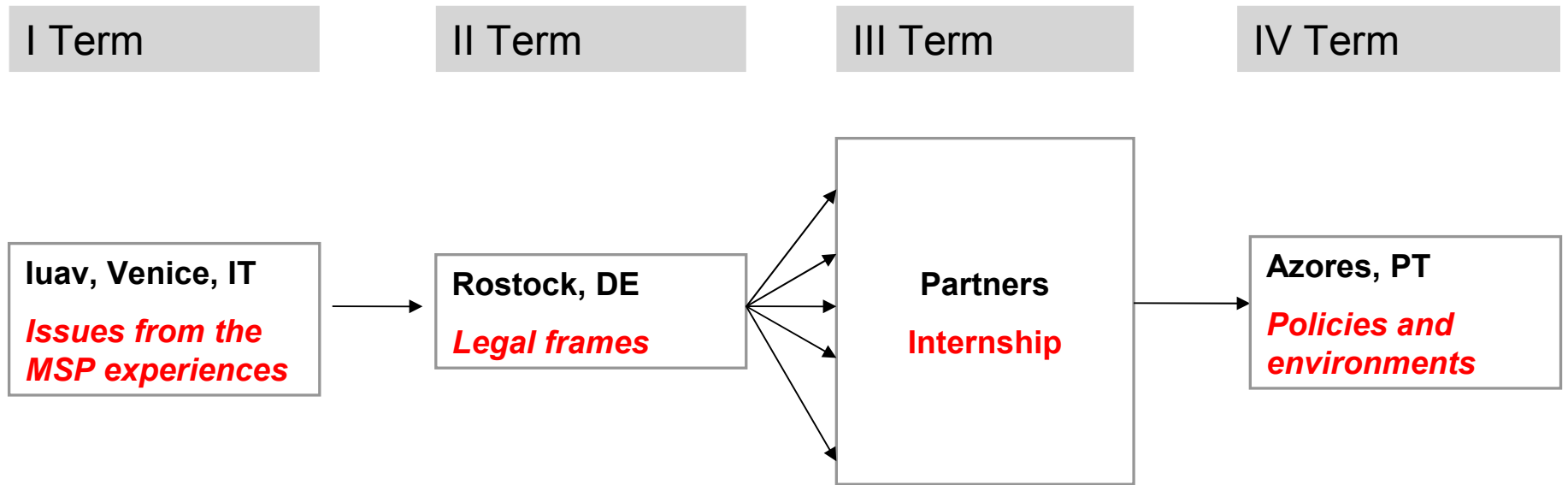
Terzo trimestre, organizzazione del master con la collaborazione degli enti di ricerca e degli enti ospitanti.

Policies and environments (Politiche e ambienti)

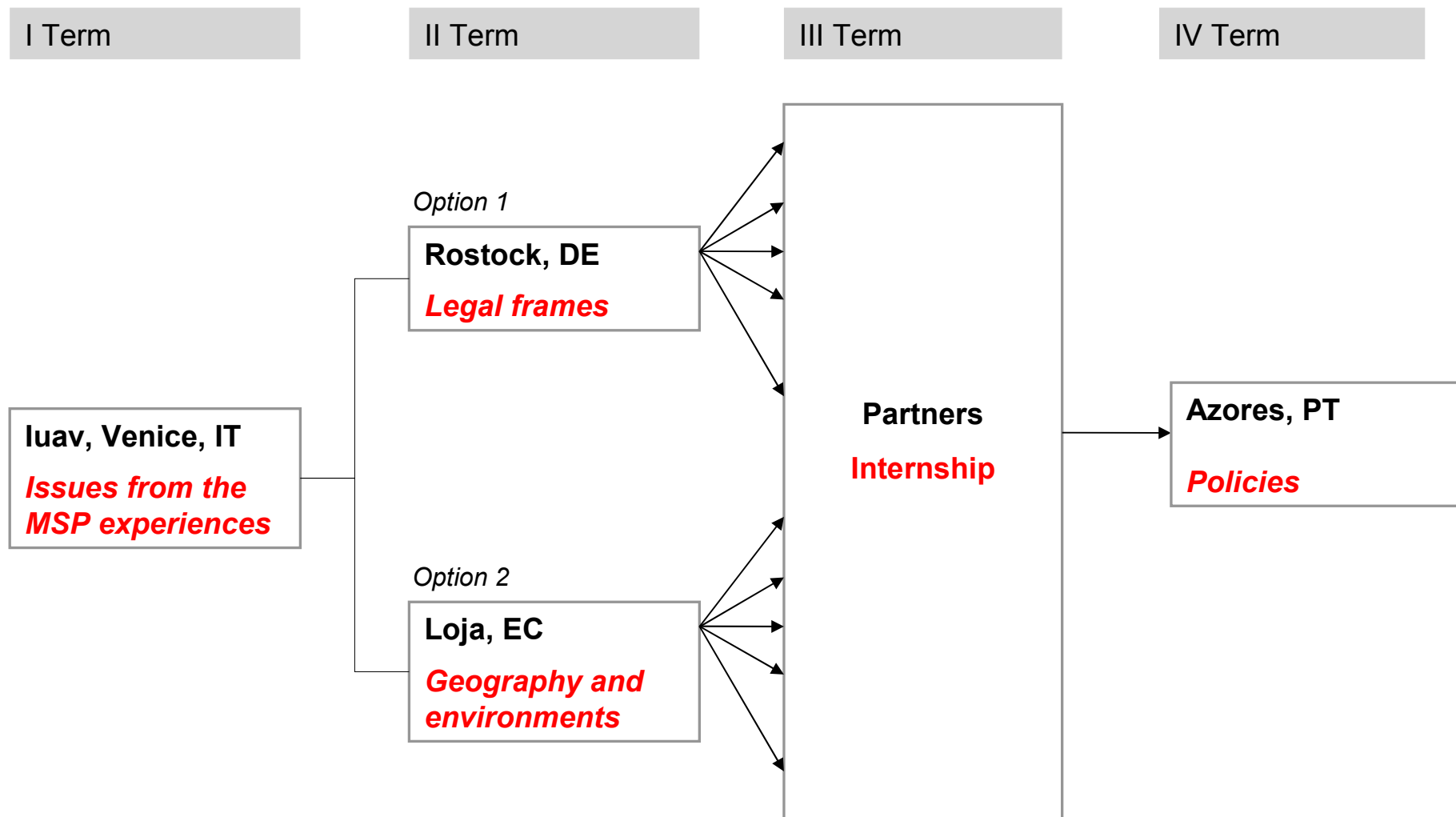
Quarto trimestre:enfasi sui moduli 6 and 7 (rispettivamente USES and STRATEGIES), laboratorio progettuale sul MSP.

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Organizzazione del Master - Prima Edizione 2011/2012



Organizzazione del Master - Seconda Edizione 2012/2013



International Master Erasmus Mundus in Maritime Spatial Planning (MSP)

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