LEADERSHIP
Skills of tomorrow in the European maritime sector

SHIPBUILDING AND MARITIME TECHNOLOGY
PACT FOR SKILLS

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INTRODUCTION

About the Shipbuilding & Maritime Tech Sector

- +300 Shipyards and 22.000 equipment and service suppliers (€ 125bn annual production value)
- +1million jobs linked to building + repair of ships and offshore structures
- Highly skilled workforce (35% HE/Engineering, 60% VET and technical education)
- Global leader in the design, construction, maintenance and retrofitting of high- tech vessels (civil and military)
- Front runners in delivering the most advanced maritime equipment and tech (+50% global sales)
- Strategic manufacturing industry for Europe
  - Smart and sustainable mobility & decarbonisation of waterborne transport
  - Defence and Security
  - Offshore strategy

SHIPBUILDING & MARITIME P4S: MAIN GOAL AND PARTNERS

Goal: ATTRACT, TRAIN AND RETAIN TALENT to reinforce the competitiveness of the industry by:

- ❑ Up- and re-skilling 200.000 workers (7% employees/year until 2030)
- ❑ Attracting 230.000 new talents
- ❑ Mobilising 1bn€ of public/private investment

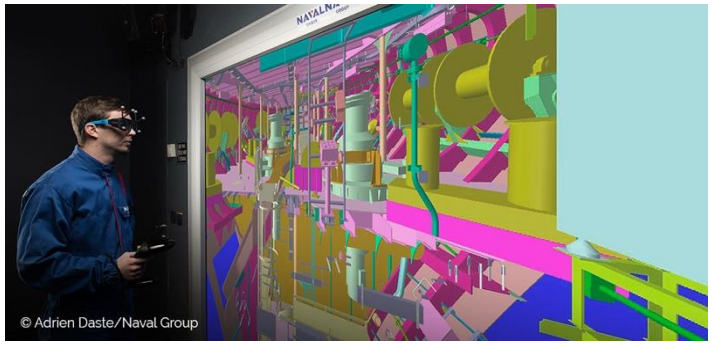
- ✓ Industry-led partnership
- ✓ Strong industry & social partners engagement
- ✓ EU wide (16 countries)
- ✓ Main Shipbuilding Groups + SMEs
  - Newbuilding
  - Repair and Retrofitting
  - Civil and Military shipbuilding
- ✓ Regions and clusters
- ✓ Education providers

industriAll EUROPEAN TRADE UNION
DAMEN
FINCANTIERI
MEYER TURKU SHIPYARD 1737
GICAN
Foro Marítimo Vasco
NAVAL GROUP
Navantia
Danish Maritime
ASTICAN
CHANTIER NAVAL DE MARSEILLE
LISNAVE ESTALEIROS NAVAIS, S.A.
MYKLEBUST
Deusto
CETENA
TURKU AMK TURKU UNIVERSITY OF APPLIED SCIENCES
UNIVERSITAS GALATIENSIS
SIMAC Svendborg International Maritime Academy
CAMPUS DES MÉTIERS ET DES QUALIFICATIONS Économie de la Mer Provence-Alpes-Côte d'Azur
Møre and Romsdal County Council
UNIVERSITÀ DEGLI STUDI DI GENOVA
Campus de Industrie Navale
STC GROUP LEADING IN LEARNING
CIFP Ferrolterra
mare FVG
solisform
ACLUNAGA
ThyssenKrupp
ThyssenKrupp Marine Systems
Universidad del País Vasco Euskal Herriko Unibertsitatea The University of the Basque Country
ceemet European Tech & Industry Employers
CPMR CRPM Conference of Peripheral Maritime Regions
SEA Europe Shipyards' & Maritime Equipment Association

REASONS FOR JOINING THE PACT

- Need of adapting skills to the Shipyard 5.0 and digitalisation of design and production processes
- Green Deal and industry's goal and responsibility to deliver the first zero emission ships by 2030
- An ageing workforce. 40% of the current workers will be retiring in the next 10 years.
- High mobility of workers: need to ensure a highly skilled EU-wide supply chain
- Scarcity of sectoral training offer and the difficulty to adapt it to the fast-changing needs of the industry
- Company training and in-house "shipbuilding schools" to overcome the shortage of training and skills
- Difficult to attract talent to the sector and to find people with sectoral skills.

Industry sees the need for a coordinated EU-level strategy and EU-level training to reach out the entire supply chain



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COMMITMENTS

1. **Skills Analytics:** All partners cooperate on Skills and Employment Analytics and anticipating skills, training and workforce needs
2. **Improve sectoral education and training offer**
   - Develop a sectoral **EU Qualifications Framework** for the recognition of training, skills and qualifications -> facilitate mobility, contracting and cooperation between E&T
   - Develop a **European network of sectoral VET** centres which can share information, develop joint training courses and facilitate the mobility of students –in close relation with companies
   - Develop **Master and specialisation programmes** and modules at HE institutions to support the specialisation in shipbuilding / maritime tech domains
3. **Up and re-skill current workforce**
   - **Develop and pilot common training** for up and re-skilling workers (specialisation courses, micro-credentials): e-learning + WBL
   - Develop European **MOOCs** open to workers in several companies and countries: digital and green skills, OHS, soft skills
   - Promote and facilitate company and **intercompany training**
   - Identify best practices and financing possibilities to **facilitate training from big Companies to SMEs** and suppliers.
   - Identify **financing possibilities**
4. **Attract talent to the industry**
   - Promote and facilitate **apprenticeships** in the Industry (including SMEs)
   - Coordinate collective campaigns and actions for the **promotion of career opportunities**, international student contests, etc

SEA Europe
Shipyards' & Maritime Equipment Association

PROJECT

CHALLENGE 45

The Project Consortium

4 COUNTRIES
8 PARTNERS

The project at a glance: aim and structure

The specific objective of CHAlleNGE 4S project, lasting 24 months, is to foster the upskilling and reskilling opportunities for people at working age in the maritime and shipbuilding sector.

WP1

Project Management & Quality

WP2

Training gap analysis and design 4S

WP3

Prototyping, Testing & Implementation

WP4

Valorization & Dissemination

PROJECT CHALLENGE 4S

TRAINING CATALOGUE

ENGLISH ITALIAN SPANISH PORTUGUESE FINNISH

GREEN TRANSITION	DIGITAL TRANSITION	TECHNICAL AREA	TRANSVERSAL AREA

A catalogue of upskilling and reskilling training modules for people of working age in the Maritime and Shipbuilding sector.
The modules will be tested during the project piloting stage in Finland, Italy, Portugal and Spain, letting the providers free to adapt the contents and the delivery mode (face-to-face, blended, online).

6	upskilling courses
6	reskilling courses
3-6	EQF level
8 h	minimum duration

PROJECT CHALLENGE 4S

TRAINING CATALOGUE

ENGLISH

ITALIAN

SPANISH

PORTUGUESE

FINNISH

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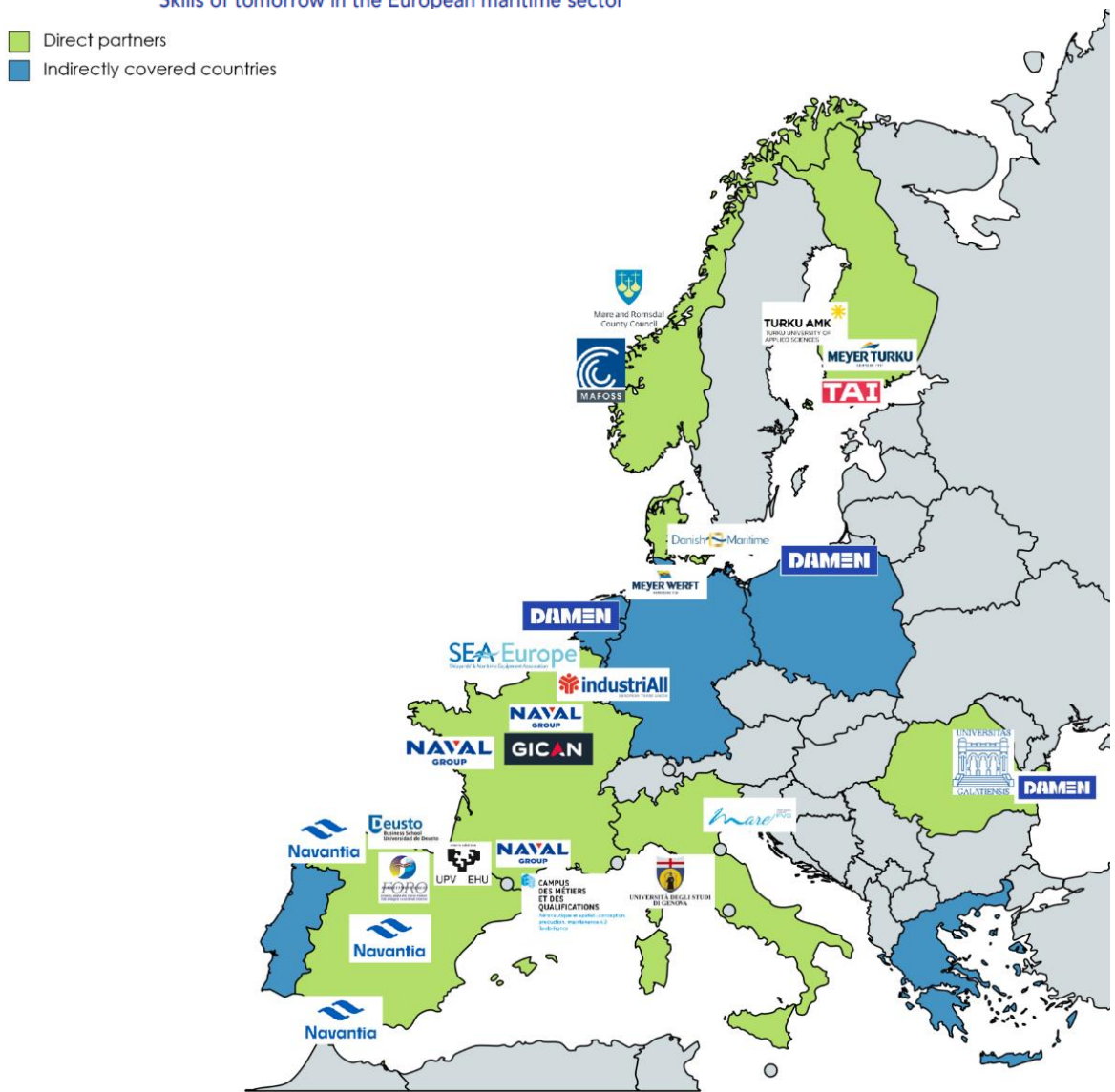

- Maritime technology and shipbuilding are among Europe's most strategic industries. Maritime technology industry is a relevant source of employment and growth.
- **The LeaderSHIP** brings together main shipbuilding and maritime technology industry leaders, regional clusters and education providers
- **LeaderSHIP project** aims as well to enlarge and strengthen the existing large-scale partnership by engaging stakeholders across regional maritime ecosystems and support Shipbuilding Pact for Skills Initiative

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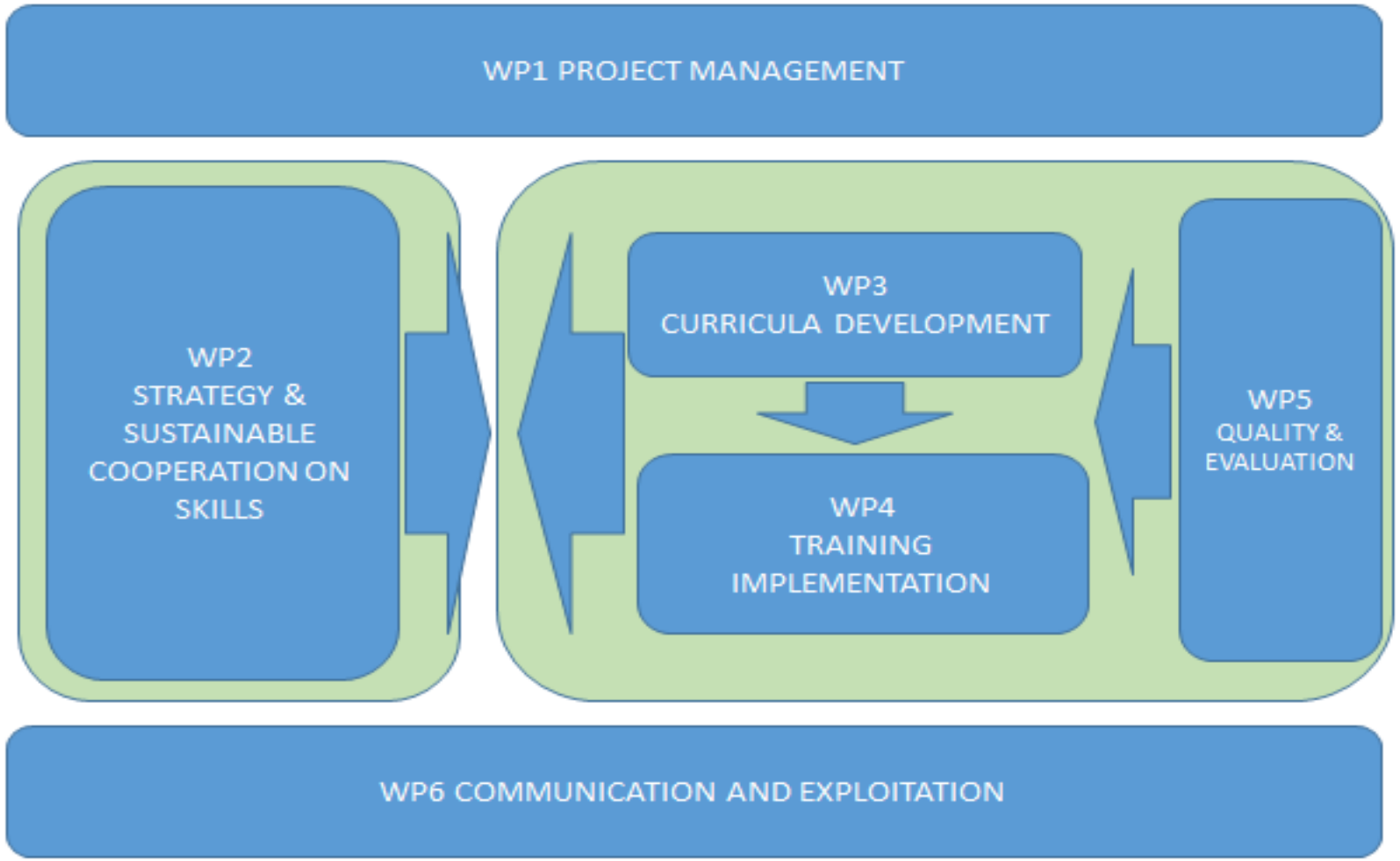

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Activities

Strategic and sustainable cooperation on skills

- Strengthening the Shipbuilding and Maritime Pact for Skills large scale partnership
  - Mapping of the regional ecosystems
  - Engaging stakeholders of the regional ecosystems in the Pact for Skills
- Enhancing business-education and inter-company collaboration
- Mapping upskilling and reskilling support and financing schemes
- Developing a **sectoral skills strategy**

Curricula Design

- Gathering information on urgent skills gaps and emerging occupations and skills (digital, green)
- Elaborating New Curricula for future skills & Develop training courses to rapidly addressing urgent skills needs training
- External validation and registration of the curricula & Promoting sectoral qualifications

Planning and implementing the training activities

- Develop training/learning methodologies and technologies
- Piloting training courses /training programmes, including different trainings methods: Classroom trainings, E-learning methodology /tool (MOOC), WBL and blended learning
- Develop activities to facilitate transfer and recognition of knowledge and skills including work-based learning, and facilitate the validation of skills and competences acquired prior to training

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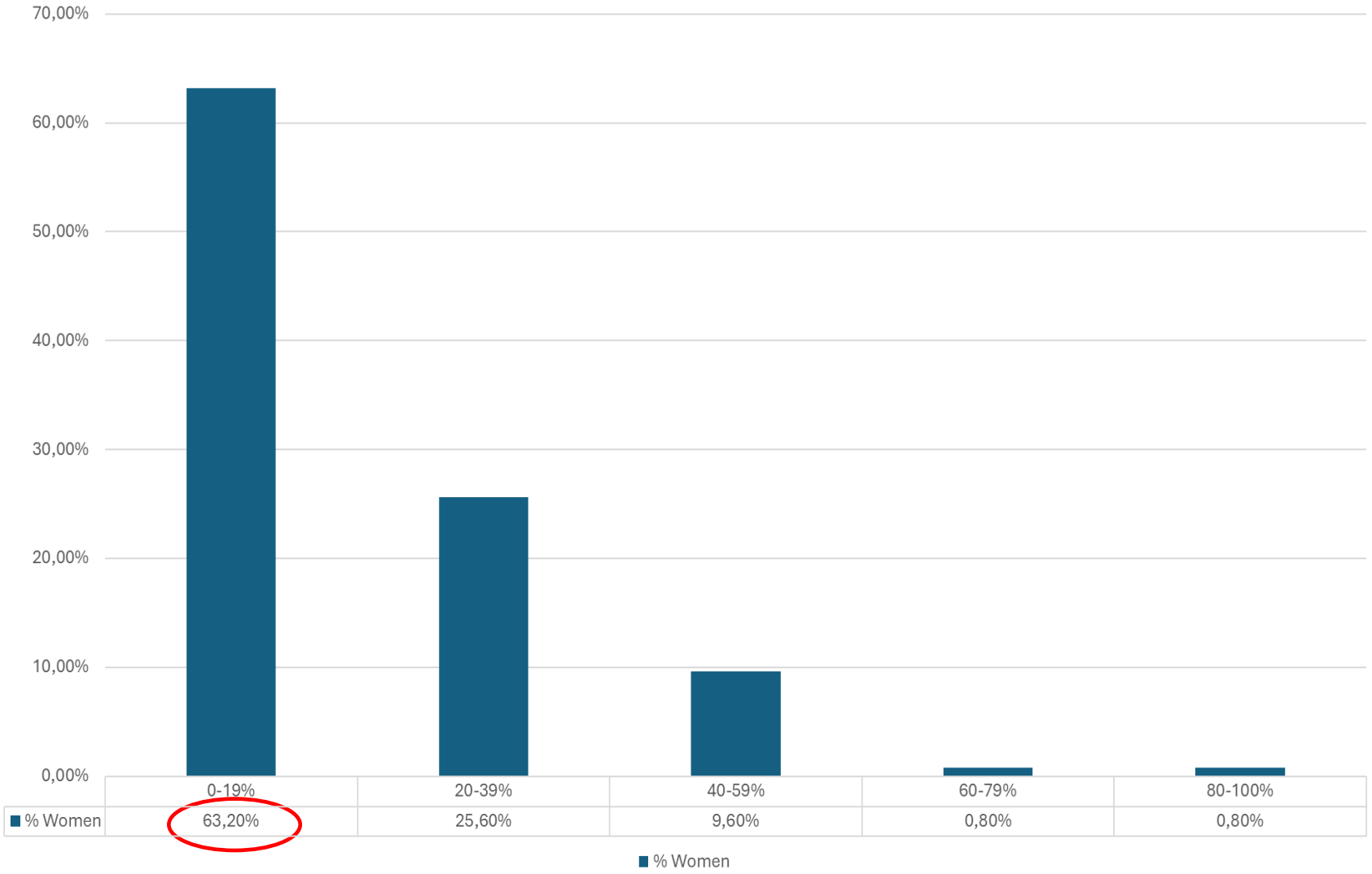
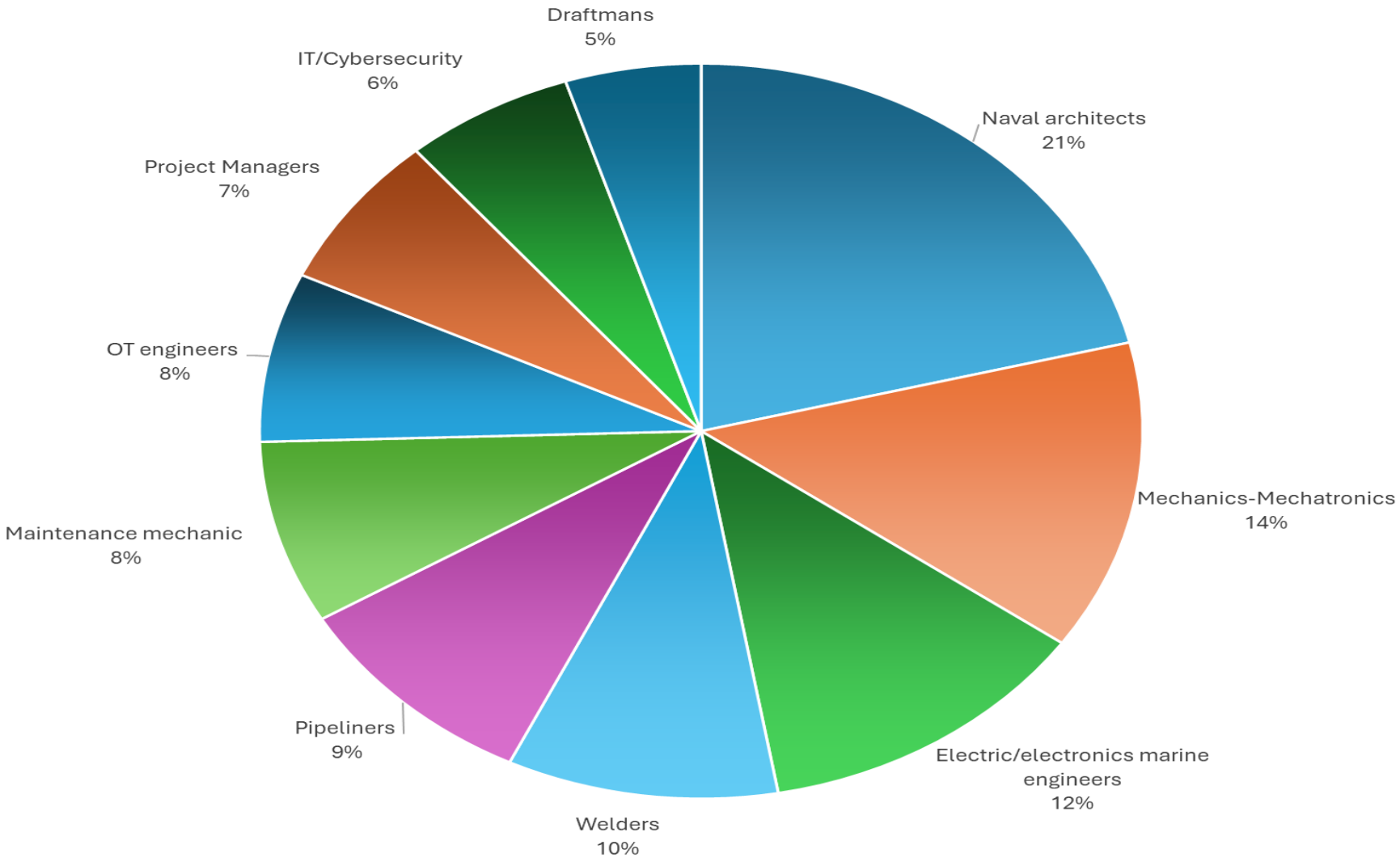
Percentage of women in technical position



63.2% of respondents reported having between 0 and 19% women in technical positions, showing a significant underrepresentation of women in most organizations in the sector.

This analysis highlights a significant gender disparity in the sector's technical workforce, **with a strong need for initiatives to boost women's representation in these roles.**

Profiles not available in the labour market

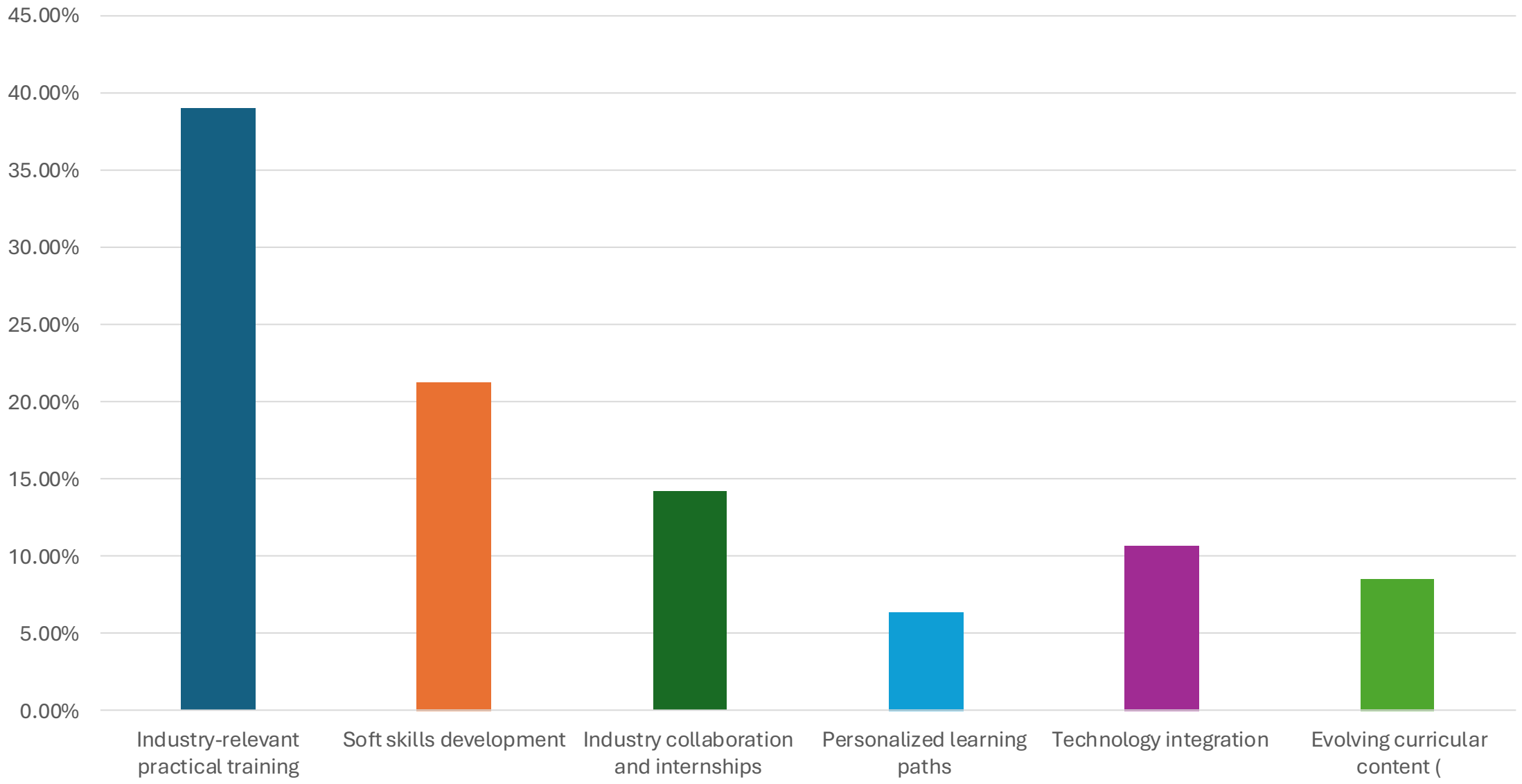


The analysis of the survey data indicates that **the demand for positions at lower EQF levels is just as significant as that for higher-level roles.** This highlights the **need to redesign training programs for key technical roles** such as welders, pipeliners, draftsmen, boilermakers, and logistics experts to align with the new technologies and practices emerging in the shipbuilding and nautical sectors.

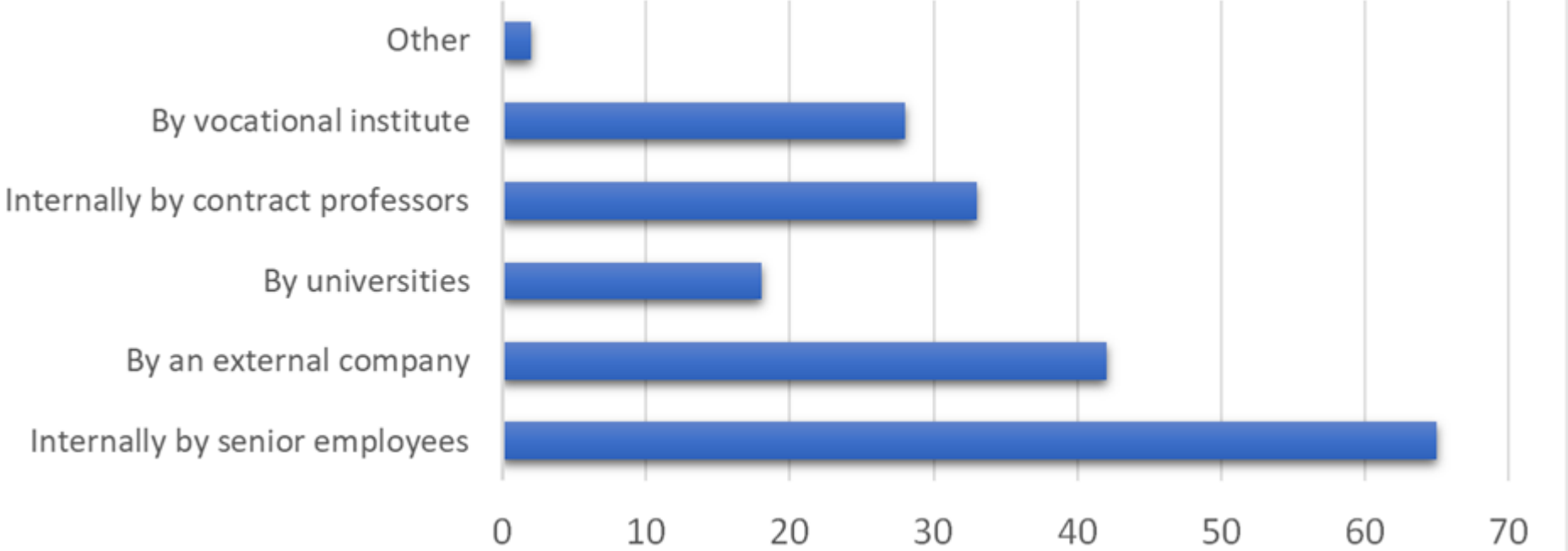
Skills needed

Mechanics	5
Maintenance	5
Ship technology	4
Welding	3
Maritime cybersecurity	3
OT digital design	3
Data sciense	3
Connectivity/IoT	3
IT/programming	3
Languages	2
Logistic	2
Structural calculation	2
Pedagocical skills	1
Virtual twins	1
MBSE	1
Collaboration	1
RF signal processing	1
Drawing interpretationd and production	1
Hookers	1
Fishing	1
Survey skills	1

What is missing in the current educational offering



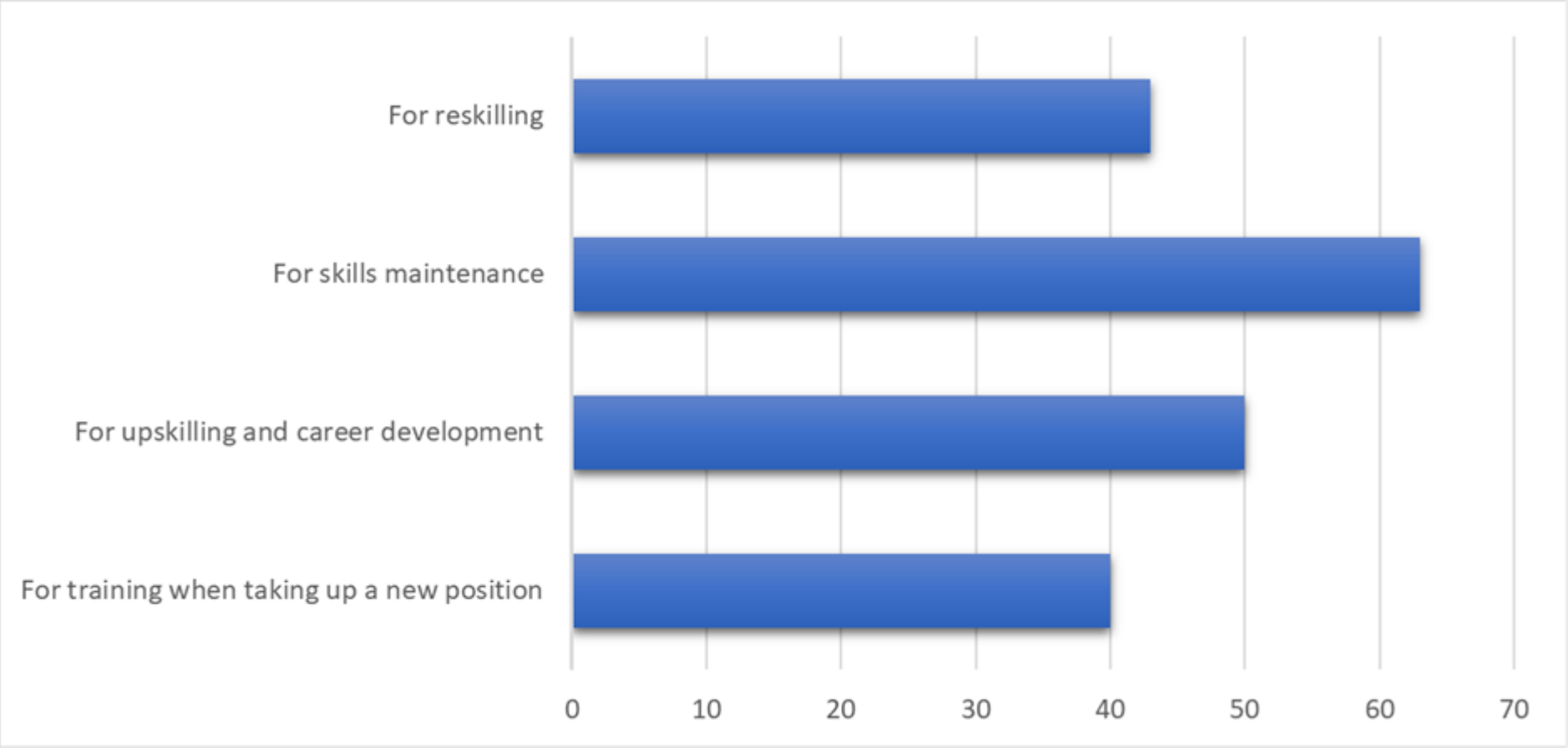
Who delivers the training program?



More than 50% of the replies favour **internal training methods**.

The preference for internal training reflects a strategic approach to leveraging existing talent and resources within the organization

Primary objectives of the training courses offered



Predominant focus is on maintaining already acquired and consolidated skills.

While this approach is important for sustaining operational efficiency and quality, it reveals **a potential gap in addressing the evolving needs of the industry.**

LeaderSHIP Training: What is delivered

- **Purpose and scope**

The LeaderSHIP Plan of Training translates the sectoral skills analysis into concrete training actions for the European shipbuilding and maritime technology sector. It is conceived as a living and adaptive roadmap, not as a fixed catalogue of courses, allowing the training offer to evolve in line with technological developments and industry needs.

- **Basis of the training offer**

The training is grounded in a sector-wide survey and identifies both urgent skills shortages (e.g., welders, electricians, pipeliners, boilermakers, naval architects) and emerging needs linked to the green and digital transitions (alternative fuels, digitalisation, automation).

- **Structure of the training**

The consortium offers 35 pilot training courses, covering EQF levels 3–8 and organised into four thematic areas:

1. *Green Transition & Sustainability*
2. *Skilled Trades & Vocational Excellence*
3. *Advanced Engineering & Digitalisation*
4. *Transversal Skills for Project & Team Performance*

The pilots are delivered by universities, VET providers and industry partners, using face-to-face, online, blended and work-based formats, and are designed to be directly applicable to real shipbuilding contexts.

LeaderSHIP Training Methodology: How training is delivered

- **Learner-centred methodology**
  The LeaderSHIP training methodology is based on the **Deusto Educational Model** and **Bloom's Taxonomy**, promoting active learning, critical thinking and the application of knowledge in real maritime and shipbuilding environments.

- **Five-step learning–teaching cycle**
  1. **Experiential context** – training starts from learners' background, experience and real-life work situations
  2. **Reflective observation** – learners reflect, question and analyse gaps between existing and required competences
  3. **Conceptualisation** – introduction of theoretical frameworks, principles and methods
  4. **Active experimentation** – application through exercises, projects, simulations, internships or case studies
  5. **Assessment & feedback** – self-reflection, formative feedback and summative assessment leading to validation or certification where relevant

- **Quality and coherence**
  The methodology integrates Bloom's cognitive, affective and (for VET) psychomotor domains, and is supported by common frameworks (syllabus templates, evaluation tools, satisfaction surveys). A **train-the-trainers course** was delivered to ensure a shared and consistent application of the methodology across all pilots.

Collectively design, test and implement new education and training programs towards a greener and digitalised shipbuilding

Our results 2025-2026

LEADERSHIP

Piloted courses and trainings

- Sheet metal welder apprenticeship pilot program
- Preparatory welding course
- New welding aspects in shipbuilding
- Ship machinery in cold climate
- Introduction to alternative fuels in maritime transport
- Introduction to sustainable shipbuilding
- Marine technology and offshore energy
- Analysis of naval structures using the finite element method
- Yacht glazing: sustainable material design and certification in modern shipbuilding
- Methodology for supporting green transition in the martitime industry
- IoT concepts, architectural principles and maritime applications
- Operational lean

Other trainings under construction

- From design to dismantling
- Introduction to Arctic shipbuilding
- Experimental methods for naval and nautical aerodynamics
- Hull building strategies
- Energy demand and consumption in ships

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Visit our website https://leadership4skills.eu/
and LinkedIn page LeaderSHIP4Skills!

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If you have not done so yet.....

Register to the Shipbuilding Pact for Skills

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