



Lifelong
Learning Programme



PROJECT EPCRA

PROFESSIONAL EUROPEAN
CERTIFICATION FOR ROPE ACCESS

Project N° 2013-4329/539262-LLP-1-2013-1-FR-Leonardo-LMP



Lifelong Learning Programme



MODULAR TRAINING PROGRAMME FOR ROPE ACCESS TECHNICIANS



Tindai
Formación, Prevención y Seguridad en Altura



This project has been funded with the support from the European Commission. This publication reflects the views only of the author and the commission cannot be held responsible for any use which may be made of the information contained therein.

SUMMARY

INTRODUCTION

PROJECT PRESENTATION

COMPETENCY BASED APPROACH

METHODOLOGY

MODULAR ARCHITECTURE

DESCRIPTION OF THE TRAINING MODULES

LINKING THE TRAINING MODULES AND CERTIFICATION UNITS

1. INTRODUCTION

This document was drawn up in the project « Establishment of a European certification» funded by the European Union through its sectoral programme Leonardo Da Vinci.

The main purpose of this project is to create a “European Certification” adapted for rope access technicians in the European Qualifications Framework.

Indeed, in the four partner countries, Germany, Spain, France and Norway, there are certifications recognized at national level whose formalization is sometimes incomplete or imperfect.

Preliminary meetings to the project enabled the establishment of a working group where the main objective is to analyse national certifications in each of the 4 countries.

This approach has established correspondence between various certification levels for each of the partner countries identifying potential differences or specific needs related to the culture, professional rope access backgrounds, or the types of worksites.

This work allowed partner countries to get to know each other better and to decide the draft common reference points defining the professional skills of a rope access technician irrespective of the European country in which he may work.

A consortium has been constituted with the four partner countries.

Each country is represented by three categories of partners:

- Representatives of businesses in the Rope Access sector: employer organizations made up of rope access companies across a wide variety of sectors: public works, Industry, Offshore, Energy, Events, Cleaning
- Professionals in engineering of competences or techniques on ropes
- Long life training organizations with expertise in training engineering

The aim of these partners is to create, at European level, a certification validated by these four countries to change and recognize the required skills for rope access.

This certification is composed of:

- A Referential for Professional Activities (RAPC), including descriptions of the functions, activities, tasks, conditions of realization, as well as training results in terms of knowledge, skills and competences.
- A Referential of Certification (RC), including certification units, modules grid of the training programme, ECVET credits, access conditions to AWE, Europass certificate supplement.
- Modular training programmes for rope access technicians.
- Trainers training programme.
- Jury members training programme.

These referential have been elaborated according to Competency-Based Approach (CBA).

2. PROJECT PRESENTATION

Rope Access Technician, a versatile profession

A rope access technician is a person who achieves a safe work position or in areas of difficult access using ropes.

The career of the Rope Access Trade has become more professional over time and today the rope access industry is a flourishing sector in which security is the key component. The field of intervention of the Rope Access Technician extends to all sectors of Public Works, Building, Industry, Offshore, Energy, Telecommunication, Events and Cleaning.

This diversity of activities necessitates the rope access technician as well as the company that employs them to adapt traditional jobs knowledge to specific methods of intervention with rope whose practice requires a constant updating of techniques and ongoing professional training.

The rope access industry has become a key player in project management; it creates jobs, therefore professional organizations and companies are strongly committed in ongoing professional training for so many years.

This diversity allows rope access technicians to expand their area of skills, or enhance traditional job knowledge that may be required on certain interventions such as: rope access welder, rope access mason, rope access driller, etc.

Objectives and work

The end result is to create, using the experience of Europeans countries, « European Certification» adapted to rope access technicians and in compliance with the European Qualifications Framework.

The tools created are:

A reference for professional activities and skills of rope access technicians

A certification standard in compliance with the EQF, which incorporates the accreditation of work experience.

A modular training programme for rope access technicians

A trainers training programme allowing the transfer of new references and training programmes to trainers.

A training programme for assessors (jury members) allowing company leaders, employees and trainers to integrate certification criteria and modalities.

These tools have been tested and piloted in each country during the project.

This new certification contributes to the promotion and harmonization of the rope access technicians skills and will be extended to countries wishing to join in this process.

Consortium: Partners

Constitution of the consortium:

- ✓ GIPFIPAG in France, is responsible of the general coordination of the project
- ✓ National professional organizations in rope access work of four countries :
 - SFETH for France
 - ANETVA for Spain
 - FISAT for Germany
 - SOFT Sertifisering for Norway.
- ✓ Training organizations of three countries:
 - GRETA VIVA 5 for France,
 - TINDAĬ for Spain
 - SEILPARTNER GmbH for Germany
- ✓ An external auditor: CDI in Bulgaria responsible for the evaluation and quality assurance.

3. COMPETENCY BASED APPROACH

The trainers have developed an approach to think of "training as a lever for economic performance", the so called competency based approach.

The competency based approach is a methodology that gives meaning and legitimacy to adult professional training practices. It consists in articulating current and emerging professional activities in a given profession to the training of the holders of this trade so that training experiences turn into operational competencies on the job.

This aspect results in the creation of new competences for trainers. The field of training engineering.

In the course of the project training engineering was defined as "totality of methods known from engineering used for training aspects".

Through this approach, the training engineering includes a set of methods, tools and criteria.

The stages are:

- Analysis of a working organization's needs in terms of competences, skills and knowledge.
- Translating this issue into training needs.
- Defining skills thus enabling the training to meet company's needs.
- Effecting assessments of the action on the issue, with a return of investment for both, employee and employer.
- Eventually, the achievement of corrections within a continuous improvement process.

To build this certification several engineering methods were used to create the Referential of professional activities and competences.

4. METHODOLOGY

It has been decided to establish an architecture using the the following points identified by the referential of professional activities and competences:

- modules linked to a single function
- modules linked to several functions

Each module contributes to achieve a complete or a part of a certification unit.

To respect the modular structure, the requirements show modules that might be concerned as well as certification units the modules refer to.

The following steps were taken to describe each training module:

- Integration of competences as described in the RAPC and rephrased as operational objectives
- Deduction of educational objectives from the defined operational objectives
- Description of the module content based on the educational objectives
- Development of performance criteria that allow definition of evaluation criteria and modalities for each module

Educational methods are mainly practical, but integrate the more theoretical modules in the context of rope access.

5. MODULAR ARCHITECTURE

Function 1 – Rope Access Working Techniques

M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
Personal and collective fall protection: technology and recommendations	Use of PPE against falls from a height: theoretical knowledge	Evaluate and rate mechanical forces and strenght of materials	Knots and rigging / given anchor points	Installation of fall arrest and restraint systems	Installation of rope access systems	Use of PPE against falls from a height: practical exercise	Rope access techniques	Ergonomic aspects	Handling moderate loads
T8 T9	T3 T6	T1 T2 T3 T9	T1 T2 T3	T2 T3 T4 T5	T2 T3 T4 T7	T6	T7	T5 T10	T9

Function 2 – Organizing And Managing Rope Access Operations

M11	M12	M13	M14	M15
Rules and regulations	Resource planning and risk assessment	PPE, tools and material: selection and inspection	Professional communication	Quality management, permanent improvement and problem solving
T11 T12 T13 T16	T11 T12 T13 T17	T11 T12 T13 T16 T4	T14 T15	T11 T12 T13 T16

Function 3 – Emergency And Rescue Operations

M16	M17	M18	M19	M20
Emergency evacuation: active participation in an evacuation process	Use of PPE against falls from a height: rescue scenarios	Rope access techniques: rescue scenarios	Auxiliary techniques for progression and self-rescue	Anticipating dangers
T18 T19	T22	T20 T21 T23	T25	T24

6. DESCRIPTION OF THE TRAINING MODULES



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Rope Access Working Techniques	M1 T 8/9 U1 / U3 / U6	Personal and collective fall protection: technology and recommendations	TECH	9 hours

Operational objectives	<ul style="list-style-type: none"> • Presentation of rules and regulations for work at heights • Definition and description of PPE and CPE • Explanation of functional and operational principles as well as limits of
Admission requirements	<ul style="list-style-type: none"> • None
Educational objectives	<ul style="list-style-type: none"> • Presentation of rules and regulations for work at heights • Read and understand markings and user instructions • Identify certified equipment for work at heights and equipment for recreational activities • Define the limits for PPE and CPE • Name various pieces of equipment and explain the functional principle • Describe safe use and limits of various pieces of PPE • Essentials of visual inspection of PPE • Identify deterioration and wear
Content	<ul style="list-style-type: none"> • European norms, rules and regulations • Definition of PPE and CPE • Combination of PPE and CPE on site • Components of a manufacturer's user instruction • Equipment markings and their meaning • Functional principles of PPE against falls from a height • Daily maintenance • Visual inspection on a daily basis • Detection of wear and deterioration and removal from service
Performance criteria	<ul style="list-style-type: none"> • Identification of protective equipment against falling • Description of function, functional principles and limits of use • Verification of operational safety and daily maintenance of used equipment
Educational methodology	Active and passive participation Theoretical and practical units

Evaluation criteria

Evaluation of practical and theoretical performance

Confirmation of achieved competences

Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Rope Access Working Techniques	M2 T3-T6 U1	Use of PPE against falls from a height: theoretical knowledge	TECH	3 hours

Operational objectives	<ul style="list-style-type: none"> • Identification of the exact position of the work place • Identification of permanent and temporary installations • Explanation of functional and operational principles of PPE • Respecting required fall clearance when choosing PPE against falls from a height
Admission requirements	<ul style="list-style-type: none"> • None
Educational objectives	<ul style="list-style-type: none"> • Presentation of rules and regulations regarding PPE against falls from a height • Explanation of functional and operational principles of PPE • Recognition of mutual influence of equipment used
Content	<ul style="list-style-type: none"> • National and European rules and regulations • Distinguish between rope access and use of PPE against falls from a height • Terminology: fall clearance, fall factor, shock load • Permanent fall protection installations • Temporary fall protection installations • Components of a manufacturer's user instruction • Equipment markings and their meaning • Functional principles of PPE against falls from a height • Visual inspection on a daily basis • Detection of wear and deterioration and removal from service
Performance criteria	<ul style="list-style-type: none"> • Identification of fall protection installations and choice of suitable equipment • Verification of operational safety and daily maintenance of used equipment
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Rope Access Working Techniques	M3 T1-2-3-9 U7-8	Evaluate and rate mechanical forces and strenght of materials	TECH	12 hours

Operational objectives	<ul style="list-style-type: none"> • Use of mathematic principles (rule of proportion, percentage calculation, • Estimate and evaluate forces and resultant forces to identify suitable techniques
Admission requirements	<ul style="list-style-type: none"> • Modules: M1
Educational objectives	<ul style="list-style-type: none"> • Use of mathematic principles (rule of proportion, percentage calculation, conversion) in connection with the work task • Terminology: carvature, compression, traction, plastic deformation • Definition of torque and influence on material and equipment • Correlation of opening angle and resultant force • Mechanical effect of pulleys • Correlation of fall factor and shock load • Estimate and evaluate forces being effective in the safety chain
Content	<ul style="list-style-type: none"> • Use of mathematic principles: rule of proportion, percentage calculation, conversion mass/force, decimal arithmetic, coefficient • Fall factor and shock load • Pulleys and gear ratio • Opening angle and resultant force • Strengh of material: basic knowledge (anchor points, PPE, ropes, slings) • Different kinds of plastic yielding
Performance criteria	<ul style="list-style-type: none"> • Evaluate the safety chain • Evaluate condition and conservation state of strutural means • Evaluate forces in a given system
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Rope Access Working Techniques	M4 T1-2-3 U3-6	Knots and rigging / given anchor points	TECH	12 hours

Operational objectives	<ul style="list-style-type: none"> • Tie and evaluate knots • Implement anchor devices • Install safety systems on given anchor points • Check conformity of used equipment and knots with the respective requirements
Admission requirements	<ul style="list-style-type: none"> • Modules: M3 and M11 • Certification units: U1
Educational objectives	<ul style="list-style-type: none"> • Know physical characteristics of knots and equipment • Apply the procedures described in this training modules and respect code of practice • Knowledge of equipment and the respective technical data sheets • Tie knots and evaluate existing knots • Arrange ropes, webbing and carabiners to optimize direction of acting forces • Detection of wear and deterioration and influence on further use
Content	<ul style="list-style-type: none"> • Use of knots and anchor devices: code of best practice and standard procedures • Information from user instructions and technical data sheets • Acting forces in the safety chain • Knot tying • Installing rope access systems • Wear and deterioration of rope access equipment
Performance criteria	<ul style="list-style-type: none"> • Evaluate conformity of knots and rope access systems • Tie various knots used in the rope access industry (anchor knots, bends, stopper knots, other knots) • Use of given anchor points • Identify mistakes in a pre-installed rope access systems and correct reporting • Use of suitable knots and slings • Careful and accurate handling of equipment • Respecting user instructions and code of best practice
Educational methodology	Active and passive participation

	Theoretical and practical units
Performance criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Rope Access Working Techniques	M5 T2-3-4-5 U6-7-8	Installation of fall arrest and restraint systems	TECH	6 hours

Operational objectives	<ul style="list-style-type: none"> • Installation of fall protection systems on defined anchor points • Installation of temporary lifelines
Admission requirements	<ul style="list-style-type: none"> • Modules: M1 to M4 • Certification units: U3
Educational objectives	<ul style="list-style-type: none"> • Use of equipment according to manufacturer's user instructions and technical data sheets • Installation of temporary lifelines and restraint systems on site • Considering the factors causing wear and damage of ropes and implementing adequate counter measures
Content	<ul style="list-style-type: none"> • Installation of temporary fall arrest systems: best practice and common precedures established in the industry • Safe use of ropes and other equipment components • Installation of safety lines (horizontal and vertical) respecting the factors causing damage and wear • Rope protection • Techniques to access and equip a work station using PPE against falls from a height • Installation of restraint systems
Performance criteria	<ul style="list-style-type: none"> • Selection and use of appropriate fall protection equipment to access and equip a work station for a given work task • Detection of various factors causing damage of the equipment
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Rope Access Working Techniques	M6 T2-3-4-7 U6-7-8	Installation of rope access systems	TECH	6 hours

Operational objectives	<ul style="list-style-type: none"> • Installation and safe use of rope access systems
Admission requirements	<ul style="list-style-type: none"> • Modules: M1 to M5 • Certification units: U3
Educational objectives	<ul style="list-style-type: none"> • Consideration of information and recommendation regarding the use of ropes and other rope access equipment given in the manufacturer's user instruction • Installation of rope access systems considering the necessity to pass obstacles • Considering the factors causing wear and damage of ropes and implementing adequate counter measures
Content	<ul style="list-style-type: none"> • Installation of rope access systems: best practice and common precedures established in the industry • Intended use of ropes and other rope access equipment • Installation of rope access systems respecting the factors causing damage and • Rope protection • Techniques to access and equip a work station using rope access
Performance criteria	<ul style="list-style-type: none"> • Selection and use of appropriate equipment to access and equip a work station for a given work task • Detection of various factors causing damage of the equipment
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong
Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Rope Access Working Techniques	M7 T6 U1-2-6-7	Use of PPE against falls from a height: practical exercise	TECH	6 hours

Operational objectives	<ul style="list-style-type: none"> • Progression and passing obstacles using PPE against falls from a height • Permanent use of at least one safety system • Use of an additional safety system when the primary system is intentionally loaded
Admission requirements	<ul style="list-style-type: none"> • Modules: M1 to M6 and M11 to M13 • Certification units: U1 to U3
Educational objectives	<ul style="list-style-type: none"> • Safe use of fall arrest and restraint systems • Use of equipment as per user instructions and technical data sheets • Safe use of equipment without negative mutual influence among different devices
Content	<ul style="list-style-type: none"> • Use of permanent fall arrest systems (vertical and horizontal) • Connecting to and disconnecting from a safety line, change over from one system to another • Use of temporary fall arrest systems (vertical and horizontal) • Use of restraint systems and retractable type fall arresters • Combination of various safety systems, when one system is intentionally loaded • Transfer from a standig or walking position to a permanently loaded system and vice versa
Performance criteria	<ul style="list-style-type: none"> • Selection and use of appropriate equipment to access a work station and fulfill a given work task • Maintains permanent safety when changing from a standing or walking position to a permanently loaded system and vice versa • Progression and passing various obstacles using PPE against falls from a height
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong
Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Rope Access Working Techniques	M8 T7 U2	Rope access techniques	TECH	42 hours

Operational objectives	<ul style="list-style-type: none"> • Progression in all directions and passing obstacles using rope access techniques
Admission requirements	<ul style="list-style-type: none"> • Modules: M1 to M7 • Certification units: U1
Educational objectives	<ul style="list-style-type: none"> • Save use of the safety system • Implementing appropriate equipment for the work task • Implementing appropriate equipment for access and work positioning • Ascend and descend on vertical ropes • Ascend and descend on diagonal tension lines • Progression on horizontal tension lines
Content	<ul style="list-style-type: none"> • European rules and regulations regarding use of rope access • Use of safety line and back-up devices • Vertical ropes: ascend, descend, change over from ascend to descend mode • Vertical ropes: ascend and descend passing obstacles (deviations and knots), change from one vertical system to another • Diagonal tension lines: ascend and descend, change over from ascend to descend mode • Diagonal tension lines: ascend and descend passing obstacles • Horizontal tension lines: progression and passing obstacles • Change over from use of PPE against falling to rope access and vice versa • Use of a seat board
Performance criteria	<ul style="list-style-type: none"> • Progression in all directions and passing obstacles using rope access techniques • Maintaining permanent redundancy (working line and safety line) • Selection and use of appropriate equipment for a given access method • Respecting user instructions and code of best practice
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Rope Access Working Techniques	M9 T5-10 U6-8	Ergonomic aspects	TECH/PREV	12 hours

Operational objectives	<ul style="list-style-type: none"> Identifying main causes for work-related diseases in the rope access industry Plan and prepare rope access operations respecting an adequate work position and the limited freedom of movement Implementing tools and equipment improving the ergonomic situation on site Take a correct work position and adapt the movements to the distinctive features of rope access
Admission requirements	<ul style="list-style-type: none"> Modules: M5 to M6 and M8 to M10 Certification units: U1 to U5
Educational objectives	<ul style="list-style-type: none"> Review past and actual work situations Observe and analyse various rope access operations and work places Achieve basic anatomical knowledge Realize movement related restrictions during rope access operations Draw conclusions from situations at work to work related diseases Self reflection and exchange of suggestions for improvement Introduce and implement tools, auxiliary equipment and techniques improving ergonomic aspects at work Gather information from others in the industry Implement counter measures against risks that are caused by rope access operations Respect code of best practice and procedures established in the industry
Content	<ul style="list-style-type: none"> Evaluate exposure times and work intensity Various factors causing work related diseases in the rope access industry Counter measures against identified factors Recommendations for work positioning and movement Exchange of experiences: equipment for improvement and special solutions for improvement Established procedures in specific industries (construction, building maintenance, etc.) Problem solving during rope access operations (equipment, procedures, manual handling, etc.)

Performance criteria	<ul style="list-style-type: none"> • Respecting HSE basics • Preparing necessary tools and equipment to equip the work station and fulfill a work task • Adapting the own position according to the work task • Implementing the necessary material and auxiliar equipment to fulfill the work task in the most ergonomic way • Naming the most common work related diseases in the rope access industry
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Rope Access Working Techniques	M10 T9 U-4	Handling moderate loads	TECH	9 hours

Operational objectives	<ul style="list-style-type: none"> • Safe handling of moderate loads (lift, lower, shift) • Implementing equipment suitable for handling moderate loads
Admission requirements	<ul style="list-style-type: none"> • Modules: M1 to M8 • Certification units: U1 to U3
Educational objectives	<ul style="list-style-type: none"> • Estimate acting forces when moving moderate loads • Selection and assembly of components suitable for handling moderate loads • Safe use of load handling devices to lower, lift and shift moderate loads
Content	<ul style="list-style-type: none"> • Light loads - moderate loads - heavy loads • Basics of mechanics: travelling and fixed pulleys • Capture devices • Lifting loads: mechanical advantage pulley systems • Forces acting at the anchor point • Lowering loads: various devices • Changing from hauling to lowering • Various systems for handling moderate loads operated by a rope access technician
Performance criteria	<ul style="list-style-type: none"> • Lifting, lowering and moving moderate loads using certified equipment that is suitable for the estimated forces • Explaining acting forces at any point in the m/a pulley system • Adapting the m/a pulley system to the estimated forces, respecting limits of devices, structures and the load to handle
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Organizing and managing rope access operations	M11 T 11-12-13-16 U 7-8	Rules and regulations	PREV	3 hours

Operational objectives	<ul style="list-style-type: none"> Respecting rules and regulations for work at height Detecting and reporting discrepancies regarding rules and regulations
Admission requirements	<ul style="list-style-type: none"> Modules: M1 Certification units: U1
Educational objectives	<ul style="list-style-type: none"> Understand the European Directive describing work at height Know the specific national ordinances regarding rope access Obey the various national ordinances and apply to various work environments and work tasks Integrate joint liability of employer and employee Present the various certification systems for rope access technicians (national and international)
Content	<ul style="list-style-type: none"> European Directive National Ordinances National Authorities Established certification systems in the rope access industry Rules and Regulations for working at height Company issued certificats Liability of employers and employees
Performance criteria	<ul style="list-style-type: none"> Knowing relevant resources and documents and researching necessary information for the work task Finding a requested piece of information in a relevant document Presenting the general legal framework for work at heights and rope access in particular Identifying discrepancies between guidelines and the actual situation on site, proper documentation and reporting Describing own liability as well as liability of the contractor/employer
Educational methodology	Active and passive participation Theoretical and practical units

Evaluation criteria

Evaluation of practical and theoretical performance
Confirmation of achieved competences
Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Organizing and managing rope access operations	M12 T 11-12-13-17 U 7-8	Resource planning and risk assessment	PREV	15 hours

Operational objectives	<ul style="list-style-type: none"> • Contribution to risk prevention on site • Implementation of counter measures
Admission requirements	<ul style="list-style-type: none"> • Modules : M1 et M11 • Module: M1 und M11
Educational objectives	<ul style="list-style-type: none"> • Understand main targets of the various prevention documents • Find relevant information in the provided documents • Identify specific risks for oneself and for third parties caused by the access method • Adapt common procedures to specific situations on site • Continuous monitoring and evaluation of counter measures • React in case of discrepancies and reporting to the supervisor
Content	<ul style="list-style-type: none"> • HSE documents on site (mandatory and optional) • Emergency, safety and prevention plans: contents and objectives • Risk assessment: various tools and responsibilities • Definition of "imported risks", "exported risks" and "own risks" • Health and Safety coordinator: duties and responsibilities • Standard procedures and manuals of the rope access industry • Specific risks in various fields of activity (confined space, construction, offshore installations, energy suppliers, power plants, etc.) • Risk factors: mechanical, electric, explosives, physical, psychological, hazardous substances, biological • Interference of work stations • Securing tools and material • How climatic conditions affect the workplace • Case studies • Immediate counter measures

Performance criteria	<ul style="list-style-type: none"> • Identifying main actors and their duties and responsibilities on site • Finding information and locating responsible persons • Anticipating how own actions influence the work environment • Taking into account the characteristics of rope access operations • Reporting discrepancies between planning and actual situation on site • Describing risks occurring from own work task • Verifying the relevance of predetermined counter measures in relation to the actual work task
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation
Definition	<p>Imported risks: risks generated by actions of third parties, potentially endangering own staff</p> <p>Exported risks: risks generated by own actions, potentially endangering third parties</p> <p>Own risks: risks generated by own actions, potentially endangering own staff</p>



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Organizing and managing rope access operations	M13 T4-11-12-13-16 U 1-2-6-7-8	PPE, tools and material: selection and inspection	HSE	9 hours

Operational objectives	<ul style="list-style-type: none"> • Selection and inspection of own rope access equipment and other PPE • Selection and inspection of used material, equipment and tools regarding usability, correct handling and transportation
Admission requirements	<ul style="list-style-type: none"> • Modules: M1, M2, M11 and M12
Educational objectives	<ul style="list-style-type: none"> • Monitoring conservation state of PPE in use and the relevant documentation • Selection of PPE depending on the access method and work task to fulfill • Understanding the limits of equipment in use (especially load handling, rescue and evacuation) • Adapt the transportation method for tools and material that is necessary to complete the work task • Knowledge about lifting devices for material, equipment and tools • Safe use of lifting devices suitable for transport of tools, equipment and material
Content	<ul style="list-style-type: none"> • Manufacturer's user instructions (recap) • Function and limits of equipment used for lifting loads • Risks and consequences when using non-certified equipment • Exceptional events: influence on equipment and proper documentation • Annual inspection and documentation • Criteria and procedures to retire PPE • Function and limits of PPE used for lifting loads • Techniques for material and equipment transport • Securing tools
Performance criteria	<ul style="list-style-type: none"> • Detecting wear and deterioration and removal from service • Identifying defective devices, justifying the diagnosis and suggesting solutions • Documenting PPE inspection • Verifying that equipment is used as per manufacturer's user instruction • Distinguishing equipment transport from manual handling • Securing material and equipment to prevent it from falling
Educational methodology	Active and passive participation

	Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong
Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Organizing and managing rope access operations	M14 T 14-15 U 7-8	Professional communication	COM	12 hours

Operational objectives	<ul style="list-style-type: none"> • Adapting communication to various situations and individuals on site respecting industry-related or company rules • Send, receive and transmit messages without loss of quality or content • Means of communication: portable radio sets
Admission requirements	<ul style="list-style-type: none"> • None
Educational objectives	<ul style="list-style-type: none"> • Understand the principles of interpersonal communication • Understand the characteristics of interpersonal communication on site • Realizing the phenomenon of loss of information within the communication chain • Separation of facts and opinion • Development of a clear understanding of "receiving a message" • Master the techniques of sending or transmitting a message • Use of portable radio sets • Interpret the reaction of the dialog partner caused by the communication
Content	<ul style="list-style-type: none"> • Basics of interpersonal communication • Communication in a work environment: superiors, team, colleagues, third parties • Oral transmission • Written transmission and communication tools • Oral transmission based on a written document • Identify the phenomenon of "loss of information" within the communication chain • Differentiate between facts and opinion • Own comprehension of a message • Use of portable radio sets

Performance criteria	<ul style="list-style-type: none"> • Describing technical terms of the rope access industry • Applying basic rules of communication • Intentional use of communication devices • Clear and professional terminology • Clear and prompt reporting to supervisors • Gathering relevant information for the work task
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Organizing and managing rope access operations	M15 T 11-12-13-16 U 7 - 8	Quality management, permanent improvement and problem solving	QHSE	12 hours

Operational objectives	<ul style="list-style-type: none"> • Understanding company rules, interrelations and risks • Knowing and implementing principles and requirements of the quality management system of the company • Knowing and implementing the tools for permanent improvement and problem solving
Admission requirements	<ul style="list-style-type: none"> • None
Educational objectives	<ul style="list-style-type: none"> • Raising awareness for company rules and certifications • Understand the role of the rope access technician in various quality management processes of the company • Understand the basics of a quality management system and service orientation for satisfaction of internal and external customers • Familiarization with general principles of quality ensurance and permanent improvement • Connect tools for permanent improvement with documented procedures and information of the company • Active participation in problem solving and the process of permanent improvement • Answer questions during work site inspections
Content	<ul style="list-style-type: none"> • Quality, environmental and safety standards of the company • Various certifications of companies • Liabilities and responsibilities of corporate governance • Documented information regarding quality on site • Role and participation of all persons on site in the processes anchored in the company's quality management system • Internal and external audits • PDCA cycle • Factors for continious problems • How problems affect the human being • Key performance indicators (requirements of the customer)

Performance criteria	<ul style="list-style-type: none"> • Applying quality assurance procedures of the company • Presenting and implementing norms and certifications • Understanding the influence of every individual on site on the total performance • Reacting in case of no-conformities or disturbances • Contributing to permanent improvement through communication with responsible persons on site (PDCA cycle)
Educational methodology	<p>Active and passive participation Theoretical and practical units</p>
Evaluation criteria	<p>Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation</p>



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Emergency and rescue operations	M16 T18-19 U6-7-8	Emergency evacuation: active participation in an evacuation process	EMERGENCY	6 hours

Operational objectives	<ul style="list-style-type: none"> Organising and equipping the own work place to guarantee an immediate evacuation Execute an immediate evacuation of the work place
Admission requirements	<ul style="list-style-type: none"> Modules : M1 to M8 and M12 to M14 Certification units: U1 to U4
Educational objectives	<ul style="list-style-type: none"> Identification of situations where initiation of an evacuation procedure is necessary Finding necessary information regarding a methodical evacuation in the emergency plan Recognizing indicators that signal necessity to assist less experienced staff Knowledge of basic evacuation procedures and life saving appliances
Content	<ul style="list-style-type: none"> Situations where initiation of an evacuation procedure is necessary Evacuation procedures - part of the emergency plan Evacuation procedures and life saving appliances: various types and characteristics Assistance for less experienced staff: indicators, conditions and procedures Conditions and safety regulations for the evacuation procedure
Performance criteria	<ul style="list-style-type: none"> Correct identification of situations where initiation of an evacuation procedure is necessary Finding necessary information regarding a methodical evacuation in the emergency plan Appropriate execution of procedures and correct use of rescue devices Describing conditions and requirements to support less experienced persons Respecting the conditions and safety regulations during execution of an emergency evacuation
Educational methodology	Active and passive participation Theoretical and practical units

Evaluation criteria

Evaluation of practical and theoretical performance
Confirmation of achieved competences
Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Emergency and rescue operations	M17 T22 U1-5	Use of PPE against falls from a height: rescue scenarios	EMERGENCY	6 hours

Operational objectives	<ul style="list-style-type: none"> Rescuing a user of PPE against falls from a height hanging in his harness and transportation to a safe area
Admission requirements	<ul style="list-style-type: none"> Modules: M2 to M8 First Aid training Certification Units: U1
Educational objectives	<ul style="list-style-type: none"> Knowledge of certified rescue lifting devices and their technical data sheets Knowledge of procedures to release and transport a casualty using a certified rescue lifting device Identification of a safe area where handover to rescue services is possible Applying safety regulations for rescue scenarios and ensuring safety of persons and property
Content	<ul style="list-style-type: none"> Characteristics of certified rescue lifting devices User instructions and technical data sheets Techniques to pick-off and maneuver a casualty using a rescue lifting device Guiding the casualty while lifting or lowering Lifting a casualty Lowering a casualty Safety rules to apply during rescue operations Safety rules to apply during rescue drills
Performance criteria	<ul style="list-style-type: none"> Knowing various types of rescue lifting devices and their characteristics Appropriate use of life saving appliances Lifting and/or lowering a casualty into a safe area Maintaining safety of third parties and all persons involved in the rescue procedure
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Emergency and rescue operations	M18 T20-21-23 U5-6-7-8	Rope access techniques: rescue scenarios	EMERGENCY	24 hours

Operational objectives	<ul style="list-style-type: none"> • Rescuing a rope access technician hanging in his harness using standard rope access equipment • Efficient communication with rescue services and/or superiors
Admission requirements	<ul style="list-style-type: none"> • Modules: M2 to M8 and M10 to M17 • First Aid training • Certification Units: U1 to U4
Educational objectives	<ul style="list-style-type: none"> • Identification of situations where initiation of a rescue procedure is necessary • Knowledge of characteristics and limits of own equipment used in a rescue scenario • Application of rescue techniques commonly used in the rope access industry • Identification of a safe area where handover to rescue services is possible • Applying safety regulations for rescue scenarios and ensuring safety of persons and property • Transmission of an emergency call respecting the given protocols
Content	<ul style="list-style-type: none"> • Situations where initiation of a rescue procedure is necessary • Characteristics and limits of equipment used in rescue scenarios • User instructions and technical data sheets • Safe access to a casualty • Incapacitated person hanging in a descending device: various methods to pick-of, take over and maneuver a casualty to a safe area • Incapacitated person hanging in a back-up device or rope clamps: various methods to pick-of, take over and maneuver a casualty to a safe area • Maneuver a casualty using diagonal tension lines • Complex situations: passing knots or deviations with a two person load • Emergency call: protocol and contents • Safety rules to apply during rescue operations • Safety rules to apply during rescue drills
Performance criteria	<ul style="list-style-type: none"> • Correct identification of situations where initiation of a rescue procedure is necessary

	<ul style="list-style-type: none"> • Knowing characteristics and limits of equipment used during the rescue scenario • Selecting and using appropriate equipment to execute the intended rescue procedure • Evacuating a casualty into a safe area • Using appropriate means of communication and transmitting an emergency call to superiors or emergency services • Maintaining safety of third parties and all persons involved in the rescue
Educational methodology	<p>Active and passive participation</p> <p>Theoretical and practical units</p>
Evaluation criteria	<p>Evaluation of practical and theoretical performance</p> <p>Confirmation of achieved competences</p> <p>Certification of participation</p>



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong
Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Emergency and rescue operations	M19 T25 U-6	Auxiliary techniques for progression and self-rescue	EMERGENCY	6 hours

Operational objectives	<ul style="list-style-type: none"> • Safe application of techniques to substitute defective or lost equipment
Admission requirements	<ul style="list-style-type: none"> • Modules: M1 to M8 • Certification units: U1 to U4
Educational objectives	<ul style="list-style-type: none"> • Identification of situations where substitution of defective or lost equipment is necessary • Detailed knowledge of various knots to replace ascenders, descenders or back-up devices • Conscious knot tying and safe use of: <ul style="list-style-type: none"> - friction hitches to replace an ascender - hitches and carabiners to replace a descending device - friction hitches to replace a back-up device • Installation and safe use of releasable systems
Content	<ul style="list-style-type: none"> • Situations where auxiliary techniques are necessary: conditions and safety regulations • Conscious knot tying and safe use of: <ul style="list-style-type: none"> - friction hitches to replace an ascender - hitches and carabiners to replace a descending device - friction hitches to replace a back-up device • Techniques to install and use releasable systems
Performance criteria	<ul style="list-style-type: none"> • Correct identification of situations where use auxiliary techniques are necessary • Careful and attentive knot tying when standard equipment is replaced by hitches • Installing and using releasable ropes • Respecting the conditions and safety regulations while using auxiliary techniques
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation



**EUROPEAN
PROFESSIONAL CERTIFICATE
FOR
ROPE ACCESS**



Lifelong Learning Programme

	CODE	MODULE TITLE	TYPE	DURATION
Emergency and rescue operations	M20 T24 U7-U8	Anticipating dangers	EMERGENCY	6 hours

Operational objectives	<ul style="list-style-type: none"> Active participation in solving a complex situation that is about to escalate.
Admission requirements	<ul style="list-style-type: none"> Modules: M1 to M10, M12, M14 and M16 Certification units: U1 to U6
Educational objectives	<ul style="list-style-type: none"> Identification of a crisis. Knowledge of resources and procedures to protect individuals and property. Recognition of indicators that signal necessity to support less experienced staff and/or directly endangered individuals. Knowledge of own responsibility in a crisis.
Content	<ul style="list-style-type: none"> Characteristics of a crisis situation. Criteria and indicators to identify a crisis. Procedures to resolve a crisis situation. Aids and remedies to isolate a hazardous area. Alarms and information to be transmitted in case of an emergency. Organisation of human and material resources. Responsibilities and tasks assignment in crisis management.
Performance criteria	<ul style="list-style-type: none"> Taking into account the impact of the own actions on the environment Identifying criteria and indicators of complex situations (crisis) Legal and material resources to isolate the hazardous area Identifying main actors on site and their duties and responsibilities in crisis management
Educational methodology	Active and passive participation Theoretical and practical units
Evaluation criteria	Evaluation of practical and theoretical performance Confirmation of achieved competences Certification of participation

7. LINKING THE TRAINING MODULES AND CERTIFICATION UNITS

		U1 PPE and CPE against falls from a height	U2 Rope Access Techniques	U3 Rigging	U4 Handling Moderate Loads	U5 Rescue Scenarios	U6 Managing Rope Access Operations	U7 Basic Knowledge	U8 Professional Attitude
F.1. Rope access working techniques									
M1	Personal and collective fall protection: technology and recommendations	X		X			X		
M2	Use of PPE against falls from a height: theoretical knowledge	X							
M3	Evaluate and rate mechanical forces and strength of materials							X	X
M4	Knots and rigging / given anchor points			X			X		
M5	Installation of fall arrest and restraint systems						X	X	X
M6	Installation of rope access systems						X	X	X
M7	Use of PPE against falls from a height: practical exercise	X	X				X	X	
M8	Rope access techniques		X						
M9	Ergonomic aspects						X	X	X
M10	Handling moderate loads				X				
F2 - Organizing and managing rope access operations									
M11	Rules and regulations							X	X
M12	Resource planning and risk assessment							X	X
M13	PPE, tools and material: selection and inspection	X	X				X	X	X
M14	Professional communication							X	X
M15	Quality management, permanent improvement and problem solving							X	X
F3- Emergency and rescue operations									
M16	Emergency evacuation: active participation in an evacuation process						X	X	X
M17	Use of PPE against falls from a height: rescue scenarios	X				X			
M18	Rope access techniques: rescue scenarios					X	X	X	X
M19	Auxiliary techniques for progression and self-rescue						X		
M20	Anticipating dangers							X	X

PROJECT PARTNERS

GIP FIPAG, France
www.ac-grenoble.fr
@: ce.gipfipag@ac-grenoble.fr



GRETA VIVA 5, France
www.greta-viva5.org
@: contact.viva5@greta-viva5.org



ANETVA, Spain
www.anetva.org
@: anetva@anetva.org



TINDAI, Spain
www.tindai.com
@: tindai@tindai.com



FISAT, Germany
www.fisat.de
@: info@fisat.de



Seilpartner, Germany
www.seilpartner.com
@: office@seilpartner.com



SOFT, Norway
www.softsertifisering.no
@: post@ttsoft.no



CDI, Bulgaria
drkaneva@abv.bg
@: drkaneva@abv.bg



This publication has been
conducted under
EPCRA project
“Professional
European Certification
for Rope Access”
funded by the European
Union through its
sector program
"Leonardo da Vinci"
Multilateral projects

<http://www.epcra.eu>

This project has been funded with support from the European Commission.
This publication (communication) reflects only the author and the
Commission is not responsible for any use that may be made of the
information contained therein.