

**“Future – Proof Construction SMEs.
For a new generation of Safety,
Sustainability and Human Resources – oriented
Project Managers”**

509922-LLP-1-2010-1-FR-LEONARDO-LMP

**European Qualification Framework
Of the Site-Manager for Future-Proof SMEs
Construction sector**

Produced by IFES

Madrid, Spain

This project has been funded with support from the European Commission under Lifelong Learning Programme, Leonardo Da Vinci - Multilateral projects for Development of innovation. This product and all its contents reflect 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.

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1. INTRODUCTION

In the report “the profile of the new future-proof site manager of European construction SMEs” (Proof Project, wp2) we can observe that the site manager in construction SMEs is a key figure in the sector, due to the development of the following activities:

- Planning and coordination of human resources taking into account the internationalization and specialization of work force;
- Organization of work and collaboration in training of personnel for compliance with health and safety rules;
- Logistics organization and preparation of site to minimize environmental burdens.

Also, it appears that the qualification acquired through work experience is essential in carrying out the occupation. Knowledge, skills and competences acquired throughout working life have a very high appraisal by the companies and, in most cases, are a fundamental requirement in the recruitment process for this occupation.

In Spain, the site manager of the building sector (minor works) does not present a very high academic level and experience in the job post is the most important factor in their professional qualifications. In these cases, the lack of basic training means that workers have very significant weaknesses in human resource management, risk prevention and sustainable development. In Italy we can see the same situation and improvement in the planning and coordination activities is considered necessary, as well as a better understanding of safety legislation and sustainable practices.

In Turkey, the site managers are University graduates and they are selected from the relevant professions for the concerned constructions. But, as they have basic knowledge in human resource management, risk prevention and sustainable development, usually consultants or professional personnel are taken to overcome these difficulties at the construction sites. Site managers are usually responsible mainly from the techniques and completion of the construction without having any accidents and they perform the work together with consultants or personnel who has professions in human resource management, risk prevention and sustainable development.

In countries such as Bulgaria, in companies with fewer than 10 employees is usually the employer who performs the position of site manager; in companies with more employees, the site manager has secondary education, but has no qualification in these items, which means trouble with shortage, turnover and an unfavorable structure of the workforce in the construction industry.

Other countries like Germany believe that areas such as health and safety and sustainable development are subject to strict regulations, and professionals working in this sector are considered sufficiently prepared, although they need to improve their qualification in this sector in sustainability and apply more rigorously the health and safety rules. In Romania their own national rules and those specific of the sector make it necessary for companies to hire professionals with the knowledge necessary to perform its functions, especially in health and safety and in quality.

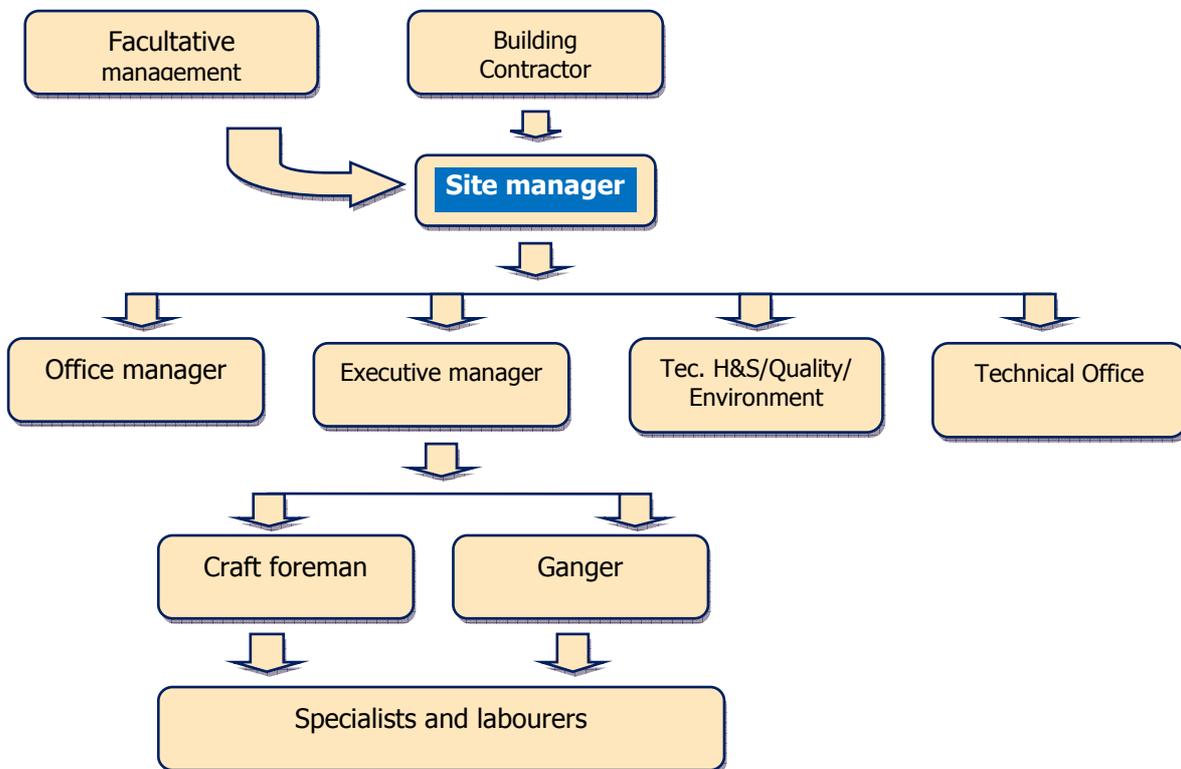
In France it is considered that site managers have a high level of academic qualification, while companies believe that this is not sufficient for the development of the profession, due to lack of practical knowledge necessary for the development of the activity.

On the other hand, in Sweden is estimated that the training most required for the site manager focuses on the following professionals: Project characteristic, Organization and structure, Collective values, norms and Climate and culture. It is easy to ensure that the status of this professional profile in different countries is quite similar, and therefore proposals for qualifications can be considered valid for all countries participating in the PROOF project.

Situation of the Future Proof Site Manager

The main position occupied by the site manager in the construction process means that the level of qualification required for this occupation is high, with university status. This qualification involves the performance of a group of complex functions with a high level of responsibility for the organization, planning, coordination and development of human resources in the company.

Approximation to a kind of functional diagram in building SMEs¹



Source: IFES with information from the Construction Labour Foundation

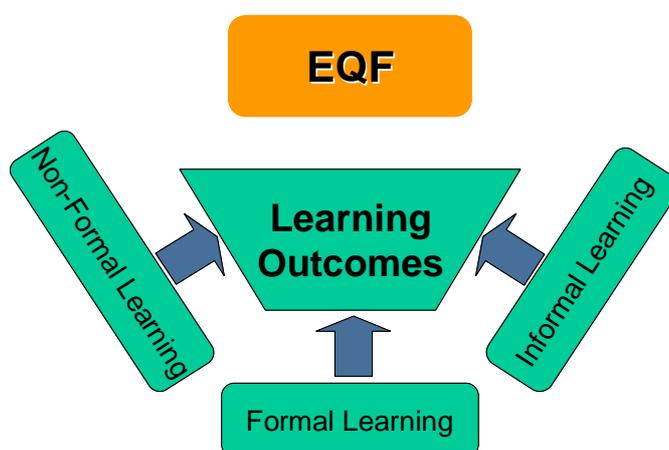
¹ These are duties that exist in the sites but the same person might carry out several of them in case that the construction site was very small.

2. EQF NEEDS AND ADVANTAGES

The **European Qualifications Framework (EQF)** for permanent learning is a common reference framework created by the European Union which compares the qualifications systems of countries to improve the interpretation and understanding of the various European systems and qualifications. Its main objectives are to promote the mobility of citizens between different countries and to facilitate access to permanent learning.

The European Qualifications Framework came officially into force on April 23rd, 2008. It establishes 2010 as the recommended deadline for countries to carry out the correspondences between their national qualifications systems and the EQF, and 2012 for the individual qualification certificates to contain a reference at the corresponding EQF level.

Ways of acquiring EQF qualification



Source: European Commission

The EQF describes the professional qualification through **eight levels presented in terms of learning outcomes** as the expression of what someone knows, understands and is capable of doing upon completing the learning process; it is defined in terms of knowledge, skills and competences. These learning outcomes may be acquired by formal, non-formal and informal learning, as well as by employment experience.

EQF descriptors

Eight levels	Learning outcomes		
	Knowledge	Skills	Competences
Level 1			
Level 2			
Level 3			
Level 4			
Level 5			
Level 6			
Level 7			
Level 8			

A large red double-headed arrow labeled 'Learning outcomes' spans across the Knowledge, Skills, and Competences columns. A green double-headed arrow labeled '8 levels' spans across the eight levels rows.

Source: IFES

In this sense, keeping in mind the situation of the proof site manager (chapter 1), and according to the European Qualifications Framework (EQF), the required qualification for site manager in the construction companies can be identified **with level 5 of qualification**, as follows:

- **Knowledge:** comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge;
- **Skills:** a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems;
- **Competences:** exercise management and supervision in contexts of work or study activities where there is unpredictable change review and develop performance of self and others.

3. EQF FOR FUTURE PROOF SITE MANAGERS IN SME'S

Starting from the qualitative and documentary research carried out on package 2, a systematization of the learning outcomes is made, using the descriptors of the EQF model in terms of knowledge, skills and competences.

The description of the qualification is carried out through learning areas (DK) displayed in the table below, along with the most important contents of the occupation. Likewise, in chapter 5 of this document, you can check the description of the occupation of the future proof site manager through knowledge areas, groups of content and learning outcomes.

Knowledge areas (DK)	
A. Human Resources management. Planning	E. Health and safety. Promotion of training.
B. Human Resources management. Coordination	F. Health and safety Sensitisation.
C. Human Resources management. Communication	G. Sustainability. Sustainable practices.
D. Health and safety. Legislation.	H. Sustainability. Logistics.
	I. Sustainability. Waste management.
	J. Sustainability. Allocation of responsibilities

Methodology: according to the works on EQF developed by the European Commission, Proof project have used the following definitions for the description of qualifications in terms of learning outcomes²:

- **‘Knowledge’** means the **outcome** of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual;
- **‘Skills’** means the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments);
- **‘Competence’** means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.

² RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:111:0001:0007:EN:PDF>

European Qualifications Framework (EQF) Level 5: Site Managers in Construction sector			
Knowledge Area	Knowledge Theoretical knowledge and fact knowledge for the working area.	Skills To use the attained or available knowledge at the production of given work pieces	Competences To use the available knowledge and skills in the working area for the professional and personal development.
A			
B			
C			
...			

4. CERTIFICATION PROCESS

The term certification describes the multiple processes of assessing, validating and recognizing learning outcomes, which lead to a qualification. In this process we can observe three successive stages: identification, assessment and certification.

- Identification of qualifications: it is the first stage when the profiles and the professional competences design is carried out and when the training needed to acquire those professional competences is established;
- Evaluation: it means the confirmation by a competent body that learning outcomes (knowledge, skills and/or competences) acquired by an individual in a formal, non-formal or informal setting have been assessed against predefined criteria and are compliant with the requirements of a validation standard. Validation typically leads to certification;
- Certification: consists on the process of issuing a certificate, diploma or title formally attesting that a set of learning outcomes (knowledge, knowhow, skills and/or competences) acquired by an individual have been assessed and validated by a competent body against a predefined standard (Cedefop, 2010)³.

Phases in a process of Certification

Phase 1: **Identification.** In the report “The profile of the new future-proof site manager of European construction SMEs”, carried out on package 2 of this project, functions, tasks and main training needs have been identified. The research has had the collaboration of experts in each of the participant countries. The outcomes show 10 learning areas that match the main functions of the site manager.

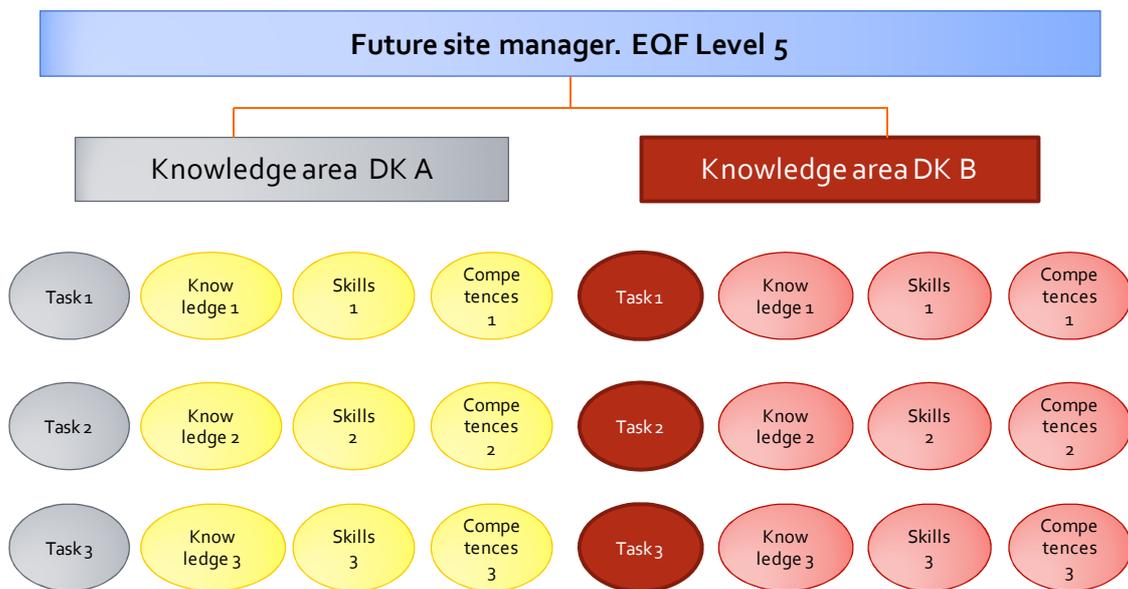
Based on these results, the description of learning outcomes has been carried out in work package 3 (knowledge, skills and competences) linked to each of the learning areas identified in section 2 (see Section 5, learning outcomes tables).

³ CEDEFOP 2008 Terminology of European education and training policy

It is considered that this approach represents a starting point for the development of proposals in two areas of this occupation:

- First, it will allow us to define a training path through the identification of training modules, didactic units and evaluation criteria;
- On the other hand, it will facilitate the task of recognition, evaluation and certification of the qualification acquired through formal and non formal learning and through work experience. Learning outcomes may contribute to the development and design of tools for this process: competences assessment, CV, portfolio, professional card, etc.

Structure of the description of learning outcomes



Phase 2: Evaluation process. Learning outcomes may facilitate a process of evaluation of the acquired qualification, and may create a basis for labour and training guidance in the sector.

Phase 3: Certification. According to certification of qualifications, it is important to observe the experiences developed in countries such as Great Britain or Spain, where a professional card and a portfolio with the professional history of the worker are used⁴.

It is important to identify the Awarding body (public administration, social agents, training centres and companies), which will be a reference for the development of the process of evaluation and accreditation.

⁴ The references used to set a professional card are the following:
 CSCS - Construction Skills Certification Scheme. CSCS was set up to help the construction industry to improve quality and reduce accidents. <http://www.cscs.uk.com/>
 FUNDACIÓN LABORAL DE LA CONSTRUCCIÓN. Professional construction card. http://www.fundacionlaboral.org/web/esp/tarjeta_profesional.asp?selec=0

5. CONCLUSIONS

We can consider that the description of learning outcomes is the starting point for a process of certification: identification, evaluation and certification. Learning outcomes help us to define training programmes, to evaluate qualifications, to establish a labour guidance process, and to certificate the qualification of the site manager.

The description of learning outcomes provides a high grade of transparency of qualifications and may help to the mobility among countries. We mean transparency as the degree to which the value of qualifications can be identified and compared on the (sectoral, regional, national or international) labour and training markets and for Mobility we mean the ability of an individual to move and adapt to a new occupational environment⁵.

⁵ Cedefop, 2010: Terminology of vocational training policy.

6. LEARNING OUTCOMES MATRIX

KA A. Human Resources management - Planning

Tasks	Knowledge	Skills	Competences
<p>KAA01 Planning process</p>	<p>KAAKN01 To identify the building components, the structures and the building-up stage and to recognize the basic construction materials: elements of electrical engineering and elements of technology in building materials.</p> <p>KAAKN01To have a proper knowledge about execution of the: carpentry-ridge works roof , sheet metal work, trunk line and canalization</p>	<p>KAASK01 Sequencing and planning project activities and the implementation of construction works, preparing written reports and reporting to the structure of such activities.</p> <p>KAASK01 Prepare services, offices, warehouse and storage materials and planning the necessary equipment and tools.</p> <p>KAASK01 To control the execution of the preparatory work as necessary according to the technological sequence.</p>	<p>KAACOM01 Is able to understand a situation, issue, problem, etc., by breaking it into smaller pieces, or tracing the implications of a situation in a step-by-step way.</p> <p>KAACOM01 Is able to forecast risks, especially considering the occurrence of unforeseen activities and idle times when the works site is empty</p>
<p>KAA02 Activities processes planning</p>	<p>KA AKN02 To recognize the planning activity as the technical basis for managing and coordinating a construction project.</p> <p>KA AKN02 To describe the activities for planning in order to propose a business planning, administrative management and definition of clear procedures for working phases.</p>	<p>KAASK02 To carry out planning activities through:</p> <ul style="list-style-type: none"> - to elaborate reports studying urban parameters, - analysis of technical information, - reading carefully the instructions given, - data collection, - Preparation of budgets through the recognition of work units or items and price calculation of work units. - Study of gathered information to request and evaluate different budgets. <p>KAASK02 To know how to measure and to calculate -by hand with a calculator and by computer (software)- dimensions, areas and volumes.</p> <p>KAASK02 Respect for the diagram of activities, without reaching the target at any cost.</p>	<p>KAACOM02Is able to understand and learn the power relationships in one's own organization or in other organizations.</p> <p>KAACOM02Is able to work in a team with management members as well as members of staff: office manager, executive manager, Health and Safety, Quality, Environment and technical office.</p>

KAA03 Planning Human Resources	<p>KA AKN03 To describe the stages of the construction process and the allocation of human resources to each stage, scheduling and sequencing activities over time.</p> <p>KAAKN03 To define the work norms for every category of workers adequate to the work.</p> <p>KAAKN03 To identify the role and function of the Human Resources department.</p>	<p>KA ASK03 To use the available tools and methods of human resources planning and make adaptations to existing work plans or methods of staff distribution in order to reach the most efficient staff allocation.</p> <p>KAASK03 To carry out periodical verification/evaluation of human resources allocated to the site</p> <p>KAASK03 To evaluate quickly potential workers and to evaluate potential integration in the team.</p> <p>KAASK03 To assess the techniques used in human resource planning.</p>	<p>KA ACOM03 Is able to work cooperatively with management members, to be a part of a team, to work together.</p> <p>KAACOM03 Is able to keep an overview of a wide group of complex professional activities performed in a great variety of contexts which require to combine technical, logistic, economic or organizational variables.</p>
KAA04 Using tools for planning	<p>KAAKN04 Knowing the tools, methods and most common software for the planning of project activities: setting of goals, hiring, resource allocation (human and material), timing, follow-up, supplies, etc.</p>	<p>KAASK04 To carry on the follow-up of work plans, using programming techniques and proposing corrections to the variances.</p>	<p>KAACOM04 Is able to use mathematical modes of thought (logical and spatial thinking) and presentation (formulas, models, constructs, graphs, charts).</p>

KA B. Human Resources management: Coordination

Tasks	Knowledge	Skills	Competences
KAA05 Planning and basic features	<p>To define the management procedures necessary for the development of the project.</p> <p>To recognize project planning and to identify activities and human and materials resources to be allocated to each stage according to the project schedule in order to ensure the quality and the safety in the site.</p> <p>To compare different work approaches and to select the appropriate; to analyze and to compare proposals from subcontracting and suppliers and to set up comparative forms.</p>	<p>To locate, select, organize and document information using appropriate technology and information sources and to analyze, evaluate, and apply relevant information from a contractor, suppliers, subcontractors, specialists and labourers</p> <p>To organize the implementation of the works related to the temporary buildings: optimize planning, split the tasks and refigure the working time for avoid losses.</p> <p>To provide critical input into your organization's strategic initiatives. To cultivate internal consulting skills and become involved in implementing</p>	<p>Analytical Thinking.</p> <p>Is able to understand a situation, issue, problem, etc., by breaking it into smaller pieces, or tracing the implications of a situation in a step-by-step way.</p> <p>Is able to foster the planning culture in the site among site manager, contractor, suppliers, subcontractors, specialists and labourers.</p>

KA A06 Process of Construction	<p>To define the trades, specialists, materials, facilities, machinery and suppliers. Knowing the work of each area and its work priorities.</p> <p>To identify the activities that cause slowing down of processes involving several areas of work and rivalries between areas.</p>	<p>To manage the use of time and other resources to complete construction projects.</p> <p>To develop strategies that improves strategic, ethical, legal, and financial outcomes.</p> <p>To drive productivity and growth through performance management. Learn how to develop, implement, and assess a performance appraisal system.</p>	<p>Organizational awareness. Is able to take responsibility for one's own actions, decisions and consequences.</p> <p>Is able to keep a daily working relationship and monitor the evolution of works respecting deadlines foreseen.</p>
KA A07 Human Resources: coordi- nation	<p>To describe how to coordinate the company's human resources together with persons involved direct (the superior management of the company and site managers); using reporting tools, hiring qualified workers and implementing procedures to verify work progress in building.</p> <p>To identify the skills owned by the staff members and the skills required by the job posts.</p> <p>To recognize the psychology of the workforce and the attitudes required in the job posts.</p>	<p>To coordinate all groups of subcontractors, crews and specialists with a view of efficient outcomes.</p> <p>To manage a differentiated workforce.</p> <p>To delegate individual tasks and explain them properly.</p> <p>To drive workers to ensure efficiency.</p> <p>Team coaching in order to get a high level of achievement of each worker.</p> <p>Coordinate professional training for achieves new technologies and new execution mode.</p> <p>Tasks allocation in light of awareness of the type of specialists required.</p>	<p>Is able to manage the project through the coordination of the tasks assigned to managers, foremen, specialists, subcontractors and suppliers involved.</p> <p>Is able to lead individual teams as well as the whole workforce present on a construction site. Is able to Motivate workers in order to reach the established goals in the construction project.</p>

KA C. Human Resources management: Communication

Tasks	Knowledge	Skills	Competences
KA A08 Business Man- agement	<p>To know the techniques of business management and market relations.</p> <p>To identify the place and role of the workers, companies, institutions and state bodies associated with the construction.</p>	<p>To apply management techniques in order to facilitate internal communication between the manager and subordinated personnel, graph for evaluation meetings, individual motivation.</p> <p>To issue simple and clear instructions to be able to</p>	<p>Is able to decide on fast, proper and responsible manner; Technical awareness and capabilities; Discipline.</p>

		<p>delegate and control to subcontracting and own team. Delegation of tasks to the subordinate workers: ganger, foreman.</p>	<p>Is able to promote the spirit of team work and collaboration; evaluate teams' members, choose the best solutions in order to solve the problems appeared.</p>
KAA09 Interpersonal Communication techniques	<p>Distinguishing the interpersonal communication techniques more suitable in the company depending on the features of the organization, of the project and of the human resources.</p> <p>To identify communication skills (types of communication, active listening, structuring the message, etc.) which make easier giving orders, requests, instructions, etc.</p>	<p>Communication: being able to explain in a simple and clear way.</p> <p>To give orders to subordinates properly and to check the correct reception of the message. To develop a system of written communication, using pictures and simple texts known to all workers.</p> <p>To carry out a good capacity of attention comprehension and preoccupation, professional attitude.</p> <p>To develop a communication system so that the worker personnel can understand the allocate tasks, new technologies or execution mode.</p>	<p>Is able to apply appropriate communication skills in situations of giving and receiving work instructions, data and information, carrying out requests, making suggestions, etc., in order to promote cooperation and strengthen own leadership as site manager.</p> <p>Is able to assume a democratic attitude in day-to-day contact and to assume a receptive attitude when another possibility or modus operandi, organisation or planning is suggested to him by others.</p>
KAA10 Languages	<p>To know the essential aspects of European languages (English, French, Romanian, etc.) in order to improve work team coordination and avoid possible accidents.</p>	<p>To give orders and simple messages in the most common languages spoken at work and to take into consideration this communication in written signs in the workplace.</p>	<p>Is able to apply a sense of interpersonal understanding. It is the ability to accurately receive the contextual unspoken or partly expressed thoughts, feelings, and concerns of others. Doesn't assume that foreign workers understand the instructions given perfectly.</p>

KAA11 Negotiation techniques	To know the techniques of conflict management, the consequences of aggressive, assertive and inhibited behaviour, and the short and long term effects on work and personal relationships. To identify "sensitive" situations and to use appropriate social Skills	To manage the conflict, promoting team working. And to set the guidelines of assertive behaviour in difficult situations, controlling their short and long term effects (use of Emotional Intelligence). Being able to self-assess their own style of conflict management.	Is able to apply negotiation techniques to achieve reasonable agreements with suppliers, with the facultative management, with the foremen and managers, with workers and trade unions.
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KA D. Health and safety. Legislation

Tasks	Knowledge	Skills	Competences
KAA12 National and EU regulations	To identify the basic and specific national and EU rules of Occupational Health and Safety ⁶ , and to update information related to specific legislative modification.	<p>Implementation of the Law on Prevention of Occupational Risks, working together with the coordinator for safety.</p> <p>To control that all juridical requirements are fulfilled</p> <p>Monitoring and facilitating the inspection and advisory work, working together with the coordinator for safety.</p> <p>Can collaborate with prevention committees and with the coordinator for safety and health in the elaboration of the construction project.</p>	<p>Is able to raise awareness and further compliance with health and safety rules. Until an accident actually occurs they think that nothing will happen to them.</p> <p>Is able to collaborate in monitoring and facilitating the inspection and advisory work. To facilitate Prevention of Occupational Risks through advice and persuasion, without penalties.</p>
KAA13 Comply with the law	To recognize the relevant information regarding health and safety legislations: <ul style="list-style-type: none"> - Safety and health plan - Information for workers - Particular Risks to the safety and health of workers - Minimum safety and health requirements for 	<p>To assure the implementation of safety devices and especially in the section on Personal Protective Equipment (PPE) at construction sites according to the national and international regulation.</p> <p>To organize and to control the observation of the regulations of the Law on safe and healthy working</p>	Is able to raise awareness for health and safety concerns with the management as well as with employees. Aware that person is more important than production.

⁶ For example, council directive 92/57/EEC of 24 June 1992.

	Construction sites	conditions.	Rigidness: don't allow employees to work without any protections
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KA E Health and safety Sensitisation.

Tasks	Knowledge	Skills	Competences
KAA14 Preventive culture	To know the importance of preventive culture in all stages of the construction project and collaborate with the Security Coordinator in the work and with other external services in developing awareness actions, through information, guidance, advice, monitoring and control.	To promote the preventive culture and safety at work after evaluating the risks and more frequent accidents. To propose solutions in accordance with safety regulations, particularly with the use of PPE. Finding creative solution concerning estimation and application in the execution activity the concept of the "risk management". For example, establishing a programme for transfer the experience between senior and junior employees in order to prevent occupational hazards and accidents, along with the professional specialization of all employees.	Is able to collaborate with the Security Coordinator in the work and with other external services in developing awareness actions, through information, guidance, advice, monitoring and control.
KAA15 To identify hazards at work	To recognize the causes of dangerous situations and accidents at the construction site and at the workplace and to take steps in order to prevent them.	Evaluation of hazards involving for identifications of all the high hazard factors. To know what kind of operation can each machine implement in a safety way. Utilization the checklists with questions in accordance with the applicable legislation in scope to identification the law hazard factors. To control the use of special protective clothing and the personal protective equipment when perform various types of their construction works.	Is able to propose solutions according to safety regulations, particularly with the use of PPE. Is able to aware about the overestimation of competences and skills owned in H&S by the workers in construction sector.
KAA16 Risk sensitisation	To identify the reasons (legal, safe, health, financial, etc) why health/safety rules have to be regarded as important to all staff.	To develop communication skills in order to be understood by all the workers in the site, keeping in mind the difficulties to raise the awareness of workers who have worked for many years.	Is able to take the role of leader of a team or other group. It implies a desire to lead others.

	Determination the individual responsibilities of the personnel and mode of intervention in scope to keep in line the SSM rules established in site.	Control: how the workers protection equipment is being used. To monitor reports of accidents and incidents trends and recommend corrective action for implementation.	
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KA F. Health and safety. Promotion of training

Tasks	Knowledge	Skills	Competences
KAA16 Training needs	To identify gaps in training of workers referring to the occupational Health and Safety. Theoretical and practical knowledge of H&S legislation.	To check the H&S qualification of workers before coming onto the work. To design of the training plan for safety, identifying: the most significant risks in relation to local circumstances of work, training needs and barriers to training, working together with the management of the company	Is able to raise awareness for health and safety concerns with the management as well as with employees.
Define the contents of the VET programme	To identify the courses in the sector and the contents of VET programmes in the field of: -Construction collective (scaffolding, etc) and individual equipment. -Legislation governing construction and operation of construction sites -Legislation on construction safety. -particular risks to the safety and health of worker. -	To assist in the promotion of safety training, facilitating the access of workers to training courses, providing: an adequate space where to train the staff, budget, working hours for training and e-learning courses. To organize and to control the observation of the regulations of the Law on safe and healthy working conditions. To follow branch and company evolution, Follow improvements and adaptation and to integrate them in the training programme.	Is able to persuade, convince, influence, or impress others (individuals or groups) in order to get them to go along with or to support the speaker's agenda.
Advantages and legal obligation	To recognize the economic and social benefits of training in security for the company and the worker. To know the legal responsibility for the	Organising instructions and training of staff as regards working practices that comply with health and safety regulations. To communicate the benefits of training in safety through	Is able to raise awareness that workers learn by themselves and try to promote permanent training processes in Health and Safety at work place.

	vocational training in the field of H&S.	communication techniques previously defined.	Willingness: not considering training as a lack of time.
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KA G Sustainability. Sustainable practices

Tasks	Knowledge	Skills	Competences
Social advantages and national	<p>To recognize the profits to society through a sustainable activity.</p> <p>To recognize the rules of national sustainability in which the production and management of construction and demolition waste are regulated.</p>	<p>To elaborate of the environmental management plan of the company, together with the Facultative management, indentifying in it:</p> <ul style="list-style-type: none"> -Efficiency planned of the projects in process and from the point of costs: -Mistakes evaluation. -Correction of the budget. -Eliminate the worthless activities from the sites. -Better organization of the planned activities. <p>To examine the financial benefits of energy efficiency through the use of integrated building systems, renewable energy sources, and mechanical systems selection</p>	<p>Is able to collaborate with the facultative management in the elaboration of the environmental management plan of the company</p> <p>Is able to reflect an underlying drives to reduce uncertainty in the surrounding environment. It is expressed in such forms as monitoring and checking work or information, insisting on clarity of roles and functions, etc.</p>
Suitable practices	<p>To identify the core concepts of sustainable design.</p> <p>To distinguish the major problems for sustainable development in the site, noises of the concrete plant, hydraulic hammer noise, manufacturing processes of aggregate, dust and plaster, fences on the sidewalks, waste (rubble, mud), adequate facilities, housekeeping, etc.</p> <p>To know the basics of the Technical Building Code referring to the development of a sustainable activity.</p>	<p>To collaborate with the facultative management in the elaboration of the environmental management plan of the company.</p> <p>To promote the implementation of sustainability rules in order to encourage prevention, reuse, recycling and other forms of valorization, ensuring that the intended for disposal operations receive proper treatment and contribute to a sustainable development of the activity.</p>	<p>Is able to adapt to and work effectively within a variety of situations, and with various individuals or groups.</p> <p>Is able to raise awareness for sustainability related issues on all levels and will guarantee their implementation.</p>

KA H Sustainability. Logistics

Tasks	Knowledge	Skills	Competences
<p>Planning the site resources</p>	<p>To define a logistic plan which take into account the following items:</p> <ul style="list-style-type: none"> -Methods, techniques and software for managing and developing a sustainable work. - Basic equipment and structures to develop a sustainable activity: selective waste containers and storage spaces. -To identify local resources for sustainable development, particularly aspects of dumps and waste tanks on site. 	<p>To implement rigorous regulations concerning logistics activities.</p> <ul style="list-style-type: none"> - Make the material's necessary based on real calculating of the physical stages and realize a detailed and rigorous cost calculation concerning human resources. -Supervising elaboration of the costs reports. -Efficiency management of human and material resources (control of the construction expenses conform to the project). -Allocation qualified personnel at the requested level of type works. -Preparation and prevision in time any changes of the phases in process. -Assure the existence of the charge stock, which have to be delivering in proper time. - To plan stockage places for materials, tools, machines...in order to ensure more efficiency and to avoid time wasting. - To establish a circulation plan, usability and safety rules. - To plan and to order in time materials, subcontracting, machines and additional workforces 	<p>Is able to raise his/her interest and sensitivity towards the environmental issues.</p> <p>Is able to reflect an underlying drive to reduce uncertainty in the surrounding environment. It is expressed in such forms as monitoring and checking work or information, insisting on clarity of roles and functions, etc</p> <p>Develop and approve all the necessary modification of the orders and costs in accordance with update requests from the site.</p>
<p>Logistic management</p>	<p>To identify Strategic Management in Logistics in Construction.</p> <p>To describe the connexion between:</p> <ul style="list-style-type: none"> -logistics and Financial Management, -logistics and Human Resource Management. <p>To know the concept of Logistics Management for Superior Customer Service.</p> <p>To describe the business logistics, operations</p>	<p>To develop organization's ability to apply research methods and statistical techniques to logistics.</p> <p>To manage a company's supply chain operations and to explore the implication of performance on an organisation's supply chain.</p> <p>To examine cost benefit analysis in order to make strategic decisions and investment appraisal, with the principles of risk being considered.</p>	<p>Is able to implement the methods, planning techniques and software for monitoring the task planning, spending control and budget classification.</p> <p>Is able to promote a concern for Order. To reflect an underlying drive to reduce uncertainty in the surrounding</p>

	research, information systems for logistics and design of logistics distribution systems.		environment. It is expressed in such forms as monitoring and checking work or information, insisting on clarity of roles and functions, etc
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KA I Sustainability. Waste management

Tasks	Knowledge	Skills	Competences
Legislation	To identify national, regional and local legislation for waste management.	To maintain fluent communication with local authorities for waste management at the local level. To apply the policy framework for implementing the waste hierarchy, the potential for waste minimisation, re-use and recycling in selected industries and in households, sustainable waste management systems, and the contribution to sustainable development objectives of waste valorisation, reuse, recycling and reclamation.	Social and civil Competences Is able to participate in an effective and constructive way in social and working life, and particularly in increasingly diverse societies, and to resolve conflict where necessary.
Promote behaviours and good practices	To identify the benefits of an efficient management with regard to waste management in the sites.	To promote the attitudes of order and cleaning as indispensable for the development of a sustainable activity. To strengthen behaviours and best practices referring to order and cleaning in the site.	Is able to promote a concern for order. To reflect an underlying drive to reduce uncertainty in the surrounding environment. It is expressed in such forms as monitoring and checking work or information, insisting on clarity of roles and functions, etc
Waste processes techniques	To define an Environmental Management Systems and to appreciate the background, and implications for waste management of, procedures such as Environmental Impact Assessment. To describe the tasks and logistics of sustainable waste management collection, to	To carry out a good management of the material resources and of the disposable elements of installations. -A good management of construction materials, and stored of dump goods. -Creation internal rules concerning storage/recycle of the disposable elements. -Getting equipments for transport the wastes; contracts with specialized companies.	Due to a good interpersonal relations, is able to build a network of business contacts which contribute to the success of the company. Is able to promote adherence to the developed waste

	analyze collection systems, and to become familiar with the principals and theory behind the use of transfer stations.	<p>-Inspect and removal the effects happened on the environment. - to strength behaviors and best practices referring to order and cleaning in the site</p> <p>To review and assess technological options currently available for the treatment of waste, such as thermal degradation with associated energy and material recovery.</p>	management and sustainability plan.
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KA J Sustainability. Allocation of responsibilities.

Tasks	Knowledge	Skills	Competences
Definitio n de responsi bilities	<p>To identify the strategies of developing work plans for an efficient allocation of responsibilities (a sustainability plan), keeping in mind the high volume of assumed activities and lack of the coherence in distribute the responsibilities to subordinated personnel</p> <p>To identify which steps need to be taken in order to make a construction site environmentally sustainable and to define the responsibilities of foremen and managers in the sustainable development of the site: knowledge of materials, management resources, etc.</p>	<p>To facilitate access to training of managers and foremen in sustainable management techniques, order and cleanliness on the site, waste management and materials.</p> <p>To assign responsibilities to managers and foremen on the materials and resources management within a sustainable project.</p>	<p>Is able to development of a work plan for sustainability and collaborate in the planning of work with the facultative management by establishing the allocation of individual and collective responsibilities within a sustainable project.</p> <p>Is able to lead a team with the goal of safeguarding the sustainability of a construction</p>

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