

**Guidance for safety  
certification and  
supervision**



# **Competence management framework for authorities**

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**Guidance for safety certification and supervision**

# **Competence management framework for authorities**

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# 1. Introduction

In order to ensure that safety assessments are carried out effectively by the national safety authorities (NSAs) and, where appropriate, the European Union Agency for Railways (also named hereafter 'the Agency') and to reinforce mutual trust between them, the national safety authorities and the Agency must ensure that staff involved in safety assessments have the necessary competencies.

Following the granting of a single safety certificate or a safety authorisation, the NSA oversees that what the applicant for a single safety certificate or a safety authorisation has presented as their safety management system (SMS) is effectively implemented and continues to fulfil the legal obligations. To that end, the NSA must also ensure that staff involved in supervision have the necessary competencies.

By definition:

- ▶ **Safety assessment** means the activities carried out by an authority entrusted with the task of assessing that the railway undertaking's or infrastructure manager's SMS complies with its legal obligations, checking the completeness, consistency, relevance and adequacy of the application file, in order to get the assurance that the railway undertaking or the infrastructure manager is capable of operating safely. Based on the conclusions of the completed assessment, the authority takes a decision over the issue of the single safety certificate or safety authorisation.
- ▶ **Supervision** means the activities carried out by the NSA after the issue of the single safety certificates or safety authorisations with the aim of checking that the SMS of railway undertakings or infrastructure managers operating in their Member State continuously comply with their legal obligations.

## 1.1. Purpose of the guide

This document provides guidance to those carrying out safety assessment and supervision activities on how to establish, implement and maintain a competence management system (CMS) in order to manage and develop the competence of their staff.

It also aims at identifying the harmonised competency requirements necessary for the NSAs to have sufficient and competent staff to perform safety assessment and supervision activities and adequately monitor the safety performance of the sector across the EU.

## 1.2. Who is this guide for?

This guide is aimed at NSAs and the Agency in the first instance but is freely available for other agencies and industry organisations to understand what the expectations are concerning competency requirements for staff carrying out similar tasks.

### 1.3. Scope

The CMS of the organisation has to ensure through its processes (e.g. training, mentoring, shadowing, on-the-job training) that staff involved in safety assessment and supervision demonstrate the appropriate level of competence for the performance of the tasks.

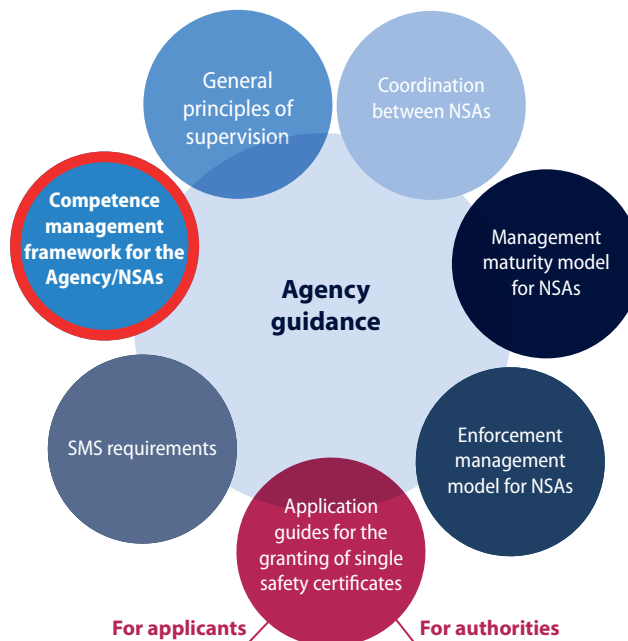
The competency requirements listed in the present document have been elaborated to give NSAs a clear idea of the knowledge, skills and behaviour that staff carrying out safety assessment and supervision activities will be expected to demonstrate. They are based on Article 13 of the Implementing Act on establishing practical arrangements for issuing single safety certificates and Article 6 of the Common Safety Methods for supervision.

The proposed competencies are not selection requirements for staff carrying out safety assessment and supervision activities. The issuing authority is responsible for the relevant human resource processes (selection, training, etc.) used to ensure that the organisation has the required level of competence to carry out the above activities.

### 1.4. Guidance structure

This document is part of the Agency compendium of guidance supporting the railway undertakings, infrastructure managers, national safety authorities and the Agency, in fulfilling their roles and undertaking their tasks in accordance with Directive (EU) 2016/798.

Figure 1: Compendium of Agency guidance



## 2. Competence management system cycle

### 2.1. General

Creating a competence framework is an effective method to assess, maintain, and monitor the knowledge, skills, and attributes of people in an organisation. The framework allows the measurement of current competence levels to make sure staff members have the expertise needed to perform their tasks. It also helps managers make informed decisions about recruitment or outsourcing, learning and development, retention, and succession strategies.

#### Competence vs Competency – what is the difference?

Although human resource professionals often use the two terms competence and competency interchangeably, for the purposes of this document the following definitions will be used.

- ▶ **Competence** means a learned ability to adequately perform a task, duty or role; to be able to act competently in a given context whilst carrying out a task, duty or role. Competences are acquired through a process of learning-by-doing, in which knowledge, skills, personal values and attitudes become integrated and connected to a particular task, duty or role. Competence in this document means the ability to undertake responsibilities and to perform activities to a recognised standard on a regular basis.
- ▶ **Competency** means any attribute of a person that is associated with or contributing to this capability, regardless of whether it is an ability, personality trait, value, knowledge, skill or attitude. Possessing such competencies does not make a person competent. Some form of learning is needed to amalgamate these qualities into the competence to carry out a task, duty or role in the expected manner. In other words, competencies are a combination of knowledge, skills, attitudes, values and behaviour that lead to successful performance in a job and which can be acquired by doing, learning or undergoing training and coaching.

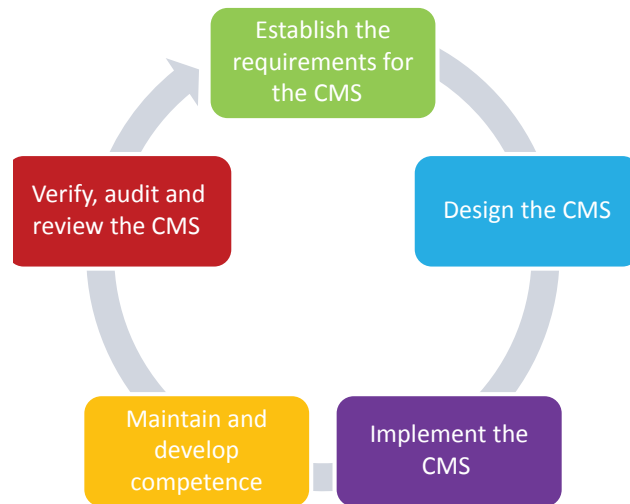
The relationship between competence and competencies is that; competence is about the application of competencies judged in relation to some standard or set of standards, whilst people demonstrate competence by applying their competencies within the work setting.

In summary:

	<b>Competence</b>	<b>Competency</b>
<b>Focus</b>	<b>Role</b>	<b>Person</b>
Definition	A learned ability to adequately perform a task, duty or role; to be able to act competently in a given context whilst carrying out a task, duty or role. Competences are acquired through a process of learning-by-doing, in which knowledge, skills, personal values and attitudes become integrated and connected to a particular task, duty or role. Competence in this document means the ability to undertake responsibilities and to perform activities to a recognised standard on a regular basis.	Any attribute of a person that is associated with or contributing to this capability, regardless of whether it is an ability, personality trait, value, knowledge, skills or attitude. Possessing such competencies does not make a person competent. Some form of learning is needed to amalgamate these qualities into the competence to carry out a task, duty or role in the expected manner. In other words, competencies are a combination of knowledge, skills, attitudes, values and behaviour that lead to successful performance in a job and which can be acquired by doing, learning, training and coaching.
Time perspective	Now - Competence is about achievement and is backward looking. A statement of competence is a statement about where a person is now, not where they might be in the future.	Future - Competencies relate to a person's potential for development and can be used in a forward-looking way to predict what they should be able to achieve.

For the purposes of this guide and the European Regulatory framework, a “Competence Management System” is a system put in place to ensure that all staff with a responsibility for safety assessment and supervision are competent to perform their tasks and that staff skills and knowledge are maintained, in all circumstances. As with most management systems it involves designing, planning, implementing, monitoring and reviewing steps (See Figure 2).

**Figure 2:** Competence management system cycle



## **2.2. The steps to create a competence management system**

### **2.2.1. Establish the requirements for the CMS**

Before designing a CMS, the purpose for creating the framework needs to be established. Competence frameworks are needed for specific purposes. In the present case, this is to ensure the competence of staff carrying out safety assessment and supervision, and that the same staff are checked regularly to ensure they maintain the required level. How you plan to use the CMS will impact on whom you involve in preparing it, and how you determine its scope. Developing a CMS can take considerable effort so the necessary resources should be allocated to it.

### **2.2.2. Design the CMS**

Involve the people doing the work – these frameworks should not be developed solely by human resource people, who don't always know what each job actually involves in practice even though they may have access to a Job Description. Nor should the CMS framework design be left entirely to managers, who don't always understand exactly what each member of their staff does every day. To understand a role fully, it is necessary to go to the source – the person doing the job – as well as getting a variety of other inputs into what makes someone successful in that job. This also ensures that the framework is actually used as needed. It is also important to make it relevant to the people who will be using it so they can take ownership



## 2. Competence management system cycle

of it. If you include irrelevant competencies, people will probably have a hard time relating to the framework in general.

Gather information from staff through a series of workshops (focus groups), face-to-face interviews and questionnaires to understand the competencies required for successful performance across the organisation, across different levels in the organisation and within specific functional groups. Involve line managers and employees in the design of the framework by setting up a task force to design the CMS framework. Communicate the objectives of the exercise to staff. A job analysis that includes a variety of techniques and considerations will give the most comprehensive and accurate results. The better the data collected, the more accurate the framework will be.

### 2.2.3. Implement the CMS

(a) *Develop competence profiles for each job/position/role*

A competency profile is a collection of competencies that should be held by a role incumbent along with a specified proficiency level at which each competency should be performed in order for the role holder to be competent. A job competency profile can be used across the organisation to provide a clear and consistent definition of the requirements of a job holder and can be used by some organisations to define the essential levels of competence required by individuals performing particular tasks in order for the organisation to meet regulatory requirements.

(b) *Select and recruit staff assessing them against the established competence profiles*

The competencies identified that someone needs in order to be successful in the position should be included in the vacancy notice. A selection procedure can include a competency-based interview which evaluates a candidate's behavioural competence to undertake a particular role. This should focus on how the person has demonstrated this competency in the past. Each question is targeted at obtaining behavioural evidence for a specific competency and the candidate is asked to provide concrete examples from their previous experience of when they demonstrated the behaviour in question.

(c) *Create tools to operationalise competencies (e.g. performance appraisals)*

In order to assess whether staff have an adequate level of the required competencies, an evaluation/appraisal system needs to be in place. It should be noted that performance appraisal (usually done on an annual basis) and evaluation of competence, whilst often using the same human resource process (depending on the competence to be evaluated), have different outcomes. Often the former is done in the context of a performance management system where good performance is rewarded with, for example, remuneration and poor performance is subject to remedial measures or sanctions in extreme cases. Evaluation of competence is performed to ensure that the job holder is competent to carry out the task according to pre-defined standards. If a job holder is evaluated as not competent for whatever reason a programme of training/coaching/mentoring will be initiated followed by another evaluation to ensure they have reached the required level of competence.

If the job holder is unable to demonstrate his/her competence they must no longer perform this task and the human resource processes in the performance management system will apply.

(d) *Maintain, develop and assess staff against the established competence profiles*

Once the levels of competence have been established, training programmes need to be in place to ensure that staff meet them. A management system should be capable of verifying that following the training, staff can demonstrate the competency in question.

**2.2.4. Maintain and develop competence**

(a) *Monitor and reassess staff performance*

Competence of a staff member carrying out safety assessment or supervision is maintained by having a structured process of monitoring performance and reassessment of competence by those responsible for managing the process. This could be a line management responsibility or an external/internal competence checking authority. Where staff are recruited at an entry level they will follow a training programme to ensure they reach the required level of competence. Thereafter the maintenance of their competence will be performed by managing their performance through regular monitoring.

(b) *Update the competence of individuals*

The competence of staff needs to be updated due to changes in legislation, technology etc. For the organisation, the competencies can be incorporated into the learning and development activities so that staff are actively developing the competencies known to be essential to success in the organisation. Training can encompass a wide range of activities such as internal or external courses, on-the-job training and conferences/seminars.

(c) *Manage under performance*

Under performance can be defined as the assessment by management that the performance of a staff member is not at the level required by the established competence standards. The primary tool used to assess individual performance will be the evaluation system. In the case of under-performance, a well-defined performance enhancement system is needed to analyse the reasons and circumstances for the shortfalls, to help the staff member concerned to improve their performance and to ensure an alignment between the profile of staff, the duties assigned to them and the required level of competence for the post. The guiding principle is to help staff attain optimal performance.

(d) *Keep records*

A document management system should be in place where documents can be easily traced. All documents related to performance management should comply with Regulation (EC) 45/2001 on data protection.

### 2.2.5. Verify, audit and review the CMS

A process should be in place where the CMS is reviewed on a regular basis. This is a different process to the annual appraisal exercise where the performance of the staff member is evaluated. The issue here is whether the competencies and their required level listed in the competence profile are still essential for the task to be carried out effectively.

Verification involves checking the use of appropriate competence standards, methods of assessment, and the consistent use of the procedures and work instructions developed for the CMS.

Auditing the CMS involves looking at the system as a whole, sampling and checking the performance and compliance over the entire scope of the CMS against the procedures and the latest regulatory requirements.

There are arrangements in place to review the CMS to ensure that it remains effective. The review should assess performance of the overall system against agreed standards, key performance indicators and recommendations resulting from verification and audit. When the review has been completed, the results and recommendations need to be fed back into the relevant phases of the process leading to a systematic and regular updating and improvement of the CMS.

## 3. Competency framework

### 3.1. Comprehensive competency for safety assessment

The following competency framework is provided as a guideline and fully covers the tasks performed by those responsible for safety assessment. It is not expected that each individual demonstrates all the technical competencies listed. However the organisation should have staff with a sufficient level of technical knowledge in the specified fields who can be called upon when required. Concerning the non-technical competencies the behavioural indicators are non-exhaustive examples of observable behaviour which relate to the competency and are illustrative rather than definitive.

Under the new proposed regulatory regime, for the purposes of assessment, the authority may undertake on-site visits, inspections and audits of the railway undertakings in which case supervision competencies as listed in Table 2 will be necessary.

Table 1: Competency framework for safety assessment

Competency	Explanation
<b>Knowledge</b>	
EU rail regulatory framework	<ul style="list-style-type: none"> <li>▶ Demonstrates an understanding of the purpose of the EU rail regulatory framework and the part certification plays in railway safety</li> <li>▶ Shows knowledge and understanding of the European approach</li> <li>▶ Knows why certification is being carried out and what it is for</li> <li>▶ Understands the links between certification and supervision</li> </ul>
SMS (or other similar management systems)	<ul style="list-style-type: none"> <li>▶ Shows an understanding of safety management systems either through inspection, audit or assessment</li> <li>▶ Demonstrates knowledge of how an SMS or similar management system (e.g. Quality Management System) controls risk within a railway context or field with similar operational and technical challenges</li> </ul>
Functioning of the railway system	<ul style="list-style-type: none"> <li>▶ Understands the relationship between the technical aspects, the people and the organisation of the railway system These should include a basic understanding of infrastructure, rolling stock, operations and asset management as appropriate</li> </ul>
<b>Experience</b>	
Assessment	<ul style="list-style-type: none"> <li>▶ Experience of certification in practical application or in the creation of an assessment regime</li> </ul>

### 3. Competency framework

<b>Non-technical competencies (i.e. soft skills)</b>	<b>Examples of behavioural indicators</b>
Appropriate level of critical analysis	<p>Being 'critical' does not mean just being negative, or pointing out what is wrong about something, it means fully informed, capable of supporting in-depth analysis and assessment. Demonstrates the ability to identify key issues and relationships on the basis of information; relating and comparing data from different sources and identifying cause and effect relationships.</p> <p>Having an appropriate level of critical analysis (or critical thinking<sup>1</sup>) can include behaviours such as:</p> <ul style="list-style-type: none"> <li>▶ Thinking carefully about what you read and why: judging what resources are credible, reflecting on and developing your search techniques, not just looking for and reading the obvious and/or the first things you come across</li> <li>▶ Questioning and testing what you read: do the author's viewpoints and ideas appear justified? Why – or why not?</li> <li>▶ Looking for connections (or disparities), and constructing your own arguments supported by a range of carefully considered viewpoints, not just repeating the ideas of others</li> <li>▶ Being inquisitive, and asking good questions – of others, and of yourself</li> <li>▶ Spotting and challenging potential bias, distorted views, prejudice, and self-interest – in the work of others, and in your own thinking</li> <li>▶ Challenging ideas - where appropriate, and based on credible evidence</li> <li>▶ Looking for gaps, and suggesting new or different solutions</li> <li>▶ Reflecting on and adapting your own professional practice based on your developing insights</li> </ul>
Problem solving	<ul style="list-style-type: none"> <li>▶ Able to analyse issues and problems in a logical, step-by-step way and to design and implement suitable solutions drawing on one's knowledge and experience base and calling on other references and resources as necessary</li> <li>▶ Challenges assumptions</li> <li>▶ Independence of mind</li> <li>▶ Open-mindedness</li> <li>▶ Knowing the limits of one's knowledge/experience</li> <li>▶ Identifies the critical facts in complex issues</li> <li>▶ Develops creative and practical solutions in conjunction with the applicant</li> <li>▶ Uses troubleshooting techniques</li> <li>▶ Able to deal with large amounts of information</li> <li>▶ Uses techniques to stimulate creative problem solving</li> <li>▶ Knows how to gather appropriate information</li> </ul>
Communicating	<ul style="list-style-type: none"> <li>▶ Actively listens, pays attention to details, analysis and extracts essential information and presents it in a creative, clear, concise and impactful way</li> <li>▶ Empathy, seeing the other's point of view and understanding what drives them</li> <li>▶ Communicates clearly and precisely both orally and in writing</li> <li>▶ Knowledge of public speaking techniques</li> <li>▶ Knows how to engage an audience</li> <li>▶ Uses persuasion, influencing, negotiation and facilitation techniques</li> </ul>
Team working	<ul style="list-style-type: none"> <li>▶ Constructively and effectively co-operates and collaborates within the immediate team, across the organisation as well as with external stakeholders in order to accomplish common goals and objectives whilst showing respect for people from diverse backgrounds</li> <li>▶ Works co-operatively with others in teams and across organisational boundaries</li> <li>▶ Respects differences between people</li> <li>▶ Works effectively in a team</li> <li>▶ Respects roles in the team</li> <li>▶ Works across organisational boundaries</li> <li>▶ Knows how to support others</li> <li>▶ Knows how to benefit from diversity</li> <li>▶ Knows how to benefit from synergies in the team</li> <li>▶ Knows how to work together for a greater goal and a common vision</li> </ul>

(<sup>1</sup>) Learning resources of the University of Edinburgh - <http://www.ed.ac.uk/institute-academic-development/post-graduate/taught/learning-resources/critical>

### 3.2. Proposed competency framework for supervision

The following competency framework is proposed for supervision activities conducted by an NSA. It is not expected that each individual demonstrates all the technical competencies listed. However the organisation should have staff with a sufficient level of technical knowledge in the specified fields who can be called upon when required. Concerning the non-technical competencies the behavioural indicators are non-exhaustive examples of observable behaviour which relate to the competency and are illustrative rather than definitive.

Table 2 : Competency framework for supervision

Competency	Explanation
<b>Knowledge</b>	
EU rail regulatory framework	<ul style="list-style-type: none"> <li>▶ Demonstrates an understanding of the purpose of the EU rail regulatory framework and the part supervision plays in railway safety</li> <li>▶ Shows knowledge and understanding of the European approach</li> <li>▶ Knows why supervision is being carried out and what it is for</li> <li>▶ Understands the links between certification and supervision</li> </ul>
SMS (or other similar management systems)	<ul style="list-style-type: none"> <li>▶ Shows an understanding of safety management systems either through inspection or audit</li> <li>▶ Demonstrates knowledge of how an SMS or similar management system (eg Quality Management System) controls risk within a railway context or field with similar operational and technical challenges</li> </ul>
Principles, techniques and tools of supervision	<ul style="list-style-type: none"> <li>▶ Demonstrates an understanding of what supervision is for and how NSAs supervise in practice and how that feeds into the conformity assessment process</li> </ul>
Assessment	<ul style="list-style-type: none"> <li>▶ Understands the dynamic relationship between the certification process and supervision</li> </ul>
Functioning of the railway system	<ul style="list-style-type: none"> <li>▶ Understands the relationship between the technical aspects, the people and the organisation of the railway system These should include a basic understanding of infrastructure, rolling stock, operations and asset management as appropriate</li> </ul>
<b>Experience</b>	
Supervision	<ul style="list-style-type: none"> <li>▶ An understanding of risk assessment and how it assists in controlling risks through its place in the SMS</li> </ul>
Interviewing skills	<ul style="list-style-type: none"> <li>▶ Demonstration of experience in different interviewing skills such as asking open and closed questions. Able to establish rapport with the interviewee at all levels and put them at ease</li> </ul>

### 3. Competency framework

<b>Non-technical competencies (i.e. soft skills)</b>	<b>Examples of behavioural indicators</b>
Appropriate level of critical analysis	<p>Being 'critical' does not mean just being negative, or pointing out what is wrong about something, it means fully informed, capable of supporting in-depth analysis and assessment. Demonstrates the ability to identify key issues and relationships on the basis of information; relating and comparing data from different sources and identifying cause and effect relationships</p> <p>Having an appropriate level of critical analysis (or critical thinking<sup>(?)</sup>) can include behaviours such as:</p> <ul style="list-style-type: none"> <li>▶ Thinking carefully about what you read and why: judging what resources are credible, reflecting on and developing your search techniques, not just looking for and reading the obvious and/or the first things you come across</li> <li>▶ Questioning and testing what you read: do the author's viewpoints and ideas appear justified? Why – or why not?</li> <li>▶ Looking for connections (or disparities), and constructing your own arguments supported by a range carefully considered viewpoints, not just repeating the ideas of others</li> <li>▶ Being inquisitive, and asking good questions – of others, and of yourself</li> <li>▶ Spotting and challenging potential bias, distorted views, prejudice, and self-interest – in the work of others, and in your own thinking</li> <li>▶ Challenging ideas - where appropriate, and based on credible evidence</li> <li>▶ Looking for gaps, and suggesting new or different solutions</li> <li>▶ Reflecting on and adapting your own professional practice based on your developing insights</li> </ul>
Problem solving	<ul style="list-style-type: none"> <li>▶ Able to analyse issues and problems in a logical, step-by-step way and to design and implement suitable solutions drawing on one's knowledge and experience base and calling on other references and resources as necessary.</li> <li>▶ Challenges assumptions</li> <li>▶ Independence of mind</li> <li>▶ Open-mindedness</li> <li>▶ Knowing the limits of one's knowledge/experience</li> <li>▶ Identifies the critical facts in complex issues</li> <li>▶ Develops creative and practical solutions</li> <li>▶ Uses troubleshooting techniques</li> <li>▶ Able to deal with large amounts of information</li> <li>▶ Uses techniques to stimulate creative problem solving</li> <li>▶ Knows how to gather appropriate information</li> </ul>
Communicating	<ul style="list-style-type: none"> <li>▶ Actively listens, pays attention to details, analysis and extracts essential information and presents it in a creative, clear, concise and impactful way</li> <li>▶ Empathy, seeing the other's point of view and understanding what drives them</li> <li>▶ Communicates clearly and precisely both orally and in writing</li> <li>▶ Knowledge of public speaking techniques</li> <li>▶ Knows how to engage an audience</li> <li>▶ Uses persuasion, influencing, negotiation and facilitation techniques</li> </ul>
Team-working	<ul style="list-style-type: none"> <li>▶ Constructively and effectively co-operates and collaborates within the immediate team, across the organisation as well as with external stakeholders in order to accomplish common goals and objectives whilst showing respect for people from diverse backgrounds</li> <li>▶ Works co-operatively with others in teams and across organisational boundaries</li> <li>▶ Respects differences between people</li> <li>▶ Works effectively in a team</li> <li>▶ Respects roles in the team</li> <li>▶ Works across organisational boundaries</li> <li>▶ Knows how to support others</li> <li>▶ Knows how to benefit from diversity</li> <li>▶ Knows how to benefit from synergies in the team</li> <li>▶ Knows how to work together for a greater goal and a common vision</li> </ul>

(?) Learning resources of the University of Edinburgh - <http://www.ed.ac.uk/institute-academic-development/post-graduate/taught/learning-resources/critical>









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### Guidance for Safety certification:

- ▶ Application guide for the granting of single safety certificates - A guide for the applicants
- ▶ Application guide for the granting of single safety certificates - A guide for the authorities
- ▶ Safety management system requirements for safety certification or safety authorisation
- ▶ Supervision guide
- ▶ Management maturity model
- ▶ Enforcement management model
- ▶ Coordination between national safety authorities – A common approach to supervision
- ▶ **Competence management framework for authorities**