



STAFFER GLOSSARY





TABLE OF CONTENTS

INTRODUCTION..... 10

KEY RAILWAY TERMS..... 10

1 A..... 10

1.1 AUTOMATIC DRIVING RAILWAY..... 10

1.2 AUTOMATIC TRAIN OPERATION (ATO)..... 10

1.3 AUTOMATIC TRAIN PROTECTION (ATP)..... 10

1.4 AUTOMATIC WARNING SYSTEM (AWS)..... 10

1.5 AUTONOMOUS TRAINS..... 11

2 B..... 11

2.1 BIM IN RAILWAYS..... 11

2.2 BLOCK SECTION..... 12

2.3 BLOCK SIGNAL..... 12

3 C..... 12

3.1 CAB SIGNAL..... 12

3.2 CBI COMPUTER BASED INTERLOCKING..... 12

3.3 CENTRALISED TRAFFIC CONTROL (CTC)..... 12

4 D..... 12

4.1 DANGEROUS GOODS..... 12

4.2 DIGITAL PROVISIONING..... 12

4.3 DIGITAL TWIN..... 13

4.4 DISTRIBUTED LEDGER..... 13

5 E..... 13

5.1 EMBEDDED PAYMENT..... 13

5.2 ERTMS EUROPEAN RAIL TRAFFIC MANAGEMENT SYSTEM..... 13

5.3 ETCS ‘EUROPEAN TRAIN CONTROL SYSTEM’..... 13

6 F..... 13

6.1 FREIGHT CORRIDORS..... 13

6.2 FREIGHT TRANSPORT VILLAGES..... 14

7 G..... 14

7.1 GAUGE (TRACK)..... 14

7.2 GSM-R..... 14

7.3 5G & BEYOND..... 14

8 H..... 14

8.1 HIGH SPEED RAIL..... 14

9 I..... 15

9.1 INTERLOCKING..... 15

9.2 INTERMODAL TRAFFIC..... 15

9.3 INTERNET OF THINGS..... 15

9.4 INTEROPERABILITY..... 16

10 L..... 16

10.1 LONG TRAINS..... 16

11 M..... 17

11.1 MAIN LINE..... 17

11.2 MAINTENANCE PROVIDER..... 17

11.3 MASS TRANSPORTATION..... 17

11.4 MOVING BLOCK..... 17

12 P..... 17

12.1 PASSENGER LINE..... 17

12.2 PASSENGER ROLLING STOCK..... 17

12.3 PREDICTIVE MAINTENANCE..... 17

13 Q..... 18

13.1 QUANTUM COMPUTING..... 18





14	R	18
14.1	RAIL OPERATOR.....	18
14.2	RAILWAY EMPLOYEE.....	18
14.3	RAILWAY INFRASTRUCTURE	18
14.4	RAILWAY SERVICE	19
14.5	RELIABILITY	19
14.6	ROLLING STOCK	19
15	S	19
15.1	SAFETY CRITICAL	19
15.2	SAFETY CRITICAL WORKER.....	19
15.3	SAFETY CULTURE	19
15.4	SAFETY INTEGRITY	19
15.5	SAFETY RELATED WORK.....	19
15.6	SCADA SYSTEM	19
15.7	SECURITY	19
15.8	SIGNAL	20
15.9	SIGNAL ASPECT.....	20
15.10	STANDARD GAUGE.....	20
16	T.....	20
16.1	TRACK GAUGE	20
16.2	TRAIN	20
16.3	TRAIN ACCEPTANCE.....	20
16.4	TRAIN AUTHORITY	20
16.5	TRAIN AUTOMATION	20
16.6	TRAIN CREW	20
16.7	TRAIN (IDENTIFICATION) NUMBER	20
17	V.....	21
17.1	VIRTUAL COUPLING	21
18	W.....	21
18.1	WAGON.....	21
18.2	WHEELSET	21
18.3	WORK SITE SAFETY SUPERVISOR	21
18.4	WORKSITE PROTECTION.....	21
19	Y.....	21
19.1	YARDS AND TERMINALS	21
<i>KEY HUMAN RESOURCES/SKILL MANAGEMENT TERMS</i>		21
20	A.....	21
20.1	APPRENTICESHIP.....	21
20.2	ATTRACTIVENESS	22
20.3	AWARDING BODY	22
21	B.....	22
21.1	BASIC ICT SKILLS	22
21.2	BASIC SKILLS	23
22	C.....	23
22.1	COMPETENCE.....	23
22.2	CURRICULUM.....	23
22.3	CUTTING-EDGE TECHNOLOGIES/ INNOVATIONS	23
23	D.....	24
23.1	DIGCOMP - DIGITAL COMPETENCE FRAMEWORK	24
23.2	DIGITAL COMPETENCE	24
23.3	DIGITAL GAP	24
24	E.....	24
24.1	EDOS – EMPLOYMENT DEVELOPMENT OPPORTUNITIES	24
24.2	EMERGING / NEW SKILLS	24
24.3	EMPLOYABILITY	25
24.4	EUROPASS	25





25	G	25
25.1	GENDER SHIFT	25
25.2	GREEN SKILLS	25
26	H	26
26.1	HARD SKILLS	26
26.2	HUMAN CAPITAL	26
26.3	HUMAN IMMERSION	26
27	I	26
27.1	INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)	26
27.2	INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SKILLS	26
27.3	ISCO-08 - INTERNATIONAL STANDARD CLASSIFICATION OF OCCUPATIONS	27
27.4	INTERNSHIP	27
28	J	27
28.1	JOB	27
28.2	JOB PROFILES	27
29	K	27
29.1	KEY SKILLS / KEY COMPETENCES	27
29.2	KNOWLEDGE TRANSFER	28
30	L	28
30.1	LIFELONG LEARNING	28
31	M	28
31.1	MACRO TRENDS	28
31.2	MEGA TRENDS	29
31.3	MICRO TRENDS	29
31.4	MOBILITY	29
32	N	29
32.1	NEW BASIC SKILLS	29
32.2	NEW WORK	29
33	O	29
33.1	OCCUPATION	29
33.2	OCCUPATIONAL GROUP	30
33.3	OCCUPATIONAL PROFILES	30
33.4	ONBOARDING	30
33.5	ON-THE-JOB TRAINING	30
33.6	OUTCOME INDICATOR IN VET	31
34	P	31
34.1	PROFESSIONAL DEVELOPMENT	31
35	R	31
35.1	RAIL SECTOR WORKFORCE CAPABILITY	31
35.2	RECRUITMENT	31
35.3	RESKILLING	32
36	S	32
36.1	SILVER SOCIETY	32
36.2	SKILL	32
36.3	SKILLS AND COMPETENCES	32
36.4	SKILLS ASSESSMENT	33
36.5	SKILLS ASSESSMENT METHODOLOGY	33
36.6	SKILL GAP	33
36.7	SKILL MISMATCH	33
36.8	SKILL NEEDS	33
36.9	SKILL NEEDS ANALYSIS	34
36.10	SKILL OBSOLESCENCE	34
36.11	SKILL SHORTAGE	34
36.12	SKILLS AUDIT	35
36.13	SOCIAL DIALOGUE	35
36.14	SOCIAL PARTNERS	35





37	T.....	35
37.1	TRANSITION FROM SCHOOL OR TRAINING TO WORK.....	35
37.2	TRANSITION OF EMPLOYEES	36
37.3	TRENDS.....	36
37.4	TUTORING	36
38	U.....	36
38.1	UPSKILLING.....	36
39	W	36
39.1	WORK-BASED LEARNING	36
<i>GENERAL HUMAN RESOURCES/SKILL MANAGEMENT TERMS.....</i>		37
40	A.....	37
40.1	ADAPTABILITY.....	37
40.2	AGEING SOCIETY	37
41	C.....	37
41.1	COMMISSIONING	37
41.2	COMPETENCE.....	37
42	J.....	38
42.1	JOB PLACEMENT	38
43	K.....	38
43.1	KNOW-HOW	38
43.2	KNOWLEDGE.....	38
43.3	KNOWLEDGE SOCIETY / KNOWLEDGE-BASED SOCIETY.....	39
44	N	39
44.1	NEO-ECOLOGY.....	39
45	O.....	39
45.1	OVERQUALIFICATION.....	39
46	U.....	39
46.1	UNDERQUALIFICATION.....	40
46.2	URBANIZATION.....	40
<i>KEY EDUCATION AND TRAINING TERMS.....</i>		40
47	A.....	40
47.1	ACCESS TO EDUCATION AND TRAINING.....	40
47.2	ACCREDITATION OF AN EDUCATION OR TRAINING PROGRAMME.....	40
47.3	ASSESSMENT OF LEARNING OUTCOMES.....	40
47.4	ATTRACTIVENESS OF VOCATIONAL EDUCATION AND TRAINING.....	41
47.5	AWARDING BODY	41
48	B	41
48.1	BASIC ICT SKILLS	41
48.2	BASIC SKILLS	41
48.3	BENEFITS OF EDUCATION AND TRAINING	42
49	C.....	42
49.1	CERTIFICATE / DIPLOMA / TITLE.....	42
49.2	CERTIFICATION OF LEARNING OUTCOMES.....	42
49.3	COMMON PRINCIPLES FOR QUALITY ASSURANCE IN HIGHER EDUCATION AND VET.....	42
49.4	COMMON QUALITY ASSURANCE FRAMEWORK (CQAF).....	43
49.5	COMPARABILITY OF QUALIFICATIONS.....	43
49.6	COMPENSATORY LEARNING	44
49.7	CONTEXT INDICATOR (ON QUALITY IN VET).....	44
49.8	CONTINUING EDUCATION AND TRAINING	44
49.9	CREDIT SYSTEM.....	44
50	E.....	44
50.1	EDUCATION OR TRAINING PATH.....	44
50.2	EDUCATION OR TRAINING PROVIDER.....	45
50.3	E-LEARNING.....	45
50.4	EUROPEAN ASSOCIATION IN HIGHER EDUCATION (ENQA)	45
50.5	EUROPEAN COOPERATION IN QUALITY ASSURANCE IN EDUCATION AND TRAINING	45





50.6	EUROPEAN CREDIT SYSTEM FOR VOCATIONAL EDUCATION AND TRAINING (ECVET)	46
50.7	EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)	46
50.8	EUROPEAN QUALIFICATIONS FRAMEWORK FOR LIFELONG LEARNING (EQF)	46
50.9	EUROPEAN QUALITY ASSURANCE IN VOCATIONAL EDUCATION AND TRAINING (EQAVET).....	47
50.10	EQAVET INDICATORS.....	47
50.11	EVALUATION OF EDUCATION AND TRAINING	47
51	L.....	48
51.1	ISCED LEVEL 3 – UPPER SECONDARY EDUCATION.....	48
51.2	ISCED LEVEL 4 – POST-SECONDARY NON-TERTIARY EDUCATION.....	48
51.3	ISCED LEVEL 5 – SHORT-CYCLE TERTIARY EDUCATION	48
51.4	ISCED LEVEL 6 – BACHELOR’S OR EQUIVALENT LEVEL	48
51.5	ISCED LEVEL 7 – MASTER OR EQUIVALENT LEVEL.....	49
51.6	ISCED LEVEL 8 – DOCTORAL OR EQUIVALENT	49
52	L.....	49
52.1	LEARNING CONTENT	49
52.2	LEARNING OUTCOMES / LEARNING ATTAINMENTS	49
52.3	LEAVER SURVEY	50
52.4	LEVEL OF QUALIFICATION	50
52.5	LISBON STRATEGY	50
53	M.....	51
53.1	MUTUAL RECOGNITION OF QUALIFICATIONS	51
54	P	51
54.1	PROCESS STANDARD	51
54.2	PROGRAMME OF EDUCATION OR TRAINING.....	51
55	Q.....	51
55.1	QUALIFICATION.....	51
55.2	QUALIFICATIONS FRAMEWORK	52
55.3	QUALIFICATION SYSTEM.....	52
55.4	QUALITY ASSURANCE IN EDUCATION AND TRAINING.....	53
55.5	QUALITY CRITERIA FOR ASSESSING QUALITY IN VET.....	53
55.6	QUALITY INDICATOR FOR ASSESSING QUALITY IN VET.....	53
55.7	QUALITY MANAGEMENT APPROACH IN VET	54
55.8	QUALITY MANAGEMENT IN EDUCATION AND TRAINING	54
56	R	54
56.1	RECOGNITION OF LEARNING OUTCOMES	54
56.2	RETRAINING	55
57	S	55
57.1	STAKEHOLDERS IN VET	55
57.2	STANDING GROUP ON INDICATORS AND BENCHMARKS (SGIB)	55
57.3	STEM - SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH.....	55
58	T.....	56
58.1	TRAINING COURSE PLANNING AND DESIGN	56
58.2	TRAINING NEEDS ANALYSIS.....	56
58.3	TRANSFERABILITY OF LEARNING OUTCOMES	56
58.4	TRANSPARENCY OF QUALIFICATIONS.....	56
59	U.....	57
59.1	UNIT OF LEARNING OUTCOMES (ECVET)	57
60	V.....	57
60.1	VALIDATION OF LEARNING OUTCOMES.....	57
60.2	VOCATIONAL EDUCATION AND TRAINING (VET)	58
<i>GENERAL EDUCATION AND TRAINING TERMS</i>		58
61	A.....	58
61.1	ACCOUNTABILITY	58
61.2	ACCREDITATION (QUALITY).....	58
61.3	ADULT EDUCATION	58
61.4	ALTERNANCE TRAINING	58





62	C.....	59
62.1	COMPULSORY EDUCATION.....	59
63	D.....	59
63.1	DISTANCE EDUCATION AND TRAINING.....	59
63.2	DROPOUT.....	59
64	E.....	59
64.1	EDUCATION OR TRAINING PATHWAY.....	59
64.2	EDUCATIONAL ATTAINMENT.....	59
65	F.....	60
65.1	FORMAL LEARNING.....	60
65.2	FORMATIVE EVALUATION.....	60
66	G.....	60
66.1	GOVERNANCE IN EDUCATION AND TRAINING.....	60
66.2	GUIDANCE AND COUNSELLING/ INFORMATION, ADVICE AND GUIDANCE (IAG).....	60
67	I.....	61
67.1	INDIVIDUAL LEARNING ACCOUNT.....	61
67.2	INFORMAL LEARNING.....	61
67.3	INITIAL EDUCATION AND TRAINING.....	61
67.4	INSPECTION OF A VET PROVIDER.....	62
67.5	ISCED LEVEL 0 – EARLY CHILDHOOD EDUCATION.....	62
67.6	ISCED LEVEL 1 – PRIMARY EDUCATION.....	62
67.7	ISCED LEVEL 2 – LOWER SECONDARY EDUCATION.....	62
68	L.....	62
68.1	LEARNING.....	63
68.2	LEARNING BY DOING.....	63
68.3	LEARNING BY USING.....	63
68.4	LEARNING COMMUNITY.....	63
68.5	LEARNING FACILITATOR.....	63
68.6	LEARNING ORGANISATION.....	63
68.7	LEARNING REGION.....	64
68.8	LIFEWIDE LEARNING.....	64
68.9	LOW-SKILLED PERSON.....	64
69	N.....	64
69.1	NON-FORMAL LEARNING.....	64
70	O.....	65
70.1	OFF-THE-JOB TRAINING.....	65
70.2	OPEN LEARNING.....	65
71	P.....	65
71.1	PEER LEARNING.....	65
71.2	PEER REVIEW IN VET.....	65
71.3	PERMEABILITY OF EDUCATION AND TRAINING SYSTEMS.....	65
71.4	POST-COMPULSORY EDUCATION.....	66
72	R.....	66
72.1	RECOGNITION OF AN EDUCATION OR TRAINING PROVIDER.....	66
73	S.....	66
73.1	SECONDARY SCHOOL LEAVING CERTIFICATE / BACCALAUREATE.....	66
73.2	SPECIAL NEEDS EDUCATION.....	67
74	T.....	67
74.1	TEACHER.....	67
74.2	TRAINER.....	68
74.3	TRAINING OF TRAINERS.....	68
74.4	TRANSITION FROM SCHOOL OR TRAINING TO WORK.....	68
74.5	TUTORING.....	69
75	V.....	69
75.1	VALUING LEARNING.....	69
75.2	VOCATIONAL EDUCATION AND TRAINING OF UNEMPLOYED.....	69





OTHER GENERAL TERMS	69
76 B	69
76.1 BENCHLEARNING	69
76.2 BENCHMARKING	70
77 C	70
77.1 CERTIFICATION (QUALITY)	70
77.2 CERTIFICATION BODY (QUALITY)	70
77.3 CHANGE MANAGEMENT (QUALITY)	70
77.4 CIVIL SOCIETY	71
77.5 CLUSTER	71
77.6 CLUSTER EVALUATION	71
77.7 COMPLAINT PROCEDURE (QUALITY)	71
77.8 CONFORMITY (QUALITY)	71
77.9 CORRECTIVE ACTION	71
77.10 COST-BENEFIT ANALYSIS	72
77.11 CRITERION	72
77.12 CUSTOMER SATISFACTION	72
78 E	72
78.1 EX ANTE EVALUATION	72
78.2 EX POST EVALUATION	72
79 G	73
79.1 GOOD PRACTICE	73
79.2 GROUP AT RISK	73
80 I	73
80.1 INTERNATIONAL ORGANISATION FOR STANDARDISATION (ISO)	73
81 M	74
81.1 MENTORING	74
82 O	74
82.1 OPEN METHOD OF COORDINATION	74
82.2 OUTCOME (QUALITY)	74
82.3 OUTPUT (QUALITY)	74
82.4 OUTPUT INDICATOR	75
82.5 OUTPUT STANDARD	75
83 P	75
83.1 PERFORMANCE	75
83.2 PERFORMANCE INDICATOR	75
83.3 PREVENTIVE ACTION	75
83.4 PROCEDURE	75
83.5 PROCESS	76
83.6 PROCESS INDICATOR	76
84 Q	76
84.1 QUALITY	76
84.2 QUALITY APPROACH	76
84.3 QUALITY AUDIT	76
84.4 QUALITY CYCLE / PDCA CYCLE	76
84.5 QUALITY CONTROL	77
84.6 QUALITY INDICATOR	77
84.7 QUALITY LOOP	77
84.8 QUALITY MANAGEMENT	78
84.9 QUALITY MANAGEMENT SYSTEM	78
84.10 QUALITY MANUAL	78
84.11 QUALITY MONITORING	78
84.12 QUALITY OBJECTIVE	78
84.13 QUALITY POLICY	78
84.14 QUALITY PREREQUISITES	78
84.15 QUALITY REQUIREMENT	79





84.16	QUALITY STANDARD	79
84.17	QUALITY SYSTEM	79
85	R	79
85.1	REGISTER	79
85.2	REGULATED PROFESSION	79
85.3	REVIEW	79
86	S	80
86.1	SECTOR.....	80
86.2	SELF-ASSESSMENT (OF A LEARNER).....	80
86.3	SELF-EVALUATION (OF A VET PROVIDER).....	80
86.4	SMART OBJECTIVES.....	80
86.5	SOCIAL COHESION	81
86.6	SPECIFICATIONS.....	81
86.7	STANDARD.....	81
86.8	SUMMATIVE EVALUATION	82
86.9	SWOT ANALYSIS	82
87	T.....	82
87.1	TOTAL QUALITY MANAGEMENT (TQM)	82
88	V.....	82
88.1	VALIDATION (QUALITY).....	82
88.2	VERIFICATION	82
	REFERENCES.....	83

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INTRODUCTION

This Glossary is part of the STAFFER project and it is aimed at providing the STAFFER vision related to the relevant terminology that will be used in the project deliverables.

The STAFFER vision will include the perspective of operators and infrastructure managers, suppliers and educational providers.

The Glossary is organized in the following sections:

- Key railways terms
- Key human resources/skill management terms
- General human resources/skill management terms
- Key education and training terms
- General education and training terms
- Other general terms

KEY RAILWAY TERMS

1 A

1.1 Automatic Driving Railway

Generally, automation is considered to be achieved when the train does not have a driver (GoA4 and GoA3). Trains with a GoA3 are characterised as autonomous, while the ones with GoA4 as fully autonomous.

1.2 Automatic train operation (ATO)

A high reliability system that automatically operates the train's driving controls in accordance with information usually received from the trackside signalling equipment or traffic control system.

1.3 Automatic train protection (ATP)

A system that supervises train speed and target speed, alerts driver of the braking equipment, and enforces braking when necessary. The system may be intermittent, semi-continuous or continuous track-to-train transmission updating characteristics.

1.4 Automatic warning system (AWS)

A system that provides audible and visual warnings to the driver on the approach to signals, certain level crossings and emergency, temporary and certain permanent speed restrictions. It supervises the driver's reaction to signal caution aspects and indicates to the driver the passing of a clear aspect. Mostly advisory, however it will cause a brake application to be made automatically if the driver fails to react when approaching a restrictive aspect.



1.5 Autonomous trains

Generally, automation is considered to be achieved when the train does not have a driver (GoA4 and GoA3). Trains with a GoA3 are characterised as autonomous, while the ones with GoA4 as fully autonomous.

2 B

2.1 BIM in railways

Building Information Modelling (BIM) refers to the digital representation of physical and functional characteristics of a facility. BIM is a shared knowledge resource for information about a facility forming a reliable basis for decisions during its lifecycle; defined as existing from earliest conception to demolition (National Institute of Building Sciences, 2007).

Additional Information

Indicative use cases of BIM include (S. Azhar, 2011):

- 2d/3d Visualization
- Fabrication/shop drawings
- Code reviews
- Cost estimating
- Construction sequencing
- Conflict, interference, and collision detection
- Forensic analysis
- Facilities management

One of the key benefits of utilizing BIM is the accurate geometrical representation of the various parts of a building/facility in an integrated data environment (CRC Construction Innovation, 2007)

Other definitions:

Source:

https://www.acecae.eu/fileadmin/New_Upload/3._Area_2_Practice/BIM/Other_Docs/1_S.Mordue_Definition_of_BIM_01.pdf

References used in the “Building Information Modelling” definition:

- National institute of Building Sciences. (2007). United States National Building Information Modeling Standard.
- URL:
https://buildinginformationmanagement.files.wordpress.com/2011/06/nbimsv1_p1.pdf
- Salman Azhar. (2011). Adopting BIM for facilities management Solutions for managing the Sydney Opera House. Leadership and Management in Engineering
- CRC Constriction Innovation. (2007). Adopting BIM for facilities management - Solutions for managing the Sydney Opera House.



- URL:http://www.constructioninnovation.info/images/CRC_Dig_Model_Book_2007040_2_v2.pdf

2.2 Block section

A portion of line with defined limits between which only one rail traffic movement is permitted at any one time.

2.3 Block signal

A stop signal that controls the entrance to, or signifies the termination of, a block or signal section.

3 C

3.1 Cab signal

A display in the driving cab of a train, showing permissible speed or extent of movement authority, instead of or supplementing lineside signals.

3.2 CBI computer based interlocking

A computerised software system for providing the interlocking between points and signals.

3.3 Centralised traffic control (CTC)

A system of remotely controlling the points and signals at a number of interlocked stations, junctions and crossing loops in automatic signalling areas, from a centralised control room or signal box.

4 D

4.1 Dangerous goods

'Dangerous goods' (Pyrgidis, 2016): Materials and objects, the transportation of which is allowed only under certain conditions. These loads are categorised according to their physical and chemical properties. Fluid and solid fuel, gas, explosives, nuclear material, as well as polluting and corrosive materials are considered dangerous loads.

References used in the "Dangerous Goods" definition:

- C. Pyrgidis. (2016). Railway Transportation Systems – Design, Construction and Operation (1st Ed.). CRC Press

4.2 Digital Provisioning

The process of preparing and equipping a network to allow to provide new services to its users. Digital Provisioning refers to the provisioning of the customer's services to the network elements, which are various equipment connected in that network communication system (digital networking).



4.3 Digital twin

Is the digital image of an object, process or person and thus forms the interface between the real and virtual world. While the concept of virtual representations of real entities or systems is not new, the crucial difference is the immediate one-to-one relationship between the digital and physical objects, which typically spans multiple phases of the lifecycle. Through continuous synchronization, real-time data combined with machine learning and big data analytics can be used to answer specific operational questions.

4.4 Distributed Ledger

Describes a decentralized register in which transactions are stored chronologically continuously and irrevocably. All data sets are linked cryptographically and chronologically, resulting in a tamper-proof data structure.

5 E

5.1 Embedded Payment

The idea of embedded payment is to create a different customer experience and to make product selecting and the according payment process more convenient. Software companies are looking for convenient ways to facilitate payments on their platforms and offer services for integrated payment processes with a system. For example: all services and products around rail could be connected via this platform and a software provider offer this SASS model to rail operators.

5.2 ERTMS European Rail Traffic Management System

A system for managing rail traffic, enabling it to operate on compatible signalling systems across European borders.

5.3 ETCS 'European Train Control System'

A three level, unified, modular automatic train protection specification to enhance interoperability across Europe.

6 F

6.1 Freight corridors

'Freight (dedicated railway) corridor' (Pyrgidis, 2021): Routing of exclusively freight trains along the corridor.

Supplementary definitions (Pyrgidis, 2021):

'Railway corridor': Denotes the line(s) that connect(s) two wider geographical locations without necessarily constituting a railway route (e.g. the railway corridor X Thessaloniki-Salzburg, Europe-Asia railway corridor).

'Passengers dedicated railway corridor': Routing of exclusively passenger trains along the corridor.

‘Mixed traffic railway corridor’: Routing of either passenger or freight trains along the corridor.

References used in the “Freight Corridor” definition:

- C. Pyrgidis. (2021). Railway Transportation Systems – Design, Construction and Operation (2nd Ed.). CRC Press

6.2 Freight transport villages

‘Freight transport villages’ (Pyrgidis, 2021): Areas where all activities regarding transport logistics and distribution of goods are performed by various handlers. Their operation supports the transport of goods, especially in big urban centres. Freight transport villages connect different ways of transport, give access to transport corridors, and offer telematics services. Their main goal is to relieve big urban centres of the traffic congestion caused by trucks. The companies related to the freight transport villages have offices in these centres equipped with modern advanced technologies, providing customers with a number of facilities.

References used in the “Freight Transport Villages” definition:

- C. Pyrgidis. (2016). Railway Transportation Systems – Design, Construction and Operation (1st Ed.). CRC Press

7 G

7.1 Gauge (track)

The distance between the inside running (or gauge) faces of the two rails, measured between points 16 mm below the top of the rail heads.

7.2 GSM-R

Global system for mobile communications - railways.

7.3 5G & beyond

Describes the next telecommunications standards of mobile networks. Compared to today's 4G networks, 5G and following generations promise higher bit rates, higher endpoint densities per radio cell, lower latency, higher battery life, and better interoperability with other wireless networking technologies, depending on the configuration.

8 H

8.1 High speed rail

Within this term a distinction should be made between high/very-high speed tracks and high speed railway services. Specifically:

- ‘High speed tracks’ (Pyrgidis et al., 2020): Tracks with a design speed $V_d \geq 200$ km/h.
- ‘Very high speed tracks’ (Pyrgidis et al., 2020): Tracks with a design speed $V_d \geq 250$ km/h.



- ‘High speed railway services’ (Pyrgidis et al., 2020): Routes allowing maximum running speed of $V_{max} \geq 200$ km/h and simultaneously commercial (average exploitation speed) speeds $V_c \geq 150$ km/h.

References used in the “High speed rail” definition:

- Pyrgidis, C., Savvas, S., and Dolianitis, A. 2020, Classification of intercity and regional passenger railway systems based on speed – A worldwide overview of very high-speed infrastructure, rolling stock and services, *Ingegneria Ferroviaria*, No 9, Settembre 2020, pp. 635.

9 |

9.1 Interlocking

Interaction of equipment controlling points and/or signals designed so that no conflicting movements can be signalled.

9.2 Intermodal traffic

Freight moving via at least two different modes of transport, eg rail to road, rail to sea etc. Used to describe freight in modules which can be transported by more than one mode (rail, road, sea or air). The usual form of intermodal freight is containerised freight, which has proven to be the most convenient to transfer between modes. Because of this the terms intermodal and containerised are often interchanged.

9.3 Internet of Things

The Internet of Things (IoT) is a system of interrelated devices connected to a network and/or to one another, exchanging data without necessarily requiring human-to-machine interaction. In other words, IoT is a collection of electronic devices that can share information among themselves (Congressional Research Service, 2020).

Additional Information:

IoT devices are often called “smart” devices because they have sensors and can conduct complex data analytics.

IoT devices collect data using sensors and offer services to the user based on the analyses of that data and according to user-defined parameters (Congressional Research Service, 2020).

Sophisticated IoT devices can “learn” by recognizing patterns in user preferences and historical use data. An IoT device can become “smarter” as its program adjusts to improve its prediction capability so as to enhance user experiences or utility (Congressional Research Service, 2020).

IoT devices are connected to the internet: directly, through another IoT device, or both. Network connections are used for sharing information and interacting with users. The IoT creates linkages and connections between physical devices by incorporating software applications. IoT devices can enable users to access information or control devices from anywhere using a variety of internet-connected devices (Congressional Research Service, 2020).



References used in the “Internet of Things” definition:

- Congressional Research Service. (2020). The Internet of Things (IoT): An Overview.
URL: <https://crsreports.congress.gov/>

9.4 Interoperability

Interoperability is defined as the capability to operate on any stretch of the rail network without any difference. In other words, the focus is on making the different technical systems on the EU's railways work together (EC, 2007).

Additional Information

The Railway Interoperability Directive 2008/57/EC sets out the conditions to be met to achieve interoperability within the Community rail system. These conditions are met through the processes of (Office of Rail and Road UK, n.d.):

- Design
- Construction
- Placing in service
- Upgrading
- Renewing
- Operation and maintenance of parts in the system
- Professional qualifications and health and safety conditions of staff who contribute to its operation and maintenance

References used in the “Interoperability” definition:

- European Commission. (2007). Interoperability of the trans-European rail system.
URL: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=LEGISSUM:l24015&from=EN>
- Office of Rail and Road UK. (n.d.). Interoperability.
URL: <https://www.orr.gov.uk/guidance-compliance/rail/health-safety/laws/interoperability>

10L

10.1 Long Trains

‘Long trains’ (Islam and Mortimer, 2017, CER, 2016; EC, 2019): Freight trains with a length greater than 740 m.

References used in the “Long trains” definition:

D. Islam and P. Mortimer. (2017). Longer, faster and heavier freight trains: Is this the solution for European railways? Findings from a case study, *Benchmarking: An International Journal*, Vol. 24, No. 4, pp. 994 - 1012

Centre for European Reform. (2016). Longer trains Facts & Experiences in Europe.

URL: https://www.cer.be/sites/default/files/publication/160525_Longer%20Trains_Facts%20and%20Experiences%20in%20Europe_final_0.pdf



European Commission. (2019). Transport in the European Union Current Trends and Issues.

URL: <https://ec.europa.eu/transport/sites/transport/files/2019-transport-in-the-eu-current-trends-and-issues.pdf>

11M

11.1 Main line

The line normally used for running trains through and between locations.

11.2 Maintenance provider

An organisation contracted to perform maintenance on infrastructure or rolling stock

11.3 Mass Transportation

Mass transportation' (Savy, 2006; Pyrgidis, 1989): Term used to describe transport of goods under the following conditions: a) transport of large quantities; b) long-distance transportation; c) high-speed transportation; d) transportation with modes of great transportation capacity; e) transportation with transport means of high occupancy.

References used in the "Mass Transportation" definition:

- C. Pyrgidis (1989). Transport de mercaderies: Avantages i inconvenients de la massificacio de fluxos, Espais – revista del departament de politica territorial i ombres publiques de Catalunya, No. 17, May-June 1989, pp. 26 - 31.)
- M. Savy. (2006). Le Transport de Marchandises, Eyrolles, Paris, France.

11.4 Moving block

A train separation system where a safe space is maintained ahead of a moving train commensurate with its speed relative to other trains, track and train characteristics.

12P

12.1 Passenger line

A line signalled to the standard required for trains conveying passengers.

12.2 Passenger rolling stock

Rolling stock that carries people and facilities for these people.

12.3 Predictive maintenance

Predictive Maintenance utilizes a wealth of process data and advanced analytical methods to predict failures well before immediate action has to be taken (Schleichert et al., 2017).

Additional Information



As additional process data becomes available, estimating the remaining runtime of assets with increasing accuracy is possible. This maintenance approach is usually taken when high costs are incurred due to downtimes or maintenance. Also, it can ease scheduling when maintenance activities are complex (adapted from: Schleichert et al., 2017).

Source:

https://www2.deloitte.com/content/dam/Deloitte/de/Documents/deloitte-analytics/Deloitte_Predictive-Maintenance_PositionPaper.pdf

References used in the “Predictive Maintenance” definition:

O.P. Schleichert et al. (2009). Predictive Maintenance - Position Paper. Deloitte Analytics Institute

URL:https://www2.deloitte.com/content/dam/Deloitte/de/Documents/deloitte-analytics/Deloitte_Predictive-Maintenance_PositionPaper.pdf

13Q

13.1 Quantum Computing

The exponential increase in computing power is made possible by the next generation of computers based on the laws of quantum mechanics. The quantum computer has the potential to be around a hundred million times faster than a classical computer. With its help, database searches can be significantly accelerated, complex systems can be simulated and today's encryption technologies can probably be cracked. Thanks to quantum entanglement, a complex process in which two particles are inseparably linked even over long distances and every change in one particle without actual data transfer also produces a change in the "entangled" particle, even completely secure encryption technologies are possible. In the future, the computing power of a data computer can be booked and obtained via the cloud. Quantum clouds can become platforms of the future.

14 R

14.1 Rail operator

A generic term that refers to an accredited operator of rolling stock.

14.2 Railway employee

An employee or contractor of an owner or operator who performs railway work

14.3 Railway infrastructure

Facilities other than rolling stock necessary for a railway to operate safely including railway track, associated track structures, over- or under-track structures, supports (including supports for railway equipment or items associated with the use of a railway), tunnels, bridges, stations, platforms, train control systems, signalling systems, communication systems, electric traction infrastructure, buildings, workshops and associated equipment.





14.4 Railway service

A passenger service or a freight service.

14.5 Reliability

The ability of an item of equipment or a system to perform a required function under stated conditions for a stated period of time or at a given point in time.

14.6 Rolling stock

Any vehicle that operates on, or intends to operate on, or uses a railway track, including any loading on such a vehicle, but excluding a vehicle designed for both on- and off-track use when not operating on the track. Rolling stock is a collective term for a large range of rail vehicles of various types, including locomotives, freight wagons, passenger cars, track machines and road-rail vehicles.

15S

15.1 Safety critical

Directly influencing safety (when applied to equipment or systems).

15.2 Safety critical worker

A worker whose action or inaction may lead directly to a serious incident affecting the rail network.

15.3 Safety culture

The product of individual and group values, attitudes, perceptions, competencies and patterns of behaviour that determine commitment to, and the style and proficiency of, an organisation's health and safety management

15.4 Safety integrity

The probability of a safety-related system performing its required safety function under the required conditions and within the required time interval.

15.5 Safety related work

Safety activity in one or more of the following: (a) Driving and operation of trains. (b) Control of the movement of trains. (c) The design, construction, repair, maintenance, upgrading, inspection or testing of track, rollingstock, civil and electric traction infrastructure, and signalling and telecommunications equipment. (d) Development, design, implementation and management of safety related processes. (e) Any other duties prescribed by an organisation as safety-related work.

15.6 SCADA system

A supervisory control and data acquisition telemetry system.

15.7 SECURITY

The safest times in fact are confronted by an increasing sense of insecurity among the population. A major driver for this is digitalization and the associated danger potential of new crimes (cybercrime). Incidents such as terrorist attacks, violent crimes going through the media



or, more recently, the Corona pandemic ensure that not only digital but also analogue security is increasingly perceived as a given self-evident – rather as a task that is constantly being tackled again and again.

15.8 Signal

A visual display device which conveys instructions or provides prior warning of instructions regarding the driver's authority to proceed.

15.9 Signal aspect

The displayed pattern or position of lights or arms used to give a signal indication.

15.10 Standard gauge

The name given to the gauge of track of 1435mm

16T

16.1 Track gauge

The distance between the gauge points of the rails.

16.2 Train

A single unit of rollingstock or two or more units coupled together, at least one of which is a locomotive or other self propelled unit.

16.3 Train acceptance

The overall process of gaining permission from a track manager to operate trains comprising particular rolling stock over specific parts of the network

16.4 Train authority

An instruction in the prescribed format issued by the train controller in connection with the movement of a train.

16.5 Train automation

The term 'train automation' generally refers to the ability of a railway system to fulfill a specific group of functionalities for a specific purpose in an automated manner, meaning without human intervention.

16.6 Train crew

Worker or workers in charge of the operation of trains.

16.7 Train (identification) number

A train or run number used to provide unique identification of a train



17V

17.1 Virtual coupling

Virtual Coupling aims to enable ‘virtually coupled trains’ to operate much closer to one another (within their absolute braking distance) and dynamically modify their own composition on the move (virtual coupling/uncoupling of train convoys), while ensuring at least the same level of safety as is currently provided.

18W

18.1 Wagon

Used when describing or referring to rail vehicles of a specific type or group, e.g. freight wagons, service wagons, box wagons, tank wagons, flat wagons.

18.2 Wheelset

An assembly consisting of axle, wheels, bearings, and where applicable associated components such as brake discs, traction gears, traction motor support bearings, gearbox, etc.

18.3 Work site safety supervisor

The worker responsible for safety and protection of personnel at a track worksite and ensuring that the site is safe for the operation of trains

18.4 Worksite protection

The process for ensuring the safety of personnel at a track worksite and ensuring that the site is safe for trains.

19Y

19.1 Yards and terminals

A system of tracks not designated as part of the defined interstate rail network used for loading or unloading trains or for other purposes

KEY HUMAN RESOURCES/SKILL MANAGEMENT TERMS

20A

20.1 Apprenticeship

Systematic, long-term training alternating periods at the workplace and in an educational institution or training centre.

The apprentice is contractually linked to the employer and receives remuneration (wage or allowance). The employer assumes responsibility for providing the trainee with training leading to a specific occupation.



Comments:

- in french, the term ‘apprentissage’ relates to both apprenticeship and the process of learning (see ‘learning’);
- the german ‘dual system’ is an example of apprenticeship.

Source: Cedefop, 2004.

20.2 Attractiveness

Organizational attractiveness is defined as the degree to which an individual perceives the organization to be a place to work or the general desirability an individual has to work for an organization (J.K. Williams, 2013).

Additional Information

Recruitment is a means to attract a prospective candidate to an organization, but it is not what attracts the individual. In examining what attracts individuals to an organization, researchers have identified a number of factors that can be used in the recruitment process or other functions of human resource management (e.g., inducements, compensation) to increase the number of job applicants or even influence the characteristics of the individual who applies for the job (J.K. Williams, 2013).

These factors are viewed from the perspective of the individual candidate and not the organization (J.K. Williams, 2013).

Research in organizational attractiveness further assumes that an individual selects and remains in an organization by choice (J.K. Williams, 2013).

References used in the “Attractiveness” definition:

Joann Krauss Williams. (2013). Theory of organizational attractiveness. Encyclopedia of Management Theory. Sage Reference.

20.3 Awarding body

a body issuing qualifications (certificates, diplomas or titles) formally recognising the learning outcomes (knowledge, skills and/or competences) of an individual, following an assessment procedure.

Source: Cedefop, 2008.

21B

21.1 Basic ICT skills

The skills needed to use efficiently the elementary functions of information and communication technologies to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the internet.

Comment: basic icT skills are now part of key skills/key competences.

Source: european Parliament and council of the European union (2006); Cedefop, 2012.

21.2 Basic skills

The skills needed to live in contemporary society, such as listening, speaking, reading, writing and mathematics.

Comment: together with new basic skills, basic skills form key skills.

Source: Cedefop, 2008.

22C

22.1 Competence

ability to apply learning outcomes adequately in a defined context (education, work, personal or professional development).

or

ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development.

Comment: competence is not limited to cognitive elements (involving the use of theory, concepts or tacit knowledge); it also encompasses functional aspects (including technical skills) as well as interpersonal attributes (e.g. social or organizational skills) and ethical values.

Source: Cedefop; european Parliament and Council of the European Union, 2008.

22.2 Curriculum

inventory of activities related to the design, organisation and planning of an education or training action, including definition of learning objectives, content, methods (including assessment) and material, as well as arrangements for training teachers and trainers.

Comment: the term curriculum refers to the design, organisation and planning of learning activities while the term programme refers to the implementation of these activities.

Source: Cedefop, 2008; landsheere, 1979.

22.3 Cutting-edge technologies/ Innovations

The term cutting-edge technology implies a technology which adheres to the following:

- Is fairly recent (last 5 - 10 years).
- Is innovative (sustaining/disruptive).
- Greatly improves system performance.
- Has the potential to or has started to be widely implemented.
- Is the subject of extensive research.

23D

23.1 DigComp - Digital Competence Framework

DigComp 2.0 identifies the key components of digital competence in 5 areas which can be summarised as below:

- 1) Information and data literacy
- 2) Communication and collaboration
- 3) Digital content creation
- 4) Safety
- 5) Problem solving

Source: European Union, 2017.

23.2 Digital competence

ability to use information and communication technology (ICT).

Comment: digital competence is underpinned by basic skills in ICT: use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the internet.

Source: Cedefop, 2008; european Parliament and council of the european union, 2006.

23.3 Digital gap

within populations, the gap between those who can access and use information and communication technologies (ICT) effectively, and those who cannot.

Source: Cedefop, 2008.

24E

24.1 EDOs – Employment Development Opportunities

is defined as a process where the employee with the support of his/her employer undergoes various training programs to enhance his/her skills and acquire new knowledge and skills.

Source: Wikipedia

24.2 Emerging / new skills

abilities for which demand is increasing in existing or new occupations.

Comment: identification of new/emerging skills needs is crucial to prevent skill gaps and shortages, foster employability of citizens and meet needs of the economy.

Source: Cedefop.





24.3 Employability

combination of factors which enable individuals to progress towards or get into employment, to stay in employment and to progress during their careers.

Comment: employability of individuals depends on:

- personal attributes (including adequacy of knowledge and skills);
- how these personal attributes are presented on the labour market;
- environmental and social contexts (incentives and opportunities offered to update and validate their knowledge and skills); and
- the economic context.

Source: Cedefop, 2008, adaptado de Scottish executive, 2007;
The institute for employment Studies, 2007.

24.4 Europass

Portfolio of five documents helping citizens to better communicate their skills and qualifications when applying for job or study in Europe. The Europass CV and the Language Passport are completed by citizens themselves; the other three documents can be issued to citizens who achieve a mobility experience in another European country (Europass Mobility) or who complete a formal programme of vocational education or training (Certificate Supplement) or of higher education (Diploma Supplement).

Comment: Europass promotes an adequate appreciation of learning outcomes acquired in formal, non-formal or informal settings.

Source: Cedefop.

25G

25.1 Gender Shift

In order to successfully take advantage of the positive effects of diversity, organizations must be an attractive employer for people of all genders, identities and sexual orientations. Therefore, organizations must provide equal opportunities for all, regardless of these characteristics. Consequently, it is necessary to have needs-based working time models and social benefits that meet new family constellations. In addition, systematic diversity management must be used to create and/or further develop inclusive ways of development, recruitment, compensation etc. throughout the Group.

25.2 Green skills

abilities needed to live in, develop and support a society which aims to reduce the negative impact of human activity on the environment.

Comments:

- generic green skills help develop awareness-raising or implementation of resource-efficient activities, ecocitizenship, etc.;



- specific green skills are required to implement standards and processes to protect ecosystems and biodiversity, and to reduce energy, materials and water consumption;
- highly-specialised green skills are required to develop and implement green technologies such as renewable energies, sewage treatment or recycling.

Source: Cedefop.

26H

26.1 Hard skills

Hard skills are competencies that employees possess such as numeracy, literacy, fluency in a foreign language, and specific job-related technical abilities (operating a machine, creating a spreadsheet, touch-typing, driving, dressing a wound, machine writing, etc). Typically, these skills are relatively easy to measure, and are often validated with some form of qualification or certification. They can be trained by technical training.

26.2 Human capital

Knowledge, skills, competences and attributes embodied in individuals that promote personal, social and economic wellbeing.

Source: OECD, 2001.

26.3 Human Immersion

The way we interact in the digital world is changing increasingly. Advances in artificial intelligence and machine learning, as well as the integration of VR and AR with multiple mobile, portable and Internet-of-Things elements, have a significant impact on the human-machine interface. While immersive technologies and conversational platforms are still very purposeful and offer specific solutions for individual use cases, the applications of the future are becoming more and more networked and invisible. The result is a natural and immersive, digitally enhanced experience, which we call human immersion.

27I

27.1 Information and communication technology (ICT)

Technology which provides for electronic input, storage, retrieval, processing, transmission and dissemination of information.

Source: Cedefop, 2004.

27.2 Information and communication technology (ICT) skills

Skills needed for efficient use of information and communication technologies (ICT).

Comment: in a report on ICT skills and employment, OECD proposes a simple classification:

- professional ICT skills: ability to use advanced ICT tools, and/or to develop, repair and create such tools;



- applied ICT skills: ability to use simple ICT tools in general workplace settings (in non-iT jobs);
- basic ICT skills or ‘icT literacy’: ability to use ICT for basic tasks and as a tool for learning.

Source: Cedefop, 2004; oecd, lopez-Bassols, 2002.

27.3 ISCO-08 - International Standard Classification of Occupations

is a tool for organizing jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job. Its main aims are to provide:

- a basis for the international reporting, comparison and exchange of statistical and administrative data about occupations;
- a model for the development of national and regional classifications of occupations; and
- a system that can be used directly in countries that have not developed their own national classifications.

Source: based on ILO, 2007.

27.4 Internship

Is position in some organization of person who works without pay in order to gain work experience or satisfy requirements for a qualification

28J

28.1 Job

Set of tasks and duties performed, or meant to be performed, by one person, including for an employer or in self employment.

Source: ILO, 2008.

28.2 Job profiles

A job profile provides details of specific job tasks.

A description of the exact tasks involved in a particular job, and of the skills, experience, and personality a person would need in order to do the job.

29K

29.1 Key skills / key competences

Sum of skills (basic and new basic skills) needed to live in contemporary knowledge society.

Comment: in its recommendation on key competences for lifelong learning, the european commission sets out eight key competences:

- communication in the mother tongue;
- communication in foreign languages;
- competences in maths, science and technology;
- digital competence;

- learning to learn;
- interpersonal, intercultural and social competences, and civic competence;
- entrepreneurship;
- cultural expression.

Source: Cedefop, 2004; European Parliament and Council of the European Union, 2006.

29.2 Knowledge transfer

Knowledge transfer is a term used to encompass a very broad range of activities to support mutually beneficial collaborations between universities, businesses and the public sector. It is about the transfer of tangible and intellectual property, expertise, learning and skills between academia and the non-academic community (University of Cambridge, 2009).

Additional Information

It's also well recognised by governments and funders as an important return on the investment in academic research, one that provides a significant driving force for enhancing economic growth and societal wellbeing (University of Cambridge, 2009).

Knowledge transfer can be split into six types (University of Cambridge, 2009.):

- People
- Publication and events
- Collaborative research
- Consultancy
- Licensing
- New businesses

References used in the "Knowledge transfer" definition:

University of Cambridge. (2009). What is knowledge transfer?

URL: <https://www.cam.ac.uk/research/news/what-is-knowledge-transfer>

30L

30.1 Lifelong learning

all learning activity undertaken throughout life, which results in improving knowledge, know-how, skills, competences and/or qualifications for personal, social and/or professional reasons.

Source: Cedefop, 2008.

31M

31.1 Macro trends

Describe trend tendencies that result from the accumulation of similar micro-trends. They are specific expressions of mega-trends.



31.2 Mega trends

Describe structural changes in society. They influence all areas of society and have a long-term impact.

31.3 Micro trends

Are new, smart, powerful, and structure-changing innovations. They are the first concrete signs of emerging trend tendencies.

31.4 Mobility

ability of an individual to move and adapt to a new occupational or educational environment.

Comments:

- mobility can be geographical or 'functional' (a move to a new post in a company or to a new occupation, a move between employment and education);
- mobility enables individuals to acquire new skills and thus increase their employability.

Source: Cedefop.

32N

32.1 New basic skills

Skills such as information and communication technology (ICT) skills, foreign languages, social, organisational and communication skills, technological culture, entrepreneurship.

Comment: together with basic skills, new basic skills form the key skills needed to develop in the contemporary knowledge society.

Source: Council of the European Union, 2000.

32.2 New work

Is the new way society works in the global and digital age. The term was coined by the social philosopher Frithjof Bergmann. His demand from the 1970s was that labour should serve us – and not the other way around. HR is becoming a driving force in the transformation of the world of work. The big challenge will be to create a right environment for this change.

33O

33.1 Occupation

Set of jobs whose main tasks and duties are characterised by a high degree of similarity.

Source: ILO, 2008.

33.2 Occupational group

Describes categories that bundle similar occupational profiles into one group and one description, e.g. the body of people in a learned occupation like doctors consists of many subgroups and single profiles like dentist, surgeon, etc.

33.3 Occupational profiles

The profiles contain an explanation of the occupation in the form of description, scope note and definition. Furthermore, they list the knowledge, skills and competences that experts considered relevant terminology for this occupation on a European scale.

According to the ESCO, the multilingual classification of European Skills, Competences, Qualifications and Occupations (ESCO), an occupation is a grouping of jobs involving similar tasks and which require a similar skills set. Occupations should not be confused with jobs or job titles. While a job is bound to a specific work context and executed by one person, occupations group jobs by common characteristics.

ESCO contains occupations, not jobs. ESCO v1 contains 2 942 occupations. Each occupation concept contains one preferred term and any number of non-preferred terms and hidden terms in each of the ESCO languages. It also includes information on regulated professions that are relevant in the context of this occupation.

Each occupation also comes with an occupational profile. The profiles contain an explanation of the occupation in the form of description, scope note and definition. Furthermore, they list the knowledge, skills and competences that experts considered relevant terminology for this occupation on a European scale. ESCO distinguishes essential and optional knowledge, skills and competences.

Occupational profiles addressed by the Human Capital Report Series 'Employment and skills in the rail sector: Impact analysis of Shift2Rail's innovation programmes' 2019:

- Rail operations manager (ISCO-1)
- Engineer (mechanical, electrical, ICT) (ISCO-2)
- Logistics engineer (ISCO-2)
- Dispatch worker (ISCO-3)
- Rail maintenance technician; Train maintenance technician (ISCO-3)
- Rail logistics coordinator (ISCO-4)
- Train attendant (ISCO-5)
- Train driver (ISCO-8)

Source: ESCO

33.4 Onboarding

the action or process of integrating a new employee into an organization

33.5 On-the-job training

Vocational training given in the normal work situation. it may constitute the whole training or be combined with off-the-job training.

Source: based on UNESCO, 1979.

33.6 Outcome indicator in VET

Statistics on the outcomes of VET measuring, for example, job performance, rate of access to next level of education or rate of inclusion on the labour market.

Source: Cedefop.

34P

34.1 Professional development

any action undertaken to improve professional performance.

Comments: professional development:

- encompasses specific skills and generic skills (team or time management, negotiation skills, conflict management, communication, etc.);
- may take the form of self-learning, formal training, consultation, conferences, coaching or mentoring, communities of practice and technical assistance.

Source: Cedefop; Wikipedia, 2012.

35R

35.1 Rail sector workforce capability

Building workforce capability requires a holistic approach so that an organization's people capability requirements are met for both the short term and long term.

Workforce capability issues will vary from organization to organization and from industry to industry and it will be determined by different issues like location, division, job group, age profile or gender mix. Rail sector workforce capability target on holistic approach how to cover skill requirements in the rail sector and addresses the following questions:

- How does the rail industry attract people to this work?
- How can the rail sector retain the skills?
- How can the rail sector build the capability of the workforce?
- How does is the rail sector manage the workforce effectively?

35.2 Recruitment

Recruitment is the generation of an applicant pool for a position or job in order to provide the required number of candidates for a subsequent selection or promotion program (V. Catano et al., 2019).

Additional Information

Recruitment is done to meet management goals and objectives for the organization and must also meet current legal requirements (human rights, employment equity, labour law, and other legislation) (V. Catano et al., 2019)..

The term Applicant pool refers to the set of potential candidates who may be interested in, and who are likely to apply for, a specific job.

Selection is the choice of job candidates from a previously generated applicant pool in a way that will meet management goals and objectives as well as current legal requirements. It can involve any of the following functions: hiring at the entry level from applicants external to the organization, promotion or lateral transfer of people within the organization, and movement of current employees into training and development programs

A recruitment and selection action plan includes the following elements (V. Catano et al., 2019):

- Developing a Recruitment strategy
- Developing the Applicant Pool
- Screening the Applicant Pool
- Reviewing and selecting Job Applicants
- Evaluating the Recruiting and selection Effort

References used in the “Recruitment” definition:

V. Catano et al. (2019). Recruitment and selection in Canada (7th ed.). Nelson Education.

35.3 Reskilling

Reskilling involves training employees on an entirely new set of skills to prepare them to take on a different role within the company. This typically occurs when workers’ previous tasks or responsibilities become irrelevant, often due to advances in technology.

36S

36.1 Silver Society

Ageing will profoundly change our world – but above all our image of ageing. A loss-making state becomes a time full of new opportunities in personal multigraphs. Old people will voluntarily remain much more active for a much longer time. In business, in voluntary commitment. Societies will redefine the role of age. No longer "resting" from life, but a phase of new responsibility will shape age. Old people will again have to assume clear social responsibilities. Ageing will massively change the way we live urban planning, housing, transport and tourism, as well as the health sector, which will be highly affected by ageing and markets of enormous proportions will be able to open up.

36.2 Skill

ability to apply knowledge and use know-how to complete tasks and solve problems.

Source: Cedefop; European Parliament and Council of the European Union, 2008.

36.3 Skills and competences

While sometimes used as synonyms, the terms skill and competence can be distinguished according to their scope. The term skill refers typically to the use of methods or instruments in a particular setting and in relation to defined tasks. The term competence is broader and refers typically to the ability of a person - facing new situations and unforeseen challenges - to use According to the definition of the European Qualification Framework (EQF), "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." They are described

in terms of responsibility and autonomy. and apply knowledge and skills in an independent and self-directed way.

36.4 Skills assessment

Skill assessment is the comparison of actual performance of a skill with the specified standard for performance of that skill under the circumstances specified by the standard (for example defined in occupational profiles), and evaluation of whether the performance meets or exceeds the requirements. Assessment of a skill should comply with the four principles of validity, reliability, fairness and flexibility that are defined in psychological testing theory. Skill assessment reports help leaders visualize who knows what and identifies gaps where training may be needed to maximize the growth and potential of the individual.

36.5 Skills assessment methodology

Skill assessment methodologies describe the numbers of different instruments how to measure skills and conduct skill gap analysis/ skill assessments. The workforce skills assessment instruments are divided into different major categories: self- or manager evaluation, interviews by experts, skill assessments/ skill tests, formal tests, etc.

36.6 Skill gap

Situation where an individual does not have the level of skills required to perform his or her job adequately.

Comments:

- skill gaps can be analysed at individual level (using a skills audit), at company/sector level, or at regional, national or international levels;
- skill gaps can be linked to an insufficient level of qualification; they may also refer to situations where the workforce has the right level of qualification but lacks specific types of skills (such as management skills) or experience required to perform a task or a job adequately.

Source: Cedefop, 2010.

36.7 Skill mismatch

Situation of imbalance in which the level or type of skills available does not correspond to labour market needs.

Comments:

- skills mismatch can be a surplus or a lack of knowledge, abilities and competences;
- skill mismatch can be analysed at different levels (individual, enterprise, sectoral, economy);
- experts distinguish between vertical mismatch (the level of education/skills is higher or lower than required) and horizontal mismatch (the level of education/skills matches job requirements, but the type of education/skills is inappropriate for the current job).

Source: Cedefop.

36.8 Skill needs

demand for particular types of knowledge and skills on the labour market (total demand within a country or region, economic sector, etc.).



Comments:

- skills needs analysis (also referred to as identification of skills needs) aims at identifying skills gaps and shortages, anticipating skills needs, and assessing the capacity of qualification systems (education and training provision, funding schemes, etc.) to meet the needs of the economy;
- anticipation of skills needs is the process of identifying skills the economy will require in a short, medium or longer term;
- skills forecasting estimates the skill demand (jobs) and/or skill supply (labour force) that will be available on a short, medium or long term.

Source: Cedefop, 2010.

36.9 Skill needs analysis

Detailed examination of the skills, competences and qualifications required by the economy to operate effectively.

Comments:

- skills needs analysis aims at identifying skills gaps and shortages, anticipate future skills needs, and assess capacity of the qualification system (education and training provision, funding schemes, etc.) to meet the needs of the economy;
- the term skills needs analysis is related to, but not synonymous with
 - anticipation of skills needs: process of identifying future skills or qualifications required by the economy in a short, medium or longer term;
 - skills forecasting: quantitative method to estimate skill demand (jobs) or skill supply (labour force) that will be available at short, mid or long term in the labour market, and corresponding skill or qualification requirements;
 - identification of skills needs: research and analysis carried out to determine skill needs emerging in countries, regions, sectors, companies and occupations.

Source: based on Cedefop, 2008b.

36.10 Skill obsolescence

Situation in which knowledge and skills of individuals are out of date or out of use.

Comment: this term is also used in the literature to describe situations where physical or mental abilities and skills deteriorate due to atrophy or wear and tear.

Source: Cedefop; De Grip, A.; Van Loo, J. (2007).

36.11 Skill shortage

Situation where skills supply (type of abilities and number of people available on the labour market) is not sufficient to meet labour market demand.

Comment: a skill shortage applies to all levels of qualification; it may result from factors such as:

- insufficient education and training supply;
- geographical imbalance in supply;
- developments impacting the structure of the economy;



- lack of attractiveness of specific occupations (difficult working conditions, low remuneration, insufficient social recognition).

Source: Cedefop, 2010.

36.12 Skills audit

analysis of knowledge, skills and competences of individuals, including their aptitudes and motivations to define a career project and/or plan professional reorientation or a training project.

Comment: a skills audit aims to help individuals:

- analyse their career backgrounds;
- self-assess their position in the labour environment;
- prepare themselves for validation of non-formal or informal learning outcomes;
- plan career pathways.

Source: Cedefop, 2008, based on code du travail français, 2003.

36.13 Social dialogue

Process of exchange between social partners to promote consultation and collective bargaining.

Comments:

- social dialogue can be bipartite (involving representatives of workers and employers) or tripartite (also involving public authorities and/or representatives of civil society, NGOs, etc.);
- social dialogue can take place at various levels (company, sectoral / cross-sectoral and local / regional / national / transnational);
- at international level, social dialogue can be bilateral, trilateral or multilateral, according to number of countries involved.

Source: Cedefop, 2004.

36.14 Social partners

employers' associations and trade unions forming the two sides of social dialogue.

Comments:

- the concept of 'social partner' originates in France and Germany and was subsequently taken up in eu circles;
- tripartite social dialogue also involves public authorities and/or representatives of civil society, NGOs, etc.

Source: Cedefop, 2008.

37T

37.1 Transition from school or training to work

move from education or training to employment, covering the period between leaving education and entering the labour market.



Comment: transition between school and employment (integration path, type of employment – with regard to level and status – and duration) is complex. integration depends on many factors (gender, age, qualification, employment policy, guidance and counselling provision, etc.).

Source: Cedefop, 2004.

37.2 Transition of employees

is movement of employee from current position to a new one with the right to have the same or alike pay range, the same level of tasks, and comparable job responsibilities and duties.

37.3 Trends

The term ‘trends’ in the domain of rail transportation refers to all the strategic choices and policies that either have been adopted in recent years and are being followed by almost the totality of railway companies or that are planned to be adopted in the near future.

37.4 Tutoring

any activity offering a learner guidance, counselling or supervision by an experienced and competent professional.

The tutor supports the learner throughout the learning process (at school, in training centres or on the job).

Comment: tutoring covers various activities:

- academic subjects (to improve educational achievement);
- career guidance (to ease transition from school to work);
- personal development (to encourage learners to make wise choices).

Source: Cedefop, 2004.

38U

38.1 Upskilling

Short-term targeted training typically provided following initial education or training, and aimed at supplementing, improving or updating knowledge, skills and/or competences acquired during previous training.

Source: Cedefop, 2004.

39W

39.1 Work-based learning

acquisition of knowledge and skills through carrying out – and reflecting on – tasks in a vocational context, either at the workplace (such as alternance training) or in a VET institution.



Source: Cedefop, 2011.

GENERAL HUMAN RESOURCES/SKILL MANAGEMENT TERMS

40A

40.1 Adaptability

capacity of an organisation or of an individual to adapt to new technologies, new market conditions and new work patterns.

Source: Cedefop, 2008.

40.2 Ageing society

a society characterised by an increasing proportion of older people, usually linked to a declining birth rate.

Comment: in an aging society, education and training provision must prevent:

- skill shortages and gaps;
- early retirement by retraining and upskilling older workers.

Source: Cedefop.

41C

41.1 Commissioning

The act of bringing to something newly produced into working condition

41.2 Competence

ability to apply learning outcomes adequately in a defined context (education, work, personal or professional development).

or

ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development.

Comment: competence is not limited to cognitive elements (involving the use of theory, concepts or tacit knowledge); it also encompasses functional aspects (including technical skills) as well as interpersonal attributes (e.g. social or organizational skills) and ethical values.

Source: Cedefop; European Parliament and Council of the European Union, 2008.

42J

42.1 Job placement

Process of supporting individuals to find jobs matching their skills.

Comments:

- job placement can be carried out by (public or private) employment services or educational institutions;
- job placement encompasses activities such as drafting a cV, preparation for interviews, skills audit, guidance and counselling.

Source: Cedefop, 2011.

43K

43.1 Know-how

Practical knowledge or expertise.

Source: based on new oxford dictionary of english, 2001.

43.2 Knowledge

outcome of assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices related to a field of study or work.

Comment: there are numerous definitions of knowledge. nevertheless, modern conceptions of knowledge rest broadly

on several basic distinctions:

- aristotle distinguished between theoretical and practical logic. in line with this distinction, modern theoreticians (alexander et al., 1991) distinguish declarative (theoretical) knowledge from procedural (practical) knowledge. Declarative knowledge includes assertions on specific events, facts and empirical generalisations, as well as deeper principles on the nature of reality. Procedural knowledge includes heuristics, methods, plans, practices, procedures, routines, strategies, tactics, techniques and tricks (ohlsson, 1994);
- it is possible to differentiate between forms of knowledge which represent different ways of learning about the world.

Various attempts have been made to compile such lists, the following categories seem to be frequently represented:

- objective (natural/scientific) knowledge, judged on the basis of certainty;
- subjective (literary/aesthetic) knowledge judged on the basis of authenticity;
- moral (human/normative) knowledge judged on the basis of collective acceptance (right/wrong);
- religious/divine knowledge judged by reference to a divine authority (god).

This basic understanding of knowledge underpins the questions we ask, the methods we use and the answers we give in our search for knowledge;

- knowledge encompasses tacit and explicit knowledge. Tacit knowledge (Polanyi, 1967) is knowledge learners possess which influences cognitive processing. However, they may not necessarily express it or be aware of it. Explicit knowledge is knowledge a learner is conscious of, including tacit knowledge that converts into an explicit form by becoming an ‘object of thought’ (Prawat, 1989).

Source: Cedefop, 2008; european Parliament and council of the european union, 2008.

43.3 Knowledge society / knowledge-based society

Society whose processes and practices are based on production, distribution and use of knowledge.

Source: Cedefop, 2001 in european commission, 2001.

44N

44.1 Neo-ecology

Is the imperative of today. This has been impressively demonstrated with the start of the FridaysforFuture demonstrations at the latest. In the light of the progressive climate change, society, politics, and the economy are increasingly rethinking – towards sustainable consumption and environmentally friendly production. It is therefore important to take a more conscious approach to the future and to align the company's strategy with sustainable corporate values.

45O

45.1 Overqualification

Situation where an individual has a higher qualification than the current job requires.

Comments:

- overqualification is close to – but not synonymous with:
 - overeducation: situation where an individual has more education than the current job requires (measured in years);
 - overskilling: situation where an individual is not able to utilise fully their abilities and skills in the current job.
- overqualification can be temporary (e.g. when an overqualified young person accepts a low-level position until they find more appropriate employment) or can have a more permanent character.

Source: Cedefop, 2010.

46U



46.1 Underqualification

Situation where an individual has a lower qualification than the current job requires.

Comments:

- underqualification may be assessed against the level of education or the degree of work experience in previous employment;
- underqualification can be temporary (such as employers hire underqualified staff for a high-level position until they find a more appropriate person) or have a more permanent character;
- underqualification may refer to undereducation (a situation where an individual has a level of education inferior to that required for a job) or underskilling (a situation where an individual lacks the skills and competences necessary to perform a job to acceptable standards).

Source: Cedefop, 2010.

46.2 Urbanization

Describes the increasing concentration of people, economy and culture in urban areas and the corresponding countermovement: the escape to the countryside. Workers should be given the opportunity to contribute to the company's success, regardless of where they live – this is what distinguishes sustainable companies. HR is therefore required to offer flexible solutions for work, housing and mobility to ensure that employees can contribute adequately wherever they are needed.

KEY EDUCATION AND TRAINING TERMS

47A

47.1 Access to education and training

conditions, circumstances or requirements (such as qualifications, education level, competences or work experience) governing admittance to and participation in educational institutions or programmes.

Source: adapted from unesco, 1995.

47.2 Accreditation of an education or training programme

a process of quality assurance through which a programme of education or training is officially recognised and approved by the relevant legislative or professional authorities following assessment against predetermined standards.

Source: adapted from canadian information centre for international credentials.

47.3 Assessment of learning outcomes

Process of appraising knowledge, know-how, skills and/or competences of an individual against predefined criteria (learning expectations, measurement of learning outcomes). assessment is typically followed by certification.



Comment: in the literature, ‘assessment’ generally refers to appraisal of individuals whereas ‘evaluation’ is more frequently

used to describe appraisal of education and training methods or providers.

Source: Cedefop, 2004.

47.4 Attractiveness of vocational education and training

capacity of vocational education and training to:

- encourage individuals to deliberately choose vocational education and training;
- offer quality qualifications that open up career prospects;
- persuade employers to recruit holders of VeT certificates.

Comment: attractiveness of VeT depends on various factors:

- image of VeT and parity of esteem with other educational pathways;
- flexibility of pathways allowing mobility between VeT and academic education;
- quality of VeT offer;
- involvement of stakeholders, including social partners, in VeT and in the provision of guidance and counselling.

Source: Cedefop.

47.5 Awarding body

a body issuing qualifications (certificates, diplomas or titles) formally recognising the learning outcomes (knowledge, skills and/or competences) of an individual, following an assessment procedure.

Source: Cedefop, 2008.

48B

48.1 Basic ICT skills

The skills needed to use efficiently the elementary functions of information and communication technologies to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the internet.

Comment: basic ICT skills are now part of key skills/key competences.

Source: European Parliament and council of the European union (2006); Cedefop, 2012.

48.2 Basic skills

The skills needed to live in contemporary society, such as listening, speaking, reading, writing and mathematics.

Comment: together with new basic skills, basic skills form key skills.



Source: Cedefop, 2008.

48.3 Benefits of education and training

Socioeconomic added value of education and training.

Comments:

- benefits of education and training can be private, namely received by individual persons, enterprises or institutions, or public, benefiting a whole region, economy or society;
- benefits can be monetary (such as wages) or socioeconomic (health, wellbeing, social cohesion, reduced crime, employment, productivity, growth).

Source: Cedefop.

49C

49.1 Certificate / diploma / title

an official document, issued by an awarding body, which records achievements of an individual following assessment against a predefined standard.

Source: Cedefop, 2008.

49.2 Certification of learning outcomes

Process of issuing a certificate, diploma or title formally attesting that a set of learning outcomes (knowledge, know-how, skills and/or competences) acquired by an individual have been assessed and validated by a competent body against a predefined standard.

Comment: certification may validate the outcome of learning acquired in formal, nonformal or informal settings.

Source: Cedefop, 2008c.

49.3 Common principles for quality assurance in higher education and VET

Quality assurance – to ensure accountability and improvement of higher education and vocational education and training – should be carried out in accordance with the following nine principles:

- quality assurance policies and procedures should underpin all levels of the European qualifications framework;

quality assurance should be an integral part of internal management of education and training institutions;

- quality assurance should include regular evaluation of institutions, their programmes or their quality assurance systems by external monitoring bodies or agencies;

- external monitoring bodies or agencies carrying out quality assurance should be subject to regular review;
- quality assurance should include context, input, process and output dimensions, while giving emphasis to outputs and learning outcomes;
- quality assurance systems should include the following elements:
 - clear and measurable objectives and standards, guidelines for implementation, including stakeholder involvement,
 - appropriate resources,
 - consistent evaluation methods, associating self-assessment and external review,
 - feedback mechanisms and procedures for improvement,
 - widely accessible evaluation results;
- quality assurance initiatives at international, national and regional levels should be coordinated to ensure overview, coherence, synergy and system-wide analysis;
- quality assurance should be a cooperative process across education and training levels and systems, involving all relevant stakeholders, in Member States and across the Community;
- quality assurance orientations at Community level may provide reference points for evaluations and peer learning.

Source: European Parliament and Council of the European Union, 2008.

49.4 Common quality assurance framework (CQAF)

Set of common principles, guidelines and tools developed by the European forum on quality in VET (2001-2002) and the technical working group on quality in VET (TWGQ, 2003-2005) in the context of the Copenhagen process, to support:

- Member States in promoting continuous improvement of quality in VET systems;
- VET providers in improving the training offer; and
- individuals in acquiring better skills and competences.

Comment: CQAF is compatible with the main quality systems in place and can be implemented at system, VET provider and individual levels.

The quality model was revised and included in the EQAVET recommendation.

Source: Cedefop.

49.5 Comparability of qualifications

extent to which it is possible to establish equivalence between the level and content of qualifications (certificates, diplomas or titles) at sectoral, regional, national or international levels.

Comment: comparability of qualifications improves individuals' employability and mobility. This term must not be confused with 'equivalence of qualifications' (which refers to the similarity of value of certificates or diplomas).

Source: Cedefop, Bjornavold, Tissot, 2000.

49.6 Compensatory learning

learning intended to fill the gaps accumulated by individuals during education or training, mainly to enable them to take part in training.

Source: Cedefop, 2004.

49.7 Context indicator (on quality in VET)

Statistics or measure giving quantitative and/or qualitative information on the context of VET, e.g. duration, diversity of learners' population, number of hours taught for each topic, quality of training of teachers and trainers, quality of curricula, etc.

Source: Cedefop, 2003.

49.8 Continuing education and training

education or training after initial education and training – or after entry into working life aimed at helping individuals to:

- improve or update their knowledge and/or skills;
- acquire new skills for a career move or retraining;
- continue their personal or professional development.

Comment: continuing education and training is part of lifelong learning and may encompass any kind of education (general,

specialised or vocational, formal or non-formal, etc.). it is crucial for employability of individuals.

Source: Cedefop, 2004.

49.9 Credit system

an instrument designed to enable accumulation of learning outcomes gained in formal, non-formal and/or informal settings, and ease their transfer from one setting to another for validation. a credit system can be designed by describing:

- an education or training programme and attaching points (credits) to its components (modules, courses, placements, dissertation work, etc.); or
- a qualification using units of learning outcomes and attaching credit points to every unit.

Source: Cedefop, 2008.

50E

50.1 Education or training path

Sum of learning sequences followed by an individual to acquire knowledge, skills or competences.

Comment: a learning path may combine formal and non-formal learning sequences.



Source: Cedefop, 2008.

50.2 Education or training provider

any organisation or individual providing education or training services.

Comment: education and training providers may be organisations specifically set up for this purpose, or they may be other bodies, such as employers who provide training as part of their business activities. Training providers also include independent individuals who offer services.

Source: Cedefop, 2008.

50.3 e-learning

learning supported by information and communication technologies (icT).

Comments:

- e-learning is not limited to 'digital literacy' (acquiring icT skills). it may encompass multiple formats and hybrid

methods: using software, internet, cd-rom, online learning or any other electronic or interactive media;

- e-learning can be used as a tool for distance education and training but also to support face-to-face learning.

Source: Cedefop, 2008.

50.4 European Association in Higher Education (ENQA)

Association that disseminates information, experiences and good practices in quality assurance (QA) in higher education to European QA agencies, public authorities and higher education institutions.

Source: based on ENQA.

50.5 European cooperation in quality assurance in education and training

Cooperation process launched at EU level in the context of the Lisbon strategy to increase quality of education (Bologna process) and training (Copenhagen process) systems and make them a world quality reference by

2010.

Comments: the principles of this process are laid down in three documents:

- Recommendation of the Parliament and of the Council on European cooperation in quality evaluation in school education (2001);

- Recommendation of the Parliament and of the Council on further European cooperation in quality assurance in higher education (2006);

- Recommendation of the Parliament and of the Council on establishment of a European quality assurance reference framework for vocational education and training (2009).

Source: Cedefop.



50.6 European credit system for vocational education and training (ECVET)

Technical framework for transfer, validation and, where appropriate, accumulation of learning outcomes by individuals, to achieve a qualification. ECVET tools and methodology comprise a description of qualifications in units of learning outcomes with associated points, a transfer and accumulation process and complementary documents such as learning agreements, transcripts of records and ECVET users' guides.

Comments:

- This framework aims to promote:
 - mobility of people undertaking training;
 - accumulation, transfer and validation of learning outcomes (either formal, non-formal or informal) acquired in different countries;
 - implementation of lifelong learning;
 - transparency of qualifications;
 - common trust and cooperation between providers of vocational training and education in Europe.

50.7 European credit transfer and accumulation system (ECTS)

a systematic way of describing a higher education programme by attaching credits to its components (modules, courses, placements, dissertation work, etc.), to:

- make study programmes easy to read and compare for all students, local and foreign;
- encourage mobility of students and validation of learning outcomes;
- help universities to organise and revise their study programmes.

Comment: ecTS is based on the student workload required to achieve a programme's objectives, specified in terms of learning outcomes to be acquired. The student workload of a full-time study programme in Europe amounts in most cases to around 1500 to 1800 hours per year and in these cases one credit stands for around 25 to 30 hours. Individuals who can demonstrate similar learning outcomes acquired in other learning settings may obtain recognition and credits (waivers) from degree awarding bodies.

Source: Cedefop, 2008, based on European Commission, 2004.

50.8 European qualifications framework for lifelong learning (EQF)

reference tool for describing and comparing qualification levels in qualifications systems developed at national, international or sectoral levels.

Comment: the EQF's main components are a set of eight reference levels described in terms of learning outcomes (a combination of knowledge, skills and/or competences) and mechanisms and principles for voluntary cooperation. The eight levels cover the entire span of qualifications from those recognising basic knowledge, skills and competences to those awarded at the highest level of academic, professional and vocational education and training. EQF is a translation device

for qualification systems.

Source: based on European Parliament and Council of the European Union, 2008.

50.9 European quality assurance in vocational education and training (EQAVET)

reference framework to help EU member States and participating countries develop, improve, guide and assess the quality of their own vocational education and training systems.

Comment: the methodology proposed by the framework is based on:

- a cycle consisting of four phases (planning, implementation, assessment and review) described for VeT providers/systems;
- quality criteria and indicative descriptors for each phase of the cycle;
- common indicators for assessing targets, methods, procedures and training results – some indicators are based on statistical data, others are of a qualitative nature.

Source: Cedefop, based on European Parliament and Council of the European Union, 2009(b).

50.10 EQAVET indicators

The EQAVET approach of input-output-outcome consists of an ad hoc collection of data into indicators.

Indicator 1. Relevance of quality assurance systems for VET providers

Indicator 2. Investment in training of teachers and trainers

Indicator 3. Participation rate in VET programmes

Indicator 4. Completion rate in VET programmes

Indicator 5. Placement rate in VET programmes

Indicator 6. Utilisation of acquired skills at the workplace

Indicator 7. Unemployment rate

Indicator 8. Prevalence of vulnerable groups

Indicator 9. Mechanisms to identify training needs in the labour market

Indicator 10. Schemes used to promote better access to VET

Source: European Parliament and Council of the European Union, 2009.

50.11 Evaluation of education and training

Judgment on the value of an intervention, training programme or policy with reference to criteria and standards (such as its relevance or efficiency).

Source: Cedefop, 2011.

51 I

51.1 ISCED level 3 – Upper secondary education

Programmes designed to complete secondary education in preparation for tertiary education, or to provide skills relevant to

employment, or both.

Comment: programmes classified at ISCED level 3 are referred to in many ways across the world, e.g. secondary school (stage two / upper grades), senior secondary school or (senior) high school.

Source: based on UNESCO, 2011.

51.2 ISCED level 4 – Post-secondary non-tertiary education

Programmes designed to provide individuals who completed ISCED level 3 with non-tertiary qualifications that they require for progression to tertiary education or for employment when their ISCED level 3 qualification does not grant such access.

Comment: programmes to be classified at ISCED level 4 are referred to in many ways across the world, e.g. technician diploma, primary professional education, préparation aux carrières administratives.

Source: based on UNESCO, 2011.

51.3 ISCED level 5 – Short-cycle tertiary education

Programmes designed to provide participants with professional knowledge, skills and competences. Typically, they are practically based, occupationally specific and prepare students to enter the labour market. However, programmes may also provide a pathway to other tertiary education programmes.

Comment: programmes to be classified at ISCED level 5 are referred to in many ways across the world, e.g. master craftsman programme, (higher) technical education, community college education, technician or advanced/higher vocational training, associate degree or bac + 2 programmes.

Source: based on UNESCO, 2011.

51.4 ISCED level 6 – Bachelor's or equivalent level

Programmes designed to provide participants with intermediate academic and/or professional knowledge, skills and competences, leading to a first degree or equivalent qualification. Programmes at this level are typically theoretically based but may include practical components and are informed by state of the art research and/or best professional practice.

Comment: programmes to be classified at ISCED level 6 are referred to in many ways across the world, such as Bachelor's programme, licence or first university cycle.

Source: based on UNESCO, 2011.



51.5 ISCED level 7 – Master or equivalent level

Programmes designed to provide advanced academic and/or professional knowledge, skills and competences, leading to a second degree or equivalent qualification. Programmes at this level may have a substantial research component, but do not yet lead to the award of a doctoral qualification.

Comment: programmes to be classified at ISCED level 7 are referred to in many ways across the world such as master's programmes or magister.

Source: based on UNESCO, 2011.

51.6 ISCED level 8 – Doctoral or equivalent

Programmes designed primarily to lead to an advanced research qualification. Programmes at this ISCED level are devoted to advanced study and original research and typically offered only by research-oriented tertiary educational institutions such as universities. doctoral programmes exist in both academic and professional fields.

Comment: programmes to be classified at ISCED level 8 are referred to in many ways across the world such as Phd, dPhil,

d.lit, d.Sc, ll.d, doctorate or similar terms.

Source: based on UNESCO, 2011.

52L

52.1 Learning content

Topics and activities which make up what is learned by an individual or group of learners during a learning process.

Source: adapted from european Training foundation, 1997.

52.2 Learning outcomes / learning attainments

Set of knowledge, skills and/or competences an individual has acquired and/or is able to demonstrate after completion of a learning process, either formal, non-formal or informal.

or

Statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence.

Source: Cedefop, 2008; european Parliament and council of the european union, 2008.

52.3 Leaver survey

Survey aiming to find out the destination of learners after completing education or training.

Comments:

- leaver surveys are generally conducted at regular intervals (for instance six or 12 months after graduation);
- they help to assess the relevance and effectiveness of education or training.

Source: HESA; Cedefop.

52.4 Level of qualification

The term covers two aspects: level of attainment in formal education and training, recognized in a qualification system or in a qualification framework.

or

level of proficiency acquired through education and training, work experience or in non-formal/informal/ settings.

Comments:

- level of qualification is often determined by what is expected in qualification systems or by level descriptors of qualifications frameworks;
- it can also be determined by an occupational profile (for example, description of the learning outcomes required to perform the tasks attached to a job at a specific level of responsibility and autonomy).

Source: Cedefop.

52.5 Lisbon strategy

Strategy aimed at making the European Union (EU) the most competitive economy in the world and achieving full employment by 2010. This strategy, developed at subsequent meetings of the European Council, rests on three pillars:

- an economic pillar preparing the ground for transition to a competitive, dynamic, knowledge-based economy. Emphasis is placed on the need to adapt constantly to changes in the information society and to boost research and development;
- a social pillar designed to modernise the European social model by investing in human resources and combating social exclusion. Member States are expected to invest in education and training, and conduct an active policy for employment making it easier to move to a knowledge economy;
- an environmental pillar, which was added at the Göteborg European Council meeting in June 2001 and draws attention to the fact that economic growth must be decoupled from use of natural resources.

Comment: the Europe 2020 agenda presented by the Commission in March 2010 (Europe 2020 – A European strategy for smart, sustainable and inclusive growth) is the continuation of the Lisbon strategy. More

specifically, the document “Education and Training 2020” (ET 2020) sets a new strategic framework for European cooperation in education and training.



Source: Cedefop; European Commission. Europa glossary.

53M

53.1 Mutual recognition of qualifications

recognition by one or more countries or organisations of qualifications (certificates, diplomas or titles) awarded in (or by) one or more other countries or organisations.

Comment: mutual recognition can be bilateral (between two countries or organisations) or multilateral (within the European Union or between companies belonging to the same sector).

Source: Cedefop, 2008.

54P

54.1 Process standard

Standard which sets the minimum requirements that must be guaranteed in running VET activities.

Comment: these standards can be applied to:

- systems (e.g. 'all training activities must assign 30% of time to work experience');
- providers (e.g. 'the provider must employ at least 80% certified teachers').

Process standards can be set by public authorities or private organisations.

Source: Cedefop, Technical working group on quality in VET.

54.2 Programme of education or training

inventory of activities, content and/or methods implemented to achieve education or training objectives (acquiring knowledge, skills and/or competences), organised in a logical sequence over a specified period of time.

Comment: the term programme of education or training refers to the implementation of learning activities whereas curriculum refers to the design, organisation and planning of these activities.

Source: Cedefop, 2008.

55Q

55.1 Qualification

Qualification covers different aspects:





- formal qualification: the formal outcome (certificate, diploma or title) of an assessment process which is obtained when a

competent body determines that an individual has achieved learning outcomes to given standards and/or possesses the necessary competence to do a job in a specific area of work. a qualification confers official recognition of the value of learning outcomes in the labour market and in education and training. a qualification can be a legal entitlement to practice a trade (OECD);

- Job requirements: knowledge, aptitudes and skills required to perform specific tasks attached to a particular work position (ILO).

Source: Cedefop, 2008, based on Eurydice, 2006; European Training foundation, 1997; OECD, 2007; ILO, 1998.

55.2 Qualifications framework

instrument for development and classification of qualifications (at national or sectoral levels) according to a set of criteria (using descriptors) applicable to specified levels of learning outcomes.

or

instrument for classification of qualifications according to a set of criteria for specified levels of learning achieved, which aims

to integrate and coordinate qualifications subsystems and improve transparency, access, progression and quality of qualifications in relation to the labour market and civil society.

Comment: a qualification framework can be used to:

- establish national standards of knowledge, skills and competences;
- promote quality of education;
- provide a system of coordination and/or integration of qualifications and enable comparison of qualifications by relating qualifications to one another;
- promote access to learning, transfer of learning outcomes

and progression in learning.

Source: Cedefop, 2008; European Parliament and Council of the European Union, 2008; OECD, 2007.

55.3 Qualification system

all activities related to the recognition of learning outcomes and other mechanisms that link education and training to the labour market and civil society. These activities include:

- definition of qualification policy, training design and implementation, institutional arrangements, funding, quality assurance;
- assessment and certification of learning outcomes.

Comment: a national qualifications system may be composed of several subsystems and may include a national qualifications framework.



Source: Cedefop, 2008; European Parliament and Council of the European Union, 2008.

55.4 Quality assurance in education and training

Activities involving planning, implementation, evaluation, reporting, and quality improvement, implemented to ensure that education and training (content of programmes, curricula, assessment and validation of learning outcomes, etc.) meet the quality requirements expected by stakeholders.

Comments:

- QA contributes to better matching of education and training supply and demand;
- QA covers the macro-level (educational system level), meso-level (level of individual educational institutions) and micro-level (level of teaching-learning processes).

Source: Cedefop.

55.5 Quality criteria for assessing quality in VET

Distinctive mark (or characteristic) for assessing quality of a VET system or quality of VET activities of an organisation. Quality criteria should be supplied with one or several indicators depending on the complexity of the criteria.

Comment: the four quality criteria to be used when implementing EQAVET are:

- planning reflects a strategic vision shared by relevant stakeholders and includes explicit goals/objectives, actions and indicators;
- implementation plans are devised in consultation with stakeholders and include explicit principles;
- evaluation of outcomes and processes is regularly carried out and supported by measurement;
- review.

Source: Cedefop, based on European Parliament and Council of the European Union (2009); Technical working group on quality in VET.

55.6 Quality indicator for assessing quality in VET

10 quality indicators which can be used to support evaluation and quality improvement of VET systems and/or VET providers are:

- relevance of quality assurance systems for VET providers;
- investment in training of teachers and trainers;
- participation rate in VET programmes;
- completion rate in VET programmes;
- placement rate in VET programmes;
- utilisation of acquired skills at the workplace;
- unemployment rate according to individual criteria;

- prevalence of vulnerable groups;
- mechanisms to identify training needs in the labour market;
- schemes used to promote better access to VET.

Source: European Parliament and Council of the European Union (2009).

55.7 Quality management approach in VET

Any integrated set of policies, procedures, rules, criteria, tools and verification instruments and mechanisms that together ensure and improve the quality provided by a VET institution.

Comment: 'approach' is used as an overall term because the term 'system' is often used in a narrower sense. 'Approach' covers both very fixed and formalised real systems and any sets of more systematic behaviour meant to regulate and/or to develop the quality performance of a VET system.

Source: Cedefop, Christensen and Bertzeletou, 2001.

55.8 Quality management in education and training

Process of controlling level of performance of education and training using performance and quality indicators, for both self-evaluation and external inspection.

Comment: quality management in education and training is to address different issues:

- what key outcomes have we achieved;
- how well do we meet the needs of our stakeholders;
- how good is our delivery of education processes;
- how good is our management;
- how good is our leadership;
- what is our capacity for improvement.

Source: based on HM, 2006.

56R

56.1 Recognition of learning outcomes

formal recognition: process of granting official status to knowledge, skills and competences either through:

- validation of non-formal and informal learning;
- grant of equivalence, credit units or waivers;
- award of qualifications (certificates, diploma or titles).

and/or

Social recognition: acknowledgement of value of knowledge, skills and/or competences by economic and social stakeholders.



Source: Cedefop, 2008.

56.2 Retraining

Training enabling individuals to acquire new skills giving access either to a new occupation or to new professional activities.

Source: Cedefop, 2008.

57S

57.1 Stakeholders in VET

All those who have an interest, whether financial or not, in VET activities, for example, policymakers, citizens/customers, employers/employees, society, public service organisations, etc.

Source: based on EIPA, 2006.

57.2 Standing group on indicators and benchmarks (SGIB)

Expert group representing all Member States set up in 2002 by the European Commission to give advice on use of indicators and benchmarks as tools for measuring progress in implementing the Lisbon objectives on education and training.

Source: Cedefop.

57.3 STEM - Science, Technology, Engineering, and Math

STEM is an acronym for the disciplines of science, technology, engineering and mathematics taught and applied either in a traditional and discipline-specific manner or through a multidisciplinary, interconnected and integrative approach (from primary to tertiary education). It is output oriented aimed at scaling critical and creative-thinking skills, and perspective and creating technologically proficient workers who are able to create, design, support and operate complex and evolving technological innovations.

Sources/Further reading:

Siekman, G. (2016). What Is STEM? The Need for Unpacking Its Definitions and Applications. National Centre for Vocational Education Research (NCVER). Retrieved from: <https://files.eric.ed.gov/fulltext/ED570651.pdf>

Siekman, G., & Korbel, P. (2016). Defining 'STEM'skills: review and synthesis of the literature. Adelaide: NCVER. Retrieved from: https://www.ncver.edu.au/__data/assets/word_doc/0015/61341/Support-doc-1-Defining-STEM-skills_review-and-synthesis-of-the-literature.docx



Korbel, P. (2016). Measuring STEM in Vocational Education and Training. National Centre for Vocational Education Research (NCVER). Retrieved from: <https://files.eric.ed.gov/fulltext/ED570653.pdf>

58T

58.1 Training course planning and design

Set of consistent methodological activities employed in designing and planning training initiatives and schemes against

objectives set.

Comment: training course planning and design includes analysis of training demand and needs, project design, coordination and implementation monitoring as well as assessment of training impact.

Source: based on le Préau, 2002.

58.2 Training needs analysis

Systematic evaluation of present and future skills needs against the skills available to implement an efficient training strategy.

Comments:

- training needs analysis rests on:

- (a) identification of skills needs;
- (b) assessment of skills available in the workforce, and
- (c) appraisal of skills gaps and shortages;

- training needs analysis can be conducted at individual, organisational, sectoral, national or international levels; it may focus on quantitative or qualitative aspects (such as level and type of training) and should ensure that training is delivered effectively and cost-efficiently.

Source: Cedefop, 2008.

58.3 Transferability of learning outcomes

degree to which knowledge, skills and competences can be used in a new occupational or educational environment, and/or be validated and certified.

Source: Cedefop, 2008.

58.4 Transparency of qualifications

degree of visibility and legibility of qualifications, their content and value on the (sectoral, regional, national or international) labour market and in education and training systems.

Source: Cedefop, 2008.



59U

59.1 Unit of learning outcomes (ECVET)

component of a qualification, consisting of a coherent set of knowledge, skills and competences, that can be assessed and validated;

or

Set of knowledge, skills, and/or competences which constitute a coherent part of a qualification. a unit can be the smallest part of a qualification that can be assessed, transferred and, possibly, certified. it can be specific to a single qualification or common to several qualifications.

Comment: the characteristics of units (content, size, total number of units composing a qualification, etc.) are defined by the competent body responsible for the qualification at the appropriate level. The definition and description of units can vary according to the qualifications system and procedures of the competent body. However, the ecVeT system proposes to provide for every unit:

- its generic title;
- the knowledge, skills and competences contained in it;
- the criteria for assessment of the corresponding learning outcomes.

Source: European Parliament and council of the European Union, 2009a; Cedefop, 2008.

60V

60.1 Validation of learning outcomes

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.

or

Process of confirmation by an authorised body that an individual has acquired learning outcomes measured against a relevant standard. Validation consists of four distinct phases:

- identification through dialogue of particular experiences of an individual;
- documentation to make visible the individual's experiences;
- formal assessment of these experiences; and
- certification of the results of the assessment which may lead to a partial or full qualification.

Source: Cedefop, 2008; Council of the European Union, 2012.

60.2 Vocational education and training (VET)

education and training which aims to equip people with knowledge, know-how, skills and/or competences required in particular occupations or more broadly on the labour market.

Source: adapted from European Training foundation, 1997.

GENERAL EDUCATION AND TRAINING TERMS

61A

61.1 Accountability

Obligation to demonstrate that an activity has been conducted in compliance with agreed rules and standards or to report fairly and accurately on performance results vis-à-vis mandated roles and/or plans.

Source: based on OECD, 2002.

61.2 Accreditation (quality)

Formal recognition that a body or a person is competent to carry out specific tasks.

Source: ISO – Glossary

61.3 Adult education

general or vocational education provided for adults after initial education and training for professional and/or personal purposes, and which aims to:

- provide general education for adults in topics of particular interest to them (e. g. in open universities);
- provide compensatory learning in basic skills which individuals may not have acquired earlier in their initial education or training (such as literacy, numeracy) and thus to;
- give access to qualifications not gained, for various reasons, in the initial education and training system;
- acquire, improve or update knowledge, skills or competences in a specific field: this is continuing education and training.

Comment: adult education is close to, but not synonymous with continuing education and training.

Source: adapted from European Training Foundation 1997; Cedefop, 2004.

61.4 Alternance training

education or training combining periods in an educational institution or training centre and in the workplace. The alternance scheme can take place on a weekly, monthly or yearly basis. depending on the country and applicable status, participants may be contractually linked to the employer and/or receive a remuneration.

Comment: the german 'dual system' is an example of alternance training.

Source: Cedefop, 2008.



62C

62.1 Compulsory education

minimal legal standards and duration of obligatory schooling.

Source: ilo, 1998.

63 D

63.1 Distance education and training

education and training imparted at a distance through communication media: books, radio, TV, telephone, correspondence, computer or video.

Source: based on ILO, 1979.

63.2 Dropout

withdrawal from an education or training programme before its completion.

Comments:

- this term designates both the process (early school-leaving) and the persons who fail to complete a course (early schoolleavers);
- besides early school-leavers, dropouts may also include learners who have completed education or training but failed the final examinations.

Source: based on Ohlsson, 1994.

64E

64.1 Education or training pathway

Set of related education or training programmes provided by schools, training centres, higher education institutions or VeT

providers, which eases the progression of individuals within or between activity sectors.

Source: Cedefop, 2008.

64.2 Educational attainment

Highest level of education or training completed by an individual.

Comments: educational attainment:

- is measured according to the highest educational programme successfully completed, which is typically certified by a qualification;
- can be measured against ISCED or EQF levels.

Source: Cedefop; UNESCO, 2011.





65F

65.1 Formal learning

learning that occurs in an organised and structured environment (such as in an education or training institution or on the job) and is explicitly designated as learning (in terms of objectives, time or resources). formal learning is intentional from the learner's point of view. it typically leads to certification.

Source: Cedefop, 2008.

65.2 Formative evaluation

Evaluation examining ways of improving and enhancing the implementation and management of interventions. Formative evaluations are primarily conducted for the benefit of those managing the intervention with the intention of improving their work or related future initiatives.

Source: based on UK Evaluation Society; Cedefop, Descy and Tessaring, 2005.

66G

66.1 Governance in education and training

Engagement and participation of civil society in formulating, implementing and monitoring strategies for educational development.

Source: Unesco, 2001.

or

Model for VET policy-making management based on involving stakeholders at all levels (sectoral, local/regional, national or international) for objective setting, implementation and monitoring. Governance aims to reinforce interaction between stakeholders and improve accountability, transparency, coherence, efficiency and effectiveness of policy.

Source: Cedefop.

66.2 Guidance and counselling/ information, advice and guidance (IAG)

range of activities designed to help individuals to take educational, vocational or personal decisions and to carry them out before and after they enter the labour market.

Comments:

- guidance and counselling may include:
 - counselling (personal or career development, educational guidance);
 - assessment (psychological or competence/performance related);
 - information on learning and labour market opportunities and career management;



- consultation with peers, relatives or educators;
- vocational preparation (pinpointing skills/competences and experience for job-seeking);
- referrals (to learning and career specialists);
- guidance and counselling can be provided at schools, training centres, job centres, the workplace, the community or in other settings.

Source: Cedefop, 2008.

671

67.1 Individual learning account

System of public incentive to encourage access of adults to learning – for example those not already benefiting from publicly-funded education or training.

Comment: individual learning accounts aim to widen participation in professional and personal development by providing support, expressed in either money or time that learners can spend in the institutions of their choice.

Source: Cedefop, 2008.

67.2 Informal learning

learning resulting from daily activities related to work, family or leisure. it is not organised or structured in terms of objectives,

time or learning support. informal learning is in most cases unintentional from the learner's perspective.

Comments:

- informal learning outcomes may be validated and certified;
- informal learning is also referred to as experiential or incidental/random learning.

Source: Cedefop, 2008.

67.3 Initial education and training

general or vocational education and training carried out in the initial education system, usually before entering working life.

Comments:

- some training undertaken after entry into working life may be considered as initial training (such as retraining);
- initial education and training can be carried out at any level in general or vocational education (full-time school-based or alternance training) or apprenticeship pathways.

Source: Cedefop, 2008.



67.4 Inspection of a VET provider

Method of external evaluation of a VET provider's activities and resources by a qualified and experienced professional, to assess its performance against predefined standards and criteria.

Comment: inspection is generally regulated by national statutory provisions.

Source: Cedefop.

67.5 ISCED level 0 – Early childhood education

Programmes designed with a holistic approach to support children's early cognitive, physical, social and emotional development and introduce young children to organized instruction outside of the family context.

Comment: programmes classified at iSced level 0 are referred to in many ways across the world, for example early childhood education and development, pre-school, reception, pre-primary or pre-school or educación inicial.

Source: based on UNESCO, 2011.

67.6 ISCED level 1 – Primary education

Programmes designed to provide learners with fundamental skills in reading, writing and mathematics (i.e. literacy and numeracy), and to establish a sound foundation for learning and understanding core areas of knowledge, personal and social development, preparing for lower secondary education.

Comment: programmes classified at ISCED level 1 are referred to in many ways across the world, e.g. primary education, elementary education or basic education (stage 1 / lower grades if an education system has one programme that spans ISCED levels 1 and 2).

Source: based on UNESCO, 2011.

67.7 ISCED level 2 – Lower secondary education

Programmes designed to build upon the learning outcomes from ISCED level 1. usually, the educational aim is to lay the foundation for lifelong learning and human development on which education systems may systematically expand further educational opportunities. Some education systems may already offer vocational education programmes at ISCED level 2 to provide individuals with skills relevant to employment.

Comment: programmes classified at ISCED level 2 are referred to in many ways across the world, for example secondary school (stage one / lower grades if there is nationally one programme that spans ISCED levels 2 and 3), junior secondary school, middle school or junior high school.

Source: based on unesco, 2011.

68L



68.1 Learning

Process by which an individual assimilates information, ideas and values and thus acquires knowledge, know-how, skills and/or competences.

Comment: learning occurs through personal reflection, reconstruction and social interaction. it may take place in formal, non-formal or informal settings.

Source: Cedefop, 2008.

68.2 Learning by doing

learning acquired by repeated practice of a task, with or without prior instruction.

or

learning acquired by transforming one's mental assets through confrontation with reality, resulting in new knowledge and skills.

Comment: learning by doing is also referred to as experiential learning.

Source: Cedefop.

68.3 Learning by using

learning acquired by repeated use of tools or facilities, with or without prior instruction.

Source: Cedefop, 2008.

68.4 Learning community

community that promotes a culture of learning by developing effective local partnerships between all sectors of the community, and supports and motivates individuals and organisations to learn.

Source: Cedefop, 2004.

68.5 Learning facilitator

anyone who promotes acquisition of knowledge and skills by establishing a favourable learning environment, including anyone exercising a teaching, training, supervision or guidance function. The facilitator helps the learner develop knowledge and skills by providing guidelines, feedback and advice throughout the learning process.

Source: Cedefop, 2004.

68.6 Learning organisation

organisation which promotes learning, and where individuals learn and develop through the work context, for the benefit of themselves, one another and the whole organisation, with such efforts being publicised and recognised.



Source: Cedefop, 2004.

68.7 Learning region

region in which stakeholders cooperate to meet local learning needs and share resources to devise joint solutions.

Source: Cedefop, 2008.

68.8 Lifewide learning

learning, either formal, non-formal or informal, that takes place across the full range of life activities (personal, social or professional) and at any stage of life.

Comment: lifewide learning is a dimension of lifelong learning.

Source: Cedefop, 2008.

68.9 Low-skilled person

individual whose level of educational attainment is lower than a predetermined standard.

Comments:

- standard level below which an individual is considered as low-skilled depends, for example, on general level of education in a society, or on level of qualifications within an occupation;
- actual level of qualification of an individual includes nonformal learning outcomes acquired through continuing (re)training/upskilling, work experience, or personal development;
- in the european union, an individual is considered as lowskilled when educational attainment is below the upper secondary educational level defined in ISCED.

Source: Cedefop.

69N

69.1 Non-formal learning

learning embedded in planned activities not explicitly designated as learning (in terms of learning objectives, learning time or learning support). non-formal learning is intentional from the learner's point of view.

Comments:

- non-formal learning outcomes may be validated and may lead to certification;
- non-formal learning is sometimes described as semistructured learning.

Source: Cedefop, 2008.

700

70.1 Off-the-job training

Vocational training undertaken away from the normal work situation. It is usually only part of a whole training programme, in which it is combined with on-the-job training.

Source: based on UNESCO, 1979.

70.2 Open learning

Learning which gives the learner a degree of flexibility in choice of topics, place, pace and/or method.

Source: Cedefop, 2008.

71P

71.1 Peer learning

Form of cooperative learning that improves the value of learner-learner interaction and results in various learning outcomes for all participants.

Comment: peer learning is close to but not synonymous with bench learning.

Source: based on National University of Singapore.

71.2 Peer review in VET

Evaluation, by colleagues or peers, of VET activity or management for formative or summative purposes.

Source: Cedefop.

71.3 Permeability of education and training systems

capacity of education and training systems to enable learners to:

- access and move among different pathways (programmes, levels) and systems;
- validate learning outcomes acquired in another system or in non-formal/informal settings.

Comments:

- permeability of systems can be improved by:
 - modularising pathways and defining units of learning outcomes;
 - establishing qualification frameworks which create links between various qualifications, improving readability of qualifications within and between countries;
 - setting credit systems;
- permeability is characterised by direction (vertical/horizontal), criteria for access (individual or collective), admission or exemption, level of formalisation (at institution or system levels).

Source: Cedefop.



71.4 Post-compulsory education

education followed by an individual after compulsory education (the minimum legal standards and duration of schooling).

Source: based on european Training foundation, 1997.

72R

72.1 Recognition of an education or training provider

a process of quality assurance through which an education or training provider is officially recognised and approved by the relevant legislative or professional authorities following assessment against predetermined standards.

Source: adapted from canadian information centre for international credentials.

73S

73.1 Secondary school leaving certificate / baccalaureate

examination administered at the end of upper secondary education to certify learning outcomes of learners following an

assessment procedure.

Comments:

- not all secondary school leaving certificates guarantee systematic access to higher education;
- at national level, school leaving certificates bear different names, for example:

Austria

– reifeprüfungszeugnis (general upper secondary, general access to higher education) or reife- und diplomprüfungszeugnis (vocational upper secondary, double qualification: general access to higher education and vocational qualifications)

– Berufsreifeprüfungszeugnis (general access to higher education, includes validation of knowledge, skills and competences acquired on the job)

Germany

– abitur

– fachabitur

Ireland

– leaving certificates

France

Baccalauréat:

– baccalauréat général (general education)

– baccalauréat technologique (general and technical education)



– baccalauréat professionnel (vocational training leading to a specific occupation)

Portugal

– diploma do ensino secundário (general education)

– diploma de qualificação (general and vocational education / double certification)

United Kingdom

(a) academic levels:

– GCE A level (advanced general certificate of education)

– GCE AS level (advanced subsidiary general certificate of education)

– NQ advanced higher (national qualifications advanced higher level)

– NQ higher (national qualifications higher level)

– Scottish baccalaureate

– welsh baccalaureate

(b) Vocational levels:

– GCE A levels in applied subjects (advanced general certificate of education in applied subjects)

– GCE AS levels in applied subjects (advanced subsidiary general certificate of education in applied subjects)

Source: Cedefop, 2004; ministere de l'éducation nationale.

73.2 Special needs education

educational activity and support designed to address specific needs of disabled children or children failing school for reasons known to impede optimal progress.

Comment: the term 'special needs education' is now preferred to the term 'special education'. The older term was mainly understood to refer to education of children with disabilities, taking place in special schools or institutions distinct from, and outside the regular school and university system. In many countries today a large proportion of disabled children are in fact educated in institutions of the regular system.

Source: based on UNESCO, 1997.

74T

74.1 Teacher

Person whose function is to impart knowledge, know-how or skills to learners in an education or training institution.

Comment: a teacher may fulfil several tasks such as organizing and carrying out training programmes/courses and transmitting knowledge, whether generic or specific, theoretical or practical. a teacher in a vocationally-oriented institution may be referred to as a 'trainer'.

Source: Cedefop, 2004; AFPA 1992.



74.2 Trainer

anyone who fulfills one or more activities linked to the (theoretical or practical) training function, either in an institution for education or training, or at the workplace.

Comments:

- two categories of trainer can be distinguished:
 - professional trainers are training specialists whose job may coincide with that of the teacher in a vocational training establishment;
 - part-time or occasional trainers are professionals in various fields who take on, in their normal duties, part-time training activity, either in-company (as mentors and tutors of recruits and apprentices or as training providers) or externally (by occasionally offering their services at a training establishment);
- trainers may carry out various tasks:
 - design training activities;
 - organise and implement these activities;
 - provide the actual training (transfer knowledge, know-how and skills);
 - help apprentices develop their skills by providing advice, instructions and comments throughout the apprenticeship.

Source: Cedefop, 2004; AFPA 1992.

74.3 Training of trainers

Theoretical or practical training for teachers and trainers.

Comments: training of trainers:

- is for teaching/training personnel, either practising: (a) as professional teachers or trainers, (b) as professionals in a given field who accompany trainees in their work environment (occasional teachers or trainers);
- covers a wide range of skills: knowledge specific to the field in question (general, technical or scientific); educational, psychological and sociological skills; management skills; familiarity with the world of work; and knowledge of training schemes and target audience;
- also covers training related to course design, organization and implementation, as well as content of training activities
(imparting knowledge, know-how and skills).

Source: Cedefop, 2004.

74.4 Transition from school or training to work

move from education or training to employment, covering the period between leaving education and entering the labour market.





Comment: transition between school and employment (integration path, type of employment – with regard to level and status – and duration) is complex. integration depends on many factors (gender, age, qualification, employment policy, guidance and counselling provision, etc.).

Source: Cedefop, 2004.

74.5 Tutoring

any activity offering a learner guidance, counselling or supervision by an experienced and competent professional.

The tutor supports the learner throughout the learning process (at school, in training centres or on the job).

Comment: tutoring covers various activities:

- academic subjects (to improve educational achievement);
- career guidance (to ease transition from school to work);
- personal development (to encourage learners to make wise choices).

Source: Cedefop, 2004.

75V

75.1 Valuing learning

Process of promoting participation in and outcomes of (formal or non-formal) learning, to raise awareness of its intrinsic worth and to reward learning.

Source: Cedefop, 2001 in European Commission, 2001.

75.2 Vocational education and training of unemployed

Vocational training provided for persons who are without work, currently available for work and seeking work.

Source: ILO 1990 cit. in Cedefop, 2001.

OTHER GENERAL TERMS

76B

76.1 Benchlearning

Process of learning from one another to:

- transfer good practices to partner organisations;
- improve overall organisation performance;



- develop cooperation between organisations.

Source: based on CAF regional bench learning project.

76.2 Benchmarking

Management tool for comparing performance against an organisation widely regarded as outstanding in one or more areas to improve performance.

or

Systematic process comparing the activities, processes and/or performance of a programme, organisation, country, etc. against a theoretical, political or existing reference with the aim of identifying ways to improve performance.

Comments:

- benchmarking can be either qualitative or quantitative;
- the process of learning from peers performing better is called bench learning.

Sources:

Definition 1: European Commission. DG Enterprise and Industry.

Definition 2: The Economist. Business database dictionary.

77C

77.1 Certification (quality)

Process by which a third party gives written assurance that a product, process or service conforms to specified requirements.

Source: ISO.

77.2 Certification body (quality)

Body that gives written assurance that a product, process or service conforms to specified requirements following assessment against predefined criteria.

Source: ISO.

77.3 Change management (quality)

Structured and strategic approach to initiate and manage the change process in the structure or culture of an organisation as well as in individual or team behaviour and attitudes.

Comment: involvement of key stakeholders to change management helps minimise resistance to change.

Sources:

Definition: IT Toolbox.com

Comment: Business dictionary.

77.4 Civil society

a 'third sector' of society beside the State and the market, embracing institutions, groups and associations (either structured or informal), which may act as mediator between citizens and public authorities.

Source: Cedefop, 2001 in european commission, 2001.

77.5 Cluster

Group of firms, related economic actors and institutions located near one another that have reached a sufficient scale to develop specialized expertise, services, resources, suppliers and skills.

Source: European Commission, DG Enterprise and Industry.

77.6 Cluster evaluation

Evaluation of a set of related activities, projects and/or programmes.

Source: OECD, 2002.

77.7 Complaint procedure (quality)

Standard procedure for expressing learners' dissatisfaction with a VET action or management.

Comment: complaint procedures lead to a corrective action or measure if required.

Source: Cedefop.

77.8 Conformity (quality)

Fulfilment of a requirement.

Source: ISO, 2000.

77.9 Corrective action

Action to eliminate the cause of a detected non-conformity or other undesirable situation.

Source: ISO, 2000.

or

Action taken to eliminate the causes of an existing non-conformity, deficiency, or other undesirable situation to prevent recurrence.

Source: ISO, 1994.

77.10 Cost-benefit analysis

Comparative analysis of the costs and benefits of an education or training service or activity – and of the value of that service or activity – to select the most profitable solutions and thus maximise investments.

Source: based on Werner et al., 1994.

77.11 Criterion

Principle or reference item used to assess, analyse or compare.

Source: Cedefop.

77.12 Customer satisfaction

Measure to determine if services supplied by a provider meet or surpass customer expectation.

Comment:

- customer satisfaction is usually measured through customers' surveys;
- it is a key performance indicator and is part of the four perspectives of a balanced scorecard.

Source: based on Wikipedia.

78E

78.1 Ex ante evaluation

Evaluation conducted before implementation of an intervention to provide prior assessment of whether socioeconomic issues have been diagnosed correctly, the strategy and objectives are relevant, and it is coherent with other interventions or policies, etc.

Source: based on UK Evaluation Society; European Commission 1999; Cedefop, Descy and Tessaring, 2005 .

78.2 Ex post evaluation

Evaluation conducted either on or after completion of an intervention or programme.

It aims at accounting for use of resources, effectiveness and efficiency of intervention and strives to understand the factors of success or failure.

Source: based on UK Evaluation Society; European Commission, 1999; Cedefop, Descy and Tessaring, 2005.

79G

79.1 Good practice

Method or approach that leads to better and transferable achievements.

Comment: the terms innovative/interesting/ best practice are often used as a synonym.

Source: Cedefop.

79.2 Group at risk

In the European policy agenda, a group belonging to one of the following categories:

- poor people;
- one-parent families;
- minorities;
- elderly people;
- people with disability;
- homeless;
- alcohol and drug abusers;
- early school leavers;
- long-term unemployed.

Source: Cedefop.

80I

80.1 International Organisation for Standardisation (ISO)

Global network that identifies what international standards are required by business, government and society, and develops them in partnership with sectors that will put them to use, adopts them by transparent procedures based on national input and delivers them to be implemented worldwide.

ISO standards specify the requirements for state-of-the-art products, services, processes, materials and systems, and for good conformity assessment, managerial and organizational practice.

Source: EIPA, 2006.

81M

81.1 Mentoring

guidance and support provided in various ways to a young person or novice (someone joining a new learning community or organisation) by an experienced person who acts as a role model, guide, tutor, coach or confidante.

Source: based on Bolton, 1980.

82O

82.1 Open method of coordination

New framework for cooperation between Member States, whose national policies can thus be directed towards certain common objectives.

Comments:

- the open method of coordination (OMC), created as part of employment policy and the Luxembourg process, has been defined as an instrument of the Lisbon strategy (2000). Under this intergovernmental method, Member States are evaluated by one another (peer pressure), with the Commission's role being limited to surveillance. The European Parliament and the Court of Justice play virtually no part in the OMC process;
- the open method of coordination takes place in areas which fall within the competence of Member States, such as employment, social protection, social inclusion, education, youth and training;
- it is based principally on:
 - jointly identifying and defining objectives to be achieved (adopted by the Council);
 - jointly established measuring instruments (statistics, indicators, guidelines);
 - benchmarking, comparison of Member States' performance and exchange of best practices (monitored by the Commission).

Source: European Commission. Europa glossary.

82.2 Outcome (quality)

Positive or negative longer-term socioeconomic change or impact that occurs directly or indirectly from an intervention's input, activities and output.

Source: based on Johnson Center for Philanthropy; Cedefop, Descy and Tessaring, 2005.

82.3 Output (quality)

Immediate and direct tangible result of an intervention.

Source: Cedefop, Descy and Tessaring, 2005.



82.4 Output indicator

Data that provide a quantitative or qualitative measure of the result of an education or training intervention.

Source: Cedefop.

82.5 Output standard

Standard that sets the level of performance to be attained.

Comment: output standards can be applied to:

- systems (to set the level of performance to be achieved by the whole country or region);
- providers (to set the level of performance to be achieved by VET providers);
- individuals (to set the level of performance to be achieved by the learner).

Source: Cedefop, Technical working group on quality in VET.

83P

83.1 Performance

Measure of the level of attainment achieved by an individual, team, organisation or process.

Source: based on EFQM.

83.2 Performance indicator

Data, usually quantitative, that provide a measure of an individual's, team's or organisation's level of attainment against which the level of others can be compared.

Source: Cedefop.

83.3 Preventive action

Action to eliminate the cause of a potential nonconformity or other undesirable potential situation.

Source: ISO, 2000.

or

Action taken to eliminate the causes of an existing non-conformity, defect or other undesirable situation to prevent recurrence.

Source: ISO, 1994.

83.4 Procedure

Specified way to carry out an activity or process.



Source: ISO, 2000.

83.5 Process

Set of interrelated or interacting activities which transform input into output.

Source: ISO, 1994 and ISO, 2000.

83.6 Process indicator

Leading indicator relative to performance of the process.

Source: based of EFQM.

84Q

84.1 Quality

All characteristics of an entity that bear on its ability to satisfy stated and implied needs.

Source: ISO 8402.

or

Degree to which a set of inherent characteristics fulfils requirements.

Source: ISO, 2000.

84.2 Quality approach

‘Approach’ is used as an overall term because the term ‘system’ is often used in a stricter sense. So ‘approaches’ is used to comprise both very fixed and formalised real systems and any set of more systematic behaviour meant to regulate and or develop the performance quality of a VET system.

Source: Cedefop, Technical working group on quality in VET.

84.3 Quality audit

Systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve quality objectives.

Source: ISO, 1994.

84.4 Quality cycle / PDCA cycle

Iterative four-step problem-solving process typically used in business process improvement.

Comment: it is also known as the Deming cycle, Shewhart cycle, Deming wheel, or plan-do-check-act.

or



Cycle of four stages one has to go through to realise continuous improvement, as described by Deming:

P (plan) (project phase);

D (do) (execution phase);

C (check) (control phase);

A (act) (action, adaptation and correction phase).

Source: Wikipedia; EIPA, 2006.

84.5 Quality control

Operational techniques and activities used to fulfil requirements for quality.

Source: ISO, 1994.

or

Part of quality management focused on providing confidence that quality requirements will be fulfilled.

Source: ISO, 2000.

84.6 Quality indicator

Formally recognised figure(s) or ratio(s) used as yardsticks to judge and assess quality performance.

Source: Cedefop, van der Berghe, 1996.

84.7 Quality loop

Conceptual model of interacting activities that influence quality at various stages ranging from identification of needs to assessment of whether these needs have been satisfied.

Source: ISO, 1994.

Comment: EQAVET identifies four stages in the quality improvement cycle:

- planning;
- implementation;
- evaluation/assessment; and
- review/revision of VET, supported by common quality criteria, indicative descriptors and indicators.

Source: European Parliament and Council of the European Union (2009).

84.8 Quality management

All activities of management that determine quality policy, objectives and responsibilities, and implement them by means of a quality plan, quality control, and quality assurance within a quality system.

Source: ISO, 1994.

84.9 Quality management system

Management system to direct and control an organisation with regard to quality.

Source: ISO, 2000.

84.10 Quality manual

Document stating the quality policy and describing the quality system.

Source: ISO, 1994.

or

Document specifying the quality management system of an organisation.

Source: ISO, 2000.

84.11 Quality monitoring

Systematic collection and analysis of quality indicators to determine whether the quality of education and training meet the standards set.

Source: Cedefop.

84.12 Quality objective

Something sought, or aimed for, related to quality.

Source: ISO, 2000.

84.13 Quality policy

Overall intentions and direction of an organisation with regard to quality as formally expressed by top management.

Comment: the technical working group on quality in VET identified three quality policy objectives at system level:

- improvement of employability of the labour force;
- better matching between training supply and demand;
- better access to VET, in particular for vulnerable groups.

Source: ISO, 1994; Cedefop.

84.14 Quality prerequisites

Knowledge and know-how required to follow effectively a training unit or complete training course.

Source: Le Préau, 2002.

84.15 Quality requirement

Needs or expectations expressed in terms of quality.

Source: based on ISO, 2000.

84.16 Quality standard

Technical specifications which are measurable and have been drawn up by consensus and approved by an organisation recognised at regional, national or international levels. The purpose of quality standards is optimisation of input and/or output of learning.

Source: Cedefop, 2003.

84.17 Quality system

Organisational structure, procedures, processes, and resources needed to implement quality management. The quality system provides the framework for planning, implementing, and assessing services provided and for carrying out required quality assurance and quality control.

Source: ISO, 1994; MassDEP.

85R

85.1 Register

Database updated continuously (often for administrative purposes, such as population registers or building registers) and from which statistics can be extracted/aggregated/ computed.

Source: Eurostat, 2004.

85.2 Regulated profession

Professional activity or group of professional activities, access to which, pursuit of which, or one of the modes of pursuit of which is subject, directly or indirectly, by virtue of legislative, regulatory or administrative provisions, to possession of specific professional qualifications.

Source: European Parliament and Council of the European Union, 2005.

85.3 Review

Assessment of performance of an intervention, periodically or on an ad hoc basis.

Comment: frequently 'evaluation' is used for more comprehensive and/or more in-depth assessment than 'review'. Reviews tend to emphasise operational aspects. Sometimes the terms 'review' and 'evaluation' are used as synonyms.

Source: OECD, 2002.



86S

86.1 Sector

group of companies with the same main economic activity (such as chemicals).

or

grouping of professional activities based on their main economic function, product, service or technology.

Source: Cedefop, 2008; European Parliament and Council of the European Union, 2008.

86.2 Self-assessment (of a learner)

Ability of learners to observe, analyse and judge their performance based on predefined criteria and determine how they can improve it.

Source: Alverno College.

86.3 Self-evaluation (of a VET provider)

Any process or methodology carried out by a VET provider under its own responsibility, to evaluate its performance or position in relation to two dimensions:

- an internal dimension ('micro level') that covers services, internal staff, beneficiaries or clients, policy and/or internal organisation, development plan, etc.; and
- an external dimension ('macro level') that covers analysis of the educational offer of this institution compared to others: relationship with the territorial system of actors (local decision-makers, unions, local governments,

type of labour market and needs of VET, information network, type of populations interested in a learning offer and evolution of the needs, main results of work at national and European levels in the VET sector).

This double self-evaluation allows VET providers not only to improve their internal systems of quality control but also to evaluate their own position in their various environments.

Source: based on Cedefop, Technical working group on quality in VET.

86.4 SMART objectives

Mnemonic used in management to help setting objectives which are:

- Specific: precise about what is going to be achieved;
- Measurable: with quantified objectives;
- Achievable;
- Realistic: are the necessary resources available;
- Timed: within manageable timing.



Source: Cedefop, Technical working group on quality in VET; EIPA, 2006.

86.5 Social cohesion

degree to which different groups in a society can live together and share common values.

Comments:

- social cohesion requires low degrees of social exclusion, intra-community cooperation and solidarity across

communities and social groups;

- social cohesion goes beyond the level of economic homogeneity (rate of employment, salary scale, access to

health and education, housing); it is also linked to the level of social inclusion;

- Jenson (1998) identified five dimensions to social cohesion:

1. belonging – isolation: that means shared values, identity, feelings of commitment;
2. inclusion – exclusion (access to welfare);
3. participation – non-involvement (in civil society);
4. recognition – rejection of differences (in a pluralistic society);
5. legitimacy – illegitimacy (trust and respect to institutions).

Source: Cedefop, 2008; Jenson, 1998.

86.6 Specifications

Explicit set of requirements to be satisfied by a material, product, or service.

Source: Wikipedia.

86.7 Standard

Series of elements whose content is defined by concerned actors.

Comments: one can distinguish between several types of standards:

- competence standard refers to knowledge, skills and/or competences linked to the practice of a job;
- educational standard refers to statements of learning objectives, content of curricula, entry requirements as well as resources required to meet learning objectives;
- occupational standard refers to the statements of the activities and tasks related to a specific job and to its practice;
- assessment standard refers to statements of the learning outcomes to be assessed and the methodology used;
- validation standard refers to statements of level of achievement to be reached by the person assessed, and the methodology used;





- certification standard refers to statements of the rules applicable for obtaining a certificate or diploma as well as the rights conferred.

according to the system, these standards can be defined separately or be part of one document.

Source: Cedefop, 2008.

86.8 Summative evaluation

Systematic investigation to determine the worth or merit of a programme, measure or policy using relevant social research methods and criteria, standards and indicators.

Source: Cedefop, Descy and Tessaring, 2005.

86.9 SWOT analysis

Analysis of strengths, weaknesses, opportunities (potential advantages) and threats (potential difficulties) of and to an organisation.

Source: EIPA, 2006.

87T

87.1 Total quality management (TQM)

Approach to improve overall quality of goods and services by integrating all functions and processes throughout an organisation. TQM includes managing quality design and development, quality control and maintenance, quality improvement, and quality assurance. TQM requires measures taken at all levels and involving all stakeholders.

Source: ISO, 1994; Cedefop.

88V

88.1 Validation (quality)

Confirmation, through provision of objective evidence that the requirements for a specific intended use or application have been fulfilled.

Source: ISO, 1994 and ISO, 2000.

88.2 Verification

Confirmation by examination and provision of objective evidence that specified requirements have been fulfilled.

Source: ISO, 1994.





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