# **ICNDT General Assembly Meeting**

# Report of ISO/TC 135/WG 3

Harmonization of personnel certification standards

Study of EN 473:2008 and ISO 9712:2005

( Revised Edition )

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First Meeting of Joint Working Group, Madrid, September 2009



Meeting at AFNOR, Paris, June 2008

# 1. Establishment of Joint Working Group

The discrepancy observed between ISO 9712 and EN 473 should be a matter of primary concern to most people involved in NDT. Aiming for the complete harmonization of these personnel certification standards, ISO/TC 135 and CEN/TC 138 established the Joint Working Group (JWG) crossing a barrier between CEN and ISO.

This may be an epoch-making event, as the establishment of a JWG, such as one between the TCs of CEN and ISO, is not provided for by ISO or CEN Directives. Consequently, CEN/TC 138 and ISO/TC 135 have each established their own Working Group (WG), based on the notion that the two WGs should play a role together, as if they were one JWG.

# 2. Background of Joint Working Group

Establishment of the JWG was first proposed to ISO/TC 135 by Mr. Kozlowski, former Chairman of CEN/TC 138, during the Certification 2007 Conference in Berlin in September 2007. In ISO/TC 135, this proposal was reported to its 16th Plenary Meeting in Buenos Aires in October 2007.

In June 2008, both the ISO/TC 135 Chair and Secretary visited AFNOR in Paris on their return from the ISO meeting in Geneva. Chairmen and Secretaries of both TCs discussed the problems concerning harmonization of the personnel certification standards.

They also exchanged opinions about the revised contents of EN 473. In EN 473, which had been revised in 2008, the minimum training hours were increased considerably compared with both its previous edition and ISO 9712. Chairman Hatano expressed the concern that it might be possible for major countries of CEN to deal with it, but in ISO, which is composed of various countries with different circumstances, these countries could be affected greatly by the abrupt and big changes in training hours.

Mr. Kozlowski explained that the training hours defined in EN 473 was revised in accordance with common technical report CEN ISO/TR 25107 Guidelines for

NDT training syllabuses, which was prepared in collaboration of CEN and ISO, and that the revised training hours in EN 473 was a minimum requirement for the level requested by CEN. Prof. Hatano refuted the explanation pointing out that it was inappropriate to adopt the contents of Technical Report into CEN standard, because the Technical Report has a binding force weaker than that of ISO standards, and adoption of TR into standard will result in giving TR the same binding force of ISO standards. He also introduced the case of Japan, where Japan casted an affirmative vote in the balloting of EN TR 25107 because the balloting was on TR with weak binding force, but not on the ISO standard with greater binding force.

In conjunction with the 17th WCNDT in Shanghai in October 2008, the ICNDT Workshop on *Harmonisation of third-party NDT Personnel Certification to ISO9712 and aligned standards* was held. Prof. Hatano was invited to the Workshop as a member of the panel. He explained the necessity of harmonization between ISO 9712 and EN 473 and related issues, and reported how and why the JWG of ISO and CEN would be established. After the explanation, Dr. Farley, the session chair of the workshop, asked attendees whether they were in favor of the establishment of the JWG. Most attendees supported the policy of ISO/TC 135.

# 3. Agreement on Joint Working Group

Early in 2009, the establishment of the JWG was approved by both CEN/TC 138 and ISO/TC 135 as a result of their formal vote. The Secretariats of CEN/TC 138 and ISO/TC 135 agreed as follows:

# Name of WGs

For CEN/TC 138: AHG 9 Harmonization of personnel certification standards - Study of EN 473:2008 and ISO 9712:2005

For ISO/TC 135: WG 3 Harmonization of personnel certification standards - Study of EN 473:2008 and ISO 9712:2005

## Meetings

**The first meeting:** September 17, 2009 - Madrid (in conjunction with the CEN TC 138 meeting)

**The second meeting:** June 2010 - Moscow (in conjunction with the ISO/TC 135 meeting)

The two groups will meet always together.

Between meetings, work will be done by electronic correspondence.

# **Documents and final report**

Working documents and reports of meetings will be identical. Only one report will be produced and distributed to the two bodies (CEN/TC 138 and ISO/TC 135).

# Convenorship

Each group will be convened by the Chairman of its parent TC (i.e. Mr. Patrick Fallouey and Prof. Hajime Hatano). The common meetings will be convened jointly.

#### Session chair

The chairmen of CEN/TC 138 and ISO/TC 135 may be appointed alternately to the session chair for each meeting. For instance, Mr. Fallouey will be appointed for the first meeting, Prof. Hatano for the second, and so on.

#### Secretariat

It would be more adequate to have the same secretary for both WGs. As Ms. Nathalie Geslin-Levasseur belongs to both ISO and CEN structures, she volunteered to act as secretariat of the two WGs.

# 4. Membership of Joint Working Group

**Table 1** shows the current members of the JWG.

# 5. First Meeting of Joint Working Group

The first meeting was held at the office of AENOR in Madrid on 17th September 2009, one day prior to the CEN/TC 138 meeting held at the same venue. During the meeting, harmonization plan to resolve the discrepancy between ISO 9712 and EN 473 was deliberated.

A detailed report of the meeting was provided by Ms. Geslin-Levasseur. Please

Table 1 Members of ISO/TC 135/WG 3

Convenor	Prof. Hajime Hatano (ISO/TC 135)			
Secretary	Mr. Takeo Tsuchiya (ISO/TC 135)			
Volunteer Secretary	/ Ms. Nathalie Geslin-Levasseur (CEN/TC 138)			
Experts	Dr. Richard Murphy (ISO/TC 135/SC 7)	Mr. Rick Robichaud (ISO/TC 135/SC 7)		
	Ms. Patricia A. Wait (ISO/TC 135/SC 7)			
	Mr. John McDonald (CASCO)			
	Mr. Richard Van Sonsbeek (CEOC International)			
	Dr. Mike Farley (ICNDT)			
	Mr. Carlos Arredondo Sánchez (INLAC)			
	Mr. Gerhard Aufricht (Austria)			
	Mr. João Antonio Conte (Brazil)	Mr. João Rufino (Brazil)		
	Mr. Douglas James Marshall (Canada)	Mr. John Zirnhelt (Canada)		
	Mr. Yufei Jin (China)	Mr. Gongtian Shen (China)		
	Mr. Juha Sillanpää (Finland)			
	Mr. Yves MAREZ (France)	Mr. Jean-Michel TCHILIAN (France)		
	Ms. Renate Alijah (Germany)	Mr. Ralf Holstein (Germany)		
	Mr. István Skopál (Hungary)			
	Mr. Diego Bettoni (Italy)			
	Dr. Takamasa Ogata (Japan)	Dr. Norikazu Ooka (Japan)		
	Mr. Paul Doeswijk (Netherlands)			
	Mr. Peter Hayward (New Zealand)			
	Dr. Grigory Dymkin (Russian Federation	)		
	Mr. Sunil :Amarawansa (Sri Lanka)			
	Ms. Şule Bahadır (Turkey)			
	Mr. John Thompson (United Kingdom)			
	Mr. Michael McDaniel (USA)	Mr. Ronald Nisbet (USA)		

Table 2 Key Differences and Agreement as of the 1st Meeting

	Current		Current		Agraamant		
Subject		ISO	CEN	Agreement			
Le	Level 1 and Level 2		Level 1 and Level 2		<ul> <li>Practical exam</li> </ul>	<ul> <li>Practical exam, or</li> </ul>	<ul> <li>Practical exam, or</li> </ul>
re	recertification		recertification			<ul> <li>Audit conducted</li> </ul>	<ul> <li>Audit conducted</li> </ul>
				in the workplace	in the work place		
int	Level 1	AT	40hours	64 hours			
eme		RT	40 hours	72 hours			
requirement		UT	40 hours	64 hours			
rec	Level 2	ET	64 hours	40 hours	?		
E	Level 3	RT	40 hours	72 hours			
Minimum		UT	40 hours	72 hours			
≅	Basic	knowledge	<u> </u>	80 hours (direct access)			
					Apply		
Vienna agreement		Apply	?	EN473 ISO9712			
		Cement	Apply	!	$\downarrow$		
					EN ISO ?????		

# refer to Annex A.

**Table 2** outlines the current status of agreement on the major discrepancies. With regard to the Level 1 and Level 2 recertification, in accordance with EN 473, the group agreed to allow that, in the case of repetitive testing during mass production, candidates can demonstrate continued competence by an audit conducted by the certification body in the work place. In addition, we are pleased that the group shared an opinion concerning the application of the Vienna Agreement in order to publish a unique standard. However, there still remain large differences in the training requirements.

# 6. Training Proposal by CEN/TC 138 Chair

After the first meeting, Mr. Fallouey, Chairman of CEN/TC 138, made a training proposal for the purpose of replacing 6.2 of EN 473 and 7.3 of ISO 9712, respectively. Please refer to **Annex B**.

Our position on the proposal is clear and consistent. Although training hours may be a fundamental parameter for training requirements, increasing duration does not always secure increasing competence of the trainees. Quality of training should be more important rather than the training hours.

We are seriously concerned that that the proposed minimum training hours, as is shown in Table 2 of Mr. Fallouey's document, might be too much to introduce as it is, into the unique standard.

Please refer to **Annex C**, in which the worldwide status of minimum training requirements is summarized with regard to a number of international and national standards. We, too, hope that every ISO member should adopt the ISO standard as having the same status as a national normative document without modifications. However, we fear that such an increase of minimum training hours as was proposed might have the sole effect of forcing ISO members to increase the number of undesired modifications.

# 7. Setup of Restricted Group

A restricted group was set up in order to deal with the observations. It is composed of Renate Alijah, Paul Doeswijk, Mike Farley, Hajime Hatano, Rodolfo Rodriguez Juarez, Rick Robichaud, Jean-Michel Tchilian, John Thompson, and will be convened by Patrick Fallouey. A draft proposal for the entire standard (comprising the treatment of comments and a total rewrite accommodating the editorial differences) will be dispatched prior to the next meeting of the JWG.

# 8. Next Meeting of Joint Working Group

The second meeting of the JWG was previously scheduled for June 2010, in conjunction with the 10th European Conference on Non-destructive Testing (10th ECNDT) in Moscow. However, the meeting was postponed, and is currently organized as follows:

Date: Tuesday 14th September 2010

Place: Vienna

Although we initially sought to hold the meeting concurrently with 10th ECNDT, we could not schedule it any sooner than the week prior. Under this circumstance, Mr. Fallouey and Ms. Geslin-Levasseur advised us as an option to postpone the JWG meeting, as we should have full representation of all key players when the JWG meets. We appreciated and agreed to their suggestion.

CEN/TC 138 will meet in Vienna on the previous day, 13th September, and both meetings will be held in conjunction with the 29th European Conference on Acoustic Emission Testing (EWAGE 2010) scheduled for 8th to 10th September in the previous week at Wirtschaftskammer Wien.

Respectfully prepared by

Hajime Hatano

# Annex A Report of First Meeting

## 1 Opening of the meeting

Patrick Fallouey and Hajime Hatano opened the meeting by welcoming the attendees (the attendance list is attached to this report) and thanked the Spanish members for hosting the meeting.

## 2 Roll call of delegates

document N 009

#### 3 Appointment of the session chairman

CEN/T 138/AHG 9 and ISO/TC 135/WG 3 met together. As the meeting is hold in conjunction with CEN/TC 138 meeting, it will be convened by Patrick Fallouey, CEN/TC 138 Chairman.

## 4 Adoption of the agenda

document N 008

The members were asked for additional agenda items, if any. Following the request of John Mac Donald from CASCO, the following item was added under new item 5: position of CASCO on standards relative to personnel certification.

# 5 Position of CASCO on standards relative to personnel certification

document N 010

John Mac Donald gave an overview of the situation.

In its current Strategic Plan, ISO decided that it would not become directly involved in services or procedures related to assessing compliance to its standards. In this way, ISO does not indicate any preference towards first, second or third party intervention and therefore cannot be seen as developing standards for the purpose of feeding conformity assessment activities; see 6.7 of ISO/IEC Directives, Part 2.

The new ISO Strategic Plan 2011-2015 is under consultation by 2009-09-30 and the question of ISO's current neutral policy in relation to conformity assessment is raised.

He also reminded that ISO Technical Committees and ISO/CASCO should cooperate in the preparation of any conformity assessment requirements.

CASCO studied the existing standard for personnel such as ISO 9712 and suggested that specifications would also make it possible for any technically competent second parties (such as training organisations, employers or customers) to use these standards to assess and declare (but not certify) the competence of people with whom they have any kind of business relationship.

The group noted that it would be possible to introduce in the scope that the ISO standard describes a process which can also be used for a second party assessment.

<u>CONCLUSION</u>: CASCO, ICNDT and CEOC are invited to provide comments on the "joint" group documents at the relevant steps.

# 6 Background of the set-up of the group and working method

document N 006

Some differences still exist between EN 473:2008 and ISO 9712:2005; therefore it seems necessary to provide the marketplace with a set of tools and documents to identify potential issues as quickly as possible, and to trace and deal with them accordingly through a constructive communication based on objective evidences.

This subject was proposed to ISO/TC 135 by Albert Kozlowski, former CEN/TC 138 Chairman in September 2007 and the proposal was supported again by CEN/TC 138 in October 2008.

The establishment of a joint working-group between TCs of CEN and ISO is not allowed according to ISO and CEN rules. Consequently, CEN/TC 138 and ISO/TC 135 have each established their own Working Group (WG), based on the notion that the two WGs should play a role together, as if they were one JWG. Each group will be convened by the Chairman of its parent TC (i.e. Patrick Fallouey and Hajime Hatano).

Working documents and reports of meetings will be identical. Only one report will be produced and distributed to the two instances (CEN/TC 138 and ISO/TC 135). It would be more adequate to have the same secretary for both WGs. As Nathalie Geslin belongs to both ISO and CEN structures, she has volunteered to assure the secretariat of the two WGs.

#### The objective is

- ✓ to clearly identify what are the differences;
- ✓ to give recommendations to ISO/TC 135 and CEN/TC 138 in order to permit achievement of a unique EN ISO standard at the next step of ISO and CEN standards revision.

#### 7 Overview of the situation of EN 473:2008 and ISO 9712:2005

It was requested that CEN/TC 138 and ISO/TC 135 recognised the equivalence of the competence of NDT personnel certified according to these standards.

♦ **Decision**: the following recommendation was taken to be approved by both CEN/TC 138 and ISO/TC 135:

"Notwithstanding the detail differences between the present versions of ISO 9712 and EN 473, the competence of NDT personnel certified according to these standards is considered effectively equivalent.

It is the employer's responsibility, prior to issue of the authorisation to work, to check that an individual's certification (EN 473 or ISO 9712) and any additional employer-administered job-specific training and examination are adequate for the NDT tasks to be executed"

ICNDT and EFNDT are requested to dispatch this recommendation to their members and to publish it in their journal.

# Study of the differences between the 2 standards

documents N 003, 004, 005

John Thompson (on behalf of both CEN and ISO TC's) presented his report relative to the comparison of EN 473:2008 and ISO 9712:2005. The key differences were identified.

- ✓ training syllabuses;✓ training hours;
- ✓ duration of experience:
- ✓ recertification requirements.

John Thompson concluded his study by the following statements:

- o there are only a few significant differences between the standards;
- o in most cases, these can be accommodated by the certification body (seeking to simultaneously comply with both standards) adopting the most stringent criteria:
- o the standards are sufficiently similar as to allow mutual recognition by those certification bodies for whom this is an important objective.

### Proposal of solving differences

document N 002

CEN/TC 138/AGH9 decided to review step by step the key differences in order to first clearly understand the background and secondly try to resolve conflicts.

# 1) Responsibilities of the certification body - support

5.2.1 of EN 473 – 5.2.1 to 5.2.3 of ISO 9712

The requirement of ISO 9712 saying that a certification body shall be supported by a technical committed composed of representatives of interested parties is not prescribed by EN 473.

But it is noted that it is covered by ISO 17024, &4.2.3, which is referenced in 5.2.1. Then it is not necessary to repeat it.

Specision: 5.2.2 of ISO 9712 could be deleted.

# 2) Responsibilities of the certification body – code of ethics

5.2.1 of EN 473

A code of ethics for candidate and certificate holders is required by EN 473, whereas there is no mention in ISO 9712.

♦ **Decision**: it is necessary to introduce a code of ethics in ISO 9712.

# 3) Eligibility – Training

6.2 of EN 473 - 7.3 of ISO 9712 document CEN/TC 138/AGH9 N 012

There are significant increases in the minimum duration of training defined in EN 473 over the minimum durations specified in ISO 9712.

It was reminded that the CEN ISO/TR 25107: 2006 « Non-destructive testing - Guidelines for NDT training syllabuses » was not available at the time of ISO 9712 publication. This fact could explain the significant differences between EN 473 and ISO 9712.

The need to define duration of training before exam was debated and it was decided to keep a specification on this point.

EN 473 additionally states a minimum duration of 80 hours training prior to the level 3 basic examination. The intent was that, for someone having limited knowledge on NDT and wanting to access directly to level 3, 80 hours training on product technology, certification skills, and knowledge on other NDT methods are necessary.

It is also explained that training hours shall cover all 3 levels.

Hajime Hatano on behalf ISO/TC 135 suggested to use ASNT TC 1 A training hours as basis for discussion.

A key difference was noticed: ASNT durations are adapted for 2<sup>nd</sup> party certification dedicated to specific jobs whereas ISO and CEN standards deal with 3<sup>rd</sup> party certification which covers more general area.

**Decision**: a proposal prepared by Patrick Fallouey will be submitted to comments.

**Decision**: Patrick Fallouey will precise what is covered by "course of training".

#### 4) Eligibility - Experience

6.3 of EN 473

EN 473 states a minimum period of experience prior to examination whereas ISO 9712 requires no experience;

The duration of examination results validity differs between the 2 standards.

**Decision**: the minimum period of experience shall be specified and the results of the examination shall remain valid for two years.

The signification of "accredited college" in Table 3, note h) is raised.

**Decision**: this item is postponed.

# 5) Eligibility – Vision

6.4 of EN 473 – 7.2 of ISO 9712

These clauses are not controversial.

### 6) Examination

7 of EN 473 – 8 of ISO 9712

These clauses are not controversial.

## 7) Re-examination

10.2.2 of EN 473 – 10.5.2 of ISO 9712

The 2 standards differ on the number of retests after failed recertification exam.

♦ **Decision**: 2 retests as requested by ISO 9712 are chosen.

#### 8) Renewal after expiration date of certificates

9 of EN 473 – 10.4 of ISO 9712

The standards appear to be identical with the exception of 2 points stated in EN 473: the delay of presentation of renewal files before the date of expiry of the certificate and the deadline of 12 months after this date.

♦ **Decision :** specifications of EN 473, clause 9 are chosen. But 9.2 is deleted because clause 10 is sufficient.

### 9) Recertification - Level 1 and 2

10.2 of EN 473 - 10.5.2 of ISO 9712

The standards appear to be identical excepting that EN 473 allows that, in the case of repetitive testing during mass production, candidates can demonstrate continued competence by an audit conducted by the certification body in the work place.

**♦ Decision:** specifications of EN 473, & 10.2 are chosen with the addition of SO 9712, 10.5.2 b) dealing with the certification in the event of failure in the 2 allowable retests.

# 10) Recertification - Level 3

10.3 of EN 473 - 10.5.3 of ISO 9712

The evidence of the practical competence of level 3 and the use of credit points are debated.

Patrick Fallouey made the following proposal:

Moreover, except if he holds a valid level 2 certificate for the same method, the candidate shall, in the 5 years preceding the recertification:

- either take in for a level 2 practical examination described in 10.2.2. When he chooses the credit system, he is exempted from drafting the instruction;
- or have controlled two examinations samples in a satisfactory way (with a mark > 70% validated by a level 3 examiner) in an examination centre;
- or have demonstrated, in an acceptable way by the Certification Body, his continued practical competence in this method. This can be carried out either during one audit similar to that mentioned in 10.2.3, or by the supply of two inspection reports (validated by a level 3 examiner).

**Decision:** These specifications are considered as relevant and are accepted.

# 11) Recertification exam - Level 3

10.3 of EN 473 - 10.5.3 of ISO 9712

These clauses are not controversial.

### 12) introduction of new exams

These clauses are not controversial.

#### **CONCLUSION:**

- the report and text proposals will be submitted to comments by end of January 2010.
- a restricted group will be set up in order to deal with the observations. It is composed of Renate Alijah, Paul Doeswijk, Mike Farley, Hajime Hatano, Rodolfo Rodriguez Juarez, Rick Robichaud, Jean-Michel Tchilian, John Thompson and will be convened by Patrick Fallouey.
- a draft proposal for the entire standard (comprising the treatment of comments and a total rewrite accommodating the editorial differences) will be dispatched mid-May for the next meeting in Moscow in June 2010.

Hajime Hatano is in favour of the application of Vienna Agreement in order to publish an EN ISO 9712 based on the draft prepared by the "Joint Group". The group shared its opinion but, for an effective worldwide application, non-European ISO members should adopt the International Standard as having the same status as a national normative document, with any deviations from the International Standard identified.

# 10 Any other business

There was no other business to discuss.

# 11 Date and place of the next meeting

The next meeting will be held in conjunction with ISO/TC 135 in Moscow in June 2010.

This new proposal intends to be acceptable for both EN 473 and ISO 9712, with the aim of achieving a simplified presentation of the requirements.

# **6.2 Training**

### 6.2.1 Attestation of training

The candidate shall provide documentary evidence, in a form acceptable to the certification body, that he has undertaken training in the method and level for which the certification is sought, which covers the relevant syllabus content in CEN/ISO TR 25107 [1]. Any reduction in the duration of training requires approval of the certification Body.

#### 6.2.2 Content of training

For Levels 1 and 2, the training shall include satisfactory completion of a course of theoretical and practical training recognised by the certification body.

For Level 3, taking into account the scientific and technical potential of candidates, the preparation for qualification can be achieved in different ways: attending training courses, conferences or seminars, studying books, periodicals and other specialized printed or electronic materials.

# 6.2.3 Duration of training

The minimum duration of training undertaken by the candidate for certification shall be as defined in 6.2.4, 6.2.5 and Table 2 for the applicable NDT method, with the possible reductions defined in 6.2.6. This duration is based upon candidates possessing adequate mathematical skills and prior knowledge of materials and processes.

Training hours include both practical and theoretical courses.

#### 6.2.4 Direct access to Level 2

Direct access to level 2 requires the sum of the hours shown in Table 2 for Levels 1 and 2, except that the total training duration is 56 hours for RT direct access Level 2 candidates when the certification is limited to film interpretation and applicable to a single product sector.

#### 6.2.5 Direct access to Level 3

Direct access to level 3 requires the sum of the hours shown in Table 2 for Levels 1, 2 and 3. In addition to the hours shown in table 2, the Level 3 candidate not previously holding a Level 3 certificate shall undertake 80 hours of training in preparation for examination parts A, B and C (the Basic Examination). This duration may be reduced (proportionally to the number of

NDT Method		Level 1	Level 2	Level 3
		(hours)	(hours)	(hours)
AT		64	64	48
Е	ĒΤ	40	64	40
	Α	8	16	8
LT	В	16	32	24
	С	16	32	32
N	ЛT	16	24	32
PT		PT 16		24
RT		72	80	72
UT		64	80	72
\/T		16	24	24

Table 2 – Minimum training requirements

certificates) for candidates holding a valid Level 2 certificate in one or more methods to be examined in part C. None of the reductions in 6.2.6 applies to this part of the training.

#### 6.2.6 Reduction of training duration

The permitted reductions in training duration are as described hereafter, provided that, when several reductions are applicable, the total reduction does not exceed 50% of the training duration. Any reduction in training duration requires acceptance by the certification body.

#### 6.2.6.1 – For all levels of candidate:

- For candidates seeking certification in more than one method (e.g. VT, MT, PT) or already certificated and seeking certification in another method, when the training syllabus duplicates certain aspects (e.g. product technology), the total number of training hours for these methods (e.g. VT, PT, MT) may be reduced in line with the training syllabuses CEN ISO/TR 25107 [1].
- For candidates who have graduated from technical college or university, or have completed at least two years of engineering or science study at college or university, the total required number of training hours may be reduced by up to 50 %.

# 6.2.6.2 – For levels1 and 2, when the certification sought is limited in scope:

- -of application (e.g., automated ET, MT, UT of bar, tube and rod, or normal beam ultrasonic thickness and lamination testing of rolled steel plate), or
- of technique (e.g. RT using only Radioscopy),or
- for RT and UT, Level 1to only one product sector, the training duration may be reduced by up to 50 %

### 6.2.6.3 - For level 3:

- The training duration (column Level 3 of table 2) may be reduced by up to 50% when the candidate is a certified Level 2 in the method
- Up to 50% of the required training duration may be of practical nature













