

## Economic Commission for Europe

### Inland Transport Committee

#### Working Party on the Transport of Dangerous Goods

Joint Meeting of the RID Committee of Experts and the  
Working Party on the Transport of Dangerous Goods

4 August 2022

Geneva, 12-16 September 2022

Item 7 of the provisional agenda

Reports of informal working groups

### Report on the first meeting of the informal working group on e-learning

Transmitted by IRU and the Government of Germany

#### Introduction

1. Based on the mandate given by the Joint Meeting in its Spring Session 2022 – informal document INF.13/Rev.1 - a first meeting of the informal working group on e-learning was held virtually (webex) at 17 May 2022. The meeting was chaired by Mr A. Celasco, representative of IRU, and with Mr M. Weiner, representative of Germany, acting as a Vice-Chair.

2. The following Member States of ADR and Contracting Parties of ADN respectively participated in the meeting: [Austria, Azerbaijan, Belgium, Denmark, Germany, Italy, Luxembourg, The Netherlands, Portugal, Sweden, United Kingdom]. The following Non-Governmental Organisations were represented: European Barge Union/European Skippers Organisation, Fuels Europe, IRU. The European Commission and the European Railways Agency were also present.

#### Baseline Study

3. After a short introduction about the mandate and scope of the meeting and an Antitrust Statement by the Chair four presentations were heard in sharing experiences about crucial parameters for e-learning events and about already existing e-learning offers.

4. **Presentation “Digital training for professional drivers”** by Professor Niegemann, Professor in Educational Training, Saarland University, Germany

The main topics of his presentation were as follows.

Prof. Niegemann reported about a German **Project “Cargo Securing for Intermodal International Transport of Goods”** (2017-2020).

Two main parts of the project were:

- The identification of the Instructional Objectives for professional truck drivers: To convey the understanding of and the skills to properly secure cargo, and;
- The evaluation of Conditions of Learning, in which partly limited interest, possession of an affinity to smartphones, but mostly low competences in using them were identified as core items.

**Instructional Design Problems** were described. It was shown as necessary to have:

- an analysis of the addressees’ characteristics;
- an analysis of the subject matter:
  - Content of education;

- Media competences of participants.

The project focused on the already known format of “Microlearning”:

**Microlearning** can be understood as an e-learning format characterized by short or very short units (couple of minutes each) designed to be used for learning. This means Series of “**microcontent**” with its characteristics: Short (less than 10 minutes, often 2-5 minutes); containing a coherent piece of information: “an idea”. Single units are called “**learning nuggets**” – for example short video clips.

To develop training units, the concept of **Instructional Design (ID)** was used.

It can be seen as a “Systematic design”: (engineering, architecture, medical treatment, ...) based on scientific (psychology of learning and cognition) and technological (educational technology) research.

Matter of Instructional Design, i.e., scientific/technological discipline, well established in the USA, in Canada and other English speaking countries and in the Netherlands.

In a final part Professor Niegemann presented **Quality Criteria in Evidence Based Educational Technology**:

- Quality of cognitive outcomes of the learning process (knowledge, transfer, judging);
- Time to learn;
- Costs of the learning processes;
- Subjective evaluation of the learning process (JoL); affective judgement.

5. **Presentation “Online Training for Dangerous Goods Safety Advisor”** (in Germany) by Mr. Kapp, Consultant transport and logistics, Chamber of Industry and Commerce Lower Rhine, Germany.

Slides enclosed in Annex I.

6. **Statement on Online Training for Dangerous Goods Safety Advisor Training** by Mrs Spaepen, Communication Officer, Executive Office and Communication Unit, European Union Agency for Railways.

Slides enclosed in Annex II.

7. **Presentation “TRAINING ONLINE”** by Mr Oliviera of AMTRAM, National Organisation of Public Road Carriers in Trade, Portugal.

Slides enclosed in Annex III.

8. Hereinafter the participants shared information in a Review of digital training methods and their suitability for ADR Drivers Training/ADN Expert Training considering the different parts of the courses.

9. The representative of Sweden recalled the recent working document presented to WP.15 on “Remote Training”, Document ECE/TRANS//WP.15/2022/1.

10. The Representative of Austria pointed out, that e-learning for ADR Drivers already has been approved by WP.15 in its 78<sup>th</sup> Session in May 2005, confirming that then called “distance learning by means of software” should be accepted under special conditions.

From the Report, Document TRANS/WP.15/183:

*17. The representative of Belgium had raised the question of whether section 8.2 of ADR permitted distance learning for drivers, for example, by means of software.*

*18. The Working Party pointed out that the existing text did not prohibit such practices but that they had not been envisaged when it was developed. A majority of delegations were not in favour, although some were open to new training methods. Training should be sanctioned by an examination and several delegations pointed out that the planned training courses permitted an interaction and an exchange of*

*experience between drivers and trainers which would no longer exist in individual distance training.*

19. *The Working Party considered that distance learning should only be accepted in conditions monitored by the competent authority, and that it would be desirable, if this practice were to be accepted, to include appropriate provisions in section 8.2.*

11. The group was informed by the representatives of Austria, Netherland, Finland, and Portugal, that in their countries different formats of e-learning for basic courses as well for refresher courses for ADR drivers are approved by competent authorities and subsequently are offered by private or public training institutes, provided that the practical parts of the training are performed in presence. No information was given about the parameters in detail competent authorities have set up for the approval of e-learning offers.

12. As far as other delegations took the floor, it was reported by Belgium, Luxembourg and Germany that they do not offer any form of e-learning while having concerns about the legal basis for this. In particular the representative of Germany invited other delegations to share their conditions for approval of e-learning courses with the intention to find out the formats suitable for ADR or ADN and the minimum requirements to keep a common quality and comparability among ADR and ADN Contracting Parties.

13. The group agreed that any form of e-learning shall not be passed during rest time of ADR Drivers or of ADN Experts on board vessels and that the practical parts of the courses shall be passed in presence.

14. A majority was of the opinion, that in case e-learning courses are accepted, the possibility should be limited to refresher courses. Views differed about the point, if e-learning may be a suitable format for the initial courses. The Poland representative noted that competent authority shall define conditions to be fulfilled by a training body organising a training in e-learning form.

15. It was agreed that a deeper study about the current and potential formats for e-learning will be helpful for further works on the topic, orientated on the following format, with a preliminary discussion on the correct definitions:

	In Presence Classroom	Distance training (e-learning)	Virtual classroom	Self-learning
Initial training				
Refresher training				

## Further action

16. In a first meeting the informal working group likes to ask the Joint Meeting to rate the results about the current legal and practical situation. The Joint Meeting may like to confirm or to drop in principle the decision made by WP.15 in 2005 that special formats of e-learning, approved and supervised by competent authorities, are already covered by the ADR and/or ADN regulations.

17. In a second step the Joint Meeting may confirm the mandate to evaluate the need for amendments to the regulations, and to draft based on this evaluation such amendments for ADR 2025 and ADN 2025 to be discussed in the Joint Meeting at its Spring Session 2023.

18. The group planned its next meeting for the week from 10 to 14 October 2022 (physically or in a hybrid mode). An invitation to Training Institutes has been agreed to formalize for the next meeting of the IWG to ask Training Institutes to present their concept and format for ADR e-learning,

**Annex I**

# Informal Working Group on e-learning for Safety Advisor



17. Mai 2022 | Online

# Online Training for Dangerous Goods Safety Advisor

## Agenda

1. Initial position and trigger
2. Examples for online training in Germany
3. Requirements
4. Technical Requirements
5. Conclusion

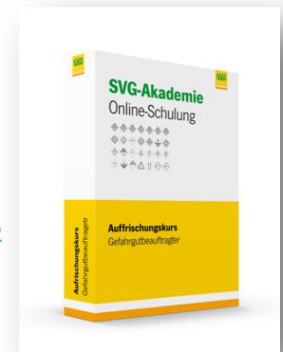
## Initial Position and trigger

- Competent authority for training and examination of the safety advisors (and drivers) in Germany = the chambers of industry and commerce (IHK) with their headquarter DIHK in Berlin
- Year 2020: Due COVID -19 Pandemic the trainings completely stopped during the lock down
- Inquiries to the IHKs from companies, publishers, training organizers about the possibility of online training for safety advisors
- Pilot project in Germany since 2020 in coordination with the German federal ministry for digital and transport (BMDV)

## Exampels for Online Trainings in Germany

- Online training for exstading examination (SVG)

<https://www.svg-akademie.de/aus-und-weiterbildung/auffrischungskurs-gefahrgutbeauftragter#c9003>



- Online training for exstading examination, basic training for mode of transport by rail and by inland waterway (DEKRA Akademie)

<https://www.dekra-akademie.de/seminar-detailseite?key=143133.321.61.14.00009>



- Inhouse online trainings in companies





## Online Training for Dangerous Goods Safety Advisor

### Requirements

- Written or online application from the training provider with training schedule
- Commitment methodological principles (simulation, interactivity etc.)
- Limited lessons units per day: max. 6 lesson units (1 lesson unit = 45 minutes) = 4 h 30 minutes; breaks after each 2 lesson units (90 Min.)
- Compulsory presence for the participants
- Maximum of 10 participants in training, increase to 15 people possible if a 2nd person is used for the technology
- It must be possible for the IHK to monitor the training at any time during the course

## Online Training for Dangerous Goods Safety Advisor

### Technical Requirements

- Participants: internet enabled device (microfon and webcam) and powerful internet connection
- Warranty for technical support
- Chat-function for communication with the examing body (trainer), direct interaction
- Training documents are stored digitally and can be printed out
- Possibility for a personal login for each participants
- Logging of the following data:
  - Identification with identity card
  - Login and logout times (precence of the participants)
  - Technical downtimes

## Conclusion

Results of the online-candidates survey:

- Overall positive feedback
- The final exams of the candidates trained online were passed without any problems
- The market for training providers will show where the journey is headed

**→ Thank you for your attention!!!**  
**Any questions???**

Burkhard Kapp  
Consultant transport and logistics  
IHK Pfalz | Ludwigshafen  
T. 0621 5904-1550  
Fax 0621 5904-1554  
burkhard.kapp@pfalz.ihk24.de  
www.ihk.de/pfalz/verkehr

**Annex II**

# ERA Academy

From Compliance to Excellence.

17 May 2022, Dorothea Spaepen

Annex II



## **Modern railways challenge our knowledge, skills and creativity**

Stagnating safety figures,  
new regulations and processes,  
digitalisation,  
cybersecurity,  
international cooperation between transport modes,  
new technologies,  
multiple languages,  
understanding the customer's needs

ERA is European center of excellence

ERA is the place where all railway stakeholders meet

Agile approach: based on needs of the sector and available  
resources

Collaborative model: qualify trainings and training organisations,  
partnerships

[Academy@era.europa.eu](mailto:Academy@era.europa.eu)



Possible spin-off: increased collaboration with railway research and innovation



## Impact

Harmonised compliance/application of EU Rail Regulatory framework contributing to SERA (Single European Railway Area)

Enhance railway safety

EU expertise recognised worldwide

Demystify the European Union for the general public

Upskilling of staff: competency management

Training movement: create a skilled and enthusiastic international community



**Moving Europe towards a sustainable  
and safe railway system without frontiers.**

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**Annex III**



Annex III

# TRAINING ON LINE



# ÍNDICE

## 1. Settings

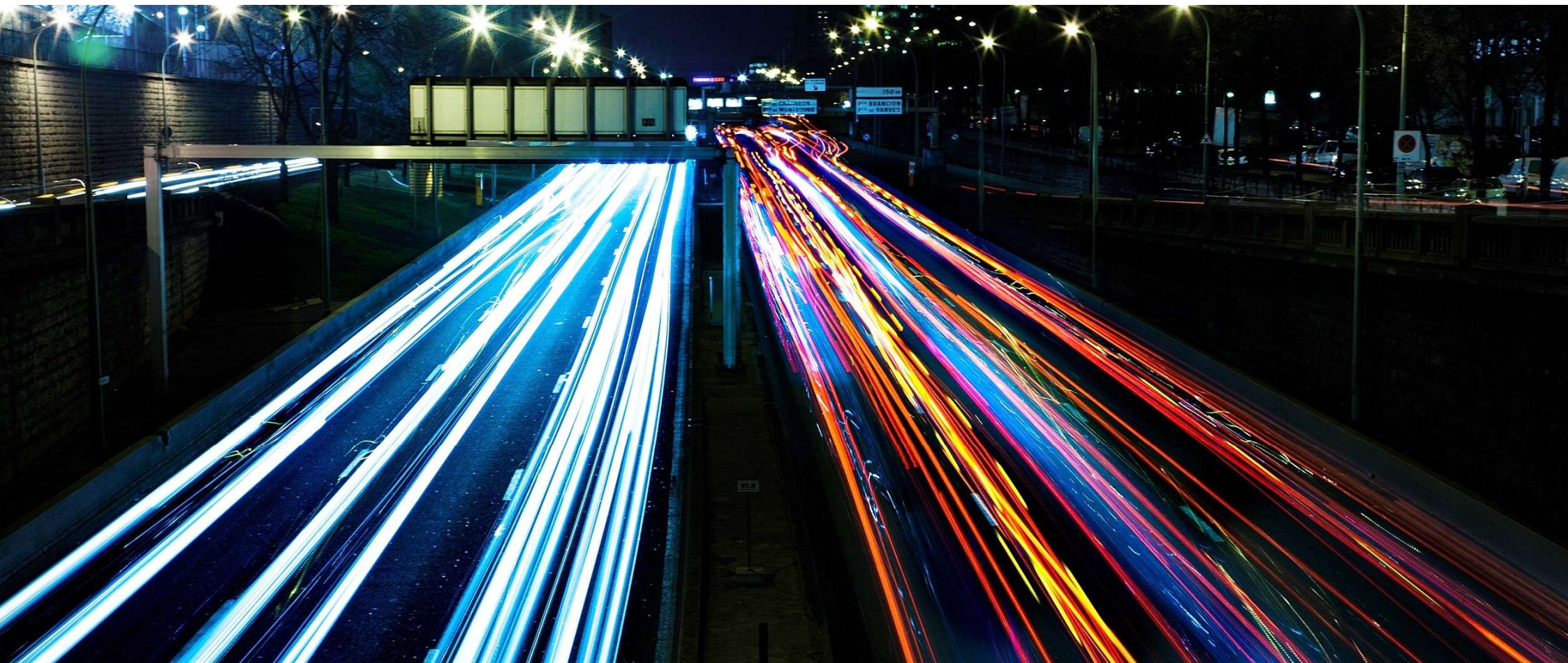
Training modality

## 2. Our Solution

- a) On Line training structure
- b) Training regulation
- c) Training organisation







# 1. SETTINGS



**antram**

Associação Nacional de Transportadores  
Públicos Rodoviários de Mercadorias

## SETTINGS

- The professional training on line to obtaining qualifications for admission to the activity of road transport is supported by European and Portuguese legislation for (e.g. Transport manager, Driver's Qualification). Until 2020 ANTRAM did not have any distance training structure. The entire training was carried out in a classroom with the physical presence of the trainees.
- The pandemic originated by COVID19 and the impossibility of carrying out professional training actions aimed at ensuring access to or continuity of activities that legally depended on the frequency of knowledge updating actions created the need to organize an alternative.
- After insistent request of companies and training entities, in which ANTRAM was included, Government and Public Administration accessed, and actively participate in the construction of on line training actions. They started with short-term training, but quickly was expanded to the long-term actions. However, for obvious reasons, it does not include training that necessarily has a practical component.
- Today, online training is no longer just an emergency alternative but a permanent proposal to accede to qualification training.

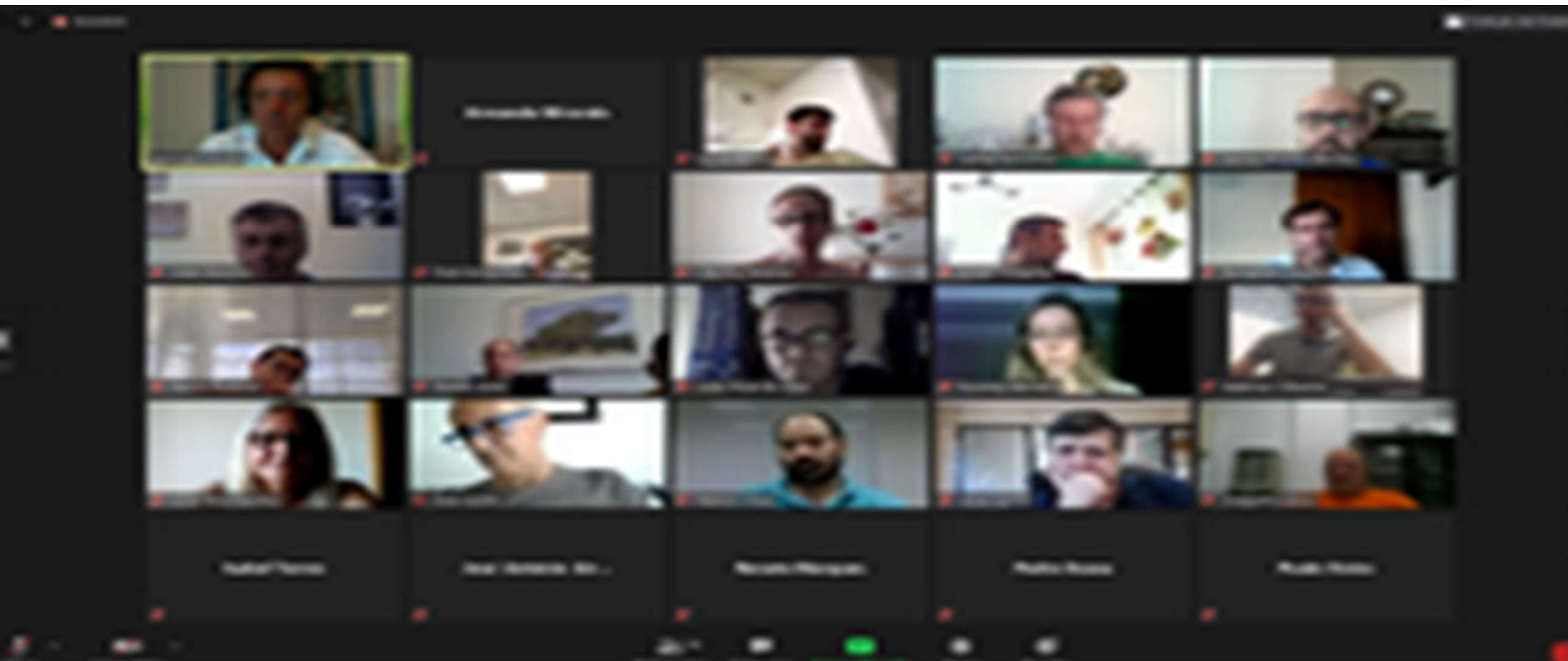
# TRAINING MODALITY

Considering the various possible training options, the one that was considered more appropriate for the target audience to which it was addressed was synchronous formation.

## Why Synchronous Formation?

- Most trainees have neither study habits nor technical preparation to attend training in which in whole or in part it was taught in the modality of E-learning.
- Because it allows the trainer to control the class and adjust his intervention at every moment, introducing new factors that capture the attention of the trainees and increase their motivation.
- Allows the trainee to interact directly with the trainer and colleagues allowing an immediate exchange of knowledge and experiences.
- Synchronous formation, compared to other modalities, is more dynamic, richer and more accessible to the generality of the target audience.





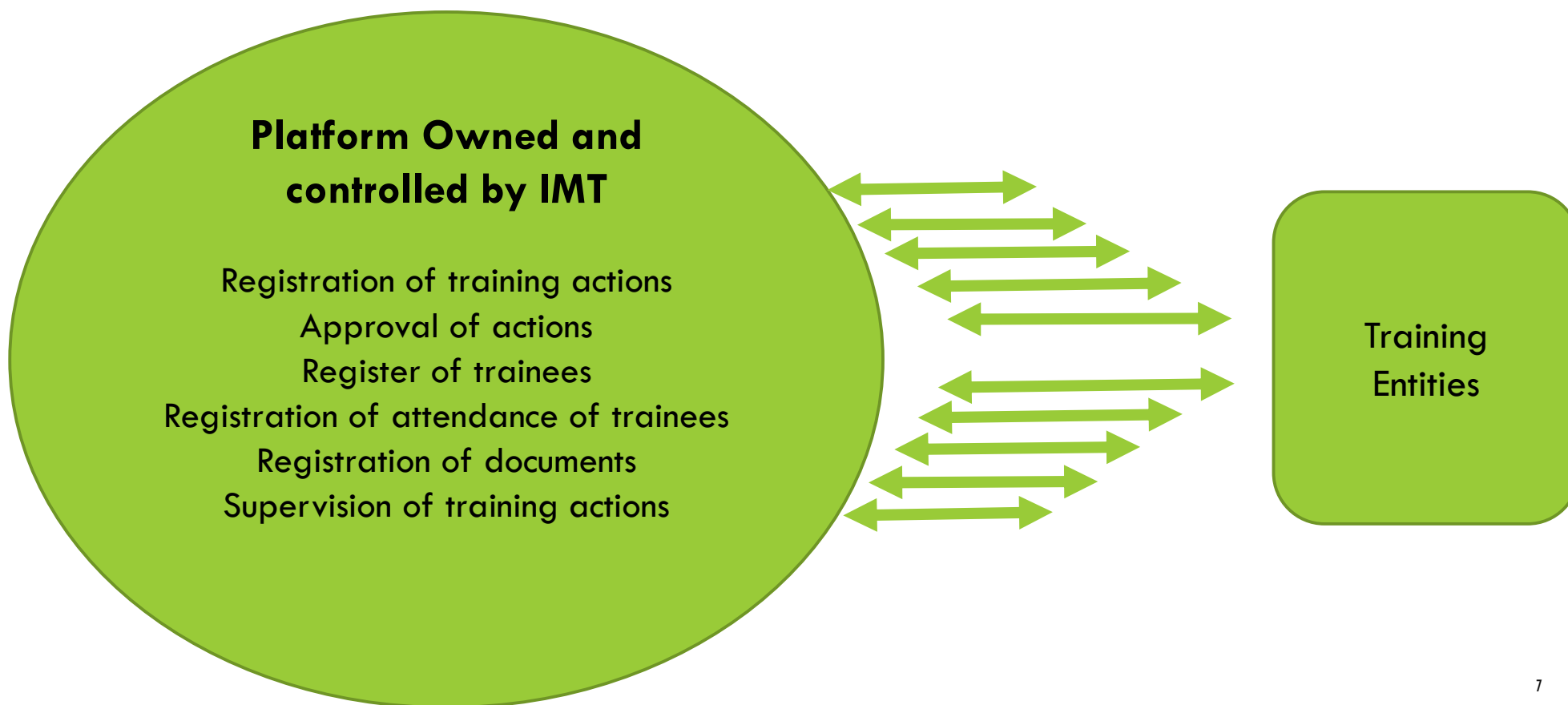
## 2. OUR SOLUTION



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Associação Nacional de Transportadores  
Públicos Rodoviários de Mercadorias

## ON LINE TRAINING STRUCTURE



# TRAINING REGULATION

## Conditions of access

In all actions are sent to the trainees the general and specific rules of each course:

### **Before registration**

Conditions relating to the qualifications of trainees to be able to participate in training.

Legally required documentation.

Technical and equipment conditions necessary for participation.

### **Before the course begins**

Technical training session on the use of the platform on which the training will be carried out.

Information on the minimum limit and attendance conditions of trainees during the course from which they cannot be submitted for examination.

# TRAINING ORGANISATION

## Training monitoring structure

All training actions are accompanied by:

One element of ANTRAM that guarantees technical support to trainees who intervene whenever an anomaly is detected.

One person who provides administrative support to trainees and trainers.

A trainer which is responsible for the implementation of the training.

## OUR EVOLUTION

<b>Synchronous Training</b>	<b>2020*</b>	<b>2021</b>	<b>2022**</b>
Number of training actions	25	58	27
Training Hours	271	2362	1033
Number of trainees	677	1137	1065
Training volume	6220	38288	17246

\* From August to December

\*\* From January to April

# TRAINING FOR TRANSPORT OF DANGEROUS GOODS

Based on the experience gained over two years of on line training in synchronous mode, we consider that this model is fully appropriate, in quality, effectiveness and objectives, both for management and drivers, in what handling, packaging and transport of dangerous goods.

On line training brings several advantages for companies and trainees:

- It's more convenient, safer, cheaper and more conformable for users.

- It reduces the risk of infection, considering that COVID19 is not yet fully controlled.

- It avoids unnecessary travel and therefore reduces the carbon footprint.

It will therefore be necessary to consider advancing pilot experiments to provide training of dangerous goods , starting with the training of recycling of both safety advisers and ADR drivers.

# TRAINING FOR TRANSPORT OF DANGEROUS GOODS

In this experimental process should be guided by the governmental entity that supervises the Transport of Dangerous goods, and the Nacional Road Transport Associations with training structures.

It would be interesting that a trial period could begin in September 2022.

An valuation of the experiment would be made at the beginning of 2023.

In the second quarter of 2023, the definitive implementation of online training for dangerous goods could be fully implemented.



THANK YOU



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Públicos Rodoviários de Mercadorias



## Annex IV- Denmark

Additional comments raised by Denmark and United Kingdom representatives enclosed in Annex IV.

In addition, we share the following suggestions for questions regarding drivers training courses (Chapter 8.2 in ADR) to be answered by the IWG on e-learning/the Joint Meeting along with a few comments (in the following we use the terminology “remote training” and “self-study” as we are not sure about the understanding of the terminology used in the attached draft report (see our comments herein)):

### 1. Do we accept remote training for the theoretical part of training courses?

*Remote training understood as training where a teacher is present during the teaching units but not in the same physical room(s) as the candidates.*

8.2.2.6.3 (c) in ADR states that an application for approval of a training course shall contain:

*“Information on the premises where the courses take place and on the teaching materials as well as on the facilities for the practical exercises”.*

It seems there is a need to improve this requirement, since it is sometimes questioned, if remote training is allowed (see WP.15 2005/2 from Belgium and 2022/1 from Sweden). If we accept remote training, it should be clear, that a classroom (the premises) could be virtual. If not, it should be clear that a classroom shall be physical (cannot be virtual).

In Denmark we have not yet approved any courses to be held as remote training. However we are prepared to consider this possibility, if we receive a proper application from a training provider.

#### 1a. Conditions for remote training?

The following is from the report from the last WP.15-meeting regarding 2022/1 from Sweden:

*“46. Some delegations considered that ADR did not prohibit the theoretical part being conducted remotely by a training instructor, while others were of the view that it was not allowed under the current provisions. Several delegations were in favour of changing the provisions in Chapter 8.2 to define a clear framework for the delivery of such distance learning, in particular in order to monitor the active presence of participants throughout the duration of the courses delivered and to ensure that distance learning courses were of equivalent quality to in-person courses.”*

This implies, that if we accept remote training and state that a classroom (the premises) could be virtual, it should probably be on the condition that the training provider is able to provide remote training (distance learning courses) of equivalent quality to in-person courses (among others by ensuring the active presence of participants throughout the duration of the courses).

In our view such a general provision could be added, but it could be questioned whether it is necessary to have provisions in ADR dealing with the exact methods to ensure this. It should probably be left with the competent authorities and the training providers.

### 2. Do we accept remote training for the practical exercises?

According to the draft report for the IWG meeting we agreed at the meeting that remote training should not be accepted for practical exercises.

We could consider if this should be clearly stated in 8.2.2.3.8 and/or 8.2.2.6.3 (c) in ADR.

**3. Do we accept “teaching personnel” that are not human (machines/robots)?**

8.2.2.6.3 (b) in ADR states that an application for approval of a training course shall contain documentation on:

*“Qualification and fields of activities of the teaching personnel”.*

If machines/robots should be allowed for as teachers, then this provision would have to be changed.

In Denmark we require teachers to be human (also, for the theoretical part we require them to be safety advisers).

**4. Do we accept that a certain proportion of the theoretical part of a course (a proportion of the minimum required number of teaching units) is self-study?**

*Self-study understood as training where a teacher is not present (neither virtually nor physically).*

- If so, what would be an accepted proportion?
- If so, it should at least be stated, that the training provider shall ensure that candidates gain knowledge from the self-study. It should be discussed, if this needs to be verified by some additional test.

From presentations etc. it is our impression that self-study is not a preferable teaching method for drivers. The only exception presented was micro-learning via cellphones which was mentioned as a suitable method. However, this does not seem to be a teaching method which could replace a certain proportion of the theoretical part of a course.

We consider safety advisers to be a completely different “target group” than drivers. Therefore we do not consider experience from e-learning (self-study etc.) for safety advisers relevant for drivers training.

In Denmark we require teaching personnel to be present during all teaching units (no self-study).

**5. Do we need to distinguish between initial training and refresher training and/or between basic training and specialization training when answering the above questions?**

According to the draft report for the IWG meeting there seem to be a preference towards limiting the option of e-learning (not further specified) to refresher courses.

Could we – perhaps at a later stage - have further discussions on the reasoning behind such distinction?

## Annex IV- United Kingdom

Firstly, the United Kingdom proposes that further discussion needs to be held on the points highlighted below, some of which are in agreement with the comments made by the Danish Delegation.

### a) Definitions

The development of formal definitions for the overarching term “online” training, and also “remote”, “e-learning” and “self-study” along with other key terms, is imperative.

- The United Kingdom proposes that these definitions are developed and agreed at the beginning of the next informal working group meeting. This will allow everyone to approach discussions from a common ground, understanding what this new terminology means within the context of ADR driver training.
  - For context, the United Kingdom temporarily permits the remote delivery of ADR driver training, and where possible we are happy to share our experiences. Nonetheless, we continue to welcome further discussions on the other training methods, namely e-learning and self-study that other ADR signatories have permitted and have experience in.
  - Based upon the United Kingdom’s experiences with remote delivery, and considering comments from other Contracting Parties during the discussions of the informal working group, we would like to offer up the following definition as a starting point for further discussion:
    - Definition of “remote delivery” – *Teacher-led training that is delivered virtually (i.e. training that is not delivered in person in a traditional classroom-type environment)*
- Once formal definitions have been agreed, members of the group can then begin discussing the range of issues at play, which can be grouped as follows (N.B. this is not an exhaustive list):
  - Methods for delivery – e.g. e-learning, remote, self-study etc.;
  - Types of training – e.g. initial and refresher;
  - Elements – e.g. theoretical elements and practical exercises.

### b) Inclusion of both initial and refresher training for “online” training

- Here in the United Kingdom, the remote delivery of training is permitted for both initial and refresher training.
- Individuals seeking to embark on a new career as an ADR driver will undertake an initial training course. Arguably, new entrants should be afforded the same opportunities, namely in terms of the methods, types and elements of training, as those who are seeking to renew their certification. Given the flexibility that “online” training provides, this would act as an attractive incentive for new entrants to the dangerous goods sector.
- In addition, candidates undertaking an initial course may also include drivers that have allowed their certification to lapse, but who still have previous ADR training and practical driving experience. Therefore, by excluding initial training, we also run the risk of deterring those individuals who wish to return to the sector.
- Given the above, it is necessary to **give further consideration to permitting “online” training for those undertaking initial courses.**

**c) Inclusion of both the theoretical elements and practical exercises for “online” training**

- Discussions to date have been focussed on allowing the theoretical elements to be delivered via “online” training methods, as opposed to also including the practical exercises. I am sure others will agree that advances in technology, for example the development of sophisticated fire simulators and virtual reality, mean there is a possibility that practical exercises can be delivered to a high standard even remotely.
- Here in the United Kingdom, the remote delivery of training has been permitted for both the theoretical elements and practical exercises. The pass rates for those candidates who have undertaken training remotely remain equivalent to those of candidates with in person training experience. The pass rates for examinations are a useful indicator of the effectiveness of the training that has been delivered.
  - To note, the examinations were delivered in person at an approved exam centre.
- Therefore, we **welcome a discussion on the possibility of including the practical exercises as an element that is permitted to be delivered via “online” training methods.**

Similarly to other delegations, the **United Kingdom is committed to ensuring that the quality of “online” training is of an equivalent standard to that when it is delivered in person.**

Finally, as agreed by many within the group, the United Kingdom believes that the provisions within Chapter 8.2 need to be developed further, namely by outlining the training methods, types and elements that are permitted, as well as outlining what is not permitted. Nonetheless, this needs to be balanced against the need for a degree of flexibility within these provisions to accommodate differing national contexts and to avoid stifling innovation within the training sector.

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