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COMMON VIRTUAL ENVIRONMENT IN THE EUROPEAN TRANSPORT TRAINING

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The creation of a united European transport market without restrictions or barriers to access, based on harmonised conditions of competition, is becoming one of the principal objectives of common transport policy in Europe.

In the same way as transport systems, processes and services operate in an increasingly more European framework, transport education and training need to change their contents taking international aspects and globalisation into consideration and move from conventional to networked environments. Even initial transport education processes at vocational and higher educational levels must be a part of these dynamic changes to enable their graduates to meet employers' needs and perform at the market.

The establishment of Innovative Virtual European Transport Training Agency (IVETTA) is one of the steps toward this direction.

The IVETTA is an educational network of persons and institutions involved in transport education and training and interested in supporting it by use of multimedia and information technologies. It focuses on enabling transport educators and trainers to introduce any kinds of educational multimedia, new technologies and common standards to their educational processes as knowledgeable consumers or well acquainted supervisors or even to become enthusiastic multimedia developers. For this, there is required not only an appropriate technological infrastructure but also an organizational basis and culture encouraging collaboration and exchange to the benefit of all of the network's members.

The mission of IVETTA is creation of standards for the development and adoption of technologies that enable high-quality, accessible, and affordable transport education and training experiences. IVETTA will be enabling the next generation of Digital Learning Services, combining new forms of digital content, assessment, applications, and administrative services.

Strategic goal of IVETTA is increasing quality and safety of all mode of transport on the base of high quality standards in the life-long education and training and common network of training, industry and maintenance organizations.

Paper describes main objectives, innovation strategy focuses, main activities of future network co-operation and results, expected to be worked out by the IVETTA.

Keywords: transport, training, education

The creation of a united European transport market without restrictions or barriers to access, based on harmonised conditions of competition, is becoming one of the principal objectives of common transport policy in Europe.

Transport is quickly being acknowledged as an important human activity that will require extensive professional and academic training and disciplinary research. Accessibility manifested as mobility is an intrinsic quality of life. It must remain a postulate that by relevant academic and professional training and research the need for mobility can be made compatible with the need for sustainability.

Training and education is objectively at the meeting-point between research, technological and organisational systems.

Major features of education in the transport area are as follows:

- global character of transport as a subject of studies;
- creation of one market of transport services in Europe;
- alliance of information and telecommunication technologies with transport;
- formation of new technological directions – intelligent transport systems;
- characteristics of carriers as subjects of training in life-long learning system, comprising in their high mobility that demands new approaches in forms and methods of education differing from traditional ones.

The networked economy has placed new challenges on an organisation's ability both to innovate and to blur its traditional boundaries and structures.

In the same way as transport systems, processes and services operate in an increasing European framework, transport education and training need to change their contents taking international aspects and globalisation into consideration and move from conventional to networked environments. Even initial transport education processes at vocational and higher educational levels must be a part of these dynamic changes to enable their graduates to meet employers' needs and operate at the market. Thus transport learning is required to be flexible with respect to [1]:

- *learners* (in the widest sense) and their individual targets, motivations to learn, specific requirements and constraints according to actual and accurate business requirements,
- varying *educational needs* resulting from the learner's targets, motivations, requirements and constraints, like e. g. scope and level of knowledge, particular skills etc., and
- appropriate *educational resources* developed and used in form of modules and courses fulfilling the educational needs and helping the learner to reach the required, established goal,
- paradigm change in respect of new content delivery concepts and update the trainer's concepts.

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The main objectives of the organisation are as follows:

1. Innovation and development of life-long learning oriented education and training in transport area on the base of exchange of good practice.
2. Familiarization of educationalists and specialists with methodology, general philosophy, innovative ideas in the area of transport education.
3. Establishment of direct and informal liaisons among transport specialists, higher school educationalists, students, employees of transport sphere of Europe.
4. Identification and search of way of problem decision arising while using standard methods for training of transport specialists.
5. Create an integrated model for defining required knowledge, skills and abilities to successfully perform job tasks. These definitions will be easily accessible and understood by users, and are used by the trainers as the template for development.
6. Implement an efficient, open and consistent process for defining and establishing priorities for customers training requirements.
7. Establish a logical, flexible and responsive training infrastructure to quickly translate field training and education requirements into easily accessible, usable and effective training materials.
8. Establish an effective evaluation process to ensure that staff is reaping the fruits of their work. Involve local supervisors in assessing the impact of training on job performance and providing feedback to the team.

To attain IVETTA strategic goal, the innovation environment must be able to create novelty and make choices. Therefore, this innovation strategy focuses on completely new topics and measures, or ones requiring a distinct change. The strategy reviews innovation activity and the required development measures via four basic choices, presented and justified in more detail as follows.

- *Innovation activity in a world without borders*: In order to join, and position itself within, global competence and value networks, IVETTA must actively participate and exert influence and be internationally mobile and attractive.
- *Demand and user orientation*: Innovation steered by demand, paying attention to the needs of customers and consumers in the operations of the public and private sector alike, requires a market with incentives and shared innovation processes between users and developers.
- *Innovative individuals and communities*: Individuals and close innovation communities play a key role in innovation processes. The ability of individuals and entrepreneurs to innovate, and the presence of incentives are critical success factors of the future.
- *System approach*: Exploitation of the results of innovation activities also require broad-based development activities aiming at structural renewal and determined management of change.

The organisation is live due to the fact that changes in transport area connected to extension of the European Union, globalisation, multi-modality of transport operations and modernization of transport technologies demand adequate changes in the process of training and re-training of transport specialists and development of new forms and methods.

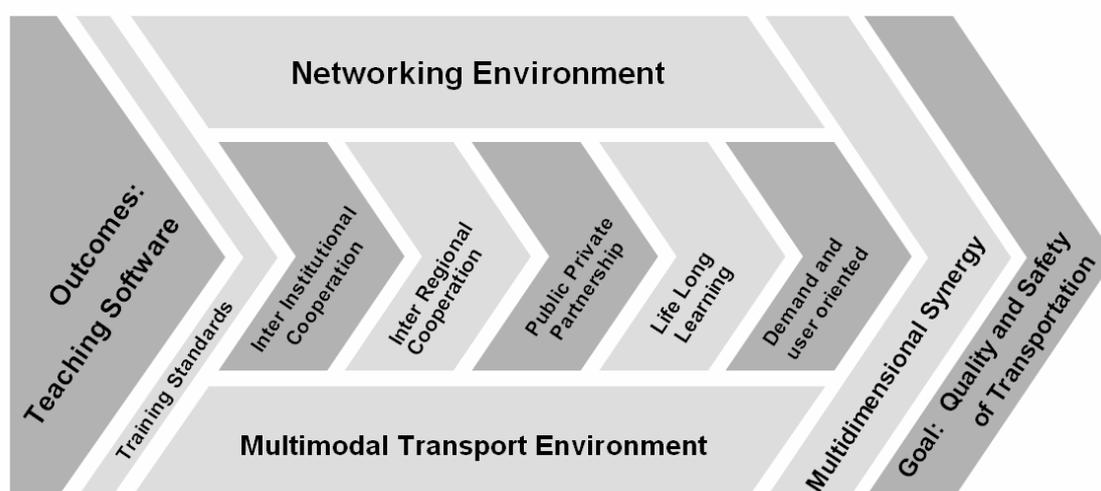


Figure 1. Main principals of IVETTA operation

There has been suggested discussing of a wide range of issues in the following directions at the frames of the project [2, 3]:

- New technologies in transport education
- Learning of new technologies in transportation (intelligent transport systems, transport telematics, etc.)
- Case study – situational learning of characteristics of transport operations in various countries and international logistic units
- Peculiarities of distant learning (e-learning) in the process of transport equipment studies
- Concept of life-long learning in conditions of transport sphere globalisation

- Standardization of approaches in content and methodology of transport education in conditions of one widening European market
- Content and method of education and training concerning the issues of multi-modal and combined transport
- Creation of educational networks between educational establishments of one country and educational establishments of different countries (regional) with the aim of increase of the competence of educational processes in the area of international transportation
- Integration of learning methods according „learning on demand strategies” into the actual working process
- Development and integration of new train the trainer concepts according life- long learning concepts.

The main activities of such future network co-operation may be as follows:

- identify centres of excellence in Europe and their type of competence,
- define a common “knowledge data base” and determine the way of distributing and maintaining it,
- define knowledge needs and gaps for training and educating for up-to-date transport in Europe,
- good practices for training and education in transport,
- demonstrate the effectiveness of the good practice guidelines by example,
- create a competence centre for new partners in joining the network,
- understand the existing experiences in the world, establishing exchanges as appropriate,
- create and deploy performance based partnerships.

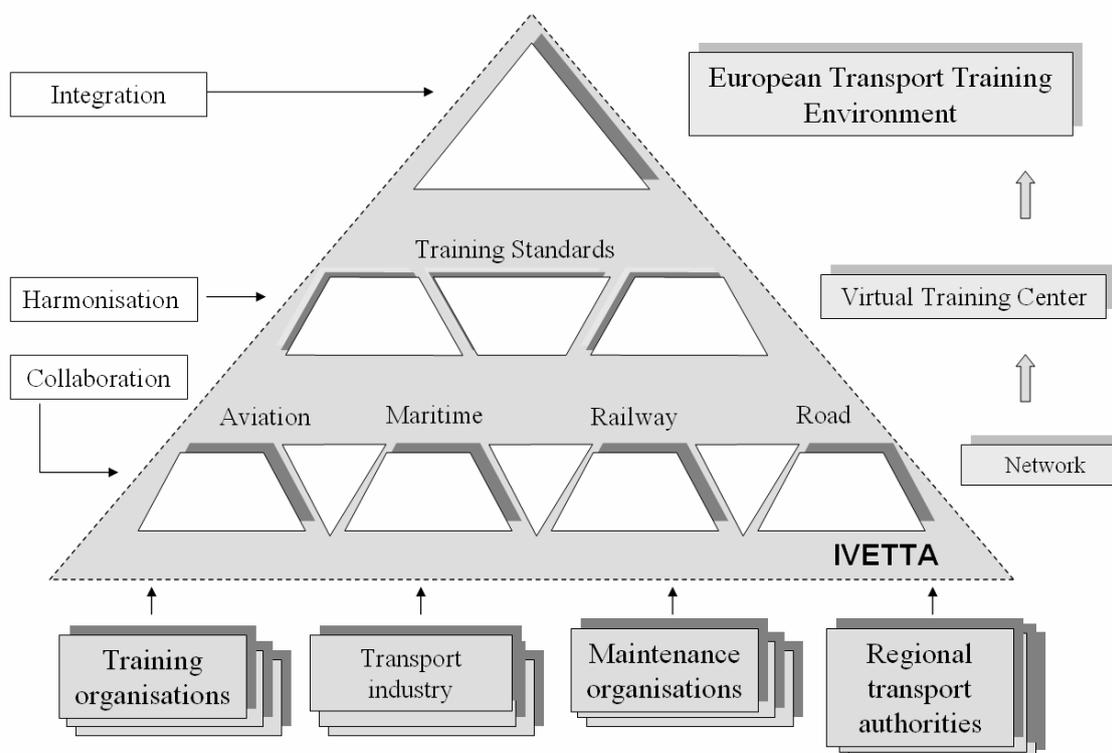


Figure 2. Main Phases of IVETTA Development

IVETTA will expose the users to innovative training process and will allow for the implementation of a new type of relationship between training organisations, transport operators, maintenance organisations and transport policy-makers. The main tasks of IVETTA will be the following [4]:

- To develop a new specialised training system based on knowledge and good-practices in the management of high-tech transport business and to disseminate it across the Europe and across the different business branches and transportation modes through a multinational training network, seminars and learning materials.
- To develop, test and apply on-line training methodology for standard and personalised (self-training and tailor-made) courses based on a case studies database, identified needs, knowledge and experience of the partners, and constantly maintained feed back from the beneficiaries and on business trajectory based models.
- To create an easy-to-learn virtual environment for continued professional development of entrepreneurs and managers of innovative and high-tech transport companies. It will be realised through setting up an e-Learning site and providing a set of on-line services – group standard or tailored-made open classrooms, on-line self-training sessions, group discussions, multimedia supported sessions, conference and chat sessions, frequently asked questions, publications and bibliography database.

The results, expected to be worked out by the IVETTA can be grouped as follows:

- Methodologies, models, guidelines, curricula. In the initial stage the partners will elaborate and apply a new methodology (manual) for identification of the target groups' training needs. A unified training methodology (manual) will be a core of a new training system. The other element of this system will be on-line learning methodology. Design of the database model and its updating is also expected to be finished at the end of the first stage. The system will also consist of a methodology (manual) for study, analysis and selection of case studies and their subsequent use in the training process. Manual for consultants/trainers and their certification for the needs of the project is a key product in this group. The unified model will be further refined in two directions – standard and personalised models with new training curricula. Training guidelines will be produced as an explanation of a competence based approach in training.
- Products, software, and tools. Main result is web portal, hosted and maintained by one partner and national sections. Web facilities are databases for consultants, cases, and courses and teaching materials, which are organised in two parts – common and local (on national language). Virtual classroom is a facility, which integrates the on-line methodology for training with the tool for courses design: for trainers, for trainees and forum, poll and chat tool. Internet web portal will ensure communication channel between trainers, consultants and users.
- Materials, workshops, seminars. Multimedia as well as printed materials will be disseminated, several workshops and seminars in the course of the project will be organised. Considerable attention will be given to events that will attract public attention to the project – demonstrations, interviews and articles in specialized magazines.
- Standards for a highly sophisticated course of the trainer's model based on performance partnerships and business trajectory demands.

The process of designing such a network for transport education and training must involve a tight relationship between educational establishments as consultants and transport companies as customers in combining theory and practice, starting with analysis and evaluation of results and ending with achievement of the expected by-products.

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