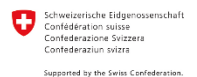




## Output 2: Transport Operators (TOC)-Collection of Mobile Technologies

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## 1. Introduction

The aim of this report is to express the state of art of mobile technologies and applications for road haulage operators. This report will present to trainers and VET providers alternative ICT-related training delivering techniques to support transport operators in ordinary working situations.

Over the past few years there has been a large investment in digital mobile technologies and applications, as the rate of digitized people has increased exponentially with the massive equal distribution of IT devices (mainly tablets and smartphones). On recent times, mobile technologies are no longer a technological product of recreational entertainment, instead they have become a resource to be implemented for many scopes, including educational-related activities. Insofar such mobile technologies have spurred the training techniques and delivering methods of both distance and online education, fostering own self-paced learning. Mobile technologies are largely appreciated worldwide, indeed many researches have demonstrated they promote motivation, participation and engagement for learning activities, as a consequence, there was a massive integration of them to training. Mobile technologies and applications are easily accessible to all –the majority of them are free–, and highly interactive since they include principles of gamification, e.g. sense of accomplishment, badge and rewards, points and levels, all these elements put together make applications suitable for a learner-centred approach.

In order to make the work more straightforward and homogeneous, a template to analyse and specify the main characteristics of digital tools has been defined:

### Template:

1. Title
2. Keywords: (list of important keywords or categories, e.g. fuel, freight, container, weight)
3. Link
4. Description: general description of the tool/application
5. Educational uses (suggestions for training purposes)
6. Type: (mobile app/web application/desktop application)
7. Cost (Free / available on charge)
8. Language of the application

Within this report, mobile technologies have been collected and stored in compliance with the learning needs highlighted in the competence map in IO1 for road haulage operators. Besides, the documents consists of two sections: the first one presents student-based applications to improve their knowledge and competences; whereas the second one illustrates technologies usable by trainers in educational context and VET activities to promote interactive learning.

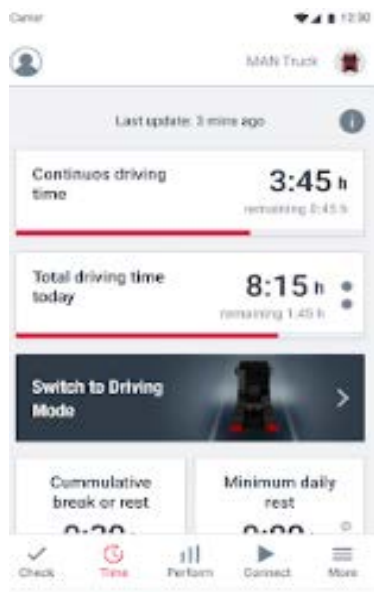
## 2. Tools and resources for road transport operators

In this section technologies usable by road transport operators are organized according to the areas of competences highlighted in the competence map in IO1.

### 2.1 Civil, Commercial, Social and Fiscal law

This section deals with applications linked to the area of transporters' *civil, commercial, social and fiscal law* of the competence map. Applications collected in this section will set reminders for drivers to ensure own safety on the road and minimize risks of accidents. This section gives a breakdown about driving times, minimum rest and cumulative breaks.

#### MAN driver



**Keywords:** safety, freight, timing

**Link:** <https://play.google.com/store/apps/details?id=com.mantruckandbus.driver&hl=it>

**Description:** the application allows the user to plan pre-departure checks, report damages, full transparency over driving performance (steer and working hours), besides it notifies the closest centre of maintenance in case of emergency. It gives an overview about daily/weekly division of working and resting time for drivers.

**Educational uses:** the user can easily check and notify damages without incurring in non-compliance fees, improve own driving behaviours.

**Type:** Android, IOS

**Cost:** free

**Language:** multiple languages

## 2.2 Business and Financial Management

This section provides information related to the *business and financial management area*, here are presented applications to support hauliers to better orientate themselves with tolls and costs analysis. Some of them relies upon graphs and charts to give better overview of global transport expenditures.

### Fuelio: costi del carburante



**Keywords:** fuel, gas, expenses

**Link:** <https://fuel.io/>

**Description:** The app provides information about the average route gas consumption of the vehicle, it relies upon graphs and statistics to enable users to compare different ranges of prices and analyse different categories of costs (e.g. maintenance, repairing and washing)

**Educational Uses:** The app can support budding hauliers in preventing from over budget gas expenses and compare diverse macro categories of costs occurring in working situations.

**Type:** Android

**Cost:** Free

**Language:** multiple languages.

## Toll Collect-Service on the Road



**Keywords:** toll, rates, truck

**Link:** [https://www.toll-collect.de/en/toll\\_collect/tc\\_homepage.html](https://www.toll-collect.de/en/toll_collect/tc_homepage.html)

**Description:** The app is a log-on system which calculates the fastest route including toll-exempt sections, you can proceed to pay with different methods including cash, fuel card, credit card or paysafecard. The application generates a log-on number to be kept during the journey.

**Educational Uses:** The user is able to comply with tolls depending to cargo, class of emission in Germany.

**Type:** web application, android

**Cost:** Free

**Language:** English, German, French, Polish

## OSeven



**Keywords:** safe, driving, truck, risk

**Link:** <https://www.oseven.io/>

**Description:** The app is customer-oriented, it enforces communication policies between the driver and the company aiming to '0-accidents objectives'. Entrepreneurs can monitor driving safe practices of transport operators and identify weak points (e.g. mobile distractions, extreme braking, aggressive driving). It allows to communicate emergency events and get fast responses.

**Educational Uses:** The user is able to employ safe driving policies in compliance with speed limits and national regulations, drop gas emission costs related to poor driving, prioritization of road risks, avoid fees.

**Type:** Android, IOS

**Cost:** Free

**Language:** English, Greek, Portuguese, Spanish

## Bans for Trucks



**Keywords:** bans, driving, routes

**Link:** <https://truckerapps.eu/bansfortrucks/pl/>

**Description:** The core of the app 'Bans for Trucks' is to provide information to road drivers about bans, restrictions and permissible tonnage regulations of vehicles across Europe, both permanent and temporary. Information can be shared with other member of the fleet via social media (Facebook, LinkedIn, Twitter, email).

**Educational Uses:** The user will learn vehicle-related incumbent regulations and bans across Member States.

**Type:** Web Application, Android

**Cost:** Free

**Language:** Multiple languages



## Truck Parking Europe



**Keywords:** parking, availability, trucks

**Link:** [https://play.google.com/store/apps/details?id=co.infinum.ptvtruck&hl=en\\_US](https://play.google.com/store/apps/details?id=co.infinum.ptvtruck&hl=en_US)

**Description:** The application Truck Parking Europe is a repository of the main parking locations for truck across Europe, it notifies the location and availability of park spots, facilities and service offered to transport operators. With this app users have the possibility to check colleagues' reviews and insert their owns.

**Educational Uses:** The user will learn how to check parking availability and permissions for trucks.

**Type:** Web Application, Android, IOS

**Cost:** Free

**Language:** Multiple languages

## BlocksCad



**Keywords:** logistics, programming, 3D

**Link:** <https://www.blockscad3d.com/editor/docs/index.html>

**Description:** The application BlocksCAD enables 3D modelling simulations, the transport operator can employ this application to check the availability of spots in the warehouse and optimize space needed during loading and unloading.

**Educational Uses:** The user will learn to optimize space during loading and unloading

**Type:** Web Application

**Cost:** Free

**Language:** Italian, English

## LGV Theory Test UK



**Keywords:** exam, driver, LGV, signals

**Link:** <https://theorytest.org.uk/lgy-theory-test/>

**Description:** The application LGV Theory Test UK proposes training materials from the Vehicle and Standard Agency (DVSA). Within this app you can prepare yourself to take the LGV or lorry exam by taking the mock text available.

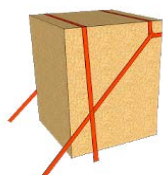
**Educational Uses:** The user will learn the highway code, signals, and practice categories of exam through simulations.

**Type:** web application, Android, IOS

**Cost:** Free, Premium version available

**Language:** Italian, English

### ReadyLash-Cargo Securing



**Keywords:** logistics, securing, cargo, simulation

**Link:** <https://apkpremier.com/details/se-mariterm-app-readylash>

**Description:** ReadyLash-Cargo Securing allows operators to implement appropriate securing measures depending from different rules and modes of transport. ReadyLash permits user to simulate diverse secure cargo combinations and apply the most suitable solution.

**Educational Uses:** The user will learn to perform best practices of cargo securing

**Type:** Android, IOS

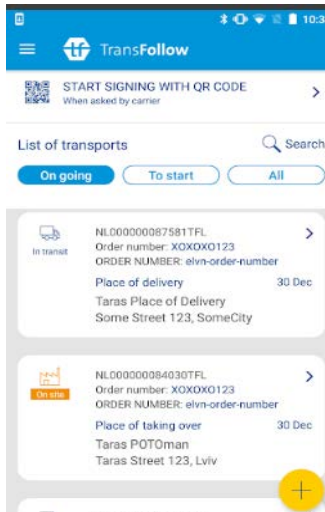
**Cost:** available on charge

**Language:** English, Swedish, German

## 2.3 Access to the Market

This part will give a brief analysis about applications that may help hauliers to collect and store documents of transport, it relates to the competence map of *access to the market area*.

### TransFollow e-CMR



**Keywords:** freight, transport, logistics

**Link:** <https://portal.transfollow.com/tfportal>

**Description:** With this application the user can use and check, download and attach freight documents, add notes and signatures autonomously (formats supported are TransFollow Approval (QR code); sign-on-glass upon pickup and delivery; approval without counterparty). It is suitable for consignors/consignees and carriers.

**Educational uses:** Learn to comply with freight documents, decode and control shipping and delivery process, know and identify documents to be stored.

**Type:** Web application, Android, IOS

**Cost:** Free

**Language:** Dutch, English, French, Spanish, German and Czech.

## CBP-Border Wait Times



**Keywords:** border, protection, formalities

**Link:** <https://bwt.cbp.gov/>

**Description:** the application provides estimated wait times and open lane status 24/7 at ports of entry for commercial vehicles and passengers. The BWT app breaks down wait times at each crossing by lane type (Standard, Sentri, FAST, Ready Lane, Nexus, etc.) and on-time port information needed by drivers. It is provided by the Department of Homeland Security/U.S. Customs and Border Protection.

**Educational uses:** the app is useful to know port information before crossing the American borders, identify alternative routes in case of congestion, identify land border wait times for commercial vehicles in extra-Community locations (U.S.-Canada-Mexico).

**Type:** Web application; Android, IOS, iPhone, iPad, iPod Touch

**Cost:** free

**Language:** English

## 2.4 Technical Standards and Technical Aspects of the Operation

This section collects applications to support hauliers respecting technical specifications and standards. In particular, this part organizes mobile technologies that may help hauliers to identify and apply appropriate ADR requirements, perishable food haulage procedure, road norms and regulations.

### Container Number Verifier



**Keywords:** transport, passengers, routes

**Link:** <https://play.google.com/store/apps/details?id=net.letscorp.iso6346&hl>

**Description:** It is a tool that verifies your container number on behalf of ISO 6346. ISO 6346 is an international standard managed by the International Container Bureau (BIC) for coding, identification and marking of intermodal containers (shipping containers) used within intermodal freight transport.

**Educational Uses:** This application allows the user to facilitate the checking procedure of containers, verifying the owner, or notify any loss.

**Cost:** Free

**Type:** Android

**Language:** English

### Cargo Decoder



**Keywords:** dangerous, goods, cargo, toxic

**Link:** <https://play.google.com/store/apps/details?id=com.strategiesinsoftware.erg&hl=it>

**Description:** The user can understand the classification of dangerous goods, fundamental guidelines linked to precautionary measures to avoid hazards, toxic substances exposure and placards. Incident response countermeasures to implement after release of poisonous substances.

**Educational Uses:** The user can enhance their knowledge related to ADR measures and GHS classification. Know dangerous goods classification, decode dangerous goods, know potential hazards linked to dangerous substances exposure

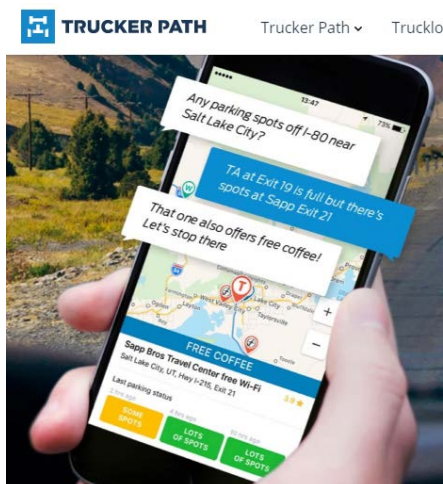
**Type:** Android (Available for IOS with name Cargo Decoder Plus <https://apps.apple.com/us/app/cargo-decoder-plus/id520387030>)

**Cost:** free

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**Language:** English and Spanish

## Trucker Path ELD-Pro



**Keywords:** trucker, route, roadside

**Link:** <https://eld.truckerpath.com/>

**Description:** It is an electronic logbook to keep track of vehicle maintenance and diagnostics, hours of service, violation alert, GPS and roadside inspection. Therefore, the system has other multiple functions such as electronic document delivery and truck stops.

**Educational Uses:** This application is pretty suitable to newcomers who are not keen with working obligations of the haulage sector and strategies to maximize vehicle maintenance.

**Type:** Android, IOS, Web Application

**Cost:** available on charge

**Language:** multiple languages

## Cargo Handbook



**Keywords:** food, cargo, guidelines

**Link:** [https://www.cargohandbook.com/Welcome\\_to\\_CargoHandbook](https://www.cargohandbook.com/Welcome_to_CargoHandbook)

**Description:** It is a digital handbook that collects different categories of foods including oil, fruits, vegetables, edible materials and many others.

**Educational Uses:** This application provides learners standards and compliance parameters to load diverse categories of cargo, including perishable goods, food and many other substances.

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**Type:** Web application, Android, IOS

**Cost:** Free

**Language:** English

**Waze**



**Keywords:** real-time, navigation, routes

**Link:** <https://play.google.com/store/apps/details?id=com.waze&hl>

**Description:** The application supports hauliers keeping track of road conditions, warnings, congestion on relief, on-time variation, secondary routes, tolls, you can exchange traffic information on the network and advise other drivers or ask for suggestions.

**Educational uses:** The user can access can optimize the quality of their routes checking most suitable courses depending to traffic conditions and other variables.

**Type:** Android, IOS, Windows Phone, Symbian, Blackberry.

**Cost:** Free

**Language:** multiple languages

**Moovit Fermate Orari Treni e Bus**



**Keywords:** transport, passengers, routes

**Link:** <https://company.moovit.com/>

**Description:** It is a digital map that tracks digital routes of different means of transport, buses, trains and sharing.


**Educational Uses:** The app allows the user to inform customers about stops, timing and routes

**Type:** Android, IOS

**Cost:** Free

**Language:** multiple languages

## Semi-Weight Distribution Calculator



Weight Distribution Calculator

Set Up Screen

Truck Empty Weight 20,000 ?

Trailer Empty Weight 15,000 ?

Total Gross Vehicle Limit 35,000 ?

Steer Axle Weight Limit 12,000 ?

Onboard scale is connected to:

Truck Drive Axle  Trailer Axle

SAVE

**Keywords:** transport, weight, calculator, load

**Link:** <https://play.google.com/store/search?q=Truck%20Scale%20Calculator&c=apps&hl>

**Description:** It is a digital tool to support truckers in measuring the weight and distribution of the stowage. Users will benefit from this application to avoid incidents due to potential overload of the axle. Green/Yellow/Red buttons are used as warnings about any overload.

**Educational Uses:** This application helps hauliers to distribute an equal distribution of the cargo to prevent outflows and axle-related damages.

**Type:** Android, IOS

**Cost:** Free

**Language:** English



## 2.5 Road Safety

This section is dedicated to applications that can ensure better working conditions, it is linked to the state of health of drivers, preventive guidelines to optimize working conditions and emergency measures to recover from hazards. It is interwoven with the *road safety* area of the competence map.

### First Aid and Emergency Techniques



#### Competence:

**Keywords:** safety, emergency, first, aids

**Link:** <https://play.google.com/store/apps/details?id=com.fatbelly.firstaidsandemergencytechniques&hl>

**Description:** The application presents a menu classifying possible accidents depending from the situation and working professions. It collects a set of instructions and guidelines to follow first- aid basic measures and preventive actions to avoid injuries.

**Educational uses:** The user can access to first-aid basic knowledge and prevent basic measures, avoid hazards and trapping points.

**Type:** Android

**Cost:** Free

**Language:** English

## Rolling Strong



**Keywords:** well-being, trucks

**Link:** <https://rollingstrong.com/mobile-app/>

**Description:** The application has been specifically designed to meet needs of drivers. With this tool hauliers can access to a real health kit made of samples of exercise routines, diet programs and sleeping hours monitoring systems. The application aims at increasing flexibility and mobility of drivers guaranteeing a healthier well-being and improved own security conditions by consequence.

**Educational uses:** The user can access this application to drive longer and prevent accidents linked to a fragile state of health.

**Type:** Android, IOS, iPhone, iPad, iPod touch

**Cost:** available on charge

**Language:** English

## MyFitnessPal



**Keywords:** fitness, health, food

**Link:** <https://www.myfitnesspal.com/>

**Description:** The application supports hauliers in monitoring the amount of physical activity and gives a basic esteem of calories needed according to the degree of movement. It suggests tips to lose weight in the form of daily diet.

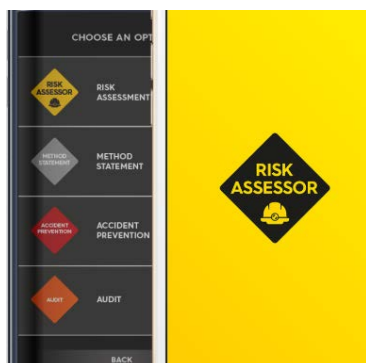
**Educational uses:** The user can access to basic knowledge of healthy food, receipt ideas, calories, quality of food in terms of macronutrients, food intake, tips to keep the body in health, and the impact of food to your body.

**Type:** Web application, Android, IOS, iPhone, iPad

**Cost:** Free

**Language:** multiple languages

## Risk Assessor Pro



**Keywords:** safety, risk, assessment

**Link:** <https://www.riskassessor.net/>

**Description:** The user can understand how using risk assessment tools can improve working conditions and promote an effective incident response plan.

**Educational Uses:** The user can optimize own risk assessment procedure and incident reporting benefiting from a wide range of powerful safety tools, moreover hauliers can upload own accident prevention procedure and share them with other users.

**Type:** Android, IOS, Web Application

**Cost:** available on charge

**Language:** multiple languages

## 2.6 Environmental Aspects

This section collects mobile technologies to support greener mobility and foster eco-sustainability in the haulage sector, it analyses applications associated to awareness of *environmental aspects area* of the competence map.

### My EcoDrive



**Keywords:** carbon, eco, emissions, driving

**Link:** <https://play.google.com/store/apps/details?id=com.emixis.myecodrive&hl=it>

**Description:** It is an electronic logbook to keep track of carbon emissions, the app provides suggestions to support truckers in becoming more sustainable and minimise the impact of own activity on the environment. The app implements some elements of gamification like stars, levels and points.

**Educational Uses:** more sustainability, reduce own environmental impact, implement strategies to preserve the biodiversity by decreasing the rate of carbon emissions.

**Type:** Android, IOS

**Cost:** Free

**Language:** multiple languages

### Green-Zones Fleet-App



**Keywords:** Green zones, fleet

**Link:** <https://play.google.com/store/apps/details?id=greenzones.fleetapp&hl=en>

**Description:** An application designed for professional users or truck and bus drivers that shows real-time information about the environmental zones that are allowed for the specific vehicles. The increasing number of environmental zones cause unplanned delays and very high fines imposed sometimes. The application gives detailed information of all rules and exemptions of each environmental zone in Europe and daily information coming from the local authorities in order to know the rules and traffics bans planned for the next day.

**Educational Uses:** Users can access real-time information about the different green zones and plan their journey accordingly

**Type:** Android, IOS

**Cost:** fee-based service contract

**Language:** multiple languages

### 3. Tools for Trainers

This section illustrates some technologies usable by trainers to create, edit, deliver training contents and ultimately support cooperation and communication among students.

#### 3.1 Authoring tools

This category collects some tools and devices to spur learning, many of these tools include elements of gamification and stimulate the learning process thanks to the combination of several channels: visual, textual, audio-video, and allow intermediate assessment activities through quizzes and interactions. Most of them produce responsive contents for different devices.

**H5P:** <https://h5p.org/>

It is a digitally-based training tool that includes interactive presentations and editable activities. It empowers trainers to create rich contents with different stimuli like external links, interactive videos and standalone quizzes. *H5P* facilitates sharing of accessible content and makes it easier for creators to deliver and publish their content.

Free

**ISPRING Suite:** <http://www.ispringsolutions.com/>

It is a learning authoring toolkit produced by iSpring for developing professional e-Learning courses in PowerPoint with embedded (or standalone) quizzes, surveys, and interactions.

With License

**ARTICULATE 360:** <https://www.articulate.com/>

A powerful and intuitive software for professional creating interactive courses that work on every device. It's simple enough for beginners, yet powerful enough for experts.

With License

**Visme:** <https://www.visme.co/>

It is a data presentation and visualization tool, made to help users to make their content compelling and visually appealing. It is a web-based application, which can also run offline, and allows to create presentations, charts and infographics. It is used extensively in the fields of education, marketing, business, and many other professional areas.

Different ranges of prices can be consulted at: <https://www.visme.co/pricing/>

**Popplet:** <https://popplet.com/>

This application is available online or can be downloaded from the app store. It can be used to generate mind-maps, summarize highly elaborated content and organize ideas. The design is simple and intuitive, the author can combine multiple resources to foster reflective thought and relationships between things.

Different ranges of prices: the free version allows a maximum of 10 popplets, the iPhone-iPad version is temporarily free.

**Padlet:** <https://padlet.com>

Padlet can be used as a brainstorming or warm-up activity. The author can require students to share own ideas and content, allowing communication between peers.

Free

**Socrative:** <https://socrative.com/>

The application ‘Socrative’ allows trainers to create quizzes, surveys, team activities and monitor on-time progress of own students.

Free and on payment

**Camtasia:** <https://www.techsmith.com/>

This tool is specifically designed to make video more interesting and appealing to students. It offers many opportunities, e.g. inserting comments, Youtube videos, music and recordings. Besides, the user can embed quizzes and interactivity to encourage and measure learning in the videos.

Free Trial, or with License.

**TouchCast:** <https://www.touchcast.com/>

This application allows to blend presentations with web-based resources, it provides many functionalities like whiteboard, photos and vApp – digital application like Facebook.

Free

Finally, the **LearninApp.org**, <https://learningapps.org/>

It allows trainers to foster learning by creating own digital training material, like intermediate activities or interactive games. The application enables to create up to 25 activities, that can be shared with colleagues.

Free.

### 3.2 LMS (Learning Management System)

The LMS (Learning Management Systems) are software applications used implement and facilitate the access to online course. LMS are notable systems for trainer because enables constant tracking and monitor of learners participation and performance. One of the most common in **Moodle** (<https://moodle.org/>), it is free and requires users’ authentication. Moodle proposes several learning activities and resources, like H5P presentations, quizzes, links and embedded files. Moreover, it keeps learners engaged with on-time chats and forums used as resources to foster brainstorming, conversation and warm-up activities.

Another interesting tool in this category is **Google Classroom** (<https://classroom.google.com>). Developed by Google as a free web service it aims to support teachers in the process of creating, distributing and grading assignments.

## Conclusions

Within this report mobile applications supporting training of road transport operators are collected and described, hence the first part shows and analyses valuable existing applications and simulators to be implemented for haulage purposes. The second part of the report covers some usable tools for trainers to plan, implement and deliver training materials; some of these will be employed to create interactive educational resources in Output 3.