TELLISYS

Intelligent Transport System for Innovative Intermodal Freight Transport

**Funding:** European (7th RTD Framework Programme)
**Duration:** Dec 2012 - Nov 2015
**Status:** Complete with results
**Total project cost:** €4,284,415
**EU contribution:** €2,915,374

**Call for proposal:** FP7-SST-2012-RTD-1
**CORDIS RCN:** 105890

**Background & policy context:**

The trend towards increasing transport demand - prerequisite for economic growth - is still challenging the European transport system. On the other hand, Europe aims to reduce emissions dramatically. A crucial measure achieving this ambitious aim is to lower transport emissions by increasing the share of inherently more resource-friendly modes of transport.

TelliSys is the follow-up of the successful TelliBox project.

**Objectives:**

The Intelligent Transport System for Innovative Intermodal Freight Transport (TelliSys) will actively promote the EU's objective of optimizing the performance of intermodal logistic chains and will provide smooth and cooperative interactions between different modes of transport.

Scientific aim is to develop an intelligent transport system that is applicable for road (in line with Directive 96/53/EC), rail, short sea and inland shipping, which consists of a modular set of volume-optimised and traceable MegaSwapBoxes (MSB), an adapted trailer and a tractor for the road transport. Ideas and contributions from the consortium together with the advice of outstanding key players of the transport business guarantee the holistic approach and market acceptance of the project outcomes.

**Methodology:**

TelliSys is the follow-up of the TelliBox project and the now modular MSB will be based on the unique selling propositions like stackability, three openable sides, three meters loading height, trimodality, pallet wide and cargo security. In addition, the new developed tractor will provide an extra low fifth wheel height (low deck) designed for volume-optimised road transport and the adapted trailer will be flexible to transport conventional loading units as well as the new MSBs.

Within TelliSys an interdisciplinary European consortium of experts in the field of freight forwarding, manufacturing and science will deliver concepts, prototypes and a proof of concepts via extensive test runs. A complementary bundle of scientific evaluation methods, profitability calculations and risk mitigation actions will guarantee the project success.

**Parent Programmes:**

**FP7-TRANSPORT** – Transport (Including Aeronautics) - Horizontal activities for implementation of the transport programme (TPT)

**Institute type:** Public institution
**Institute name:** The European Commission
**Funding type:** Public (EU)

**Lead Organisation:**
### Partner Organisations:

#### Rheinisch-Westfälische Technische Hochschule Aachen

**Address:**
Templergraben
52062 Aachen
Germany

**Organisation Website:**
[http://www.rwth-aachen.de](http://www.rwth-aachen.de)

**EU Contribution:** €441,575

#### Goodyear

**Address:**
avenue Gordon Smith
7750 COLMAR-BERG
Luxembourg

**Organisation Website:**
[http://www.goodyear.com](http://www.goodyear.com)

**EU Contribution:** €93,780

#### Wecon Gmbh Nutzfahrzeuge-Container-Technik

**Address:**
An Der Hansalinie 10
59387 Ascheberg
Germany

**EU Contribution:** €1,209,125

#### Daf Trucks N.v.

**Address:**
HUGO VAN DER GOESLAAN 1
5600 PT EINDHOVEN
Netherlands

**Organisation Website:**
[http://www.daf.com](http://www.daf.com)

**EU Contribution:** €677,626

#### Gefco Deutschland Gmbh

**Address:**
Kurhessenstrasse 13
64546 Morfelden Walldorf
Germany

**EU Contribution:** €50,639

#### Heiko Sennewald

**Address:**
Gartenweg 4
41366 Schwalmtal
Germany

**EU Contribution:** €141,280
Wesob Spolka Z Ograniczona Odpowiedzialnoscia

Address:
Ul. Ks Londzina 65
43 246 Strumien
Poland

EU Contribution: €252,828

European Intermodal Association

Address:
Rue D'arenberg
1000 Brussels
Belgium

Organisation Website: http://www.eia-ngo.com

EU Contribution: €48,521

Technologies:

Freight transport technologies
MegaSwapBoxes for freight intermodality
Development phase: Research/Invention

Road vehicle propulsion
Smaller dimension tyre for trucks
Development phase: Research/Invention

Road vehicle design and manufacturing
Super low-deck truck and trailer chassis
Development phase: Research/Invention

Key Results:

Towards energy-efficient, intermodal freight transport

Trains and ships are seen as effective alternatives for reducing high traffic and carbon emissions caused by road freight transport vehicles. An EU initiative is helping to ease the changeover to more energy-efficient transport means.

With the aim to optimise the performance of intermodal logistic chains and to contribute to a more efficient European transport, the research project TELLISYS started in December 2012 with the support of the European Commission. The project seeks to create an “Intelligent Transport System for Innovative Intermodal Freight Transport”. Within the interdisciplinary European consortium, the prototypes for a new intermodal family of loading units (MegaSwapBoxes), a super low deck tractor and the suitable trailer have been designed and constructed.

The TELLISYS consortium has identified differentiated members of a family of MegaSwapBoxes to address the requirements of specific market segments, while fulfilling specific European transport requirements such as height and weight. In addition, the new super low deck tractor unit and the purpose-built tyres contribute to the optimization of the cargo volume of the MegaSwapBox by allowing the maximization of the insight height while keeping the system at 4m maximum height on the road.

During more than two years the TELLISYS consortium has closely worked together to present the most suitable solution for this very challenging task: from the market and lead user analysis, to the definition, design and construction of each component. The intermodal concept has also been tested and evaluated showing financial advantages — with cost savings of up to 15 % — over other current transport systems and having a significant reduction of CO2 equivalent and an increase of 25 % environmental efficiency (kg CO2-Eq).

The result of the project is: A complete volume optimised intermodal combination, including a family of
new intermodal loading units developed to address different use cases (the MegaSwapBox, the Automobile MegaSwapBox and the Intercontinental MegaSwapBox). Thereby TELLISYS generates a market-oriented intermodal technology concept that opens new opportunities for intermodal transport in Europe and abroad and that meets the EU's demand for more energy-efficient, low-emission logistics networks.

Documents:
- Periodic Report Summary 1 - TELLISYS (Intelligent Transport System for Innovative Intermodal Freight Transport)
- Final Report Summary - TELLISYS (Intelligent Transport System for Innovative Intermodal Freight Transport)

**STRIA Roadmaps:** Network and traffic management systems
**Transport mode:** Multimodal transport
**Transport sectors:** Freight transport
**Transport policies:** Other specified
**Geo-spatial type:** Other