



**Presenting the 12 winners of the  
European Transport Innovation Challenge 2017**



**Winners will pitch their entries at the  
European Commission stand  
ITS Congress - Strasbourg  
20 June, 12.30 - 14.00**

[ec.europa.eu/transport/themes/research/challenge\\_en](http://ec.europa.eu/transport/themes/research/challenge_en)

**#eustransportinnovator**

**European Commission, DG Mobility and Transport**





The European Transport Innovation Challenge 2017 is organised by the European Commission, Directorate-General for Mobility and Transport to reward 12 young transport innovators with ideas for a cleaner and more efficient future in transport.

Over 110 applications were submitted from across Europe. The 12 winners presented innovative solutions for decarbonising EU transport in different modes, passenger and freight, from vehicle solutions to services and Apps. They are students, or working at start-ups or larger SMEs, aged between 18 and 35, from Czech Republic, France, Germany, Italy, the Netherlands, Romania, Sweden, Switzerland and the UK.

The 12 winners of the Challenge received a free trip to Strasbourg on 19, 20 and 21 June 2017 to follow the European ITS Congress, to participate in a dedicated workshop to meet investors and EU policy makers and to receive personal coaching; they have an appearance on stage to pitch their idea at the EC's stand at the ITS Congress on 20 June at 12.30 – 14.00.

Other good proposals will be publicised on the European Transport Innovation Challenge website alongside the winning projects.

### **Jury:**

A professional jury assisted the European Commission in selecting the winners. Bringing in a wide range of expertise in transport, innovation and entrepreneurship, their help has been invaluable.

Daria Tataj (jury chairperson), founder Tataj Innovation

David Altabev, consultant

Alessandra Gorini, Head of Y4PT at UITP

Don Guikink, senior lecturer at the NHTV in Breda, The Netherlands

Didier Gorteman, CFO ERTICO

Florian Lennert, Director of the Intelligent City Forum (LSE/ InnoZ)

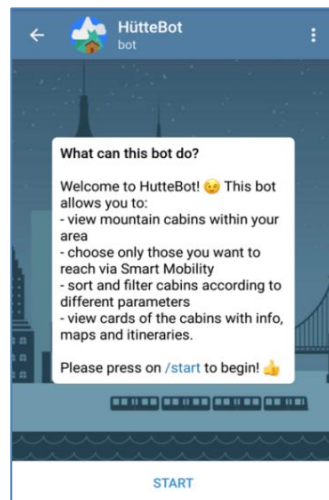
Rein Juriado, Strategist in the Swedish Transport Administration

## Smart, immediate & sustainable transportation for everyone

Francesco Bonadiman, *Italy*

The chatbot market is growing very fast, therefore approaching it as soon as possible might lead to a competitive advantage. Chatbots are available on any platform, on any device, at any time. They are incredibly light, responsive, adaptable, and inexperienced users won't even notice it's a robot they are talking to.

The idea is to implement a chatbot to connect the transportation and mountain huts APIs with OpenStreetMap's and Google Maps' APIs. By combining all these data a bot was created which allows users (such as tourists or locals, mostly young people living in the city, but not owning a car) to reach in a "smart" and ecological way the very end of the road and, from there, walk on the mountain paths to the huts. Users can also view charts with info, data and pics of the mountain cabins, which are loaded into the chatbot as HTML5 content. Of course the whole idea can be realized without the focus on mountain cabins, but just receiving the data about public transport and interacting with the chatbot to get times, stops and connections without leaving the messaging app. All this will make it very easy, in term of user-experience and cognitive load to access the service. This will ultimately lead to better (access to) mobility and, consequently, less pollution and congestion.



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## **Carla Cargo heavy load bicycle trailer**

Markus Bergmann, *Germany*

The Carla Cargo is a new concept of a 3-wheeled bike trailer with overrun brake and electric engine support. It can be driven as an E-Bike attached to your normal bike or used as an electric handcart which can be preferable in crowded areas. The trailer is running with more than 30 pilot customers and is already demonstrating the ability to carry heavy or voluminous goods. Some customers have already stated that they could stop using cars for delivery.

A big advantage of this concept is that you can use it as a handcart detached from the bike which brings a huge flexibility in the last metres. An additional benefit is the very simple concept. There are no complex mechanical parts and everything is easy to understand. At this moment Carla Cargo is ready to be scaled up.



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## Craft Bicycle

Sabin Dimian, *Romania*

Craft Bicycle's mission is to build a bicycle with sustainable materials, which offers the best comfort and a design that turns heads. We aim to change the way we think about riding a bike and want to offer not just a ride but an experience. After years of research we concluded that bamboo is the perfect material to build a bicycle as it has a high strength-to-weight ratio, vibration dampening, and sustainable growth. Bamboo has a higher tensile strength than steel, as well as a higher compression strength compared to concrete. It is the fastest growing plant on the planet. It is as if carbon fibre were growing out of the ground in a tube shape, making it the perfect material for crafting bike frames.

Our purpose is to replace as many parts of the bike with sustainable materials as possible to meet the environmentally friendly bar. We know that there is a long way until we start setting trends and influence others, however our goal is to build the most sustainable bicycle in the world.



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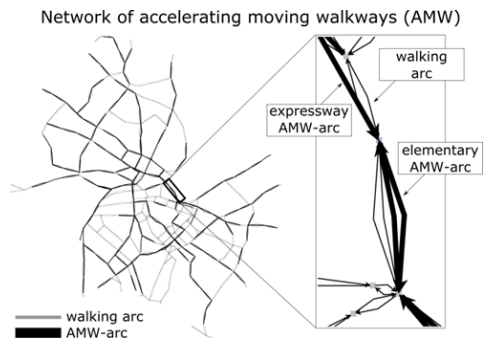
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## Accelerated Moving Walkways

Riccardo Scarinci, *Switzerland*

We design a futuristic transport system: an urban network of accelerating moving walkways (AMW). Unlike traditional moving walkways (MW), AMWs present an acceleration section at the embarking area that accelerates passengers to a speed higher than that of MWs. Examples of accelerating walkways show that the system can reach 12-15 km/h. The use of AMWs is competitive with that of public transport systems, such as buses and light rail, when the walking time, waiting time, and dwell time in stations are taken into account. Although buses and trams have higher top speeds, the discontinuous nature of these systems decreases their average speed. Note that individuals can walk on AMWs, incrementing the top speed to 15-17 km/h. The resulting speed is also competitive with private cars, which travel at an average speed of 15 km/h during peak hours. AMWs are designed for a high traffic demand, and they have a maximum capacity larger than buses. In comparison with buses, AMWs have a greater capital cost and a similar operational cost. AMWs require only a limited space for installation in comparison with the other modes of transport. This is an advantage for the integration of the system in the urban environment. Finally, AMWs are fully electric, they have a low energy consumption and a low noise level in comparison with the other modes of transport.



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**CleanSquare Robotics:  
enabling autonomous utility vehicles**

Julian Nordt, *Germany*

CleanSquare is developing the technology platform that allows autonomous operation of service and specialty vehicles. We believe that automatic operations of service vehicles are just a leap away with countless benefits to be unlocked in the near future. Autonomous service vehicles will help us to keep our cities cleaner, make our roads safer, reduce greenhouse gases and make our lives better.

Our first product enables street sweeping vehicles to automatically clean industrial areas, business parks or public areas. Our technology can be applied on new or used street sweeping vehicles.

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## **Vivanoda: European multimodal travel search engine**

Nicolas Pellier, *France*

Vivanoda arose from a simple fact: most people are not aware of ways of transportation that would get them to a destination, and this kind of search on the Internet often turns out very tedious: "How to go to Bonn from Niort?", "What train companies operate between Alicante and Marseille?", "where to book my ticket online?" ... Vivanoda tries to solve this problem by allowing travellers to compare and combine air, bus, rail, ferries and carsharing all in one search to travel between two cities.

Vivanoda wants to become a habit in European travellers' mind when they search for transport, and wants to increase the number of users. Vivanoda also wants to act as an interconnection between operators and give European transport operators a better visibility by including their offers and lines in multi-step trips.

Vivanoda has been live for a couple of years and drove more than two millions users in 2016 mainly from France, Portugal and the UK.



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## **Digital reliable railway**

Christoffer Hamin, *Sweden*

The railway as we know it is measured by special vehicles about one time per year. There is enough time between each measurement to let damage to the infrastructure grow worse and worse without detection, until it is not really safe to drive a train on it. D-Rail is developing a rugged, wireless sensor system, with a minimum need of maintenance, and installed in minutes on any train, making any train a measurement train.

By installing our system on a percentage of the train fleets on each route, we can have a daily updated status of the infrastructure. We apply real time analytics on this data, refining it into understandable information, and this gives us the ability to provide automated warnings about impending faults, as well as providing long term trends about the infrastructure status. This trending gives the infrastructure owner an understanding of its assets, and enables predictive maintenance.

We also have a patent pending, with excellent written opinion, on the concept of measuring track circuits from a moving train. Today D-Rail has only done proof of concept trials. We now have our first version of factory made sensor systems ready to be tested.

The business model is to let the infrastructure owners subscribe to daily information regarding the status of the infrastructure and act as both an early warning system when there is a sudden defect detected, but also act as a predictive maintenance information with the possibility to measure the relative wear and change over any chosen timespan.

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## **CycleSpex: Cycle and Spatial Context Experience Simulator (VR)**

Geert de Leeuw, *The Netherlands*

This research tool is being developed to answer knowledge and design questions about cycling. The advantage for planners and policy makers is to test possible design solutions ex-ante in a safe and controlled setting before the definite investment. The innovative experimental design facilitates the possibility of asking questions within the VR environment to large groups of respondents. This allowing us to collect valuable data about cycling behaviour, experience and performance.

Currently CycleSpex lines up multiple VR experiments to answer research questions on cycling experience related to road design, urban green, lighting, way-finding and underpasses/barriers in cities. Analyzing relationships between cyclists on the move and (designed) urban environment will lead to insights into which spatial factors contribute to a better cycling experience. Different urban environments might need a different set of spatial measures to ensure a cycling experience which will lead to a higher bicycle usage. The output from these VR experiments will be used to optimize the EU recommendations for Cycle Highways through the CHIPS project.

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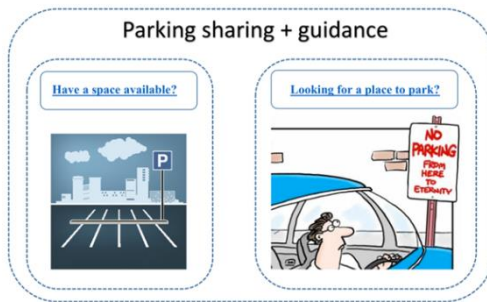


**cyclespex**

## Unlock the sharing economy for the parking sector

Wei Liu, *United Kingdom* - Haitao He, *Switzerland*

Parking-sharing is emerging as a new notion of making more efficient use of existing parking infrastructures. It uses existing gaps intended for parking cars when the owner is not using it. By making parking spaces (owned by individuals or shopping malls) publicly available for rent, shared parking not only allows the owner to make additional money but also helps alleviate the shortage of parking spaces, which helps save travel time, and reduce fuel consumption, emission and road congestion. With the revolution of information and communications technology, private parking sharing can be simply enabled through an online platform (“e-parking platform”), which directly connects a private parking slot owner who shares his parking property when not in use with public users who are looking for a place to park for certain hours.



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**Accessibility mapping:  
urban digital way-finding for people with reduced mobility**

Joanna van der Veen, *United Kingdom*

This idea is a digital journey-mapping search tool specifically for people with reduced mobility. The tool prioritises sustainable forms of travel, and aims to exclude as far as possible use of private vehicles. It specifically targets those with limited mobility, including those with temporary mobility issues such as broken limbs - a group that is often prevented from carrying out everyday tasks because the physical landscape of their home town or city presents a barrier. This barrier could take the form of a lack of dropped kerbs, narrow pavements or public transport that is difficult to get on or off of and, as a result, people in this situation either do not make their journeys, or do so in a private vehicle (with a family member, friend or in a taxi). The independence granted by the tool being proposed would give the user increased mobility and, in certain situations, go some way to reducing pollution and congestion, as it would give users good walking or public transport options. It would also function as an advocacy tool for ameliorating the accessibility of urban environments.

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## UPsET! Last mile deliveries go underground

Liard Kranen, *The Netherlands*

We need radical steps towards a low carbon transport system in Europe. UPsET is a system of underground pipelines to handle deliveries in dense urban areas. UPsET offers a solution for the challenges of the many (inefficient) package delivery/commercial vehicles for private customers. UPsET would save companies' time and customers' frustration with the effort of a slight behavioural change. UpsET increases the quality of life for many urban areas as they transform into being places for people again and not for cars. Our society saves costs by having less congestion, the system eliminates tons of carbon emissions and noise pollution, and simultaneously increases the air quality. UPsET is intended to be a budget friendly system with 80 cm diameter pipelines. The complete system would occupy the space underneath one side of a two directional cycling track. It will regenerate the existing bicycle lane infrastructure system. Central parcel output and input locker stations are accessible with a digital key to receive your package. The only thing customers need to change is the three minute walk to their nearest UPsET station. That is the same change people had (or will have in the near future) when the underground 'waste' separation containers were installed in their neighbourhood. Let's go UPsET!



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## **Emergency Vehicles Coordination Using V2X Communication**

Tibor Petrov, *Slovakia*

The idea is to utilize vehicle-to-vehicle and vehicle-to-infrastructure communication to allow bidirectional communication between emergency vehicles (ambulance, police, fire trucks) and other vehicles present on the road infrastructure. By providing relevant information combined from multiple databases to the vehicles, the idea has a potential to allow faster reaction time and safer transit for rescue vehicles.

The main innovation is in combining data from two types of databases:

(i) Emergency database – where data about accident details are stored. Data can be uploaded either automatically by an eCall system, or manually by an emergency telephone line operator.

(ii) Road management database – contains data related to the traffic situation in a given area from road operators, vehicle sensors, and road users (e.g. Waze, Google Traffic).

Data from these two databases are combined to provide relevant route planning for emergency vehicles as well as for other road traffic participants. Vehicles on the roads then communicate using V2V communication to avoid traffic jams forming and to ensure fluent and safe transit of the emergency vehicles. In the case of an accident, emergency vehicles are informed about the fastest route to the accident site. Vehicles, which are travelling along the route of emergency vehicles, are informed about the estimated time of emergency vehicles' transit.

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