



## Van Eck organized AEROFLEX webinar to support its stakeholder's future implementation roadmap

The household name in innovative transport solutions Van Eck organized a special online webinar session with Aeroflex project team on 8th of October.

In line with Van Eck's vision to reinvent to modern road transport with sustainability goals, Van Eck has been active in European Commission funded Aeroflex Project for developing Aerodynamic and Flexible Trucks for the next generation of Long Distance Transport since the project began in 2017.

During the webinar session, Aeroflex Project Coordinator Ben Kraaijenhagen, Van Eck's Head of Research and Development Ton Bertens were the moderators and Van Eck Executive Board Member Hans van Eck made the opening speech.

In the first part of webinar session, Ton Bertens explained Van Eck's contribution to Aeroflex project for the development of Aerodynamics of the LHVs as well as development of the e-dolly. Van Eck also detailed its expertise in volume optimization, expertise in LHV combinations on the road since 2004 and shared details on future Van Eck new LHV vehicle development the standard trailer, air cargo, Twin Deck combinations as well as Van Eck EMS-2 vehicle with the dolly.

In the second part of the session, Aeroflex Project Coordinator Ben Kraaijenhagen, detailed Aeroflex project goals of meet the challenges of zero emission transport with developing the next generation of road vehicles as well as key focuses while addressing the challenge and current development status with the participants. Mr. Kraaijenhagen shared the Aeroflex agenda until May 2021. Introducing the IAP Task Force Project, Mr. Kraaijenhagen invited all stakeholders, policy makers, planners, owners of the infrastructures and providers of electronic and digital systems to take participate in the IAP Task Force for the implementation of the Aeroflex and sustainable transport solutions in the line with EU carbon reduction demands from the industry.

## Van Eck Vehicle Development for Sustainable Transport

"Towards more sustainable transport solutions as well as lower TCO, one of Van Eck's expertise is volume optimization. With Air Cargo vehicles with rollerbeds integrated into the bottom offers internal height advantages and can carry 7 pallets per vehicle. Double Deck Trailers are suitable reefers or DC to DC transportation or supermarket delivery. But there is also Transformer trailers that have a very flexible stock system. Double Cargo type trailers are the combination of fluid and pallets, on the way to the packaging factory, it brings the fluid and on the way back, it brings the pallets. We also have integrated Smart Loading Units in our trailers that are connected to the cloud which enables us to reach maintenance data, trailer status, and error messages." explained Mr. Bertens.

Next to its expertise in volume optimization, Van Eck makes a difference with its extensive experience in LHV as well.



“One of our LHV lightweight reefer with an automated loading and unloading system can carry up to 33 tons of cargo and drives every day from the North of Holland to the South for 10 years. At the previous IAA Show, we showed a long vehicle for 3 x C745 containers in one vehicle. We are now developing the new generation with a less complex steering system. For the past 10 years, we made B Double Eco Combi of fully automated so the driver ~~didn't~~ doesn't need to get out of his cabin to slide it in or slide it out. And the last vehicle we are now building is the linkable chassis in our continuing work for a load and length maximization in a safe and efficient way” he added.

### **Van Eck continues its innovations within the Aeroflex project**

Van Eck's vision is to find new and sustainable solutions in modern road transport which is a result of the passion for high-quality and innovation.

Within the Aeroflex project, Van Eck is in the development module of the e-Dolly. e-Dolly leads to energy recuperation and also has the possibility to do warehouse maneuvering. The e-dolly has been tested for warehouse maneuvering in September 2020 with remote control. Successfully coupling with the standard trailer, the e-dolly is currently designed to move a loaded trailer for 15km on electric battery. The tests for LHVs are being done for the heaviest applications to test the limits of standard coupling and battery life. The development is ongoing with the aim to drive e-dolly systems on a public road for the first time round February / March.

Within the scope of the Aeroflex project Van Eck also concentrated on the aerodynamic structures of the LHV. Carrying over from Van Eck's work on European Commission backed Transformers project, the design of the vehicle is optimized for the best aerodynamic performance and its wind panels are tested in wind tunnels, promising a high success.

### **Van Eck's Goals for Developing LHV for Europe**

Van Eck has been manufacturing LHVs since 2004. Van Eck LHVs are in operation in the Netherlands for over a decade now. According to its vision that aims to reinvent modern road transport, Van Eck will continue to focus on LHVs for upcoming years. “For LHVs, we have the problem that different types of long vehicles are not allowed in different countries. So, the best thing to do is to choose the long vehicle that is allowed in different European countries.” Mr. Bertens summarized.

Van Eck approaches each LHV as a unique challenge to offer the best possible solution. Based on the country-specific regulations, the cargo and route, Van Eck calculates the turning radius and decides on the trailer steering systems accordingly for the best tyre wear and road handling performance.

As a solution, Van Eck provides Basic LHV as a truck trailer combination which can be either a city trailer or a standard trailer of reefer, curtainsider or a twin deck, Air Cargo with up to 7 air cargo pallets and Twin Deck long vehicles. Hence Van Eck's expertise in manufacturing top quality and long lasting vehicles in all segments as well expertise in LHVs allows with smart steering systems for customers to benefit from the extensive combination options that will address their challenges for different country regulations and border crossing.

Van Eck is working on the EMS-2 vehicle within the Aeroflex project. For this design, an e-Dolly is needed to recuperate the energy. For the big turning circles of EMS-2 vehicles, Van



Eck also works to make e-Dollys smart steering to keep EMS-2 vehicles in the same turning circle standards as the LHVs.

Moreover, Van Eck offers smart loading unit to its customers. With the flex floor, Transformer trailer that is the result of Project “Transformers” transforms itself into the needed shape according to the height of the cargo that is transported. Flex Floor is a flexible double stock system and is a floor that allows to be lifted out of the bottom of the trailer.

NMLU (New Modular Loading Unit) Clusters 2.0 is a new modular load unit defined between the pallet and the trailer and provides a fast and secure pallet loading as required in air cargo systems.

Van Eck has also taken the 3<sup>rd</sup> place in the category “Environment” of Trailer Innovation 2021 Awards with the innovation Smart Rollerbed Vehicles with NMLU that is developed in cooperation with this European group in Clusters 2.0 project.

### **Next Steps of the Aeroflex Project for full implementation by 2030**

“Started in 2017 October, Aeroflex project works to meet the coming challenges and increase efficiency for road freight transport and focuses on how to reach zero emission logistics in the future.” stated Mr. Kraaijenhagen.

In the first part of the webinar Mr. Kraaijenhagen explained that the main focus of the Aeroflex project is the high capacity road transport and in the third part he went on presenting a wider frame of this focus underlining that the Aeroflex project actually covers a wide range of innovations from the truck and trailer concepts reaching to regulation standards within all European countries in order to reach a 33% general improvement in cargo and freight efficiency by 2030.

In the following slides of the presentation Mr. Kraaijenhagen gave a short aspects of the project setup inputs including the need of new concepts and smart standards for future truck concepts to have a complete vehicle in a perspective of aerodynamics, technologies, and systems and loading units in a better way underlining the need of smart standards for a better design of long distance and urban logistics on the European roads and cities.

“I think this is a great success and it is a proof that we are on the right way with our project, with our innovations we have developed and we are sure that we can contribute at the high level for more efficient road cargo transport.” added Mr. Kraaijenhagen.

### **All Stakeholders are invited to IAP Task Force for implementation of sustainable solutions**

After a giving detailed information about different technology improvements and innovations within the project, Mr. Kraaijenhagen called attention to the difficulty of bringing up new developed technologies and innovations into life according to strict and fixed European rules explaining the need of the search of other projects around the Europe, introducing the projects Urban Vehicle Access Regulations Program (UVAR) & Management for Electronic Traffic Regulations (METR) of the Nordicway Project, DG Move UVAR as a benchmark for European implementation which have the intention of management of not only people but also freight and cargo in an urban environment in order to allow the vehicles to use the infrastructure by giving certain vehicles and rules. As a result of the benchmark, The Aeroflex project team



decided to initiate a start of IAP Task Force Project, find budget to continue the activities driving the IAP agenda beyond Aeroflex.

Mr. Kraaijenhagen also invited stakeholders, policy makers, planners and owners of the infrastructures and providers of electronic and digital systems to contribute for the project and introduced Ms. Marta Tobar ([marta.tobar@idiada.com](mailto:marta.tobar@idiada.com)) leading the new initiative IAP Task Force Project.

To learn more about the project, you may visit <https://aeroflex-project.eu> and for the participation, you may get in contact with Ms. Marta Tobar [Marta.Tobar@idiada.com](mailto:Marta.Tobar@idiada.com).

To discuss the next steps and for outlook, Aeroflex will organize the following meetings;

- SB web-meeting – November 2020
- ALICE web-meeting – March 2021
- Final meeting preliminary 22-24 June 2021

***If you would like to obtain additional information, you can contact us via [communication@vanecktrailers.com](mailto:communication@vanecktrailers.com)***