

## Funding / Research

**New European electric bus ZeEUS project underway**

**Belgium** – A new European funded electric bus project called the Zero Emission Urban Bus System (ZeEUS) project was launched in Brussels last month.

UITP (International Association of Public Transport), the international non-profit association for the promotion of the public transport sector headquartered in Brussels, is to coordinate 40 partners in this project. Its aim, it says, is to extend the fully electric solution to a wider part of European urban bus networks. This initiative is being co-funded by the DG Mobility and Transport of the European Commission with a budget of EUR22.5m (EUR13.5m EU-funded).

UITP points out that already there are solutions for electric bus systems on the streets today including full-size trolley-buses, full electric battery mini- and midi- vehicles and full-size diesel-hybrid buses, so the ZeEUS project focus is to look at the next challenge - i.e. vehicles of larger capacity (12m and more / double deckers) from plug-in hybrid to full electric buses and urban-optimised mobility concepts and infrastructure.

As part of the 42-month demonstration project, different technological solutions for electric buses are to be demonstrated in eight cities: Barcelona, Bonn, Glasgow, London, Münster, Plzen, Stockholm and one city in Italy. ZeEUS' analyses will be used to develop guidelines and tools to help stakeholders introduce electrified bus systems in other European cities. Leading bus manufacturers and manufacturers in bus electrification will participate with plug-in hybrids or full electric buses using different charging infrastructure and strategies.

Demonstrations will not use prototype

## Agreement

**Daewoo buses to be assembled in Ingushetia, Russia**

**Russia / South Korea** – Daewoo Bus Ingushetia, a newly established joint venture, between the Republic of Ingushetia and Zyle Daewoo Bus of Bucheon, South Korea, plans to assemble Daewoo buses in the Russian Republic of Ingushetia, located in North Caucasus.

The joint venture agreement was signed at the Sochi 2013 economic forum last year.

According to Yunus Gagiyev, a local business partner of Daewoo Bus, the assembly plant is to be located in Karabulak.

Its current plans are for the assembly of three bus

vehicles, but series or pre-series vehicles, which are already or soon to be permitted (homologated) for service, operating in real operating service situations with passengers. UITP says, the numbers of demonstration vehicles (35 full electric and plug-in hybrids), which have been selected from 45 candidate demonstration vehicles, are enough to provide a meaningful and statistically valid evaluation of the real impact of the solution on the operations. A mix of charging infrastructure ie slow charging (bus depot) and fast charging (bus stations, terminals, stops – floor induction, overhead pantograph) is to be used. Furthermore, different geographical, climatic, environmental and operational conditions are to be represented in the demonstrations.

As the coming years will see many pilots, demonstrations and the purchase of electric vehicles, UITP says it is establishing what it calls an Observatory to discuss the progress of bus system electrification in Europe and contribute to electric bus fleet deployment strategies.

The 40 partners representing all stakeholders categories in the ZeEUS project are as follows: Associations – UITP, Eurelectric, VDV, UTP, ASSTRA and POLIS; Bus manufacturers – Alexander Dennis, Irizar, Skoda, Solaris, VDL, Volvo; Public Transport operators and authorities – PMDP, SL, SPT, SWMU, SWBN, TMB, TfL; Energy Suppliers – ENDESA, PT, SSE, Vattenfall; University and Research Centres – FH LA, Fraunhofer IVI, RWTH, Sapienza UPC, UWB, VTT; Technology suppliers and engineering consultants – Berends, D'Appolonia, ENIDE, GMV, IDIADA, PE, TTR, TRL, Viktoria.

models – two city buses, Daewoo 6109 (9m) and Daewoo 6112 (12m), and an intercity bus, Daewoo BH 120 F. The first pilot vehicles to be assembled are scheduled to roll off the line on June 4, which is the commemoration day of the Republic of Ingushetia. The plant plans to start commercial production in significant quantities in 2015.

The Ministry for Economic Development of Ingushetia said that an initial investment of approximately RUB402m (USD11.5m) would be spent on the plant to create an annual capacity of approximately 500 buses.

## Research / Technology

**New Busworld Academy coordinates use of intelligent textiles in bus and coach sector**

**Belgium** - Busworld Academy, the new division of the Flemish bus operators association, BAAV, which organises the world famous Busworld exhibitions based in Roeselare, Belgium, has announced its first major project, involving the development and use of intelligent textiles in the bus and coach manufacturing industry.

The Busworld Academy, in cooperation with the University of Ghent and Ghent College in Ghent, Belgium, and with the support of the European and the Flemish Government, has been instrumental in having a project called WINTEX, which looks at the use of 'intelligent textiles' in different industrial applications, to include the prospect of using such technology in buses and coaches.

The project is to be led by a user group to guide the scientific research and determine the fields that should be explored to offer added value in the use of intelligent textiles in buses and coaches. Companies within interior design, seats, flooring, air conditioning / heating are probable members of the user group.

Special attention is to be given to the possibilities of reducing the wiring in a vehicle by using electrically conductive materials in the textiles. These materials, says Busworld Academy, could also act as sensors, signal transport channels and antennas. These 'intelligent' materials could be used, for example, for heating of chairs, walls or carpets, or to provide light by embedding LEDs in floor coverings, side lining textiles and roof panelling. These so called intelligent structures could tackle many concerns of the automotive industry, says Busworld Academy, such as issues of sustainability and fuel economy; the latter being through weight reduction by replacing heavy-duty cabling with 'ducting' incorporated in textiles for heating and lighting could reduce fuel consumption.

Busworld Academy says that after several years of research, the first applications are now coming to the market. Together with all interested companies, Busworld Academy plans to explore the possibilities for the bus and coach sector.

## Trials

**BYD conducts successful trials in New York**

**USA / China** - BYD Motors Ltd of Shenzhen, China, the world's largest electric bus builder announced last month that a BYD Motors, 40ft zero-emissions, battery-electric bus had successfully concluded a two-month pilot test on different routes with the New York Metropolitan Transportation Authority (MTA) in New York City, New York, USA. Average battery consumption was equal to more than 140 miles per full charge in heavy traffic, says BYD.

BYD's subsidiary, BYD North America of Los Angeles, California, USA, is building a substantial business in the USA; since October 2013 it has been building electric buses at a new dedicated ebus plant in Lancaster, California. This plant followed an award of a USD12.1m contract in April 2013 with California's Long Beach Transit Authority to produce 10 all-electric buses. In June, the Los Angeles County Metropolitan Transportation Authority (LA Metro) announced a contract with BYD for the manufacture and delivery of up to 25 of the same battery-electric buses. The contract is part of the county's USD30m clean air bus technology pilot project.

## Investment / Training

**Allison Transmission opens new parts distribution and products training centre in the Netherlands**

**USA / Netherlands** - Allison Transmission Holdings Inc of Indianapolis, Indiana has announced the opening of a new multi-purpose facility in Sliedrecht, the Netherlands.

Developed in order to serve its customers across Europe, the Middle East and Africa better, it extends to 3,171 sq m (34,000 sq ft) and brings together centrally the company's parts distribution, product customization and customer training functions for the region. The building, says Allison, has been located in Sliedrecht close to the major hubs for truck and bus manufacturing.

As the prime source for its hands-on fully automatic transmission and education training, Allison has included a technical training facility within what Allison is calling its Parts Distribution Centre (PDC) and Customization Centre.

This has been set up to allow technicians, original equipment manufacturers (OEMs) and end users, the opportunity to increase their fully automatic transmission knowledge, to enhance their technical skills and to benefit from the experience of certified Allison Transmission instructors. Examples of Allison transmission products and support equipment are available for students to dismantle and perform maintenance associated activities.

Michael G Headly, senior vice president of Global Marketing, Sales and Service for Allison Transmission remarked: "This facility further expands Allison's capability to provide our OEMs with transmissions that are 'installation ready'. We are focused on providing the best overall value to our customers, which includes services such as those available from our new facility."