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## Editorial

### Dear Trolleybus Community,

The TROLLEY project celebrates its first anniversary this month and after an internal adaption period, the project partners are working full of verve on their local projects to optimise the energy use and efficiency of their local public transport.

Furthermore, within the framework of TROLLEY's main mission to raise awareness for trolleybuses as electricity-based transport mode for sustainable urban mobility around the world, we started our work on a European campaign to promote trolleybuses. An integral part of this European trolleybus awareness campaign is the TROLLEY Marketing Award, which will be announced in this issue. The winner will be presented during the **TROLLEY Marketing Symposium on the**

**29 and 30 June 2011**, in Lviv, Ukraine. Please mark this date in your calendar!

Moreover, TROLLEY was presented at the InnoTrans Convention in September 2010 in Berlin, Germany and at the TrolleyMotion conference "New Horizons for Urban Traffic – Innovative Electric Bus Systems for Liveable Cities" in Lucerne, Switzerland.

Our partner TEP S.p.A. hosted the 1st City-Industry-Summit of the TROLLEY project in Parma, Italy. Last but not least, the seven TROLLEY cities celebrated the 1st European Trolleybus Day last September with activities ranging from information campaigns and open days at trolleybus depots to a children's painting competition. If you would like to read more about these events, download the presentations and find im-

pressions, please visit our project website [www.trolley-project.eu](http://www.trolley-project.eu).

We have already received many encouraging signs from the trolleybus community, as meanwhile this TROLLEY journal is being sent to more than 500 recipients worldwide and the TROLLEY "Declaration for Electric Trolleybus Mobility" has been signed by the first external subscribers.

All signatories are published on our TROLLEY website and if you also wish to demonstrate your commitment towards trolleybuses, sign this declaration, too! You can download the declaration text from the website and contact us via [trolley@salzburg-ag.at](mailto:trolley@salzburg-ag.at).

**Enjoy reading!  
Yours faithfully**

Gunter Mackinger,  
Lead Partner TROLLEY

## Trolleybus systems offer tram quality at low costs

**Following TrolleyMotion's highly successful Lucerne conference of 2010 "New Horizons for Urban Traffic – Innovative Electric Bus Systems for Liveable Cities" the TROLLEY project interviewed Horst Schaffer on the actual situation of the trolleybus.**



Horst Schaffer, TrolleyMotion, International Action Group

**TROLLEY:** In the discussion concerning sustainable, future-oriented electromobility, the trolleybus is often too easily forgotten. Do you think that politics misjudge the potential of the trolleybus?

**Horst Schaffer:** *It has again been confirmed during the TrolleyMotion conference in Lucerne, the trolleybus is the be-all and end-all ecologically. When for example compared to the hybrid bus, which is currently en vogue and is accordingly promoted in an offensive way, it can be seen that the decision against the trolleybus is not a rational decision considering the topics of public transport or environmental protection, but rather an emotional decision.*

*Furthermore, lacking industry support for further developments and often an "antiquated" presentation of the trolleybus are problems, which impede marketing of the trolleybus to political decision-makers. If the trolleybus were not to present itself as drive train option, but as public transport system, which offers 90% of the system quality of a tram at 30% of its costs, further being implementable in much less time, all politicians would listen.*

**TROLLEY:** Where do you see the trolleybus in 2025 in comparison to other eBus developments?

**Horst Schaffer:** *I see a positive development for the trolleybus,*

*if it is secured by industry investment and the dependency on trolley wires in parts can be breached. The chance for the trolleybus lies in the fact that the hybrid bus, which is based on a complicated, complex technology not featuring anything the trolleybus cannot offer, respectively not being environmentally friendlier, will never be able to fulfil what has been promised.*

*The hybrid bus is reasonable for particular purposes, but should be considered as bridging technology. When trolleybus systems will eventually be able to offer smooth public transport with partial trolley wires, only the current collector would have to be added to the hybrid bus and we would be where we want to be. I call that trolleybus - next generation.*

**TROLLEY:** Where do you see the weaknesses of the trolleybus and what can be done to eliminate these weaknesses?

**Horst Schaffer:** *As mentioned before, marketing of the trolleybus is a problem. The trolleybus does have a history, almost all lectures and presentations start with historic pictures of the 1930ies or -40ies.*

*What is lacking, however, is the lifestyle feeling associated with a modern, innovative system, which is continuously being further developed on the basis of state-of-the-art research. The*

*trolleybus has to position itself as modern public transport system with own lanes, prioritised traffic lights, protected access at modern stops etc. with the proven system quality such as being environmentally friendly, silent, comfortable etc. If you market this concept embedded in the topic electromobility, f.e. through access to "charging stations" at each catenary pole, the trolleybus has a future.*

**TROLLEY:** What are your expectations concerning the TROLLEY project?

**Horst Schaffer:** *First, the TROLLEY project should raise awareness in Europe for the trolleybus in the sense of a modern public transport system with tram quality at low cost. Secondly, cities, which run trolleybuses, should not only be supported in maintaining the system, but also in expanding it in a future-oriented way.*

*And thirdly, more pressure should be put on politics and industry in order to enable research on sectional driving without need for trolley wires or to demonstrate independency from the wire respectively, f.e. by line extensions without catenary.*

*If the TROLLEY project manages to achieve or initiate these three things during its lifetime, the project can be considered as very successful!*

## Marketing Award 2011

### 1st TROLLEY Marketing Award – Call for Applications now open

For the first time ever, in 2011 a European promotion campaign to promote trolleybuses as a clean, sustainable, urban transport mode for the future will be held within the framework of CENTRAL EUROPE's transnational TROLLEY project. The project aims at promoting electric public transport as key to unlock the vast potential of trolleybuses to transform public transport systems from "fossil mobility" towards "electromobility".

The TROLLEY Marketing award is an integral part of this European trolleybus awareness campaign! It provides all applicants

with an invaluable opportunity to highlight the successes of their ambitious and innovative marketing campaigns and activities to promote trolleybuses and to receive transnational recognition and respect for their work. The deadline for submission of applications is 15 April 2011.

The award winner and the winning concept will be announced on the TROLLEY project website, within the CENTRAL EUROPE Programme and on the ELTIS (European Local Transport Information Service) website. A representative of the winner will be invited to receive the award and

to present the concept during the transnational TROLLEY marketing symposium in the Ukrainian city of Lviv on 29 and 30 June 2011. The winning concept will be promoted as best practice trolleybus marketing approach to promote trolleybus transport in the TROLLEY best practice guide and in the next edition of the TROLLEY newsletter being sent to more than 500 subscribers worldwide. TROLLEY looks forward to receiving your application!

**For more information please visit the TROLLEY website [www.trolley-project.eu](http://www.trolley-project.eu).**



## Declaration for Electric Trolleybus Mobility

If you wish to demonstrate your commitment toward trolleybuses, sign the "Declaration for Electric Trolleybus Mobility". Download a copy via the TROLLEY website [www.trolley-project.eu](http://www.trolley-project.eu) / "cooperation" and contact the project manager. All signatories will be published on the TROLLEY website as supporters of the trolleybus idea (upon consent). So far the following organisations of the trolleybus community signed the declaration:

- Salzburg AG, (AT)
- City of Brno (CZ)
- Barnimer Busgesellschaft mbH, Eberswalde (DE)
- Transporti pubblici Parma S.p.A (IT)
- Leipziger Verkehrsbetriebe (DE)
- University of Gdansk (PL)
- City of Gdynia (PL)
- Szegedi Közlekedési Kft. (HU)
- TrolleyMotion (AT)
- Kummler+Matter AG (CH)
- Vossloh Kiepe GmbH (DE)
- Carosserie HESS AG (CH)
- Solaris Bus & Coach S.A. (PL)
- Cegelec a.s (CZ)
- ELBAS Schweiz AG (CH)
- Vossloh Kiepe S.r.l., Milan (IT)
- Dopravní podnik města Brna, a.s. (CZ)
- S2A Consulting GmbH (CH)





Signing of the "Declaration for Electric Trolleybus Mobility" by TrolleyMotion members. From the left: Wolfgang Presinger, Solaris Bus & Coach S.A. (PL); Dr. Ralf Zabel, Elbas Schweiz AG (CH); Alex Naef, Carrosserie Hess AG (CH); Daniel Steiner, Kummler+Matter AG (CH); Gunter Mackinger, Lead Partner TROLLEY, Salzburg AG (AT); Zdenek Vytous, Cegelec a.s. (CZ)

## TROLLEY at "New Horizons for Urban Traffic" & Innotrans 2010

**The TROLLEY project, represented by the Lead Partner Salzburg AG and the project partners SZKT and LVB, participated in the Conference "New Horizons for Urban Traffic – Innovative Electric Bus Systems for Liveable Cities", which took place on November 30 and December 1 2010 in Lucerne, Switzerland.**

The conference was organised by the TROLLEY project partner TrolleyMotion and was attended by more than 200 international guests. Besides speeches held by the project partners, a special highlight was the signing of the "Declaration for Electric Trolleybus Mobility" by the TrolleyMotion members. By this, the trolleybus industry illustrates not only its high interest in the project TROLLEY but publicly demonstrates its strong willingness to promote trolleybus mobility as a clean and efficient way of public transport. Furthermore, the TROLLEY project partners Salzburg AG, represented by Mr Mackinger, and LVB, represented by Mr Nickel, also participated in the panel discussion on "Hybrid electric bus, electric bus, fuel cell bus – prospects for a road-related public

transport" during the InnoTrans Convention in September 2010 in Berlin, Germany. As a result of the panel discussion of industry and transport company representatives as well as scientific institutions it can be deduced that it is central to overcome existing thought patterns in order to pave the way for electric city bus systems with traditional and innovative technologies in Germany.

It was agreed that the modern trolleybus fulfils all conditions which help to reorganise public transport systems of large and medium-sized German cities in the long run and to further improve the modal split in favour of public transport. It was also made clear that the hybrid bus is only a bridging technology and that innovative solutions will have to be sought more rapidly for further developing it into a fully electric bus. For Germany for example, the commitment of the local authorities of Solingen, Esslingen am Neckar and Eberswalde to maintain and expand the existing trolleybus systems is an important basis for further developing the chosen technological pathway and to perfect it with innovative solutions.

## Possibilities for cooperation with TROLLEY

Following the successful first **European Trolleybus Day** on September 18 2010, the TROLLEY partners will continue this initiative to call attention to trolleybus transport as an important part of sustainable urban mobility in European cities. We hope that other trolleybus cities will follow our initial starting signal and join the festivities across Europe in the future. The next **European Trolleybus Day** will be celebrated on the first Saturday of the European Mobility Week, 17 September 2011.

Beyond that TROLLEY intends to establish a **European Trolleybus Knowledge Centre** within the project framework. It shall serve as main European information hub on trolleybuses providing contacts to European trolleybus experts (**pool of experts**) and most relevant links and documents (**library**) to all those, who wish to learn more about trolleybus systems.



Open Day at the trolleybus depot in Brno during the 1st European Trolleybus Day.

Furthermore, TROLLEY is currently preparing a transnational trolleybus campaign. As of summer 2011, a professional campaign to promote the trolleybus will be run throughout Europe. If you wish to be part of this **transnational trolleybus campaign** and use our design, the claim and products, and adapt these to your local trolleybus environment, contact us for further information or visit our "Cooperation" section on our project website

[www.trolley-project.eu](http://www.trolley-project.eu)

### Ground breaking ceremony in Burgas to restart with the Trolleybus

The ground breaking ceremony for the enhancement and modernisation of the trolleybus-system in Burgas, Bulgaria took place on December 16, 2010. Approx. 6 km of new overhead lines are supposed to directly link the suburb of Meden Rudnik with the inner city of Burgas. This new loop line around the city is fully financed and triggered by the public transport operator Burgasbus. Construction time is estimated to be 3 months; hence, operation on the enhanced network can start in the spring of 2011.

Burgasbus wishes for 5 to 10 new trolleybuses in the course of the network enhancement. The trolleybuses should be financed by subsidies from EU and the central/local government respectively.

(source: TrolleyMotion)

### Progress in Helsinki

After presentation of the third study concerning the electrification of current diesel bus lines in Helsinki, the proposed resolution for the politicians is expected to be at hand in the spring of 2011.

The newest plans foresee the transfer of nine diesel bus lines to trolleybus lines, while in the city centre part of the tram network should be replaced.

If the plan is realised, 75 articulated trolleybuses have to be purchased; double articulated trolleybuses are an option within the planning scenario. They will be operated from an existing depot for diesel buses, which has to be adapted accordingly.

In total the new trolleybus network will extend up to 57 km and 4.4 million vehicle kilometres will be supplied annually. Within the study, the trolleybus is indica-

ted to be much cheaper and yet a very environmentally friendly alternative for the construction and operation of tram lines. In the study, operating expenses of trams are estimated to be more than double than those for trolleybuses.

If the political decisions are taken pro trolleybus, construction works for the infrastructure will begin in 2014. In 2016, the first line will start its operation. The complete network should be established and into operation by 2025.

(source: TrolleyMotion)



Trolleybus of the Skoda 31Tr type for Hradec Králové during a test drive in Pízeň, Czech Republic (source: TrolleyMotion).

### Framework Contract for 31 new Trolleybuses signed in Hradec Králové

On November 15, 2010, a contract for the construction and delivery of 31 new trolleybuses in the years 2011 to 2013 was signed between the transport operator Dopravní podnik města Hradec Králové, a.s., Skoda Electric and SOR.

13 trolleybuses will be of the new articulated type 31 Tr and 18 will be double axle type 30Tr, of which two are equipped with a strong diesel auxiliary unit. The total cost is about CZK 330 million, which is around €13.4 million. The construction of the first prototype of the five-door SOR/Skoda 31Tr started immediately after the signing of the framework contract. On December 16 2010 - just one month later - the first test ride took place in Pízeň. (source: TrolleyMotion)

### Milan orders 15 further supercapacitor Trolleybuses

For over a year now, in Milan 30 modern hybrid-trolleybuses from the manufacturer Van Hool with electrical equipment of Vossloh Kiepe are in use. Due to the positive experience, the transport company ATM Milan (Azienda Trasporti Milanese) is now purchasing another 15 vehicles. This reinforcement confirms the city's commitment to environmentally friendly, emission-free public transport.

The combination of hybrid and trolleybus technology achieved clear energy savings. This has now been determined in a comparison test in which the energy consumption at medium of around 20 per cent of the vehicles was measured. This significantly improved energy balance is based on the following technical concept: the vehicles are equipped with high-performance capacitors, so called super caps, used as an on-board energy storage. The super caps effectively store the kinetic energy generated during braking.



Trolleybus of the AG300T type in front of the Milan football stadium (source: TrolleyMotion).

Afterwards, this stored energy can be re-released for accelerating, for heating, air conditioning or for catenary-free rides. The opportunity to drive some distance without overhead catenary using the on-board stored electric energy increases the acceptance of the vehicles in passengers and residents. (source: TrolleyMotion)



## Introduction of new Trolleybuses in TROLLEY partner cities, Salzburg, Gdynia and Eberswalde



Trolleybus presentation at the Mirabellplatz in Salzburg

### Salzburg AG, Salzburg (A)

Salzburg AG presented the first eight trolleybuses of its new fleet to the public on December 22, 2010. Until 2012, the entire new fleet of 25 state-of-the-art, barrier-free trolleybuses will be introduced. A special honour was the handing over of the city arms to the trolleybus fleet by the mayor of the City of Salzburg, Dr. Heinz Schaden, appreciating the high value of this CO<sub>2</sub>-emission-free transport mode for Salzburg. This is also reflected in the investment of additional 2.2 million EUR into the trolleybus system of Salzburg until 2015, demonstrating that the City of Salzburg patronises its electric public transport system and also supports the trolleybus significantly in the future.

#### Contact and information: [www.trolley-project.eu](http://www.trolley-project.eu)

For further information subscribe to our mailing list and receive the TROLLEY newsletter or contact the Lead Partner:

Salzburg AG for Energy, Transportation and Telecommunication – AUSTRIA  
[trolley@salzburg-ag.at](mailto:trolley@salzburg-ag.at)

#### Contact person:

Mag. Johann Kogler  
+43 662 8884 6163  
[www.salzburg-ag.at](http://www.salzburg-ag.at)

### Barnim Bus GmbH, Eberswalde (DE)

The Barnim Bus GmbH celebrated its 70th anniversary and welcomed the first two trolleybuses of its new fleet in Eberswalde on November 6, 2010. The trolleybuses of the Solaris Trollino 18 AC type are able to drive short distances without connection to the overhead wires due to an integrated diesel generator and have "supercaps" on the roof to reduce the peak consumption of electric energy. After the introduction of the entire new fleet it is planned to start research about energy saving potentials with this additional energy storage system in the TROLLEY project at the beginning of 2012.



Presentation of new trolleybuses in Eberswalde

### City of Gdynia Gdynia (HU)

In October 2010, the City of Gdynia also introduced 10 new low floor trolleybuses of the Solaris Trollino 12M type. The trolleybuses are the first delivery of 25 ordered, which will be delivered by and by until the end of 2011. The new trolleybuses are equipped with electric AC drive units supplied by Medcom (Poland) and battery packs by Saft (France-Czech Republic) which allow for service operation without connection to the overhead wires for about five kilometres. The trol-

leybuses have been purchased in the framework of the European project "Development of ecological public transport in Metropolitan Area Tri-City" and co-financed by the Regional Operational Programme for Pomeranian Voivodship.



Trolleybus parade during inauguration festivity in Gdynia

In the same project, Gdynia wants to modernize five old electric power substations and construct four new substations. Additionally, a new control centre for the substations and overhead traction will be built and the trolleybus network will be extended by approximately 12 km of overhead wires from the city centre of Gdynia to the neighbouring town of Sopot.

### Calendar

- ▶ **Trolleybuses – the solution for clean urban transport**  
TROLLEY national seminar  
Brno, Czech Republic  
**10.02.2011**  
[www.trolley-project.eu](http://www.trolley-project.eu)
- ▶ **3rd International eBus Conference**  
Eberswalde, Germany  
**5-6.05.2011**  
[www.dlr.de/vs/](http://www.dlr.de/vs/)
- ▶ **TROLLEY "Marketing Symposium"**  
Lviv, Ukraine  
**29-30.06.2011**  
[www.trolley-project.eu](http://www.trolley-project.eu)