



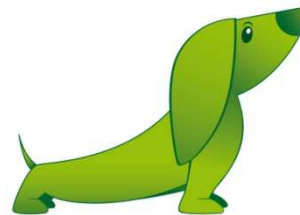
Mobility across regions and cities with Solaris Bus & Coach

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About Solaris Bus & Coach

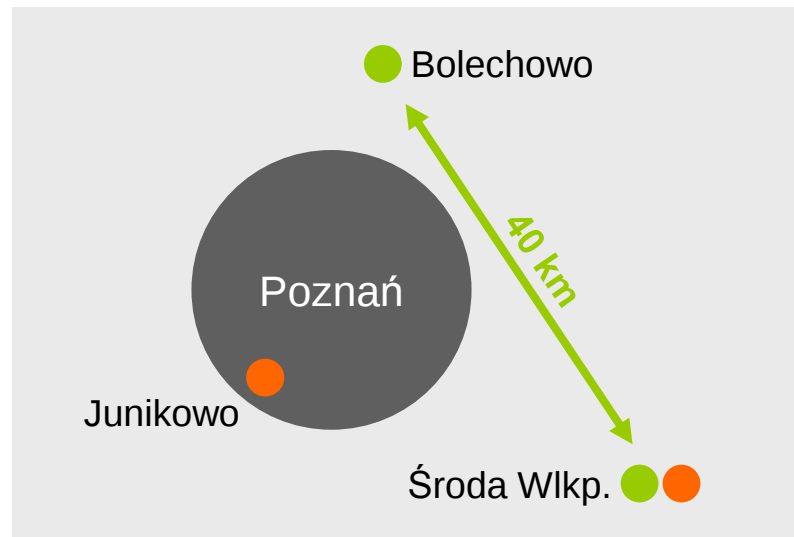
- **Founded in 1996**
- Electric mobility since 2001 (trolleybuses), 2006 (hybrid buses) and 2011 (battery buses)
- Building trams since 2009
- **2,200 employees in Poland and 200 in international sales and after sales subsidiaries**
- Headquarters and four production sites in Greater Poznań region
- **Largest independent city bus builder in continental Europe**
- **Production capacity 40 buses/week and 1 tram/week**



Company Background



Facilities



- Bolechowo (headquarters, bus assembly)
- Środa Wielkopolska (bus bodyframes)
- Środa Wielkopolska (tram bodyframes)
- Poznań Junikowo (tram assembly)



Company Background



Social Responsibility

- **Nursery “Under the Green Dachshund”**
 - For 30 children of employees
 - Free to parents in the first two years
 - Co-funded by EU regional development programme
- **Patronage Classes**
 - Solaris cooperates with local vocational schools by offering patronage classes
 - Theoretical education in school is combined with hands-on experience in Solaris’s factories
 - All students are guaranteed a job interview with Solaris when graduating



Company Background

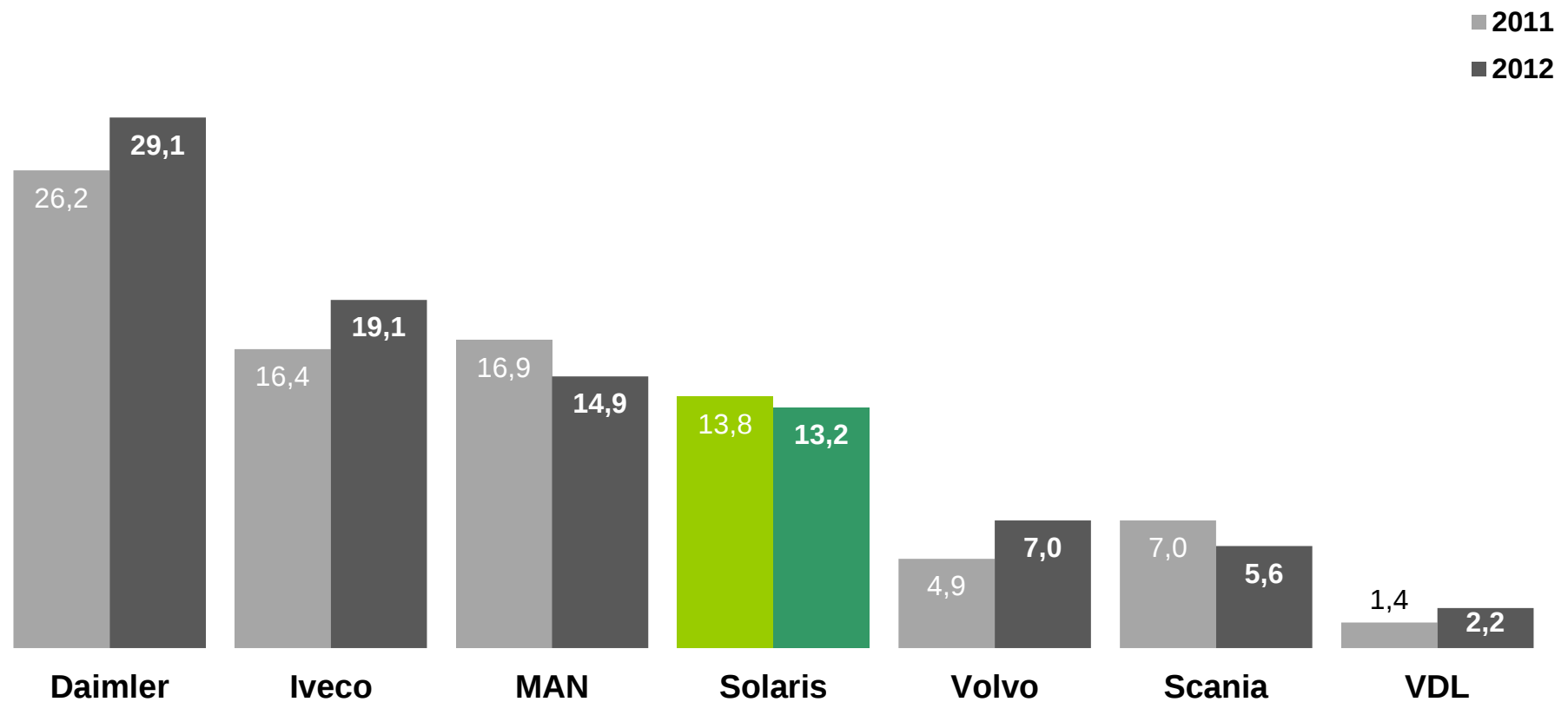


Solaris buses have been sold to 27 countries

Austria	Malta
Belgium	Norway
Bulgaria	Poland
Czech Republic	Portugal
Denmark	Romania
Estonia	Russia
Finland	Serbia
France	Slovakia
Germany	Spain
Greece	Sweden
Hungary	Switzerland
Italy	Turkey
Latvia	United Arab
Lithuania	Emirates



Company Background



Market share in key markets

Poland, Germany, Austria, Switzerland, France, Italy, Sweden, Denmark, Czech Republic
City buses (> 8 t GVW)



Company Background



Solaris Development Path

Road

Combustion
engine / Hybrid



Diesel
1999



CNG
2004



Parallel Hybrid
2006



Series Hybrid
2010

Road

electric



Trolley
2001



Electric Bus
2011

Rail

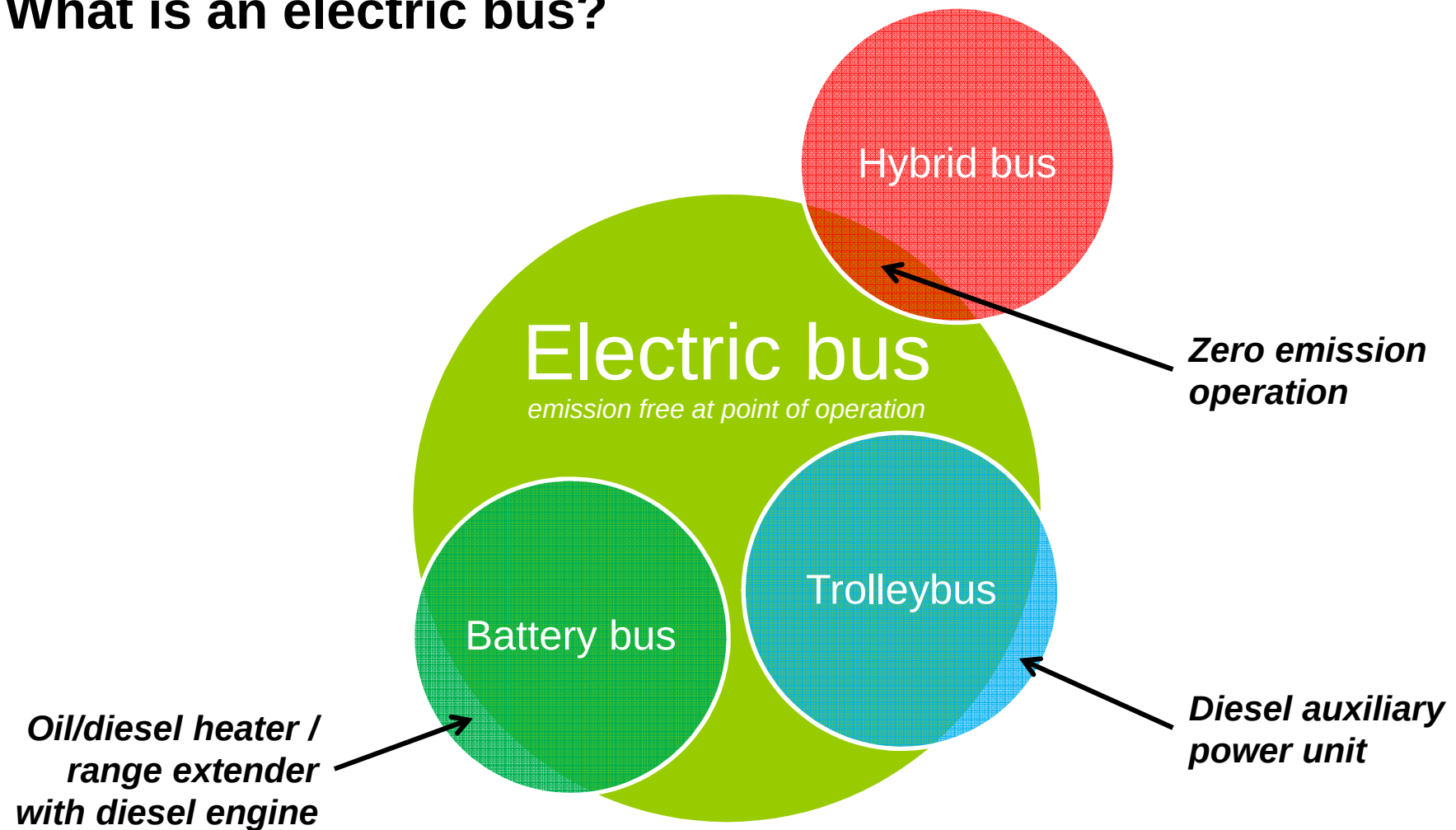
electric



Tramino
2009



What is an electric bus?



Trendsetter for hybrid buses in Europe

- First European city bus with volume-production hybrid technology (2006)
- Offer of different diesel-electric hybrid technologies gives operators the **choice of suitable hybrid drive systems**
- Fuel consumption reduced by up to 29%, emissions by up to 78%



Market leader in trolleybuses

- Solaris Trollino trolleybuses have provided electric mobility since 2001
- Available in **three lengths** (12, 15 & 18 metres)
- EU & EFTA **market leader** with 40% market share



Hybrid trolleybus with batteries and supercaps

- Demonstrator in Eberswalde (Germany) **funded by EU in TROLLEY project**
 - Battery system (72 kWh) designed to cover 4 km on round trip of 18 km and to fit existing space on bus – other sizes are possible
- First results from operation alongside other trolleybuses (with supercaps and diesel auxiliary power unit) are available
 - Tested in winter (temperatures -1 to -3°C) with normal heating for passengers
 - Over whole day, **40 km of 240 km (17%) without overhead power supply**
 - **Energy cost per km 32% lower with hybrid trolleybus**



Emission-free flexibility with battery buses

- **Flexible drive system** can be adapted to operators' requirements
- **Fully electric mobility** thanks to CO₂ air-conditioning unit and heat pump
- Recognised with **EBUS Award** under patronage of German Federal Minister of Transport Dr Peter Ramsauer
- Tried and tested in more than **30 cities across Europe**



EU funding

- Solaris has benefitted from **financial support from the European Union for a variety of projects** in R&D and in overall development, including:
 - Development of electric bus prototype
 - Development of lightweight city bus
 - Participation in 3iBS project: developing integrated bus system of the future (led by UITP)
 - Participation in ZeEUS project: demonstration of electric buses in real operating conditions (led by UITP)
 - Funding for nursery for children of company's employees



What could be done to help?

- Public transport is **sustainable, environmentally-friendly** mode of transport for European cities and regions
- Public transport helps to **achieve climate protection targets**
- There is a need for **sustained and increased investment** in public transport to generate modal shift
 - Solaris supports UITP's **PTx2 campaign to double the market share of public transport** by 2025





Thank you for your attention!

