

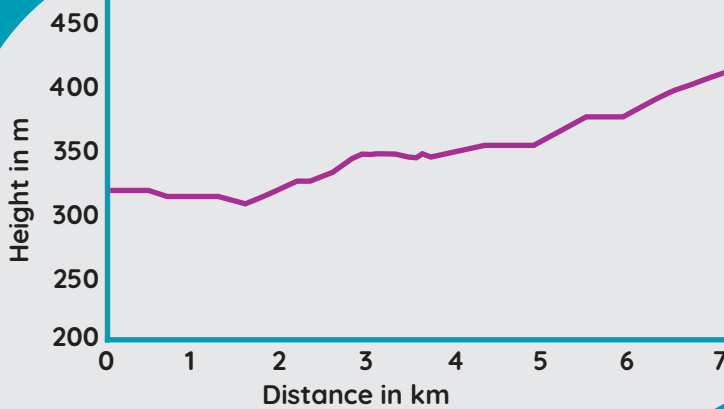
PILSEN (CZ)

DESCRIPTION

The project was designed to test full-electric buses in combination with rapid-charging infrastructure in real-time operations. The objective was to assess the potential for replacing diesel buses. This is considered a landmark in Pilsen's and Skoda's history of cooperation with PMDP (Plzeňské městské dopravní podniky/Pilsen City Transport Company) as a bus, tram and trolleybus operator, Plzenska Teplarenska as an energy provider and West Bohemian University as an academic and research partner.



Battery Bus SKODA PERUN



Elevation map of the line route

OPERATIONAL CONDITIONS

Line number: 27, 33

Typology: City centre, suburban area

Topography: Hilly

Length: 6km

Average commercial speed: 25km/h

Total daily hours of operation: 7.5-18.5h

Total km driven/vehicle/day: 80 - 200km

Av. no. of passengers/day: 1258

SORT type: SORT1, SORT2

DEMO IN BRIEF

Vehicle technology:

2 x Full Electric

Brand and model:

ŠKODA PERUN E-BUS

Bus length: 12m

Capacity: 82 passengers

Charging technology:

Fast charging at the terminal and slow charging at the depot

Duration:

May 2015 - April 2017

KEY TOPIC

The goal of the project was to test pure-electric vehicle operations on the most frequently-used bus line to compare the environmental and financial performance of electric buses in public transport. The ŠKODA vehicles were pure-electric, 12m-length full low-floor city buses with an advanced battery system allows rapid charging at one terminal station. The rapid-charging solution selected was the most effective given the combination of the length of the bus line, the time needed for charging and the required vehicle parameters such as passenger capacity.

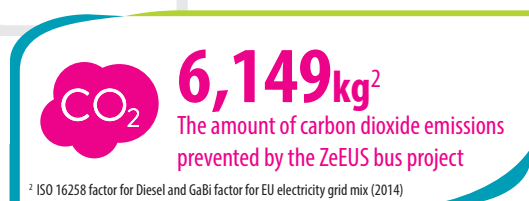
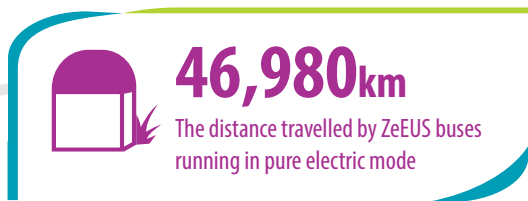
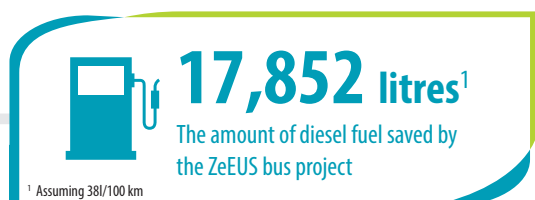
DEMO TIMELINE

- April 2017 - end of e-bus demo operation
- May 2015 - e-buses enter service
- Sept 2014 - start of e-bus testing
- March 2014 - installation of the charging infrastructure
- March 2014 - detailed e-bus and charging station-technical specifications



The ŠKODA PERUN battery buses operated in Pilsen

FIGURES FOR THE PILSEN DEMO FROM MAY 2015 TO APRIL 2017



RESULTS AND LESSONS LEARNED

- The technical approaches for batteries and battery cooling need to be redesigned
- The installation of charging station is complicated from an administrative perspective
- Comparison between IMC and fast-charging buses; Pilsen prefers more IMC buses
- Useful feedback for improving the charging solution, which needs to be improved
- Positive feedback on the vehicle from passengers
- Blueprint for expanding the complete smart city project in Pilsen
- Reinforced the value of zero-emission buses both in and outside the EU
- Extended e-mobility opportunities for the city and for suppliers

“The future is silent and pollution-free. Thanks to e-mobility, we are ready to offer cities a complete solution.”

Pavel Kuch, International Sales Director, SKODA ELECTRIC

FUTURE PLANS

The goal of the project partners is to continue extending the e-mobility projects.

Pilsen city would like to extend the global strategy for smart city solutions.

The Pilsen transport company would like to increase the number of electric vehicles, mainly IMC trolleybuses.

Identify further areas for cooperation with the energy provider and municipalities to support zero-emission vehicles.

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Pilzeňské městské
dopravní podniky **PMDP**

**PLZEŇSKÁ
TEPLÁRENSKÁ**
Více než energie

ŠKODA

**ZÁPADOČESKÁ
UNIVERZITA
V PLZNI**



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