Vehicle to Grid –

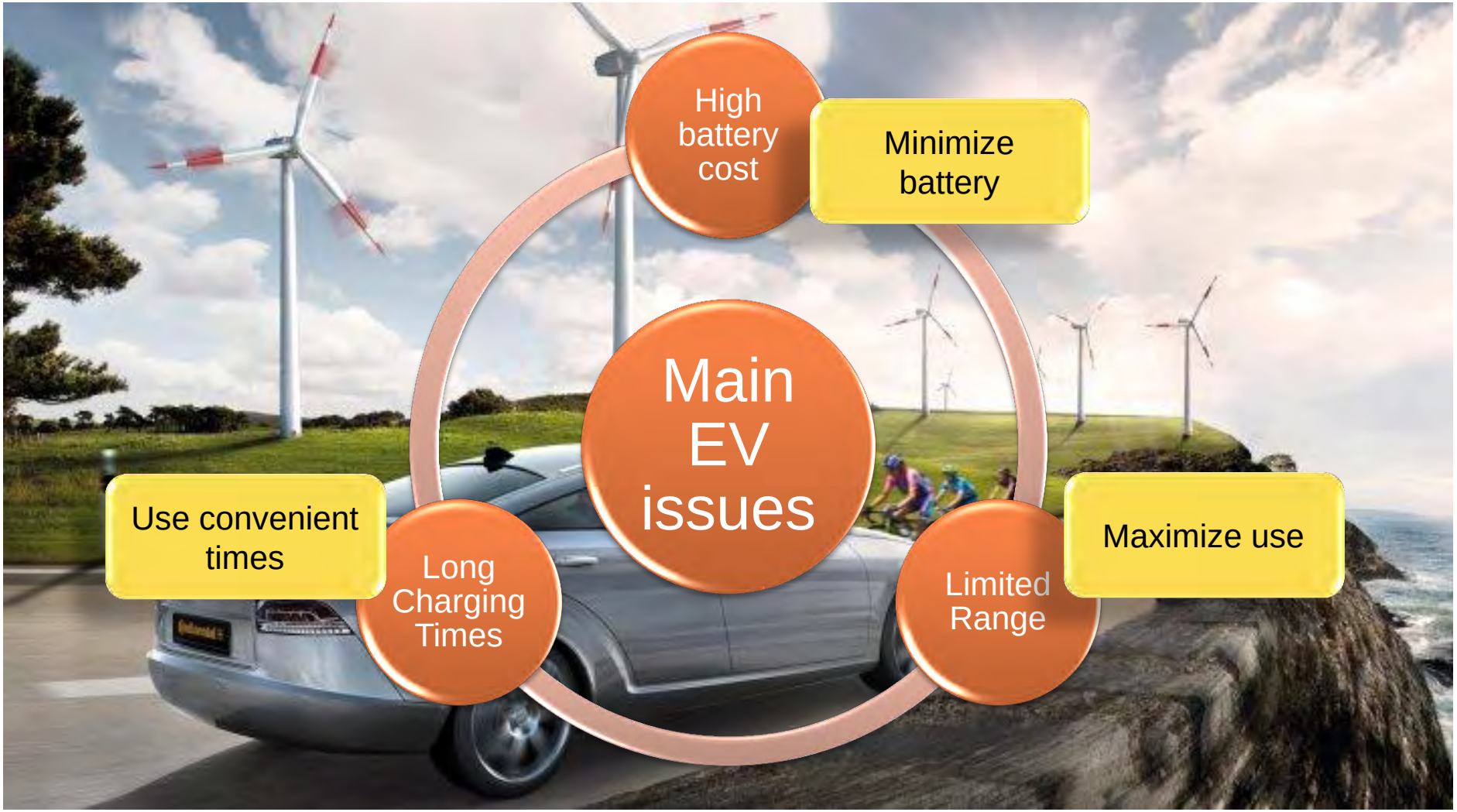
Kommunikation mit dem Fahrzeug

im Projekt VLOTTE

Smart Grids Week Bregenz 2012

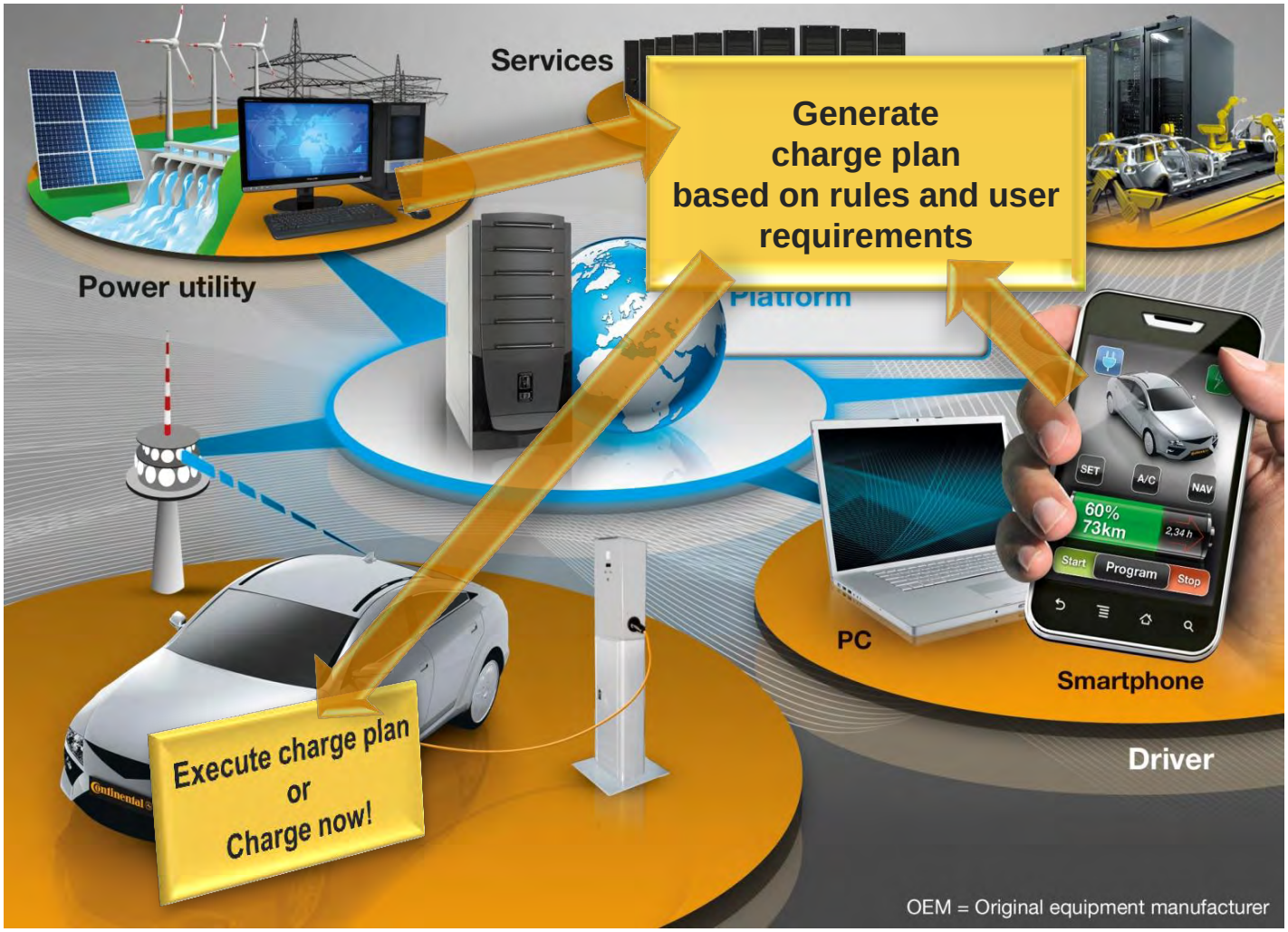
24. Mai 2012

Electric Mobility
Main issues

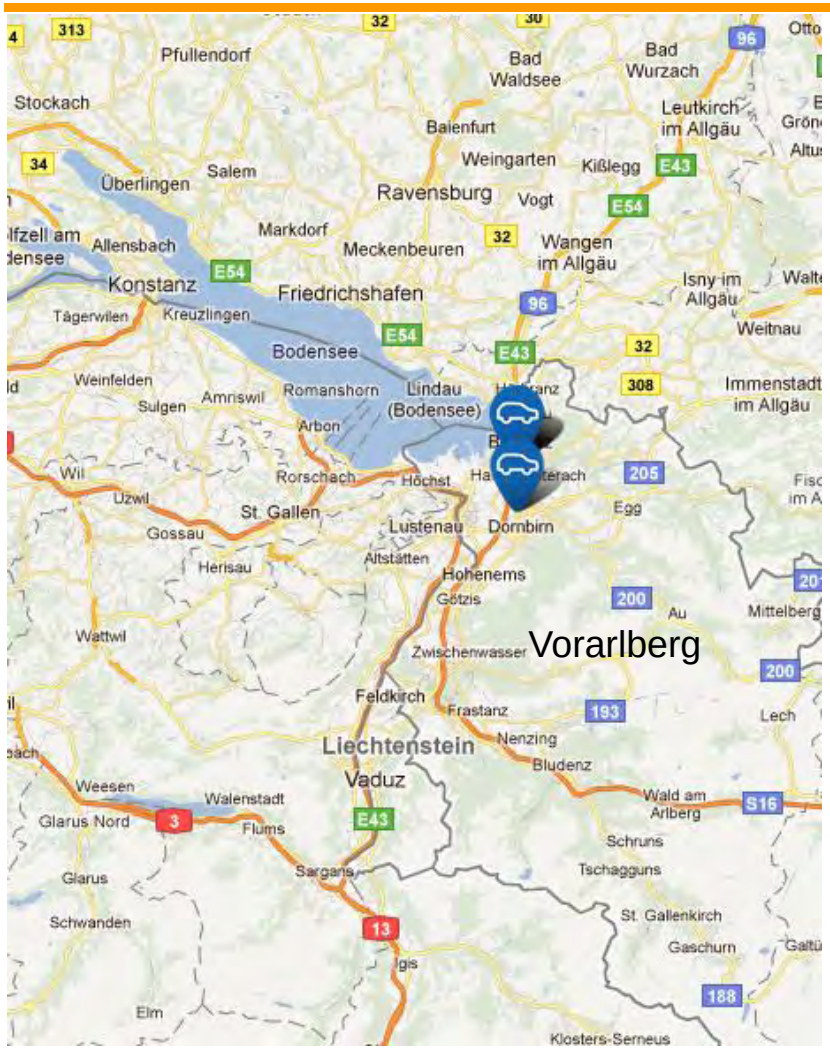


AutoLinQ for EV
Connecting the Electric Mobility ecosystem

AutoLinQ for EV
Smart Charging “over the air”



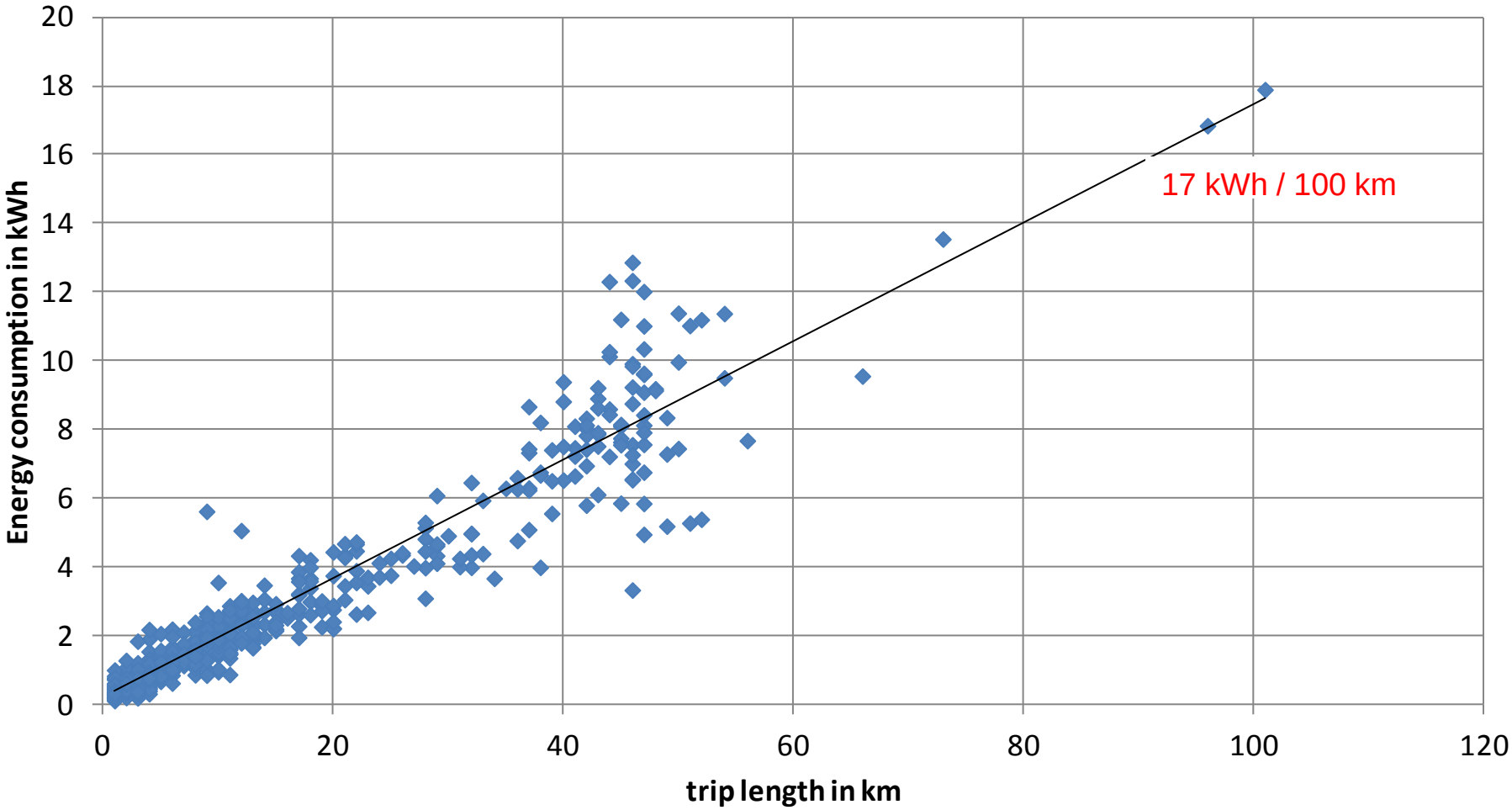
AutoLinQ for EV
Pilot Project VLOTTE, Vorarlberg, Austria



- VLOTTE consists of more than 350 EV (as of January 2012)
- All cars are powered by renewable energy from additional built facilities.
- Since mid of 2011 twenty electric cars are equipped with the system.
- The solution is in operation since August 2011.
- Data from the EV and control of the EV via smartphone or PC.
- API for the connection to a smart grid management system existing and tested.
- All data (current and historical) available via data export.
- Already interesting insight gained. Statistical evaluation can commence.

Project VLOTTE

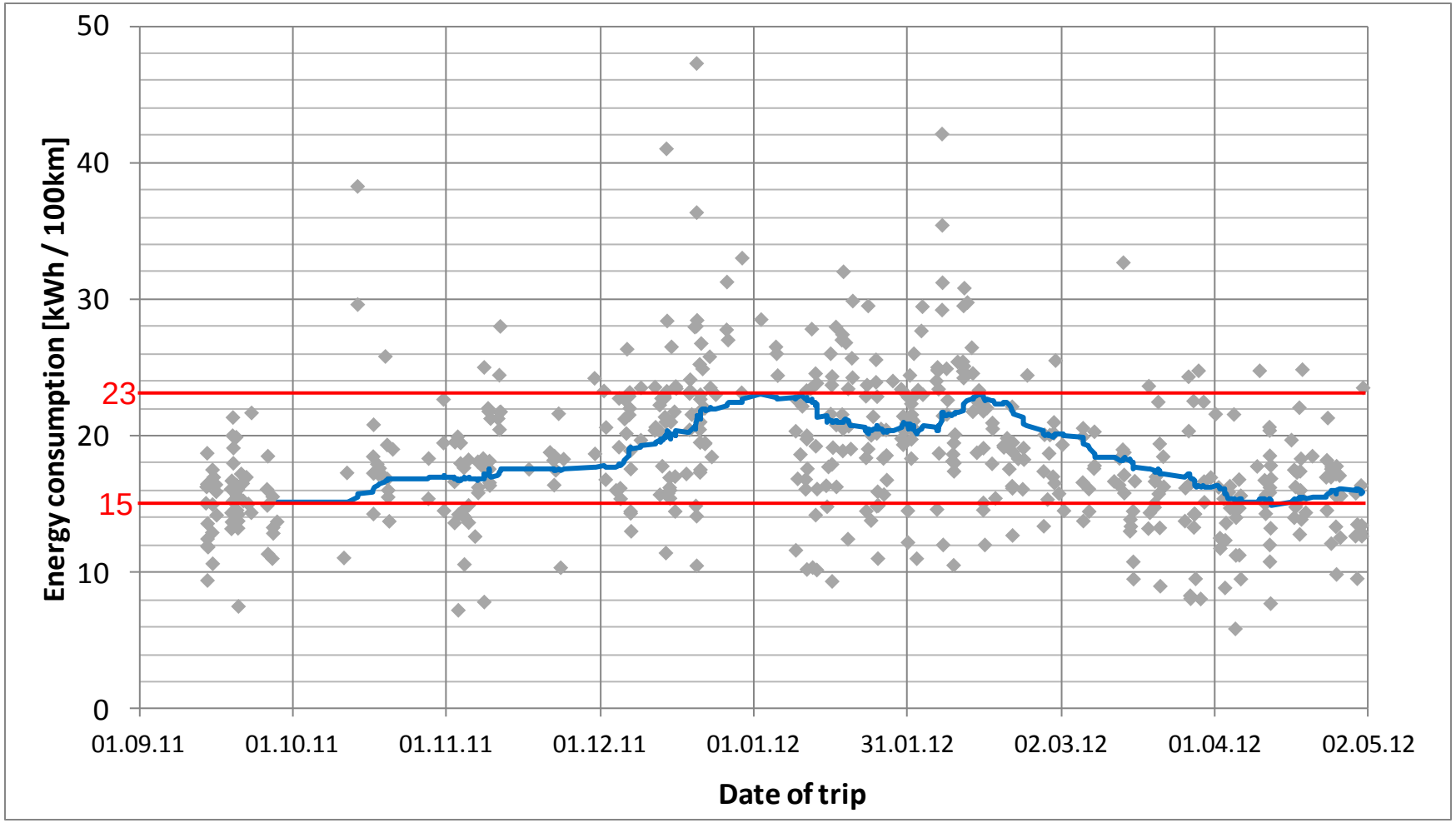
Average Energy consumption per trip is app. 17 kWh / 100 km



7 EV 9/2011-3/2012

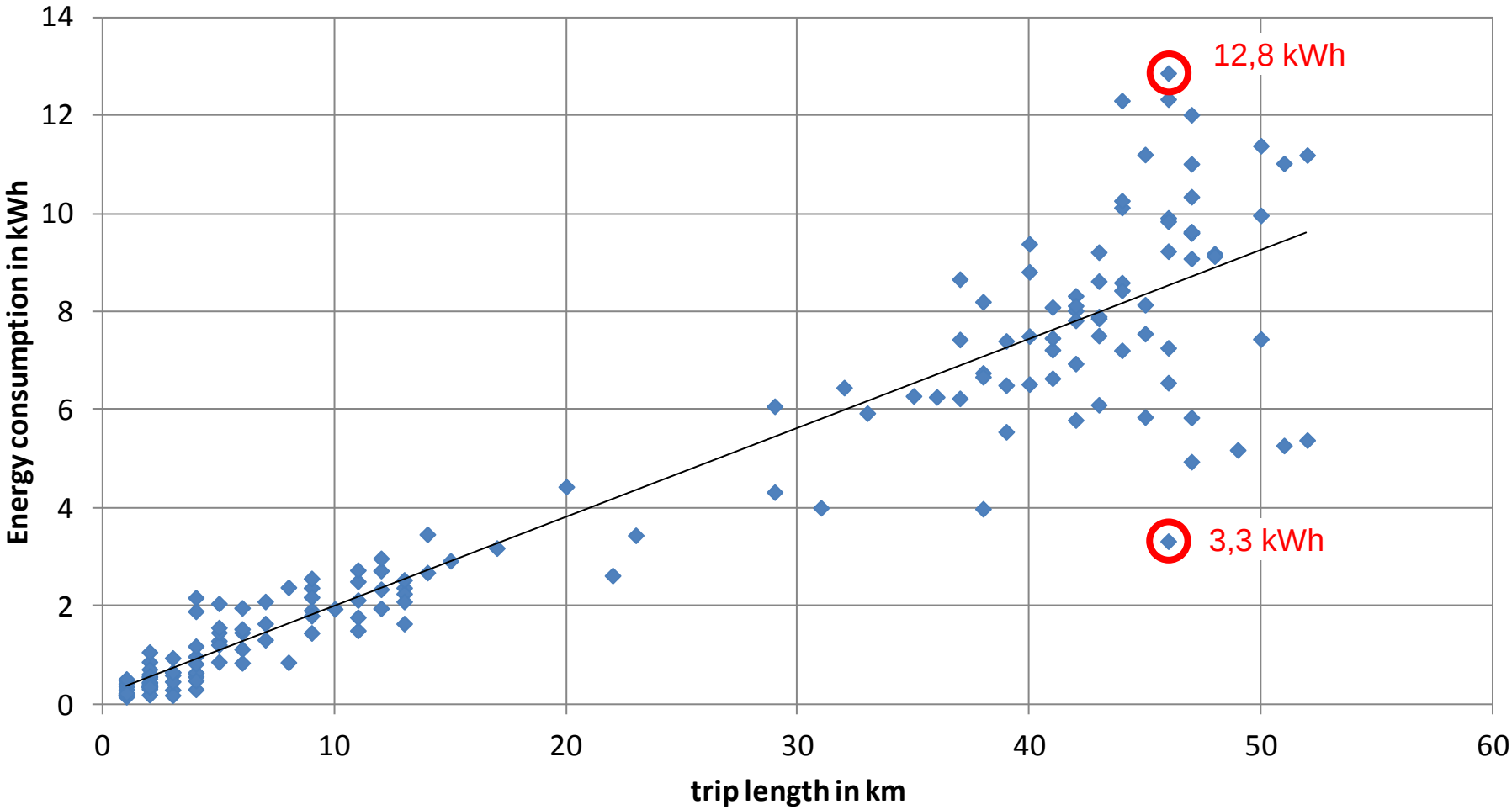
Project VLOTTE

Energy consumption increases in winter period



Project VLOTTE

Energy consumption per trip varies dramatically (1 EV)



1 EV 9/2011-3/2012 (485)

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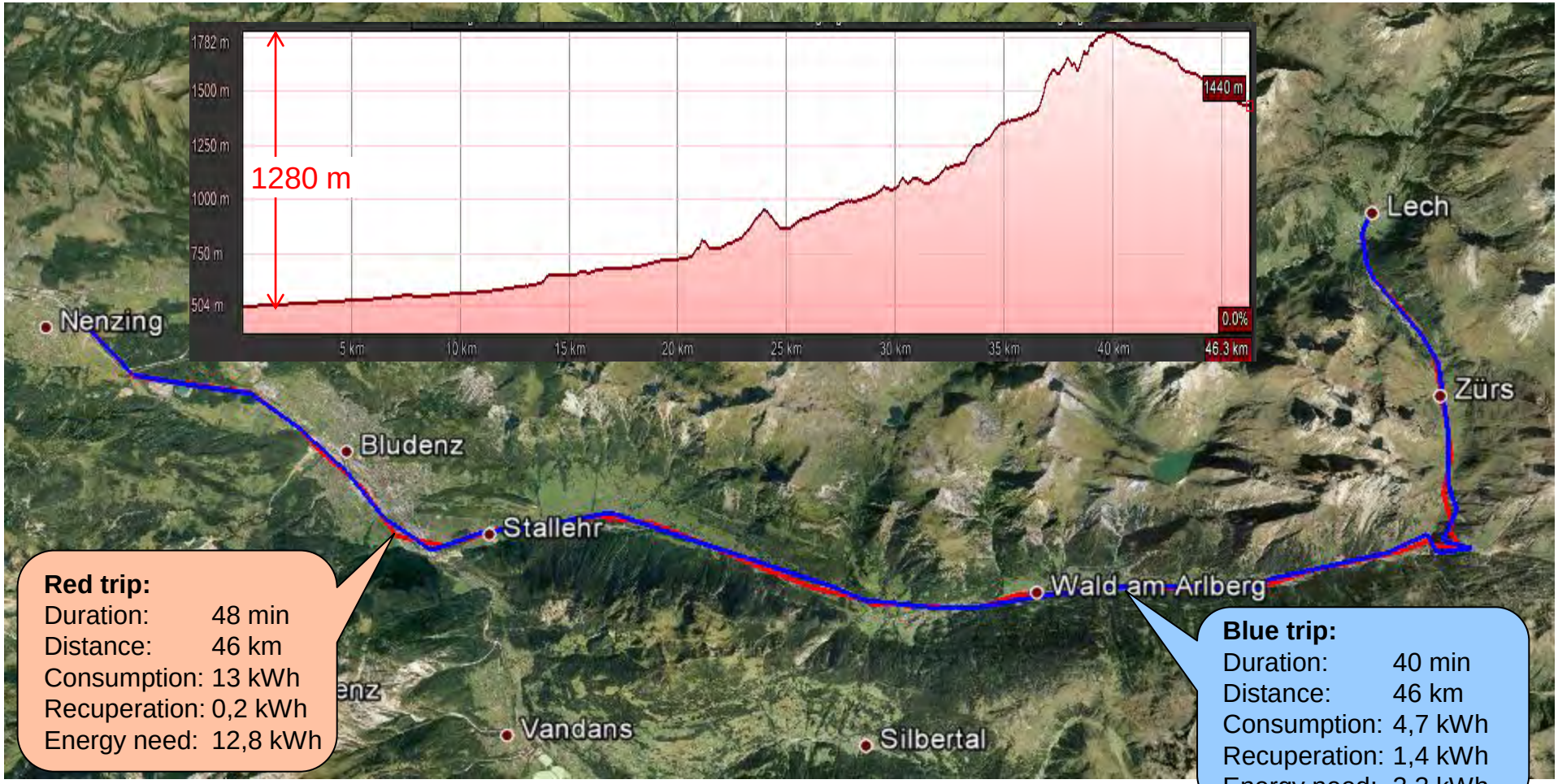
2 Trips – same EV, same route – but …



Red trip:

Duration:	48 min
Distance:	46 km
Consumption:	13 kWh
Recuperation:	0,2 kWh
Energy need:	12,8 kWh

Blue trip:

Duration:	40 min
Distance:	46 km
Consumption:	4,7 kWh
Recuperation:	1,4 kWh
Energy need:	3,3 kWh

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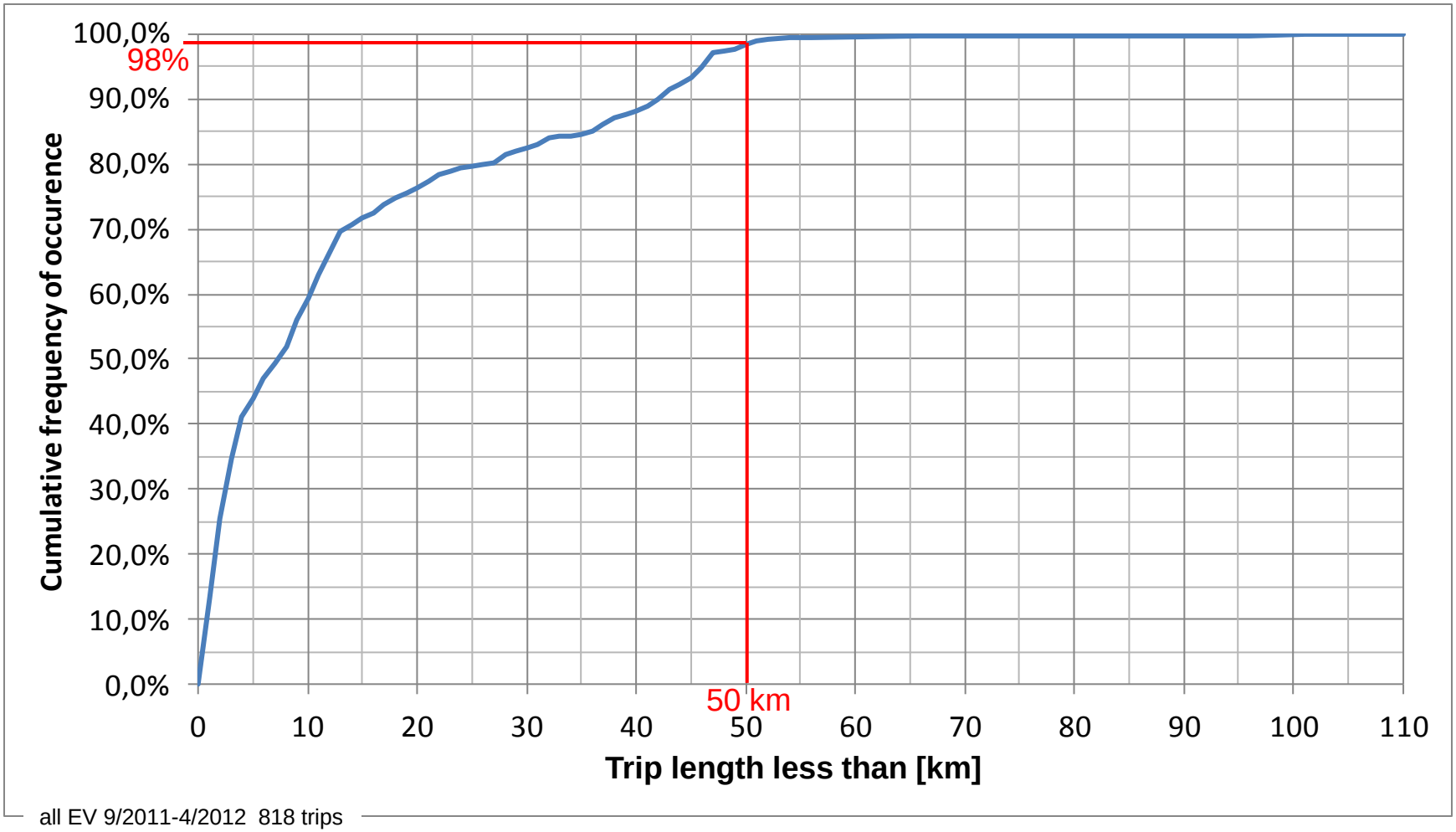
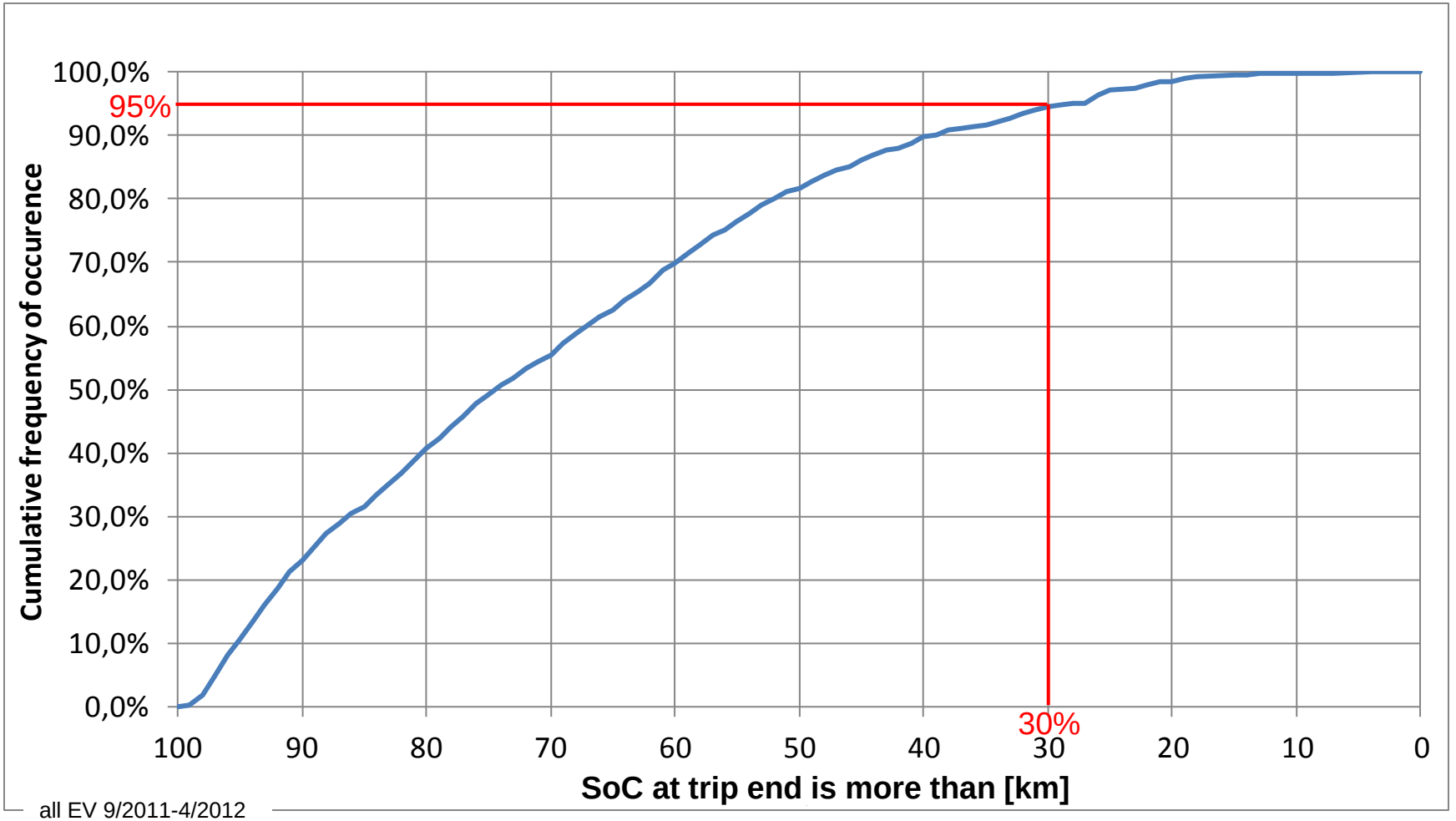
Range anxiety: 98% of all trips are less than 50 km



all EV 9/2011-4/2012 818 trips

Project VLOTTE

Range Anxiety: 95% of trips end with more than 30% State of Charge



all EV 9/2011-4/2012

Thank you for your attention!

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