

**INTERREG Alpine Space**

**“e-mobility SMART grid for passengers and last mile freight  
transports in the Alpine Space – e-SMART”**

**Best Practice**

**October 2021**

## Best Practice

1. General Information		
<b>Title of the practice</b>	<i>OmniE – ICT Tool for System and Fleet Analysis for Electric Buses</i>	
<b>Please select the project acronym</b>	<i>OmniE</i>	
<b>Specific objective</b>	<i>In future, the manufacturer-independent analysis tool OmniE will provide information and show bus fleet operators throughout Europe substitution scenarios between fossil-fuelled and electrically powered buses.</i>	
<b>Main institutions involved</b>	<i>Kempton University; monalysis GmbH, EnergieNetz Mitte GmbH; Fraunhofer-Institute for Energy Economics and Energy System Technology; Göttinger Verkehrsbetriebe GmbH; Regional management GmbH</i>	
<b>Location of the practice</b>	Country	<i>Germany</i>
	Region/City	<i>Göttingen/ Germany</i>

2. Detailed Description	
<b>Detailed information on the practice</b>	<p><i>The aim of the project is to develop a manufacturer-independent ICT-based analysis tool that provides public transport operators with information on:</i></p> <ul style="list-style-type: none"> <li><i>how many conventional diesel buses can be replaced by e-buses,</i></li> <li><i>what the cost structure would be,</i></li> <li><i>how big the CO<sup>2</sup> savings would be,</i></li> <li><i>which charging concepts are possible,</i></li> <li><i>what the technical configuration of the charging infrastructure would be,</i></li> <li><i>where it has to be installed</i></li> <li><i>and how it can be supplied with renewable energies.</i></li> </ul> <p><i>On this basis, the project develops various scenarios that can be used to determine the economically and ecologically optimal substitution scenario - according to the respective requirements of the individual public transport companies. In this way, the project wants to support the companies in making the right decisions for them. For example, how many e-buses is it worthwhile to purchase? Or what is the optimal vehicle and charging infrastructure configuration?</i></p>

<b>Timescale (start/end date)</b>	2020 – 2022
<b>Evidence of success (results achieved)</b>	<p><i>Supporting public transport operators in decision-making. Public transport operators receive meaningful data on cost structures, CO2 savings and individual charging concepts, including information on the possible configuration, location and energy supply of the charging infrastructure. On this basis, they can more easily decide to what extent a conversion can be made for their operation.</i></p> <p><i>On the one hand, the risk of bad investments can be reduced and on the other hand, the acceptance of this new technology can be increased. This gives public transport operators significantly more security when converting their bus fleets.</i></p>
<b>Difficulties encountered/ lessons learned</b>	<i>On going process</i>
<b>Potential for learning or transfer</b>	<ul style="list-style-type: none"> <li>• <i>what the cost structure would be,</i></li> <li>• <i>how big the CO<sup>2</sup> savings would be,</i></li> <li>• <i>which charging concepts are possible,</i></li> <li>• <i>what the technical configuration of the charging infrastructure would be,</i></li> <li>• <i>and how it can be supplied with renewable energies.</i></li> </ul>
<b>Further information</b>	<a href="https://forschung.hs-kempten.de/forschungsprojekt/54-omnie?forschungsschwerpunkt_id=155">https://forschung.hs-kempten.de/forschungsprojekt/54-omnie?forschungsschwerpunkt_id=155</a>
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<b>Expert opinion</b>	<i>OmniE's approach is completely in line with the e-SMART topics in the field of public transport. And it can provide crucial insights in the area of fleet conversion from fossil fuel buses to electric buses.</i>