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### ELENA Completed Project Factsheet SMART CITY MOBILITY CONCEPT (SCMC)

<b>Location of planned investments</b>	City of Amsterdam, the Netherlands
<b>Final Beneficiary</b>	GVB Exploitatie B.V. (GVB), Amsterdam
<b>Final Beneficiary's address</b>	Arlandaweg 106, 1043 HP, Amsterdam The Netherlands
<b>CoM signatory</b>	The owner of GVB, the City of Amsterdam, signed the CoM in 2009
<b>Sector</b>	Urban Mobility
<b>Total PDS costs</b>	EUR 3,927,592.81
<b>ELENA contribution</b>	EUR 3,505,205.00
<b>Project development services financed by ELENA</b>	The Project Development Services (PDS) undertook feasibility studies, prepared procurement documents and procedures including technical specifications and design documents, finalise business cases, ensured project coordination and management.
<b>Description of ELENA operation</b>	For the four Work Packages (see below), the following PDS are financed by ELENA: <ul style="list-style-type: none"> <li>• WP1: Feasibility study for a braking energy recovery system.</li> <li>• WP2: IT system design and specifications for architecture, algorithms, and decision support systems, as well as desktop research in Smart City IT systems.</li> <li>• WP3: Technical project management, feasibility studies, legal advice, and procurement expertise.</li> <li>• WP4: Feasibility studies and technical analysis.</li> </ul>
<b>Timeframe</b>	September 2017– August 2022
<b>Investment programme description</b>	Four specific working packages (WPs) were planned in the investment program: <p>WP1: Implementation of a regenerative braking energy system for the metro.  WP2: Implementation of IT backbone for smart mobility concept  WP3: Implementation of electric buses including charging infrastructure  WP4: Implementation of plug-in hybrid electric ferries</p> <p>As a result, project investments have resulted in a total EUR 146.68 million (the initial project investment cost was estimated at EUR 165.8 million) with the following components and relevant project investment costs:</p> <ul style="list-style-type: none"> <li>• 169 transport mobile assets: <ul style="list-style-type: none"> <li>○ 159 electric buses (EUR 77.94 million)</li> <li>○ 10 plug-in/hybrid ferries (EUR 45.83 million)</li> </ul> </li> <li>• Charging infrastructure and other works:</li> </ul>

	<ul style="list-style-type: none"> <li>○ 94 charging stations for electric buses (EUR 7.24 million)</li> <li>○ 2 charging infrastructure for ferries (EUR 2.85 million)</li> <li>• IT Infrastructure (EUR 12.82 million)</li> </ul> <p>No investment has been materialized in the project component regenerative braking energy system for the metro within the course of the ELENA term.</p>
<b>Investment in implementation phase</b>	EUR 146,677,538.27
<b>Results expected to be achieved</b>	<p>The estimated impacts of these investments are as follows:</p> <ul style="list-style-type: none"> <li>• Energy Saving: 16 GWh/y</li> <li>• GHG Reduction: 10 934 t CO<sub>2</sub>eq/year</li> <li>• NO<sub>x</sub> Reduction: 45 t/year</li> <li>• Estimated Job Creation: 417 FTE</li> </ul>
<b>Leverage factor achieved</b>	42
<b>Lessons learnt</b>	<p>ELENA has enabled the Final Beneficiary to hire experts in the field of electric mobility, especially in transformation of diesel buses to electric buses. Valuable knowledge regarding electric buses and procurement has been developed internally and retained for the future. ELENA has also helped the Final Beneficiary in submitting a CEF blending application to the EC.</p> <p>In addition, the FB states that governmental decision processes have been accelerated thanks to the ELENA studies and CEF grant. The projects within GVB often depend on many stakeholders, complex collaborations, and multiple interests. This often makes it difficult to make strides. The ELENA grant and underlying activities have contributed to ensure coordination among project stakeholders, manage complex collaborations and ease any organizational difficulties to be faced in project definitions and implementations.</p> <p>Through intensive cooperation with other parties around the ELENA project, other opportunities are also coming into focus. For example, the knowledge and experiences of electric buses are now being shared with GVB ferries, which are also making the transition to emission-free transport.</p>
<b>Further information sources</b>	N/A
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