

Brochure “EMEurope R&I projects’ results”



1. Project acronym	<i>E-Tract</i>
2. Project full title	<i>E-Tract</i>
3. Project logo (if changes were made after 03/2018) <i>(300dpi, format: .tif, .eps, .jpg)</i>	
4. Project Data <ul style="list-style-type: none"> ▪ <i>total funding and total costs in euros</i> ▪ <i>duration</i> ▪ <i>partners + country</i> ▪ <i>website</i> 	<ul style="list-style-type: none"> • <i>Total costs: 1.767.497</i> • <i>Total funding: 957.702</i> • <i>Duration: 1st of April 2019 – 28th of February 2021</i> • <i>Mecaprom (Italy) – Imecar (Turkey) – Bosmal (Poland)</i> •

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<p>5. Graphic or Photo</p>	
<p>6. Headline (quote) – (one sentence) <i>(The main outcome of your project. The headline or quote may relate to an important result of your project.)</i></p>	<p><i>To validate a fully mechanically integrated electric traction system, as scalable solution for electrifying light duty vehicles (1.5-4.2 t), with a focus on minibuses (<20 seats)</i></p>
<p>7. Project short description <i>(The main topic and solution proposed of your project is ...)</i></p>	<p><i>E-tract is a research innovation project funded under the Programme Electric Mobility Europe 2016 and coordinated by Mecaprom (SME, ITA), with the participation of 2 more partners: Imecar (Engineering Company Turkey), Bosmal (Automotive Research & Development Institute Poland)</i></p> <p><i>The overall objective of the project is integrate the components into a demonstrator minibus, and tested on rolls and real driving cycles, including urban and suburban</i></p>

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	<p><i>paths made available by the end users in the project. A full techno-economic assessment and business plan will assess industrial feasibility, market potential and investment rentability.</i></p>
<p>8. Project main results and recommendations - <i>(Provide a brief description of the project results (e.g. tangible outcomes) and the main (policy) recommendations, relating to your research questions.)</i></p>	<p><i>The experimental activities undertaken in the project were multiple and related to various aspects. On the one hand, they were focused on compliance with EU standards in order to assure the fastest implementation and market potential adoption; on the other hand on the feasibility and effectiveness of the hardware solution for setting up cheap but valued kit for fast retrofitting.</i></p> <p><i>Simulation of integration (vehicle electrification, engine substitution, control devices) resulting in some key findings. Bench validation test will be done by Mecaprom in order to confirm the environmental results already achieved through the LCA.</i></p> <p><i>From the economical side, a breakthrough framework of costs related to kit construction and installation is reported. Expected costs reduction related to industrialization were analysed and the current results estimate that a possible reduction up to 30-50% is possible compared to initial project solution.</i></p> <p><i>The bill of material was listed and detailed, even if it should continually updated for periodical introduction of alternative components (more effective and less expensive) improving the overall performances.</i></p> <p><i>Preliminary considerations regarding the potential scale-down of costs and opportunity related target of beneficiaries and value chain of ETRACT was outlined. Business model was estimated and initial strategy was drafted based on initial Porter and Pestel analysis.</i></p> <p><i>Different perspectives were considered analysing the business opportunities for both the retrofit kit producers, installers and suppliers.</i></p> <p>Main recommendations: <i>E-tract solution has the potentialities to become a widespread application to accelerate the adoption of e-mobility in European cities. Given that most of the buses identified as adaptable to the proposed kit are for public use (95%) together with electric-vehicles incentives, public economic</i></p>

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	<p><i>incentives to electric retrofit of minibus vehicles for logistic transport, could be also a crucial move for the widespread of E-tract solution.</i></p> <p><i>Intervention of most EU governments on local policies and EU commitment to sustainability (i.e. government investments and plans on the recharging infrastructure) could represent a further improving factor for stimulate the market.</i></p>
<p>9. Project impacts</p>	<p>The project was able to address some of the 5 key areas of EMEurope Call 2016:</p> <p>Key Area 4-Public Transport, (main area): <i>project evaluated integration of innovative retrofit kit for minibuses; following the firsts evaluation the integration could generate profits for all involved stakeholders. The buses with E-tract solution allows cost reduction for users (public or private) in terms of purchase costs and maintenance (less 70% in ten years). In terms of air pollution, the solution allow a strong reduction of Co2 GWP100 kg emission with positive impact on entire society.</i></p> <p>Key Area 2 - Integration of urban freight and city logistics in the e-mobility: <i>The minibuses in Europe are 41.000 units in 2018, 10.000 officially registered are eligible for an electric retrofit. The potential market value about 100mlns of euro. Of this units 95% are for public transport and 5% for private transport. This number coupled with environmental benefits should accelerate a fast market adoption for urban freight and shows that the solution improves the e-mobility for city logistic area.</i></p>
<p>10. Looking into the future <i>(What are the plans for the project consortium? Next steps.).</i></p>	<p><i>In the time which electric mobility in the city logistics segment (lite duty vehicles) is taking its first steps, working on a future solution that allows the electrification of traditional vehicles still in circulation represents a business model of great interest for the market and leads to a competitive advantage in the future activities of the partners.</i></p>