

<b>Pre-project Acronym</b>	<b>FriendlyVehicles</b>
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<b>Pre-project Administrative Overview</b>	
<b>Call Identifier</b>	FP7-SST -2007-RTD-1
<b>Topic</b>	SST.2007.1.1.2, Vehicle technology
<b>Type of Action</b>	Collaborative Project (CP)
<b>Pre-project Full Name</b>	Development of a new aerodynamic design for more safe and environmental friendly high speed vehicles.

<b>Pre-project abstract</b>	
<p>An important way for greening the surface transport is developing technologies to reduce the aerodynamic drag of any vehicle that finally means lower emissions. This project proposal aims to develop a new aerodynamic design for surface (underground) vehicles according to a recent Romanian/European patent so that reduce the drag and external noise more and more while increasing the speed, also to reduce the vibrations. The new design will be applied to coach work only. In a previous Romanian short project were performed wind tunnel tests for an underground train model and the measured results encourage the research way to achieve the proposed objectives. The project implementation requires a multidisciplinary effort that mainly refers to the followings: theoretical aerodynamic studies regarding the generating airfoils and the coach work geometrical shape, studies about noise and vibrations, structure, design and manufacture a coach work experimental model, tests in the wind tunnel simulating the body, respectively tunnel effects, synthesis studies regarding the new technology, design, manufacture and test a small high speed motorlorry as prototype, final reports, management, IPR protection, dissemination of the new technology.</p>	

*Strategic objectives.*

- A significant contribution to the greening of surface and underground transport, especially at high speeds;
- Encourage the orientation for new step changes in the future surface transport;
- Stimulate the optimism and culture for a possible more clean and quiet surface transport.

*Technical objectives.*

- The scientific/technical documentation will provide the basic information that is necessary to design and manufacture future more green surface and underground vehicles;
- An ambitious target is to prove that the aerodynamic drag will be reduced at least 5% for the surface vehicles and 10% for the underground trains;
- Reduce the wake, respectively piston effects;
- Lower external noise and vibrations;
- Improve the transport safety at high speeds;
- Software for simulation models.

*Economical objectives.*

- Low transport costs due to the lower fuel consumption;
- Lower weight and manufacture costs.

Project duration (months)	36	Total eligible cost	2 M Eur	EC contribution requested	1.2 M Eur
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