

## Editorial

During recent decades the improvements in asphalt materials have led to the optimal design of high quality materials able to support the traffic loads and climatic conditions to which they are exposed throughout their service life. However similar levels of improvement have not been attained across all transportation infrastructures. Because of the extensive experience in the use of bituminous materials in roads, research efforts can be more intensely focused on railways, airports, and ports, and it is widely assumed that, based on the knowledge acquired by studying road asphalt materials, specific and advanced solutions for other transportation infrastructures will take place in the future.

Society has also become increasingly concerned with the preservation of the environment, which means that civil engineers must be able to design and build sustainable infrastructures without compromising high performance. The development of high quality materials that also meet sustainability criteria can only be achieved by (amongst others) reducing the consumption of natural aggregates, limiting the emissions generated during the manufacturing and spreading of asphalt mixtures, reusing the waste generated when rehabilitating a deteriorated road (RAP/reclaimed asphalt pavement), or designing advanced materials that can extend the service life of the pavement.

This has been addressed in the papers that composed this Issue; they deal with sustainable asphalt technologies to be used in roads, railways, and airfield. The use of RAP and technologies focused on reducing the manufacturing temperature (or a

combination of both) figure centrally in the majority of these manuscripts. Also of interest is research concerned with reusing wastes such as rubber from end of life tyres that can contribute towards extending the service life of asphalt mixtures.

7 of the 10 manuscripts describe results that form part of the findings obtained through work conducted under the European Project entitled “Sustainable Pavements & Railways Initial Training Network”; a training-through-research program that is empowering Europe by forming a new generation of multi-disciplinary professionals capable of conceiving, planning, and executing sustainable road and railway infrastructures.

The project started at the beginning of October 2013. It is a 4 million € effort entirely funded by the European Commission through its Marie Curie Actions 2012 of the FP7 program 2006–2013, involving 29 partners between universities, research centers and companies/industries from five EU countries (UK, Italy, France, Ireland, and Spain).

In the future, research and development related to asphalt materials will need to integrate not only innovative, durable, and sustainable asphalt materials for transportation infrastructures, they will also need to facilitate automation.

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