



*“Gheorghe Asachi” Technical University of Iasi, Romania*



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## **HIGH-PURITY PRODUCTS FROM PLASTIC WASTE: THE W2PLASTICS PROJECT**

**Peter Rem\*, Venga Solaria, Francesco Di Maio**

*Delft University of Technology, Faculty of Civil Engineering and Geosciences, Section Materials and Environment/Recycling  
Technology, Stevinweg 1, 2628 CN, The Netherlands*

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### **Abstract**

The European annual consumption of plastic materials has increased from 24.6 Mtons in 1993 to 39.7 M tons in 2003 and it is likely to keep growing. Europe is faced with the challenge of managing millions of tons of waste plastics. At the same time, polymer recyclers and manufacturing industries do not find enough secondary polymers of consistent quality. Plastics production and use has a range of environmental impacts because of the considerable quantity of resources needed as raw materials and process energy. W2Plastics aims to develop a number of novel concepts, in particular Magnetic Density Separation (MDS) and Ultrasound process and quality control, into a new technology to recover high-purity polyolefin's from complex wastes at low cost. The unique promise of this new concept derives from its ability to accurately separate many different materials in a single process step, resulting in an environmentally friendly and cheap process.

*Key words:* density, magnetic, polymer, recycling, separation

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\* Author to whom all correspondence should be addressed: e-mail: P.C.Rem@TUDelft.nl