

Sustainability and business for residual materials: the ERMAT project approach

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The “Efficient use of Residual Materials” (ERMAT) project (2016-2018) is a network of infrastructure (NoI) project within EIT Raw Materials (RM) with the **scope** to create business of residual materials by using industrial symbiosis achieving the reduction of the energy consumption by minimal processing of residual materials and a positive impact for industrial strength on a cost-efficient, secure, sustainable supply and use of RM. This is in line with EU directive on reduction of landfill of waste and in line with EU raw material strategy and plan. What used to be regarded as ‘waste’ can be turned into a resource in order to look beyond waste and to close the loop. The ERMAT **community** has a broad representation with different expertise located in different European regions and different organisation types including industrial sector, higher education, research centres.

Aim is stimulate the use of side streams and other types of residual materials, mainly in the **metallurgical sector**, by offering a **platform** with:

- hubs of demonstrators for process of residual utilization;
- a register of by-product suppliers;
- a register of needs;
- expertise in residual materials, modelling and infrastructure.

Multi-level approach: Level1→public with basic information; Level2 → permission needed to get more comprehensive information (potential fee).

Target: industrial players (potential side-streams and utilization of residue products), SMEs (residue processing and utilization) and circular economy start-ups (analyses in table below).

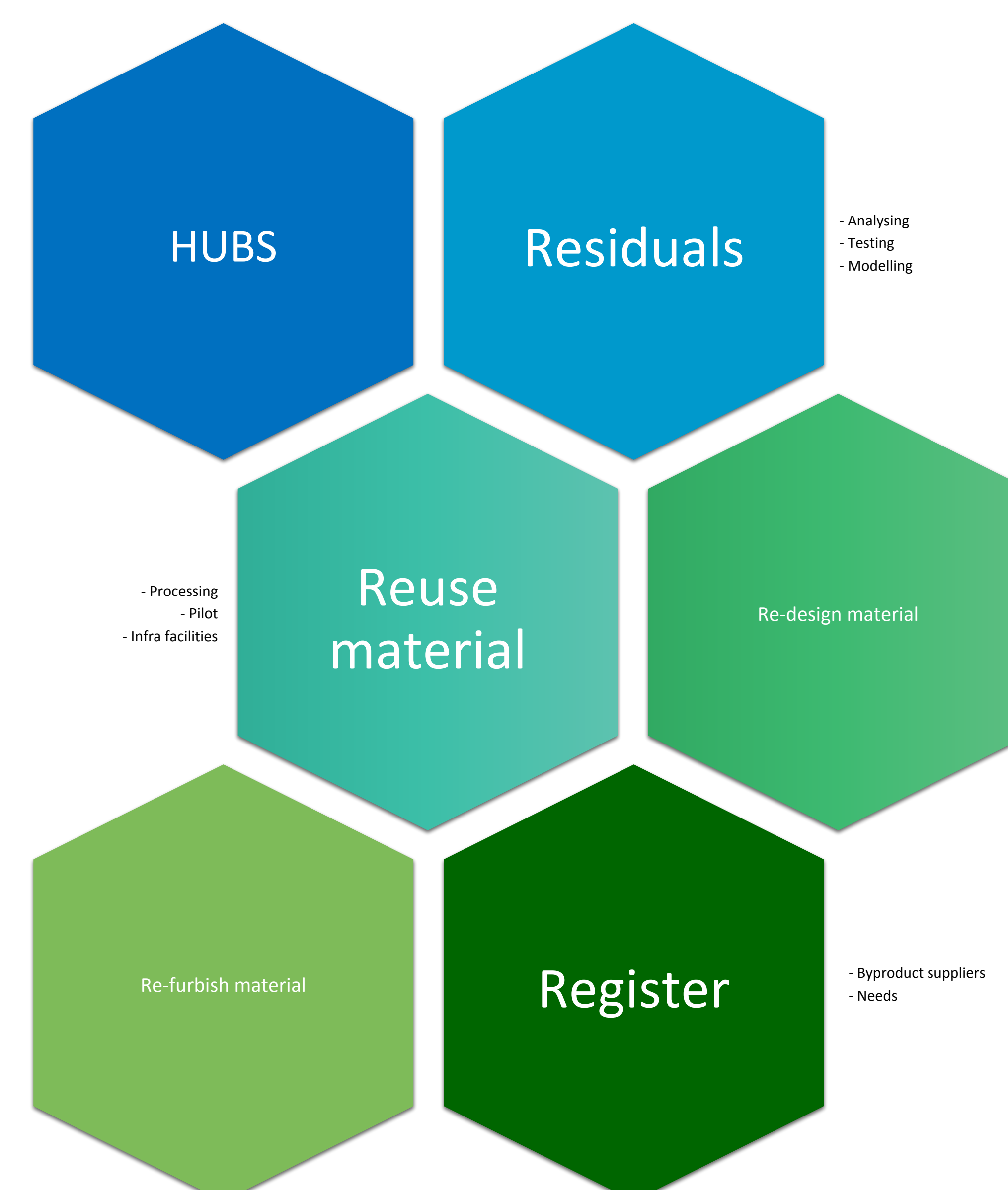
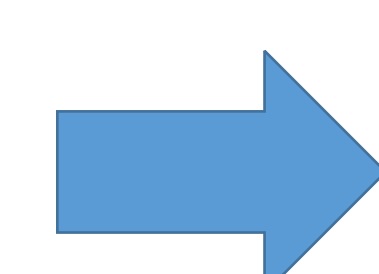


Table 1: data collection spreadsheet as prototype of the final web tool of ERMAT.

Mapping of residuals											External use - Level1
Group of residuals	Material	Volumes (ton/y)	Analyzis	Additional properties	Company + Adress	Possible applications	Regulatory status	Contact Ermat	Link	Comments	
Industrial need (for companies requesting material for use)											External use - Level2
Application	Material of interest	volumes (ton)	Requesting company		Requirements	Contact	Link	Comments			
Mapping of known technology for processing residuals											External use - Level2
Technology	Company	Facilities	TRL/capacity	Input to technology	Output from technology	Location	Reference	Contact	Link	Comments	
Mapping of possible companies to join the network											Internal use
Industry/company		Interest		Member of EIT		Contact ERMAT	Contact	Link	Comments		
Web tool - Platform for web based register											Internal use
Platform	Pros	Cons	Interest ERMAT			Contact ERMAT	Contact	Link	Comments		

A prototype of the web tool has been made in a Excel spreadsheet (Table 1).

The tool will be tested at first within the ERMAT consortium and then within the EIT RM community.

Finally, it will be launched on a larger scale by making it open access on the web.

ERMAT is developing a tool for the residues valorization/exchange by using an easily accessed web platform with the ambition to cover all the European regions, in cooperation and complementarity with other EU initiatives. End-users of the various business sectors are for instance companies producing and using different concrete applications, road constructions, plastic fillers, industrial refractories, consumer products,..., achieving circular products. The number of users, through the KIC itself, will be growing gradually.



The expected contribution of this project is to increase European industrial competitiveness and environmental and social sustainability with new products based on secondary RM.

Moreover, the human capital related issues such as new jobs based on new application opportunities is possible.

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