

## Good Practice and Success Story

Topic of success story<sup>1</sup>: Topics to be used in Future Projects and Start-Ups

Theme of success story<sup>2</sup>: Awareness towards WEEE Recycling

Country: Germany

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Key words: WEEE – awareness – technical – marketing - results

### Next steps in WEEE – Closing the loop

The Idea Camp and aRAWness workshop have held a joint workshop in Eurogress, Aachen on the 8th of September, 2016. The workshop was managed and run by the RWTH Aachen University, in partnership with KU Leuven, University of Liege, TU Clausthal, Bay Zoltan and the Geological Survey of Slovenia. The main goal of the workshop was to develop methods to raise the awareness of the future generation towards raw materials in general and the recycling of WEEE specifically.

The technical part of the workshop was very rich with various topics from the economy of processes, pre-concentration, pre-separation, certifications, etc. However, the highlight was specifically concerning two topics, dictating rules for specification for technical equipment possible to make recycling easier, and the development of a finger print and then separation before shredding. For the separation and sorting process a fast online analysis by for example sensor sorting is needed. Also a way for separation of printed circuit boards has to be invented. State of the art for this step is manual dismantling. After separation the generated waste streams have to be organized and assigned to the recycling routes. Because of that, a continuous exchange of information between pre-treatment and metallurgy is necessary. Metallurgical routes should be closed to existing established primary routes. Maybe also a subvention for the recycling of critical elements for small companies can lead to new innovative solutions. Another idea was to develop and support a more recycling friendly product design. This would be a real chance to increase the efficiency of pre-treatment and metallurgy. All recycling technologies has to be designed with regards to the primary industry. The basic outcome was the research cannot proceed since the available information is relatively poor and so the idea is to establish data sets to be used within EIT only. An information flow between countries is needed to improve new inventions and support efficient research. For these reasons a workshop is planned in Aachen in

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<sup>1</sup> E.g. investment attracted by a start-up, market expanded outside Europe

<sup>2</sup> E.g. cyber security, bio fuels

spring of the coming year. Also, a diagram has been derived to stress on the main points of technical part (figure 1).

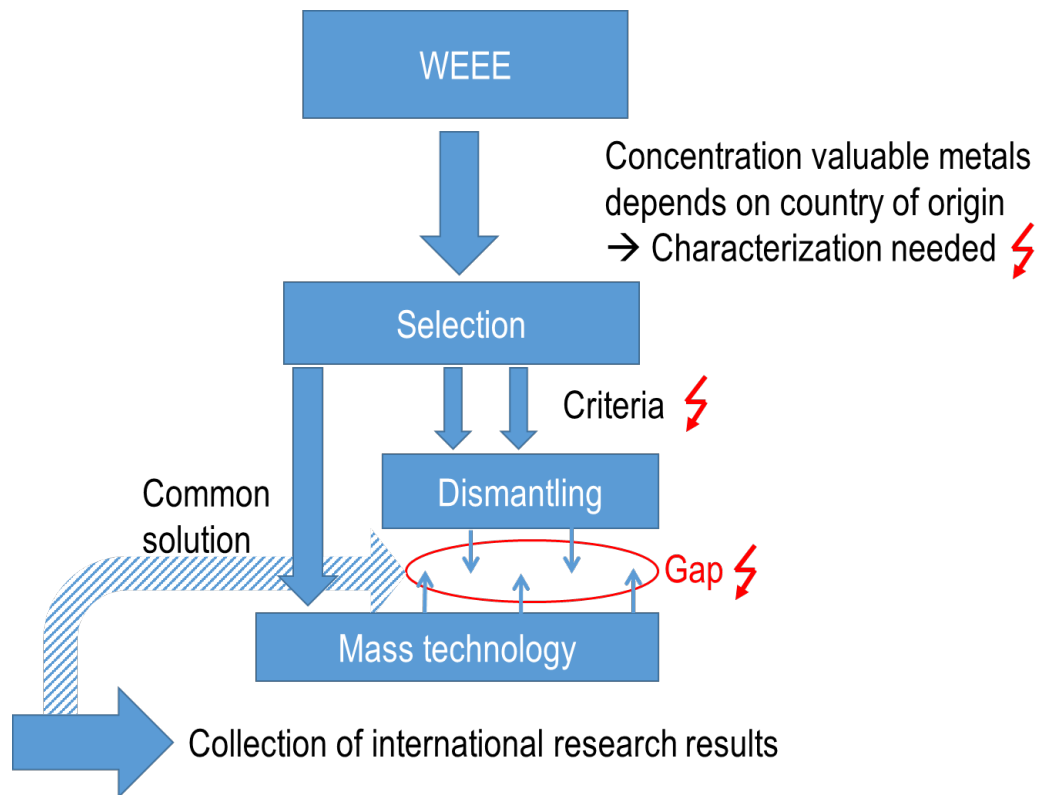


Figure 1: Where the main focus of research should be

The workshop concerning the awareness and marketing focused on three main ideas: general methods or campaigns for awareness, ways to gamify the recycling of WEEE and what are scenarios from parallel worlds that might be envisioned to raise the attention of the future generations towards certain raw materials.

The participants had to post and present ideas belonging to the three different categories. After everyone had shared their part, the most interesting topics with the most votes were chosen and discussed further. Based on this results, a concept development for further funding projects is desirable.

As a conclusion, the three generated approaches are the following:

Money for WEEE: Giving money back when returning used or broken WEEE products:

This concept is already being researched thoroughly from various sources, therefore some important questions and comments were posted in order to guide the research more, for example: Will the governments be paying for the acquired products or will it be private companies? The governments should agree on a unified European regulation that protects all parties and prevents cross-country inconvenient activities. Not only the quality of the product should be taken into consideration, but also the functionality. In addition, the popularity of the device should be taken into consideration (iPhone 5 and iPhone 7, price vs. novelty).

Recycling Go: A motivating game for the players to be encouraged to recycle:

From the concept of Pokémon Go, Recycling Go aims that each player has to build his own house using either different raw materials, recycled materials or parts of scrap. The player will be gathering from different sources such as finding scrap material and dividing it, raw materials depending on geographical locations, raw or scrap material depending on stores or areas that commonly deal with it, etc.

Alternative Scenario: The Raw Materials Documentary:

A documentary or a virtual scenario should be produced showing what would happen in the world if a certain raw material (any example) disappears. The film/scenario would show the repercussions that are directly and indirectly involved, immediately and non-immediately taking place.

All of the outcomes of the workshop are key points that will be discussed exclusively and in more details in the final aRAWness workshop in Brussels in the beginning of December. During that workshop, several drafts for follow-up projects will be initiated and then shortly submitted as KAVA proposals for the year 2018. Moreover, the summary and results of the workshop are published on the social media and local platforms and website of the EIT Raw Materials as well as the partner institutes and universities.