

# Sustainable Innovation 2016

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'Circular Economy' Innovation & Design

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[www.cfsd.org.uk](http://www.cfsd.org.uk)



## Materials Passports.

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### The Challenge

Manufacturers and their customers are looking for reliable and convenient data on product designs, pathways, and composition in order to determine Circular Economy (CE) potential, including; optimal productivity, recycling vs. downcycling, and optimising residual value of materials. Due to the CE, demand is growing for ways to value positive economic, social and ecological impacts instead of only negative ones. Existing mechanisms only partially meet those needs because they focus more on reducing environmental impacts than increasing positive value creation.

### The Solution

Materials Passports (MPs) are a tool to put the CE into practice. MPs, as well as a platform to disseminate them, are being developed in the EU Horizon 2020 BAMB project, based on the concept described as follows in the publication 'Resource Re-Pletion.' (Hansen, Braungart, Mulhall, 2012), using the term Nutrient Certificates: "Nutrient Certificates are sets of data describing defined characteristics of materials in products that give them value for recovery and reuse. The certificates are a marketplace mechanism to encourage product designs, material recovery systems, and chain of possession partnerships that improve the quality, value, and security of supply for materials so they can be reused in continuous loops or closed loops or beneficially returned to biological systems. This is done by adding a new value dimension to materials quality. This new dimension is based on the suitability of materials for recovery and reuse as resources in other products and processes."

The article for the Sustainable Innovation 2016 conference will describe MPs, their goals, and how they are applied to support a circular economy. It will reflect on how MPs encourage resource productivity innovation in material and product design and use. Their focus on value creation through cascading, re-use, refurbishment, recycling, repair, harvesting of parts etc., and how those enable novel business and ownership models. The aim of BAMB to provide a 'one stop shop' for the information in an electronic platform accessible to users across the product cycle will be described.

### Conclusion

Materials Passports aim to support the CE and fill a marketplace gap with reliable information for diverse users on the composition, pathways and circular designs of products.