

Sustainable manufacturing - German perspectives on shaping global value creation

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Abstract

With the continuous depletion of natural resources along with the incremental increase in world population, the need for effective and economic use of renewable resources becomes significant. Innovative solutions for sustainable manufacturing should be initiated to cope with the challenges of economic competitiveness, environmental and social stability. Collaborative Research Centre "Sustainable Manufacturing – Shaping Global Value Creation" (CRC 1026) intends to demonstrate how sustainable manufacturing is embedded in global value creation. Products, processes, equipment, organization and humans together as configurable factors constitute creating modules. Modules to be shaped by innovative technology are valued according to economic, environmental and social criteria of sustainability. Vertical and horizontal integration driven by cooperation and competition leads to value creating modules connected in dynamic networking. Manufacturing and logistics in their fundamental roles for wealth generation considerably shape these networks. First results of CRC 1026 are presented.