Circular Economy powered by Smart Industry (CESI)

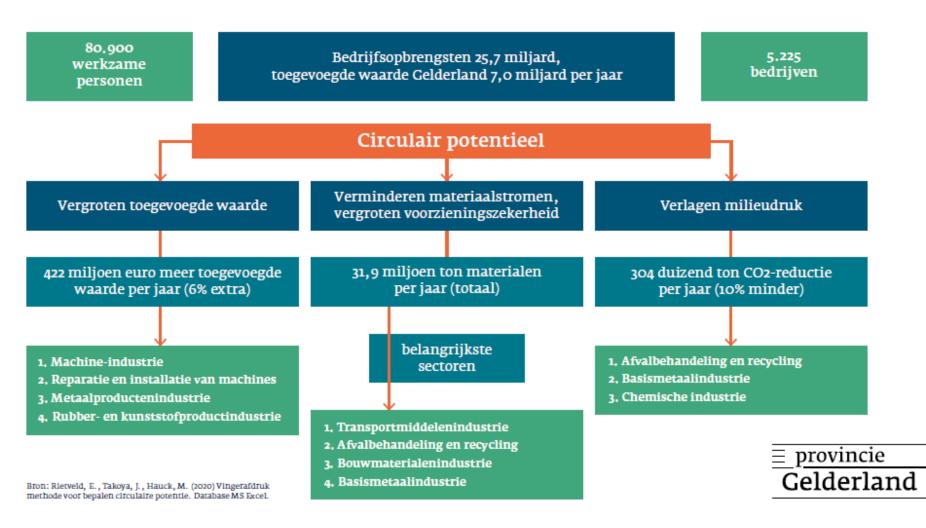






Provincie Gelderland Willem Huntink, program manager Circular Economy w.huntink@gelderland.nl

Circulaire maakindustrie Gelderland







Smart and Circular Manufacturing Industry

A survey in The Netherlands revealing the circular nature of the manufacturing industry

Smart industry in the province of Gelderland in circular perspective

The transition to a (more) circular economy can make an important contribution to reducing the environmental footprint and the use of raw materials in our economy. The province of Gelderland strives for a «smart and clean industry» without waste. The manufacturing industry, which is traditionally strongly anchored in Gelderland, is an important user of (critical) raw materials and therefore plays an important role in the transition to a more resource-efficient economy. Against this background, 20 companies in the province were interviewed, focusing on how these companies use circular perspectives in their daily practice. Particular attention was paid to the role that ICT increasingly plays in that primary process and to the way in which it influences «circularity».



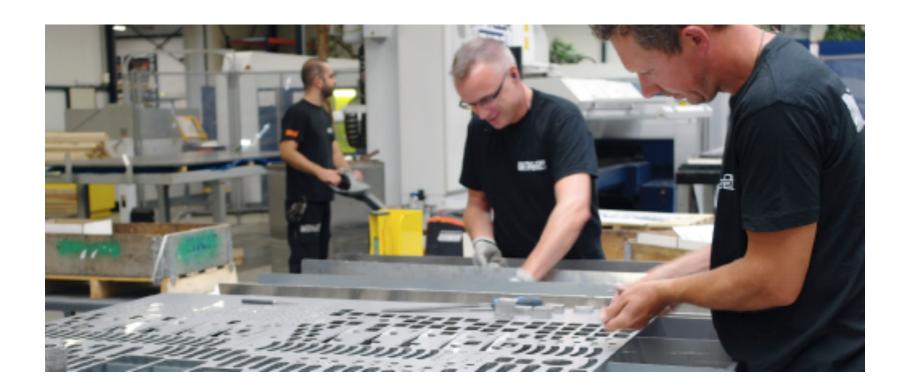
Circular economy May 2019

TNO survey reveals

- The manufacturing industry, plays an important role in the transition to a more resource-efficient economy
- By economic rationales industry is already moving towards circular business models
- ICT, data and new technologies are important enablers for growing "circularity"
- 5 innovations and business models:
 - 1. circular design
 - 2. more efficient production
 - 3. lifetime extension of components and products
 - 4. asset sharing
 - 5. keep control over goods by retaining ownership (servitization)

3 Illustrative examples

24/7 TailorSteel (custom-cut metal plates, tubes and bent products) has fully automated order placement ensuring that materials can be used much more efficiently



The 3D metal printer at Kaak Terborg (industrial bakery equipment) can produce up to 600 small components at a time. The 3D printer delivers up to 50 % reduction in material use.



The rapid developments and switch to e-bikes mean that Van Raam (adapted tricycles) can switch to circular business models. Batteries for e-bikes are leased making purchasing a tricycle much cheaper and at the same time creating excellent return logistics for batteries.



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Policy implications

- 1. CESI: Integral approach digital and circular
- 2. In policy, funds, and instruments
- 3. Demonstrate best practices/create awareness



Circo Circular Business Track "creating business through circular design"

CIRCO