

# SMART CITIES Conference

## **Social Manufacturing - from thoughts to products and services**

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# Social Manufacturing



Social Manufacturing is the third industrial revolution. It provides ecosystems in which suppliers and customers are embedded and co-create in a dynamic manufacturing network.

The social aspect is strongly present e.g. thru the social media enabled communication.

Source: The Economist 2012



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# Networks enable Social Manufacturing

- New network driven economies emerge by individuals joining forces to fill the gap left by existing institutions creating new products, services, and knowledge that no institution is able to provide
- Empowered by ICT global scale tribe networks emerge where economic transactions are infused strongly by social connectedness.



# Socialstructuring (by Marina Corbis IFTF)



## Engagement Economy

### The massively scaled collaboration and participation

Corbis: *“We are moving away from the dominance of the depersonalized world of institutional production and creating a new economy around social connections and social rewards—a process I call socialstructuring. ... Not only is this new social economy bringing with it an unprecedented level of familiarity and connectedness to both our global and our local economic exchanges, but it is also changing every domain of our lives, from finance to education and health.*

*Socialstructuring is in fact enabling not only a new kind of global economy but a new kind of society, in which amplified individuals—individuals empowered with technologies and the collective intelligence of others in their social network—can take on many functions that previously only large organizations could perform, often more efficiently, at lower cost or no cost at all, and with much greater ease.”*



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# My.RegenVillages



## *Integrated village designs for self-reliant communities*

Prof. Dr. Timo R Nyberg, Senior Fellow, Aalto University, Finland  
James Ehrlich, Senior Technologist, Stanford University, USA  
Prof. Dr. Xiong Gang, Chinese Academy of Sciences



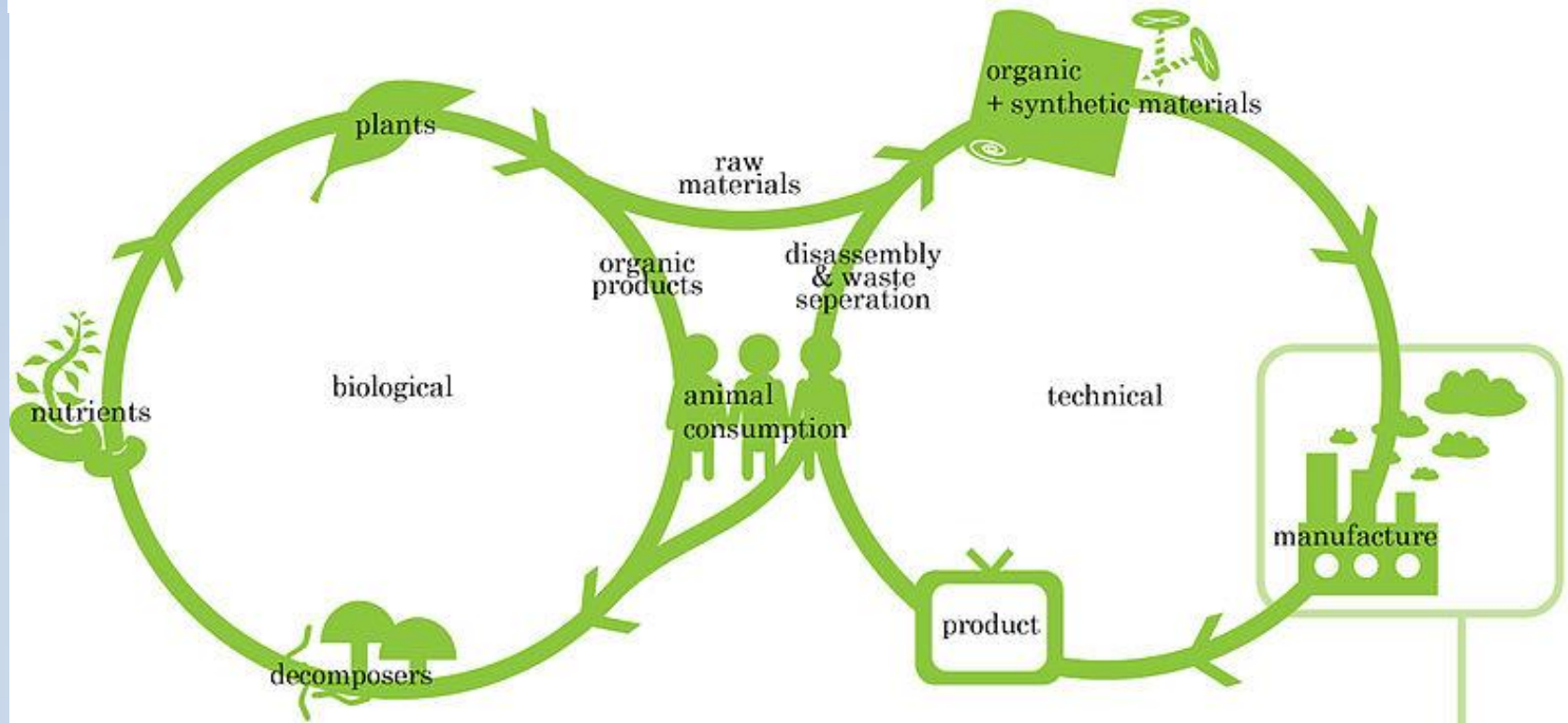
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# Circular Economic



**EDUCATION HUB!**  
**MOOC eCorner etc.**

- 1 100% Renewable Energy Use
- 2 Water Stewardship clean water output
- 3 Social Responsibility positive impact on community
- 4 Material Reutilization recyclability / compostability
- 5 Material Health impact on human & environmental

5  
criteria

Source: Wikipedia: Biological and Technical Nutrients in the Cradle to Cradle Design Framework

***Circular Economic design thinking throughout the entire production chain provides an enhanced ecology of balance, that is supportive and not disruptive as demand supports scale.***



# Dynamic means fast moving and being flexible

“In today’s global business environment, staying competitive means moving fast and being flexible.” It is being able to understand the customer intention, and act rapidly by optimizing the structure and interactions of the value network.

Sandra Kurtzig  
Founder of Kenandy  
Kenandy is cloud ERP



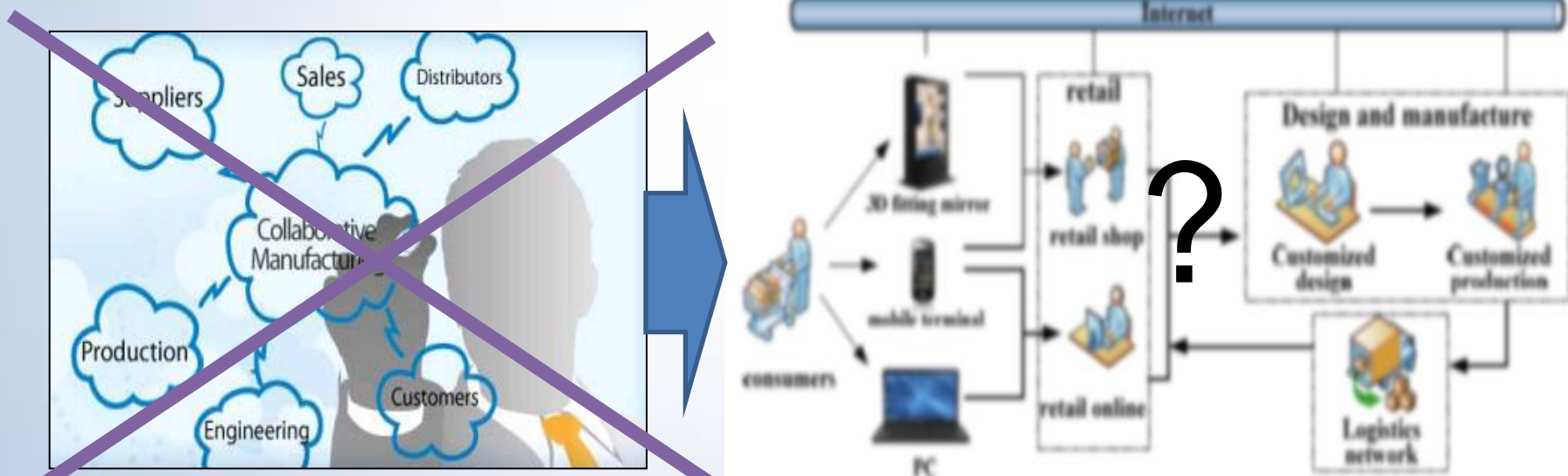
**BUILDING THE FACTORY OF THE FUTURE**

Manufacturing is changing. The Factory of the Future will deliver competitive advantage by using cloud technologies, real-time visibility, closer collaboration, and mobile capabilities to transform how products and services are created.

**FoF**

# Kenandy got \$10.5M for “social manufacturing”

*“By building the core manufacturing applications on a social platform, we’re providing the structure to use the new tools of social media and collaboration for greater efficiencies in global supply chain networks,” Sandra Kurtzig*



Sources: <http://venturebeat.com/2011/08/29/kenandy-raises-10-5m-for-cloud-based-social-manufacturing/>





# Digitization



The future manufacturing will be run by smart software. Digitization in manufacturing will have a disruptive effect as big as in other industries that have gone digital, such as office equipment, telecoms, photography, music, publishing and films.

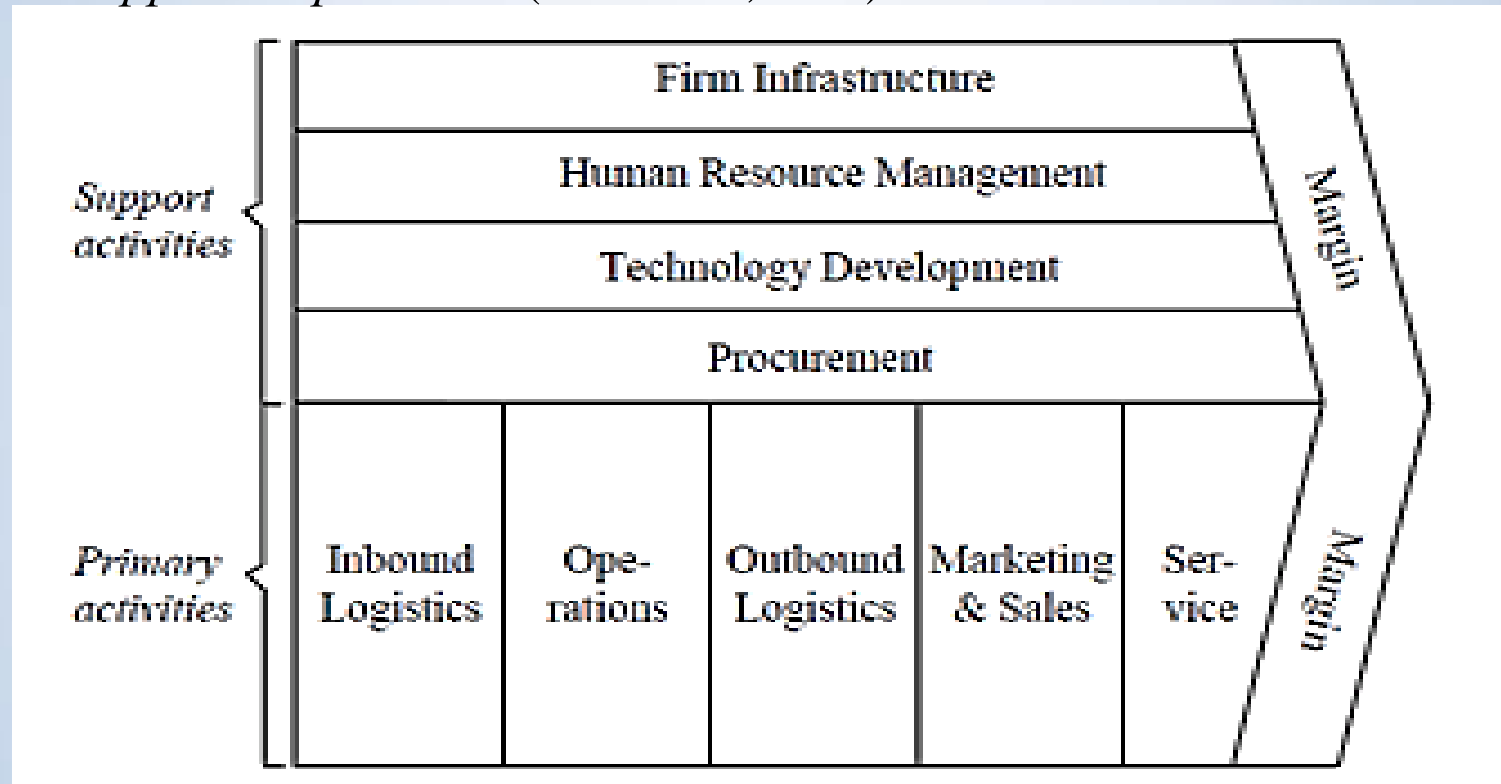
The effects will not be confined to large manufacturers; much of what is coming will empower small and medium-sized firms and individual entrepreneurs. Launching novel products will become easier and cheaper.

A new phenomenon can be called social manufacturing.



# Value chain

*“Set of activities that are performed to design, produce and market, deliver and support its product” (Porter M, 1985).*



Source: (Porter M, 1985)

# Do you see what I see?



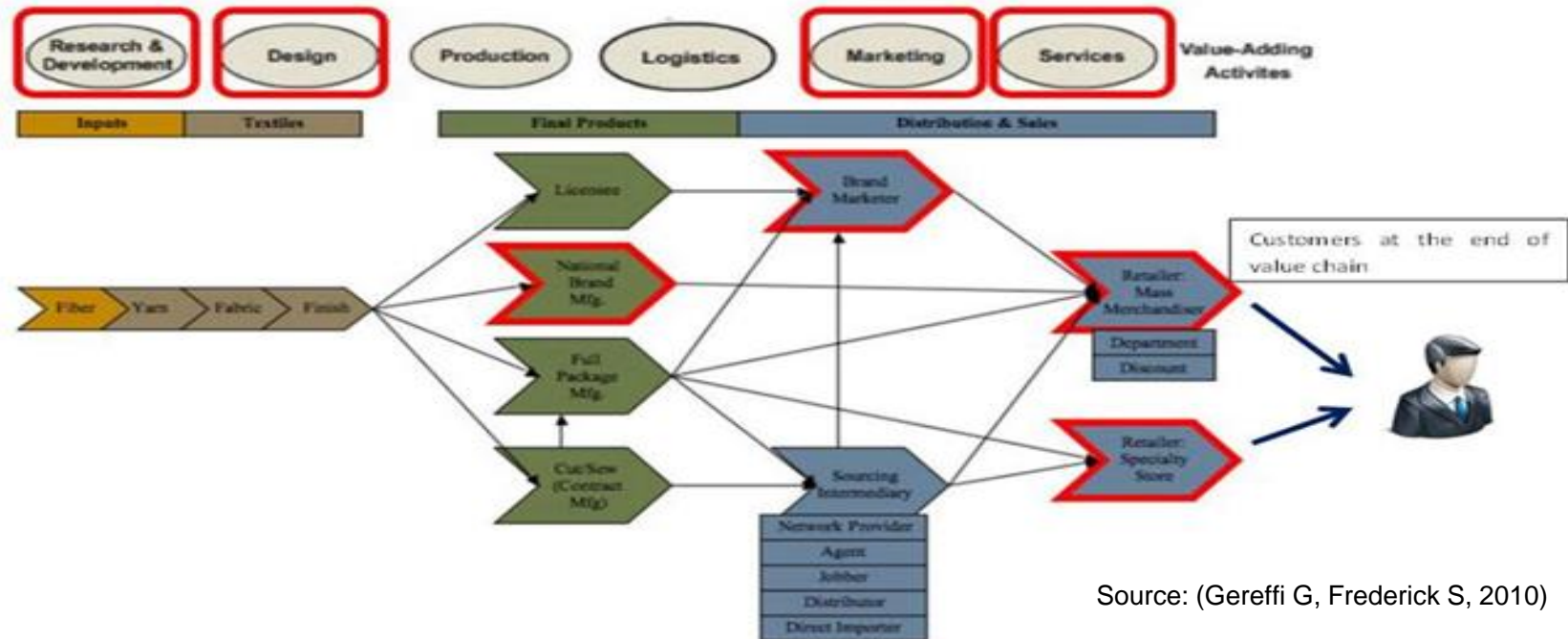
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# Current value chain in the apparel industry

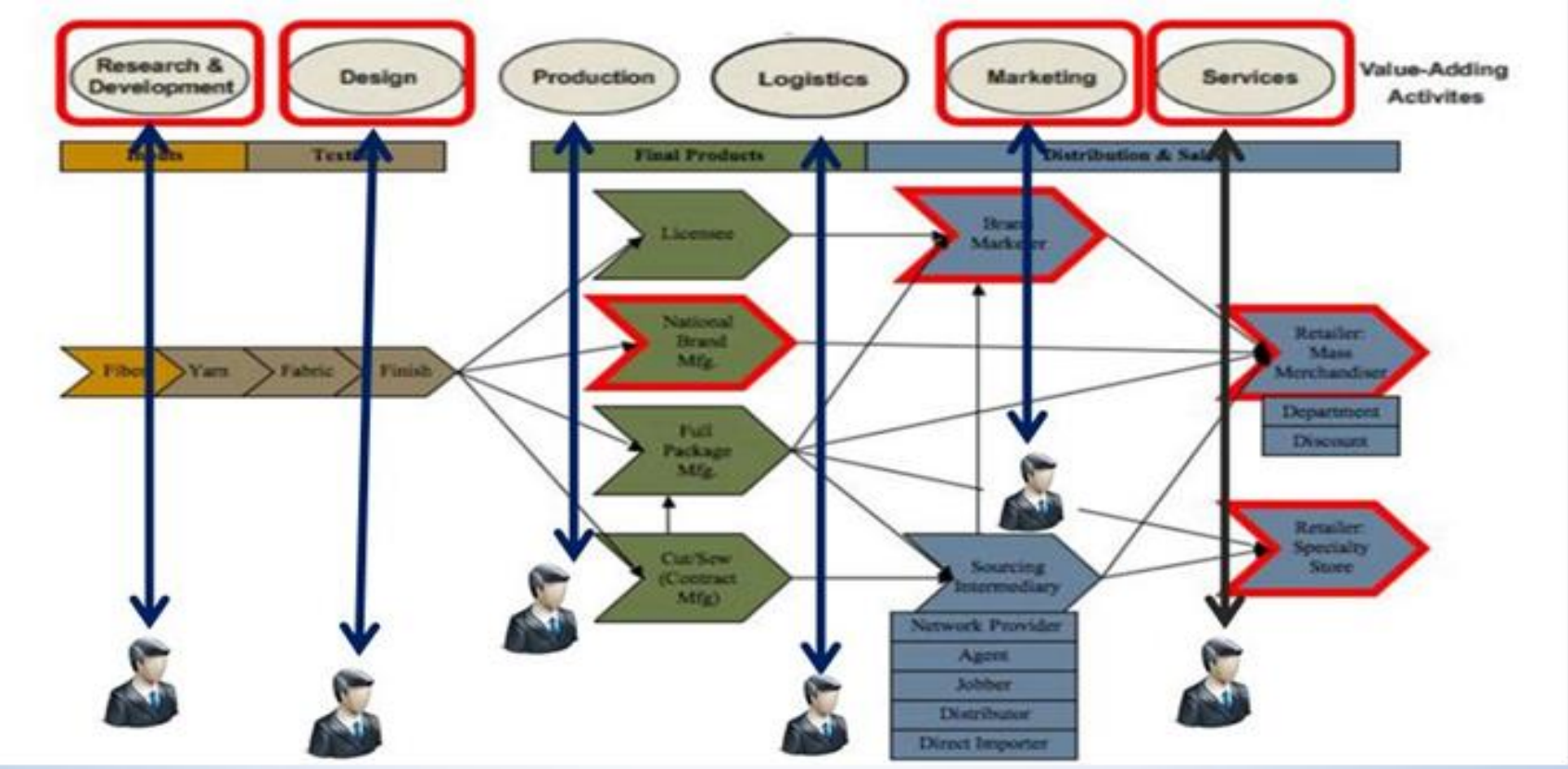


Source: (Gereffi G, Frederick S, 2010)

- **Implication:** Customers remain at the end of the value chain, resulting in very limited opportunities for customized products. Furthermore, the customer plays no role in the most value-adding steps, such as R&D, Design, Marketing and Services.



# New value chain: Introduction of Social Manufacturing

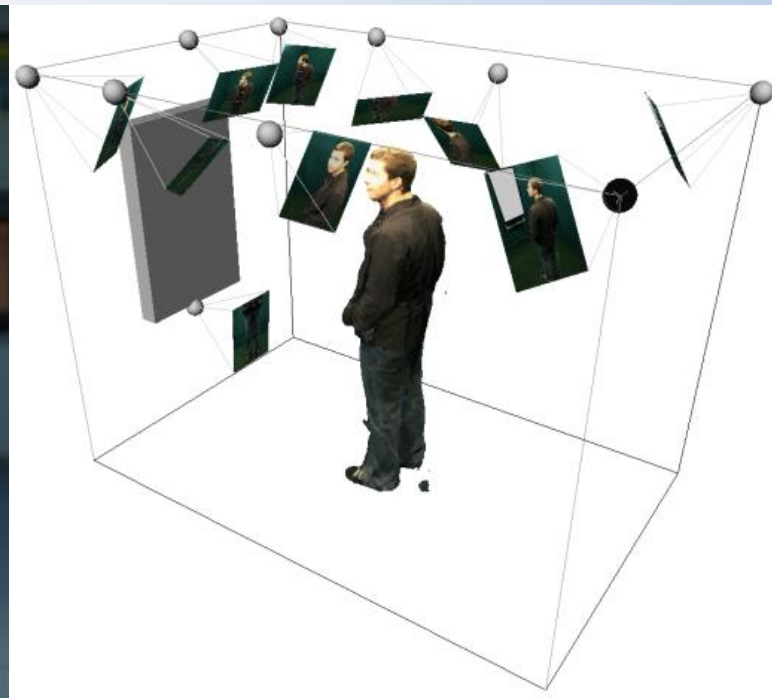


- Outcome: Customers drive the entire value chain and co-creator throughout the process.





# 3D fitting mirror



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# The N12 bikini - the world's first ready-to-wear, completely 3D-printed article of clothing



Source : <http://continuumfashion.com/N12.php>



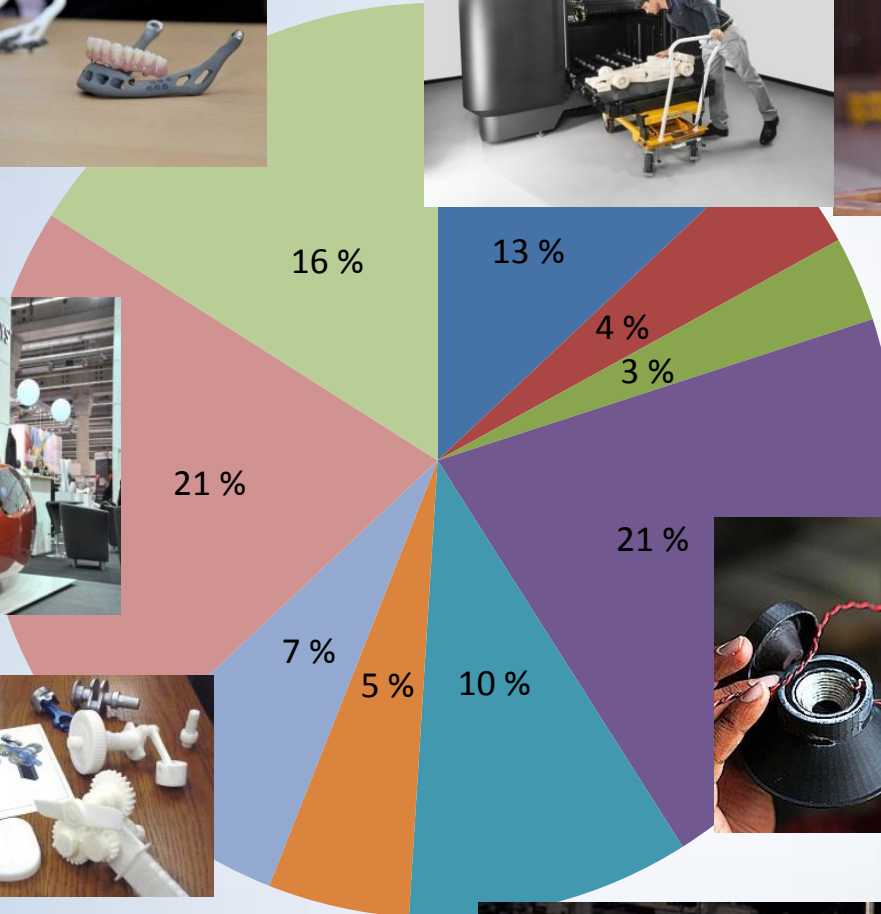
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# Split of Additive Manufacturing Revenue



- Industrial
- Architectural
- Other
- Consumer Electronics
- Aerospace
- Military
- Academic
- Automobile
- Medical

(Source: Wohlers Report, 2013)



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# Do you see what I see?



# Mr. Any One (Customer, Designer, Service Provider)

## Operators

Social Manufacturing Portal =  
Social Networks + eBusiness Platform  
+ Social Design Platforms for Different Products

Social Design Platform for  
Smart Home : Consumers/  
Designer/Makers/Operators

Social Design Platform for  
Electronics: Consumers/  
Designer/Makers/Operators

Social Design Platform for  
**Clothing** : Consumers/  
Designer/Makers/Operators

## Designers

Professional CAD/PDM/PLM Design  
Platform for Smart Home:  
Furniture/Appliances

Professional CAD/PDM/PLM Design  
Platform for Electronics: PC/Mobile  
Phone/ Appliances

Professional CAD/PDM/PLM  
Design Platform for **Clothing**:  
Hat/ Footwear/Bag/Clothing

## Makers

Professional CAM/MES/ERP Manufacturing  
Platform for Smart Home:  
Furniture/Appliances

Professional CAM/MES/ERP Manufacturing  
Platform for Electronics: PC/Mobile Phone/  
Appliances

Professional CAM/MES/ERP  
Manufacturing Platform for **Clothing**: Hat/  
Footwear/Bag/Clothing





# Thank You

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