

Innovation and the digital economy: What role for innovation policies?

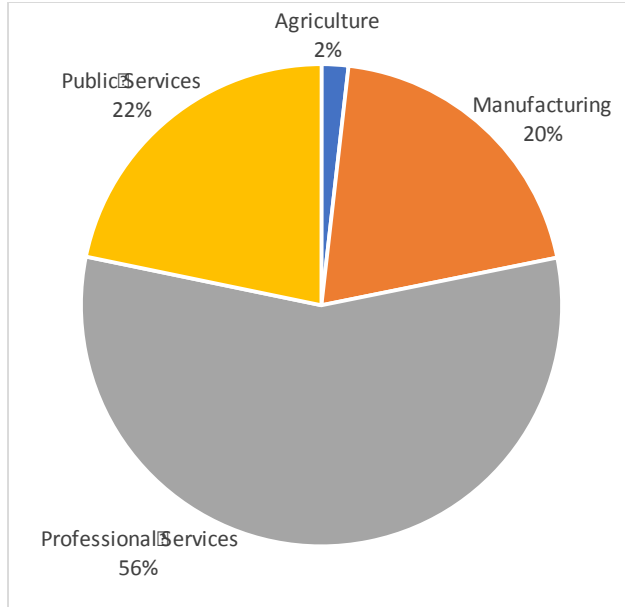
Bart Nieuwenhuis

Fontys University of Applied Science

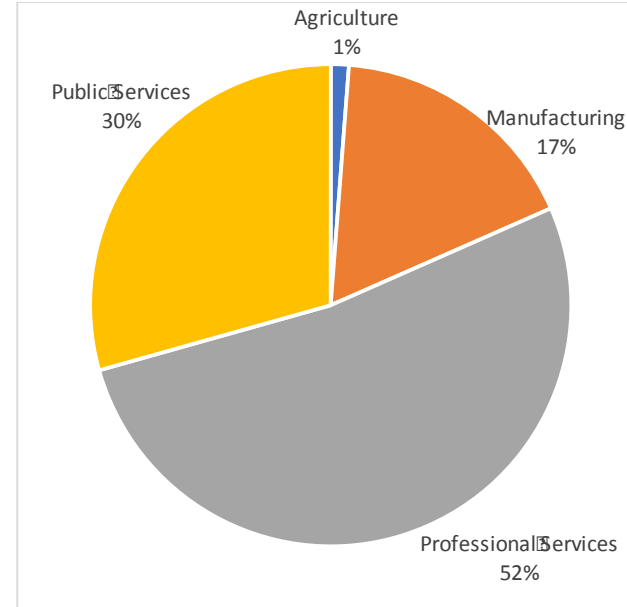
It's all about service

NL is a service economy...

GDP (78%)

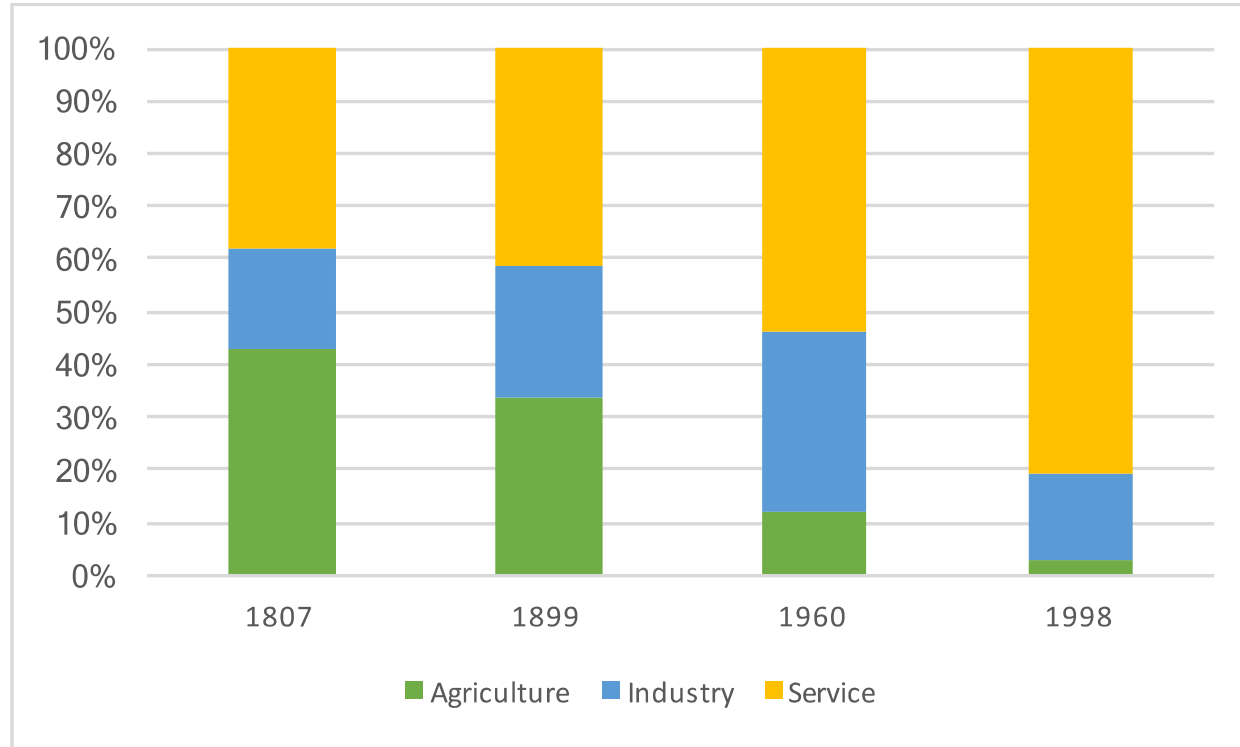


Employment (82%)



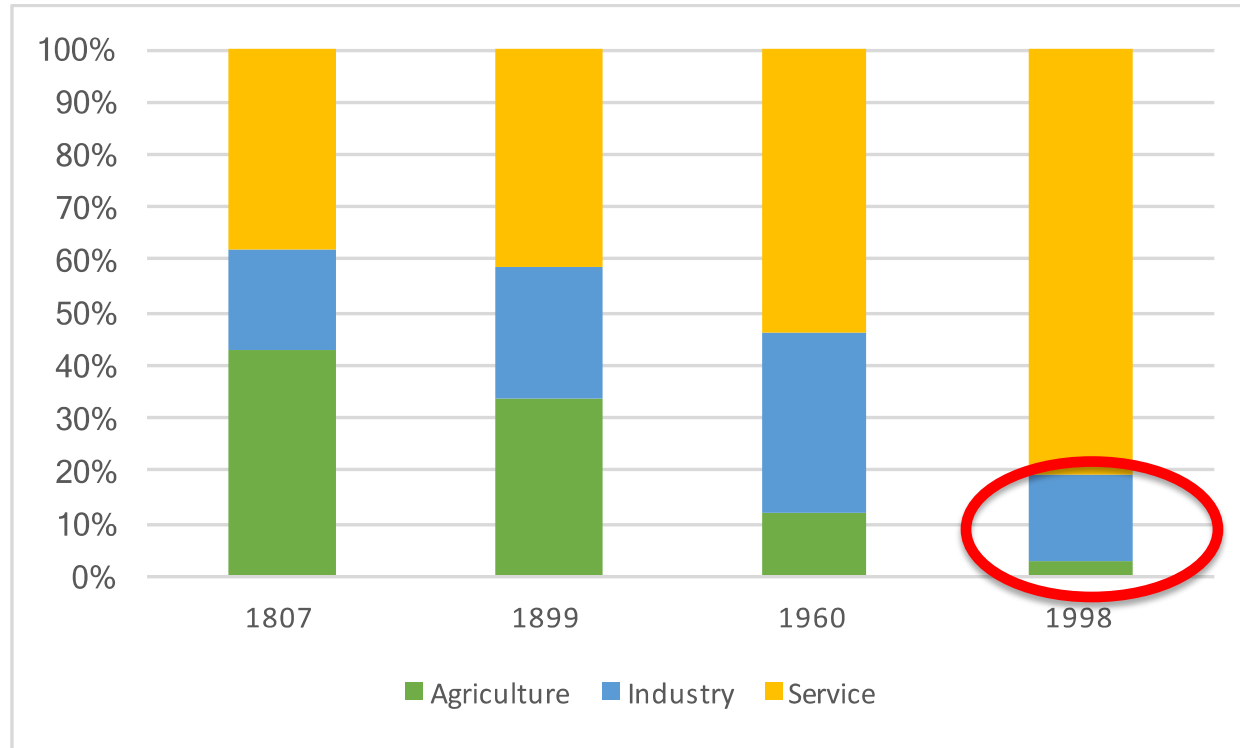
2015

Labour force distribution by sector in NL

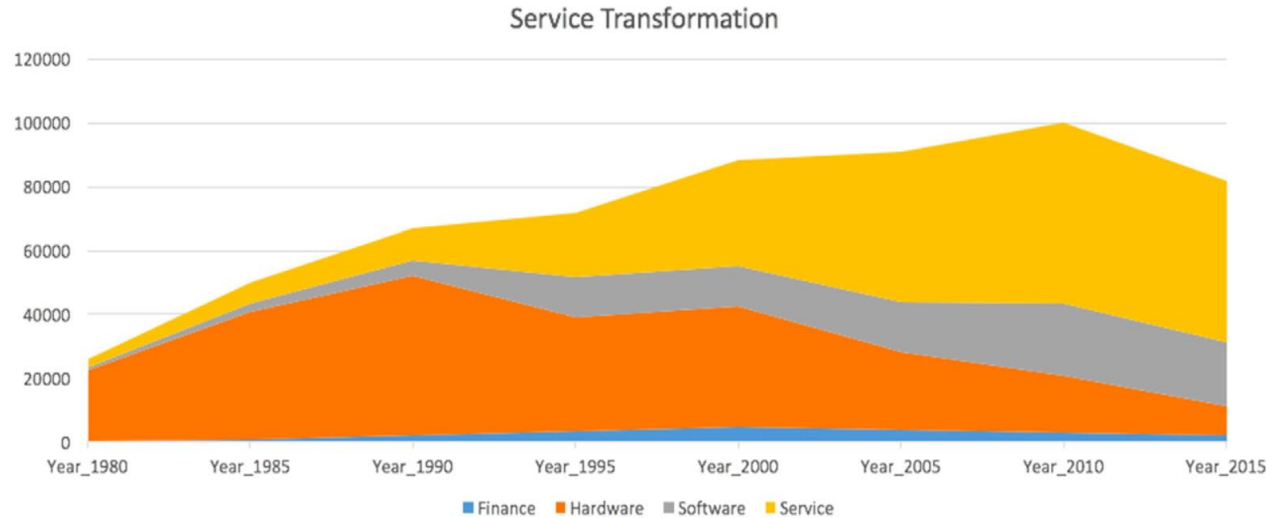


Own calculations, Source: CBS

Labour force distribution by sector in NL



IBM revenue by segment (1980-2015)



Philips sells light as a service



Schiphol Airport



National Union of Students

Revenue model: Pay per Lux

Customers: *they manage lightning against predictable costs*

Rolls Royce: power by the hour...



- TotalCare
 - an agreed rate per engine flying hour
 - enables customers to engage in accurate financial forecasting

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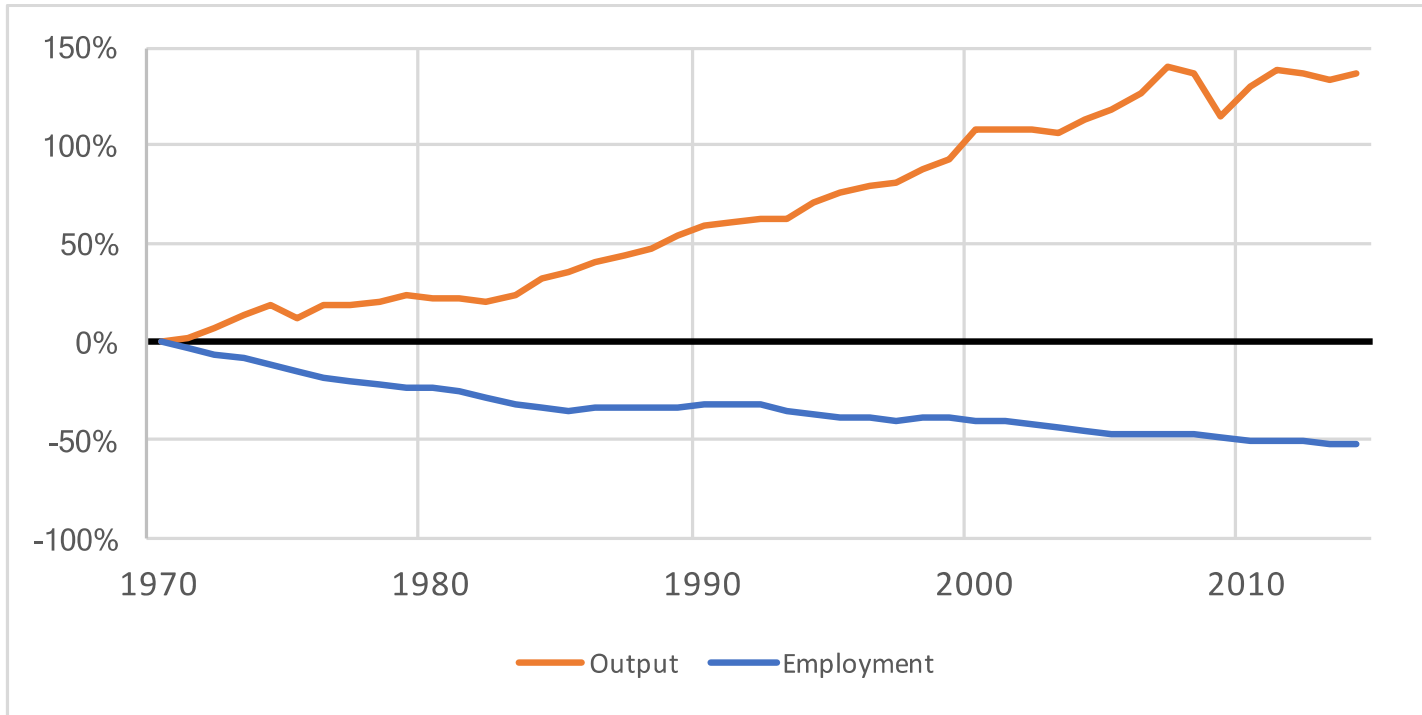
Many other examples

- Alstom
 - Train-life services
- MAN
 - Leasing: pay-as-you-go
- General Electric
 - Zero downtime on locomotives, wind turbines and jet engines
- Michelin
 - From from selling tires to selling kilometers

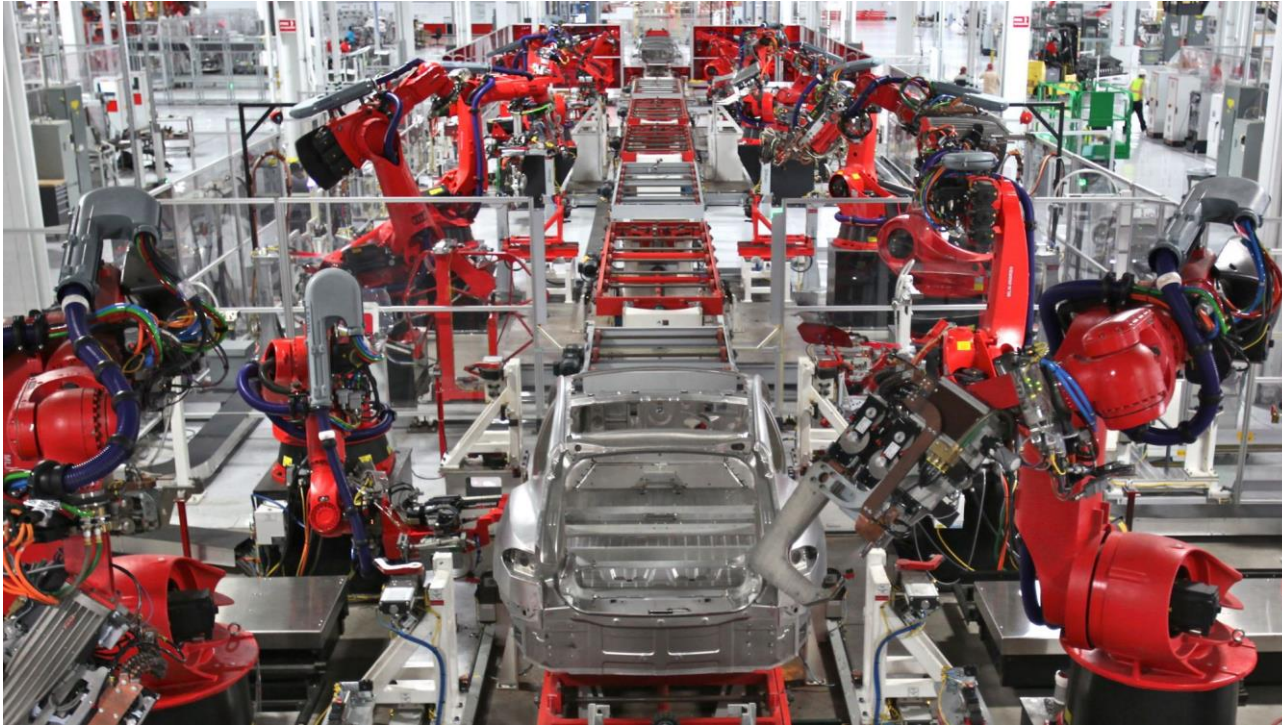
ALSTOM



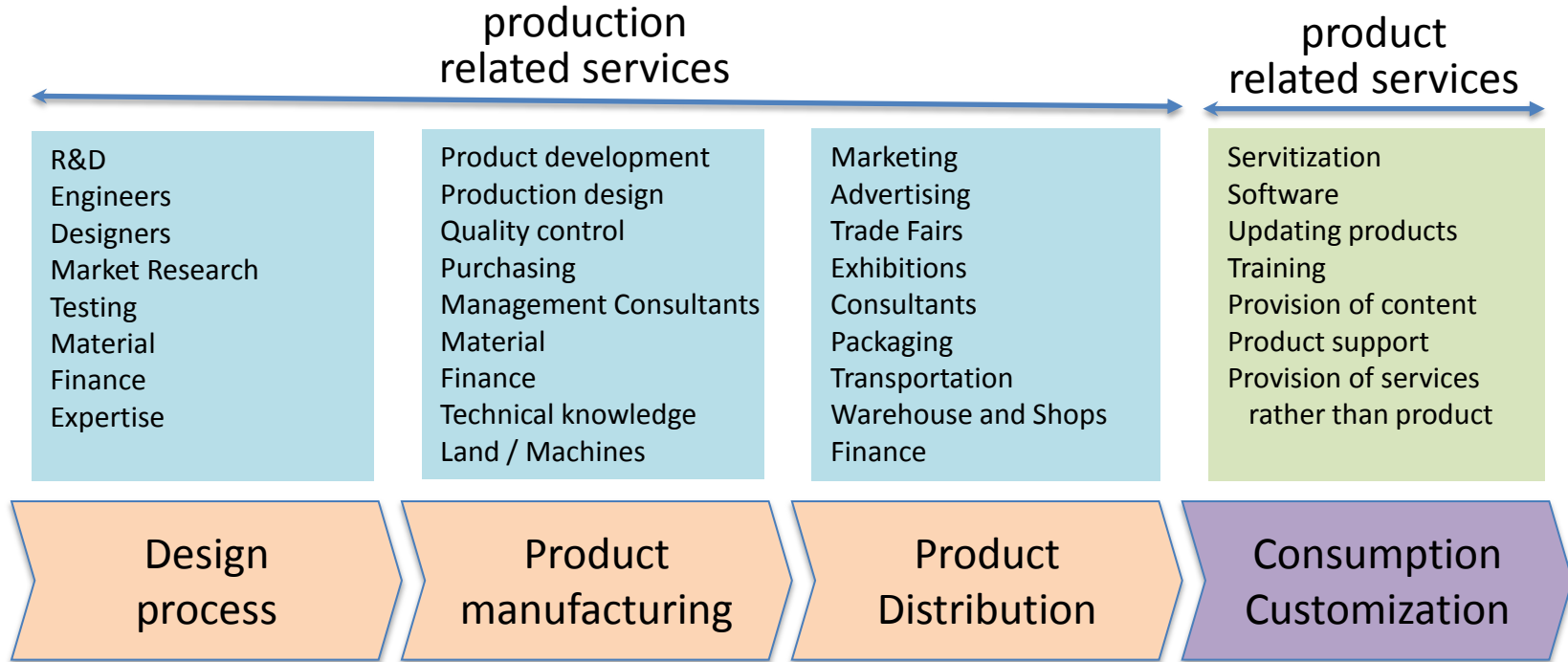
Manufacturing in NL: more output, less jobs



And manufacturing will keep on changing



Hybrid production systems and products



Digital Economy



CloudComputing



Social Media



Internet of Things



Big Data










Digital Technologies and Servitization

- Improve the firm's efficiency
 - Resource planning, automation, robotization, ...
 - Customer's influence on production processes
- New ways of interaction the firm's customers
 - In-depth knowledge of the customer's preferences and needs
- Extend the products with sensors and actuators
 - New services, product enhancements,
 - Monitor usage, preventive maintenance, distant repairs

Servitization = profound business model innovation

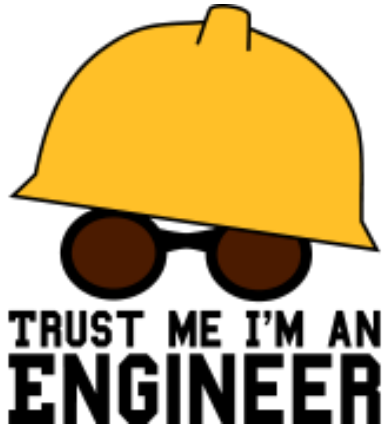
The Business Model Canvas Designed for: _____ Designed by: _____

One: _____
Iteration: _____

| | | | | |
|---|---|--|---|--|
| <p>Key Partners</p>  <p>Who are our Key Partners? Who are our key suppliers? Which Key Resources do we acquire from partners? Which Key Activities do partners perform?</p> <p><small>Key Partners: Suppliers, Distributors, Complementors, Channels, Alliances</small></p> | <p>Key Activities</p>  <p>What Key Activities do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue streams?</p> <p><small>Key Activities: Production, Problem Solving, Logistics, Platform Maintenance</small></p> | <p>Value Propositions</p>  <p>What value do we deliver to the customer? Which one of our customer problems are we helping to solve? Which bundles of products and services are we offering to each Customer Segment? Which customer needs are we satisfying?</p> <p><small>Value Propositions: New Products, New Services, New Channels, New Relationships, New Revenue Streams</small></p> | <p>Customer Relationships</p>  <p>What type of relationship does each of our Customer Segments expect to establish and maintain with them? Which ones have we established? How are they integrated with the rest of our business model? How costly are they?</p> <p><small>Customer Relationships: Personal Assistant, Dedicated Personal Assistant, Self-Service, Self-Service with a fallback to personal assistance, Communities, Co-creation, Crowdsourcing, Customization, Concierge</small></p> | <p>Customer Segments</p>  <p>For whom are we creating value? Who are our most important customers?</p> <p><small>Customer Segments: Mass, Niche, Segments, Markets, Niches, Markets, Niches, Markets, Niches</small></p> |
| <p>Key Resources</p>  <p>What Key Resources do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue Streams?</p> <p><small>Key Resources: Physical, Intellectual, Financial, Human, Channels, Relationships, Infrastructure</small></p> | | <p>Channels</p>  <p>Through which Channels do our Customer Segments want to be reached? How are we reaching them now? How are our Channels integrated? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines?</p> <p><small>Channels: Direct, Indirect, Partners, Intermediaries, Distribution, Sales, Marketing, Public, Private, Digital, Physical, Hybrid</small></p> | | |
| <p>Cost Structure</p>  <p>What are the most important costs inherent in our business model? Which Key Resources are most expensive? Which Key Activities are most expensive?</p> <p><small>Cost Structure: Fixed Costs, Variable Costs, Semi-variable Costs, Overhead Costs, Direct Costs, Indirect Costs, Sunk Costs, Opportunity Costs, Externalities</small></p> | | <p>Revenue Streams</p>  <p>For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each Revenue Stream contribute to overall revenues?</p> <p><small>Revenue Streams: Transactional, Subscription, Usage-based, Performance-based, Advertising, Sponsorship, Licensing, Royalties, Franchise Fees, Residual Income, Other</small></p> | | |

Servitization within SME's

- No deep pockets
- Engineering... and ... Services



SME: WP Haton: dough make up systems

- BreadLab service
 - Customers learn how to extend their portfolio and optimize their processes.
- Blue Value support packages
 - Reduces downtime in bakeries



Policies: at regional and national level

- Regional: Province of Limburg
 - Brightlands Smart Services Campus
 - Program for manufacturing SMEs
 - Public-Private Program:
Servitization for MKB
- National: the Netherlands
 - Service design vouchers for manufacturing SMEs



It's all about service