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

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It’s all about service
NL is a service economy…

GDP (78%)
- Professional Services: 56%
- Manufacturing: 20%
- Public Services: 22%
- Agriculture: 2%

Employment (82%)
- Professional Services: 52%
- Manufacturing: 17%
- Public Services: 30%
- Agriculture: 1%

2015

Own calculations based on sources CBS
Labour force distribution by sector in NL

Own calculations, Source: CBS
Labour force distribution by sector in NL

![Bar chart showing labour force distribution by sector from 1807 to 1998.](image)

- **Agriculture**
- **Industry**
- **Service**

Own calculations, Source: CBS
IBM revenue by segment (1980-2015)

Philips sells light as a service

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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Since 1962!!
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 selling tires to selling kilometers
Manufacturing in NL: more output, less jobs

Own calculations, Source: CBS
And manufacturing will keep on changing
Hybrid production systems and products

production related services

R&D
Engineers
Designers
Market Research
Testing
Material
Finance
Expertise

Product development
Production design
Quality control
Purchasing
Management Consultants
Material
Finance
Technical knowledge
Land / Machines

Marketing
Advertising
Trade Fairs
Exhibitions
Consultants
Packaging
Transportation
Warehouse and Shops
Finance

product related services

Servitization
Software
Updating products
Training
Provision of content
Product support
Provision of services rather than product

Design process
Product manufacturing
Product Distribution
Consumption Customization

Digital Economy

Cloud Computing

Internet of Things

Social Media

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
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
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