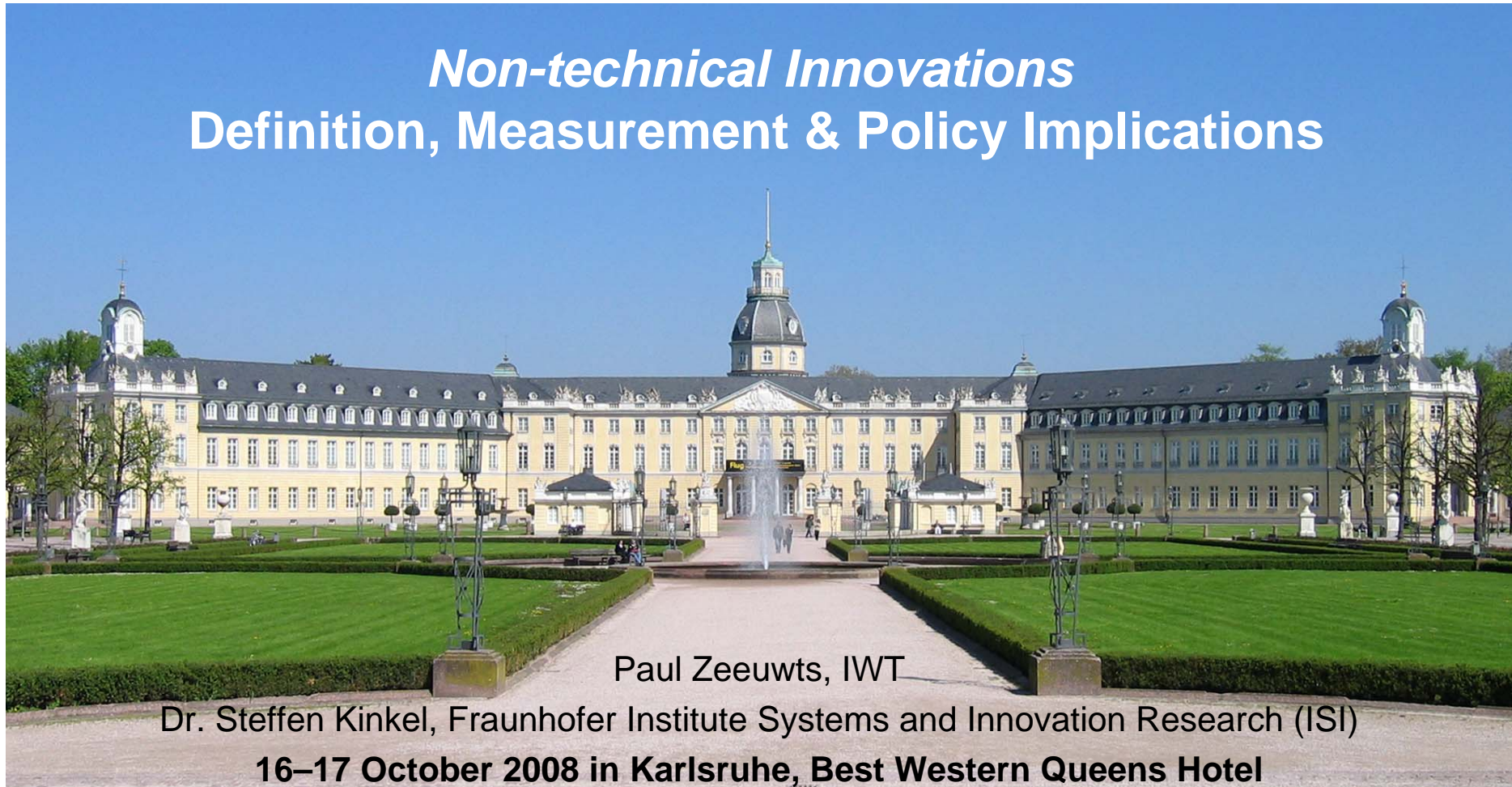


Welcome to the 6CP Workshop

Non-technical Innovations Definition, Measurement & Policy Implications



Paul Zeeuwts, IWT

Dr. Steffen Kinkel, Fraunhofer Institute Systems and Innovation Research (ISI)

16–17 October 2008 in Karlsruhe, Best Western Queens Hotel



SIX COUNTRIES PROGRAMME

Fraunhofer



Institute
Systems and
Innovation Research



Introduction: Relevance of *Non-technical Innovations*

- Schumpeter (1934) proposed five types of innovation
 - Introduction of new products
 - Introduction of new methods for production
 - Opening of new markets
 - Development of new sources of supply
 - Creation of new market structures (and new organisational forms)

- Innovation can be considered as a complex phenomenon including (e.g. Damanpour and Evan, 1984; Totterdell et al., 2002)
 - product and process aspects
 - technical and non-technical aspects

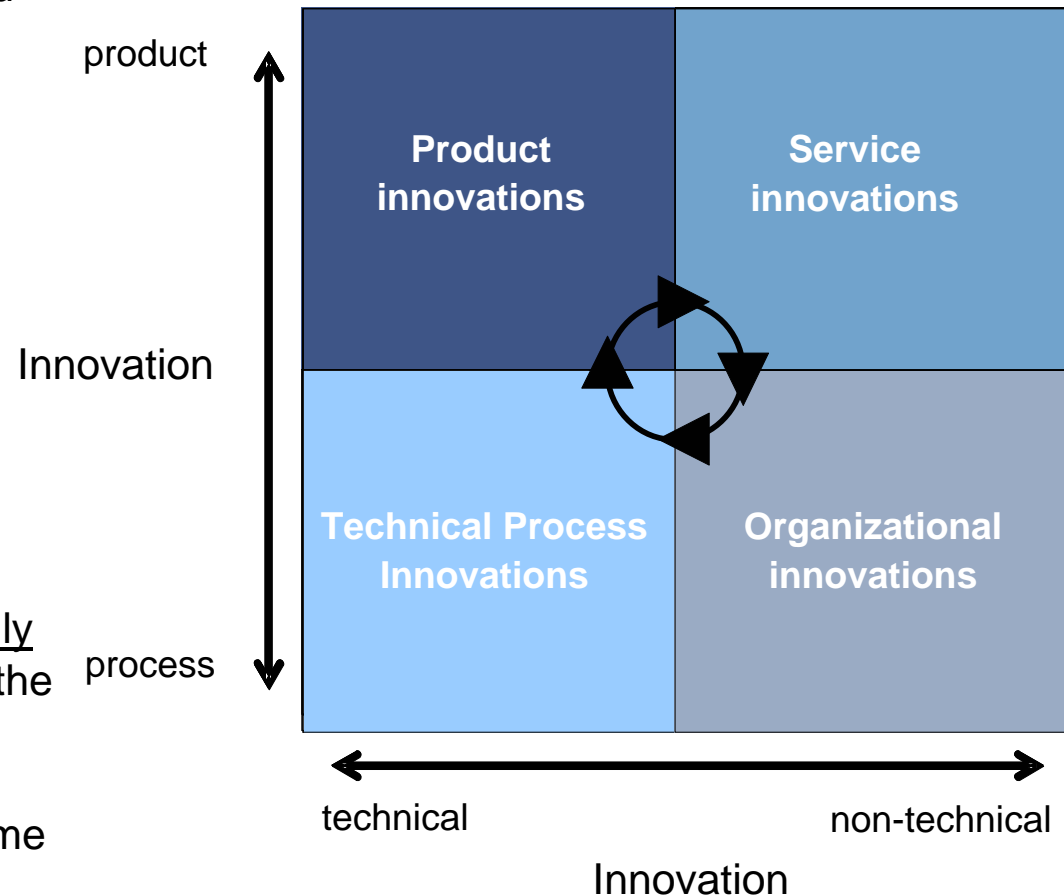
- The measurement of innovations is based on a commonly agreed definition in the Oslo Manual (OECD, 2005) implemented by the CIS, including *non-technical aspects* as
 - Service innovations (new or significantly improved services)
 - Organisational and marketing innovations (new or significantly improved *knowledge management systems, organisation of work, relations with other firms/institutions, design or packaging, sales or distribution methods*)

Page 2



Different dimensions of innovation in a 4-field taxonomy

- R&D-related innovation indicators and patent indicators address mainly the dimension of *technical product innovation*
- Firms can be competitive through following *different innovation paths* which are not all related to R&D
- *Service innovations* are not only innovations in service firms
⇒ e.g. product related services in manufacturing firms
- *Organisational innovations* are not only new organisational forms to improve the product innovation process
⇒ e.g. improve *quality* of goods and processes, *costs* per unit, *flexibility*/time to respond etc.



Page 3



European Innovation Scoreboard

INPUT – Innovation Drivers

| | | |
|---------|---|----------------|
| 1.1 | • S&E graduates per 1000 population aged 20-29 | Eurostat |
| 1.2 | • Population with tertiary education per 100 population aged 25-64 | Eurostat, OECD |
| 1.3 NEW | • Broadband penetration rate (number of broadband lines per 100 population) | Eurostat |
| 1.4 | • Participation in life-long learning per 100 population aged 25-64 | Eurostat |
| 1.5 NEW | • Youth education attainment level (% of population aged 20-24 having completed at least upper secondary education) | Eurostat |

INPUT – Knowledge Creation

| | | |
|---------|---|-----------------|
| 2.1 | • Public R&D expenditures (% of GDP) | Eurostat, OECD |
| 2.2 | • Business R&D expenditures (% of GDP) | Eurostat, OECD |
| 2.3 NEW | • Share of medium-high-tech and high-tech R&D (% of manufacturing R&D expenditures) | Eurostat, OECD |
| 2.4 NEW | • Share of enterprises receiving public funding for innovation | Eurostat, (CIS) |
| 2.5 NEW | • Share of university R&D expenditures financed by business sector | Eurostat, OECD |

INPUT – Innovation & Entrepreneurship

| | | |
|-----|--|-----------------|
| 3.1 | • SMEs innovating in-house (% of all SMEs) | Eurostat, (CIS) |
| 3.2 | • Innovative SMEs co-operating with others (% of all SMEs) | Eurostat, (CIS) |
| 3.3 | • Innovation expenditures (% of total turnover) | Eurostat, (CIS) |
| 3.4 | • Early-stage venture capital (% of GDP) | Eurostat, |
| 3.5 | • ICT expenditures (% of GDP) | Eurostat, |
| 3.6 | • SMEs using non-technological change (% of all SMEs) | Eurostat, (CIS) |

OUTPUT - Application

| | | |
|---------|--|-----------------|
| 4.1 | • Employment in high-tech services (% of total workforce) | Eurostat, |
| 4.2 NEW | • Exports of high technology products as a share of total exports | Eurostat, |
| 4.3 | • Sales of new-to-market products (% of total turnover) | Eurostat, (CIS) |
| 4.4 | • Sales of new-to-firm not new-to-market products (% of total turnover) | Eurostat, (CIS) |
| 4.5 | • Employment in medium-high and high-tech manufacturing (% of total workforce) | Eurostat, |

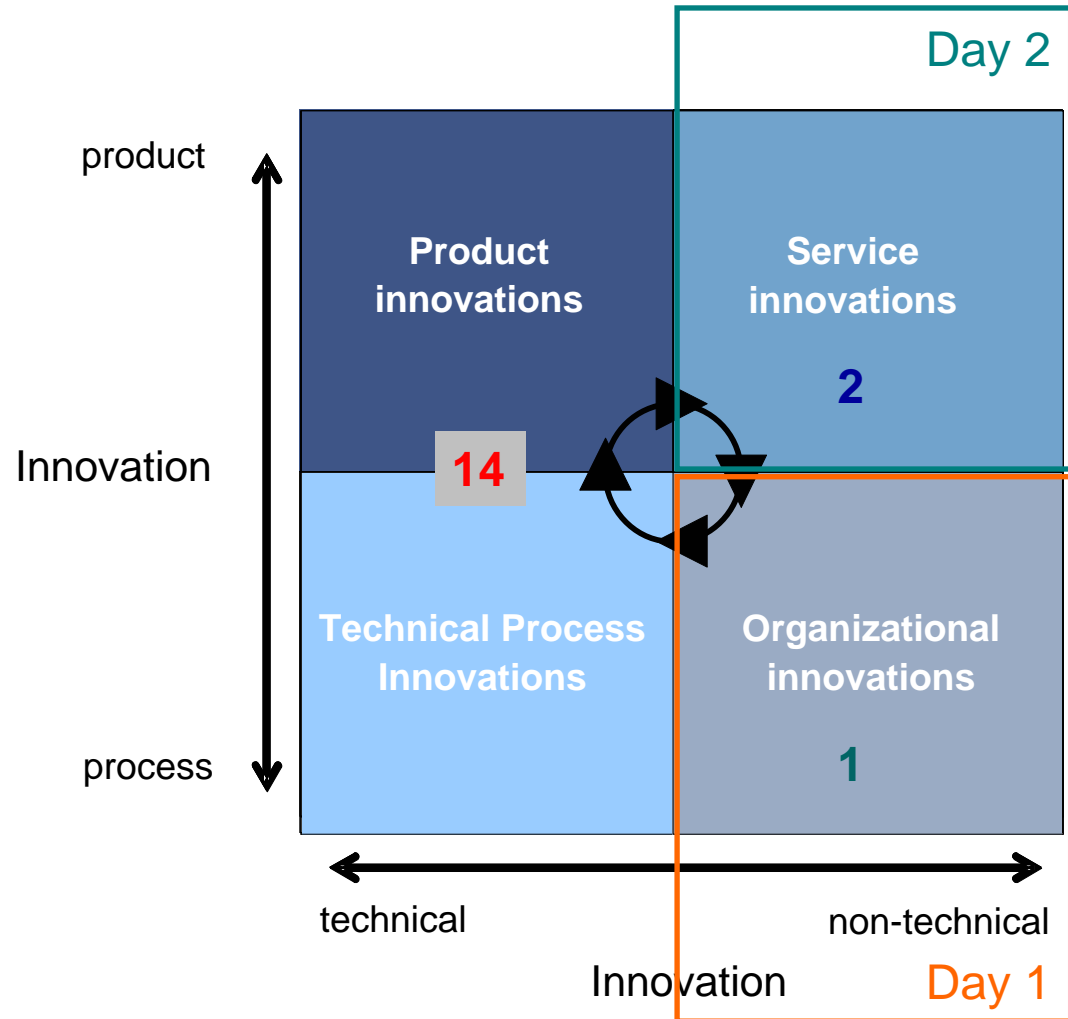
OUTPUT – Intellectual property

| | | |
|---------|---|----------------|
| 5.1 | • EPO patents per million population | Eurostat |
| 5.2 | • USPTO patents per million population | Eurostat |
| 5.3 NEW | • Triadic patent families per million population | |
| 5.4 NEW | • New community trademarks per million population | Eurostat, OECD |
| 5.5 NEW | • New community designs per million population | OHIM OHIM |



EIS is focused on R&D and technical innovation indicators

- EIS is composed of specific (17) and overall (9) innovation indicators
 - 14 of 17 specific indicators are related to technical innovations
 - 3 indicators are specifically related to *non-technical innovations*
- ⇒ Knowledge on relevance, definition and measurement of non-technical innovations needs to be deepened
- ⇒ Main goal of our workshop



16 October 2008

12:00–13:00 Registration and Lunch

13:00–13:45 Opening Session

Paul Zeeuwts | Steffen Kinkel | Hariolf Grupp

13:45–14:00 Coffee Break

14:00–16:00 Session 1:

Organisational Innovations – Definition and Measurement

Chair: Edward Lorenz

Alessandra Colecchia | Eva Kirner

16:00–16:30 Coffee Break

16:30–18:30 Session 2:

Organisational Innovations – Importance of Organisational Innovations for Performance Outcomes

Chair: Ben Dankbaar

Geert van Hoote gem | Steven Procter | Paul Ligthart

19:30 Champagne Reception (Conference Room)

20:00 Conference Dinner (Conference Room)



17 October 2008

09:00–11:00 Session 3:

Service Innovations – Definition and Measurement

Chair: Christiane Hipp

Luis Rubalcaba | Hugo Hollanders | Jeremy Howells | Ina Drejer

11:00–11:30 Coffee Break

11:30–13:30 Session 4:

Service Innovations – Importance of Service Innovations for Performance Outcomes

Chair: Bruce Tether

Rinaldo Evangelista and Antonio Vezzani | Tim Baines and Howard Lightfoot | Stephen Roper and Jim Love

13:30–14:30 Lunch

14:30–15:30 Concluding Session:

Policy Implications – Consequences for Innovation Policy

Chair: Jakob Edler

Keith Sequeira and Mette Quinn | Andrew Stockman | Wolfgang Polt | Stephen Roper

Page 7 **15:30 End of Workshop**

