



INSTITUTE FOR THE PROMOTION OF INNOVATION BY
SCIENCE AND TECHNOLOGY IN FLANDERS



Instituut voor de Aanmoediging van Innovatie
door Wetenschap en Technologie in Vlaanderen

Monitoring and Evaluation to support regional innovation

OECD/US Council on Competitiveness
Experts Meeting

Washington – 2nd July 2008

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Monitoring and Analysis
IWT – Flanders (Belgium)

Content of presentation

1. IWT and main characteristics of the Flemish Innovation System (to put numbers in perspective)
2. Monitoring and evaluation
3. Experiences with monitoring and evaluation in Flanders
4. Conclusion : some lessons learnt

1. IWT and main characteristics of the Flemish Innovation System

- **Flanders** : Northern part of Belgium, 6 mln inhabitants, 13.500 km²
- **IWT**
 - Since 1991
 - Agency for the promotion of Innovation by Science and Technology
 - In charge of all support for applied research and innovation, knowledge dissemination included
 - 300 mln €/year - 1600 projects/year
 - 130 people
- No national funding schemes for innovation (except for Space-research related to ESA)
- At national level some fiscal measures for innovation



1. IWT and main characteristics of the Flemish Innovation System

: Build-up of know-how and bring know how to the industry

■ Funding of R&D and innovation in industry (110 mln €)

- Bonus (+10% subsidies) if collaboration with research center
- Bonus for SME's
- 150 innovative Large enterprises / year
- 500 SME projects / year

■ Funding of R&D and innovation at R&D centres and HEI (90 mln €)

- Project follow up by 'users groups'
- 250 research groups with project at technology centers

■ Funding of Strategic Research Centers and competence poles (60 mln €)

- ~ 5 research centres and 12 CP

■ Funding of 'innovation networks' to deliver services to stimulate innovation (40 mln €)

- Thematic Clusters
- Technology advice
- Regional innovation advisers (Provincial)
- 250 advisors in the field

1. IWT and main characteristics of the Flemish Innovation System

General rules for all funding schemes

- Bottom-up approach
No thematic programmes/priorities
Nevertheless: importance of initiatives/projects with "critical mass" (fire power)
- Fostering collaboration (by giving bonus)
- Importance of close links between Research and Education

1. IWT and main characteristics of the Flemish Innovation System

➤ Budgetary issues

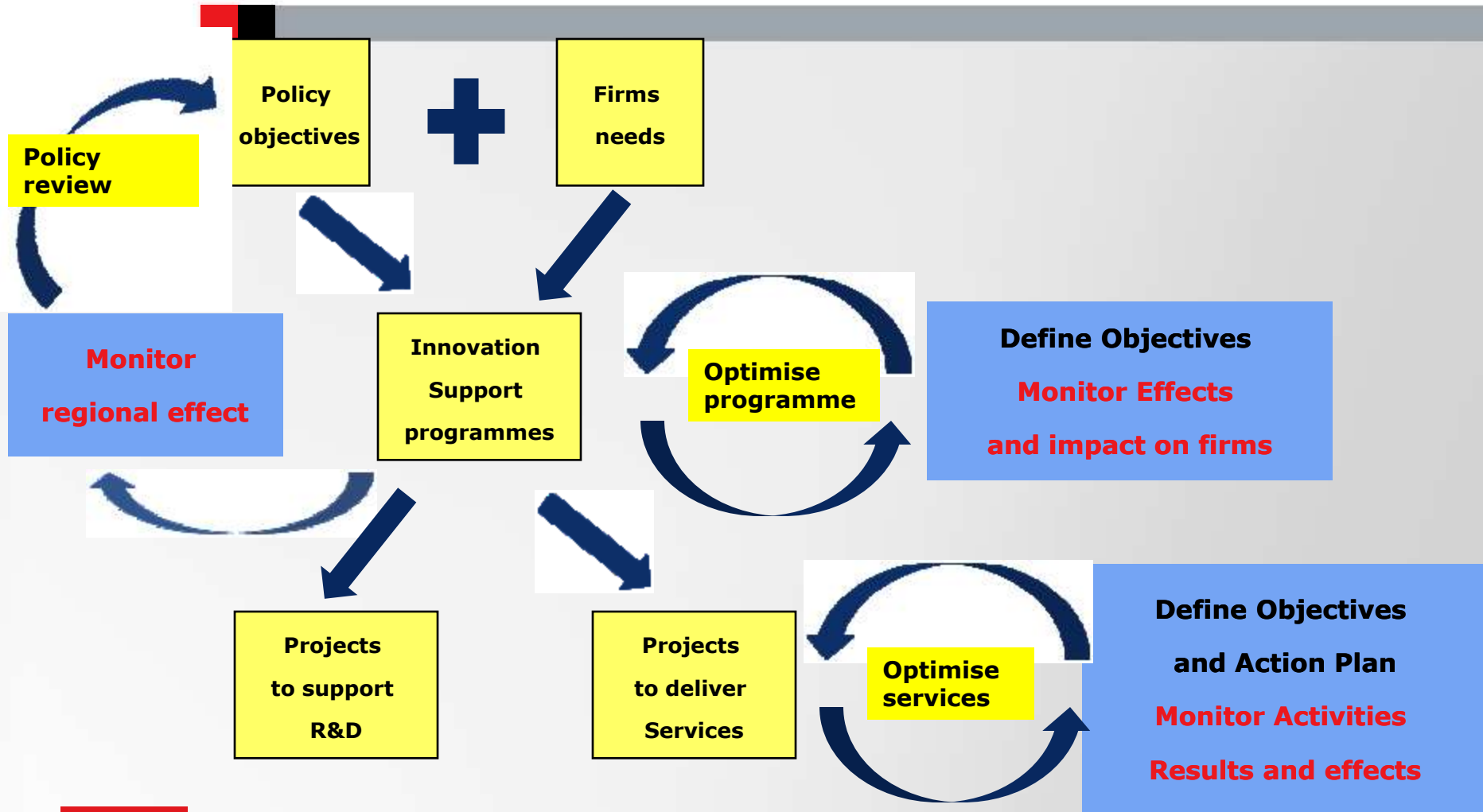
- 2,1% R&D in Gross Regional Product
- 0.7% public
- 3% Barcelona; Innovation Pact; + 60 mln euro/year public expenditures in R&D since 2003
- Public expenditures Flemish Government: 1,1 bln €
- Ca. 50/50 divided between fundamental/basic research and oriented research
- VRWB-debate: budgetary priority to programmes aiming at collaboration between industry and HE

2. Monitoring and evaluation

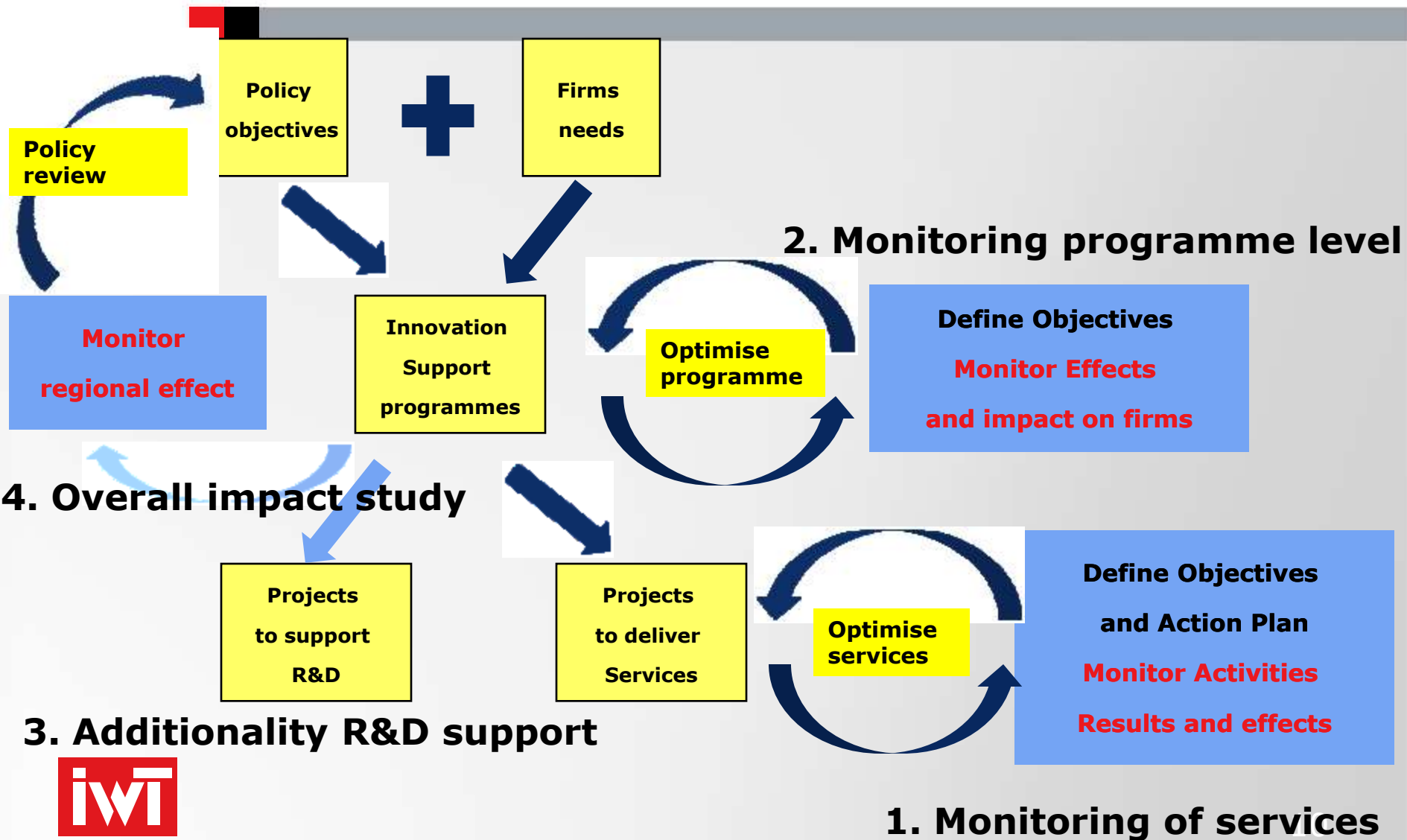
Provide quantitative and qualitative information
to

- Project owners
 - reflect on SMART project goals at start
 - benchmark with other projects
 - keep industry steering group informed
 - optimise project
- IWT (programme manager)
 - follow up projects
 - follow up programme goals
 - optimise programme
- Policy makers
 - justify public expenses
 - optimise and prioritise policy objectives

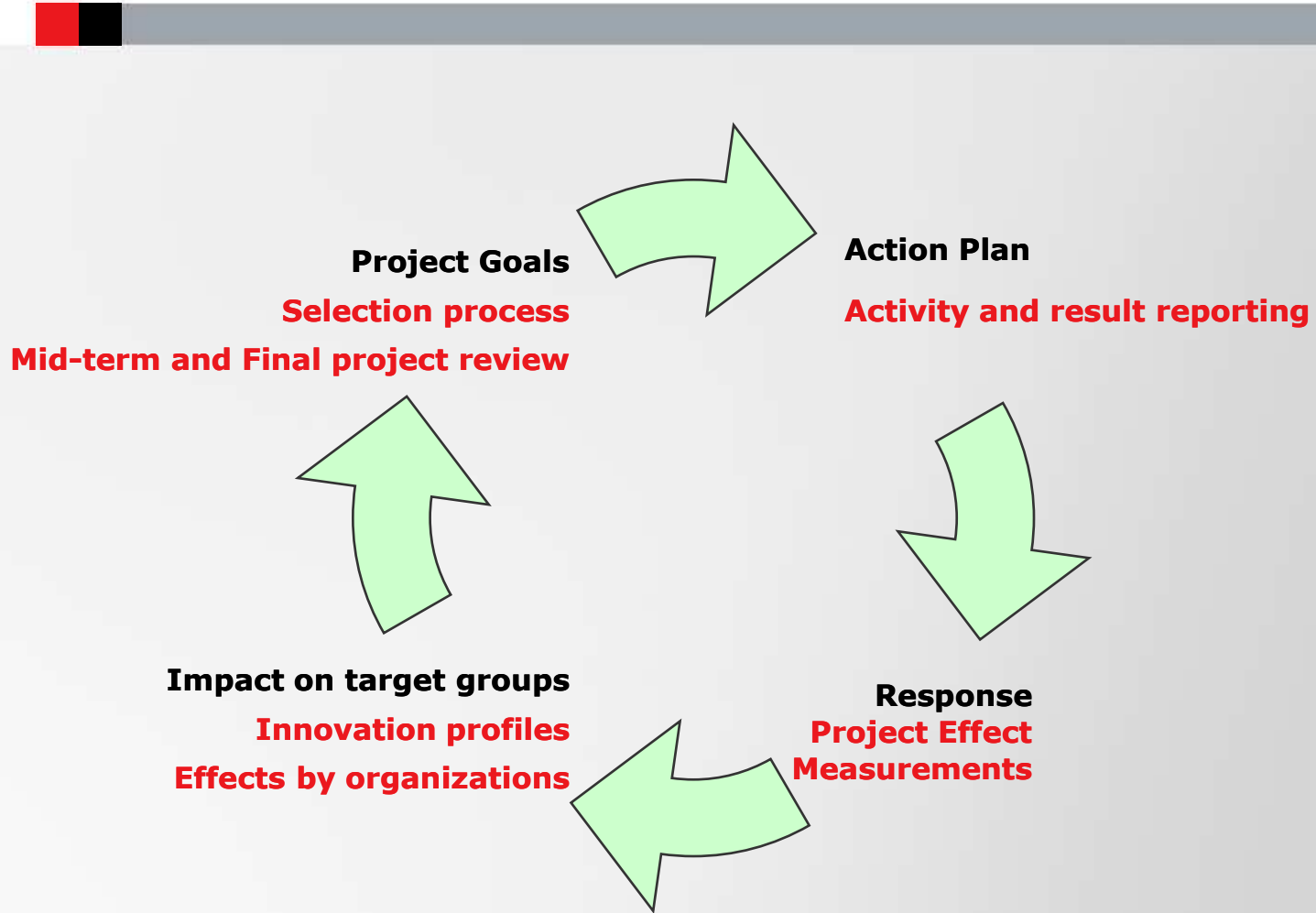
2. Monitoring and evaluation



3. Experiences with monitoring and evaluation in Flanders



3.1. Monitoring of services



3.1 monitoring of services : 'Action' – 'Reaction' – 'Effects'...

VIS activities

Innovation sources

- Proactive innovation stimulation
- Routine testing and expertise
- Knowledge transfer
- Audit
- Referral and networking
- Project-oriented functioning
- VIN networking

- Strategy
- Processes
- Methods
- Resources
- Organisation
- Capacity
- Culture

1st order

- RESULT 1**
- Use of information
 - Use of expertise and testing
 - Valorisation of advice
 - Follow-up action
 - Conversion of innovation opportunities into a project
 - Contacting partners
 - Formulate and execute an innovation plan

2nd order

- EFFECTS**
- Innovation strategy
 - Networking/ collaboration
 - Innovation paths
 - Improved/new products, services, processes
 - Business opportunities
 - Innovation management

3rd order

- EFFECTS**
- Quality improvement
 - Cost reduction
 - Shorter throughput time
 - Customer relations
 - Market development

Impact

- IMPACT**
- Turnover increase
 - Profit increase
 - Increase in entrepreneurial value
 - Improvement of the firm's reputation



FOCUS VIS effectiveness measurement (at the program level)

Figure by : IDEA consult

3.1. Monitoring of services

Activity and results reporting

- Web based reporting of activities
- Predefined list of activities (with added value for target group)
- Provides a summary of what they are doing

13 activities + no. of clients, no. of cooperative actions

1. Information actions
2. Publications
3. Seminars
4. Company visits
5. Ad hoc services (eg. By phone)
6. Technology transfer
7. Partner Matching
8. Advice
9. Audits
10. Innovation plans
11. Feasibility studies
12. Innovation projects
13. Innovation coaching

Well defined and
standard list
of actions

3.1. Monitoring of services

Activity, result and effect reporting

- 13 indicators for how well a project is running
- Project leaders define target values (at contract negotiating phase)
- Project leaders report to IWT and to industrial 'steering group'
- All activities are reported 2 times/year (accuracy of data)
- Most numbers require additional info
 - 'Seminars' requires title, date, place, number of attendees to be added for each reported seminar (consistency check)
 - For each report up to 4 success stories can be added (1 page)
- Fits in the evolution to give more responsibility to project leaders
- Information available for policy makers and board

3.1. Monitoring of services

Effect reporting – project level

How: Measurement of Direct Response on Activity

Eg. After Advice: Does company uses advice? Y/N

Eg. After Seminar: Does attendee asks additional info? Y/N

→ Counting number of responses

What it is NOT: a measurement of the economical benefits for companies

7 direct effects identified and described (direct response on activity)

8 indirect effects identified (longer term effects and attribution to action not straight forward)

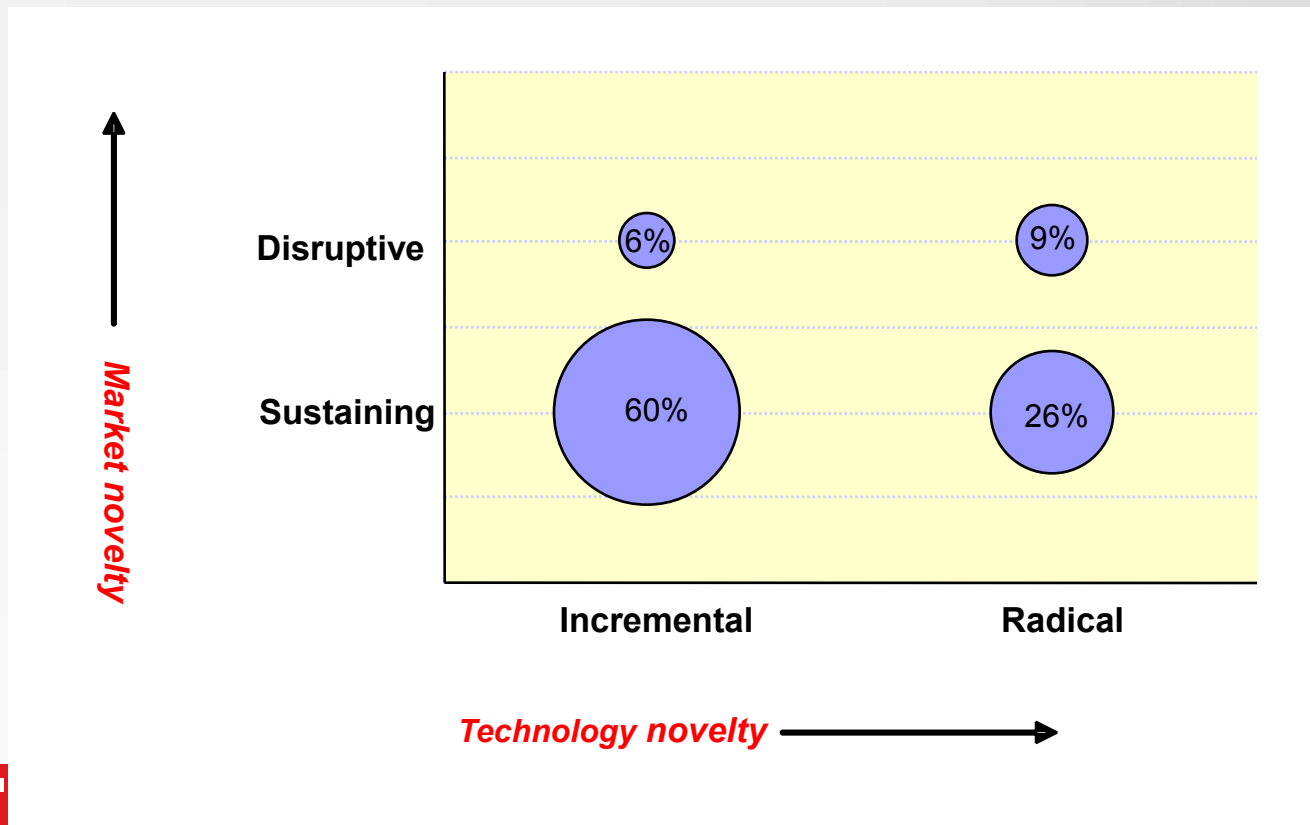
Eg. Company increased its R&D budget? Y/N

3.2. Monitoring at Programme level

- Programme monitoring is organised by IWT but data gathering is outsourced
 - Mix of short term and long term
 - Short term : limited information regarding programme objectives
 - Long term : difficult to keep in causal connection with subsidised activity
 - Mix of direct effects, indirect effects and impact at company level
 - Data gathering through company survey's
- Provide information for programme optimisation
- Results used to inform policy makers and justify expenses

3.2. Monitoring at Programme level

Examples of Results : **Ambitions** of 'Technology support projects'
(technology- en market ambition)



3.2. Monitoring at Programme level

Examples of Results: Target-groups/sectors

Type of sector	High technology	Medium-high technology	Medium-low technology	Low technology	Blanc
Subprogram					
SIS	0%	0%	0%	0%	100,00%
TD	5%	9%	10%	66%	9,89%
TIS	27%	12%	13%	38%	10,53%
Grand Total	16%	10%	11%	50%	13,02%

3.3. Additionality of R&D support to companies

From market failure to market creation

- Rationale for subsidies: market failure (passive)
- But more and more pressure to prove the additional effects of subsidies as **active** driver for innovation

→ Focus on Additionality questions

- Input Add.: Effect of subsidies on companies R&D spending
- Output Add. : Effect of subsidies on R&D results
- Behavior Add. : Effects on Innovation behavior

3.3. Additionality of R&D support

Results : Large Input additionality of R&D subsidies

Main question : "How much would a firm that has received a subsidy, have spent on R&D if it would not have been subsidised?"

Results from IWT-study 54: "The impact of Public R&D-funding in Flanders" by Aerts and Czarnitzki

- Firms spend 100% more on R&D compared to situation where no subsidies would be available
- Innovative firms spend 53% more
- For IWT-funding : the effect of 1 euro of additional funding leads to 0.85 to 1.34 euro add. R&D spending at firm level
- No crowding out: the full amount of subsidies is transformed in R&D expenditures

<http://www.iwt.be/downloads/publicaties/observatorium/obs54.pdf>



3.3. Additionality of R&D support

Results : Behavior additionality of R&D-subsidies

Main question : "do firms change the way they do R&D in a desirable direction as a result from receiving subsidies ?"

- Faster, broader scope, more risky, ...

Results from IWT-study 54 "A look into the Black Box" by Steurs, Verbeek, Vermeulen and Clarysse

- 40% of projects would **not** haven taken place without IWT-subsidies
- 70% of firms undertake regular R&D&I-projects after receiving IWT-subsidies
- Firms that received subsidies tend to come back
- Subsidized projects **more ambitious and of larger scale**
- Positive effects for SME's on **involvement of external knowledge centers**
- Limited 'Competence additionality" (innovation skills), but spill-over to non-subsidized projects
- Subsidies enable firms to undertake their projects **faster**



3.4. Measurement of overall impact of innovation support

Information on projects and programmes available but some **remaining open questions from policy makers**

- Do we spend the money in coherence with priorities of policy objectives
- Why spend 40 M €/year on innovation support
- What is impact of overall innovation support system (not from single programme or single projects)
- How to increase innovation in Flanders

3.4. Measurement of overall impact of innovation support



No easy answer to questions from policy makers

- Lack of relation between money spendings and policy objectives
- Lack of transparency of money distribution (priority settings)
- Difficulties to measure impact of innovation support system
- No second-life without innovation support services available

IMPACTSCAN – EU project – 7 regions

- Focus on intermediaries to create relation between policy objectives and innovation support services
- Numerical analysis of regional budget for innovation support

3.4. Measurement of overall impact of innovation support

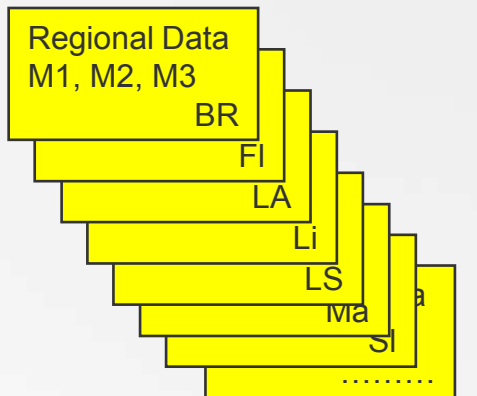
IMPACTSCAN : www.impactscan.net (to download tool and users guide)



(1) data gathering

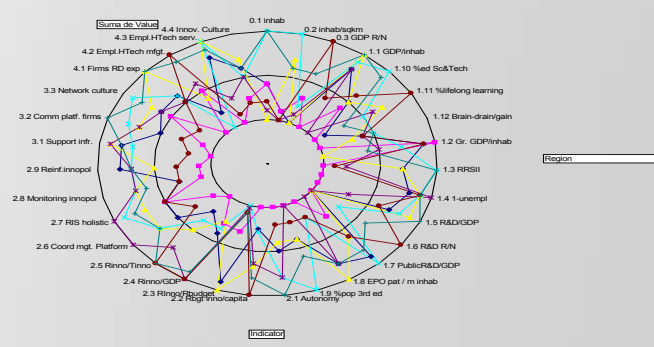
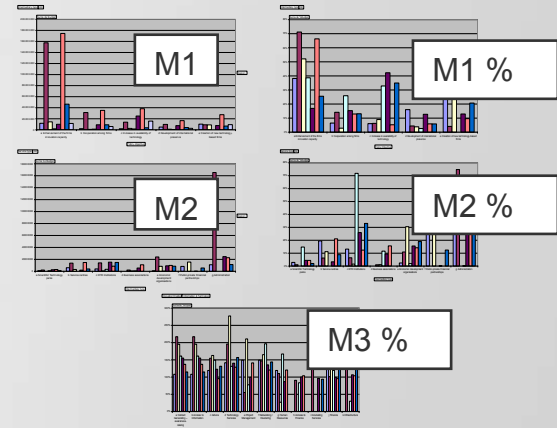
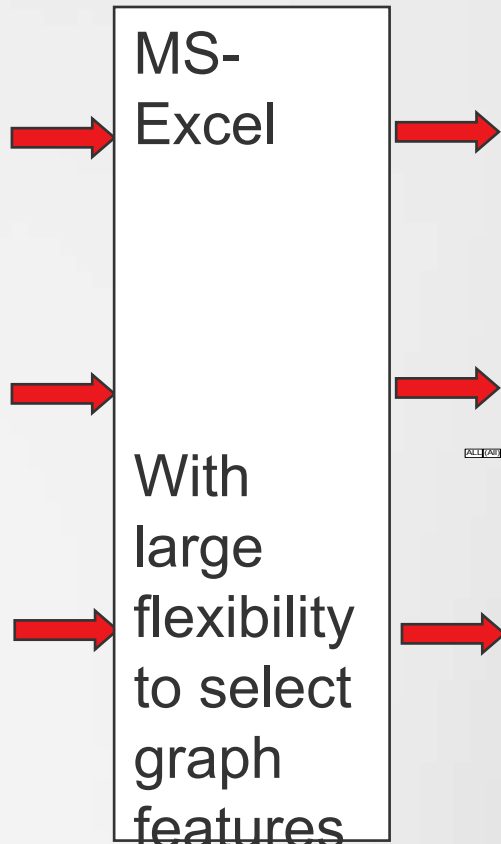
(2) data processing

(3) data analysis



CONTEXT SETTING INDICATORS

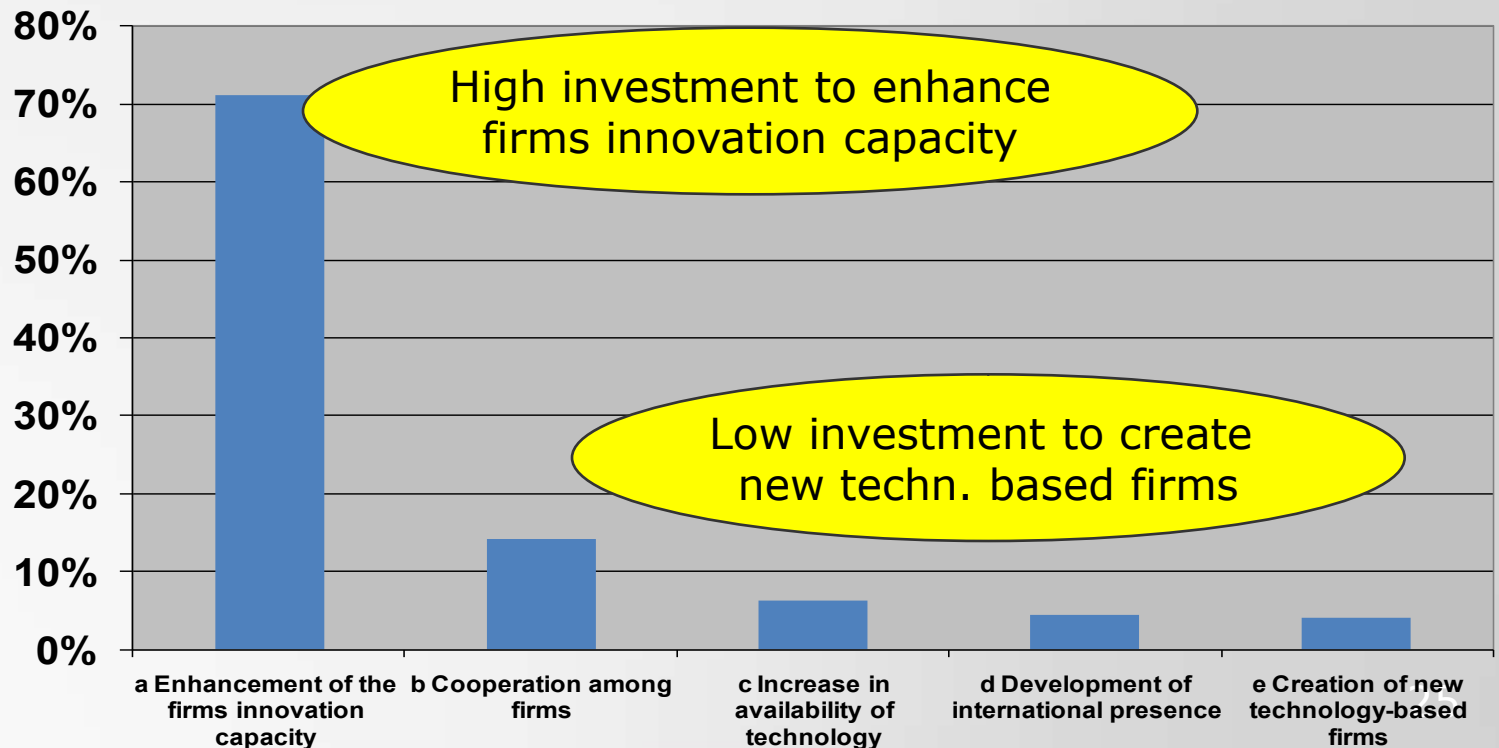
Indicator	BR	FI	LA	Li	LS	Ma	SI
0.1 GDP per inhabitant	20266	27416	23357	27262	24471	28916	13.124
0.2 Innovation of regional authorities	4,61	7,26	3,1	1,2	6,27	3,61	3,61
0.3 Innovation of regional authorities - Innovation Index	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.4 Innovation of regional authorities - Innovation Index (2005-2008)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.5 Innovation of regional authorities - Innovation Index (2009-2012)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.6 Innovation of regional authorities - Innovation Index (2013-2016)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.7 Innovation of regional authorities - Innovation Index (2017-2020)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.8 Innovation of regional authorities - Innovation Index (2021-2024)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.9 Innovation of regional authorities - Innovation Index (2025-2028)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.10 Innovation of regional authorities - Innovation Index (2029-2032)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.11 Innovation of regional authorities - Innovation Index (2033-2036)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.12 Innovation of regional authorities - Innovation Index (2037-2040)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.13 Innovation of regional authorities - Innovation Index (2041-2044)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.14 Innovation of regional authorities - Innovation Index (2045-2048)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.15 Innovation of regional authorities - Innovation Index (2049-2052)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.16 Innovation of regional authorities - Innovation Index (2053-2056)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.17 Innovation of regional authorities - Innovation Index (2057-2060)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.18 Innovation of regional authorities - Innovation Index (2061-2064)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.19 Innovation of regional authorities - Innovation Index (2065-2068)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.20 Innovation of regional authorities - Innovation Index (2069-2072)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.21 Innovation of regional authorities - Innovation Index (2073-2076)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.22 Innovation of regional authorities - Innovation Index (2077-2080)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.23 Innovation of regional authorities - Innovation Index (2081-2084)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.24 Innovation of regional authorities - Innovation Index (2085-2088)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.25 Innovation of regional authorities - Innovation Index (2089-2092)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.26 Innovation of regional authorities - Innovation Index (2093-2096)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.27 Innovation of regional authorities - Innovation Index (2097-2100)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.28 Innovation of regional authorities - Innovation Index (2101-2104)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.29 Innovation of regional authorities - Innovation Index (2105-2108)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.30 Innovation of regional authorities - Innovation Index (2109-2112)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.31 Innovation of regional authorities - Innovation Index (2113-2116)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.32 Innovation of regional authorities - Innovation Index (2117-2120)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.33 Innovation of regional authorities - Innovation Index (2121-2124)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.34 Innovation of regional authorities - Innovation Index (2125-2128)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.35 Innovation of regional authorities - Innovation Index (2129-2132)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.36 Innovation of regional authorities - Innovation Index (2133-2136)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.37 Innovation of regional authorities - Innovation Index (2137-2140)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.38 Innovation of regional authorities - Innovation Index (2141-2144)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.39 Innovation of regional authorities - Innovation Index (2145-2148)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.40 Innovation of regional authorities - Innovation Index (2149-2152)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.41 Innovation of regional authorities - Innovation Index (2153-2156)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.42 Innovation of regional authorities - Innovation Index (2157-2160)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.43 Innovation of regional authorities - Innovation Index (2161-2164)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.44 Innovation of regional authorities - Innovation Index (2165-2168)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.45 Innovation of regional authorities - Innovation Index (2169-2172)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.46 Innovation of regional authorities - Innovation Index (2173-2176)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.47 Innovation of regional authorities - Innovation Index (2177-2180)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.48 Innovation of regional authorities - Innovation Index (2181-2184)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.49 Innovation of regional authorities - Innovation Index (2185-2188)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
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0.51 Innovation of regional authorities - Innovation Index (2193-2196)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
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0.56 Innovation of regional authorities - Innovation Index (2213-2216)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.57 Innovation of regional authorities - Innovation Index (2217-2220)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.58 Innovation of regional authorities - Innovation Index (2221-2224)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.59 Innovation of regional authorities - Innovation Index (2225-2228)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.60 Innovation of regional authorities - Innovation Index (2229-2232)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.61 Innovation of regional authorities - Innovation Index (2233-2236)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.62 Innovation of regional authorities - Innovation Index (2237-2240)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.63 Innovation of regional authorities - Innovation Index (2241-2244)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.64 Innovation of regional authorities - Innovation Index (2245-2248)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.65 Innovation of regional authorities - Innovation Index (2249-2252)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
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0.70 Innovation of regional authorities - Innovation Index (2269-2272)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.71 Innovation of regional authorities - Innovation Index (2273-2276)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.72 Innovation of regional authorities - Innovation Index (2277-2280)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.73 Innovation of regional authorities - Innovation Index (2281-2284)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.74 Innovation of regional authorities - Innovation Index (2285-2288)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.75 Innovation of regional authorities - Innovation Index (2289-2292)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
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0.77 Innovation of regional authorities - Innovation Index (2297-2300)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
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0.80 Innovation of regional authorities - Innovation Index (2309-2312)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.81 Innovation of regional authorities - Innovation Index (2313-2316)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.82 Innovation of regional authorities - Innovation Index (2317-2320)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
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0.94 Innovation of regional authorities - Innovation Index (2365-2368)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.95 Innovation of regional authorities - Innovation Index (2369-2372)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
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0.98 Innovation of regional authorities - Innovation Index (2381-2384)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
0.99 Innovation of regional authorities - Innovation Index (2385-2388)	0,51	0,61	0,37	0,43	0,31	0,51	0,38
1.00 Innovation of regional authorities - Innovation Index (2389-2392)	0,51	0,61	0,37	0,43	0,31	0,51	0,38




3.4. Measurement of overall impact of innovation support IMPACTSCAN

Identify policy objective with highest/lowest share of budget and compare with priority settings from policy makers.

M1% Intermediaries vs Policy objectives



In conclusion – some lessons learnt



Monitoring and evaluation in Flanders to provide quantitative and qualitative information

to

- Project owners
- IWT (programme manager)
- Policy makers

Data gathering on activities, results, effects and impact (a mix of short term and long term)

Include information from end-users (industry)

THANK YOU FOR YOUR ATTENTION



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