

Industrial symbiosis and eco-industrial parks: best practices in the European Union

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Developing Industrial Areas

Sofies Key Expert in Industrial Ecology: **Dr. Ing. Guillaume Massard**

Fields of expertise

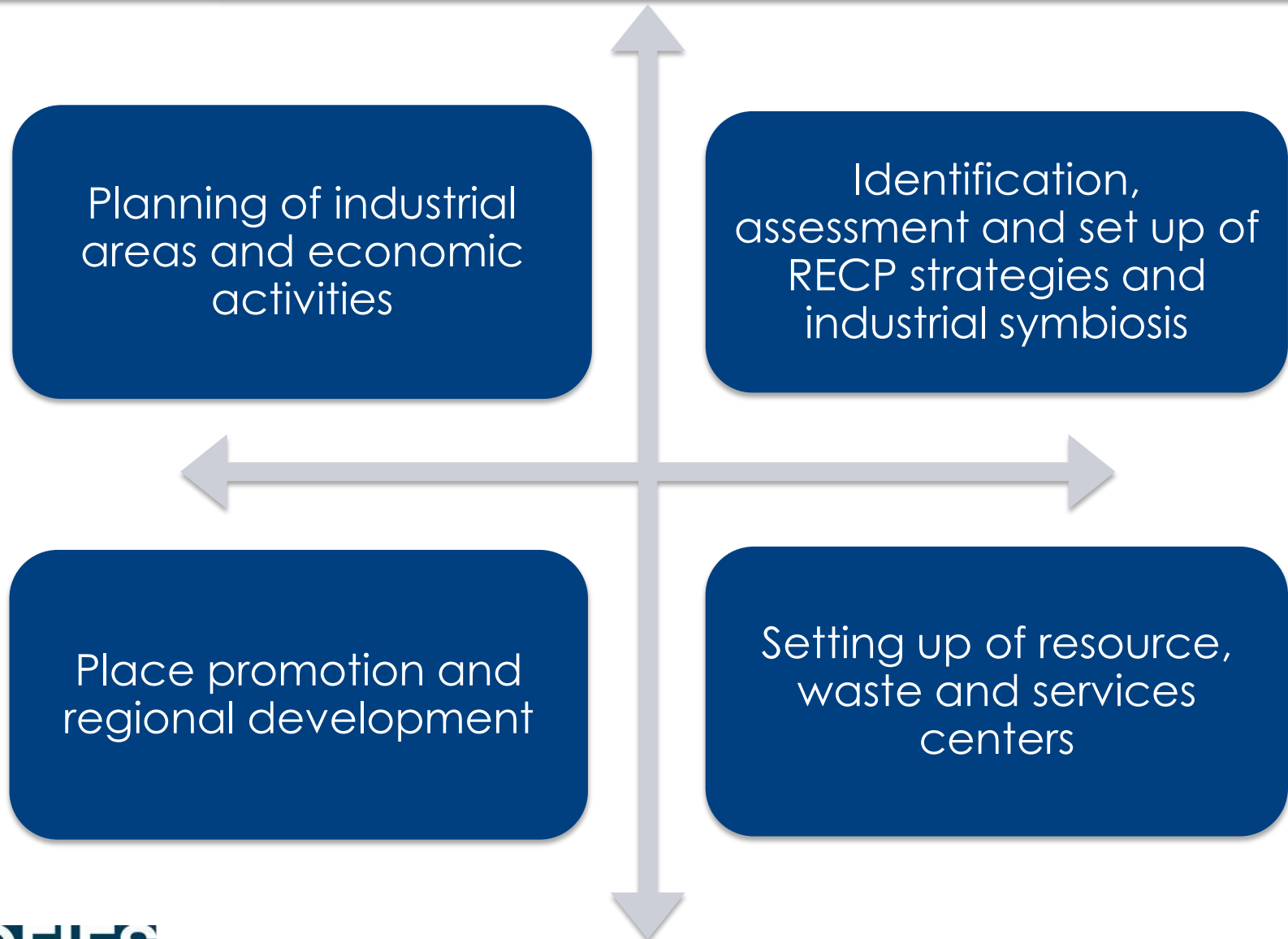
- Industrial ecology
- Resource efficiency
- Waste management
- Eco-industrial parks development and planning
- Regional development



Key accomplishments

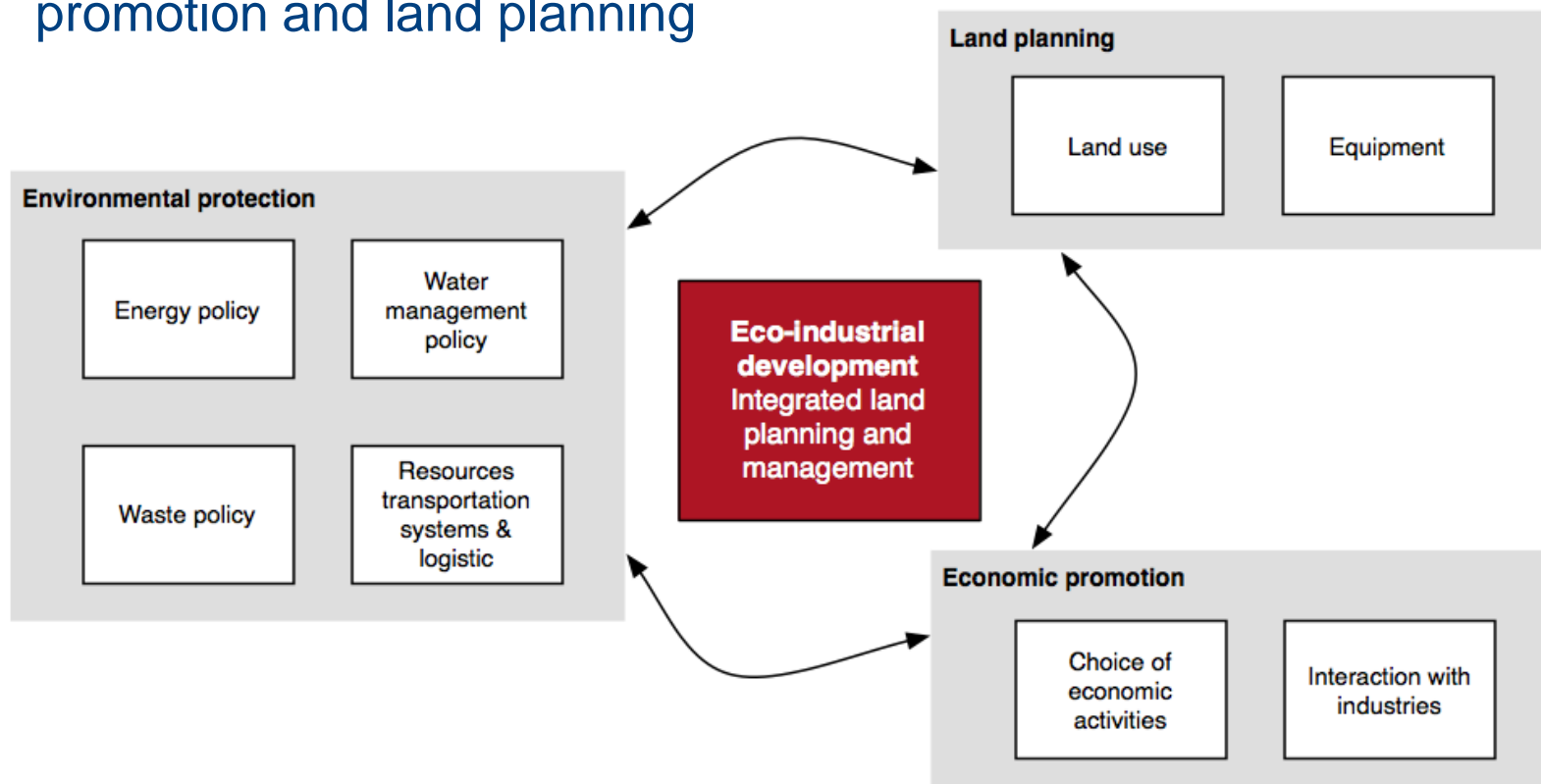
- National expert for the management of industrial estate for the Swiss government (policy and technical issues)
- Developer of tools for management of material flows
- Training and services for industrial park at the international scale

Developing Industrial Areas

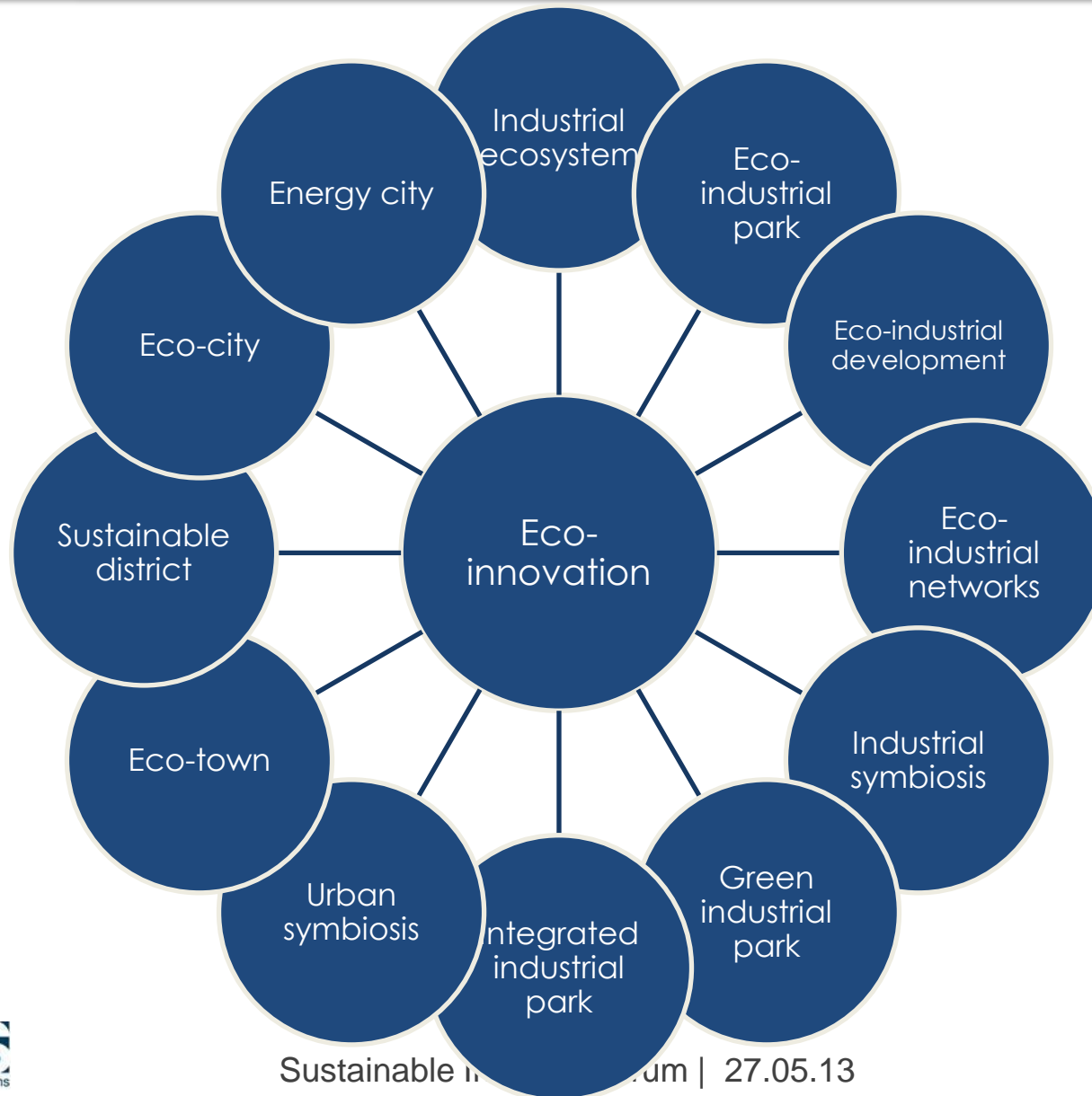


Industrial symbiosis and eco-industrial development

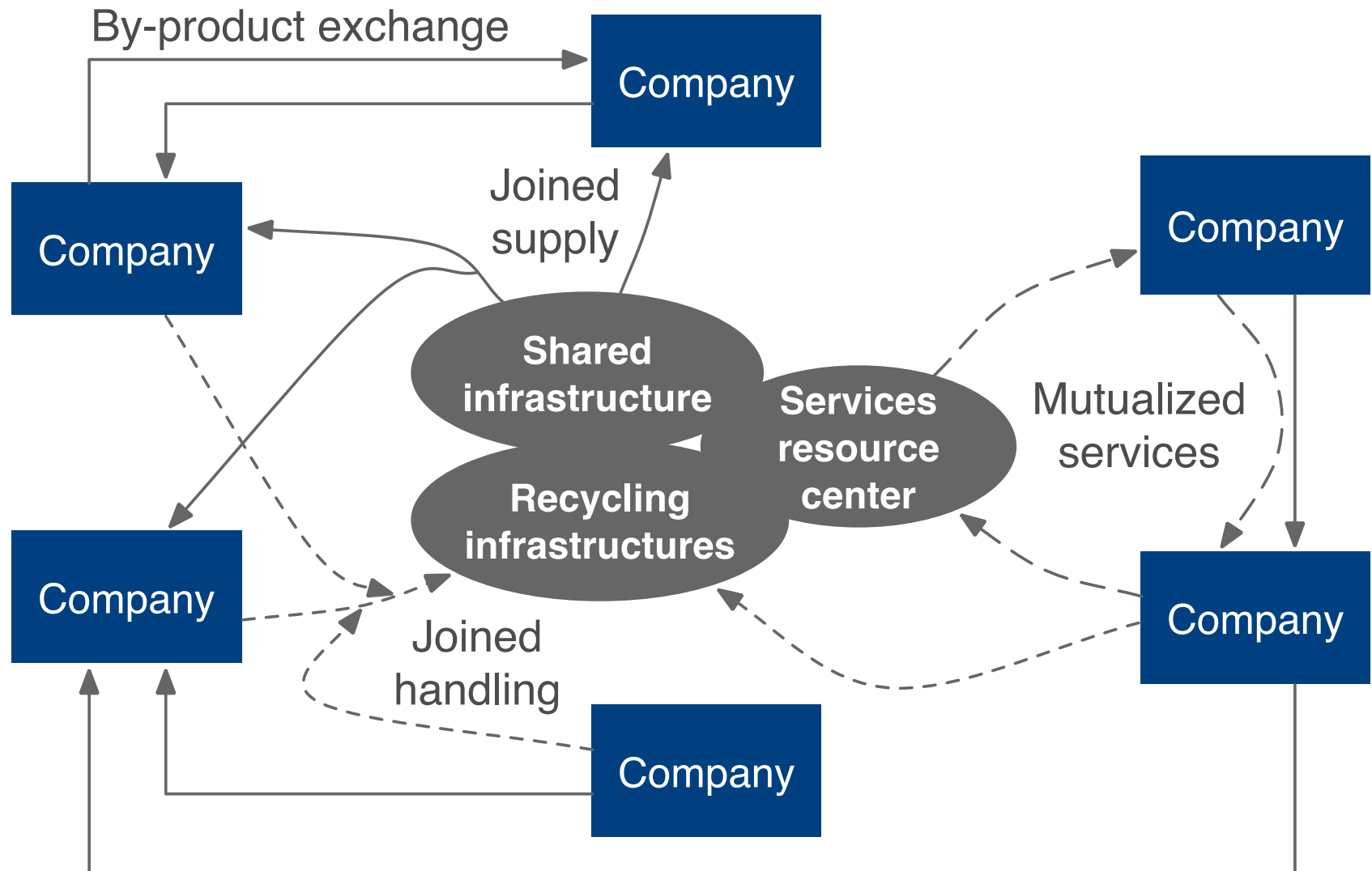
- ✓ **Industrial symbiosis** involve economic activities in a collective approach for the reduction of environmental impact and costs
- ✓ **Eco-industrial development** considers IS and sustainable resources management as an opportunity for economic promotion and land planning



Industrial symbiosis and eco-industrial development

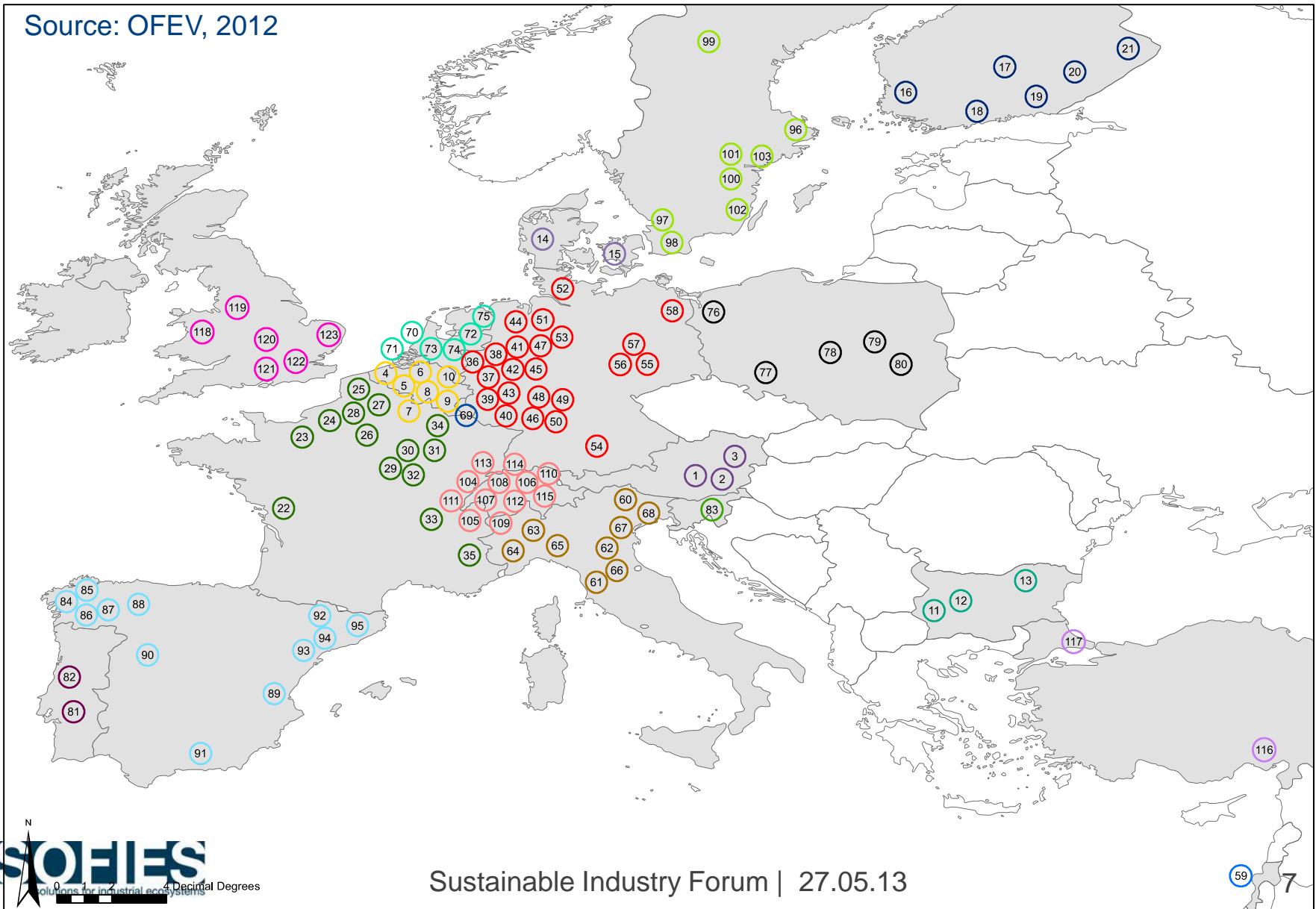


Industrial symbiosis and eco-industrial development



International survey on eco-innovation in industrial parks

Source: OFEV, 2012



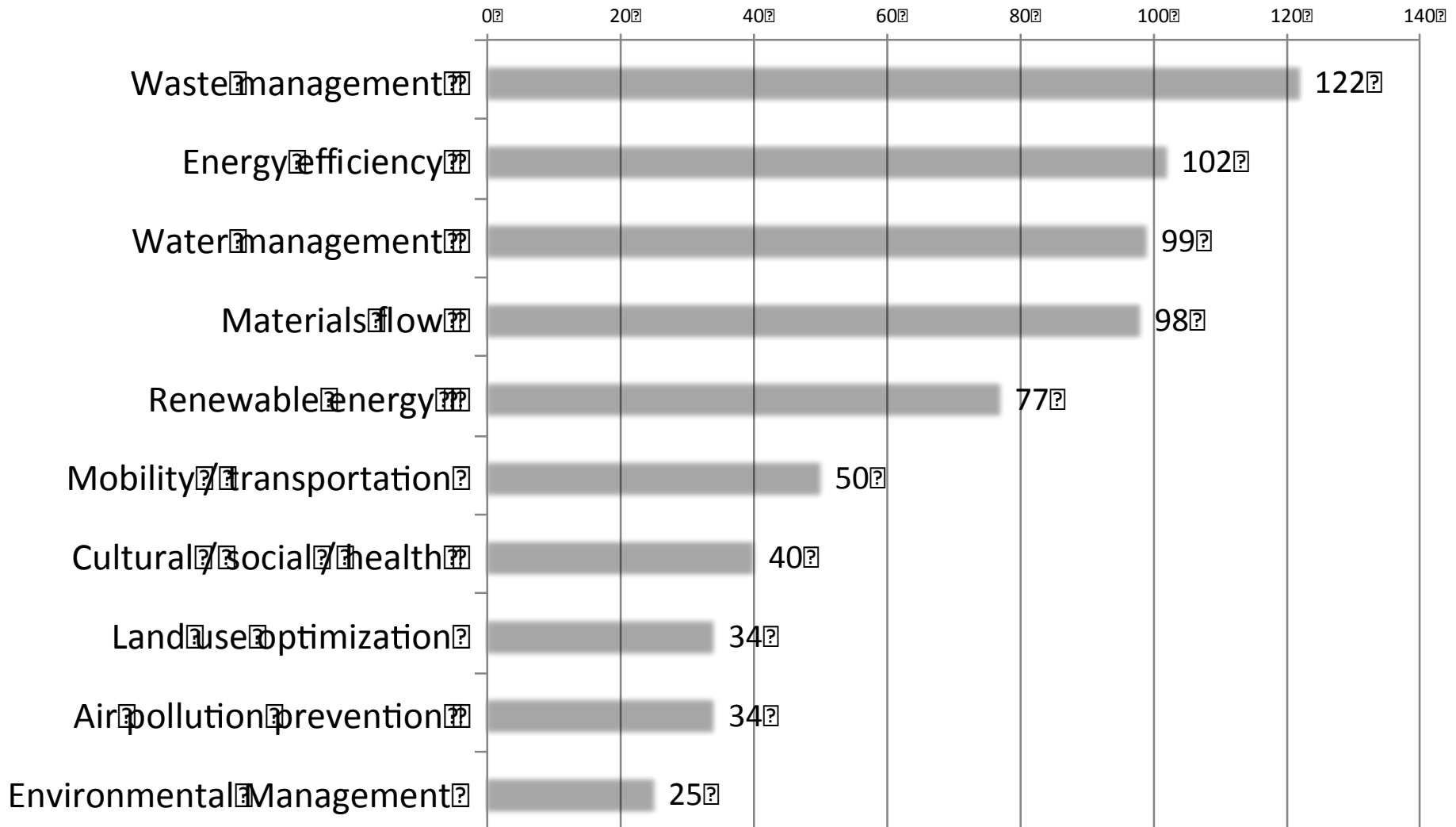
International survey on eco-innovation in industrial parks

Source: OFEV & Sofies, 2012

		Identified	Non-detailed	Detailed as case study			
		total	total	total	industrial	combined	urban
European countries	Austria	4	1	3	2	0	1
	Belgium	10	3	7	6	1	0
	Bulgaria	2	1	1	1	0	0
	Denmark	5	2	3	0	2	1
	Finland	9	4	5	5	0	0
	France	19	5	14	13	0	1
	Germany	40	15	25	24	1	0
	Ireland	2	2	0	0	0	0
	Italy	18	9	9	7	2	0
	Luxembourg	1	0	1	0	1	0
	Netherlands	16	9	7	7	0	0
	Poland	6	1	5	4	1	0
	Portugal	7	5	2	1	1	0
	Slovenia	1	0	1	1	0	0
	Spain	15	3	12	9	3	0
	Sweden	11	4	7	1	5	1
	Switzerland	22	14	8	7	1	0
	United Kingdom	14	9	5	4	1	0
Non-European countries	Australia	8	4	4	4	0	0
	China	20	7	13	7	6	0
	India	12	6	6	6	0	0
	Israel	2	1	1	1	0	0
	Japan	28	20	8	8	0	0
	South Korea	7	0	7	6	0	1
	Turkey	3	1	2	2	0	0
	United Arab Emirates	2	0	2	0	0	2
	United States of America	17	8	9	6	3	0
TOTAL		301	134	167	132	28	7
					167		

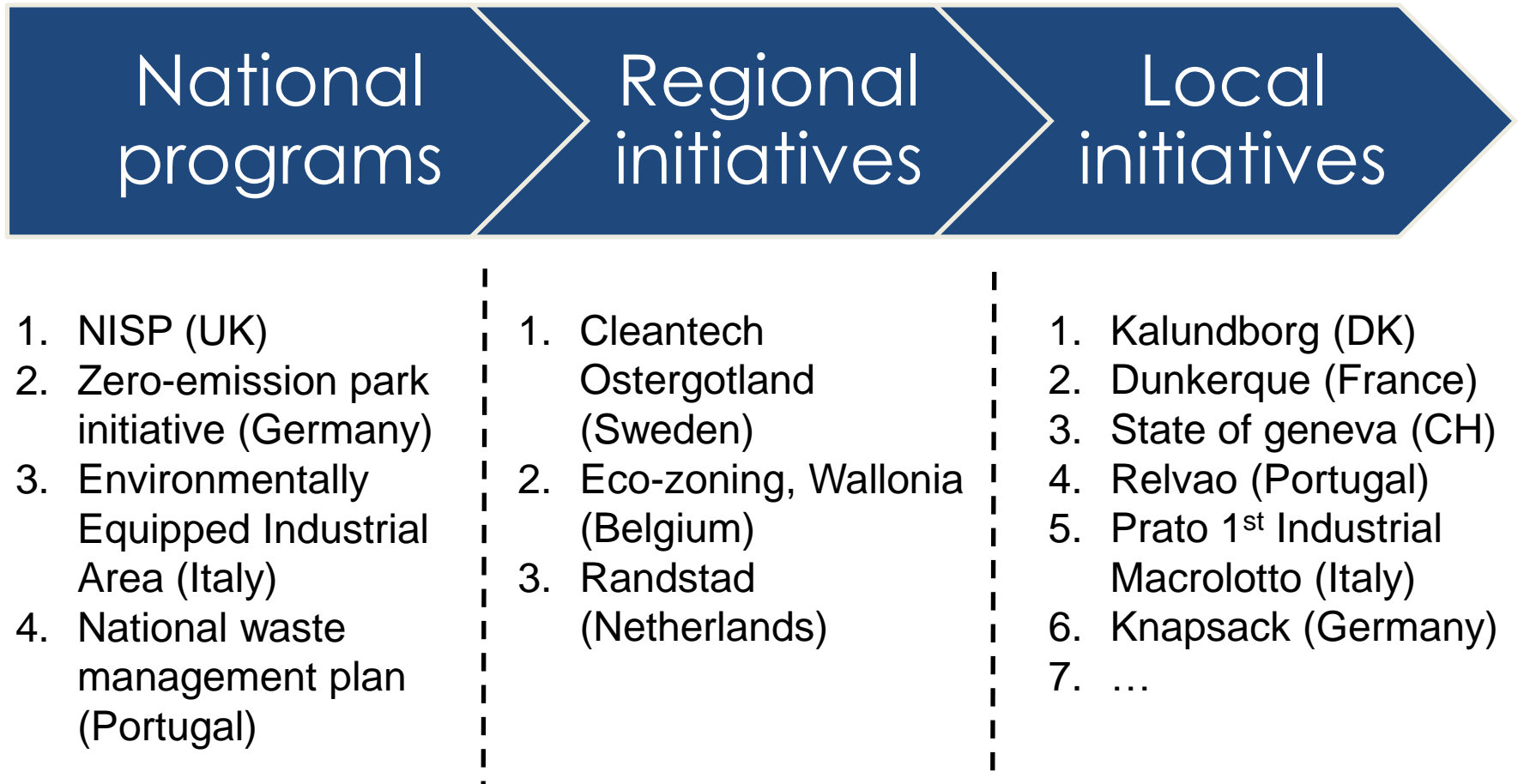
International survey on eco-innovation in industrial parks

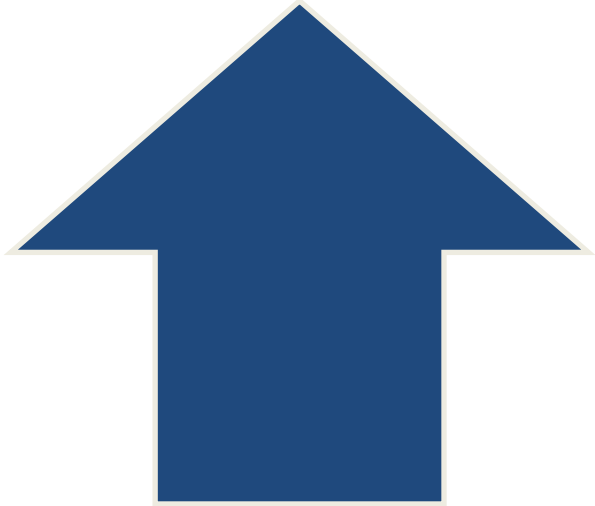
Source: OFEV & Sofies, 2012



Origin of initiatives and support mechanisms

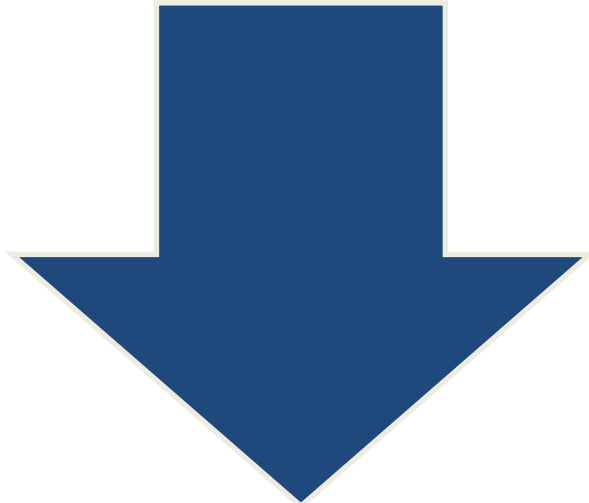
Diversity of support mechanisms for industrial symbiosis and eco-industrial park in Europe





Juvenile recycling system

- Divert waste from landfill through the development of eco-industries or direct waste reuse
- Waste to energy



Mature recycling system

- Energy networks
- Shared services
- Eco-industrial development
- Clustering reinforcement

Sofies SA

20 consultants active in 21 countries



THE
WORLD
BANK



Thank you for your attention!

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