



ROYAL SWEDISH ACADEMY OF ENGINEERING SCIENCES



“To promote the engineering and economic sciences and the advancement of business and industry for the benefit of society”

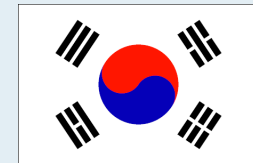
IVA statutes, §1

Research and innovation foresight

RESEARCH AND INNOVATION DEVELOPMENT WILL
MAKE SWEDEN EUROPE'S MOST ATTRACTIVE NATION
CONCLUSIONS FROM IVA'S AND VINNOVA'S RESEARCH & INNOVATION FORESIGHT



Strategies for research prioritisation



Swedes like the really tough challenges



Swedes like the really tough challenges



Statistics from around the world

	GERD (% GDP)	BERD (% GDP)	Venture capital (% GDP)	Triadic patents per mio population	Scient. articles per mio population	Sc. & Eng. degrees (% of new degr)
Sweden	3.7	2.8	0.22	10437	1109	26.5
Finland	3.4	2.4	0.09	6833	918	30.1
Netherlands	1.7	1.0	0.09	8624	851	15.9
Switzerland	2.9	2.1	0.13	13857	1167	26.7
South Korea	3.5	2.7	0.07	7524	341	37.8
Taiwan	2.6	1.7	0.11	2143	653	34.3

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How do people organise themselves?

Organisational questions




(How) do universities, government and businesses work together?




Who to contact when the guidelines are too vague?

Coordination & roadmapping

	Sweden	Switzerland	Netherlands	Finland	Taiwan	South Korea
Formal inter-ministerial / inter-departmental coordinating bodies	Disagree	Agree	Agree	Agree	Agree	Agree
Science and innovation council/platform headed by President/ Prime Minister	Disagree	Disagree	Agree	Agree	Agree	Agree
National roadmaps for research performed regularly	Disagree	Disagree	Agree	Agree	Agree	Agree
Frequent use of consultants for governmental foresights	Disagree	Disagree	Agree	Agree	Intermediate	Intermediate
Frequent use of international advisory/review panels for government programmes	Disagree	Disagree	Disagree	Agree	Agree	Agree

 = agree

 = disagree

 = intermediate

Purpose of roadmapping?

- Adaptable blueprints for agencies and private sector
- Cross-linkages between top researchers and orgs

Example:

South Korea: up to 2000 experts meet 4x a year

Special feature:

Chairpersons in early 30s from the private sector


Don't forget the enthusiasm of the young...




How are these roadmaps
coordinated with other players?

International & market coordination

	Sweden	Switzerland	Netherlands	Finland	Taiwan	South Korea
Agency for International Business facilitating access to international markets	Disagree	Disagree	Agree	Disagree	Disagree	Agree
Presence of major institute facilitating innovation-to-market development (e.g. TNO, VTT, ITRI)	Disagree	Disagree	Agree	Agree	Agree	Disagree
Infrastructure roadmaps are officially coordinated with neighbouring/associated countries	Disagree	Disagree	Agree	Agree	Disagree	Disagree

 = agree

 = disagree

 = intermediate



We would all be better off if we coordinated our research efforts – it is not just a competition!

Special feature international coordination

Example:

Taiwan's 'piggy-back' funding scheme

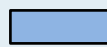
EU FP7 participation gives access to matching grant from the Taiwanese government.


We argue that coordination of research activities needs a certain degree of prioritisation of research themes.

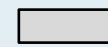
But to which degree should research be prioritised?

Balance between prioritised & block funding

	Sweden	Switzerland	Netherlands	Finland	Taiwan	South Korea
Current balance in favour of prioritised funding to universities	Disagree	Disagree	Disagree	Disagree	Agree	Agree
Current balance in favour of block funding to universities	Agree	Agree	Agree	Agree	Intermediate	Intermediate
Tendency to further increase prioritisation of university funding	Agree	Intermediate	Intermediate	Agree	Intermediate	Disagree

 = agree

 = disagree

 = intermediate

Mika Häkkinen says less talk more doing...



The ultimate research strategy?

