



inprofood
Towards sustainable food research


**Characteristics of current processes and
structures of research programming
across 10 European countries**

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Overview



- 
- Policy context
 - Aims of Inprofood Research Programming Study Phase 1 (WP1&WP4)
 - Methodology
 - Structures of research programming
 - Processes of research programming
 - Factors influencing research programming

Innovation and Research

The emphasis upon innovation is a response to:

- the acknowledged need to manage global challenges by harnessing technology
- the increased requirement to demonstrate research 'impact'
- the calls for greater integration between science and industry ([Owen et al., 2012](#))

INPROFOOD – *Towards inclusive research programming for sustainable food innovations* (EC FP7)






Responsible Research and Innovation



Policy context – Responsible Research & Innovation (RRI):

“transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view on the (ethical) acceptability, sustainability and social desirability of innovation process”
Directorate-General-Research (2011)

Key tenets of RRI:

- 
- socially desirable science and innovation
 - processes of mutual exchange in setting research and innovation directions
 - flexible, reflexive and socially responsible governance of the process

[Owen et al., 2012](#)



RRI and Research Funders



- research funders have an important role in fostering RRI and the purposeful exchange between science, business and civil society.
- there is limited evidence of the extent to which it is practiced by research funders
- European public health organizations have criticized the draft programme of Horizon 2020 for inadequate prioritization of public health research and overemphasis on personalized medicine ([Kogevinas et al., 2013](#)).



Aims of The First Phase of Inprofood



To delineate food and health innovation research programming

To understand factors influencing research programming



Study design



Study Challenges

- Problem definition: what is innovation and how it relates to research?
- Visibility of research programming cycle
- Breadth of food and health

Study approach

- Combination of desk research and key informants interviews
- Case studies: food and health research programming that can be characterised as “innovation research”(N=10 countries+EU)
- Network policy analysis



Funding structures per country – Food & health in general



- Only one country – UK – has Food Security as a strategy
- Germany’s innovation-focused High Tech Strategy includes food/health as a priority area



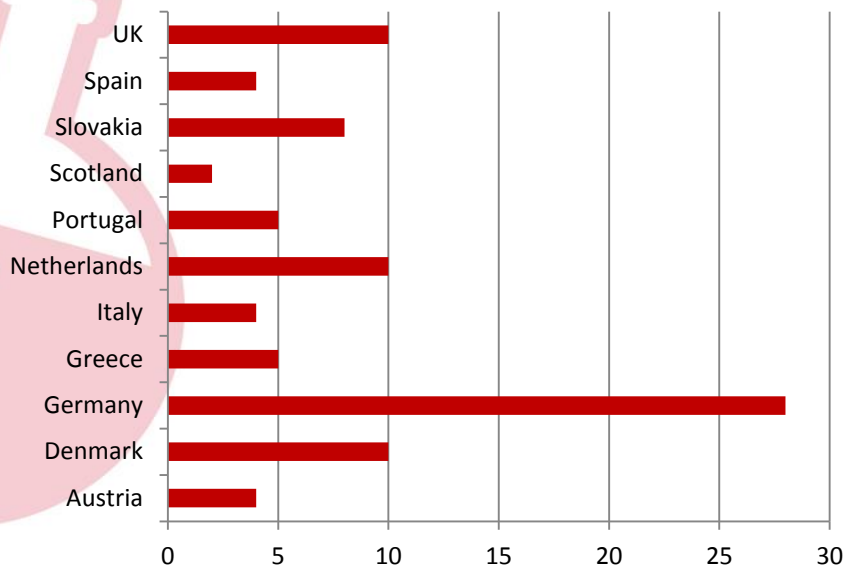
COUNTRY	HEALTH	FOOD/ AGRICULTURE	EDUCATION/ SCIENCE	ECONOMY / BUSINESS	OTHER/NOTES
Austria			✓	✓	Ministry for Transport, Innovation and Technology also funds research
Denmark		✓	✓		
Germany	✓	✓	✓	✓	Ministry for Families and Ministry for Environment also fund research
Greece			✓		
Italy	✓	✓	✓		
Netherlands	✓	✓	✓		
Portugal		✓	✓	✓	
Scotland	✓	✓			
Slovakia	✓		✓		
Spain				✓	
UK	✓	✓	✓	✓	One department covers both business and education in the UK



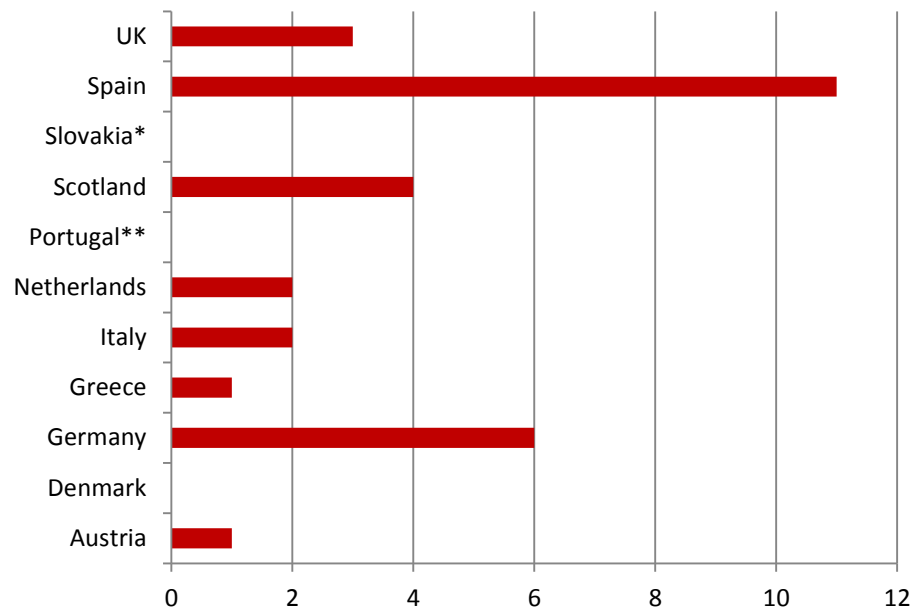
Funding structures per country – Food & health in general



Number of public sector organizations involved in food and health research funding



Number of public-private partnerships involved in food and health research fundi



*In Slovakia, over 13 percent of business R&D went toward co-funding research within the state but the areas of research were difficult to ascertain. The number involved in food and health research is thus unknown.

**In Portugal, it is known that some nonprofits provide research funding that has been financed by corporations, but the exact number is not known.

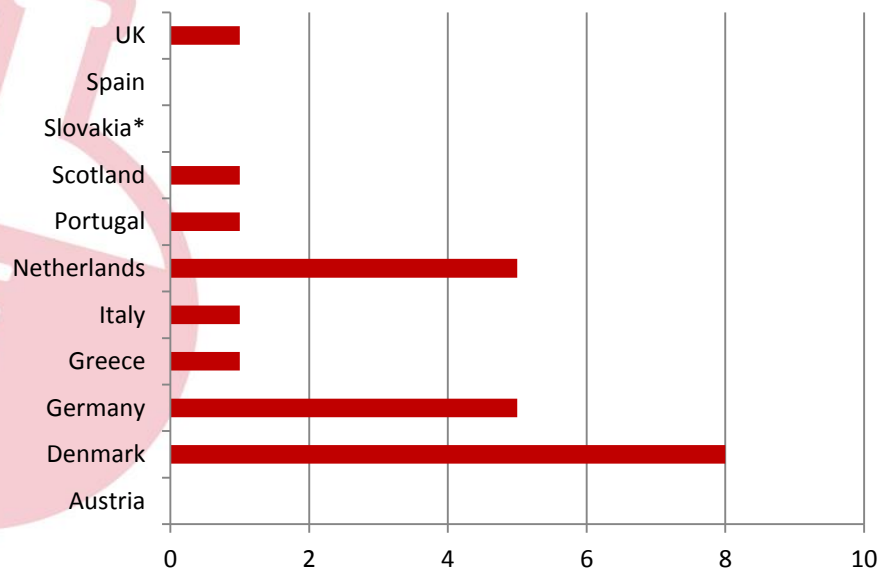




Funding structures per country – Food & health in general

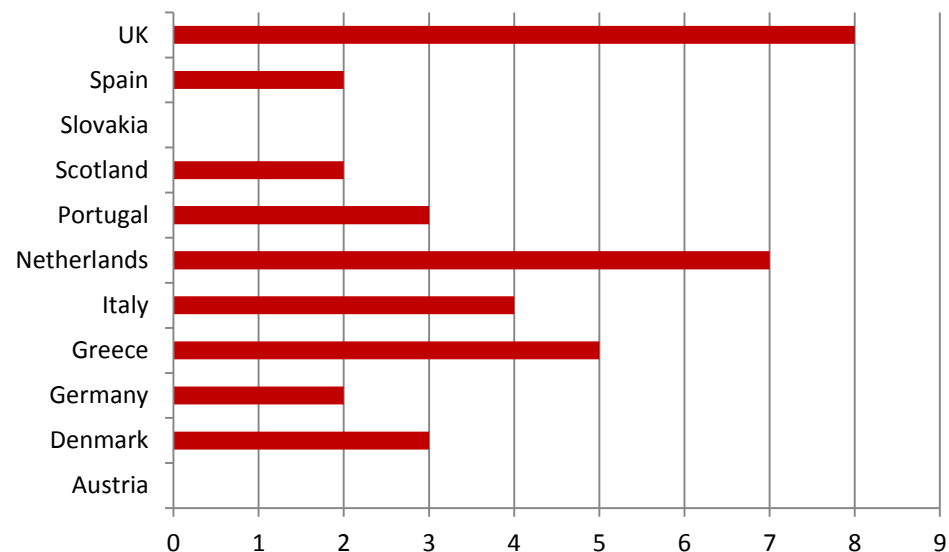


Number of private sector organizations involved in food and health research funding



*It was difficult to determine whether private sector funded research in food and health in Slovakia

Number of nonprofit sector organizations involved in food and health research funding





Research Funding Modes

Food & Health in general



Predominantly responsive mode - unsolicited

- Often guided by the principle of scientific excellence
- Used to support basic sciences and blue sky research
- Narrowly disciplinary focus
- Lack of broader vision of societal needs and poor applicability

➔ Countries: Austria, Germany; Slovakia; Spain;

Predominantly targeted mode – “themed”

- Promoted in response to a cross-cutting policy or societal challenge
- Encourages application of research
- Promotes inter-disciplinary research
- May not adhere to principles of excellence

➔ Countries: Italy; Greece; Scotland

Mixed

➔ Countries: Denmark; the Netherlands; UK





Case study - Methodology



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- Publicly-funded research programmes in food and health – development of more nutritious foods
 - 10 countries+EU
 - Purposive sampling – September 2012-July 2013
 - 55 interviews with people involved in decision-making
 - The interview schedule
 - the respondent's position;
 - innovation in general;
 - innovation in the area of food and health;
 - the decision-making processes and societal engagement
 - Qualitative method – thematic analysis

Research Programming Cycle



Participants

Country	Government	Non-profit	Industry	Academic	Other*	Total participation rate (%)
Austria (AT)	5/8	-	-	-	-	5/8 (63)
Germany (DE)	4/6	0/2	3/3	3/9	-	10/20 (50)
Greece (EL)	3/10	0/3	0/5	-	-	3/18 (17)
Italy (IT)	-	1/1	2/2	3/3	4/4	10/10 (100)
Netherlands (NL)	1/1	-	2/3	3/4	1/1	7/9 (78)
Portugal (PT)	0/4	-	3/18	2/5	-	5/27 (15)
Scotland (ST)	4/4	0/1	-	1/2	-	5/7 (71)
Slovakia (SK)	2/3	-	-	5/5	3/4	10/13 (77)
Spain (ES)	2/2	2/2	2/2	1/1	-	7/7 (100)
United Kingdom (UK)	5/9	1/2	-	-	-	6/11 (55)
EU	0	0	0	0	0	0
Total participation rate (%)	26/47 (55)	4/11 (36)	12/33 (36)	18/30 (60)	8/9 (89)	68/130 (52)



Country/EU	Project, Programme, or Area examined	Lead Organization(s)
Austria	A project in the DAFNE database (Federal Ministry of Agriculture and Forestry, n.d.)– specific name withheld due to anonymity concern	Information not available
Germany	Adipositas Project among kids and teens	Federal Ministry of Education and Research
Greece	Production of high security and quality foods through sustainable production	General Secretariat for Research and Technology (GSRT)
Italy	Selenella Potato	Italian Quality Potato Consortium consisting of: - 2 potato producers' Cooperatives 4 cooperatives 10 private merchants
Netherlands	Muscle Health and Function Research Theme	Top Institute Food and Nutrition (TIFN)
Portugal	Dairy products with improved nutrition area	Not applicable (responsive funding)
Scotland	Strategic Food, Land and People Research Programme 2011-2016	Scottish Government
Slovakia	Functional and special food products area	Not applicable (responsive funding)
Spain	Functional foods area	Not applicable (responsive funding)
United Kingdom (UK)	Global Food Security	Biotechnology and Biological Sciences Research Council
	Nutrition for Life – funding for businesses to develop innovative technologies and processes, with an emphasis on the provision of ‘healthy’ and ‘safe’ foods. (One strand for single businesses only; other strand for collaboration between businesses or business and academia)	Technology Strategy Board
European Union	FLAVIOLA- Pursuing advances in cardiovascular health (via research on flavinols) Seventh Framework Programme funding of the European Commission	Heinrich-Heine University, Germany

Characteristics of cases examined

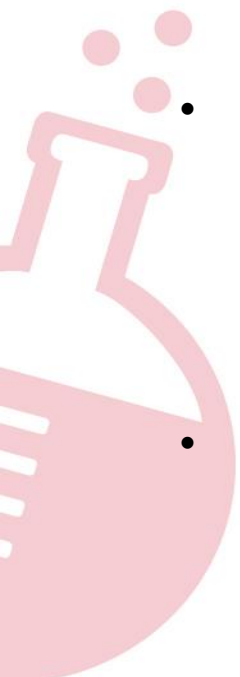
Funding mechanism	Funding mode		Degree of openness	
	Responsive	Targeted	Designated Institutes Funded	Open
Austria	√			√
Germany		√	√	
Greece		√		√
Italy	√			
Netherlands		√	√	
Portugal	√			√
Scotland		√	√	
Slovakia	√	√		
Spain		√		
UK		√		√
Europe		√		√





Characteristics of research programming cycle – findings




- Transparency
 - research programming cycle often difficult to discern
 - Openness of the process
 - In Scotland, Netherlands and Germany funding open to designated institutions
 - Agenda setting open in Scotland, UK, EU and Netherlands
 - Consultations
 - Narrow range of actors involved at this stage, in particular government, experts and business actors
 - Notable absence of NGOs from this process
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Characteristics of research programming stages



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- The explicit link between agenda setting and the research programme only for UK, Scotland and the Netherlands
 - In many other countries the agenda was determined by policy objectives
 - Power Asymmetries:
 - Influential individuals (e.g. scientists)
 - Influential institutes (e.g. Max Plank)
 - Influential actor networks (e.g. industry+scientists lobby groups)
 - Scientific expert committees involved, at different stages, mainly: Prioritisation/Specification and Peer review



How is innovation understood?



How is innovation conceived of by those making decisions about research funding?

Cognitive frames: mental structures that enable people to make sense of the world, can influence how they reason, perceive, and act ([Lakoff, 2009](#)).

The 'real world' of economics and politics are associated with changes in the cognitive framework of how innovation is understood ([Borrás, 2002](#)).






Concept of innovation



Concept of innovation

- Novelty; application; Innovation – largely associated with products
- Normative aspect – benefit; closing down
- Serendipity – mixed evidence, dependent on resources
- Innovation facilitates economic activity, societal benefits incidental



I think [organization name] would conceptualise innovation as being the introduction of a new or novel approach or way of doing something, building on perhaps pre-existing insight and knowledge, and it tended to think of innovation particularly in relation to business, so business innovation, new products and services or different approaches to delivery of products and services. I think that it would be fair to say that, whilst they have a broad conceptualisation of it, there has been a tendency towards a focus on economic activity and innovation within that. UK G5



Conditions for innovation



- Freedom from regulatory constraints, as condition for innovation

“I think [] in the last years, especially in regard to European and national funding programs, the top-down approach is [] more common, which...limits the scientist’s possibility to analyse things directly. I consider this to be important and interesting. So there are more big budget projects carried out by vast networks with very explicit and detailed demands given by the funding body leading to less flexibility in acquiring funding of those sciences which are not close to the major issues.” DE G3

- Interactions/networks: industry and academia as a way of linking knowledge production to its potential use in application.

“We believe that relationships between industry and university are crucial for the innovative process; there can’t be innovation without a tight bond between industry and university.” IT I2

- Some respondents questioned dominant focus on bioscience and commercialization at expense of other areas for innovation



Drivers of Innovation



- Motivation: innovator-led; less awareness of user-led innovation

“Mainly the personal commitment is the motor for innovations, people with ideas and visions and additionally companies or organizations who want to take up and implement them.” AT G2

- Need, or pull, through: market expression, less through societal need

I would say [] in some respects, Government wants to do that (promote innovation in food and health), not from a public health point of view, but from a point of view of economic growth, so wealth generation because, obviously, it wants companies that are based in their country to do well and to [] grow and to generate wealth for the economy. But, I think, from a public health point of view, then, in my role, we would only want that if it's positive to improving public health. ST G1

- Push, through technological advancement rather than societal innovation

“The focus still is very much on technology, on competitiveness, international competitive as the key outcome, and so on, picking the winners, even though there's a little bit more diversity built into the programme nowadays, it is still, still the vast bulk of the cash goes for kind of mega projects basically,


as far as I understand it.” UK N1





Summary of findings




- Most funding bodies apply the responsive mode of funding, driven by investigators
 - Stand-alone strategies on programmes of food & health research do not yet exist in most countries – embedded in general strategies
 - The processes of research programming are not documented in great detail
 - Stakeholder engagement, where documented, focuses on industry and academic communities
 - Civil society stakeholder groups are not involved in strategic research programming except for the EU case, Scotland and the UK
- 



Summary of findings



- There is a gap between formal processes of research programming and factors that influence the processes that are not captured by formal representations
 - Trends in research, asymmetric influences and favouritism are observed (both in terms of researchers and disciplines)
 - Cognitive framing of innovation closely reflects master narrative of innovation as the motor of economic growth ([Felt et al., 2007](#))
 - Need for reflection on normative issues raised - who defines needs or problems that are to be the 'subject' of innovation, and delineates the solutions
- 



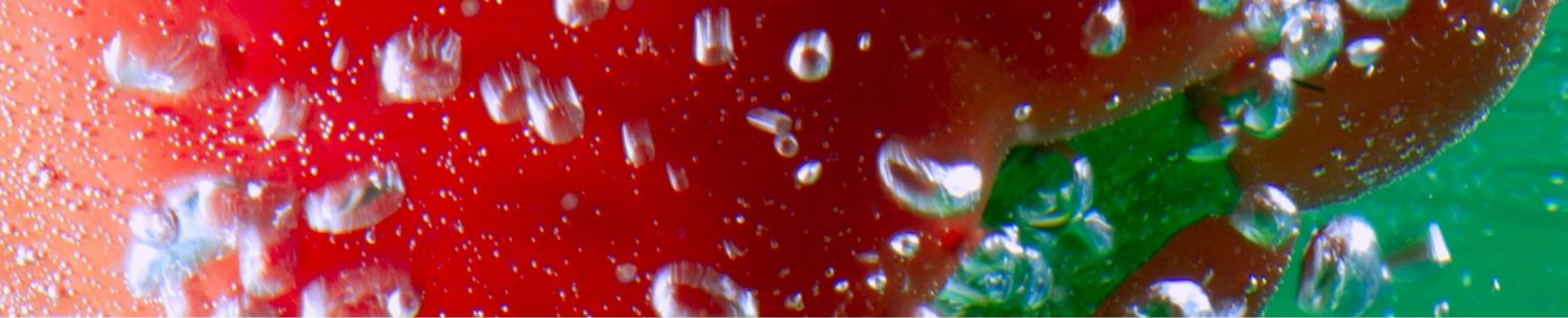
Conclusions



Innovation still conceived of as facilitating economic activity, which results in societal benefits generally; improved public health seems to be seen as an implicit, if incidental benefit of economic activity. Such framings of innovation mean that civil society engagement in research and innovation is positioned 'downstream', after agenda-setting and prioritization has already taken place.

A shift in the cognitive framing of innovation among the actors setting national research agendas and deciding on research funding is necessary if the RRI framework is to catalyse changes in the practices that characterize the research funding landscape in Europe.

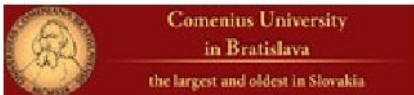




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Maastricht University



A detailed microscopic image of biological cells, likely yeast or bacteria, showing various cellular structures and organelles. The cells are densely packed and exhibit a range of colors from bright green to deep red, with some appearing as bright, glowing spots. The background is a dark, almost black, which makes the individual cells stand out prominently. The overall texture is granular and complex, typical of a high-magnification micrograph of a microbial culture.

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