

JPI Partner, EU Member State Total declared Water RDI Funding: 31.9 M€/yr Finland

There is a <u>wide range of funding bodies for water science in Finland</u>, mostly ultimately governmental. Funds can be divided into those provided by core budgets for Institutes and Universities and those provided through competition. The central funding body for research beyond core government funding in the area of water research is the Academy of Finland.

The Academy of Finland is the prime funding agency for basic research in Finland, operating within the administrative sector of the Ministry of Education and Culture and funded through the state budget. It is an umbrella organization of the four Research Councils. The Academy's mission is to finance high-quality scientific research, act as a science and science policy expert, and strengthen the position of science and research. The Academy works to contribute to the renewal, diversification and increasing internationalisation of Finnish research. Its operation covers the full spectrum of scientific disciplines.

The Academy of Finland's Research Programme on Sustainable Governance of Aquatic Resources (AKVA, 2012–2016) supports scientific research that contributes to the sustainable governance, adequacy and future safety of water and aquatic resources. The research programme contributes to enhancing the scientific standards of water research in Finland. The aim of the programme is to generate new, scientifically sound and relevant knowledge and to create and strengthen national and international networks that can help produce this knowledge. At the same time, the programme will aim to achieve significant societal impact. Projects selected for inclusion in the interdisciplinary programme are expected to adopt a systemic approach to their subject or at least include multidisciplinary perspectives. The aim is to research, analyse and synthesise the aquatic environment as a whole. The main focus is on the sustainable governance of aquatic resources with a view to the securing the increasing future demand for water and the increasing needs for protection.

<u>Tekes</u> - the Finnish Funding Agency for Innovation - is the most important publicly funded expert organisation for financing research, development and innovation in Finland. Tekes boost wide-ranging innovation activities in research communities, industry and service sectors.

A broad-based view on innovation:

Tekes promotes a broad-based view on innovation: besides funding technological breakthroughs, Tekes emphasises the significance of service-related, design, business, and social innovations.

Funding for challenging R&D and business development:

Tekes works with the top innovative companies and research units in Finland. Every year, Tekes finances some 1,500 business research and development projects, and almost 600 public research projects at universities, research institutes and universities of applied sciences. Research, development and innovation funding is targeted to projects that create in the long-term the greatest benefits for the economy and society. Tekes does not derive any financial profit from its activities, nor claim any intellectual proprietary rights. Natural resource and a sustainable economy is one of the focus areas in Tekes strategy.

Other Ministries, research institutions, and foundations in Finland fund water research e.g., in governmental research institutes directly relating to their activities and policies:

• Ministry of Agriculture and Forestry (MMM) steers and supports research and development related to the sustainable use of natural resources (agriculture, forestry, game and fishery and

Surveyed funding in 2010 (http://www.waterjpi.eu/images/documents/Water JPI Maturity Template 20110420.pdf).



water resources). Public research organisations, steered and financed by the ministry, carry out a considerable part of the research of this topic. Water issues are looked at from a different perspective for example in MTT Agrifood Research Institute, the Forest Research Institute (Metla), the Game and Fisheries Institute (RKTL) and the Finnish Environment Institute (SYKE). The ministry also funds directly joint research programmes and projects such as the Water Friendly Agriculture programme, improving water protection in forestry and in peat mining and flood risk management.

• <u>The Ministry of the Environment</u> (YM) leads national efforts and encourages cooperation in safeguarding biodiversity, promoting sustainable development, and securing a good living environment for both current and future generations.

The Ministry of the Environment formulates the Finnish Government's environmental policies. The Ministry is also responsible for strategic planning and management in its administrative area, the drafting of new legislation and other policy instruments, and international co-operation on environmental issues.

The Ministry is responsible for water and marine protection issues. Based on the EU Water Framework Directive and Marine Strategy Framework Directive, the objective is to achieve good status for all waters, including the Baltic Sea, surface waters and groundwater bodies. River Basin Management Plans are important instruments to identify the measures to achieve good status for waters. The Ministry of the Environment promotes these issues through wide cooperation with other ministries and different stakeholders and with the international cooperation relying on the data of the scientific research.

<u>Finnish Environment Institute</u> (SYKE) mainly operates under the auspices of the Ministry of the Environment.

- Maj and Tor Nessling Foundation seeks solutions to environmental protection. The Foundation supports scientific research in all areas of environmental protection, such as research on the impacts of environmental loading on the atmosphere, water environment and soil ecosystem, research and development in environmental technology, and research on environmental management, legislation and policy. Over the last few years the emphasis has been on solution-oriented research in all supported areas of research.
- The Finnish Cultural Foundation is a private trust dedicated to promoting art, science, and other fields of intellectual and cultural endeavor in Finland. The Foundation provides grants from a central fund and 17 regional funds. The distribution of grants in scientific research and in arts and culture is more than € 30 million yearly.



Table on major RDI Funding Institutions

Funder Name	Ministry	Programme	Water Programme name (if any)	Target: Research / Innovation	Bottom- up / Top- down	Annual RDI Water Funding (M€)
Academy of Finland	Ministry of Education and Culture		AKVA (2012- 2016)	Research	Bottom-up	5.4
Finnish Funding Agency for Innovation – TEKES	Ministry of Employment and the Economy			Innovation	Top- down	
Maj and Tor Nessling Foundation				Research		0.9
Ministry of Agriculture and Forestry					Top- down	0.2
The Finnish Cultural Foundation				Research		



Table with publications and patents data

Indicator ¹	SRIA theme	Public	Publications		Patents	
		Finland	Europe ²	Finland	Europe	
Raw data	Q١	885	33531	2	59	
	Q2	826	37391	18	855	
	Q3	3155	134254	23	759	
	Q4	336	15957	3	184	
	Q5	378	22514	4	329	
	ALL	2985	142901	57	2256	
Increasing rate ³		1.7	2.1	1.2	1.3	
Patens per 1,000 publications						
Standardized by	QI	162.2	53.7	0.0	0.0	
population ⁴	Q2	151.4	59.9	3.3	1.4	
(10 ⁶ Inhabitants)	Q3	578.2	215.0	4.2	1.2	
	Q4	61.6	25.5	0.6	0.3	
	Q5	69.3	36.0	0.8	0.5	
	ALL	547.1	228.8	10.5	3.6	
Standardized by	QI	466.6	229.3	0.9	0.4	
GDP ⁵	Q2	435.5	255.7	9.4	5.8	
$(100 \times 10^3 \text{ M EUR})$	Q3	1663.4	918.1	11.9	5.2	
	Q4	177.2	109.1	1.7	1.3	
	Q5	199.3	154.0	2.2	2.2	
	ALL	1573.8	977.2	30.1	15.4	

 $^{^{\}rm I}$ All data correspond to the period 1999 – 2013. $^{\rm 2}$ Considered as the 28 EU Member States plus the 12 Associated Countries.

³ Increasing Rate is the number of publications or patens in 2009-2013 divided by the number in 1999-2003 (considering ALL water topics).

⁴ Population obtained from http://en.wikipedia.org/wiki/List_of_countries_by_population.

⁵ Gross Domestic Product (GDP), nominal, obtained from http://en.wikipedia.org/wiki/List_of_countries_by_GDP_%28nominal%29



Tables on Funders and Performers obtained from publications analyses

SRIA theme	Funding Institutions	Acronym	Intensity of citations
QI	ACADEMY OF FINLAND	AKA	100
	MAJ AND TOR NESSLING FOUNDATION	NESSLING	21
	FINNISH CULTURAL FOUNDATION	SKR	13
Q2	ACADEMY OF FINLAND	AKA	100
	FINNISH FUNDING AGENCY FOR INNOVATION	TEKES	42
	MAJ AND TOR NESSLING FOUNDATION	NESSLING	22
Q3	ACADEMY OF FINLAND	AKA	100
	FINNISH FUNDING AGENCY FOR INNOVATION	TEKES	30
	MAJ AND TOR NESSLING FOUNDATION	NESSLING	13
Q4	ACADEMY OF FINLAND	AKA	100
	FINNISH MINISTRY OF AGRICULTURE AND		44
	FORESTRY	FI-MMM	
	MAJ AND TOR NESSLING FOUNDATION	NESSLING	36
Q5	ACADEMY OF FINLAND	AKA	100
	FINNISH FUNDING AGENCY FOR INNOVATION	TEKES	20
	FINNISH MINISTRY OF AGRICULTURE AND		16
	FORESTRY	FI-MMM	
ALL	ACADEMY OF FINLAND	AKA	100
	FINNISH FUNDING AGENCY FOR INNOVATION	TEKES	30
	maj and tor nessling foundation	NESSLING	17



SRIA theme	Performing Institutions	Intensity of citations
QI	UNIVERSITY OF HELSINKI	100
	UNIVERSITY OF EASTERN FINLAND	37
	FINNISH FOREST RES INST	24
Q2	UNIVERSITY OF HELSINKI	100
	UNIVERSITY OF EASTERN FINLAND	80
	NATL PUBL HLTH INST	53
Q3	UNIVERSITY OF HELSINKI	100
	AALTO UNIVERSITY	42
	UNIVERSITY OF EASTERN FINLAND	37
Q4	UNIVERSITY OF HELSINKI	100
	FINNISH FOREST RES INST	67
	FINNISH ENVIRONM INST	57
Q5	UNIVERSITY OF HELSINKI	100
	AALTO UNIVERSITY	70
	FINNISH ENVIRONM INST	44
ALL	UNIVERSITY OF HELSINKI	100
	UNIVERSITY OF EASTERN FINLAND	46
	AALTO UNIVERSITY	38