Finnish Water Forum
芬兰水务协会

Managing Director Topi Helle

Mission

Finnish Water Forum’s mission is to find solutions to global water challenges through Finnish know-how and technology together with local and international actors

Finnish Water Forum Members
芬兰水务协会成员

Ministries 5 部委

- Ministry of Agriculture and Forestry 农业与林业部
- Ministry of the Environment 环境部
- Ministry for Foreign Affairs 外交部
- Ministry of Social Affairs and Health 社会事务与健康部
- Ministry of Employment and the Economy 就业与经济部

Universities and Schools 11 高等学校

- Aalto University School of Science and Technology 阿尔托大学科学技术学院
- Environmental School of Finland 芬兰环境学院
- Häme University of Applied Sciences 海门应用科学大学
- Lappeenranta University of Technology拉彭兰塔科技大学
- Savonia University of Applied Sciences 萨沃尼亚应用科学大学
- Tampere University of Technology坦佩雷科技大学
- Turku University of Applied Sciences 图尔库应用科学大学
- University of Eastern Finland 东芬兰大学
- University of Helsinki 赫尔辛基大学
- University of Oulu 奥卢大学
- University of Turku 图尔库大学

Research institutions 5 科研机构

- SYKE Finnish Environment Institute 芬兰环境研究所
- LUKE Natural Resources Institute Finland 芬兰自然资源研究所
- FMI Finnish Meteorological Institute 芬兰气象研究所
- GTK Geological Survey of Finland芬兰地质调查局
- VTT Technical Research Centre of Finland 芬兰VTT技术研究中心

Associations, NGOs 8

- Finnish Water Utilities Association 芬兰供水公司协会
- Global Dry Toilet Association of Finland 芬兰全球旱厕协会
- The Land and Water Technology Foundation 土地及水技术联合会
- Association of Standardisation for Metal Industries 金属行业标准化协会
- Federation of Finnish Water Protection Associations 芬兰水保护联合会
- Water Association Finland 芬兰水协会
- WaterFinns
- World Vision Finland

Private companies >80 80余家私营公司

Finland ranked High in international evaluations
芬蘭排名靠前 在國際評估中

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Water quality index (UN World Water Assessment)

- Finland was ranked number 1 in water quality assessment among 122 countries

Elements of Quality Water

All these elements are needed to guarantee sustainability of Quality Water

RISK MANAGEMENT OF WATER SUPPLY AND SANITATION 供水和卫生的风险管理

In Finland, safe quality of drinking water is assured by a comprehensive approach on all risks related to the process. 在芬兰，通过全面的方法确保与过程相关的所有风险，保障饮用水的安全质量。

A national online platform used by more than 200 water utilities provides the utilities and also national and local authorities **reliable information on most significant risks, urgent investment needs** and progress of the whole sector. 200多家供水公司使用的国家在线平台为公用事业以及国家和地方当局提供有关**最重大风险，紧急资金需求**和整个行业进展的**可靠信息**。

Solution includes 解决方案:

- Software for systematical risk assessment and documentation 用于系统风险评估和文档编制的软件
- Identification of required actions and investments for more efficient implementation确定所需的行动和投资，以便更有效地实施
- Unified information and tools for follow-up and benchmarking of the progress 统一信息和工具，用于后续行动和进展基准

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WATER UTILITY MODERNIZATION 供水现代化

Drinking water quality in Finland is among the best in the world.芬兰的饮用水质是世界上最好的之一。

Achieving this service level requires efficient operations and advanced technologies. With comprehensive modernization of the utility and its operations, full cost recovery and affordable price can be achieved. With long-term cooperation and commitment, Finland modernized also the water supply of Saint Petersburg already in the 1990's. 达成这一服务水平需要高效的运营和先进的技术。通过公用事业及其运营的全面现代化，可以实现全部成本回收和实惠的价格。 通过长期合作和承诺，芬兰在20世纪90年代已对圣彼得堡的供水进行了现代化改造。

Solution includes 解决方案:

- Modern operation and management practices, tools and software 现代化的运营和管理实践，工具和软件
- Comprehensive planning and implementation practices, tools and software 全面的规划和实施实践，工具和软件
- Training, consulting and technologies 培训、咨询和技术

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FLOOD PREVENTION – NATURAL STORM WATER MANAGEMENT 防洪 – 降水管理

Flood prevention is a critical issue on both rural and urban areas.
防洪是农村和城市地区的一个关键问题。

In rural areas, flash floods can be prevented with the support of advanced geological surveys, land use planning and identifying suitable areas for retention and infiltration. In urban areas, a successful solution can include thorough analysis of land use, use of evaporation areas and permeable materials. 在农村地区，先进的地质调查、土地利用规划和确定适当的保留和渗透区域可以有效防止山洪暴发。 在城市地区，对土地使用全面分析，蒸发区域的利用和渗透性材料的使用构成成功防洪的方案。

Solution includes 解决方案:

- Training, consulting, planning & design培训，咨询，规划和设计
- Monitoring & measurement technologies 监测和测量技术
- Policy development 政策制定
- Small scale demonstrations for replication and scaling up 用于复制和扩展的小规模演示

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DAM SAFETY
– PREPAREDNESS IN LONG-TERM 大坝安全 - 长期预防

Finland has a long tradition of construction, control and safety management of dams. 芬兰拥有水坝建设，控制和安全管理的悠久传统。

Majority of some 500 dams in Finland are built in the 50's and require serious attention to safety and maintenance. This experience has provided Finnish actors with expertise on preventive measurements, long-term planning and efficient public-private cooperation on dam safety. 芬兰大约有500座建于50年代的大坝，需要认真注意安全和维护。这一经验为芬兰行动者提供了有关预防措施，长期规划以及大坝安全方面有效的公私合作方面的专业知识。

Solution includes 解决方案:

- Preventive measurements, inspections and technologies 预防性测量，检查和技术
- Dam structures, reservoirs and surrounding areas 大坝结构，水库和周边地区
- Watershed and flood hazard studies 流域和洪水灾害研究

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WATER RESOURCES MANAGEMENT AND LAKE RESTORATION 水资源管理及湖泊修复

Key to Finland's clean waters is the holistic approach on environmental monitoring and decision-making. 芬兰清洁水域的关键是整体环境监测和决策方法。

Most of the acquired information is open data to enable efficient cooperation and boost the creation of innovative solutions. Contamination sources are quickly identified with real-time monitoring and effectively eliminated with supportive regulation.获取的大部分信息都是开放数据，可实现高效合作并促进创新解决方案的创建。 通过实时监控快速识别污染源，并通过支持性监管有效消除污染源。

Solution includes 解决方案:

- Modelling and planning of suitable restoration methods and practices 建立和规划合适的恢复方案
- Monitoring and prevention of external loads (urban, rural, agricultural and industrial wastewater) 监测和预防外部负荷（城市，农村，农业和工业废水）
- Baseline information on hydrological conditions and pollution sources 关于水文条件和污染源的基线信息

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WASTE WATER INTO ENERGY, FERTILIZERS AND WATER RE-USE 污泥能源化和有机肥使用及水再生

Finland is a forerunner in water-related circular economy.
芬兰是与水有关的循环经济的先行者。

Waste water is used as a resource for producing bio-energy, safe fertilizers and water for industry, agriculture and municipalities. Future solutions of waste water treatment already exist in Finland and can be implemented also elsewhere - protecting the environment and saving scarce water resources. 废水被用作为工业，农业和城市生产生物能源，安全肥料和水的资源。 芬兰已经存在可普遍适用的新一代废水处理解决方案 - 保护环境和节约稀缺的水资源。

Solution includes 解决方案:

- Design, planning, technology & construction of modern treatment plants 现代化处理厂的设计，规划，技术和建设
- Secured environmental safety and energy & resource efficiency 确保环境安全，节约能源和资源
- Underground treatment plants for maximized land-use efficiency 地下处理厂，以最大限度地提高土地利用效率

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FINNISH WATER SECTOR STRONGHOLDS
芬兰水行业优势领域

Risk management of water supply and sanitation
供水和卫生的风险管理

Water resources management and lake restoration
水资源管理及湖泊修复

Flood prevention – natural storm water management
防洪 – 降水管理

Transboundary waters
跨境水域

Waste water into energy, fertilizers and water re-use
污泥能源化和有机肥使用及水再生

Water utility modernization
供水现代化

Artificial groundwater for drinking water production
人工补给地下水饮用水利用

Dam safety – preparedness in long-term
大坝安全 - 长期预防

Environmental monitoring and hydrological data
环境监测及水文数据

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