

Finnish Environment Institute SYKE

**Seppo Kaitala, Jani Ruohola, Lena Hallin-Pihlatie,
Riikka Repo, Jukka Pajala**

**” We provide information, skills and services
crucial to achieving sustainable development
in Finland and globally. ”**

Organisation of SYKE

ADVISORY BOARD

DIRECTOR GENERAL

NATURAL ENVIRONMENT CENTRE

- Conservation of Species
- Conservation of Habitat Types
- Ecosystem Services
- Biodiversity
- Ecosystem Processes

MARINE RESEARCH CENTRE

- Marine Assessments and Management
- State of the Baltic Sea
- Marine Spatial Planning
- Marine Ecosystems
- Arctic Marine Research
- Marine Ecology Laboratory
- Research Vessels

CENTRE FOR SUSTAINABLE CONSUMPTION AND PRODUCTION

- Environmental Management in Industry
- Sustainable Use of Natural Resources
- Environmental Efficiency
- Air Pollutants and Climate Change Mitigation
- Contaminants
- Soil and Groundwater
- Waste and Wastewater Management

FRESHWATER CENTRE

- Monitoring and Assessment
- Pollution Response
- Hydrological Monitoring
- River Basin Management
- Water Resources and Environmental Assessments
- Watershed Models
- Aquatic Impacts

ENVIRONMENTAL POLICY CENTRE

- Environmental Governance
- Interactive Governance
- Green Infrastructure
- Land Use
- Spatial Structure and Urban Form
- Supporting Services

LABORATORY CENTRE

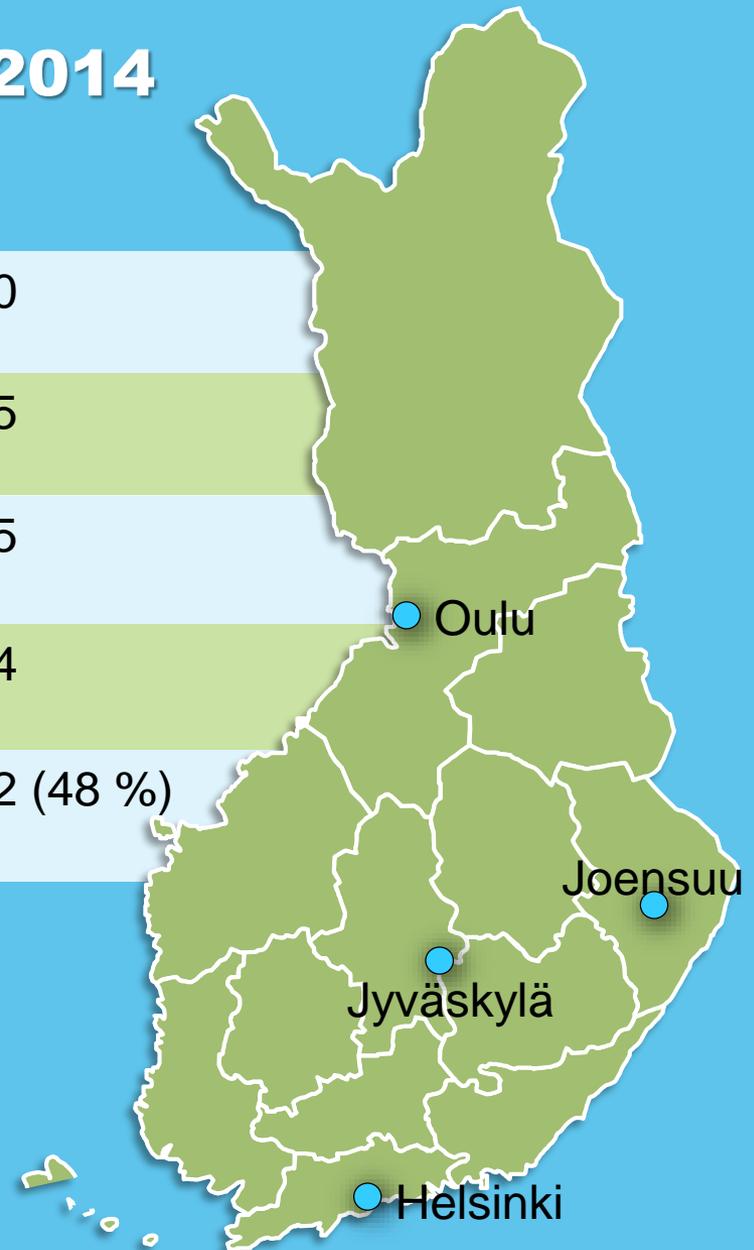
- Ecotoxicology and Risk Assessment
- Metrology
- Reference Laboratory
- Environmental Chemistry Research

DATA AND INFORMATION CENTRE

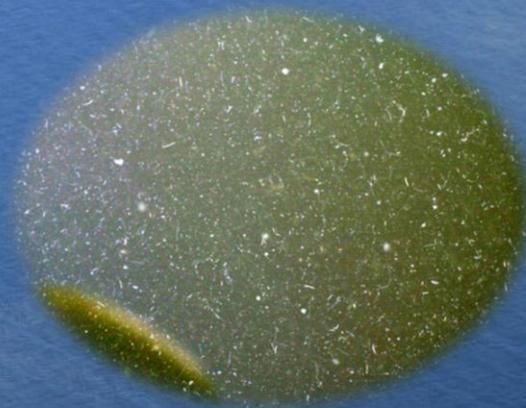
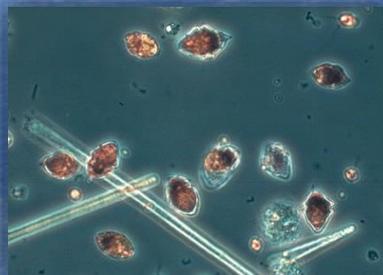
- Geoinformatics Services
- Geoinformatics Systems
- Geoinformatics Research
- ICT Services
- Environmental Information System
- Information Services

Personnel and funding 2014

Personnel	660
Number of person years	635
Total funding (M€)	60,5
Direct budgetary funding (M€)	31,4
External funding (M€)	29,2 (48 %)

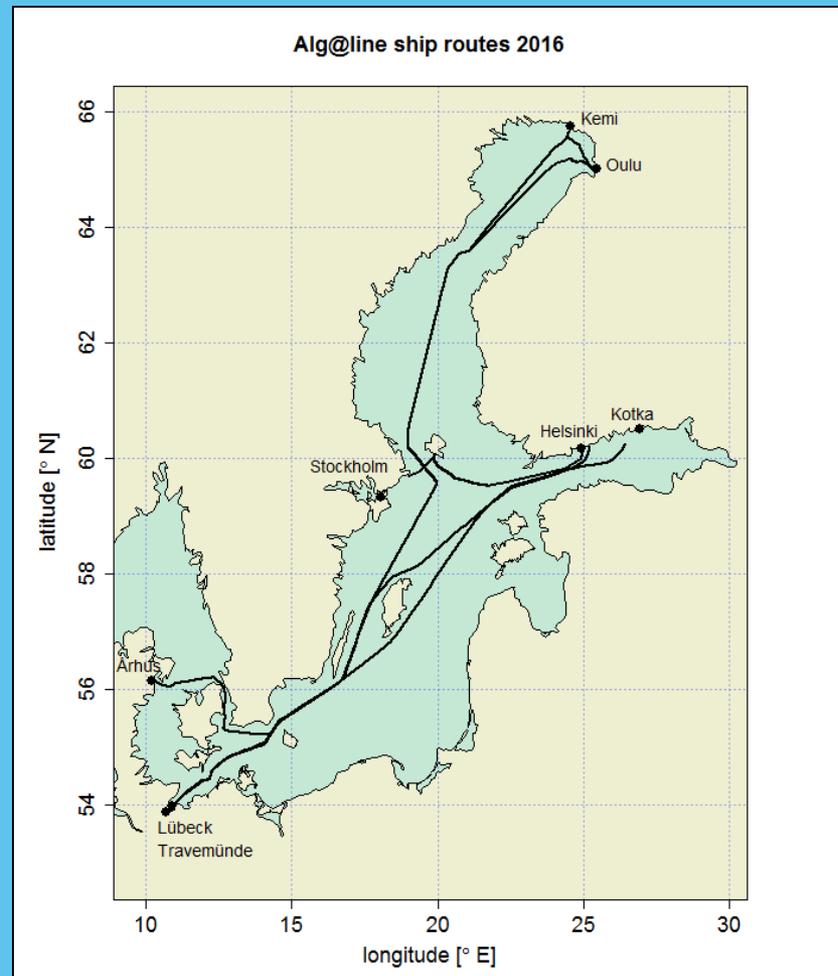


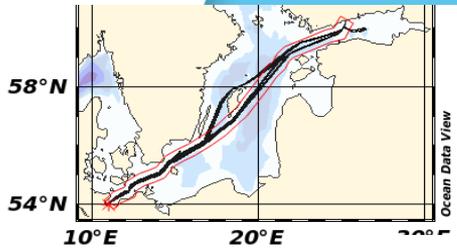
Alg@line FerryBox – a system for operative monitoring of the Baltic Sea



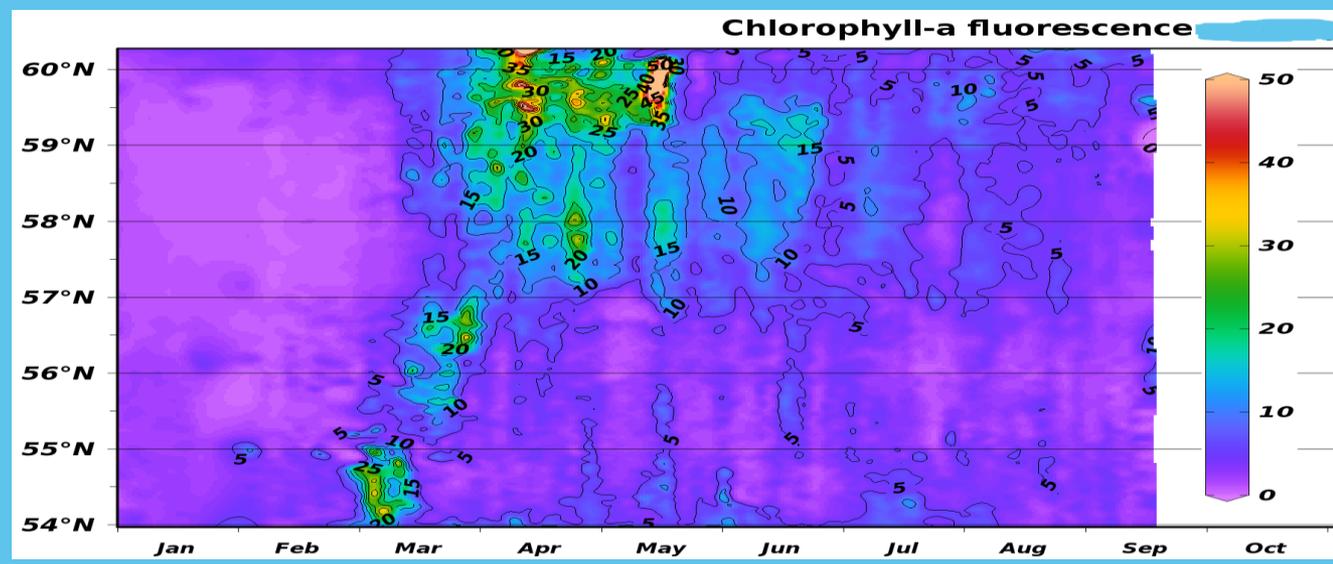
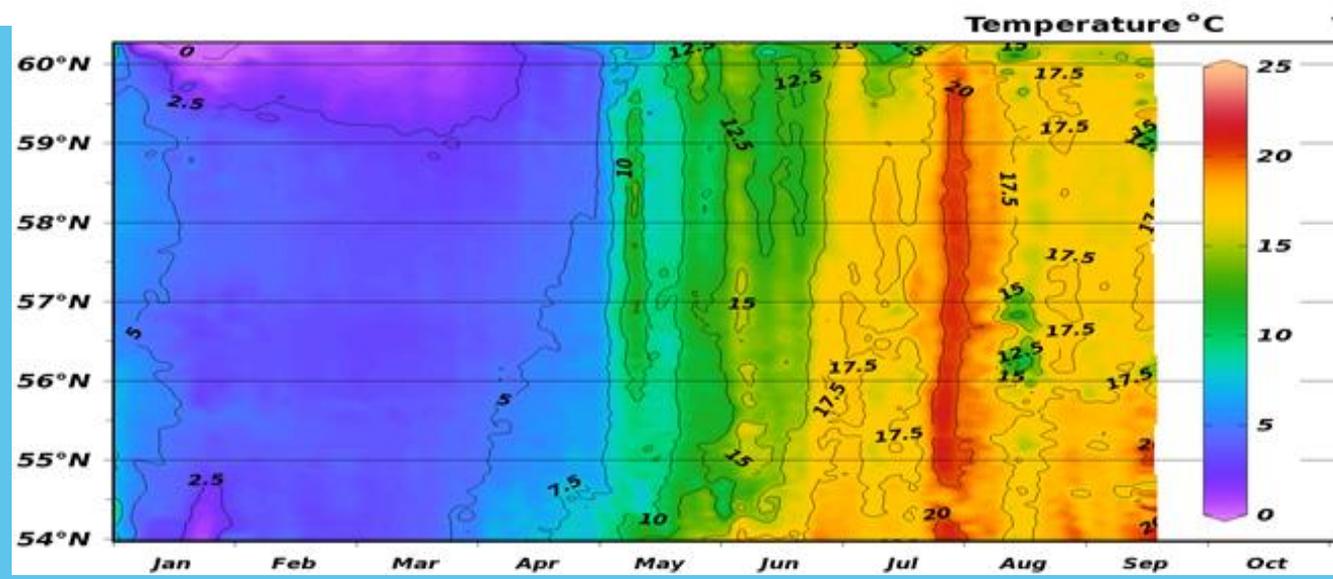
Ferries and routes

- M/S Finnmaid
 - Helsinki–Travemünde
- M/S Silja Serenade
 - Helsinki–Stockholm
- M/S TransPaper*
 - Oulu–Kemi–Lübeck



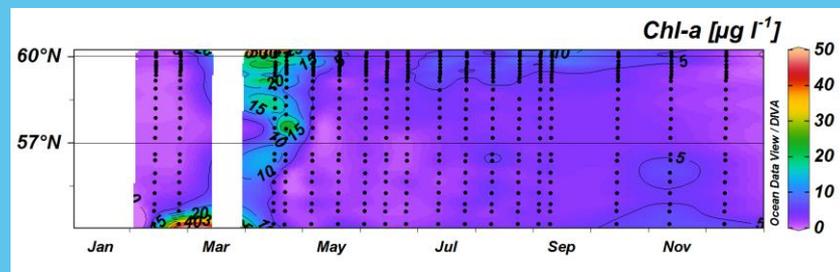
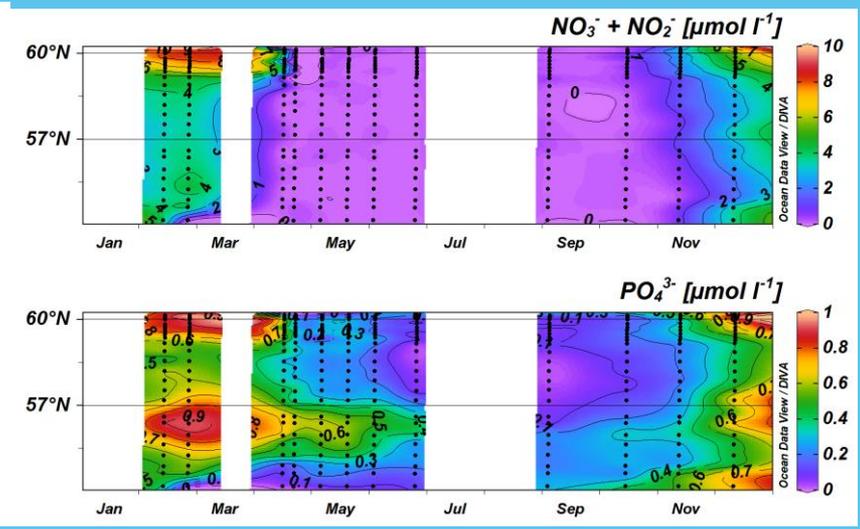
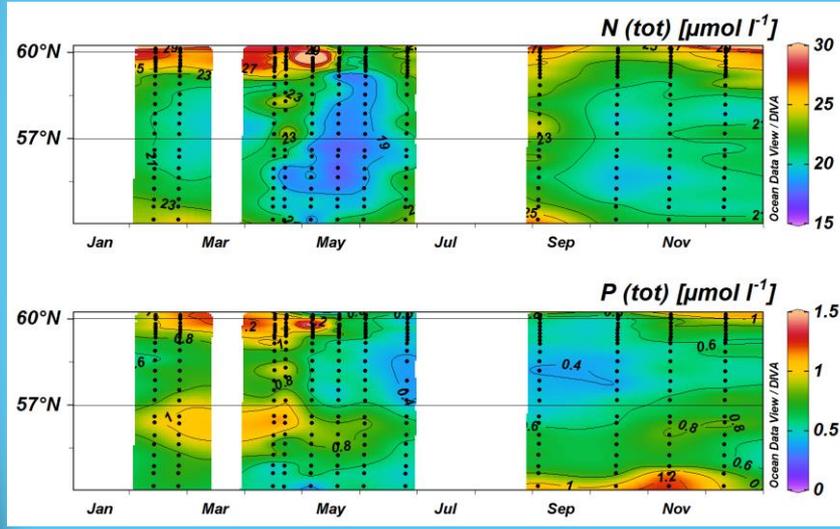
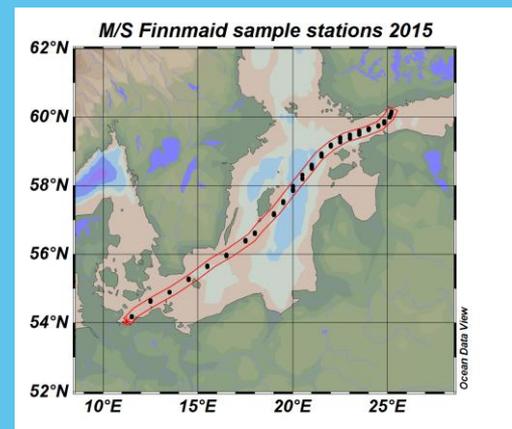


Finnmaid trajectory records with 200m resolution, 2016



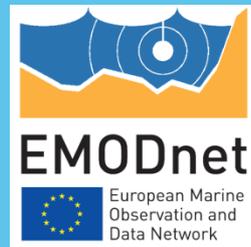
Example data

- M/S Finnmaid
- Water samples from 2015



End products

- Basic research, long time series
- Data for international marine data infrastructures (e.g. EMODnet)
- Blue-green algae bloom forecasts
- Calibration and validation of remote sensing products and ecosystem models



FINMARI
Finnish Marine Research
Infrastructure



SYKE

Modernization of RV Aranda

Project group

Jukka Pajala

Riitta Autio

Panu Hänninen

Juha Flinkman

Experts from SYKE,

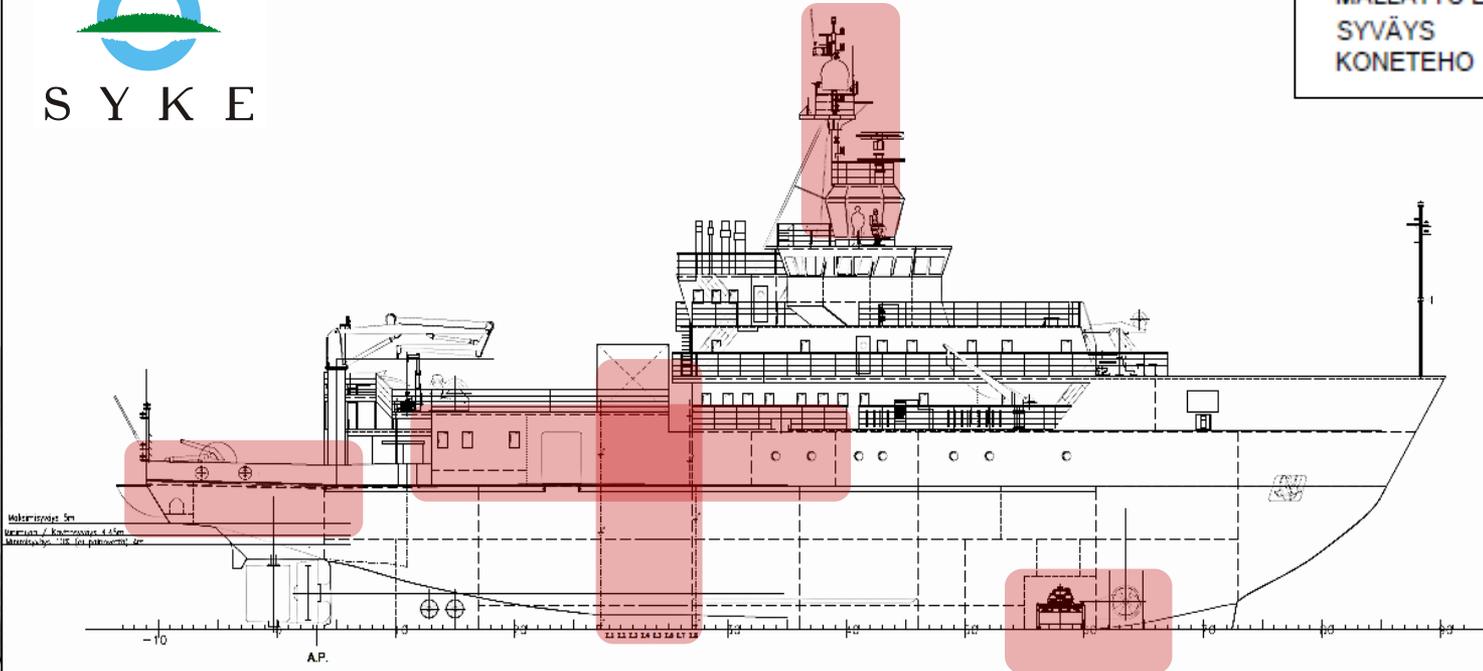
FMI, LUKE ...



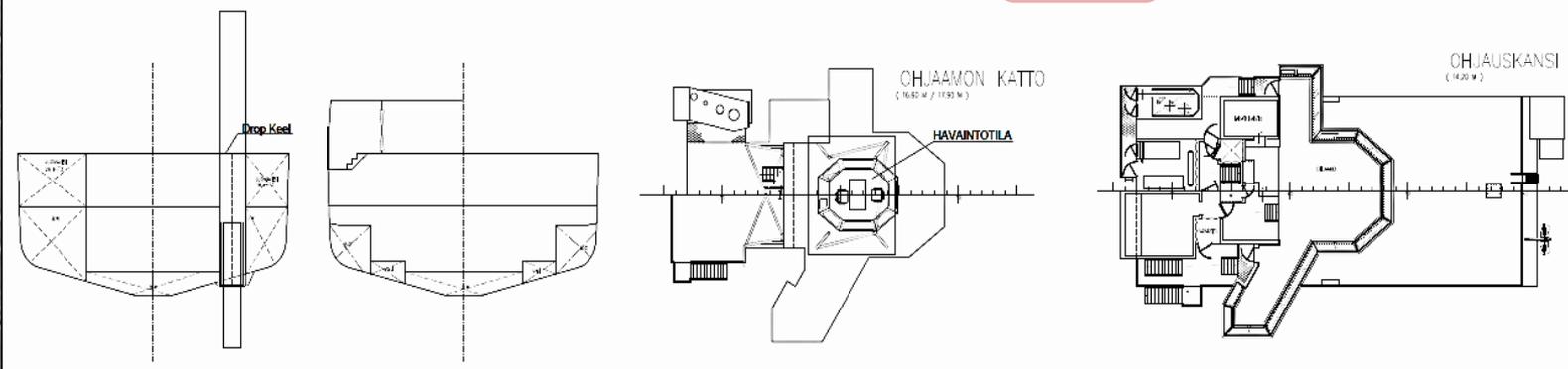
RV Aranda in the future



SUURIN PITUUS	65,67	m
PERPENDIKKELIPITUUS	55,59	m
MALLATTU LEVEYS	13,80	m
SYVÄYS	5,00	m
KONETEHO	3000	kW



Maksetyömaa 5m
Maksetyömaa / Kymppimaa 4,5m
Maksetyömaa 1000 (1000) 1000m



ARANDA2020

SYKE: Experienced Open Data provider

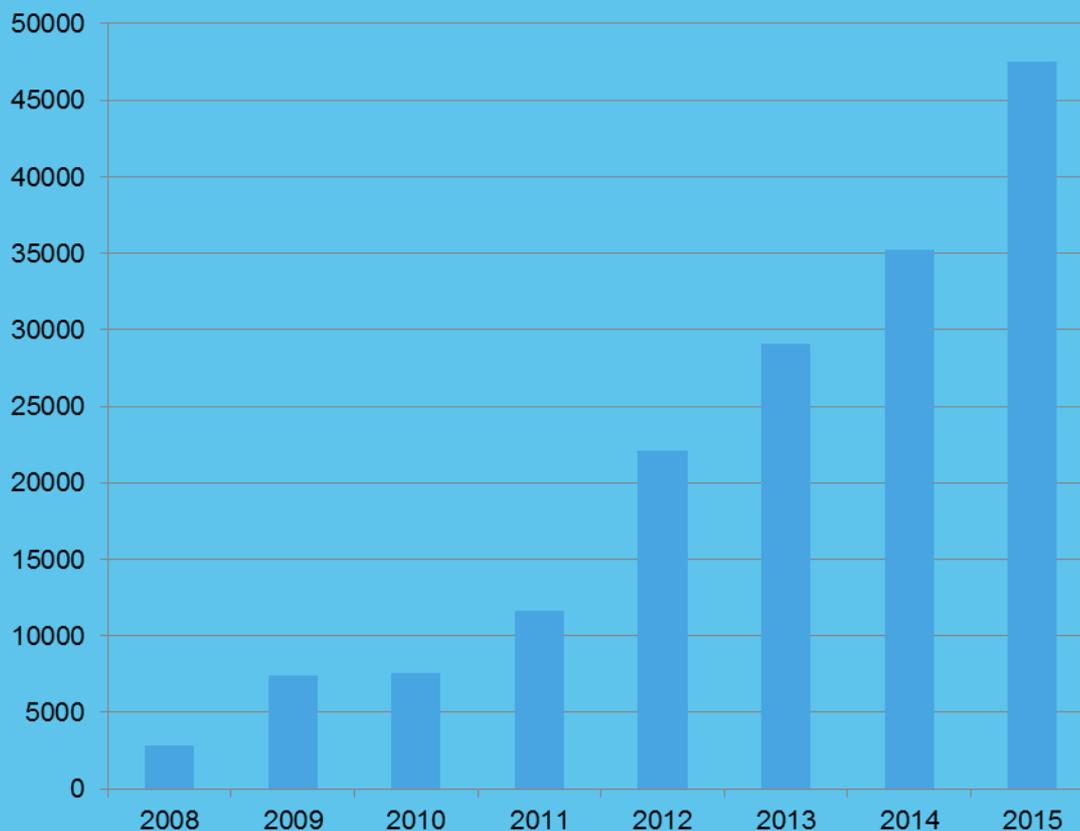
- SYKE was among the first public organisations in Finland to open environmental spatial data in 2008
- SYKE applies [Creative Commons By 4.0 International](https://creativecommons.org/licenses/by/4.0/) license for open datasets



- Open Data policy has increased the usage of our data and services

Statistics of Open Spatial Data downloaded

Spatial data packages downloaded from SYKE's Open Data Portal in 2008-2015



Downloads TOP 5 in 2015

1. Corine Land Cover
2. Nature protected areas
3. Natura 2000 areas
4. Ground Water Areas
5. River Basin Districts

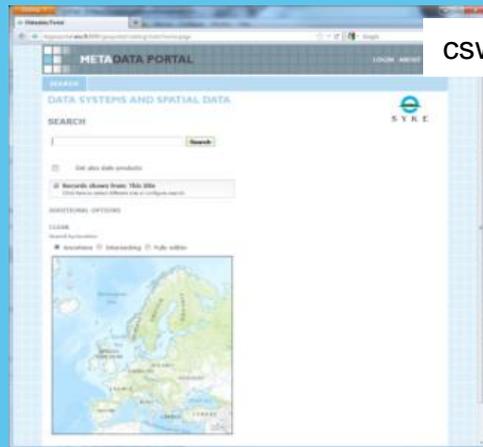
SYKE and INSPIRE in brief

- Legally Mandated Organisation within INSPIRE
- One of the biggest INSPIRE data providers in Finland in numbers of different datasets and themes
- Active participant in the national GI/INSPIRE network, for example
 - Facilitator of an activity focusing on making national data products INSPIRE compliant
- Part of the INSPIRE Maintenance and Implementation Group (MIG) through activity MIWP14 INSPIRE Thematic Clusters
 - Facilitator of the Land Cover and Land Use Cluster

SYKE: Provision of Metadata

- SYKE's Metadata portal was launched in 2012: <http://metatieto.ymparisto.fi/geoportal>
- Supports the creation and use of metadata according to several standards (ISO, INSPIRE)
- Supports harvesting (CSW Interface)

SYKE's metadata portal



CSW

Harvesting

National metadata portal (INSPIRE)



CSW

CSW

Harvesting



INSPIRE
Geoportal

SYKE's INSPIRE View Services



- SYKE has published several INSPIRE compatible WMS services
- Number of requests 2012-2015

SYKE's INSPIRE WMS Services	2012	2013	2014	2015
ELEVATION	9 977 745	36 878 918	27 951 518	30 874 127
PROTECTED SITES	4 701 690	8 969 923	12 129 251	16 141 698
HYDROGRAPY	4 860 695	7 392 199	10 315 080	16 127 996
GEOLOGY	2 406 134	5 116 132	11 635 858	16 964 171
ORHOIMAGERY	1 064 992	1 906 033	1 209 387	768 077
AREA MANAGEMENT AND REPORTING UNITS 1		1 948 016	3 148 868	4 024 743
NATURAL HAZARDS		1 910 472	3 587 542	4 427 981
ENVIRONMENTAL MONITORING FACILITIES		1 437 017	2 592 326	2 799 358
LAND COVER	470 544	636 728	784 670	1 355 782
BIOGEOGRAPHICAL REGIONS		308 506	597 677	720 265
AREA MANAGEMENT AND REPORTING UNITS 2		253 189	968 841	1 534 613

A photograph showing two people, a man and a woman, wearing dark rain jackets and working on a boat deck. They are leaning over a white railing, looking at something in their hands. The background is a vast ocean with white-capped waves under a cloudy sky. The image is partially obscured by a blue banner at the bottom.

www.syke.fi

” We have the skills, ambition and courage to open new avenues for improving the environment.”