



Sentinel Benefits Study -SeBS focus on Water Quality

SeBS Transversal Analysis



EO Services: From Research to Business -
EARSC@DG Grow 6th September 2019

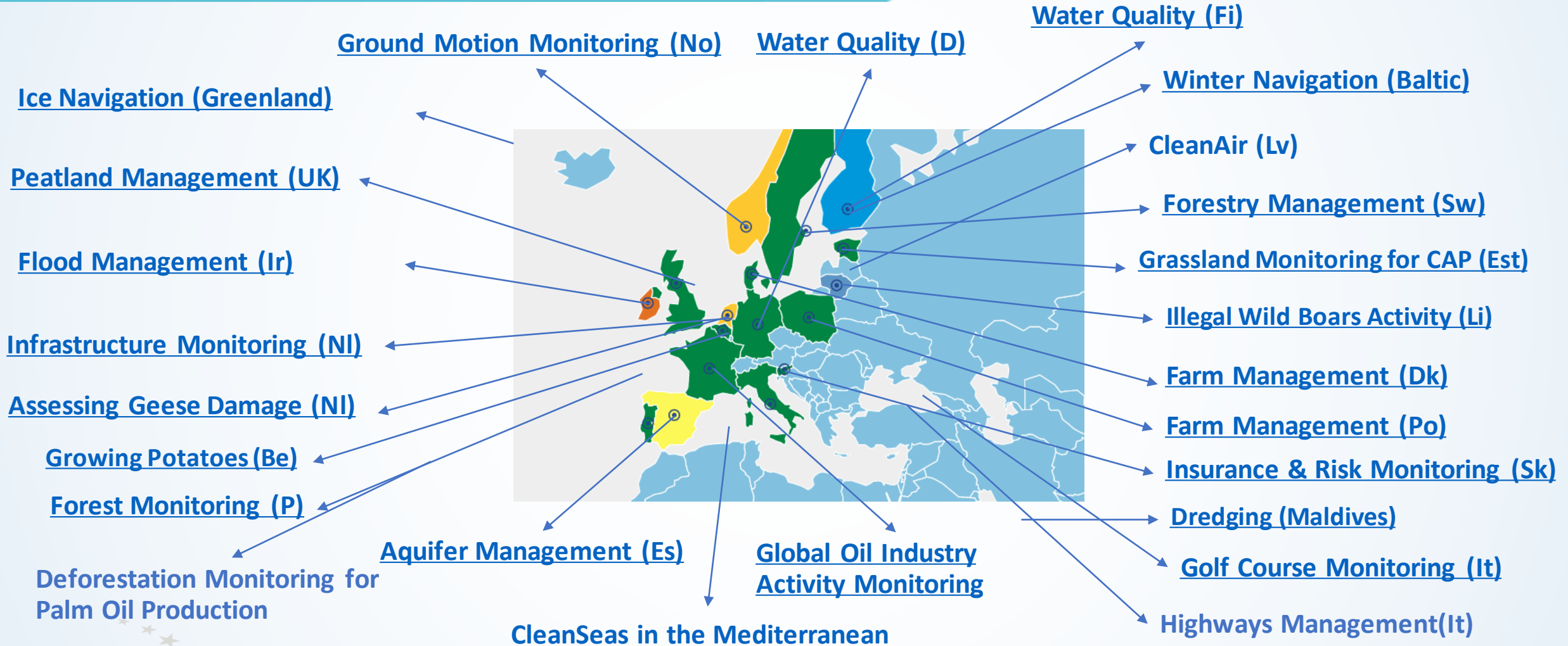
Introduction

1. The Sentinel Benefits Study (SeBS) has developed a sound methodology for measuring the value of EO and a rich portfolio of 24+ cases has been produced.
2. Evaluation of the benefits has moved beyond “just” Economics to include other benefits that cannot be easily monetized.
3. Cross-cutting analyses, leveraging on understandings developed within each case, leads to a rich set of insights and we seek to develop this further.
4. The focus of this presentation is on the regulatory and other benefits of the use of Sentinel data for Water Quality Management.



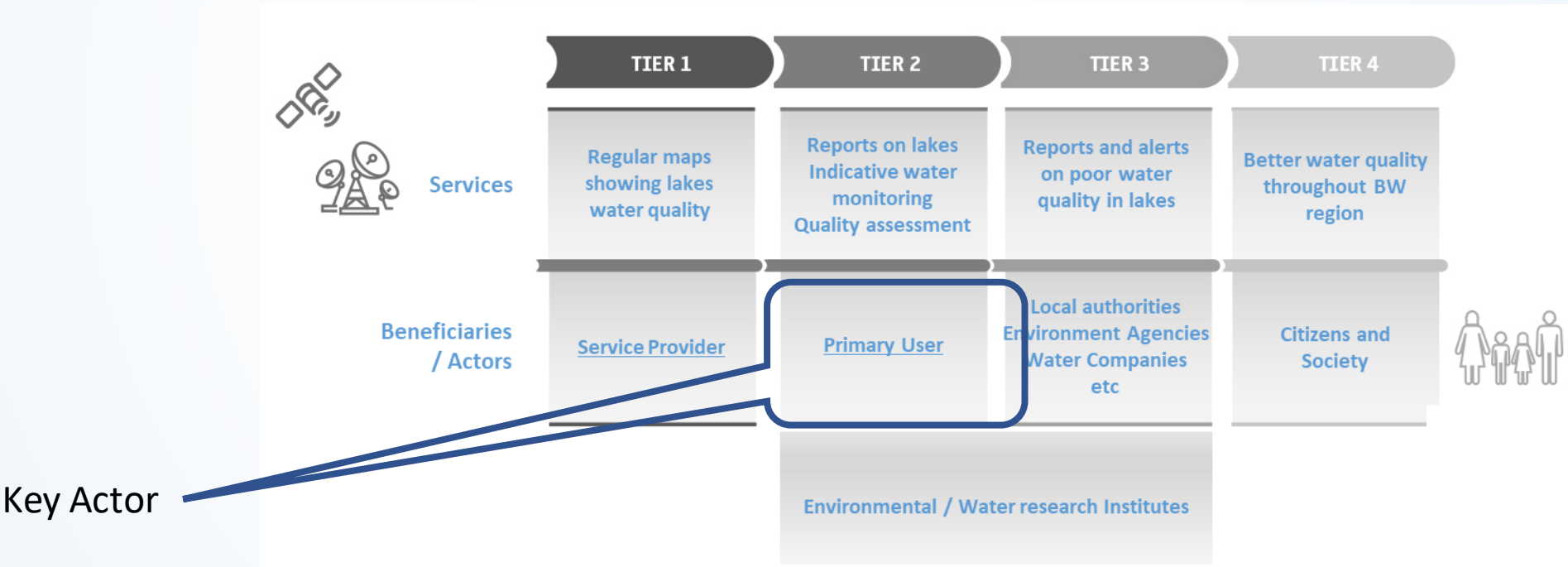
A rich portfolio of cases

Cases Completed
Cases in Progress



The pillars of SeBS methodology

- Bottom-up approach resting on specific and real use-cases for a defined product being used operationally.
- Value chain approach based on the primary user (PU) and others which benefit from the PU work



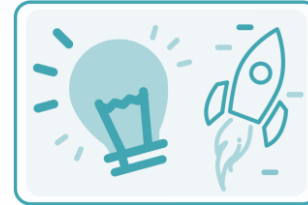
Key Actor

6 Dimensions of Value



ECONOMIC

Impacts related to the production of goods or services, or impacts on monetary flow or volume, such as revenue, profit, capital and (indirectly, through turnover generation) employment.



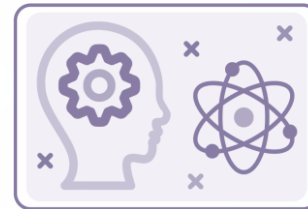
INNOVATION AND ENTREPRENEURSHIP

Impacts linked to the development of new enterprises, business or jobs and/or the introduction of technological innovation into the market.



ENVIRONMENTAL

Impacts related to the state and health of the environment, particularly as regards the ecosystem services on which human societies depend.



ADVANCEMENTS IN SCIENCE AND TECHNOLOGY

Impacts linked to academic, scientific or technological research and development, the advancement of the state of knowledge in a particular domain.



REGULATORY

Impacts linked to the development, enactment or enforcement of regulations, directives or other legal instruments by policy makers.

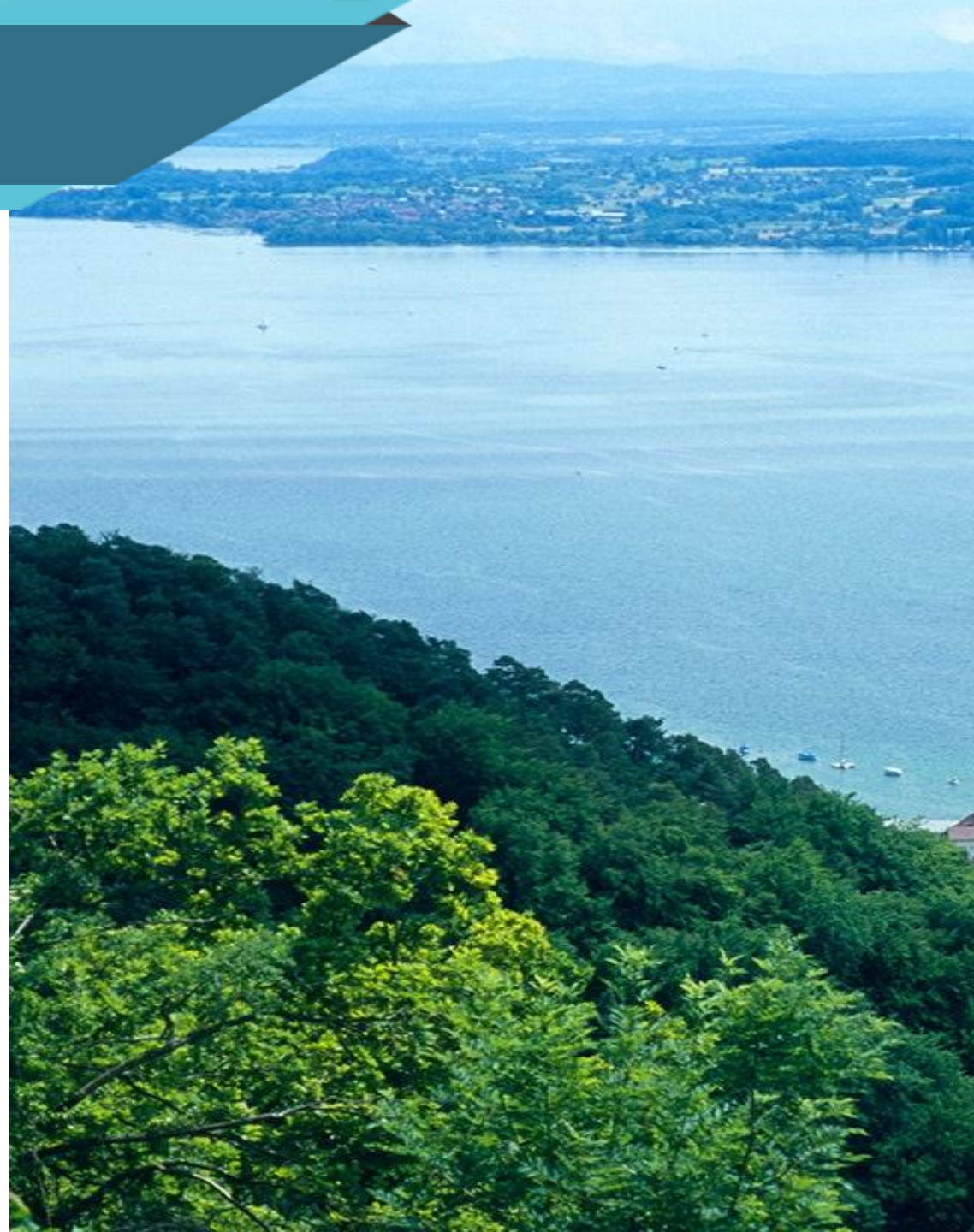


SOCIETAL

Impacts related to societal aspects such as increased trust in authorities, better public health or secured geostrategic position.

Water Quality Management

- Germany (Baden Wurtenburg)
 - LUBW procure a service providing regular measurements of lake water quality.
 - Enables monitoring of over 270 lakes where classical, in-situ monitoring can only cover around 15.
 - Service allows more measurements to be made more frequently.
- Finland
 - SYKE provide measurements of water quality for lakes, rivers and coastal areas
 - Used by 13 regional centres to complement in-situ analysis
 - SYKE provides a public-service (TARKA) weekly algal bloom levels for 35 lakes
 - Supports controls of dredging permits.

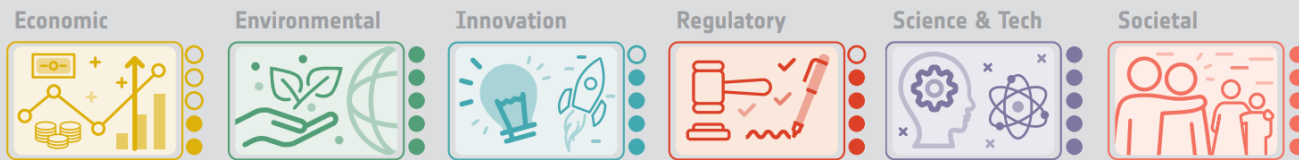


Water Quality Management in Germany (2)

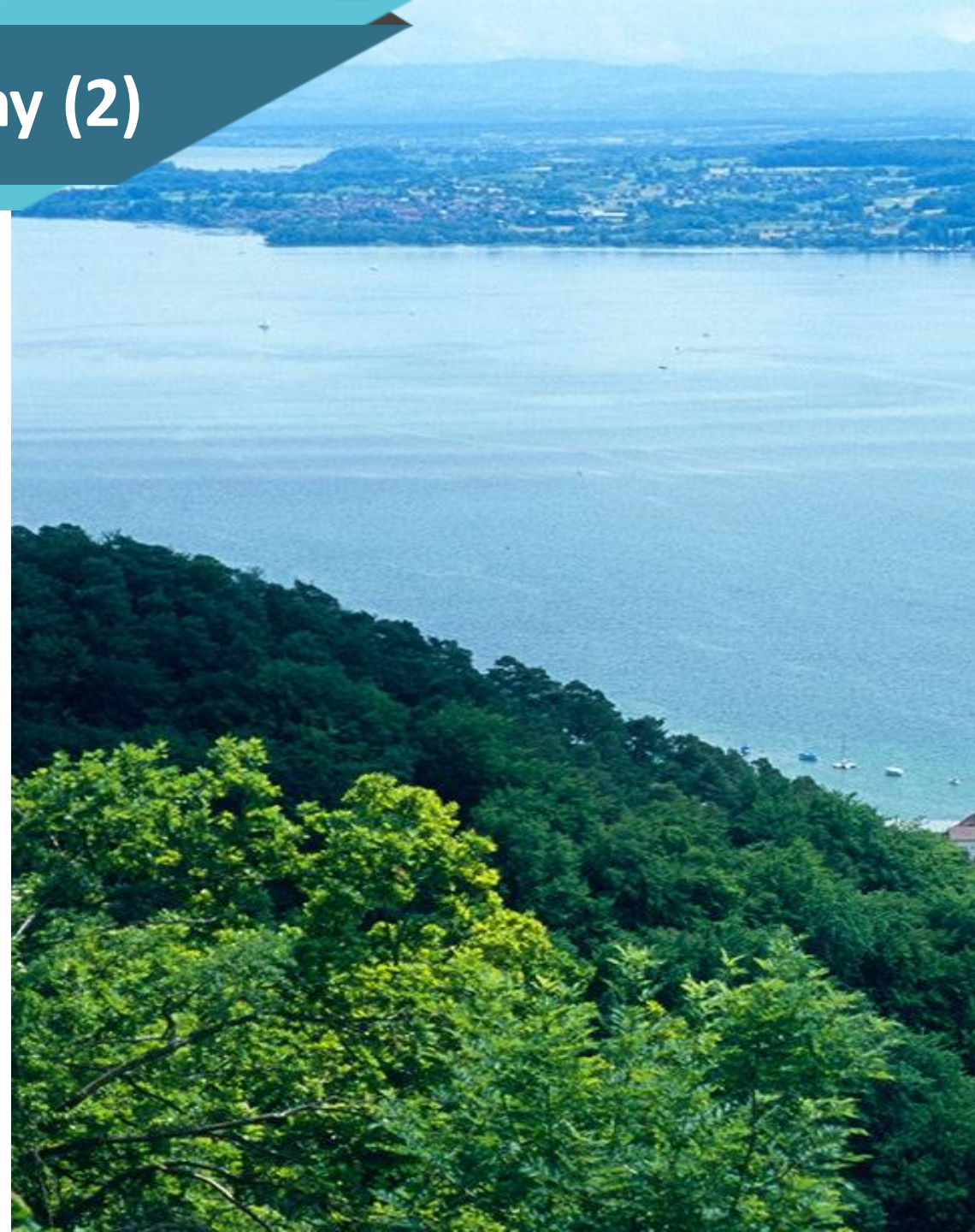
Benefits:

- Monetary benefits are real but the main benefit is to help LUBW do their job better.
- The service helps to reduce human exposure to dangerous harmful algal blooms (HABs) whilst improving the environment, reducing pollution and helping nature conservation.
- Satellite-derived measurements of the quality of water in lakes help local and regional authorities monitor the lakes in their region more effectively, more frequently and more comprehensively and to keep their citizens informed.

Total benefits



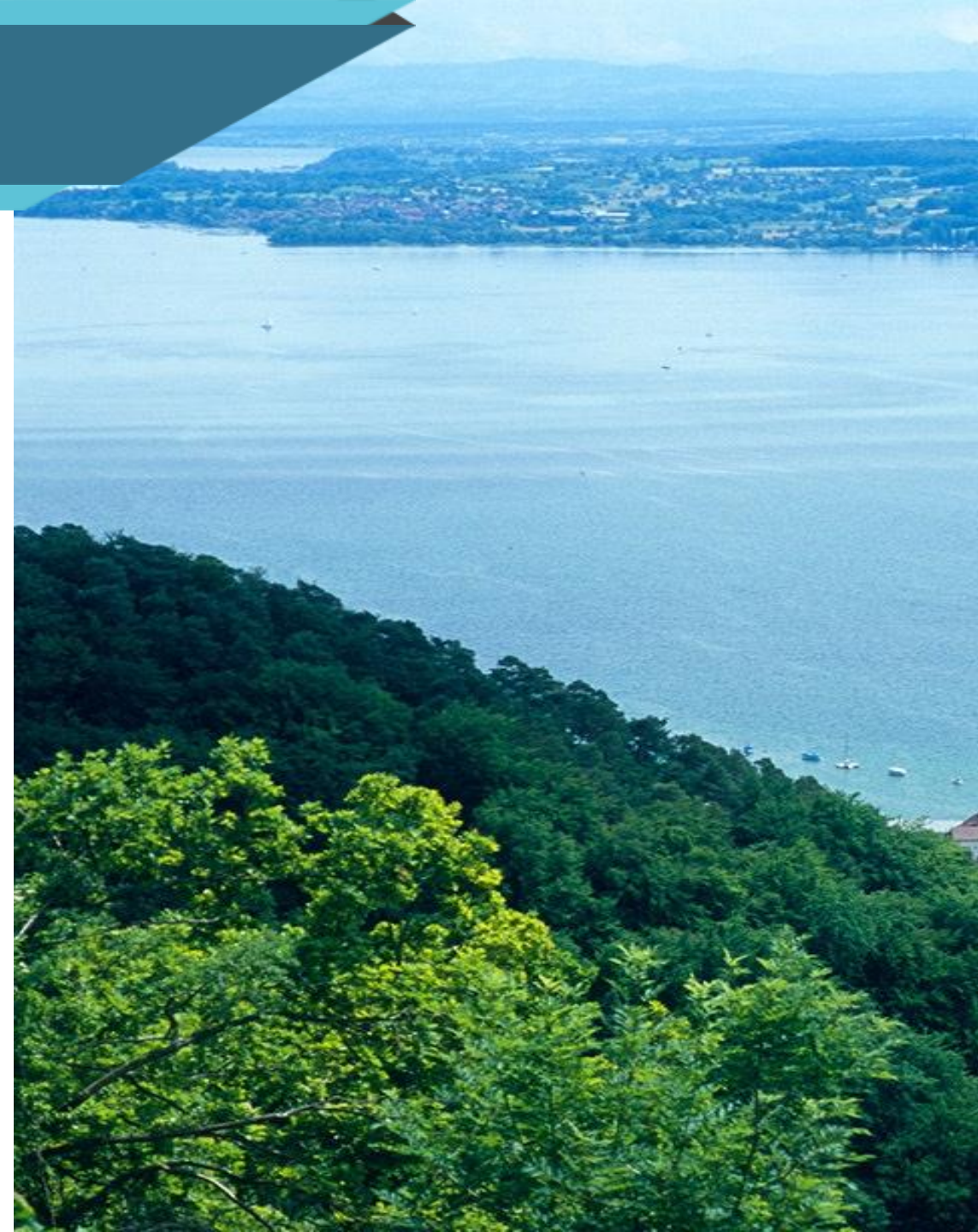
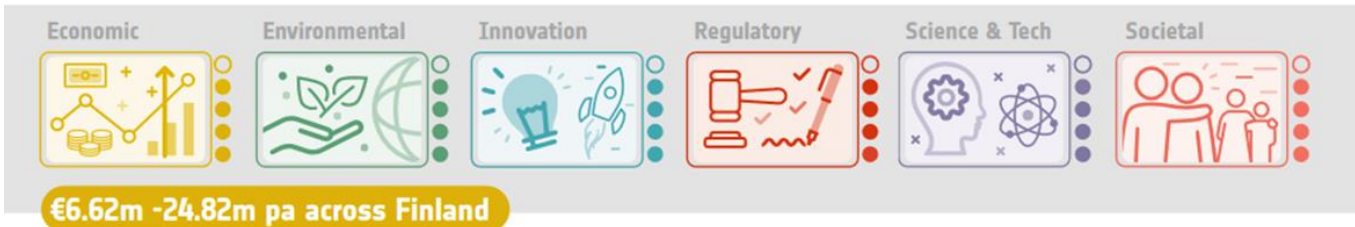
Anticipated Monetary Benefits: €4m – 7.8m pa across Germany



Water Quality Management in Finland

Benefits:

- Sentinel data helps regional authorities and the Finnish Environmental Institute monitor their lakes more effectively, more frequently and more comprehensively.
- The service provides citizens with better information as well as helping Syke fulfil its regulatory role.
- Data used for reporting based on “expert opinion.”
- Improved water quality at a reduced cost.



Further Benefits for Stakeholders

Water Quality Cases in Germany, Finland and in the Netherlands (to be published shortly).

Transversal analysis is now extending this understanding to other (EU) countries.

And so.....

What are the similarities and differences between countries use?

Why is the uptake in some countries and not others? (geography, governance structures, legislation, cultural, socio-economic factors.....etc)

Thank You for Listening

Do you wish to know more?

All cases can be found at: www.earsc.org/sebs

[Summary findings via the website](#)

Or contact: Geoff.sawyer@earsc.org

EARSC @ 26, Rue de la Loi, Brussels

info@earsc.org