

## Case Study

# The lifeblood of LifeWatch ERIC: national in-kind contributions

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## Abstract

A distributed research infrastructure such as LifeWatch ERIC necessitates close cooperation among the various components that constitute the research infrastructure and contribute to the overall services, facilities and resources it offers to the user community. In-kind contributions are non-monetary contributions, consisting of labour, services, facilities and access to resources, typically provided by the distributed components of the research infrastructure. The financing for in-kind contributions is usually provided by the national funding agency on behalf of the LifeWatch member country or by the member directly, with a value being accredited towards the member's funding obligations to

LifeWatch ERIC. The management and validation of in-kind contributions towards shared objectives are integral to the legal framework supporting LifeWatch ERIC. This involves a rigorous assessment process to verify each in-kind contribution. This short article outlines that process and explores the function of the In-Kind Contributions Committee (IKCC) at LifeWatch ERIC.

## Keywords

Research infrastructure, ERIC, budget, construction, operations, national contributions

## Introduction

Environmental research infrastructures, including those for biodiversity and ecosystems, are inherently distributed. Measurements, monitoring and observation data can only be collected on-site, where the associated expertise is best available locally and physical user access must be provided where such data and expertise exist. Naturally, virtual user access is best supported through a centralised portal, offering access to all distributed data, software applications and local expertise. These components define the LifeWatch ERIC (European Research Infrastructure) architecture and financial model, balancing between national (local) and central contributions. This balance is reflected in the LifeWatch ERIC Statutes and its Implementing Rules which include the establishment of an independent In-Kind Contributions Committee (IKCC). The IKCC reviews and recommends to the General Assembly about the acceptance or non-acceptance of proposed and realised in-kind contributions by members of the LifeWatch ERIC. Following the IKCC guidelines, this article presents how the IKCC has fulfilled its mandate by assessing the in-kind contributions.

## The LifeWatch ERIC mission

“The Earth is our Lab” is a popular saying among biodiversity and ecosystem researchers. Similarly, the Environmental Research Infrastructures (ENVRI) community embraces this slogan (<https://envri.eu/>). The LifeWatch ERIC, as an ENVRI member, relies heavily on distributed efforts for data collection, and on the analysing and modelling applications to process this data. The rationale for establishing LifeWatch was the need for a permanent ‘home’ for the results of various national and European projects, which would otherwise lack international visibility and/or security as stand-alone initiatives. The advantages of a federated structure, which enables the interconnection of distributed capabilities, was recognised by LifeWatch ERIC as a major advantage. This has implications for the LifeWatch ERIC’s plans as it introduces the challenge of balancing decentralised and centralised developments along with related investments. At an early meeting in 2008 during the LifeWatch Preparatory Phase, the representatives from research councils and Ministries of the interested countries expressed support for in-kind contributions and the maintenance of the associated funding within each member country (currently Belgium,

Bulgaria, Greece, Italy, the Netherlands, Portugal, Slovenia and Spain). Nevertheless, it was also acknowledged that a central administration with decision-making powers and, consequently, a central budget would be necessary. Perspectives were further developed in a Financial Plan, endorsed by the representatives of the national authorities in late 2010 and early 2011. The approved Financial Plan outlines that the commitment to LifeWatch involves two types of cost:

1. In-kind contributions related to and leveraging on existing and new national investments and operations in support of LifeWatch ERIC and
2. Cash contributions for the shared European infrastructure (Common Facilities).

The outcomes of negotiations between the LifeWatch member states were reflected in the ERIC Statutes and subsequently in the Internal Rules and Guidelines. The 'Implementing Rules for In-Kind Contributions' specify that each in-kind contribution must be formalised through a written agreement between LifeWatch ERIC and the contributing entity, delivering the in-kind contribution. The identification, valuation and acceptance of in-kind contributions should be reviewed and recommended by the IKCC. The composition of the IKCC was proposed by the contributing member states and appointed by the LifeWatch ERIC General Assembly.

## Operationalising in-kind contributions

While analysing national in-kind contributions, the IKCC must consider the expected minimum financial value of the agreed contributions. Following these instructions, the committee's role is to assure for each member in the General Assembly that the other members are fulfilling their financial duties and that the provided contributions are (scientifically and technically) acceptable. The assessment of in-kind contributions takes into account that the implementation and maturity of such contributions evolves over time, starting with product design, through development, operation and maintenance, finally ending up with service provision for users and likely later updates. As LifeWatch ERIC's planning is organised in 5-year cycles, the evolving in-kind contributions will likely show up in successive 5-year phases. The framework for the interaction between the central Life Watch ERIC Common Facilities and the national nodes is established through Service-Level-Agreements (SLAs) with annexes detailing the planned or implemented in-kind contributions. These SLAs start with the planning for a 5-year phase and are followed by reporting of emerging and delivered in-kind contributions. As such, incrementally updated SLAs with plans for in-kind contributions are followed by incrementally updated reports about achieved results. The latter continues in later phases with operational services for users. Considering the above considerations, the IKCC is assessing in-kind contributions from three perspectives: the relevance, the quality and the justification of reported costs. The current IKC reporting table consists of 30 questions allowing to assess each individual contribution from these 3 different angles.

## Relevance of in-kind contributions

The assessment of in-kind's relevance is straightforward. Since LifeWatch ERIC prepares Strategic Plans, an in-kind contribution is deemed relevant if it aligns with a priority of the Strategic Plan. However, the situation differs for proposed contributions not included in this Plan but are nevertheless considered relevant by their contributors. This is possible, for example, if it concerns new developments or responding to user requests. The IKCC will evaluate the provided arguments to determine whether they are justified to offer an important addition to the LifeWatch ERIC infrastructure and/or service portfolio. Special attention is given by the IKCC to contributions that began in an earlier planning phase and may become operational in a next phase, including maintenance, user services, helpdesk etc. If such subsequent developments are not evident, it may be concluded that earlier contributions did not make sense and need to be re-evaluated by the General Assembly.

## Quality of in-kind contributions

Quality assessment of in-kind contributions presents a complex challenge. The IKCC with its limited number of members lacks the comprehensive expertise needed to assess the very diverse in-kind contributions. At the very least, in-kind contributions must be traceable and visible, such as through the status of their development or the option to test results on their functionality and feasibility. In addition, the scientific authority of the involved R&D groups and their leadership may indicate quality. In some cases, the IKCC may consult external experts for their opinions. Finally, a cost-benefit analysis also contributes to the appreciation of quality. The above suggests that trust on practices in support of quality plays an important role. Quantification of quality would be helpful, but such metrics are not always straightforward.

## Justification of costs

The IKCC has not considered hiring auditing services to verify the justification of reported costs, partly because of the high expense and because contributing organisations must report whether the cost associated to the in-kind contributions have been subject to existing audit obligations. A challenge may arise when an In Kind Contribution is provided through different independent organisations belonging to a same national node. In such a case, it should be explained whether central node endorses the auditing practices of each contributing organisation or if each separate one is responsible for its domestic audit practices. Ultimately, the IKCC's assessment of the information provided is expected to help understanding the financial management practices of each contributor.

## Ownership of and responsibility for in-kind contributions

In the distributed structure of LifeWatch ERIC, it is crucial that all involved organisations take responsibility for their in-kind contributions. These organisations, as producers of their

contributions, are expected to commit to delivering these as part of the LifeWatch ERIC service portfolio. It is advisable for them to maintain these products and to support users who wish to benefit from the associated services. Service Level Agreements between LifeWatch ERIC and the organisations delivering the contributions can be useful to regulate the rights and obligations associated with these contributions. For instance, questions on the legal rights and ownership attached to certain products and services provided, but also delivery terms and/or license conditions. LifeWatch ERIC must secure a license to showcase all delivered products (the in-kind contributions) as part of the centrally accessible LifeWatch portal, in compliance with LifeWatch terms and conditions. Addressing this matter is more appropriately done within the IPR policy. Finally, the arrangement of insurance, if applicable, also requires consideration.

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## **Conflicts of interest**

The authors have declared that no competing interests exist.