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Building a sustainable international research data infrastructure - Lessons learnt in the IGSN 2040 project

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Like many research data infrastructures, the IGSN Global Sample Number started as a research project. The rapid uptake of IGSN in the last five years as well as the expansion of diversity of use cases, in particular beyond the geosciences, mean that IGSN has outgrown its current structure as implemented in 2011, and the technology is in urgent need of a refresh. The expected exponential growth of the operation requires the IGSN Implementation Organization (IGSN e.V.) to better align the organisation and technical architecture.

In 2018, the Alfred P. Sloan Foundation awarded a grant to redesign and improve the IGSN, to “achieve a trustworthy, stable, and adaptable architecture for the IGSN as a persistent unique identifier for material samples, both technically and organizationally, that attracts, facilitates, and satisfies participation within and beyond the Geosciences, that will be a reliable component of the evolving research data ecosystem, and that is recognized as a trusted partner by data infrastructure providers and the science community alike.”

IGSN is not the first PID service provider to make the transition from project to product and there are lessons to be learnt from other PID services. To this end, the project invited experts in the field of research data infrastructures and facilitated workshops to develop an organisational and technological strategy and roadmap towards long-term sustainability of the IGSN.

To be sustainable, a research data infrastructure like IGSN has to have a clearly defined service or product, underpinned by a scalable business model and technical system. We used the Lean Canvas to define the IGSN services. The resulting definition of service components helped us define IGSN user communities, cost structures and potential income streams. The workshop discussions had already highlighted the conflicting aims between offering a comprehensive service and keeping services lean to reduce their development and operational costs. Building on the Lean Canvas, the definition of a minimum viable product helped to define the role of the IGSN e.V. and the roles for actors offering value-added services based in IGSN outside of the core operation.

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