Future-Proofing the NSDI of The Netherlands: OGC API Innovation with an Open Source Cloud Strategy

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SUMMARY

Public Services on the Map (PDOK) is a leading open geodata service provider and has been an integral part of the Dutch National Spatial Data Infrastructure (NSDI) hosted by the dutch Kadaster for over a decade. By providing access to approximately 270 datasets and processing over 30 billion annual requests, PDOK significantly contributes to the national digital information ecosystem. The exponential growth in data usage in recent years has placed increasing pressure on service performance and availability. These challenges have been addressed through enhanced standardization, the adoption of generic workflows, and the implementation of a fully automated production pipeline for data services.

A key pillar of PDOK's approach is its open source policy, which fosters technological transparency and promotes a culture of reuse of developed technical components by using cloud solutions. This strategy supports efficient and sustainable development of the NSDI and encourages collaboration and knowledge sharing not only within the Kadaster organization but also nationwide.

In addition to ensuring continuity and reliability as a national service provider, PDOK actively responds to evolving demands from its user community. These include the provision of INSPIRE and high-value datasets for the use within dataspaces, interactive data visualization, querying of all (even large-scale) datasets through dedicated feature services, integration of 3D geospatial data, and improved discoverability of existing open data. To meet the FAIR principles, the societal and technological needs, PDOK has expanded its service offerings by implementing OGC APIs alongside traditional web services.

This strategic expansion strengthens the resilience of the national spatial data infrastructure. This enables innovation within the NSDI by facilitating participation from a broader range of

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stakeholders, including non-Geo entities. PDOK is the first service provider who delivers all national spatial datasets into Webservices and API's. Recognised by winning the national award of the best API 2025 and internationally to be seen as a best practice for implementing OGC standards.

In the paper we will share our challenges , solutions and implementations resulting in an insight of a future-proofing of the NSDI.