Federal Office
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Geoinformation and its Value Adding Chain

A modern fundament for society and SDG calculation

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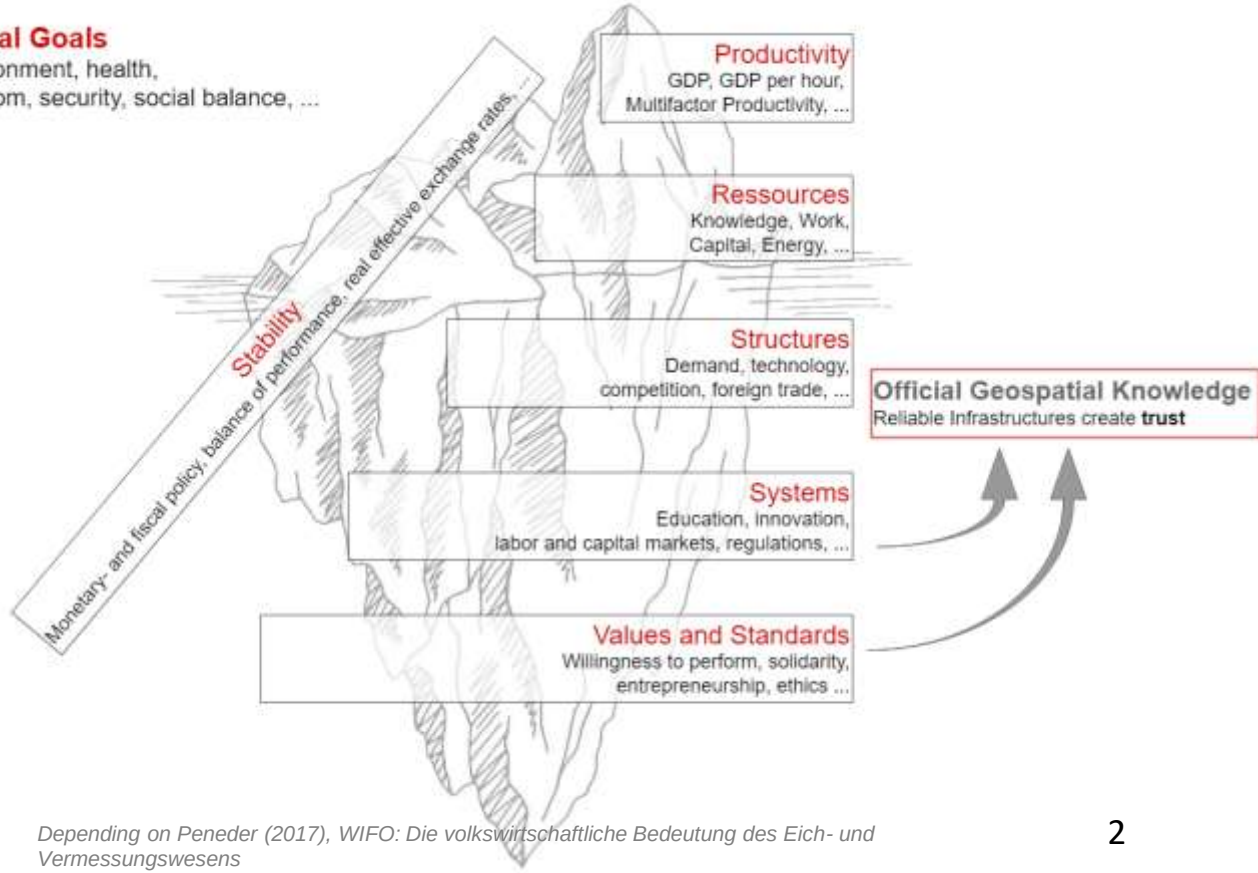
Iceberg of Socio-Economic Value

- The **economic value** of geospatial information: in 2021: ~8% of GDP in AT



Depending on Peneder (2017), WIFO: Die volkswirtschaftliche Bedeutung des Eich- und Vermessungswesens
https://www.wifo.ac.at/pubma_datensaetze2detail_view=yes&publikation_id=66893

Geospatial Knowledge: Sectoral Value Chains & Productivity

Sector	*Primary Economic Driver*	*Productivity Impact*
Agriculture	Precision Farming	Reduced input costs (fertilizer/water) and optimized crop yield through field-level monitoring.
Utilities & Energy	Asset Management	Minimized downtime via predictive maintenance of grids and optimized routing for infrastructure.
Real Estate & Finance	Risk Mitigation	Accurate valuation of assets, flood risk assessment, and secure property rights (essential for credit markets).
Logistics & Mobility	Network Optimization	Real-time efficiency gains, reduced fuel consumption, and optimized multi-modal transport planning.

GKI: Economic Pillars of Trust in GI

- The **economic value** of geospatial information is not derived solely from the data itself, but from the **trust placed in that data**.
- In the digital economy, trust **acts as a lubricant** that reduces transaction costs, accelerates decision-making, and enables the scaling of complex systems

[Who owns Geospatial Data?, https://www.techuk.org/]

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GKI: Trustworthiness as a Risk Reducer

- Trustworthy data—data that is documented, transparent, and maintained by recognized entities (like national mapping agencies)—significantly **lowers operational risk**.

- Economic Impact: In sectors like insurance, real estate, and utility management, relying on "authoritative" data **mitigates the risk** of flawed modeling.

Created by Gemini

GKI: Reliance as a Productivity Multiplier

- Reliance is the natural outcome of **proven trustworthiness over time**. When an ecosystem (e.g., transport, logistics, or government planning) can rely on a spatial data stream, it can automate processes.

- Economic Impact: This is the **foundation of interoperability**. When different organizations can rely on a shared, common "truth" (e.g., the same coordinate reference system or standardized address database), they save billions by **avoiding the "silo" problem** where incompatible datasets prevent data fusion.

GKI: The "Authoritative" Premium

- The label "authoritative" is an **economic signa**l.
  It tells the market: ***You do not need to verify this***.

- Economic Impact: This reduces transaction costs.
  In legal, fiscal, or regulatory environments, authoritative data provides the "**digital ground truth**" required for enforcing property rights, collecting taxes, and settling disputes—all of which are essential precursors to economic development.

GKI: Setting the Role of Authoritative

- There must be **a clear legislative, legal, or organizational charter** that requires the entity to collect and maintain the data.
- You must be able to trace the data back to its origin. This includes the **methodology** used to collect it and the **processes applied** to transform or update it.
- Authoritative data is only authoritative within the **domain of its mandate**.

- *Is the **source** a recognized, reliable entity?*
- *Does it follow open, industry-standard **protocols**?*
- *Is the **methodology** documented and accessible?*
- *Are there **clear policies** for updates and corrections?*
- *Is there a **designated party** responsible for the accuracy?*

Authoritative GKI: Evaluating AI Trust

- Authoritative moving towards „content is **authoritative certified**“
- Trust-building measures are embedded
  e.g. GraphRAG and **knowledge ontologies**
- **Transparency of model,** training, bias and halluzination behaviour
- Persistent **repeatability**
- **Stable** and available **infrastructure**

- ***Citation**: Explicit links to source documents or databases.*
- ***Provenance**: Digital watermarks or C2PA metadata*
- ***Human-in-the-loop**: Audited statement that the content was reviewed/verified by an expert.*
- ***Model transparency**: Disclosure of the AI model and dataset used.*

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For your interest: https://data.bev.gv.at