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Utility cadastre in Slovenia

Infrastructure — roots of our civilization.

Aljaž Peklaj

Slovenian Chamber of Engineers (IZS)

aljaz.peklaj@luz.si



Hey boss!
Which tree has
rainbow roots?

Those are
very expensive
to repair!

Briefly, the history



the first law defining a utility
cadastre, requiring every
infrastructure owner to keep one,
“survey it before you bury it”
becomes law
1974

New planning legislation (ZUreP-1)
lays the legal foundation for a
national record
2002

Regulation fixes today's model:
owners maintain their data, GURS
consolidates it
2007

ZK GJI turns 20 — a fully digital,
publicly accessible national dataset
2026



1974–2000

Reality: paper maps in municipal
archives, each utility building its own
unstandardized register — some,
oddly, more detailed than today's
digital record

2005

Zbirni kataster GJI is born— one
consolidated national platform and
record

2009

Pilot launch of 'Call before you dig'
— first tested in part of Celje

1974: “Survey it before you bury it.” 2026: still good advice.



A genuinely massive undertaking

- Roughly 400 separate infrastructure owners — energy, water, gas, telecom, roads, rail — all reporting into one place
- Owners often kept richer, more detailed records internally than the national format required — consolidation meant standardising down, not just merging
- Every existing network had to be surveyed or digitized before it could even enter the system
- Inconsistent accuracy and completeness



400+

infrastructure owners consolidated into
one national record

Seventeen categories, one record

Everything the national data model recognises as infrastructure— not just pipes and cables.

 1100 Roads	 2100 Electricity	 4100 Water management structures
 1200 Railways	 2200 Gas pipelines	 5100 Environmental & resource monitoring
 1300 Airports	 2300 District heating	 6100 Electronic communications
 1400 Ports	 3100 Water supply	 7100 Sport, recreation & leisure
 1500 Cableways	 3200 Sewerage	 8100 Other infrastructure
 1600 Standalone parking areas	 3300 Waste disposal sites	



Who does what



GURS

Surveying & Mapping Authority

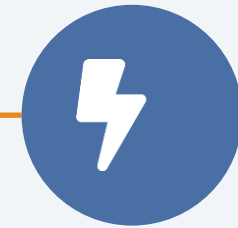
Owns the system, sets the national standard, and checks every submission before it becomes part of the record



Licensed surveyors

Knowledge of how to do it

Nothing is registered, old network or new, without a licensed surveyor putting their name on it

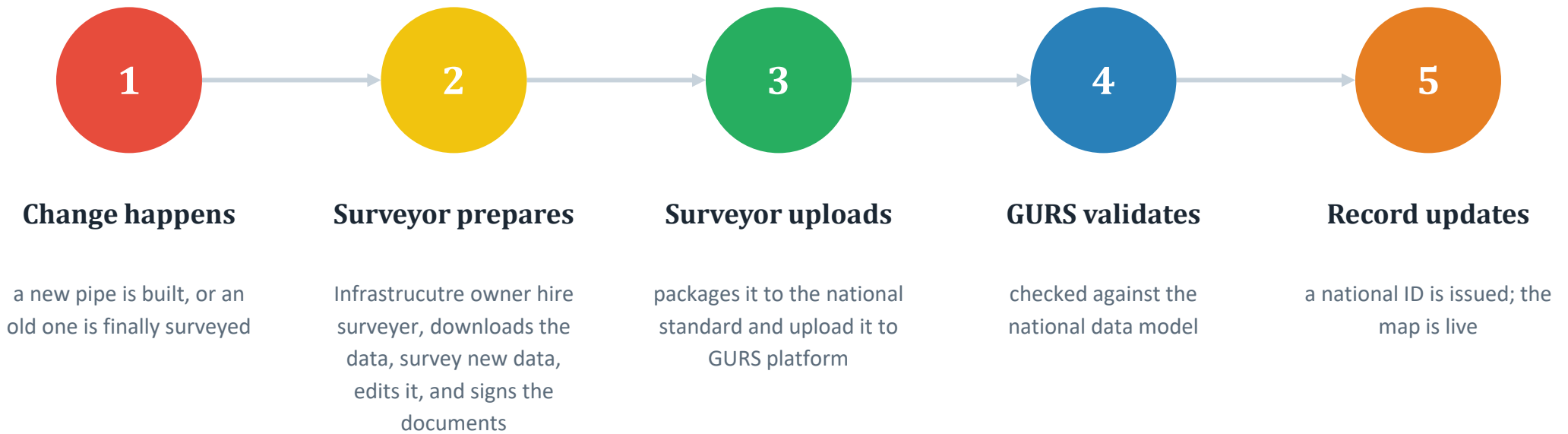


Infrastructure owners

~400 utilities & municipalities

The source of the data — legally obliged to report their networks and keep them current

How the data stays up to date



Legally enforced: no proof of a filed GJI registration, no occupancy permit for the building (Building Act / GZ-1, Article 80).

Not an island: Connecting to other geodata



Can this data be trusted and who is responsible for the damage?

~230,000 km

of infrastructure recorded

LENGTH BY NETWORK

Roads & rail

~40,200 km

Electricity

45,000+ km

Telecoms

35,000+ km

Water supply

44,848 km

Sewerage

12,000+ km

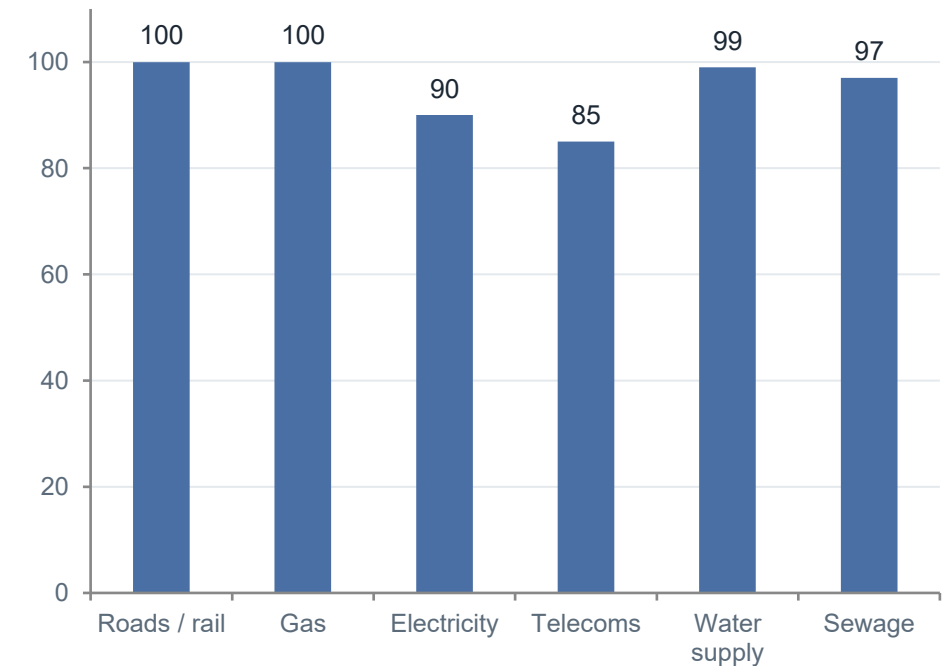
Gas & district heating

~5,500 km

7.8M+

individual objects nationwide

Data completeness by sector



Open data, guarded question



- All technical data: 100% free to view and download — for anyone, no fee, no registration
- Follows the EU Open Data Directive
- The uncomfortable question: should you be able to look up exactly where a gas line runs under a sensitive building?
- A government working group has studied this for years — with no final decision yet

“Until then: the data is public, and the parliament is still standing.”



The problems we haven't solved



- Ownership of infrastructure is still not registered anywhere — only a technical record exists (Land cadastre – Land register)
- A law that would fix this has been drafted since 2010 and is still waiting for political will
- GURS moved the whole GJI model to native 3D in 2023 — the gap is closing, not static (since 2017 – Z atribut is mandatory)
- Problems with crossings - topology



Why anyone outside geodesy should care



- Protects construction workers, prevents gas leaks and power outages, keeps roads open
- Gives planners, contractors, and citizens the same reliable picture
- Shapes property transactions and construction costs — from utility connection fees to legal certainty about what runs beneath a plot of land
- Availability of utilities
- Register of vacant building land.
- When buying land – you can check Utility cadastre where is water, electricity,...



THANK YOU

Questions & discussion welcome

<https://ipi.eprostor.gov.si/jv/>

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