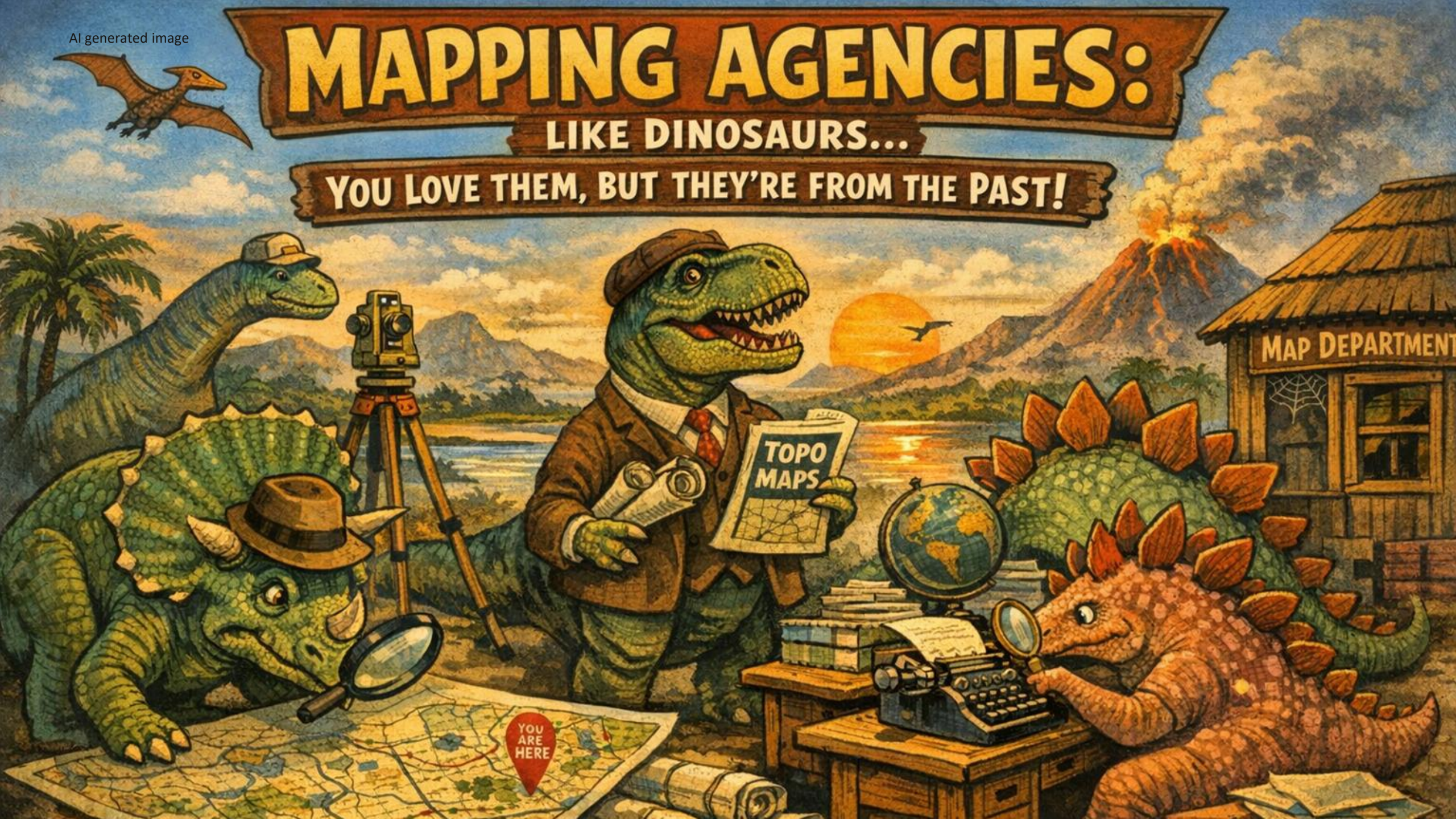
IMPACT OF TECHNOLOGY ON A MAPPING ORGANIZATION

LESSONS LEARNT AT NGI

NGI
Nationaal
Geografisch
Instituut

IGN
Institut
Géographique
National

AI generated image



The central shift

From producing maps and datasets → enabling trusted geospatial intelligence

CONTINUOUS

More frequent observation, change detection and data updates.

CONNECTED

Authoritative information delivered through interoperable services and APIs.

INTELLIGENT

AI-supported production, analysis and user-facing services.

The advantage is not one technology. It is authority + quality + interoperability + adaptability.

Two horizons: improve the model, then change it

2026–2031 | AUTOMATE & CONNECT

- AI enters routine production workflows
- Automated change detection
- Cloud-native platforms and APIs
- Wider 3D mapping adoption
- Digital cadastral workflows
- Stronger cyber and AI governance

2031–2036 | ANTICIPATE & ORCHESTRATE

- AI agents coordinate multi-step tasks
- Event-driven, living geospatial databases
- Integrated 3D/4D and legal information
- Digital twins linked to sensors and models
- Users ask questions, not just download data
- Federated networks of trusted providers

Plausible scenarios—not guaranteed dates. Law, budgets, skills and data access determine the pace.

How the agency operating model may change

TRADITIONAL EMPHASIS	EMERGING EMPHASIS
Periodic mapping campaigns	Continuous / event-driven updates
Dataset-centric production	User needs and service workflows
Manual interpretation	AI-assisted production + expert oversight
Agency as primary producer	Producer, integrator and trusted authority
Downloads and map products	APIs and machine-to-machine services
Quality at publication	Quality throughout the data lifecycle

LESSONS LEARNT (OR STILL LEARNING)

- Be more agile, play and test
- Sovereignty matters
- Use the cloud wisely
- Be aware when you are locked in
- Look beyond the walls of our geospatial niche, learn about mainstream IT
- Get your data ready for AI use
- Do not rush in implementing
- Team up with specialized competence centres

NGI IGN

FIRST ORDER CHANGE

do the same in a cheaper, better, faster way

seen as positive by staff

OPTIMISATION



SECOND ORDER CHANGE

adapt the behavior – criteria for success have to change

Sense breaking – show that what they thought was good is maybe not so good

Sense giving: which result do you want

Sensemaking: what is already good

Learn new skills, break old habits, adapt self image

Hard and chaotic

TRANSFORMATION



THIRD ORDER CHANGE

do other things and work transversally – only here sits real innovation

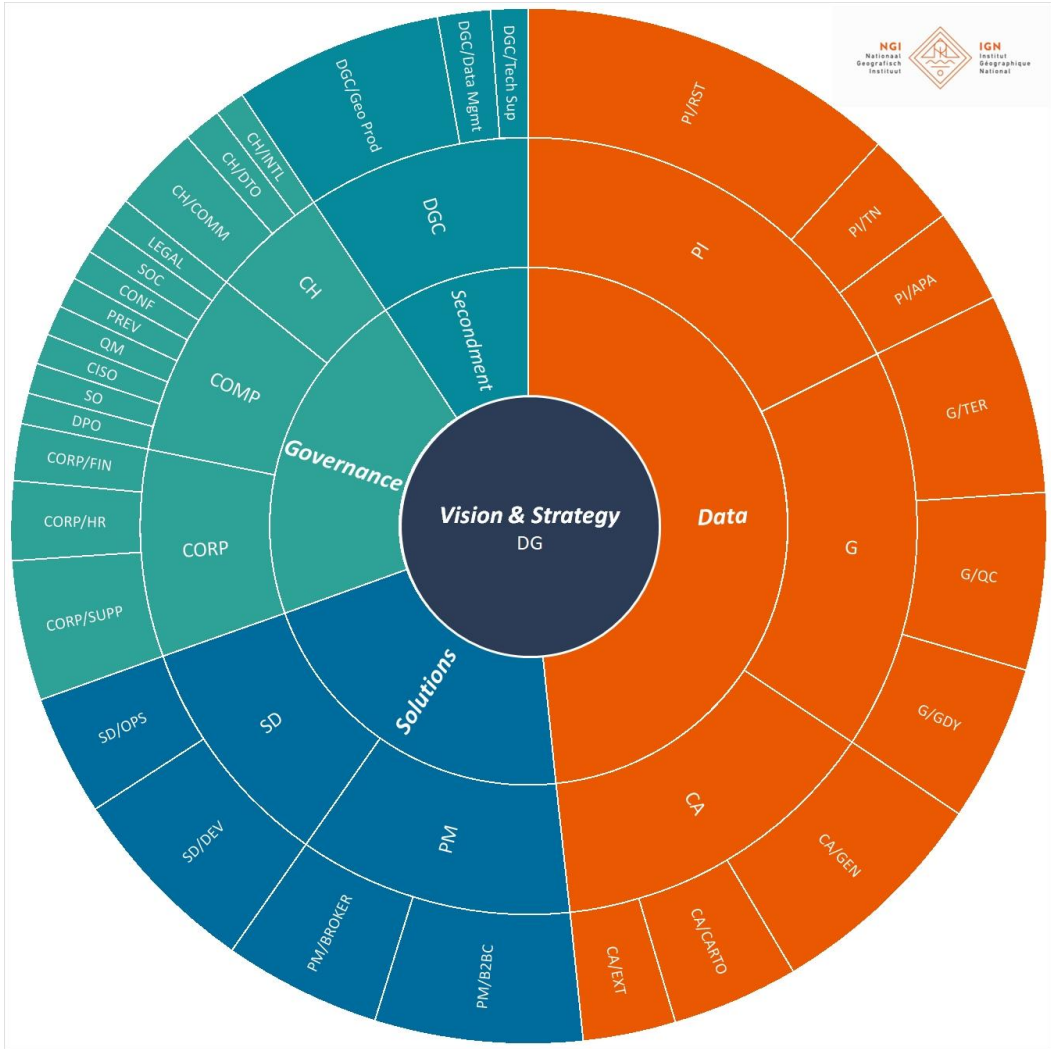
TRANSITION

TRANSITIO
N





Organisational change


Vision & Strategy
DG
Governance
Solutions
Data
Secondment
DGC
CH
COMP
CORP
SD
PM
PI
G
CA
DGC/Tech Sup
DGC/Data Mgmt
DGC/Geo Prod
CH/INTL
CH/DTO
CH/COMM
LEGAL
SOC
CONF
PREV
QM
CISO
SO
DPO
CORP/FIN
CORP/HR
CORP/SUPP
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