



Geodesy, Informatics and the Future-Ready Geomatics Profession



From reference frameworks to trusted spatial intelligence

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● Executive overview

01 Reference foundation
Common positioning base for measurement and spatial decisions

02 Informatics layer
Governance, metadata, interoperability and analytics

03 Professional accountability
Competent, ethical and registered practitioners

04 Technology shift
GNSS, CORS, Earth observation, automation and AI

05 Public interest
Confidence in information for land, infrastructure and safety



A Transformed and Accountable Geomatics Profession in the Interest of the Public

Trusted spatial information is a technical output and a governance responsibility.

● From geodesy to spatial intelligence

01

Reference framework

Common datum, control and positioning foundation

02

Observations

GNSS, CORS, surveys, Earth observation and field data

03

Data governance

Metadata, quality, custodianship and audit trails

04

Analytics and AI

Automation, modelling, integration and decision support

05

Public value

Land, infrastructure, planning, safety and accountability

Competence spans measurement accuracy, data integrity and responsible analytics.

● Informatics capability areas

● Measurement and data

- GNSS, CORS and reference frames: positioning quality controls
- Spatial databases and metadata: lineage and custodianship
- Earth observation: trusted image and satellite products

● Integration and assurance

- Interoperability and APIs: exchange across institutions
- Automation and AI: responsible analytics with professional judgement
- Cybersecurity: privacy, auditability and reliable systems

● Professional governance

1

Education

Modern geodesy, positioning, data quality and informatics in core learning.

2

Candidacy

Mentorship exposure to GNSS, CORS, reference frames, metadata and QA.

3

Registration

Assess branch competence and readiness to practise responsibly.

4

CPD and ethics

Keep skills current and uphold ethical accountability as technology evolves.

Public protection requires competence across infrastructure, data, systems and ethics.

● National spatial informatics ecosystem

01

Geodetic infrastructure

Reference frames, control, GNSS networks and observations

02

Authoritative spatial data

Trusted datasets, lineage, metadata and custodianship

03

Standards and interoperability

Common rules for exchange, integration and quality assurance

04

Professional competence

Registered practitioners applying systems lawfully and ethically

05

Public decisions

Reliable evidence for land, infrastructure, planning and safety

Priorities: shared standards, custodianship, integration, cyber trust and succession.

● Registrar's call to action

1

Infrastructure

Sustain reference frames, GNSS networks, observations and authoritative systems.

2

Informatics skills

Build capability in governance, interoperability, automation and AI.

3

Standards and trust

Advance ethical practice, compliance and confidence in spatial information.

4

Partnerships

Align government, academia, science institutions, professional bodies and industry.

A modern geodetic reference framework is more than infrastructure. It is a trusted spatial informatics capability.

Thank you



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Questions and discussion

