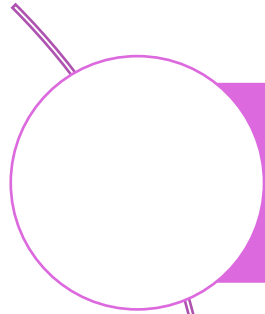
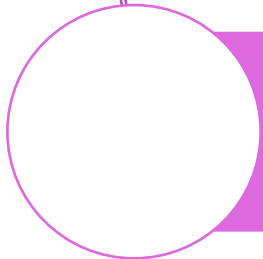

Geodesy education in NKG countries

Maaria Nordman, Aalto University and Finnish Geospatial research Institute

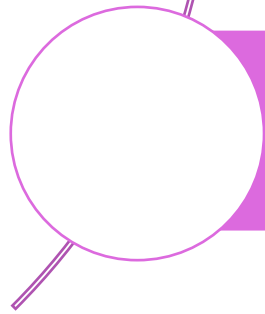
Why geodesy matters in the modern world:



Reference frames and gravity models enable all satellite positioning

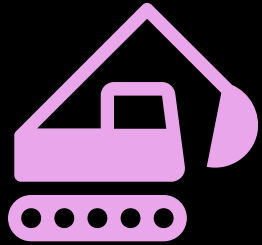


National sovereignty depends on accurate borders and national coordinate systems

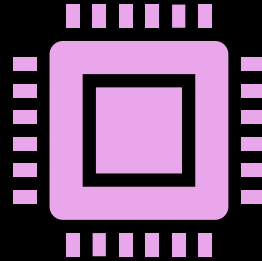


Emerging uses: real-time machine guidance, precision agriculture, climate and water monitoring (Earth observations), quantum/relativistic techniques

Three levels of education



Experts needed by
observatories, mapping
authorities, universities



Increasing number of geodesy
used in applications e.g. laser
scanning, automatic vehicles, etc
→ some understanding needed



Increasing the general public's
awareness of geodesy →
geodesy.science, UN, IAG, et al.
efforts → Outreach

Survey

A short survey to NKG countries on the education they provide at the end of 2024 with some updates in 2025

A list of universities / universities of applied sciences providing teaching in geodesy:

- Name of the program
- Level of teaching (BSc, MSc, PhD/DSc)

Excel listing the courses taught and some estimates of the participants

A!

The locations where geodesy and geodesy related topics are taught in the NKG countries. Iceland has no programs in higher education.

BSc

BSc/MSc

BSc/MSc/PhD

Norge

Sverige

Danmark

Finland

Lietuva



A!

Universities that replied with courses

Aalto University (FI)

University of Helsinki (FI)

KTH (SE)

University of Gävle (SE)

NMBU (NO)

Estonian University of Life Sciences
(EST)

Tallinn University of Technology
(EST)

Riga Technical University (LV)

DTU (DK)

Aalborg University (DK)

Vilnius Gediminas Technical
University (LT)

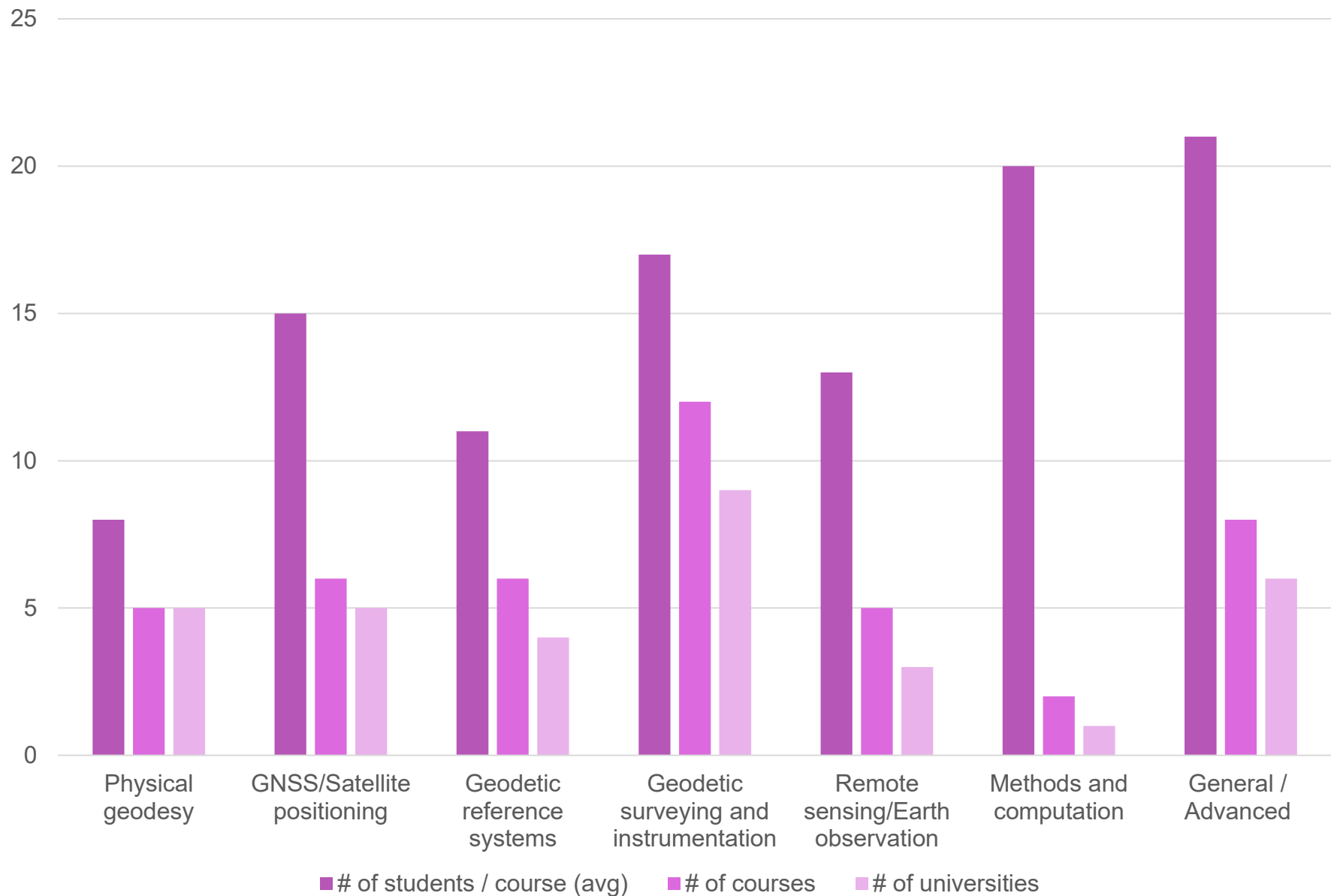
Kauno kolegija Higher Education
Institution (LT)

Klaipėdos valstybinė kolegija Higher
Education Institution (LT)

Vytautas Magnus University (LT)

A!

Some numbers to present the data



Some thoughts

Rebranding and recruiting

Modernizing curricula

Securing teaching capacity

Building identity and community

Linking science and policy

Next steps: Task Force for Education and Outreach → update all the information

A!

A!

Kiitos
aalto.fi