

# Georeferencing in the digital era from the user's perspective

Dr. Ivar Oveland, Chairmann Commission 2, EuroSDR

# REPORT

JOINT EUREF AND EUROSDR WORKSHOP

## GEOREFERENCING IN THE DIGITAL ERA

How To Increase Use of Spatial Data & Sharing Data Across Borders -Relating to Reference Frames.

22 - 23 October 2024  
The Fram Centre, Tromsø, Norway

workshop  
FREE of  
charge!

\* travel and accommodation are not included

Let's follow up the workshop in Tromsø and continue our mission to simplify usage of geospatial data in the era of georeferencing

Georeferencing doesn't need to be cloudy!



### The fact

In an increasingly digital world, the accuracy and usability of geospatial data depend on effective georeferencing.

Important information about time references and coordinate systems is often lost in the data flow from collection to the end user.

**Simplifying georeferencing is the key to success for accurate, efficient and user-friendly geospatial data in the digital age.**

### The discussion

The complexity of reference frames gives too many options and creates confusion among users.

- **Automated handling of reference frames:** Users should not have to manually select the correct system. GIS software Challenges.
- **Improved metadata management:** Machine-readable standards for time and coordinate references.
- **Harmonization at the European level:** Unified reference frames and clearer standards.



Use booking reference: MB0000955464 when contacting Radisson RED

Phone: +47 6702 4100 // [info.airport.oslo@radissonred.com](mailto:info.airport.oslo@radissonred.com)

Pre-booked rooms until April 16.

Call for abstract within 16th of April: [karoline.skar@kartverket.no](mailto:karoline.skar@kartverket.no)



# Georeferencing in the digital area 2025

May 2025, GARDERMOEN, Norway:

## **Participants from across Europe**

- 7 Countries – 32 people
- Participants from national mapping agencies, academia, industry, and software development.

## **Discuss the future of georeferencing:**

- focus on user-friendliness
- Standardization
- international collaboration.

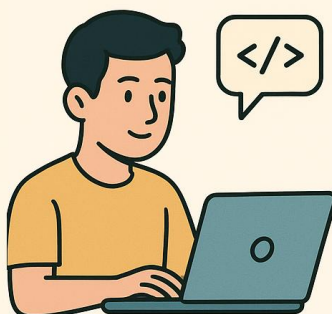




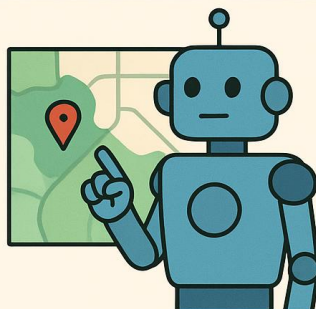
PROFESSIONAL



PRIVATE



DEVELOPERS WITH  
AND WITHOUT  
MAP EXPERTISE



MACHINE

# Who is the user of geospatial information?



# The user experience?

What is a coordinate reference system?




PRIVATE

# The user experience?



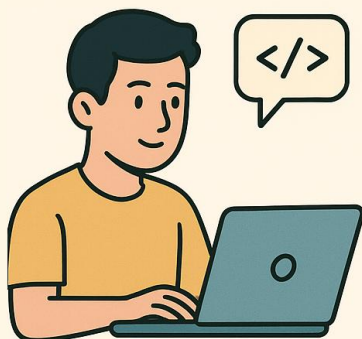
PROFESSIONAL



**New EPSG codes  
for Norway:  
1407**

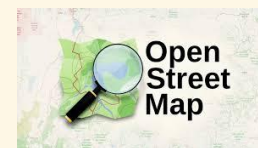
2025 : 105 new EPSG codes in Norway

# The user experience?



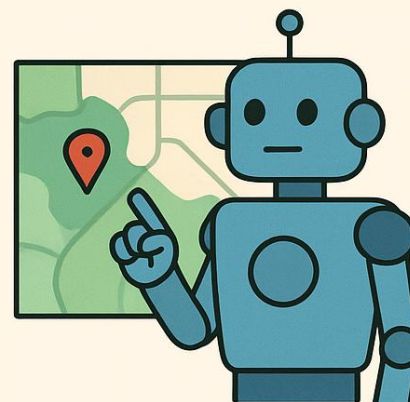
DEVELOPERS WITH  
AND WITHOUT  
MAP EXPERTISE

“I use what is easy to use”



# The user experience?

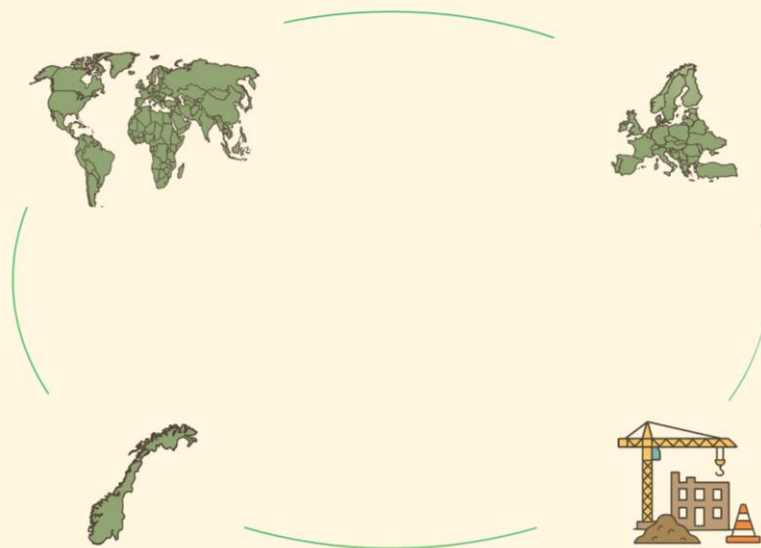
Where is the metadata?



MACHINE



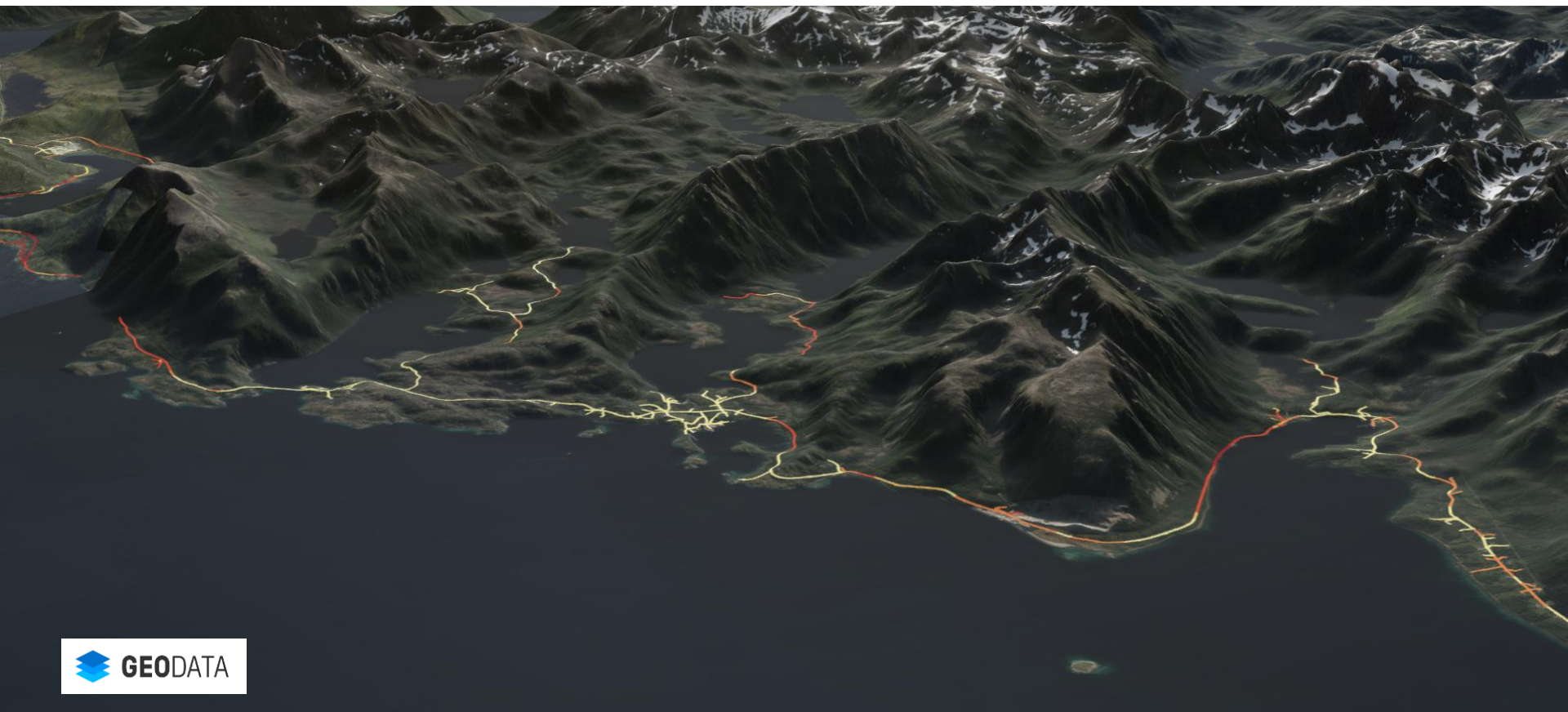
# Different user needs – Area of interest



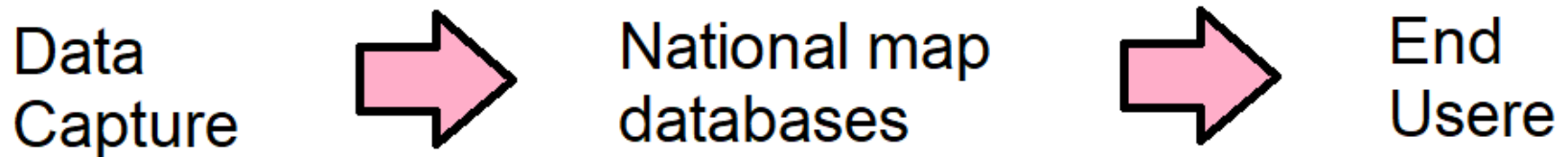
# Different user needs - Accuracy

Need of Accuracy	User groups
100 m	Weather observation, Environmental monitoring
10 m	Remote sensing, Satellite, Map with small scale
1 m	Map with medium scale
0.1 m	NMCA GIS
0.01 m	NMCA Data capture
0.001 m	NMCA Geodesi, Ocean, Engineer

# Why is it important!



Coordinate Reference system information is often lost



Result: End users get easily confused and lost in the high number of options

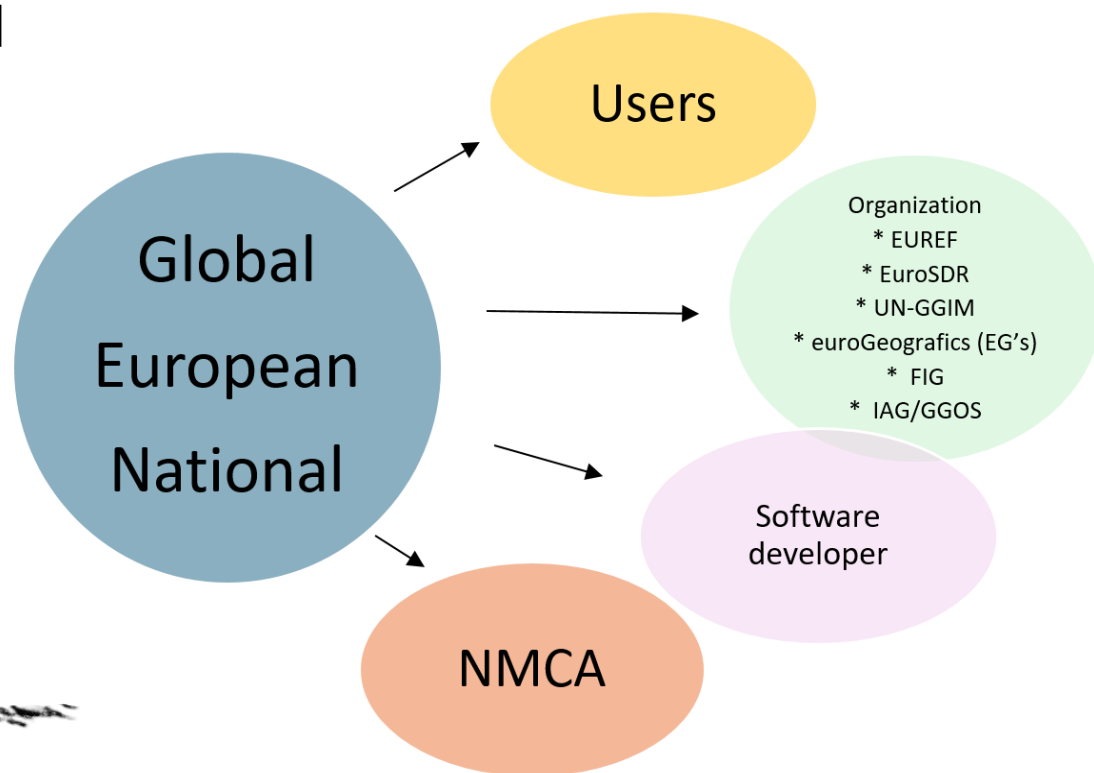
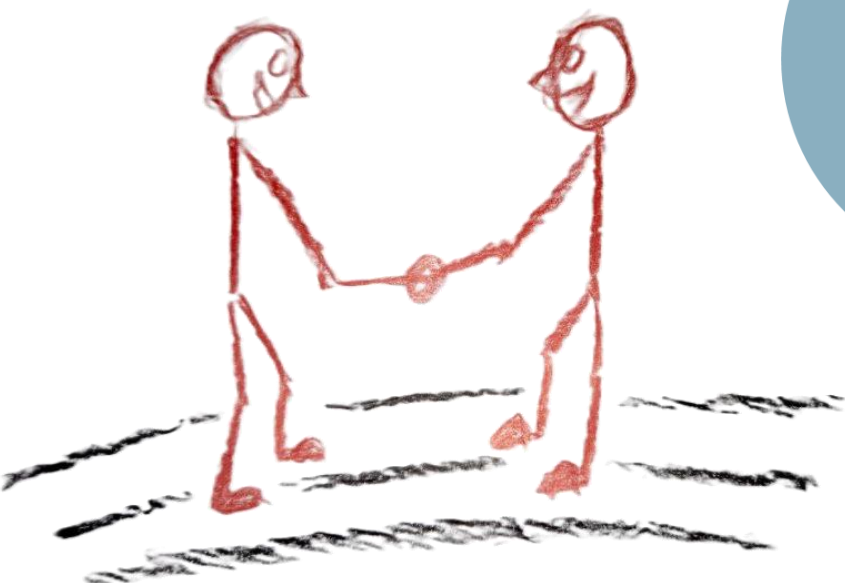


## **Reduce options**

in hence to reference frame,  
transformation, coordinate  
order, map projections, height  
frame, height transformation  
and time frame

**Make the  
information  
machine readable**

Collaboration is needed  
at all levels!!!!





Is everything nice and clear ?



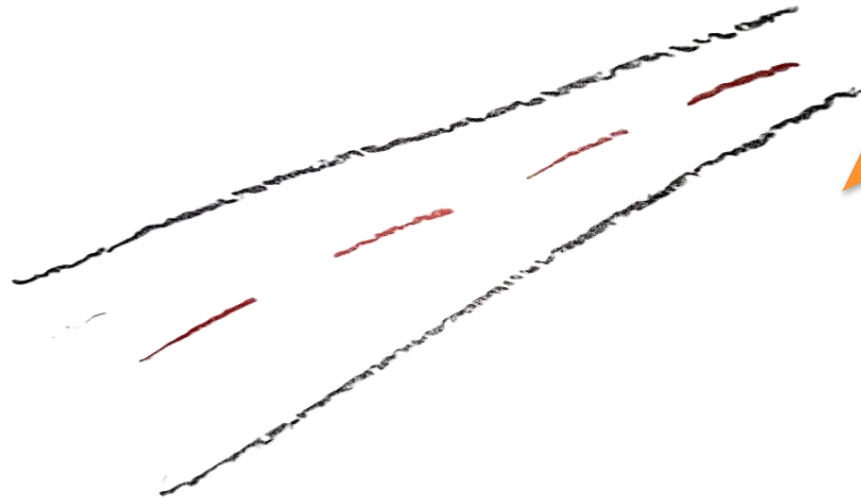
# The Georeferencing Reality



# Conclusion : Yes, we have a problem!!

Today:

- Metadata regarding reference frame is often lost
- “End” users get easily confused
- Collaboration is needed



The future



"Design systems that manage complexity, so users don't have to."