



**RODEO**

## **RODEO Project - bringing more meteorological data open for all users**

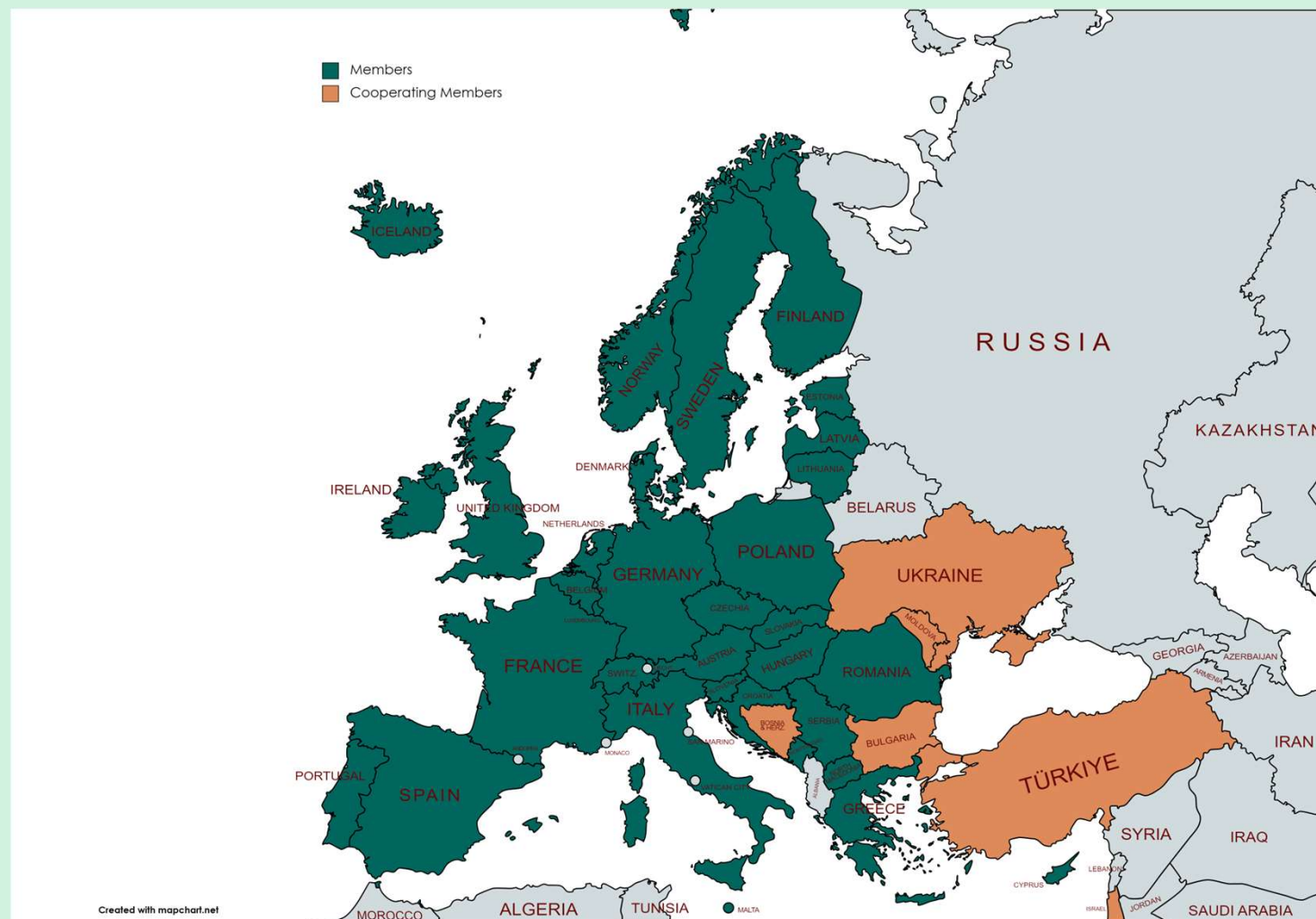
**AMS Annual Meeting 2024  
Baltimore, 30<sup>th</sup> January**

**Willie McCairns,  
Deputy executive Director,  
EUMETNET  
RODEO Project Lead for User Engagement**





# EUMETNET





# Outline

- EU Open Data Directive and High Value Datasets
- RODEO Project, Partners and Objectives
- Project Objectives, Benefits and Deliverables
- Project timeline
- User and Provider Engagement and Support



# Open Data Directive (EU) 2019/1024

- Applies to data produced with public funds
- A cross-governmental general directive alongside the sectoral regulation INSPIRE (EY) 2007/2
- Replaces the Public Sector Information (PSI) Directive (EY) 2003/98



# High Value Datasets (HVDs) Implementing Regulation (EU) 2023/138

- General requirements for data distribution:
  - Available under an open and free licence;
  - In machine-readable format using Application Programming Interfaces (APIs)
  - Via bulk downloads, except for NWP data;
  - Following FAIR principles (findability, accessibility, interoperability and reusability)
- The regulation will apply from 9 June 2024





# Meteorological High Value Datasets

## Implementing Regulation (EU) 2023/138

Datasets	Observation data measured by weather stations	Climate data: validated observations	Weather alerts	Radar data	NWP model data
Granularity	Per weather station, full temporal resolution	Per weather station, full temporal resolution	Alerts, 48hrs or more ahead	Per radar station in the MS and national composite	Minimum 48hrs ahead in 1hr steps, national, at 2.5km/best available grid
Key attributes	All observation variables measured	All validated measured observation variables; daily average per variable		Reflectivity, Backscatter, polarization. Precipitation, wind, and echotops	Deterministic and/or ensembles if available, for meteorologically relevant parameters and levels



# Publication and re-use of meteorological HVDs

## Implementing Regulation (EU) 2023/138

Datasets	Observation data measured by weather stations	Climate data: validated observations	Weather alerts	Radar data	NWP model data
Format	BUFR, NetCDF, ASCII, CSV, JSON	NetCDF, JSON, CSV	XML (Cap or RSS / Atom), JSON	HDF5, BUFR	GRIB (or NetCDF)
Update frequency and timeliness	Every 5-10 minutes in real time for automated stations, hourly unvalidated for all stations, for the last 24 hrs	Daily validated hourly (and better temporal resolution) and daily average observations data; all digitised historical Data	As issued or hourly	Near real time in 5 minute intervals (or available shortest interval)	Every 6 hrs, or better temporal resolution, from the last 24 hrs.



# RODEO Project

RODEO Project DIGITAL-2022-CLOUD-AI-02-OPEN-AI

- Three-year project funded by the EU Digital Europe Programme (DIGITAL) and EUMETNET
- HVD requirements will be implemented and compatible with the WMO WIS2.0 requirements
- A user interface and APIs developed for accessing HVDs (excluding NWP data)



**Co-funded by  
the European Union**



**EUMETNET**





# Project Partners



ILMATIETEEN LAITOS  
METEOROLOGISKA INSTITUTET  
FINNISH METEOROLOGICAL INSTITUTE



The Danish  
Meteorological  
Institute



HUNGARIAN  
METEOROLOGICAL  
SERVICE



GeoSphere  
Austria



Royal Netherlands  
Meteorological Institute  
*Ministry of Infrastructure  
and Water Management*



LATVIJAS VIDES, ĢEOLOĢIJAS  
UN METEOROLOĢIJAS CENTRS



EUMETNET



Norwegian  
Meteorological  
Institute



Meteo  
Romania



Icelandic Met Office





# Project Objectives

- Increasing open availability, quality and utilization of meteorological data across Europe.
- Strengthening technical capabilities of the NMHSs to comply with the EU Open Data Directive
- Align with the requirements of the meteorological community
- Supporting the Project Partners and other EU data providers to implement the open data directive nationally



# Project Benefits for the community

- New digital products and services from SMEs and NMHSs
  - attracts investors and creates new companies
- Supporting research and new digital innovations
- High-quality information for decision-making, especially for the fight against the climate change
- Better data availability leads to
  - better warnings, forecasts, and services to the public and weather-critical industries
  - the safe and efficient functioning of society



# Project Deliverables

- A federated approach, using EUMETNET's existing programme structures and operational systems
- The Project is developing
  - a user interface for inquiring the data
  - APIs for accessing HVDs
  - a data catalogue for making data discoverable
- The Project is also
  - Engaging with the data owners and user communities
  - Supporting the deployment of national data portals and APIs



# Project Work Packages

Work Packages
Project Management and coordination
User interface
Real-time Met Data
Warnings
Climate Met data
Radar data
User and Provider Engagement and Support



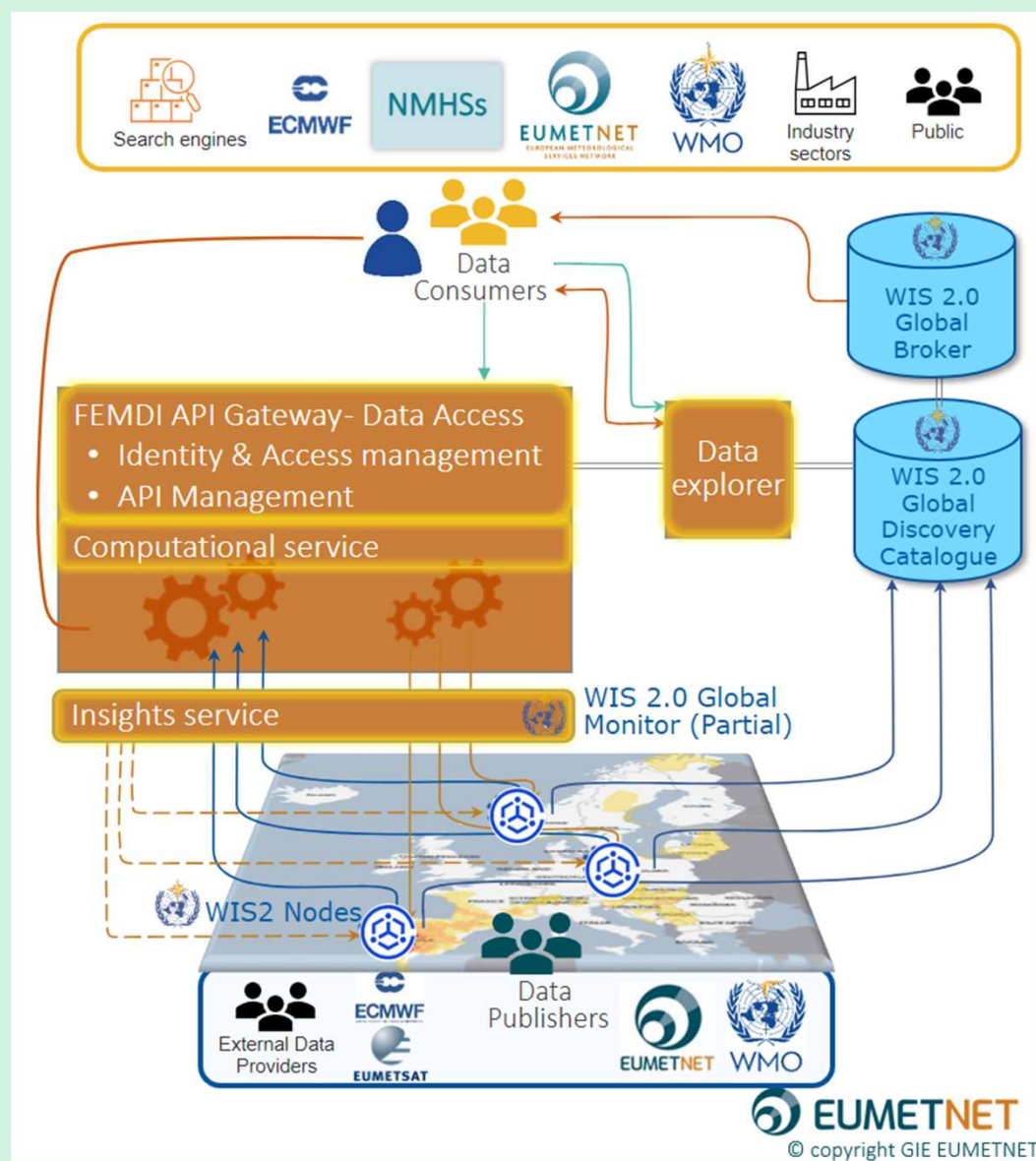
# Project timeline

Activity	2023	2024	2025
User interface (FEMDI)	Prototype	Design of components	Data catalogue, Message broker, and, Data access (API Management)
Real time met data (E-SOH)	API design	API and data from some Project Partners	Documentation
Warnings (EMMA)	API design	API for real-time and archived warnings	Documentation
Climate data	API design	API wrapper and APIs from project partners	Data available from Project Partners
Weather radar data (OPERA)	Coordination	API design	API for real-time and archived data
AI datasets	Review of potential datasets	Centralized data access	ML benchmark datasets published
User engagement	User engagement plan and onboarding plan	User engagement	API testing and guidance





# EUMETNET FEMDI Design





# Initial API release timeline





# User and Provider Engagement and Support Objectives

- **Data providers**
  - Improve knowledge of the HVD regulation and its impact
  - Share best practices and tools to facilitate sharing of HVDs
- **Data re-users**
  - Inform about the impact of the HVD Regulation on meteorological data
  - Foster uptake of HVDs
- **Public administrators**
  - Raise understanding of the strategic role in policy and decision making of increased availability of open meteorological data



# User Engagement Activities

- Seminars and Conferences
- External Advisory Board
  - Using private sector representatives as project advocates
- User group
  - Being set up in Spring 2024
  - Updating data re-users about the project progress and deliverables
- News items (website)
- Development of use cases



# Data Provider Support

- API development
  - Service level guidance
- Documentation and guidance
- Training
- Guidance for users
- HVD Onboarding Plan



# Thank you!

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