

# United Weather Centres

Collaboration on NWP production and high-performance computing

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# Outline

- UWC – who are we
- Path to UWC
- UWC rationale and goals
- How we work
- Where are we now and how to proceed? – UWC strategy 2023-2030



**Veðurstofa  
Íslands**



ILMATIETEEN LAITOS  
METEOROLOGISKA INSTITUTET  
FINNISH METEOROLOGICAL INSTITUTE



REPUBLIC OF ESTONIA  
ENVIRONMENT AGENCY



Koninklijk Nederlands  
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*Ministerie van Infrastructuur en Waterstaat*



LATVIJAS VIDES, ĢEOLOĢIJAS  
UN METEOROLOĢIJAS CENTRS



**Lithuanian  
Hydrometeorological  
Service**



**Meteorologisk  
instituttt**



**SMHI**

# Joining forces for the best short-range weather forecasts



**R&D collaboration**



1985 HIRLAM established



2006: HIRLAM (10) and ALADIN (16) start work together



2021: ACCORD established





# Path to UWC



## R&D collaboration



1985 HIRLAM established

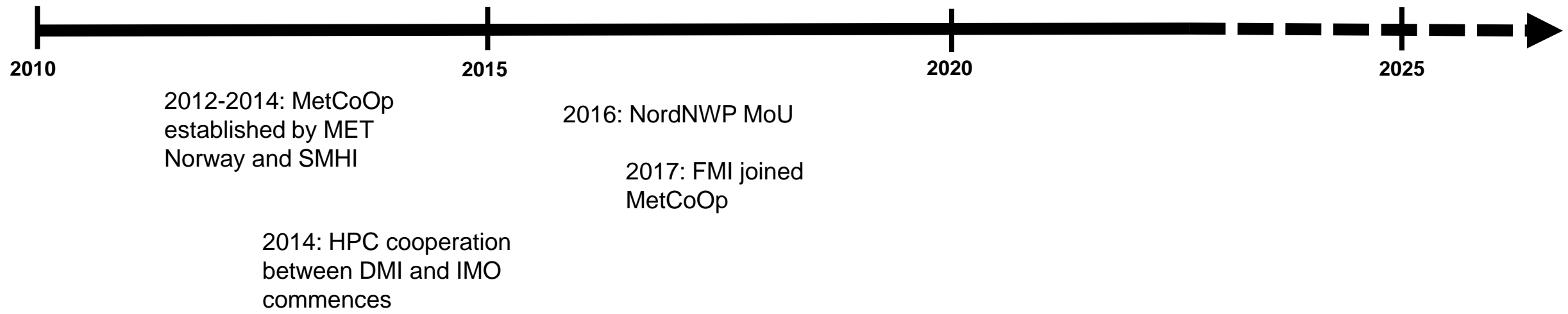


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## Operational collaboration



# Path to UWC



## R&D collaboration



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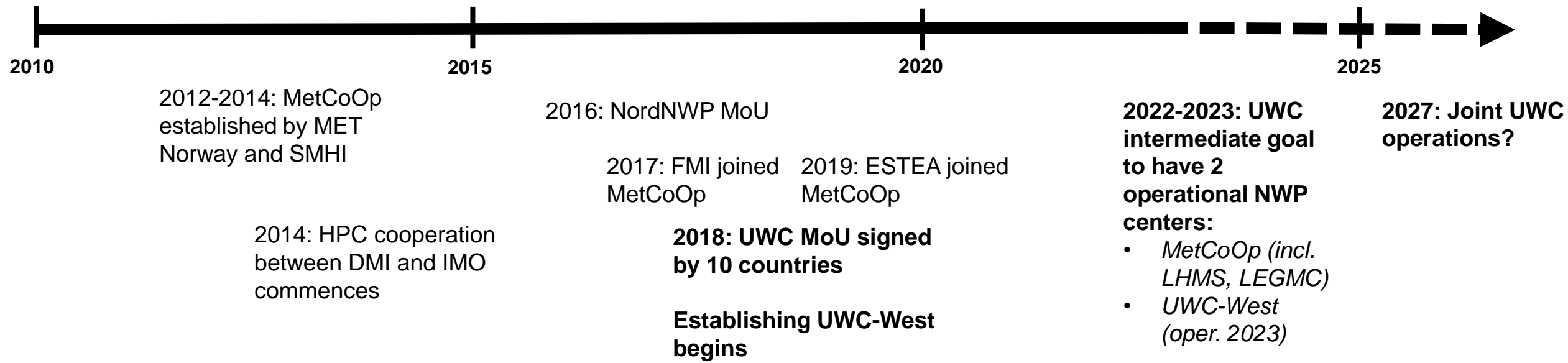


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## Operational collaboration



# UWC rationale and goals

## National responsibility vs. collaboration

- UWC strengthens **capacity and capability** to fulfil national responsibilities
- Maintains high level of relevance, impact, quality and trust of each **individual institution** within their respective territories

## Collaborating to co-produce

- Pooling resources to work on common tasks and solve common issues
- Increasing competence available, expanding the community of experts
- Reduce vulnerability to staff turnover, increasing mentoring opportunities for new staff

## Goals:

- **Overarching goal:** *The overall purpose of this collaboration is to enable the Parties to accomplish joint operational exploitation of a science-based short-term numerical weather prediction system and related pre- and post-processing activities from 2027 onwards.*
- **Intermediate goal:** *Firstly, the overarching operational collaboration is based on two sub-cooperations: i) MetCoOp + ESTEA/LHMS/LEGMC and ii) UWC-West from 2022 onwards.*



# Status of intermediate goals: UWC-West and MetCoOp

## UWC-West

- DK, NED, IRL, ISL
- Joint HPC procured: location in Iceland
  - 2/3 for common setup
  - 1/3 for national/non-NWP
- Harmone-Arome cy43
  - continuous-ENS (DINI)
  - deterministic 3-hourly (IGC)
- Resolution: ca. 2km / 90L
- Supplemented with national:
  - selected regions
  - on-demand hectometric scale
  - nowcasting
  - overseas territories
- Operational in first half of 2023

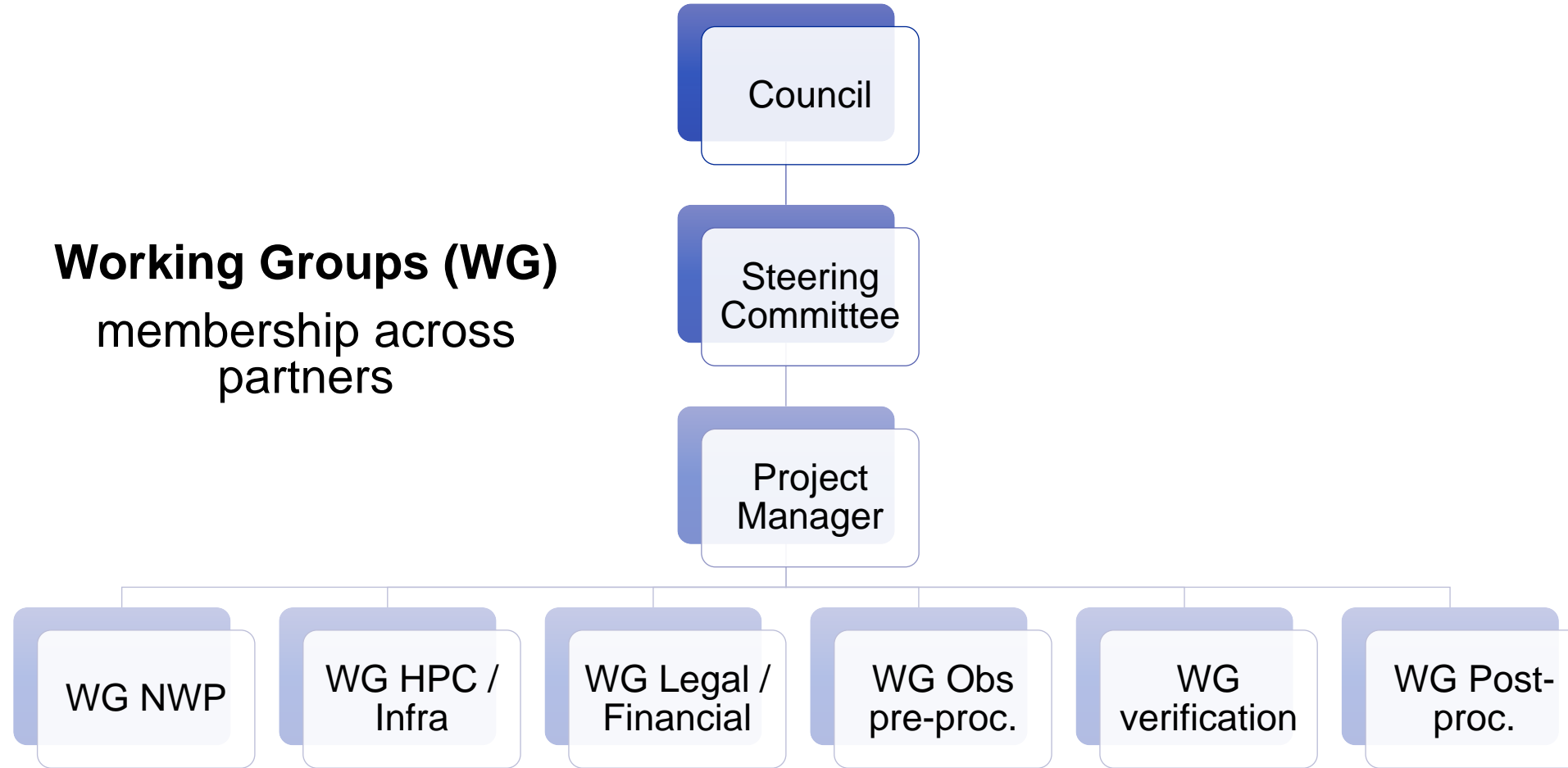


## MetCoOp

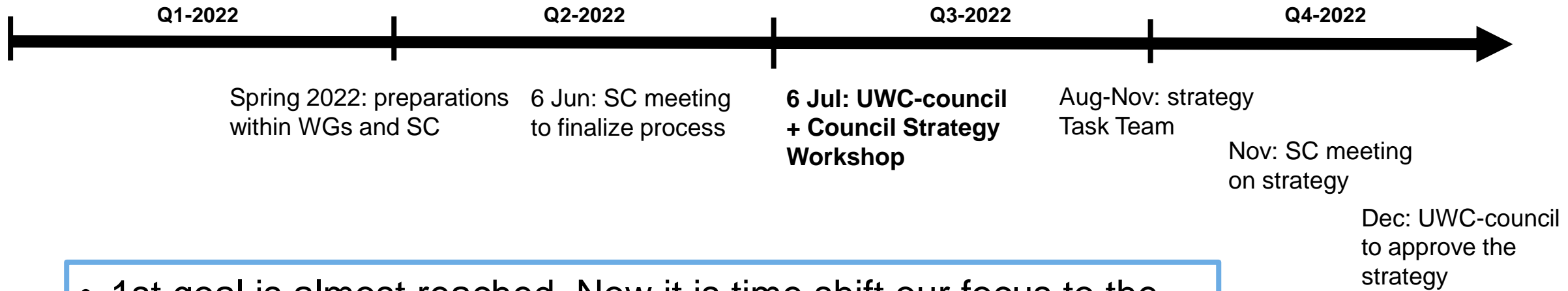
- NO, SE, FI, EST
- Distributed HPC capacity
  - 2 @NSC (SE,NO)
  - 1 @FMI (FI)
- Harmone-Arome cy43
  - continuous-ENS (MEPS): 15 members (5 members updated hourly)
  - nowcasting (MNWC, oper Q3/2022): hourly updates up to T+9h.
- Resolution: 2.5 km / 65L
- Joint NWP production between FI, SE, NO and EST since 2019
- Joining of LAT and LIT under discussion



# UWC: How we work – overarching project stage



# Where are we now and how to proceed - UWC strategy 2023-2030



- 1st goal is almost reached. Now it is time shift our focus to the future!
- Are the assumptions from 2018 still valid? Which direction we want to develop UWC (scope, goal(s), constraints)?

→ UWC STRATEGY under preparation

# ACCORD-HIRLAM-UWC – roles now and in the future?



- HIRLAM-C consortium organisation has still important bridging role.
- However, we do have too many organisations → HIRLAM-C is planned to end 2025
- Transfer of bridging functions → to ACCORD? to UWC? → under review and part of UWC strategy process.

# Questions ?

