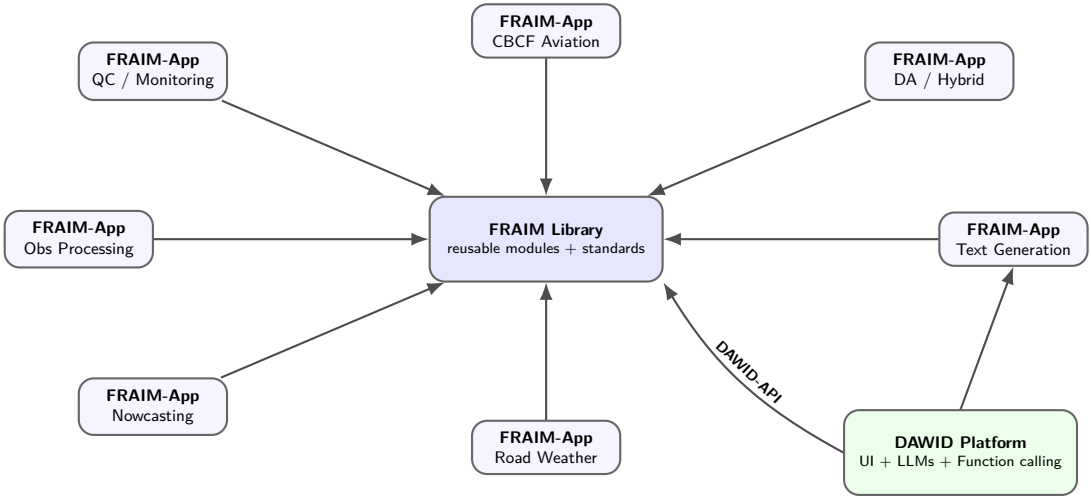
FRAIM Ecosystem: Central Library, FRAIM-Apps, and DAWID Platform



Anemoi vs. FRAIM — What are they about?

Anemoi (ECMWF & Partners)

- international collaboration to build ML-based forecast models
- **end-to-end framework** for training & inference
- well-defined pipeline: datasets → graphs/models → training → inference/deploy
- **Open Source**, pan-European community

Typical question:
How do we train and operate an ML forecasting model operationally?

FRAIM (E-AI / DWD / Partners)

- international collaboration focused on many AI applications
- **method toolbox / modular framework** across a broad portfolio: products, services, and smaller AI components
- platform/integration view: standards, building blocks, reuse
- **umbrella framework** (forecasting is only one use case)

Typical question:
How do we build a modular AI ecosystem for many meteorological products and services?

Pipeline view: where does each framework sit?

Anemoi: lifecycle of an ML forecast model

Data	→	**Training**	→	**Inference/Deploy**
(anemoi-datasets)		(anemoi-training)		(operational tooling)

FRAIM: system / toolbox view across multiple AI components

Use case	→	**Modules**	→	**Integration/Operations**
Forecast / Nowcast / QC / DA / Postproc QA, LLM, etc.		training, surrogates, platform + standards		

Take-away:
Anemoi is forecast-model-centric, FRAIM is architecture- & reuse-centric.

Concrete differences and a good integration story

Differences (short & concrete)

- **Scope:** Anemoi = end-to-end ML forecasting FRAIM = modular AI toolbox for many meteorological products
- **Core artifacts:**
  - **Anemoi:** datasets, graphs, model weights, training pipelines
  - **FRAIM:** central library + reusable modules + standards
- **Organization principle:**
  - Anemoi: one coherent forecasting stack
  - FRAIM: many use-case driven FRAIM-Apps (each in its own repo)

How does this combine well?

- FRAIM can integrate mfai or Anemoi as a forecasting or processing engine
- FRAIM then provides:
  - product-specific pipelines (QC, DA, verification, monitoring, etc.)
  - deployment patterns and operational standards

One-liner:
Anemoi = *forecast-model factory*;
FRAIM = *modular product ecosystem*.

DAWID — LLM Platform, Tools, and FRAIM Integration

DAWID capabilities

- **LLM user interface**
  - chat + document context (RAG)
  - role-based workflows (science / dev / ops)
- **Function calling**
  - controlled execution of domain functions
  - structured I/O and provenance
- **Agents (multi-step)**
  - plan → call tools → validate

Key idea: DAWID is the interactive AI cockpit.

DAWID-API integration

- **Unified API** to LLMs and tools
  - multi-LLM backends
  - tool/function endpoints
- **Link to FRAIM-Apps**
  - FRAIM-App → DAWID-API: reasoning + tooling
  - consistent interface across products

Take-away: DAWID connects LLMs + tools + FRAIM-Apps.