ALADIN GA
25 June 2020

http://www.umr-cnrm.fr/aladin/

4.1 Strategy and management

Background

- Strategy meeting took place in Toulouse on 3-4 February 2020. Contributions were prepared by Task Teams.
- CWG prepared a first draft of the Strategy.
- The draft was sent to the LTMs for information
- It was discussed by PAC and HAC and improved by the remarks.
- The RWP2021 was adapted to implement the strategy.
- The strategy and RWP2021 form the basis for the ToR of the management group.

PRIME STRATEGIC OBJECTIVE

Deliver codes ready to provide forecasts of world-leading quality, with a focus toward higher resolution (sub-km), multiple time scales (from nowcasting to 3-day), and more explicit assessment of predictability (ensembles for both data assimilation and forecast).

HOW (a selection from the document)

- PH: introduce more complex but also more realistic parametrizations, explore range of validity of parametrizations, explore known systematic errors and identify causes, enhance diagnostics

- SU: assess/use advanced options in Surfex, assimilation of satellite and crowd-sourced data, move to a coupled surface-atmosphere data assimilation system

- DA: develop EnVar within OOPS framework, continuous effort on using high-resolution observations

- EPS: further development of perturbation methods (more physically based, balanced), explore ensemble performance for extreme weather, further develop ensemble calibration, develop user-oriented approaches facilitating use of ensemble output

- MQA: verification of 3/4D processes, further development of common methods/ metrics, enhanced user-developer interaction

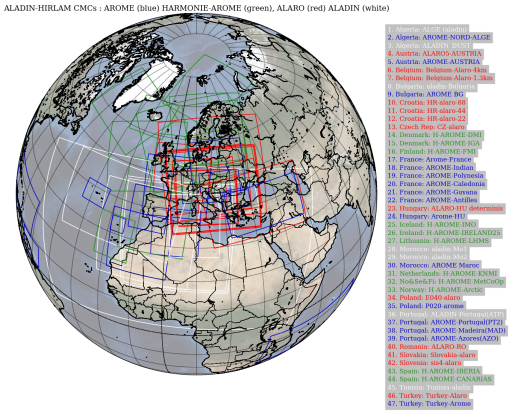
High level strategic objectives

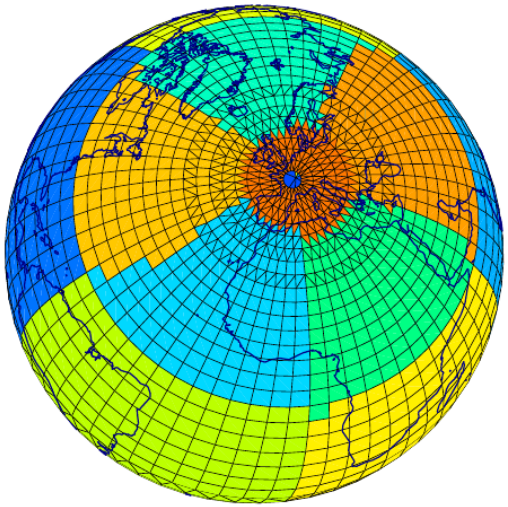
In order to enable this prime objective, we will

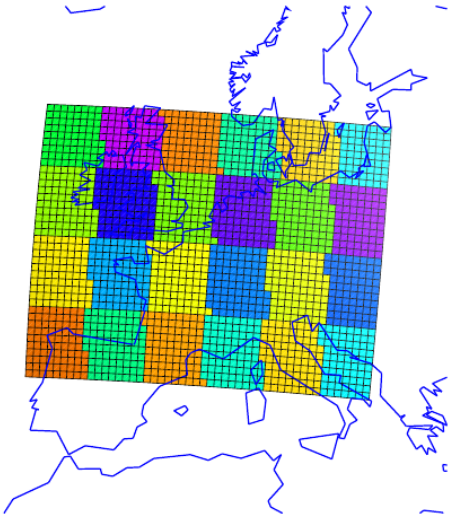
- Ensure regular evolution of the codes towards more interoperability, portability and flexibility,
- Modernize working methods and increase the communication between teams from all Members, to accelerate the preparation and adoption of code upgrades,
- Extend progressively the perimeter of the collaboration to the scripts of the NWP suites and other relevant aspects (such as content and format of database/files, tools for compile/build, etc...),
- Further develop the capacity building activities of the Consortium.

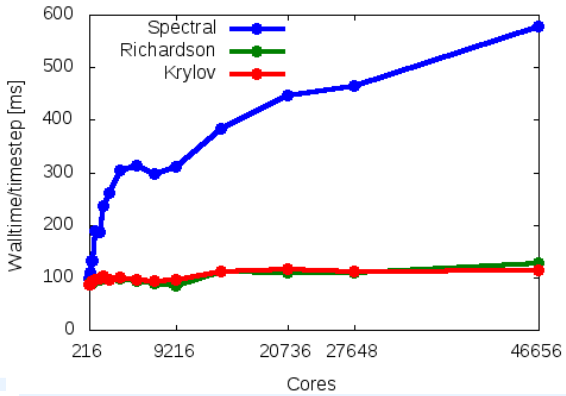
I) Ensure regular evolution of the codes towards more interoperability, portability and flexibility,

- **Interoperability** refers to the diversity of configurations currently supported by the Consortium.
- **Portability** refers to the facility to deploy the common codes on various computers in order to benefit from computing resources available throughout the Consortium and at ECMWF or other european computing infrastructures (Prace, EuroHPC).
- **Flexibility** refers to the capacity of the codes to run on computers having diverse or hybrid architectures (processors and interconnect).









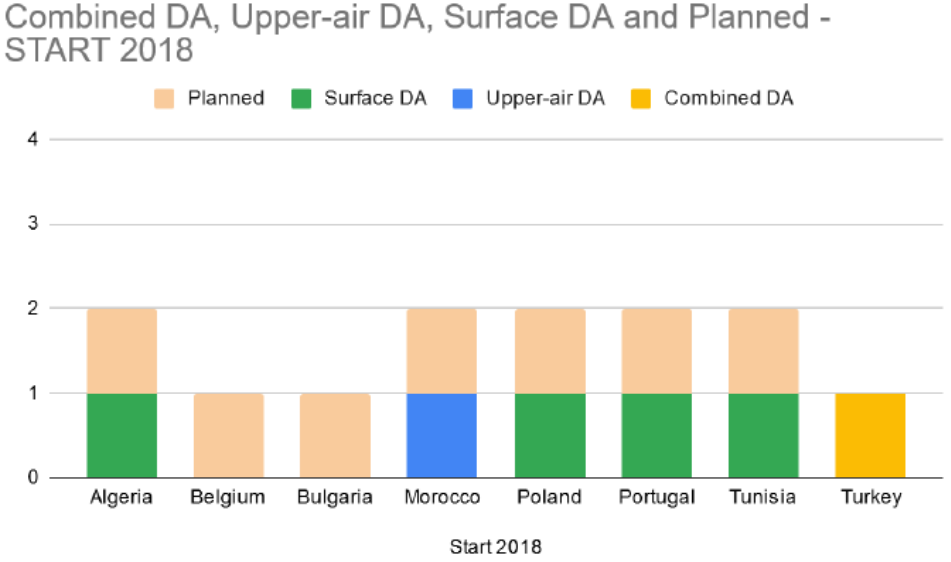
II) Modernize working methods and increase the communication between teams from all Members, to accelerate the preparation and adoption of code upgrades,

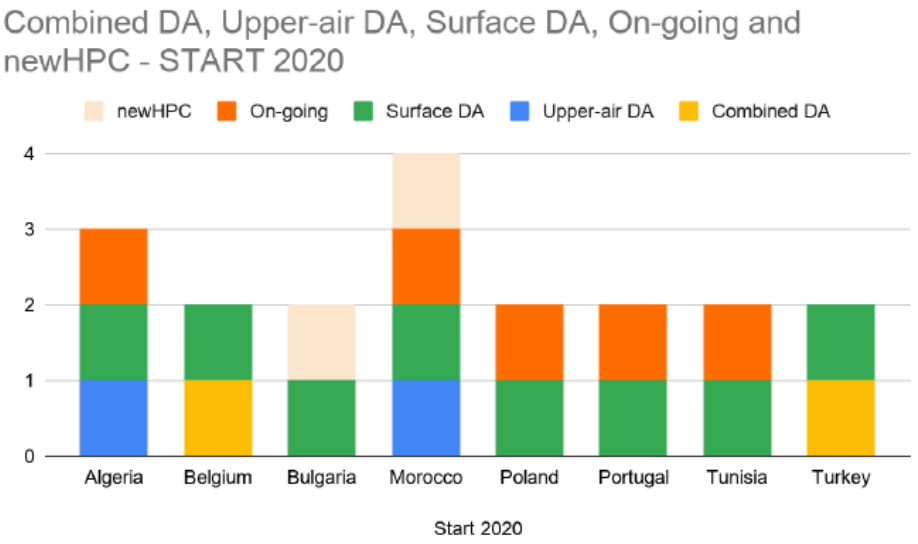
- Develop a more distributed, efficient and continuous process for the integration and validation of new developments for the T-codes.
  - Sharing source code repositories (SCR)
  - Shared information environment
  - Sharing a testing tool
- Explore what could be the elements of a more common working environment

III) Extend progressively the perimeter of the collaboration to the scripts of the NWP suites and other relevant aspects

- Assess the potential of the VORTEX library as the basis for a future common system.

IV) Further develop the capacity building activities of the Consortium.





Management

MG positions
related to all R&D areas:

- Area leaders defining a long term scientific and architectural vision
- Area leaders for specific tasks aiming at enhancing common working practices/ environment and interoperability between CSC's

and

MG positions related to translation of science into code:

- Integration leader (responsible for phasing)
- 3 CSC leaders (responsible for CSC evolution and contributions from CSC to common code)

Support: Scientific secretary, Coord. Networking Activities

This represents a substantial simplification with respect to the ad-hoc management under the current ALADIN-HIRLAM Agreement

specific tasks aiming at enhancing common working practices/ environment and interoperability between CSC's, a.k.a. AL2K

Area Leader	Specific mandate
Area Leader for the Transversal activities on addressing future evolution of software infrastructure	Strengthen the collaboration with ECMWF on DSL, Atlas and Claw.
Area Leader of Physics	• Define a road map for convergence by 2023 • Coordinate the actions to increase the interoperability
Area Leader in Data Assimilation DasKIT coordinator	Develop and EnVAR approach Continue the DasKIT program
Area Leader for System	• Development of a more distributed, efficient and continuous process for the integration and validation of new developments for the T-codes. • Develop the testing environment for DA.

Strategic goals	Urgent topic: enable members to gather the necessary know how	Second phase	Longer term	improvements of the present dynamical core towards the hectometric scale	long-term (~10 yr) evolution of an Atlas based dynamical core	For Surface Model	For Physiography	For Surface Data Assimilation	Resolution increase to hm-scales	Convergence between CSCs	Technical refactoring of the code	Efficient, accurate, maintainable algorithms	Observations	Way forward for perturbations	performance for extreme weather, NWC range, sub-km resolutions	Calibration approach	user-oriented approaches of common interest that facilitate the use of ensemble outputs	Collaboration and working environment aspects	process for the integration and validation of new developments for the T-codes	Collect information from Members to map their current scripting systems	Assess Vortex potential as a basis for a future common system	Iterative consultation process: how to make HARP more attractive as common tool	Development of common methods/metrics	Verification of physical processes to aid model development	synergy with DA team on observation format and quality control	Enhanced user-developer interaction

Strategic goals	Transversal			Dynamics		Surface			Physics			Data Assimilation		Ensemble Prediction System					System			Meteorological Quality Assessment				
Members	TR1	TR2	TR3	DYN1	DYN2	SURF1	SURF2	SURF3	PHYS1	PHYS2	PHYS3	DA1	DA2	EPS1	EPS2	EPS3	EPS4	EPS5	SYST1	SYST2	SYST3	MQA1	MQA2	MQA3	MQA4	MQA5
ONM Algeria																										
RMI Belgium																										
NIMH Bulgaria																										
Maroc Meteo																										
IPMA Portugal																										
INM Tunisia																										
MGM Turkey																										
ZAMG Austria																										
DHMZ Croatia																										
CHMI Czech																										
OMSZ Hungary																										
IMGW Poland																										
Meteo Romania																										
SHMU Slovakia																										
ARSO Slovenia																										
Météo-France	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X		X	X	X	X	X
DMI Denmark																										
ESTEA Estonia																										
FMI Finland																										
IMO Iceland																										
MET Eireann																										
LHMS Lithuania																										
KNMI Netherlands																										
MET Norway																										
AEMET Spain																										
SMHI Sweden																										

4.3 Procedure for selecting PM and other managers

Selection of the CSC Leaders

Selection for a given CSC leader is done by the group of Members using operationally this CSC: each group of Members defines its own procedure (including possibly interviews) and ranks the candidates

Operational use of AROME and ALARO based on the latest provided information by the LTMs

- AROME (9/16):
  - Algeria, **Austria,** Bulgaria, France, **Hungary**, Morocco, **Poland**, Portugal, **Turkey**
- ALARO (10/16):
  - **Austria**, Belgium, Croatia, Czech Republic, **Hungary, Poland**, Romania, Slovakia, Slovenia, **Turkey**
  - **= LACE+Be+Tk**
- Remarks:
  - Tunisia runs only ALADIN according to the table.
  - Some ALADIN countries run both AROME and ALARO (bold face).
  - Some ALARO countries may plan to (also) run AROME operationally in the future and vice versa and could also have an interest in the selection of the other CSC Leader.
  - HIRLAM today uses exclusively HARMONIE-AROME operationally

Selection procedure

Within ALADIN:

1) Publish the call for applications
2) Applications are sent to Patricia Pottier
3) Each Member of a CSC group identifies a jury member from their Institute
4) **The jury identifies a chair** and defines its own procedure (secret voting, consensus, ...)
5) The chair organizes the interviews by web conferencing
6) The jury makes the ranking

5.1 Execution of the 2020 flat-rate budget & Covid-19

2020 Budget (1)

Flat-rate budget: What was realized ?

- Strategy meeting in Toulouse (3-5 February): missions Be, Pt
- Scientific visit in Ljubljana (2 weeks in Feb): visits FR-LACE
- Contribution to Code Architect & DA coordinator

Flat-rate budget: What is uncertain ?

- Missions by LTMs and CSSI members to EWGLAM in Brussels (28 September - 1st October) or video-conference ?
- Missions to ALADIN DasKIT WD in Vienna for 1 or 2 representatives per flat-rate Member ?
- 11 scientific visits in Brussels, Toulouse and Prague

2020 Budget (2)

Flat-rate budget: What was cancelled ?

- Wk/ASM in Ljubljana (30 March-3 April) replaced by video conference: missions cancelled for LTMs, CSSI members
- PAC-HAC in Oslo (14-15 May) replaced by video conference & PAC-HAC in Madeira (20-21 October) replaced by video-conference: missions cancelled for PAC members
- DA code training days in Toulouse (Sept 2020), postponed to 2021
- 1 scientific visit in Toulouse (mentor no longer available)
- Organisation costs for PAC-HAC in Madeira, WW