ALADIN-2 project

Aire **L**imitée **A**daptation dynamique
Développement **I**nter**N**ational

ALADIN (1)

"*good for today but not for tomorrow*"

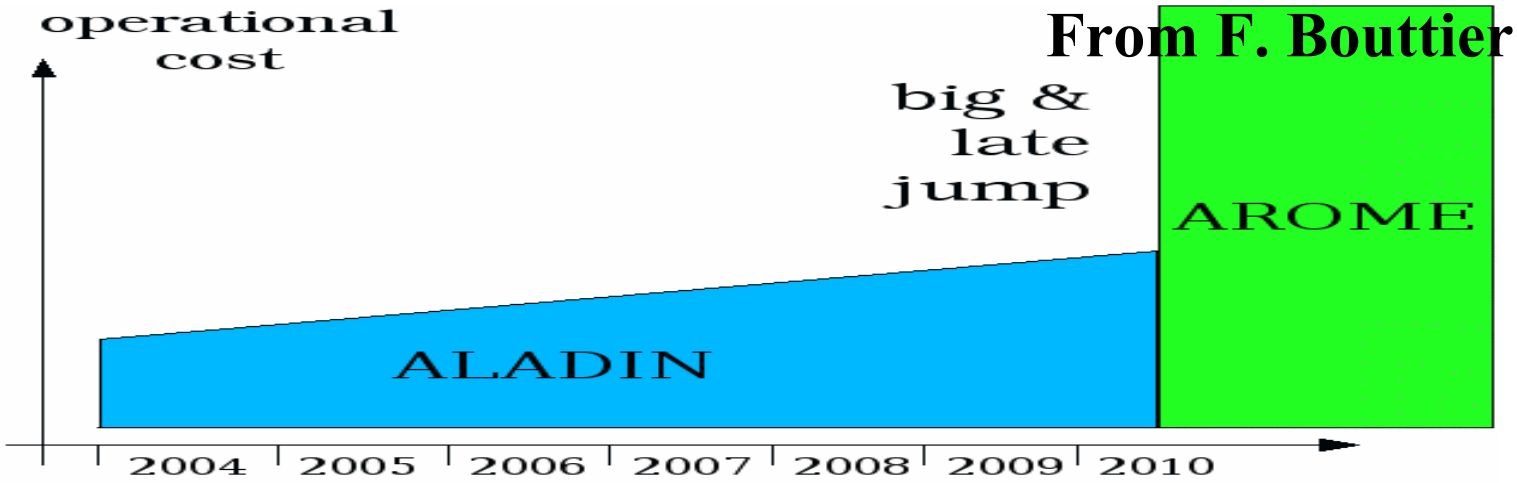
Arome **L**imited **A**rea **D**ecentralised
International **N**etwork

ALADIN -2

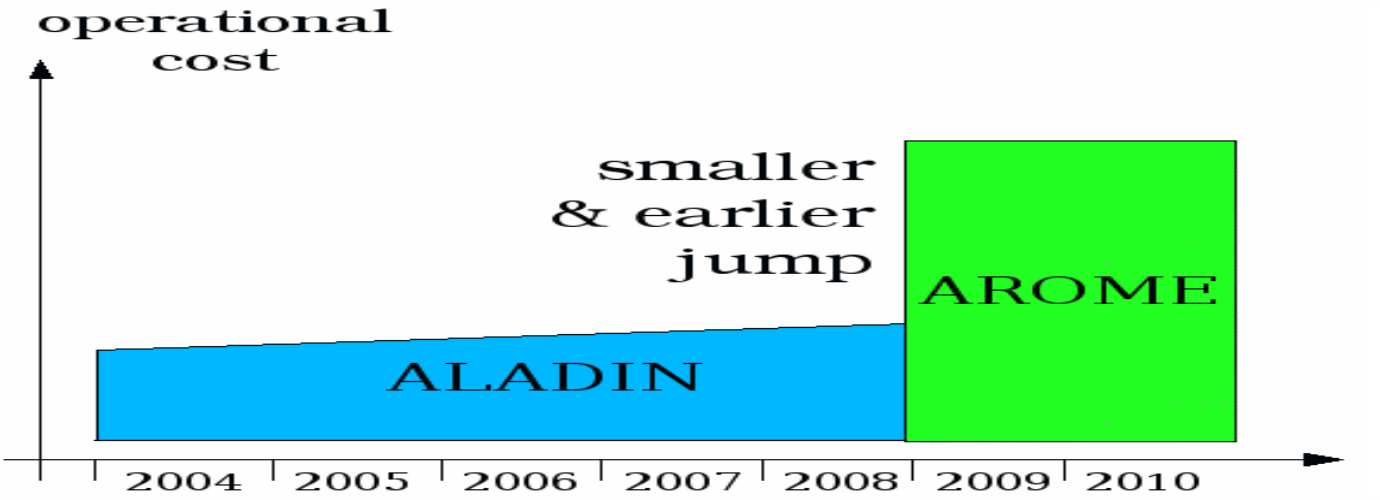
ALADIN-2 objectives

"Aladin-2 ultimate goal is to implement operational NWP systems at the meso-γ scale while maintaining the meso-β operational capability at the state of the art level"

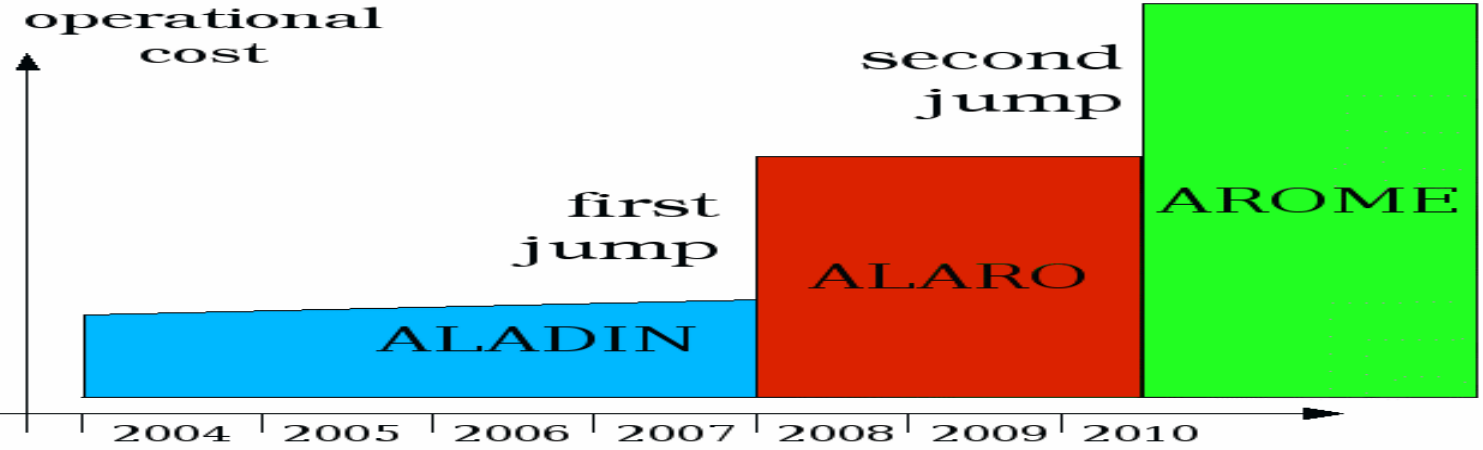
From F. Bouttier AAA meeting



Effort on Aladin



on Arome



on Alaro

ALADIN-2 AAA meeting

- Majority of the ALADIN workforce was represented
- Need for the ALARO 'intermediate step' between two transitions (on the way from ALADIN to AROME) confirmed
- The separation between these two transitions shall make the whole exercise as smooth as possible in a still coordinated ensemble

ALADIN-2 AAA meeting

- Some evolution of the NWP applications during the ALARO intermediate step will be encouraged, especially if some progress happens in the treatment of the 'grey zone' problem;
- “Critical mass of manpower" : concern that too many subprojects might cause an exaggerated spread of the current human resources, and, hence slow down ALADIN-2 progress;

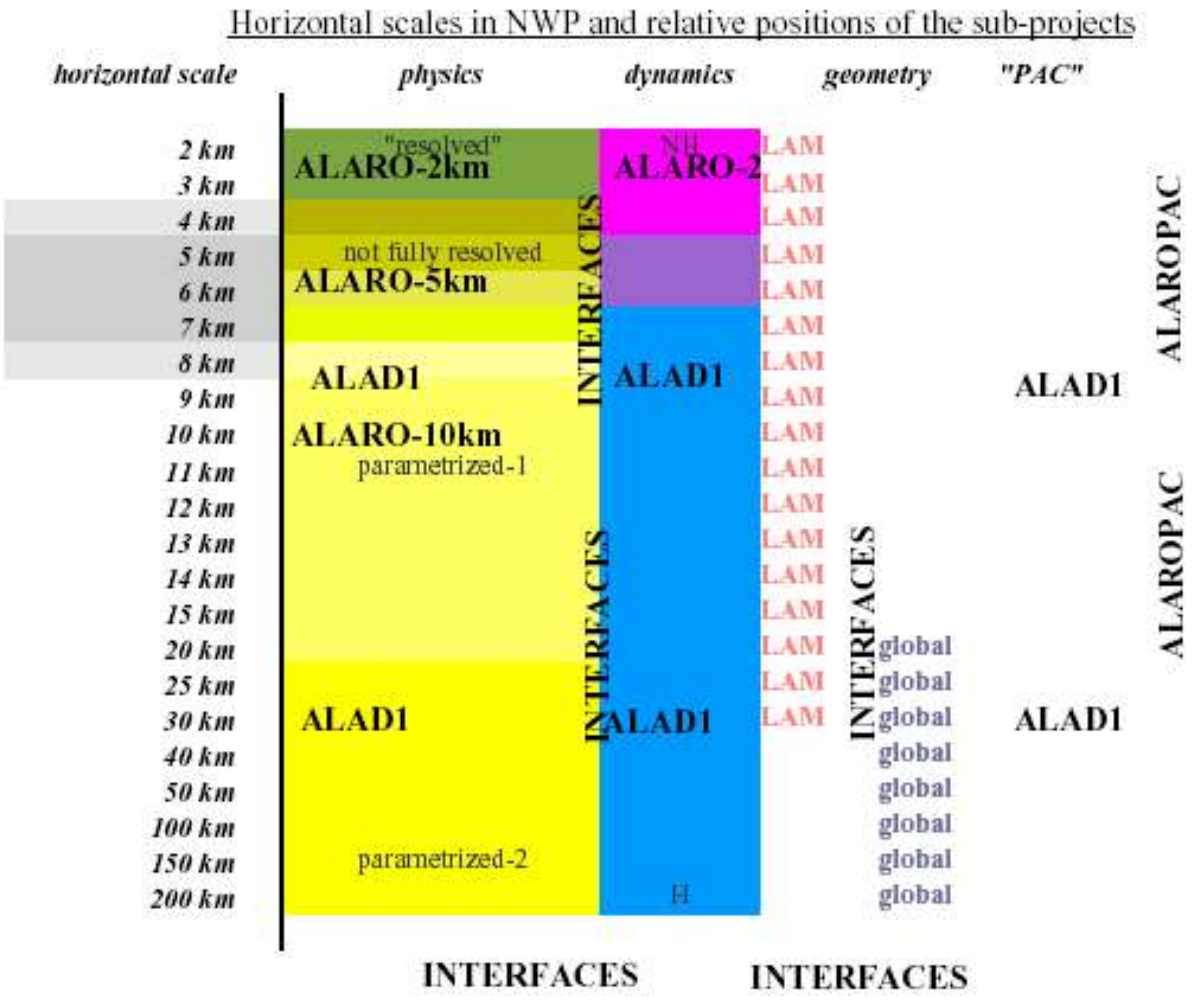
ALADIN-2 AAA meeting

- Recognised need for more gatherings
- Each big item of the working plan should have a coordinator and/or contact points
- All this should progressively lead to a new scientific steering structure for the new project.

ALADIN-2 working plan

- model: ALADIN $\rightarrow\Rightarrow$ ALARO (prototype)
- sub-projects:
  - ♦ ALAD1 - operations
  - ♦ ALARO-2 (=AROME) - very high resolution (target)
  - ♦ ALAROPAC - predictability, assimilation, coupling
  - ♦ INTERFACES – tool box design
  - ♦ ALARO-10 -up-scaling of developments in physics
  - ♦ ALARO-5 - gray zone problems

ALADIN-2


Horizontal scales in NWP and relative positions of the sub-projects
horizontal scale
physics
dynamics
geometry
"PAC"
2 km
3 km
4 km
5 km
6 km
7 km
8 km
9 km
10 km
11 km
12 km
13 km
14 km
15 km
20 km
25 km
30 km
40 km
50 km
100 km
150 km
200 km
"resolved"
ALARO-2km
not fully resolved
ALARO-5km
ALAD1
ALARO-10km
parametrized-1
ALAD1
parametrized-2
NH
ALARO-2
ALAD1
H
INTERFACES
INTERFACES
LAM
global
INTERFACES
INTERFACES
ALAD1
ALAD1
ALAROPAC
ALAROPAC

ALADIN-2

3 big bricks :

ALAD1 : basis (*rooted in reality*)

ALARO- 2 km

ALAROPAC

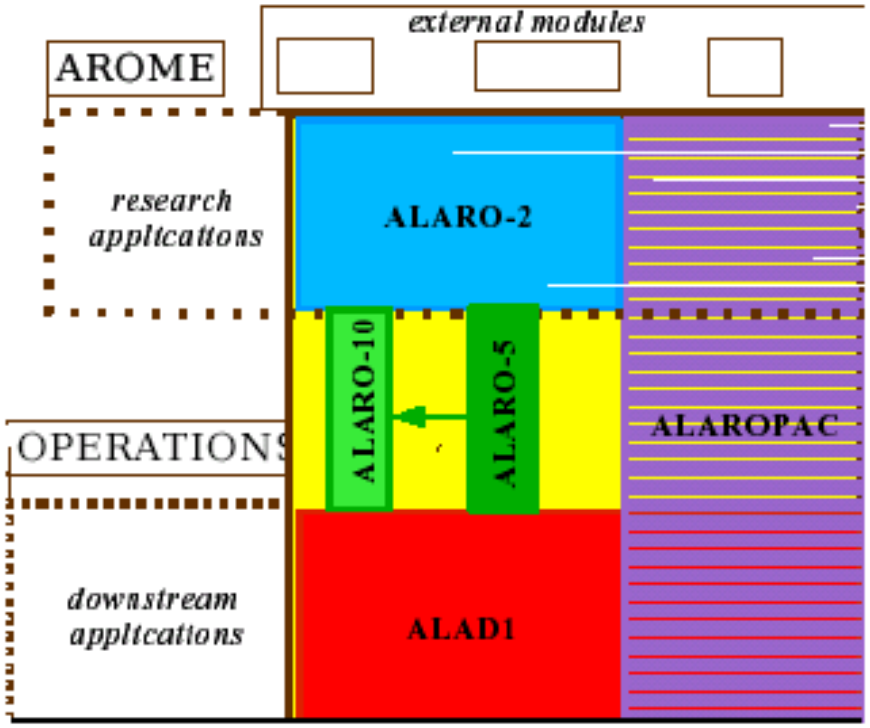
2 pillars :

ALARO- 10 km : main

ALARO- 5 km : safety

cement : INTERFACES

Building ALADIN-2



ALADIN-2 achievements

Major progress achieved along the following items:

- Development in Toulouse of the so-called ALARO-10 prototype (in parallel with its AROME 'twin'): NH-dynamics cleaned and streamlined, new data flows for new prognostic variables, interface for the Meso-NH 1D physics (G. Hello, Y. Seity, T. Kovacic)
- Development of physical parts that are either irrelevant for AROME or more specifically targeted at the ALARO efficiency goal (14 people from AT, BE, CZ, HR, FR, SI, SK; coordination by Jean-François Geleyn)
- Preparatory work for the networking of the software convergence with AROME (Coordination by M. Derkova, help from D. Banciu, F. Bouyssel, D. Giard)
- Preparatory work for the structure of the future AROME-ALARO physics/dynamics interface (M. Tudor => B. Catry)