
ALADIN Workplan for 2007 – Priorities and main manpower aspects, as known on 3/11/06

The ALADIN Programme Manager

Priorities are given by 1, 1.5, 2, 2.5 and 3. (from higher to lower priority).

All manpower figures are in person x months, with 0.5 as the smallest accepted increment.

There are twelve divisions (one table for each, in alphabetic order) and 93 sub-divisions (yet unranked in each table).

Method followed to obtain the draft plan:

- Following the PAC second Session, all LTMs and the four Working Group Leaders of RC LACE were asked, on 3/10/06 with a deadline on 19/10/06, to produce their estimates about topics, priorities and manpower for the 2007 Workplan.
- On 20/10/06, despite 4 missing LTM reports, the PM produced a first synthesis document with: (i) classification of the topics under the division foreseen for the new CSSI composition [to be proposed at the General Assembly] (*); (ii) priorities, estimated total effort [both mainly from the figures given by the French LTM and the LACE WGLs plus some PM's corrections]; (iii) a set of comments by the PM, preparing for the next steps.
- The document was discussed on 24/10/06 with the 10 LTM present at the Bratislava first LTM meeting. Several amendments to it were passed and it became the guideline-type Appendix to a questionnaire sent on 26/10/06 to all LTMs. The idea was that all of them should fill their committed manpower and priority estimates within an empty canvass reproducing exactly the divisions and subdivisions of the said Appendix. The deadline was set to 31/10/06.
- On 1/11/06 the PM started aggregating the figures (while 'inventing' the answer for four cases via some indirect information or via the result of the above-mentioned first step), pointing out the (fortunately rather rare) discrepancies between coordination estimates and total commitments, adjusting the numbers inside a Table whenever the priorities would allow it, etc..
- The result follows:
    - Priorities are a weighted average between all sources;
    - Total efforts are the summed result of the commitments (**) and of a half-way adjustment, whenever feasible, towards the coordination estimates [only in the case of 'physics' are these adjustment substantial]; the only figure taken from another source (financing) is the one about the phasing stays in Toulouse;
    - The correction are explicitly mentioned so that one may infer back the initial total commitments;
    - In cases of zero answer (3 times) and of impossibility to propose a credible correction for an important item (2 times) the missing effort was mentioned; the sum of these 'misses' amounts to 11 person x months.

(*) the items 'dynamics & coupling' and 'numerical efficiency' were not separated yet at that stage;

(**) the items F5, H11 & H12 are late entries proposed by a single contributor within the last round of enquiry; hence the commitments to them might be underestimated.

Steps yet to be done:

- discussing with the concerned CSSI Members and LTMs about the necessary adjustments, whenever supported by the General Assembly (see PM's comments after each Table and in the synthesis);
- splitting the work of producing a more verbose Workplan between CSSI Members; each of them should interact with the PM to add information about status of the tasks, risk assessment, foreseen schedule and collaboration issues with HIRLAM;
- having a last call to all LTMs before harmonisation and explicit mention of the contributing countries;
- producing the final version, hopefully still in 2006.

TABLES & BRIEF COMMENTS

Data assimilation (upper air)

	Title	Priority for the topic	Total targeted effort for 2007 (in person x months)	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries
A1	Native 3D-VAR ensemble B-matrix statistics	1.5	9.5	-0.5		4
A2	Background error standard deviation in grid-point space	1	2	+0.5		1
A3	Implementation and test of a new humidity variable	2	2	+0.5		1
A4	Evaluation of a very high resolution AROME DA system	1.5	13.5	-0.5		2
A5	FGAT assimilation in ALADIN	1.5	7			3
A6	4D-VAR in a nutshell	2	5			2
A7	Test with CONGRAD minimiser	2	1.5			1
A8	Tuning of B and O variances	1.5	7			3
A9	Assimilation with IFS LBCs	1.5	8.5	-0.5		3
A10	ALADIN Rapid Update Cycle	2	**0**		**2**	-

	experimentation					
A11	Upper air blending	2	1.5			1
A12	Wavelet representation of error covariances	1	7	+0.5		2

Total manpower: ***64.5***
Average priority: ***1.51***
Average number of participants: ***2.5***

PM's comments: Apart from a surprising 'miss' (the LACE financing of a stay in Budapest is ensured), the staffing and priorities are well under control there.

Dynamics, coupling and numerical efficiency

	Title	Priority for the topic	Total targeted effort for 2007 (in person x months)	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries
B1	TL-AD of SL HPE ALADIN	1.5	3.5	+1	**3**	3
B2	Quick-win improvements of LBC coupling	1	3.5			3
B3	Iterative schemes in the NH version	3	1.5			2
B4	Further improvements of NH dynamics	1.5	2.5			2
B5	NH-VFE discretisation scheme	1	9.5			2
B6	Better approximation of the pressure gradient term	2	1			2
B7	SLHD and orography	2	**0**		**2**	-
B8	Solid top atmosphere	2	**0**		**1**	-
B9	Radiative Upper Boundary Condition	3	1.5			1
B10	New semi-Lagrangian interpolators	2	2.5	-1		3
B11	Physics-dynamics coupling	1	15			3
B12	Spectral coupling (use of the	2.5	4.5			3

	warning index)					
B13	TL/AD of SLHD	2	3.5	+0.5		1
B14	Sensitivity of AROME to the coupling frequency	1.5	4	-0.5		2
B15	Transparent LBCs	1.5	14			2

Total manpower: ***66.5***
Average priority: ***1.48***
Average number of participants: ***2.4***

PM's comments: This part of the plan is clearly undermanned, and not only because of the three 'misses'. Having only 43 person x months (less than 7% of the total of the work force) outside the two crucial flagship areas is the sign of a lack of investment in one of the best long-term assets of the Programme. In the past it did not use to be the case. Corrective measures are necessary now if one wants to avoid the start of a bad spiralling effect.

Interfacing issues

	Title	Priority for the topic	Total targeted effort for 2007 (in person x months)	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries
C1	Plug-in of SURFEX in ARPEGE/ALADIN	1	8.5	+1		2
C2	'Workstream-type' interfacing tasks realisation (with extension to HIRLAM)	1.5	8			2
C3	Multiphasic reference equation system	2	5	-1		3
C4	TEB- (or any ISBA sub-part) coupling work	2	2			1

Total manpower: ***23.5***
Average priority: ***1.47***
Average number of participants: ***2.1***

PM's comments: The coordination task may not be easy with very individualised topics.

LAM-Climate

	Title	Priority for the topic	Total targeted effort for 2007 (in person x	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries

			months)			
D1	ALADIN-Climate activities	2	31			4
D2	Downscaling of ERA-40	1.5	5			2

Total manpower: ***36.***
Average priority: ***1.93***
Average number of participants: ***3.7***

PM's comments: Not (yet?) a CSSI controlled activity but one slowly growing in importance, both for itself and for its 'validation' aspects for NWP more classical activities.

LAM-EPS

	Title	Priority for the topic	Total targeted effort for 2007 (in person x months)	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries
E1	Dealing with uncertainties in initial conditions	1	18			4
E2	Dealing with uncertainties in LBCs	2.5	6			3
E3	Dealing with uncertainties in model physics	2	4			2
E4	Downscaling from ECMWF EPS	1	20.5			5
E5	Downscaling from ARPEGE EPS	1.5	4.5			3
E6	LAM-EPS post processing	1.5	10			5
E7	Common EPS verification	1	11.5			4
E8	Participation to GLAMEPS	2	3.5			3
E9	Beijing 08 Forecast Demonstration Project activities	1.5	4.5			2
E10	MAP-D phase related activities	1	4			2

Total manpower: ***86.5***
Average priority: ***1.29***
Average number of participants: ***3.9***

PM's comments: This part is clearly overmanned and over-prioritised. Given the yet missing scientific background for a clear perspective in terms of LAM-EPS future operational activities, the ALADIN Programme should not encourage 13% of its workforce to embark in a trial and error R&D process. Selectivity both in quantity and quality of the (urgently needed) exploratory work and sticking as much as possible to emerging international standards should be the rule rather than the exception.

Maintenance

	Title	Priority for the topic	Total targeted effort for 2007 (in person x months)	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries
F1	Improvement of GMKPACK or its successor	2	3	+0.5	**3**	2
F2	Multiple platform 'mitraillette'	1.5	1.5	-0.5		2
F3	Coordinated efforts for versioning and releasing new upgrades	1	9.5			4
F4	Phasing stays in Toulouse	1	22			8
F5	ECMWF-LBC-project related development	2	3			1

Total manpower: ***39.***
Average priority: ***1.17***
Average number of participants: ***5.8***

PM's comments: A contrasted part of the plan. The commitment to F3 is encouraging for an emerging item of great importance, but the lack of support from Meteo-France's partners for F1 is worrying.

Nowcasting

	Title	Priority for the topic	Total targeted effort for 2007 (in person x months)	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries
G1	Data assimilation for nowcasting (Varpack)	2	10			2
G2	Definition of	1.5	6			2

	cloud bogusses and their assimilation					
G3	INCA related work	1	18			2
G4	Regional transport of pollutant	2	6.5			2
G5	Downscaling of numerical predictions	2	8			2
G6	Interpretation of high resolution model outputs	2	6.5			3

Total manpower: ***55.***
Average priority: ***1.62***
Average number of participants: ***2.1***

PM's comments: Not (yet?) a CSSI controlled activity but the good surprise of the enquiries' results. There is obviously a demand and an emerging offer. One should keep in eye thee articulation with the rest of the Programme.

Observations and Monitoring

	Title	Priority for the topic	Total targeted effort for 2007 (in person x months)	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries
H1	Assimilation of SSM/I microwave radiances	1	8			2
H2	Assimilation of radar reflectivities	1	24			2
H3	Assimilation of SEVIRI data	1.5	16			5
H4	Assimilation of non GTS SYNOPS	1.5	2			1
H5	Assimilation of T2m HU2m	1.5	5			3
H6	Optimisation and documentation of the obs preprocessing	1.5	5			2
H7	Sensitivity of the analysis system to observations	1.5	4.5			2
H8	Assimilation of ATOVS/HIRS data	1	6			1

H9	Assimilation of ground based GPS data	2	16			3
H10	Assimilation of Atmospheric Motion Vectors (AMV)	2	1			1
H11	Rainy SSM/I (regression approach)	1	3			1
H12	Surface emissivities for IR and micro-wave radiances	1.5	8			1

Total manpower: ***98.5***
Average priority: ***1.38***
Average number of participants: ***2.5***

PM's comments: The most 'plain-sailing' topic of the whole Programme, at least from the planning point of view.

Physics

	Title	Priority for the topic	Total targeted effort for 2007 (in person x months)	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries
I1	DDH diagnostic package use (primarily coordination work)	2	5.5			3
I2	Comparison of microphysics schemes in simplified conditions	2	3.5	-0.5		4
I3	Modelling sand-dust in ALADIN	2	8.5	**-1.5**		2
I4	Simplified physics for moist processes at 10km resolution	2.5	5			2
I5	Improving the AROME shallow convection scheme	1	8	**+1.5**		2
I6	Predictability of fog with AROME	2	4.5	-0.5		2
I7	Hail in AROME for strong convective events	2	4	-1		2
I8	Parameterisation	1.5	22	**+6.5**		6

	schemes in ALARO-0					
I9	ALARO-0 prototype evaluation	1.5	27	**-6.5**		9
I10	ALARO-0 training course	1	8	**+2**		7
I11	Mountain drag scheme optimisation	2	4.5			2
I12	Documenting the soil-freezing ARPEGE-ALADIN coupling issue	1	1			2
I13	3MT beyond ALARO-0	2	15.5			3

Total manpower: ***117.***
Average priority: ***1.67***
Average number of participants: ***4.9***

PM's comments: The total committed effort seems to be well adapted to the coordinators' expectations. But the partition shows a clear lack of awareness of the main challenges, both for AROME and (especially) for ALARO. Support of the General Assembly would be helpful for the needed reorientation of 'tastes' in the concerned ALADIN group. This is emphasised by the 6.5 wished exchange of manpower between the close but methodologically differing items I8 and I9. Nearly alone this fact justifies the organisation of a training course (I10).

Support to operations

	Title	Priority for the topic	Total targeted effort for 2007 (in person x months)	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries
J1	Pre-operational validation and optimisation of SURFEX	1	7			2
J2	Support to ALARO logistics	1.5	5			3
J3	Compression of fields in FA files	1	2.5			2
J4	Generalised ASC (LACE-only up to now) tasks	1	5			2

Total manpower: ***19.5***
Average priority: ***1.13***
Average number of participants: ***2.3***

PM's comments: Not much can be said of what is yet a rather mixed bag of issues. The structuring should start soon following a very successful first meeting of LTMs (23-24/10/06).

Surface (Modelling and Data Assimilation)

	Title	Priority for the topic	Total targeted effort for 2007 (in person x months)	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries
K1	Snow processes in the externalised surface	2	2			2
K2	Surface assimilation in the frame of SURFEX	1	8			3
K3	Improvement of surface field initialisation using satellite data	2	2	+1		1
K4	Multi-layer ISBA in SURFEX	3	3			2
K5	HIRLAM soil parameterisations in SURFEX	2.5	0.5			1
K6	Surface assimilation tests (3D-Var + CANARI)	1.5	8	-1		4

Total manpower: ***23.5***
Average priority: ***1.63***
Average number of participants: ***2.9***

PM's comments: Just behind dynamics, coupling and numerics, this appears as the second clearly undermanned item of the Programme. This does not show in the Table itself but in the weakness of the total effort. The forthcoming SURFEX Workshop should be the occasion to upgrade the situation (may be there was also a 'stand-by syndrome' in the answers, associated with this important event [11-13/12/06]).

Verification

	Title	Priority for the topic	Total targeted effort for 2007 (in person x months)	PM's correction made obtain the figure of the previous column	Missing manpower for a minimum completion	Number of participating countries
L1	Precipitation verification using radar observations	2	5			3
L2	Improvement of ALADIN-HRID	2	2			1
L3	Common verification project	1.5	12.5			6

L4	New algorithmic tools for high resolution verification procedures	2	1			1

Total manpower: ***20.5***
Average priority: ***1.69***
Average number of participants: ***4.5***

PM's comments: The weakness of the answer concerning L4 is rather frightening. Otherwise things look OK.

GLOBAL FIGURES & COMMENTS

Total manpower: ***650.***
Average priority: ***1.50***
Average number of participants: ***3.4***

Priority 1: ***229.5***
Priority 2: ***225.***
Priority 3: ***173.5***
Priority 4 ***16.***
Priority 5 ***6.***

PM's comments:

- The 650 grand total (661 if one expects to fill the 'misses') appears rather high. In the configuration corresponding to the Tables, the Consortium should be able to 'deliver' about 615 person x months without overstretching local operational priorities. Even by assuming non-completion of priorities 2.5 and 3 we may still be short by 24 person x months. Some effort will thus be needed to lower the priorities in some specific areas. Yet this 4% error is not so bad a result (especially when supplemented by the fact that most proposed adjustments are small [up to 1 person x months]). The lesson is that most ALADINists in charge of coordination or of execution know rather well the potential and needs of the Programme, a reassuring fact indeed!
- Ideally one would also need several large-scale redirections of work force (see the PM's comments after each Table); but this will be only possible with a strong political backing of the General Assembly and would in any case happen only progressively.
- Next year the same exercise should be easier and done earlier thanks to: (i) the General Assembly comments about this year's procedure and document; (ii) a stable CSSI; (iii) the existence of a base-line; (iv) the first returns about the execution of the present Workplan; (v) some first harmonisation steps with the strategic planning.