



4.2 Common activities

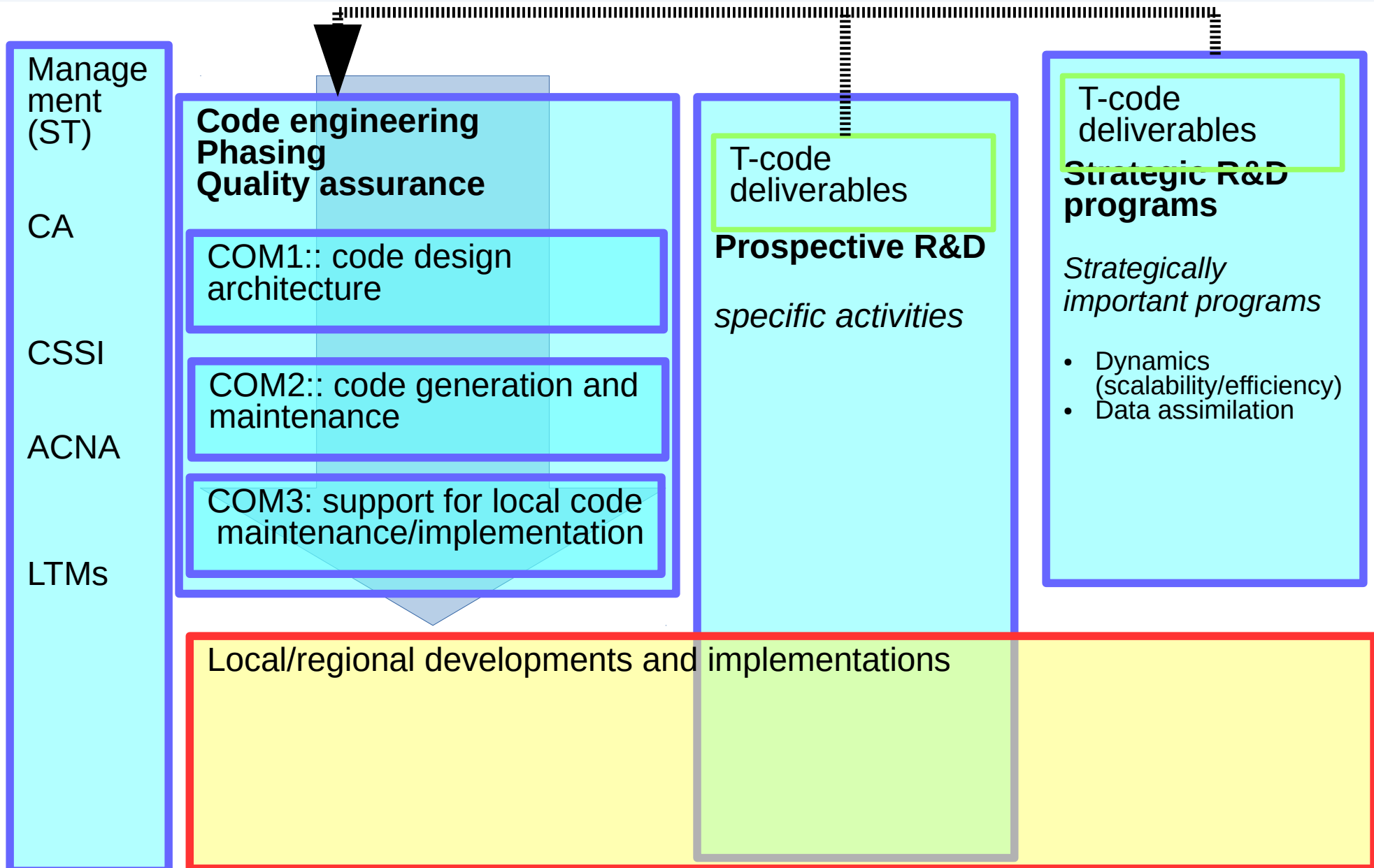
*D. Degrauwe, M. Derkova,
C. Fischer, M. Monteiro, P.
Pottier, P. Termonia*

<http://www.umn-cnrm.fr/aladin/>

- A few words about the RWP2019
- Cycles : updates about the common code releases (IFS/ARPEGE/LAM, MF/ALADIN/HIRLAM)
- Highlights from code contributions to CY46T1
- Code architect activities
- ACNA system coordination
- DA coordinator activity



The ALADIN/HIRLAM/LACE rolling work plan



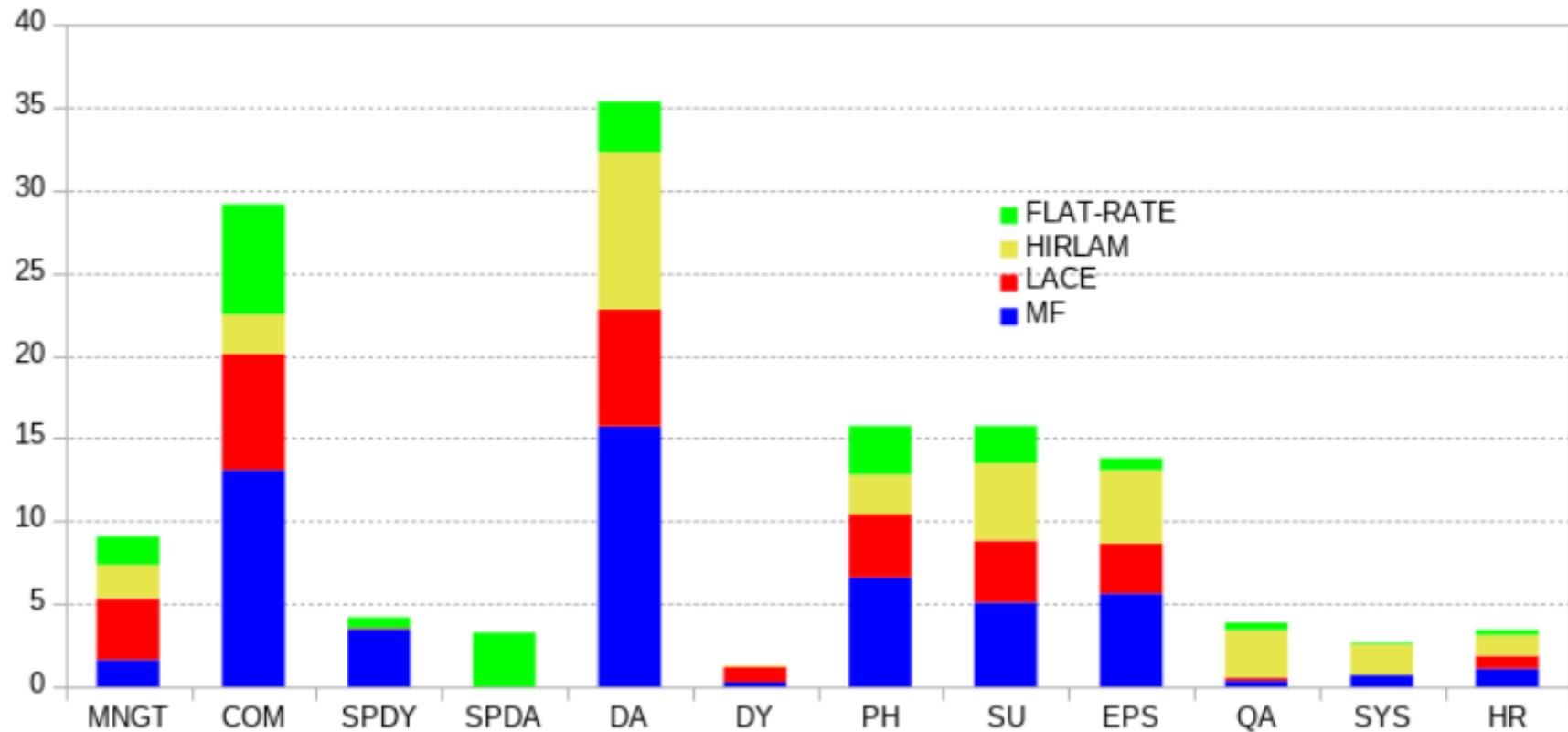
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CSSI: Redaction of the RWP2019

Commitments in the RWP2019

by Work Packages, in F.T.E.





IFS/ARPEGE/LAM and MF/ALADIN/HIRLAM cycles

- CY45T1 : October – December 2017 ; 780 files touched ; 320000 lines modified ; declared on 24 January 2018
- CY46 : January – March 2018 ; declared on 10 April 2018
- CY43T2_bf.09 : declared on 28 June => base code for ALADIN export version
- CY46T1 : October – December 2018
- Highlights from content of CY46T1 :
 - Fixes for assimilation [CY43 – CY46] (MF experts)
 - Full-POS in OOPS mostly completed ... and testable (MF)
 - ARPEGE and AROME-France E-suite code changes from CY43T2
 - Other ARPEGE or AROME-France R&D physics & dynamics updates
 - Preparations for new observations or improved use of existing ones
 - Preparations for LAM EnVar
 - ALARO-1 improvements
 - Harmonie-Arome changes : microphysics ; shallow convection (EDMF) fixes ; portability aspects
 - OOPS C++ and Fortran interfaces updated to CY46 IFS/ARPEGE codes, for the first time in the MF master repository



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Collaboration on codes

- We share the sanity check tools between MF/ALADIN and HIRLAM
- Coordination meetings :
 - HMG/CSSI for MF/ALADIN/HIRLAM,
 - ALADIN and HIRLAM participants at the IFS/ARPEGE coordination meetings
 - Technical videoconferences :
 - about 4/year with ECMWF
 - About 1/month with HIRLAM System PL & ALADIN CA
- Code contributions by HIRLAM to MF master trunk have significantly decreased since CY45 :
 - Why ?:
 - significant OOPS code re-factoring in IFS and T-cycles makes forward phasing of scientific developments more difficult
 - steps from H- to T-cycles => under review between HIRLAM System PL, CSSI chair and ALADIN CA



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ALADIN Code Architect activities

- Inclusion of **SURFEX** in the **ALARO CMC**.
- Preparation for **Harmonie-AROME Canonical Model Configuration**:
 - development of a mitraille test in cy40h1;
 - exercise will be repeated after Hirlam contributions have been phased in cy46t1;
 - this action should reduce the divergence between Hirlam and Aladin codes.
- Development of an efficient scalable **non-spectral solver** for the nonhydrostatic dynamics
 - Krylov solver with a bespoke multigrid preconditioner;
 - takes advantage of the mass-based vertical coordinate;
 - scaling tested up to ~100'000 cores.
- Participation in technical and **coordination meetings** between ECMWF/MeteoFrance/Aladin/Hirlam

- 1) LTM meetings: preparation and chairmanship
 - a) April 2018: Toulouse (ALADIN-HIRLAM Workshop)
 - b) October 2018: Salzburg (EWGLAM/SRNWP)
- 2) CY43T2 export version
 - a) Coordination of package preparation - in cooperation with MF, LACE ASC and CA
 - b) Supervision of code installation at ALADIN NMSs
- 3) Contribution to task definition and planning of the RWP for 2019
- 4) Preparation for coordinated LBC upgrade in 2019

porting of CY43T2bf09		
status Sept2018		
countries	answ	status+plans
Algeria	yes	ported (AROME, ALADIN), report sent
Austria	yes	not yet implemented, planned this autumn, oper in 2019
Belgium	yes	compiled, used for experiments and the e-suite (ALARO 1.3km); surface assim planned
Bulgaria	yes	not yet, planned for beginning of 2019
Croatia	yes	porting did not started yet, but it is planned
Czech R.	yes	operational, fixes and comments sent
France	-	exported
Hungary	yes	not yet, porting planned for 2019
Morocco	yes	compiled but not working yet (pbs in coupling), investigations ongoing
Poland	yes	compiled, ALARO in pre-operation tests, AROME plan in near future
Portugal	yes	started (installation not finished yet), to be used with DA configurations
Romania	yes	not yet, planned for 2019 if new HPC is available
Slovakia	yes	ported, technical validations only (e001, e927)
Slovenia	yes	ported: e001 and e927 technically validated, DA just started
Tunisia	yes	not ported yet, planned till the end of 2018
Turkey	yes	not ported yet, planned for operational in early 2019

LBC from Arpege update in 2019		
status Sept2018		
countries	answ	status+plans
Algeria	yes	yes
Austria	yes	only technical tests (coupling with ECMWF, Arpege only as backup)
Belgium	yes	probably yes, mostly interested in hourly coupling
Bulgaria	yes	yes (common domain with Romania)
Croatia	yes	no, coupling with ECMWF
Czech R.	yes	probably yes, but telecom requirements shall be checked
France	-	-
Hungary	yes	no (Arpege only as backup)
Morocco	yes	not before RMDCN upgrade
Poland	yes	yes
Portugal	yes	not for the time being for PT, but in cooperation with Spain for EPS, and hourly coupling
Romania	yes	not (common domain with Bulgaria)
Slovakia	yes	probably yes - to follow Arpege res, coordinate with LACE. What about hourly coupling ?
Slovenia	yes	following LACE
Tunisia	yes	yes, hourly coupling
Turkey	yes	area extension keeping the same hor/vert resolution

- The work packages are being executed as planned:

- 1) Some staffing issues were identified.
- 2) Surface DA has a substantial impact on the model performance. We first help the countries to construct a cycle based on surface data assimilation. 3Dvar will come later.
- 3) Regarding software for data handling there is currently SAPP and OPLACE. Three countries have been identified. Currently limited access to SAPP software will be likely handled by request(s) to use OPLACE.

ALADIN DAsKIT core programme: status on local DA systems

Different DA settings/models

Algeria	pre-oper ALADIN
Belgium	pre-oper AROME
Bulgaria	working days AROME exercise implementation is on-going
Morocco	pre-oper AROME
Poland	pre-oper AROME
Portugal	oper AROME (surface)
Tunisia	pre-oper AROME
Turkey	pre-oper AROME/ALARO



Thank you for your attention