Cooperation between ALADIN and HIRLAM groups: HMG-CSSI meeting summary

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PAST EVENTS (1)

- End of September, 2003: First contacts by the HIRLAM Management Group (for mesoscale modelling)
- End of October, 2003: First discussions at the HIRLAM Advisory Committee (HAC)
- March, 2004: Mesoscale model training in Toulouse
- April, 2004: Request from HIRLAM for the license of the ALADIN code for research purposes

PAST EVENTS (2)

- End of April, 2004: HAC meeting, proposal for full code collaboration with ALADIN, subgroup is established to investigate the realisation of that cooperation
- June, 2004: HIRLAM Council approves the proposal of HAC for full code collaboration
- HIRLAM Advisory Committee meeting (Gothenburg, 21-22 October, 2004): recommendations for the HIRLAM Council

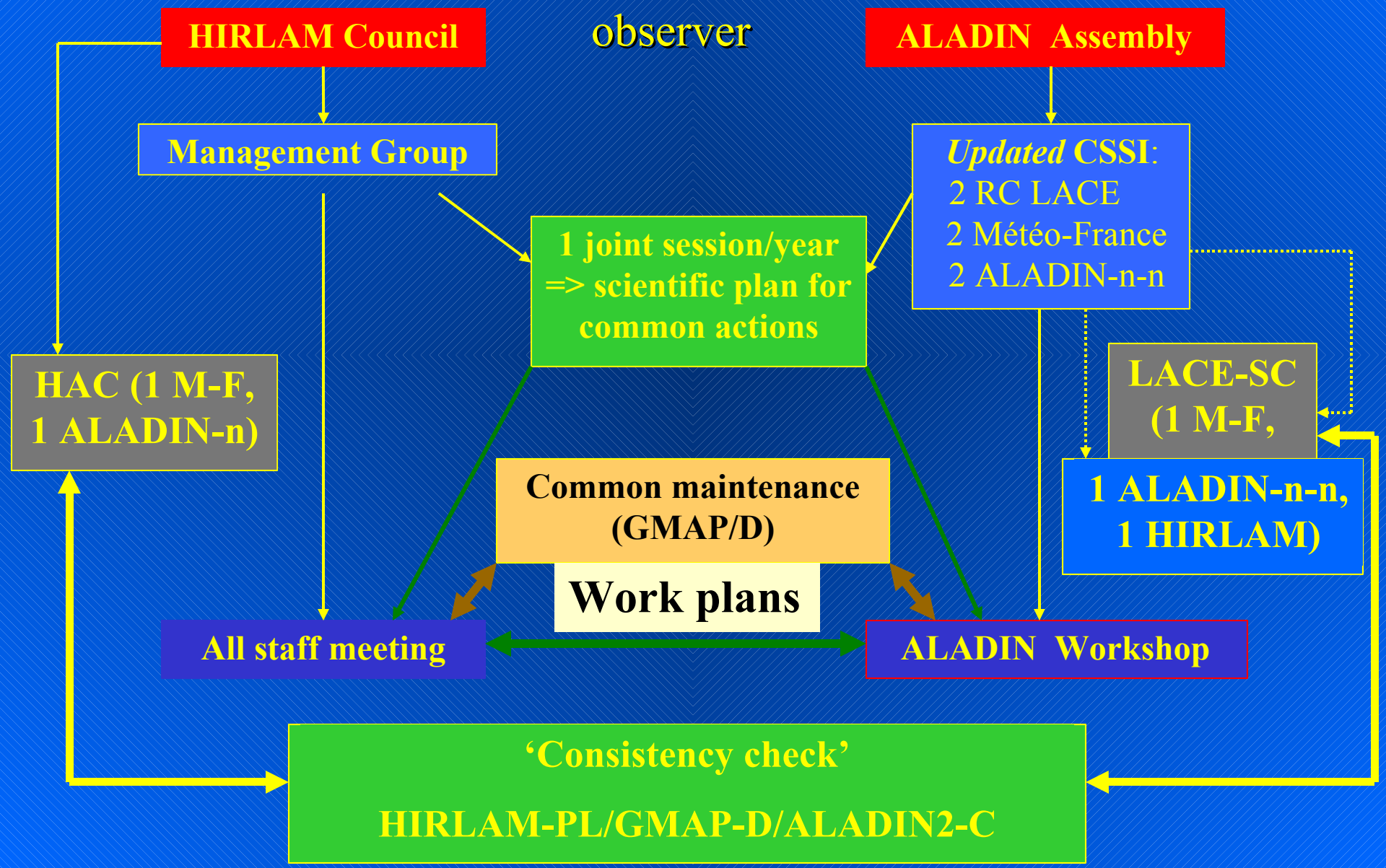
PAST EVENTS (3)

- 29-30 October, 2004: ALADIN Assembly (in Split) accepts a resolution for answering to the HIRLAM demand (see proposed structure)

- 15 December, 2004: Presentation of the ALADIN Assembly chairman (Ivan Cacic) at HIRLAM Council; HIRLAM Council is positive, but postpones decision (NB: evaluation)

- 11 April, 2005: HIRLAM Council decides about a resolution on ALADIN
  - Task force for ALADIN-HIRLAM agreement
  - ALADIN as observer at the HIRLAM Council

A proposal for planning and supervision of the HIRLAM-ALADIN common work



Merging (phasing) and code maintenance

- IFS/ARPEGE/ALADIN/AROME/HIRLAM framework is a must for the code cooperation

1. Training is needed:
   - Participation by HIRLAM at the following phasings
   - Extend the planned „data assimilation working week" with code maintenance aspects (Budapest)
2. Start with the present structure and probably later creation another phasing (merging) centre beside Toulouse (at ALADIN or HIRLAM country)
3. Direct coordination with ECMWF?

Scientific planning: mechanism

- This meeting: identification of emerging topics of common interest with contact persons
- End of August: detailed identification of common areas of interest for the medium and shorter range
- Beginning of October: Assemblying of the common plans from the subgroup proposals
- Before the end of the year: official acceptance of the plans by Assembly/Council

Dynamics and coupling: keeping the top level NH kernel with competitive LBC treatment on mesoscale

- Investigation of Vertical Finite Elements discretisation for the NH version of ALADIN
- Well posed and transparent boundary conditions
- Horizontal pressure gardient term in presence of sharp orography
- Map factor in the semi-implicit scheme
- SLHD application at high resolution

Physics: for the start keeping wide variety of options with „friendly competition" for deciding the best combinations

- Key issues: reference equations and dynamics-physics interface
- Externalised surface
- Validation tools: 1D version, diagnostics (ALPIA test)
- Surface data assimilation
- HIRLAM contributions to widen the options

Data assimilation: start with a hybrid system with a merge within 2 years

- Treatment of background errors (wavelets)
- Intensive observations: radar, MSG
- TL and AD of semi-Lagrangian (NH) + multi-incremental in ALADIN – a must for the merging
- Observation handling, ODB
- November: workshop in Budapest for the fine details

Left others

- Predictability: there is a strong need, but science is not yet mature to establish the right track (basic research is needed for the start)
- Verification: need for new methods for mesoscale, inter-comparisons
- System: code managment tools, user interfaces

PROPOSED TIME-SCHEDULE

- First part of 2005: draft of the respective (ALADIN and HIRLAM) MoU-s
- Common detailed planning for 2006 with outlook to medium term
- End of 2005: signature of new MoU-s, cooperation agreement between with HIRLAM, approval of the common scientific plans
- Beginning of 2006: "official start" of the common work under the MoU-s, agreement and scientific plans

MORE DISCUSSIONS TO COME