

Memorandum of Understanding for the
“ALADIN Consortium”

Preamble

ACKNOWLEDGING that an accurate weather forecast is increasingly important to reduce weather related threats to life, health, economy and property;

RECALLING that an ALADIN project is already existing since the early 90's, and that the associated consortium, under two successive Memoranda of Understanding, has brought the ALADIN community to the forefront in the field of High Resolution Short Range Weather Forecast, through:

1. Concept, definition, development, operation, maintenance of a common and state-of-the-art High Resolution Numerical Weather Prediction limited area system called "ALADIN";
2. Training, recruitment, motivation and academic rewards of an increasing community of developers and users;
3. Publishing significant scientific achievements in the most recognized international journals;
4. Management, organisation and establishment of principles, objectives and perspectives of increasing performances for a group of members;
5. Collective commitment of human resources to operational and maintenance support, and to joint organisation and management structures;

NOTING with satisfaction that the strengthening of the links between the members of the ALADIN consortium has enhanced the individual and joint contributions of its members to weather forecasting to environment management and monitoring of climate, and has thus contributed to sustainable development;

WISHING to develop their individual capabilities to fulfil their national needs and responsibilities in order to bring the best available quality of service to all users of meteorological services in their countries;

WISHING to optimise the individual and collective contributions of their countries to the WMO programmes;

STRESSING their continuous commitment to the common strategic objective of enabling their respective countries to get the best possible operational forecasting system compatible with their available resources and to access the most advanced mesoscale modeling capabilities for research purpose;

RECOGNISING, however, that resource constraints may limit their individual ability to fully run and exploit the most advanced mesoscale system, and that, therefore, this common strategic objective can only be met through a flexible approach taking into account the range of these constraints;

RECOGNISING that the maintenance and further development of state-of-the art mesoscale forecasting models require substantial investments, in particular in terms of human resources, and that such tasks and investments are better shared for mutual benefit;

WILLING to face collectively the challenge of providing the best possible weather forecast services with optimised human and financial resources in their shared ambition of being the national excellence and an international reference in meteorology;

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WISHING to continue and expand the successful activities of the ALADIN project in the field of High Resolution Short Range Weather Forecast by developing the science, the know-how, the expertise and the use around a common High Resolution Limited Area Numerical Weather Prediction System;

CONFIRMING their commitments to implement the WMO Resolution 40 (Cg XII);

RECOGNISING the relevance of the “guidelines for relations among National Meteorological or Hydrometeorological Services regarding commercial activities” attached as Annex II to this Resolution, that aim at maintaining and strengthening in the public interest the cooperative and supportive relations among N(H)MSs in the face of differing national approaches to the growth of commercial meteorological activities;

The National (Hydro-) Meteorological Services (N(H)MSs) of Algeria, Austria, Belgium, Bulgaria, Croatia, the Czech Republic, France, Hungary, Morocco, Poland, Portugal, Romania, Slovakia, Slovenia, and Tunisia, hereinafter referred to as the Parties and collectively as the “ALADIN Consortium”

have agreed as follows:

ARTICLE 1

Purpose and Objectives

1. This Memorandum of Understanding (hereafter referred to as MoU) sets forth the goal and general objectives agreed by the Parties for their cooperation (hereafter referred to as the ALADIN Cooperation), and the terms and conditions under which they will cooperate to achieve these goal and objectives.
2. The goal of the ALADIN Cooperation is to improve the value of the meteorological, hydrological and environmental warning and forecast services delivered by all Parties to their users, through the operational implementation of a numerical weather prediction (NWP) system capable of resolving horizontal scales from the meso-beta to the meso-gamma scale (1-3 km mesh size) and improving the prediction of severe weather phenomena such as heavy precipitation, intensive convection and stormy winds.
3. This objective will be fulfilled through continuation and expansion of the activities of the ALADIN Consortium in the field of High Resolution Short Range Weather Forecast, including:
 - t) Maintenance of an ALADIN System defined as the set of shared pre-processing, data assimilation, model and post-processing/verification software codes, tools and data required for and available to each Party to produce and use the best possible operational mesoscale forecasts compatible with its available resources;
 - tu) A joint research and development plan aimed at maintaining the current ALADIN meso-beta model at state of the art level and developing, with contributions of the Parties to the common code libraries involved:
 - a meso-gamma capability (called AROME), and;
 - less computationally expensive, intermediate models compatible with the range of resources affordable to the Parties;
 - tuu) Sharing of scientific results, numerical codes, operational environments, related expertise and know how, as necessary for all ALADIN Consortium members to conduct operational and research activities with the same tools.
4. The following definitions are used in this MoU:
 - i) The ALADIN System is defined as the set of pre-processing, data assimilation, model and post-processing/verification software codes, tools and data shared by all Parties and available to each Member and acceding Member for producing and using the best possible operational mesoscale forecasts based on a configuration compatible with its available resources.
 - ii) The ALADIN System is composed of shared software codes of three different types:
 - the ALADIN Common Codes, defined as the codes jointly developed and maintained by the Parties and the ALADIN acceding Members referred to in Article 2, and owned by them in proportion of their contributions;

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- the ALADIN Co-owned Codes defined as the codes jointly developed and maintained with other consortia or partners and co-owned by the Parties and these consortia or partners (e.g. Common ALADIN-HIRLAM Code);
 - the ALADIN Shared Third-Party Codes contributed and owned by partners, other consortia or third parties who have granted appropriate rights to the Parties for the use of such codes for the implementation of this MoU.
- i i i) A Version of the ALADIN System is the latest release of the ALADIN System available for operational use.
- i v) A Configuration of the ALADIN System is a subset of ALADIN Codes used by a Member or acceding Member for its own implementation.
- v) ALADIN Products are defined as outputs of the Configurations of the ALADIN System implemented by the Members or acceding Members for their operational requirements. ALADIN Products are Type A products in the ECOMET sense, i.e. “meteorological information that results from the transformation or processing of data sets in the form of pictures, charts, text or data files, is considered to require meteorological know-how to be interpreted, and has been prepared specifically to meet the operational requirements of an N(H)MS.
- vi) Official Duty: all activities which take place within the organization of an NMS, and external activities of the NMS resulting from legal, governmental and intergovernmental requirements relating to defence, civil aviation and the safety of life and property.
- v i i) National Territory: The national territory of a State, including its internal waters, its archipelagic waters, its territorial sea and its exclusive economic zone, as defined in the United Nations Convention on the Law of the Sea (UNCLOS) signed in Montego Bay on 10 December 1982 and having entered into force on 16 November 1994.
- v i i i) International Waters: Waters not included in the internal waters, archipelagic waters, territorial sea or exclusive economic zone of any State (defined as High Seas in the UNCLOS Convention).
- i x) European Economic Area includes the 25 Member States of the European Union plus Norway, Iceland and Liechtenstein.
- x) National Use of ALADIN Products: any sublicensing of Products or value added services by an NMS to a nationally-based end user or to broadcaster/publisher for target recipients in the national territory of that NMS, but not including sub-licensing to service providers.
- x i) Educational Use: Any use of ALADIN Products by a school, university, scientific institute or similar (private or institutional), solely for educational purposes, without transmission or redistribution of these products to any further third party, or use of them to generate a value added service.
- x i i) In the context of Articles 8, 9 and 10, the term “ALADIN” means a ‘brand name’ for the Common Codes and tools jointly developed and owned by the Parties, and the products generated by the various configurations of the ALADIN System.

ARTICLE 2

Membership

5. The Members of the ALADIN Consortium are the Parties to this MoU.
6. The initial Members are the signatories of this MoU at the time of its entry into force. They have all participated in the activities of the ALADIN project under the previous ALADIN Memoranda of Understanding and own accordingly all the common property rights and intellectual capital accumulated under these previous MoUs, in proportion of their respective contributions, as recorded in Annex I.
7. This MoU is also open for signature to new Members who, alike the Parties:
 - i) Are members of WMO;
 - ii) Are willing to cooperate and contribute to all the objectives defined in Article 1;
 - iii) Commit to contribute at least two (2) full time equivalent persons per year to the ALADIN research and development activities under the agreed work plans;
 - iv) Have firm plans to use the ALADIN system for their operational forecast procedure during the period covered by this MoU;
 - v) Accept all the terms and conditions of this MoU.
8. A N(H)MS wishing to join the ALADIN Consortium shall address its application to the Chairperson of the General Assembly, for consideration by the General Assembly (see Article 3).
9. If the application of a N(H)MS is accepted by the General Assembly, it shall become Member after an accession period of maximum three (3) years, during which it shall:
 - i) contribute at least two (2) full time equivalent persons per year to the ALADIN research and development activities;
 - ii) contribute to the financial part of the ALADIN Annual Budget referred to in Article 6, at a level of at least 50% of the flat rate annual contribution;
 - iii) have the same rights and obligations as Members as regards the use of the ALADIN System on their National Territory, but no voting rights.
10. Upon completion of this accession period, the acceding Member shall:
 - i) Have paid an entry fee of five (5) times the ceiling of the flat rate contribution to the ALADIN Annual Budget referred to in Article 6, with the understanding that the cumulated annual contributions referred to in paragraph 9-(ii) above form an integral part of that payment;
 - ii) Subject to confirmation that it actually satisfies the conditions for Membership, gain the status of Member and sign this MOU;

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- iii) As a result, have all rights and obligations of Members, including rights to use the ALADIN System's products outside its National Territory, and acquire voting rights in proportion to its cumulated manpower contributions;
11. In exceptional circumstances, the General Assembly may accept the applying N(H)MS as a Member with immediate effect, without accession period. This may be considered in particular if the applying N(H)MS:
 - t) Immediately contributes manpower to the ALADIN research and development activities at a level significantly above 2 full time equivalent persons per year;
 - tu) Commits to adopt the ALADIN System for its operational mesoscale forecast, within one year from acceptance, based on demonstrated capabilities to run the ALADIN System;
 - tu) Commits to pay the entry fee referred to in paragraph 10 above immediately.
 12. Members and acceding Members shall abide by the terms and conditions defined in this MoU and do their utmost to implement the decisions taken by the General Assembly.
 13. Members and acceding Members shall respect regulations related to intellectual property rights and ownership and shall prevent unauthorized dissemination and use of ALADIN assets.
 14. Members shall make all reasonable efforts to use the ALADIN System or elements thereof in their daily operational forecast procedure.
 15. Members and acceding Members shall actively participate in the ALADIN Cooperation through commitment of a significant part of their NWP and modelling manpower to the work plans approved by the General Assembly and through effective participation to the ALADIN bodies, groups, meetings and workshops.
 16. A Member may withdraw from the ALADIN Consortium by giving at least one-year notice to the Chairperson of the General Assembly.
 17. Should one Member cease to fulfil the terms and conditions for membership defined in this MoU, the General Assembly may decide to terminate its membership with a one year notice from the Chairperson of the General Assembly, after exploring possible recovery actions with that Member.
 18. The rights and obligations concerning the use, ownership and maintenance of the ALADIN System under this MoU or resulting from agreements signed by the Parties or one of them for the implementation of this MoU shall continue to apply to a leaving Member for a maximum period of one year after actual loss of membership. However, such rights and obligations shall be restricted to the Version of the ALADIN System available at the time, unless otherwise agreed, and shall exclude the right to use the "ALADIN" brand for the further use of this Version of the System or its Products.

ARTICLE 3

Governance

3.1. General Assembly

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19. The General Assembly is the supreme governing body of the ALADIN Consortium. It represents its Members and acceding Members and is responsible for the implementation of this Memorandum of Understanding, including the definition, follow-up and evaluation of all activities of the ALADIN Cooperation.
20. The General Assembly consists of Directors of each of the Members and acceding Members or their mandated representatives, who may be assisted by advisers.
21. The General Assembly:
 - i) Elects its Chairperson and Vice-chairperson;
 - ii) Decides on amendments to this Memorandum of Understanding and on all matters concerning membership;
 - iii) Decides on the terms of reference, membership of the Policy Advisory Committee (PAC) and appoints its Chairperson and Vice-chairperson;
 - iv) Approves the ALADIN Strategic Plan and other plans submitted by the PAC or by the Programme Manager;
 - v) Decides on the objectives and terms of reference of External Evaluation Reviews referred to in 3.4 below and on the independent senior experts tasked to perform a given external evaluation review;
 - vi) Identifies the common ALADIN Consortium assets and decides on detailed rules, as required to implement and expand the provisions of Articles 8 and 9;
 - vii) Approves the detailed rules and standard licences applicable to the commercialisation of ALADIN Products by the Members and acceding Members, as required for the implementation of Article 10, including decision on the amount of the royalty fee applicable to sales of ALADIN Products outside the National Territory of a Member;
 - viii) Decides on strategic cooperation opportunities with research institutions, N(H)MS, other consortia or other third parties in the area of High Resolution Short Range Numerical Weather Prediction and authorises its Chairperson to sign relevant agreements and arrangements on behalf of the ALADIN Consortium;
 - ix) Decides to invite other organisations or other consortia to take part at its meetings as observers;
 - x) Decides on the establishment, terms of reference, membership of other subsidiary bodies or high level working groups to deal with particular issues as appropriate, and on their cancellation;
 - xi) Appoints the ALADIN Programme Manager;

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- xii) Approves the organisation of the ALADIN Project Team, coordination and administrative support structures defined in Article 4, paragraph 43;
 - xiii) Approves the annual work plans and associated resource commitments from all Members and acceding Members, and follows up their execution;
 - xiv) Approves annual budgets and accounts;
 - xv) Decides on any matter or issue that cannot be resolved by the Programme Manager or the PAC.
22. The Parties shall agree by consensus all amendments to the core text of this MOU (excluding Annexes), prolongation beyond its nominal duration, and all implementation arrangements and cooperations affecting their property rights, including amendments to Annex III.
23. Unless otherwise specified in the Articles of this MoU, all other decisions of the General Assembly shall be taken, as far as possible, by consensus of the represented Members and acceding Members, recognising however, that, in the absence of consensus, a decision shall be valid unless it is vetoed by more than one third of the Members or by a group of Members having contributed to the project in a proportion higher than one third according to the records.
24. Amendments to Annex III shall require agreement with the HIRLAM Consortium.
25. The General Assembly shall regularly meet at least once yearly. Extraordinary General Assembly meetings could be held at the request of at least one third of the Members.
26. In exceptional circumstances, a Member may represent another Member or acceding Member at the General Assembly meetings. A written authorisation shall be required for this purpose. The represented Member or acceding Member shall then be considered as represented, with delegated voting rights in the case of a Member.
27. General Assembly meetings are valid if at least two-thirds of the Members are represented.
- 3.2. Chairperson and Vice-chairperson of the General Assembly
28. The Chairperson and the Vice-chairperson are elected for two years and may be re-elected not more than once.
29. The Chairperson of the General Assembly chairs the meetings of the General Assembly and represents the ALADIN Consortium with respect to third parties, during the period between two consecutive meetings.
30. The Chairperson of the General Assembly signs cooperation agreements with third parties or commits the ALADIN Consortium, on behalf and by delegation of the General Assembly.
31. The Chairperson of the General Assembly may consult General Assembly members in between meetings to seek agreement on critical issues that require quick decisions, in particular with respect to third parties.

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32. In case of absence, the Vice-chairperson replaces the Chairperson.
33. The Chairperson and Vice-chairperson of the General Assembly are not liable towards the ALADIN Consortium and towards third parties for infringements to the laws applicable to the ALADIN Consortium as well as for faults in his/her management.
34. The responsibility of the Chairperson, Vice-chairperson of the General Assembly is collectively supported by the ALADIN Consortium, except for infringements in direct relation with its national laws.

3.3. Policy Advisory Committee

35. The Policy Advisory Committee (PAC) is an advisory body composed of six (6) persons, plus a Chairperson and a Vice-Chairperson, all designated by the General Assembly. The PAC members represent the full Membership, through consultation mechanisms to be agreed by the General Assembly, and bring together strategic expertise on science, applications, management and policy.

Unless otherwise agreed, the PAC Chairperson and Vice-chairperson are designated among General Assembly members, in order to facilitate efficient liaison with the General Assembly.

36. The PAC reports to the General Assembly and meets at least once a year, prior to the ordinary meeting of the General Assembly.
37. The PAC chairperson and vice-chairperson are appointed by the General Assembly for a period of two years and may be reappointed not more than once.
38. The PAC advises the General Assembly and the Programme Manager on strategic and policy matters. In particular, the PAC:
 - i) Reviews and updates the ALADIN strategic objectives, taking into account user requirements and the application priorities of the Members and acceding Members;
 - ii) Prepares Strategic plans relating the agreed strategic objectives to a scientific and development strategy;
 - iii) Advises the General Assembly and the Programme Manager on any cooperation or other strategic issue, including new proposed activities or perspectives;
 - iv) Supports the Programme Manager in the negotiation of strategic cooperation agreements, based on negotiation mandates defined by the General Assembly;
 - v) Reviews the annual ALADIN report about the work plan and the realisation of the manpower commitments of Members and acceding Members, as presented by the Programme Manager;

- vi) Submits recommendations to the General Assembly.

3.4 External Evaluation Reviews

- 39. External Evaluation Reviews shall be organised at regular intervals to evaluate various aspects (scientific, strategic, cooperative, etc.) of the ALADIN Cooperation.

ARTICLE 4

Management

40. The activities and plans approved by the General Assembly are implemented under the responsibility of a full time Programme Manager (PM).
41. The Programme Manager, as the main executive officer of the ALADIN Consortium, reports to the General Assembly, and is responsible for:
- i) Making sure that the ALADIN System is maintained, with appropriate coordinated actions with its parent system (called IFS/ARPEGE), and made available to the Members and acceding Members, for implementation at their site;
 - ii) Execution of agreed Plans within the resources allocated by the General Assembly, and reporting to the General Assembly;
 - iii) Implementation of other decisions or actions placed on him/her by the General Assembly;
 - iv) Management and monitoring of the contributions of Members and acceding Members (manpower and financial contributions to the ALADIN Annual Budget) dedicated to the implementation of this MoU, within the authority delegated by the General Assembly, and maintaining relevant records;
 - v) Elaboration of strategic inputs and proposals, for consideration by PAC and the General Assembly;
 - vi) Preparation and negotiation, with the support of PAC and other designated experts, any draft co-operation agreement, taking into account guidelines from the General Assembly;
 - vii) Organisation and coordination, with support from the CSSI (see definition in paragraph 43) and the ALADIN Local Team Managers and following the guidelines of the General Assembly or its Chairperson, of:
 - The ALADIN Project Team;

- General Assembly meetings;
 - ALADIN Workshops and other meetings;
 - Scientific and technical participation of the ALADIN Consortium at International Numerical Weather Prediction meetings.
42. The Programme Manager is supported by a Programme Team, composed of:
- i) The ALADIN Local Team Managers designated by each Member or acceding Member, who are responsible for the execution of the contribution of that Member or acceding Member to the agreed Work Plan, and supervise the ALADIN Project Team members working at their premises;
 - ii) The ALADIN Project Team involving all manpower committed by Members and acceding Members;
 - iii) A Committee for Scientific and System/maintenance Issues (the CSSI), composed of the first level System/maintenance and Scientific Coordinators (SSC) of the ALADIN Project Team;
 - iv) A Support Team for administrative, information and secretarial support.
43. The Programme Manager proposes the detailed organisation of the Project Team, including specific delegation of responsibilities and assignments, following discussion at the ALADIN Workshop. The proposal is submitted to the General Assembly, after review by the PAC, as an integral part of the proposed Work Plan.
44. System and scientific coordination within the Project Team is ensured as necessary under the authority of the Programme Manager through Thematic Working Groups led by System and Scientific Coordinators, e.g. in the fields of dynamics and coupling, physics, data assimilation, surface processes, predictability, verification and post-processing, code maintenance and system coordination.
45. The Programme Manager supervises the coordinated maintenance effort, with support of designated CSSI and Project Team Members.
46. The Programme Manager organises, with the support of the CSSI and the ALADIN Local Team Managers, the annual ALADIN Workshop, where the scientific and technical priorities, the objectives and the activities that form the proposed Work Plan for the next year are defined and agreed, taking into account inputs from the Project Team and resources available from Members and acceding Members.
47. The Programme Manager establishes appropriate consultation and interaction mechanisms involving the ALADIN Local Team Managers and CSSI members, as necessary to enable smooth coordination and implementation of all activities under the agreed Work Plan, including anticipation or resolution of day-to-day difficulties and definition of priorities against available resources.
48. The Programme Manager brings to the attention of the Chairperson of the General Assembly and to the Chairperson of the PAC any issue that endangers or may endanger the execution of the agreed Work Plan and cannot be resolved at his/her level, with the support of the ALADIN Local Team Managers and CSSI members.

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49. The Programme Manager presents to the General Assembly proposals for the designation of System/maintenance and Scientific Coordinators, based on discussions at the ALADIN Annual Workshop.
50. The Programme Manager is responsible, with support of the CSSI, for the coordination of the joint activities agreed by the HIRLAM and ALADIN Consortia, under terms and conditions defined in Annex III.
51. The Programme Manager shall consolidate, maintain and make available to the Parties a consolidated list of the ALADIN shared codes that form the ALADIN System, with an identification of (i) the ALADIN Common Codes, (ii) the ALADIN Co-owned Codes and their co-owners and (iii) ALADIN Shared Third-Party Codes with appropriate reference to the rights granted by the owner to the Parties.

ARTICLE 5

Co-operations

52. The General Assembly may decide to establish co-operation with entities (Institutes, Universities, other Consortia, N(H)MSs) outside the ALADIN Consortium, under conditions to be determined.
53. A co-operation agreement shall specify, as a minimum, the objectives and areas of co-operation and the rights and obligations of the ALADIN Consortium and of the co-operating entity, in particular in terms of their compatibility with the provisions of Articles 8, 9 and 10.
54. Because there exists at the time of signing of this MoU an agreement between Météo-France and ECMWF concerning the use of the IFS code in the ALADIN System and because the signing of this MoU happens jointly with the one of an ALADIN-HIRLAM agreement, the implications of the agreement with ECMWF are addressed in Annex II and the cooperation with the HIRLAM consortium in Annex III.
55. A representative of the co-operating entity might be invited as an observer for the discussion of relevant points at the General Assembly meetings.

ARTICLE 6

Resources

56. The resources available for the implementation of this MoU are:
 - i) The manpower committed on an annual basis by the Members and the acceding Members for their contributions to the agreed plans covering all activities referred to in Article 1, paragraph 3 above;
 - ii) The ALADIN Annual Budget made available by the Members and acceding Members, defined as the envelope of resources required to support consortium-level overhead activities that cannot be covered by the manpower contributions of the Members and acceding Members.

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57. The purpose of the ALADIN Annual Budget is to facilitate and enhance cooperation and interactions between the Members and acceding Members, with a view to increasing the collective value of their individual manpower contributions to the Cooperation, and the overall efficiency and usability of the ALADIN System.
58. The ALADIN Annual Budget should mainly cover some expenditure related to administrative or cooperation overheads and mobility that are necessary at Consortium level for efficient scientific and technical coordination and code maintenance.
59. The ALADIN Annual Budget comprises three parts:
 - i) a minimum flat rate financial contribution applicable to all Members, unless otherwise agreed by the General Assembly in exceptional circumstances, aimed at covering the absolute minimum necessary volume of the tasks listed in paragraph 59 above;
 - ii) additional voluntary financial contributions of Members or grouping of Members (e.g. LACE);
 - iii) 'in-kind' contributions corresponding in general to consortium-level tasks other than those listed in paragraph 59 above.
60. The minimum flat rate financial contribution applicable to all Members shall not exceed a ceiling determined by the General Assembly for the duration of this MoU.
61. The financial part of the ALADIN Annual Budget is also fed by the entry fees of new Members and can also include royalties if agreed by the General Assembly.
62. The way of collecting and administrating the relevant financial contributions shall be agreed by the General Assembly, taking into account practical capacity of the Members being then in charge of the implied redistribution steps;
63. The financial contributions of Members that are also members of the RC-LACE, including their individual minimum flat rate contributions, may be contributed and administrated through LACE, provided these contributions are dedicated to the purposes outlined in paragraphs 58 and 59, and managed by the Programme Manager in accordance with the provisions of Article 4, paragraph 42 iv.
64. After approval, the ALADIN Annual Budget (three parts) is executed under the authority and control of the Programme Manager with designated ALADIN administrative support, and, when practical, with direct administrative support from Members.
65. Resource requirements (manpower and budget) are established and reviewed on an annual basis by the General Assembly. Commitments and allocation of resources are approved and recorded by the General Assembly.
66. The realisation of the manpower and budget commitments are monitored by and reported to the General Assembly. The record of cumulative manpower contributions of Members and acceding Members is maintained by the Programme Manager and made available to Members and acceding Members. The record at the time of signature of this MoU is attached as Annex I.

ARTICLE 7

Information exchange within the Members, acceding Members and towards users

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67. An ALADIN Newsletter, based on the scientific and technical contributions of the Members and acceding Members, is published regularly.
68. An official web-site is maintained, where all the relevant information about the project is published. A password-protected part of the web-site is available to the Members and acceding Members for confidential information exchange purposes.
69. The ALADIN Consortium makes its best efforts to present the ALADIN achievements at major scientific events (including its own Workshops) and publish the findings in suitable peer-reviewed journals.

ARTICLE 8

Ownership and property rights

70. The ALADIN Common Codes, along with all related intellectual property rights, shall be owned by the Parties and acceding Members in proportion to their respective contributions, as recorded by the General Assembly, without prejudice to the intellectual property rights for those parts for which a single originator can be identified.
71. The related rights will be protected by the Parties under the guidance of the General Assembly with the understanding that executive functions can be delegated as agreed to the Programme Manager.
72. Lists of ALADIN Co-owned Codes shall be included in relevant agreements with their co-owners, along with the definition of the respective rights and obligations of the co-owners.
73. Any Member contributing code or software to the ALADIN System, under this MoU without being the formal owner or right-owner of that code or software shall guarantee that the rights to use such code and software for the implementation of this MoU are granted to the Parties, and inform the General Assembly in advance of any restriction affecting the possible use of that code or software by the Parties.
74. The ALADIN System, or any parts thereof, cannot be sold to any third party.
75. In order to increase the scope and value of the ALADIN System, the Parties may decide to share with partners or other consortia, based on reciprocal and balanced agreements:
 - i) Ownership or rights attached to ALADIN Common Codes;
 - ii) Ownership or rights attached to ALADIN Co-owned Codes, subject to prior agreement with the co-owners of such codes;
 - iii) Rights for use of ALADIN Third-party Codes, subject to prior agreement with the owners of such codes.

ARTICLE 9

Conditions for access to and implementation of the ALADIN System

76. Each Member and acceding Member shall have:
 - i) full access rights to the ALADIN System source code, including rights to modify codes for the implementation of its own Configuration,
 - ii) full responsibility for and control of the Configuration(s) of the ALADIN System implemented for its research and/or operational requirements and any use authorised by this MoU,

provided that such implementation is compliant with agreements signed by the Parties or one of them for the execution of this MoU. In particular, compliance is required to the terms and conditions of the ECMWF/Météo-France agreement for ARPEGE/IFS software protection agreement (see Annex II).

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77. For research purposes, a Member may grant access to the ALADIN System, or elements thereof, to another organisation in its country, or to the N(H)MS of a Member or Cooperating State of ECMWF which is not a Member, after prior information of the Parties. Access shall then be granted under a standard R&D licence approved by the General Assembly. This licence shall, as a minimum:
- i) Restrict the possible use of the ALADIN System to research;
 - ii) Make applicable to the licensee relevant terms and conditions of agreements signed by the Parties or one of them for the implementation of this MoU;
 - iii) Establish the irrevocable rights of the Parties to access and use the results of the research in the context of the implementation of this MoU.

Benchmarking or optimisation of local Configurations of the ALADIN System by computer companies, in cooperation with one Member, is considered as research.

78. In all cases other than those addressed under paragraphs 77 and 78, access to the ALADIN System or elements thereof shall be subject to a specific license or cooperation agreement and decided by consensus by the General Assembly, on a case-by-case basis.

ARTICLE 10

Ownership, availability and commercialisation of ALADIN Products

79. Every Member and acceding Member shall have full ownership of the ALADIN Products it generates using the Configuration of the ALADIN System implemented for its operational requirements, and full responsibility for their authorised use and delivery.
80. ALADIN Products shall be declared as “additional data” or considered as “other data” in the sense of Resolution 40, with the understanding, however, that the General Assembly may agree by consensus that some ALADIN products can be declared as “essential data”.
- 81.
82. Every ALADIN Member and acceding Member will provide free and unrestricted access to ALADIN Products for educational and research purposes, within available resources and under conditions to be defined in a standard research license to be agreed by consensus by the General Assembly.
83. Rights of acceding Members to commercialise ALADIN Products shall be restricted to National Use.
84. Members being also members of ECOMET and using ALADIN Products for commercial purposes shall:
- i) Follow applicable ECOMET rules;
 - ii) Apply Resolution 40 for commercialisation of ALADIN Products outside the European Economic Area and international waters;
 - iii) Inform the General Assembly about their ALADIN entries to the ECOMET catalogue.

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85. Other Members using ALADIN Products for commercial purposes shall:
- 1) Follow ECOMET guidelines and models on tariffs, price composition and cost recovery, licenses and sub-licenses etc. for the commercialisation of ALADIN Products within the European Economic Area and international waters and the National Territories of Members and acceding Members;
 - 11) Inform the General Assembly about the ALADIN Products available for commercial purposes;
 - 111) Apply Resolution 40 for commercialisation of ALADIN Products outside their National Territories.
86. A Member selling ALADIN Products for use outside its National Territory shall:
- 1) Declare its annual sales to the General Assembly, prior to its ordinary meeting;
 - 11) Pay a royalty fee to be shared by the other Members in proportion of their respective cumulated manpower contribution to ALADIN.
- The royalty fee shall be a significant fraction of the information price. This fraction shall be decided by the General Assembly for the duration of this MoU.
87. WMO Resolution 40 (Cg XII) shall apply to commercialisation of ALADIN Products outside the European Economic Area and the National Territories of Members and acceding Members.
88. Charging of ALADIN Products may be suspended for a limited period of time to a given customer, for humanitarian considerations, i.e. in case of emergency situations (e.g. natural and civil disasters).

ARTICLE 11

Common Assets

89. At the time of signature of this MOU the common assets of the ALADIN Consortium are the ALADIN Common Codes and Co-Owned Codes developed under previous ALADIN MoUs.

ARTICLE 12

Liability

90. Each ALADIN Consortium Member or acceding Member is not liable to the other Members and acceding Members for damage or injury attributable to the execution of its responsibilities under this MoU.
91. Each Member or acceding Member will bear the cost of compensation for damage or injury of any kind suffered by its personnel or property within the framework of the execution of this Memorandum except in case of gross negligence or wilful act.

Third ALADIN MoU

92. The Members and acceding Members accept no individual or collective responsibility for damage, financially or otherwise, caused the use of the ALADIN System or any part thereof, other than those imposed by their respective national laws.

ARTICLE 13

Entry into force, Duration and Amendments

93. This Memorandum of Understanding will enter into force upon signature.
94. This Memorandum of Understanding will remain in force for a period of at least 5 years after signature.
95. The General Assembly may amend this MoU and expand its duration beyond 5 years, in accordance with the provisions of Article 3, paragraph 22 above.
96. Amendments will take effect following decisions by the General Assembly.

ARTICLE 14

Final clause

97. This MOU is the ALADIN Consortium highest document. It contains a core of 14 Articles made of 98 paragraphs at the time of the signature, and a set of three Annexes.
98. This MOU cannot be opposed to or supersede any national law and/or regulation to be respected by the Parties.

SIGNED IN BRUSSELS BY

Representatives of the National (Hydro)Meteorological Services

N(H)MS	Name	Position	Signature
on behalf of Office National de la Météorologie (Algeria)	Mr. Abdelmalek Kirouane	Director	
on behalf of Zentralanstalt für Meteorologie und Geodynamik (Austria)	Mr. Fritz Neuwirth	Director	
on behalf of Institut Royal Météorologique de Belgique	Mr. Henri Malcorps	Director General	
on behalf of Bulgarian National Institute of Meteorology and Hydrology	Mr. Valery Spiridonov	Deputy Director	
on behalf of Croatian Meteorological and Hydrological Service	Mr. Ivan Čačić	Acting Director	
on behalf of Czech Hydrometeorological Institute	Mr. Ivan Obrušník	Director	
on behalf of Météo-France	Mr. Alain Ratier	Deputy Director	
on behalf of Hungarian Meteorological Service	Mr. Zoltán Dunkel	President	
on behalf of Direction de la Météorologie Nationale (Morocco)	Mr. Abdallah Nassif	Head of Administrative Division	
on behalf of Institute of Meteorology and Water Management of Poland	Mr. Jan Zielinski	Director	
on behalf of Portuguese Meteorological Institute	Mr. Aderito Vicente Serrao	President	
on behalf of National Meteorological Administration of Romania	Mr. Cornel Soci	Acting Director	
on behalf of Slovak Hydrometeorological Institute	Mr. Peter Rončák	Director General	
on behalf of The Environmental Agency of the Republic of Slovenia, Meteorological Office	Mr. Jozef Roškar	Director, PR in WMO	
on behalf Institut National de la Météorologie de Tunisie	Mr. Najoua Ghrissi Lahsoumi	Head of International Division	

ANNEX I

Scale of contributions as of October 2005

(reflecting cumulated manpower contributions since 1 September 1991)

Country	Person x months on 30/6/05	Percentage
France	1359.50	23.42
Czech Republic	600.50	10.34
Hungary	522.00	8.99
Belgium	459.00	7.91
Romania	454.50	7.83
Slovakia	403.50	6.95
Morocco	374.00	6.44
Croatia	308.00	5.31
Slovenia	286.50	4.94
Austria	282.75	4.87
Poland	255.50	4.40
Portugal	189.50	3.26
Bulgaria	181.50	3.13
Tunisia	122.00	2.10
Algeria	6.50	0.11
Total	5805.25	100

ANNEX II

Existence of a 'software protection agreement' between ECMWF and Météo-France and its implications for the ALADIN Consortium

Through a software agreement signed on 19/02/99 with Météo-France, concerning the access to and use of the IFS/ARPEGE software, ECMWF has agreed to grant access to the whole of the IFS/ARPEGE software (including the «strategic» parts listed in Annex 2 of the mentioned agreement) to all ALADIN Members, provided this access will not be used by non-ECMWF Member- or Co-operating-States to run routinely in forecasting mode a global model/data assimilation system.

The update of the list of relevant Members happens through changes of ECWMF membership or cooperative membership and when the ECMWF Council grants the benefit of this agreement to a new ALADIN Member.

ANNEX III

Cooperation Agreement with the HIRLAM Consortium

AGREEMENT

Preamble

This Agreement specifies the conditions for the collaboration between the ALADIN consortium and the HIRLAM consortium as mentioned in the Article 5 and Article 3 of their respective Memorandums of Understanding. This undersigned Agreement is an attachment to each Memorandum of Understanding.

1. Parties

- 1.1 On the one hand the ALADIN Consortium, represented by the Chairperson of its General Assembly, and on the other hand the HIRLAM Consortium, represented by the Chairperson of its Council, as the consortia are put together from time to time.

2. Prime objective

- 2.1 The prime long-term objective is to provide the ALADIN and the HIRLAM Members with a state-of-the-art NWP-model for Short and Very Short Range Forecasting including Nowcasting, for both Research and Development activities and Operational usage.

3. Scope of the collaboration

- 3.1 The Parties have agreed to co-operate in fields related to Mesoscale modelling including the full NWP suite of observation processing, assimilation, forecasting, post-processing and verification and probabilistic forecasting.
- 3.2 The co-operation shall be based on an agreed strategic framework, covering a five to ten-year period, open to innovations for the longer term future.
- 3.3 The collaboration aims at enabling each consortium and any of its Members or acceding Member to carry out research and development activities using a shared ALADIN - HIRLAM System, as defined in paragraph 5.1, which is developed, made available and maintained to facilitate the transition to a fully common ALADIN - HIRLAM code.
- 3.4 The collaboration focuses on the development of ALADIN - HIRLAM Common Codes, centrally maintained in compliance with IFS rules and standards, suitable for operational use. However, the decisions regarding the operational code implementation remain within each consortium.

4. Duration

- 4.1 This Agreement shall enter into force when signed by the Parties and shall be valid for a period of 5 years. Unless cancelled by either party giving two years notice the agreement shall each time be prolonged with an additional period of two years.

5. *Definitions*

5.1 For the duration of this Agreement the definitions shall be the following:

The shared ALADIN-HIRLAM System shall mean the complete code that is necessary for executing all configurations that are part of the agreed collaboration according to this Agreement. The ALADIN-HIRLAM System is composed of shared codes of four different types:

the ALADIN Common Codes, defined as the codes jointly developed, maintained and owned by the ALADIN Consortium;

the HIRLAM Common Codes, defined as the codes jointly developed, maintained and owned by the HIRLAM Consortium;

the ALADIN-HIRLAM Common Codes defined as the codes jointly developed and maintained by both consortia;

Other ALADIN-HIRLAM codes that are either co-owned or owned by third parties and shared under relevant provisions of agreements concluded by either consortium or by Member(s) thereof with such third parties extending rights to both consortia.

The Co-ordination Group shall mean the Programme Managers from ALADIN and HIRLAM, forming a common working group for the overall co-ordination of activities stipulated in accordance with this Agreement. The Co-ordination Group may appoint experts for support when ever they find it necessary.

Participant shall mean any national N(H)MS who is a party to either of the HIRLAM or ALADIN MoU:s, or an ALADIN acceding Member.

6. *Commitments of the Parties*

6.1 The Parties shall contribute in research and development in accordance with annual agreements (common research/work plan), according to paragraph 7.2.

6.2 The Parties shall also contribute to Code coordination and phasing at agreed intervals.

6.3 All joint code developments that are validated and introduced in any national release or operational implementation should be made available as part of the ALADIN-HIRLAM Common Codes.

7. *Collaboration*

7.1 ALADIN and HIRLAM will co-operate in a number of areas. The co-operation will in the beginning be organised around the shared ALADIN - HIRLAM System defined above and evolve towards a full ALADIN - HIRLAM Common System based on common codes. At a precise stage during the term of this Agreement and after successful collaboration, all of the respective ALADIN and HIRLAM Common Codes will be regarded as ALADIN - HIRLAM Common Codes upon a joint decision by the ALADIN Assembly and HIRLAM Council, including appropriate arrangements for co-ownership. Both Consortia will seek arrangements with third parties to convert other shared codes into ALADIN - HIRLAM Common Codes. The commitments and rights are regulated in paragraph 9.

7.2 The details of the work will be specified in a common research/work plan, including identified deliverables and milestones, and its realisation jointly evaluated at least once a year. The plan shall be renewed every year.

- 7.3 The Co-ordination Group shall prepare the common research/work plan in very definite terms and establish a close co-operation, including periodic discussions and meetings between the Parties. Other practical actions may also be delegated to the Co-ordination Group
- 7.4 The ALADIN Assembly and the HIRLAM Council shall annually decide upon the common research/work plan to be carried out.
- 7.5 A number of activities will be carried out within the collaboration stipulated in this Agreement. Each activity will have specific objectives and targets formulated, following the Strategic plan.

8. *Quality assurance*

- 8.1 A periodic review of the common work and results should be carried out as part of each consortium review process, in a coordinated manner as much as possible and at least every third year. Any evaluation report is communicated between the Parties.

9. *Intellectual Property Rights*

- 9.1 ALADIN - HIRLAM Common Codes shall be jointly owned by the Parties to this Agreement. This joint ownership shall be protected by the Members of both Consortia.
- 9.2 The parts of the shared ALADIN - HIRLAM System which are not ALADIN - HIRLAM Common Codes shall be duly authorised by the owning Consortium and/or third party owners for use by both consortia. The other Party shall have an irrevocable licence for use from the owner, as a minimum for official duty use and research. The licence agreement shall also stipulate the conditions for commercialization of products generated using the ALADIN - HIRLAM System.
- 9.3 Any Party introducing code or software to the collaboration stipulated by this Agreement without being the formal owner or right-holder to that code or software shall guarantee that it has secured the right to use such code or software within the scope of this agreement.
- 9.4 For the collaboration under this Agreement a list of all shared codes shall be drawn up and maintained by the Co-ordination Group, identifying (i) the ALADIN - HIRLAM Common Codes, (ii) the HIRLAM Common Codes (iii) the ALADIN Common Codes, and (iv) other shared Codes with appropriate reference to the owners and the rights granted by the owner to the Parties.
- 9.5 Any Participant to the collaboration stipulated in this Agreement shall have the right to grant licence for non-commercial research purposes (i) the ALADIN - HIRLAM Common Codes, (ii) the ALADIN Common Codes (iii) the HIRLAM Common Codes, and (iv) other shared codes subject to appropriate agreement of the owner. This right is limited to licensing its country or group of countries forming a single economic area, as stated in WMO Resolution 40 (Cg-XII) Adopts (2) or to the N(H)MS of a Member or Cooperating State of ECMWF which is not a Member of either consortium. Any such grant shall be reported without undue delay to the Co-ordination Group. A written contract shall be drawn up securing that the use of the licensed code by the Licensee is according to Appendix 2 of this Agreement as well as developments made by the Licensee may be used by the Parties within the scope of this Agreement.

Licensing for non commercial purposes to other users is subject to prior agreement of the ALADIN General Assembly and the HIRLAM Council.

Third ALADIN MoU

- 9.6 Licensing of ALADIN - HIRLAM Common Codes or shared codes owned by either consortium to third parties for any operational use shall be prohibited unless otherwise jointly decided by the ALADIN Assembly and the HIRLAM Council.
- 9.7 Commercialisation of products shall be in accordance with Appendix 1. The application of its item 5 "Charging principles", and in particular the element "development costs", may give rise to royalties. The definition, applicability, and apportionment of which between the Members of both consortia shall be approved by the ALADIN General Assembly and the HIRLAM Council.

10. Disputes

- 10.1 Any dispute concerning this Agreement, its validity, its interpretation or any circumstances in connection therewith shall be solved amicably. An arbitration panel consisting of one member from each of the Parties shall be formed which shall propose a settlement of the dispute agreeable to both Parties. Should either of the Parties not accept the settlement proposal this shall lead to cancellation of this Agreement.

11. Amendments

- 11.1 Any amendment to this Agreement shall be in writing and signed by both Parties to be valid.

12. Language

- 12.1 This agreement and any circumstances in connection therewith shall be subject to the English language. Should this agreement be translated into any other language and the translation holds contradictions relative to the English version, the wording of the English version shall prevail.

Appendix 1

Conditions for the Commercialisation of Products generated using the ALADIN-HIRLAM System.

1. Introduction

The purposes of the ALADIN-HIRLAM System shared by the ALADIN and HIRLAM consortium is to enable the N(H)MSs to carry out their official duty functions. However, the ALADIN-HIRLAM System can be used to generate products which may be exploited for commercial use.

Any commercialisation of products generated using the ALADIN-HIRLAM System will be based on international and national legislation. For commercialisation within the EEA by ECOMET members, the rules of ECOMET shall apply. For other cases, WMO Resolution 40 (Cg XII) applies.

2. Definitions

In the context of this appendix, Products are defined as outputs of the model configuration run by any Member of either the ALADIN or HIRLAM consortium, using the shared ALADIN-HIRLAM System, ALADIN-HIRLAM Common Codes or other codes made available by the other consortium. Products are Type A products in the ECOMET sense, i.e. "meteorological information that results from the transformation or processing of data sets in the form of pictures, charts, text or data files, is considered to require meteorological know-how to be interpreted, and has been prepared specifically to meet the operational requirements of an N(H)MS".

Products generated by a Member of the ALADIN Consortium are considered as ALADIN Products.

Products generated by a Member of the HIRLAM Consortium are considered as HIRLAM Products.

Educational Use: Any use of Products by a school, university, scientific institute or similar (private or institutional), solely for educational purposes, without transmission or redistribution of these products to any further third party, or use of them to generate a value added service.

3. Ownership of Products

ALADIN or HIRLAM Products and value-added services derived by an N(H)MS being a Member of either the ALADIN or HIRLAM consortium, are considered to be owned by the N(H)MS producing them.

4. Availability

The ALADIN Assembly and the HIRLAM Council aims at enhancing the use of ALADIN or HIRLAM Products for the benefit of society, while ensuring a reasonable return to the infrastructure costs of the participating N(H)MS. It is the understanding that:

- (a) ALADIN or HIRLAM Products shall be either declared as “additional” or considered as “other” data in the sense of Resolution 40
- (b) ALADIN or HIRLAM Products shall be supplied only at delivery charge for non-commercial research and Educational Use, under specific licenses.
- (c) The N(H)MS Members of either Consortium which are members of ECOMET will:
 - facilitate access and conditions for the use of Products for commercial purposes within the ECOMET Territory which consists of the European Economic Area and the national territory of ECOMET Members outside EEA;
 - make sure that their commercial arms are treated in the same manner as the private sector concerning conditions and prices for commercial use of ALADIN or HIRLAM Products.
- (d) WMO Resolution 40 (Cg XII) shall apply to commercialisation of ALADIN or HIRLAM Products outside the ECOMET Territory and the National Territories of Members of either consortium and acceding ALADIN Members.

5. Charging principles

The charging principles defined hereafter shall apply to all Members of either consortium commercialising products, irrespective of their status with respect to ECOMET.

The tariffs will normally reflect the target set for each N(H)MS for recovery of infrastructure costs in accordance with national requirements.

The following expenses should be taken into account when establishing the tariff for ALADIN or HIRLAM Products:

- (a) development costs,
- (b) the cost of the individual N(H)MS to run their own system,
- (c) a mark-up for meteorological infrastructure

ALADIN – HIRLAM Agreement

Appendix 2

Conditions for use of the ALADIN HIRLAM System, or parts thereof, for scientific or technical non-commercial research purposes by users outside the ALADIN and HIRLAM Members

- (1) The list of codes of the ALADIN-HIRLAM System to which the user is granted access shall be notified to the user as part of the licence, and communicated to the ALADIN General Assembly and the HIRLAM Council. That list shall not include codes of the ALADIN-HIRLAM System that are not fully owned by either consortium, unless the owner of such codes has transferred appropriate rights to license the code.
- (2) The user shall not have access to the original version of the full ALADIN HIRLAM System available at ECMWF or other installations, or elements thereof. He/she shall make use of separate authorised copies of appropriate parts of the system kept under his or her own responsibility.
- (3) Under no circumstances shall the user pass on or sell the ALADIN-HIRLAM System or parts thereof which he/she has access to, to any third party without the written consent of the ALADIN Assembly and the HIRLAM Council. This restriction also applies to distribution over electronic networks such as the Internet.
- (4) Under no circumstances shall the user pass on or sell meteorological or climatological products based on the ALADIN HIRLAM System or parts thereof to any third party.
- (5) All results of research carried out with the licensed software shall be made available to the ALADIN and HIRLAM Consortium Members with appropriate rights to use such results.
- (6) In the publication resulting from the research carried out, the origin of the system shall be acknowledged by the following text: "The ALADIN HIRLAM System was made available by the ALADIN and HIRLAM Consortia involving the national meteorological services of <list of Members>".
- (7) Access to the ALADIN - HIRLAM System or elements thereof shall be for a period of three years from the date of signing the license agreement. The Licensee shall provide annually a full report of research carried out in relation to the license agreement.
- (8) The license is for the user while at specified affiliation. The license is rescinded if the user leaves that affiliation and all installed elements of the ALADIN - HIRLAM System he/she was granted access to have to be removed. Instead a new application may be made.
- (9) A copy of the source code of all software developed directly as a result of the research involving the ALADIN HIRLAM System shall be made available to the Members of the ALADIN and HIRLAM consortia with full, irrevocable rights to use any such software for any purpose.
- (10) The Members of the ALADIN and HIRLAM consortia do not guarantee the correctness of the licensed codes in any sense, nor do they accept any responsibility for their maintenance or updating.
- (11) The Members of the ALADIN and HIRLAM consortia accept no responsibility for damage, financially or otherwise, caused by the use of any part of the licensed codes.