

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 three 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 recognized under the (informal) brand "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;

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;

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

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Hydrometeorological Services regarding commercial activities” attached as Annex III 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, Tunisia, and Turkey 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:

- i. 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;
- ii. Joint research and development activities, on the basis of the common Strategy Plan and related Work Plans, with the aim at maintaining the ALADIN System at scientific and technical state of the art level within the Numerical Weather Prediction community;
- iii. 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.

ARTICLE 2

Definitions

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 3;
 - 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.
- iii. A version of the ALADIN System is any release of the ALADIN System present in the ALADIN code repository for research and development or operational purposes, or any subset of code anticipated to become part of the common codes.
- iv. 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 N(H)MS, and external activities of the N(H)MS resulting from legal, governmental and intergovernmental requirements relating to defence, civil aviation and the safety of life and property.
- vii. 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.
- viii. 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).
- ix. National Use of ALADIN Products: any sublicensing of Products or value added services by an N(H)MS to a nationally-based end user or to broadcaster/publisher for target recipients in the

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national territory of that N(H)MS, but not including sub-licensing to service providers.

- x. 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.
- xi. In the context of Articles 9, 10 and 11, 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 3

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 as full member in the activities of the ALADIN project under the previous ALADIN Memorandum of Understanding and own accordingly all the common property rights and intellectual capital accumulated under the previous MoU, 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 4).

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 7, 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.

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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 7, 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;
- 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. 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.

12. Members and acceding Members shall respect regulations related to intellectual property rights and ownership and shall prevent unauthorized dissemination and use of ALADIN assets.

13. Members shall make all reasonable efforts to use the ALADIN System or elements thereof in their daily operational forecast procedure.

14. 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.

15. A Member may withdraw from the ALADIN Consortium by giving at least one-year notice to the Chairperson of the General Assembly.

16. 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.

17. 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 4

Governance

4.1. General Assembly

18. The General Assembly (GA) is the supreme governing body of the ALADIN Consortium. It represents

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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.

19. The General Assembly consists of Directors of each of the Members and acceding Members or their mandated representatives, who may be assisted by advisers.

20. 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 appropriate reviewing procedures;
- 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;
- xii. Approves the organisation of the ALADIN Project Team, coordination and administrative support structures defined in Article 5, Paragraph 42;
- xiii. Approves the annual work plans and associated resource commitments from all Members and acceding Members, and follows up their execution, noting the reports of operational, maintenance and manpower efforts;
- xiv. Approves annual budgets and accounts;
- xv. Decides on any matter or issue that cannot be resolved by the Programme Manager or the PAC.

21. 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.

22. Unless otherwise specified in the Articles of this MoU, all other decisions of the General Assembly

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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.

23. Amendments to Annex III shall require agreement with the HIRLAM Consortium.

24. 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. The General Assembly meetings are prepared by the Programme Manager (see Article 5), under the responsibility of the chair of the General Assembly and with the help of a so-called “Bureau” (see Article 4.4).

25. 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 absent Member or acceding Member shall then be considered as represented, with delegated voting rights in the case of a Member.

26. General Assembly meetings are valid if at least two-thirds of the Members are represented.

4.2. Chairperson and Vice-chairperson of the General Assembly

27. The Chairperson and the Vice-chairperson are elected for two years and may be re-elected not more than once.

28. 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.

29. 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.

30. 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.

31. In case of absence, the Vice-chairperson replaces the Chairperson.

32. 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.

33. 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.

4.3. Policy Advisory Committee

34. 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. The Terms of Reference for the PAC are specified in Annex IV.

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35. 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. Observers may attend the meetings of the PAC on invitation by the chair of PAC and after consultation of the other PAC members.

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. Submits recommendations to the General Assembly.

4.4. Bureau

39. The Bureau supports the PM and the chair of the General Assembly for preparing the necessary steps prior to the General Assembly meetings: draft agenda, choice of relevant contributors and speakers. The Bureau is composed of members *à* Quality (in link with their statutory position in the Governance) to be designated by the General Assembly for the whole duration of this MoU. Additional members can be chosen by the General Assembly, after iteration with PAC, on an individual and case-by-case basis.

ARTICLE 5

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. Elaboration of the Strategy Plan (document) and its declination into work plans, under the supervision and guidance of PAC;
- iii. Execution of agreed work plans within the resources allocated by the General Assembly, and

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reporting to the General Assembly;

- iv. Implementation of other decisions or actions placed on him/her by the General Assembly;
- v. Management and monitoring of the contributions of Members and acceding Members (manpower and financial statutory 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;
- vi. Elaboration of strategic inputs and proposals, for consideration by PAC and the General Assembly;
- vii. Preparation and negotiation, with the support of PAC and other designated experts, of any draft co-operation agreement, taking into account guidelines from the General Assembly;
- viii. Organisation and coordination, with support from the CSSI (see definition in Paragraph 42) 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 (joint with the HIRLAM Consortium all staff meetings) and other meetings;
 - Scientific participation of the ALADIN Consortium at International Numerical Weather Prediction meetings, and actions committed to by the Consortium in the frame of International Cooperation in Numerical Weather Prediction.

42. The Programme Manager is supported by a Programme Team, composed of:

- i. The ALADIN Local Team Managers (the LTMs): one N(H)MS staff designated by each Member or acceding Member, who is the primary entry point for the coordination of the Programme activities with the corresponding N(H)MS. LTMs should receive from their N(H)MS the sufficient support to be able to fulfill the tasks listed in their Terms of Reference. The Terms of Reference of the LTMs are described in Annex V;
- 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), which supports the Programme Manager on various transversal issues. The Terms of Reference of the members of CSSI are described in Annex VI;
- iv. A Support Team for administrative, information and secretarial support.
- v. One or several Task Forces: the goal of a Task Force is to temporarily assist the PM with managerial, harmonisation or fostering tasks on a well identified topic. The Terms of Reference of the Task Force are described in Annex VII;

43. The Programme Manager proposes the detailed organisation of the Project Team, including specific delegation of responsibilities and assignments. The Programme Manager reports about this organisation to the General Assembly for approval as part of the work plans (see also Article 4, paragraph 20, items xii and xiii).

44. System and scientific coordination within the Project Team is ensured as necessary under the authority

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of the Programme Manager through Thematic Working Groups led by CSSI members, 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 ALADIN/HIRLAM management staff, the joint annual ALADIN Workshop and HIRLAM All Staff Meeting 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 plans, 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 plans and cannot be resolved at his/her level, with the support of the ALADIN Local Team Managers and CSSI members.

49. The Programme Manager presents to the General Assembly proposals for the designation of CSSI members. The General Assembly, on proposal by PM and PAC, elects the chairperson of CSSI among the designated members.

50. The Programme Manager is responsible, with support of the CSSI and the Local Team Managers, 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 supervise the definition and the evolution of the ALADIN System, with respect to the agreed plans and the cooperation activities (IFS/ARPEGE, HIRLAM, any further collaboration possibly undertaken by the Programme).

ARTICLE 6

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. Concerning the cooperations with ECMWF and HIRLAM :

- i. because there exists, at the time of signing this MoU, an agreement between Météo-France and ECMWF concerning the use of the IFS code in the ALADIN System, the implications of this

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agreement are addressed in Annex II, and

- ii. because at the time of the signing of this MoU, a cooperation agreement exists between the ALADIN consortium and the HIRLAM consortium, the cooperation with the HIRLAM consortium will be addressed in Annex III.

55. A representative of the co-operating entity might be invited as an observer at the General Assembly meetings.

56. The plans of the ALADIN Programme might contain participation to activities promoted by EUMETNET. This participation would then be understood in the name of the ALADIN Consortium, and should be discussed within the arrangements of Articles 4 and 5.

ARTICLE 7

Resources

57. 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.

58. 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.

59. 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.

60. 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 58 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 58 above.

61. The minimum flat rate financial contribution applicable to all Members shall not exceed the ceiling of XXXX Euro for the duration of this MoU. In special circumstances and without needing to formally modify and re-sign this MoU, the General Assembly might vote to override the value of the ceiling.

62. The financial part of the ALADIN Annual Budget is also fed by the entry fees of new Members.

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63. 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;

64. 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 5, Paragraph 42, Item iv.

65. After approval, the ALADIN Annual Budget 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.

66. Resource requirements, based on the manpower reported by the Local Team Managers and the flat-rate contributions, 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. Those members who wish to additionally report on voluntary and/or in-kind contributions are able to do so to the Programme Manager, who will then report to the General Assembly.

67. The realisation of the manpower is 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 8

Information exchange within the Members, acceding Members and towards users

68. An ALADIN Newsletter is published regularly.

69. 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.

70. 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 9

Ownership and property rights

71. 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 cumulative manpower 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.

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72.The related rights -as explained in Paragraph 71 above- 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.

73.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.

74.Any Member contributing code or software to the ALADIN System, 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.

75.The ALADIN System, or any parts thereof, cannot be sold to any third party.

76.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 10

Conditions for access to and implementation of the ALADIN System

77.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).

78.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;

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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.

79. For the specific case of benchmarking or optimisation of local Configurations in collaboration with vendors, the concerned ALADIN member shall establish an agreement compliant with standard benchmark licensing, including the non-disclosure of the ALADIN System to any third Party. Benchmarking activity is considered neither as Research nor as local implementation or proof of the latter.

80. In all cases other than those addressed under Paragraphs 77, 78 and 79 above, 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 11

Ownership, availability and commercialisation of ALADIN Products

81. 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.

82. 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”.

83. 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.

84. Rights of acceding Members to commercialise ALADIN Products shall be restricted to National Use.

85. 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;

86. Other Members using ALADIN Products for commercial purposes shall:

- i. 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;
- ii. Apply Resolution 40 for commercialisation of ALADIN Products outside their National Territories.

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87.A Member selling ALADIN Products for use outside its National Territory shall:

- i. Declare its annual sales to the General Assembly, prior to its ordinary meeting;
- ii. 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.

88.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.

89.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 12

Common Assets

90.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 13

Liability

91.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.

92.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.

93.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 14

Entry into force, Duration and Amendments

94. This Memorandum of Understanding will enter into force upon signature.

95. This Memorandum of Understanding will remain in force for a period of at least 5 years after its first signature under the present shape, on 15/12/2010 in Prague.

96. The General Assembly may amend this MoU and expand its duration beyond 5 years, in accordance with the provisions of Article 4, Paragraph 21 above.

97. Amendments will take effect following decisions by the General Assembly.

ARTICLE 15

Final clause

98. This MoU is the ALADIN Consortium highest document. It contains a core of 15 Articles made of 99 Paragraphs at the time of the signature, and a set of 7 Annexes.

99. This MoU cannot be opposed to or supersede any national law and/or regulation to be respected by the Parties¹.

¹ *With reference to the Paragraph 4 items vii and viii of the present Memorandum of Understanding (MoU), Turkey states that its position concerning United Nations Convention on the Law of the Sea (UNCLOS) remains unchanged.*

SIGNED IN PRAGUE BY

Representatives of the National (Hydro)Meteorological Services

| On behalf of N(H)MS | Name | Position | Signature |
|---|-------------|-----------------|------------------|
| Office National de la Météorologie (Algeria) | | | |
| Zentralanstalt für Meteorologie und Geodynamik (Austria) | | | |
| Institut Royal Météorologique de Belgique | | | |
| Bulgarian National Institute of Meteorology and Hydrology | | | |
| Croatian Meteorological and Hydrological Service | | | |
| Czech Hydrometeorological Institute | | | |
| Météo-France | | | |
| Hungarian Meteorological Service | | | |
| Direction de la Météorologie Nationale (Morocco) | | | |
| Meteorology and Water Management of Poland | | | |
| Portuguese Meteorological Institute | | | |
| National Meteorological Administration of Romania | | | |
| Slovak Hydrometeorological Institute | | | |
| Environmental Agency of the Republic of Slovenia, Meteorological Office | | | |
| Institut National de la Météorologie de Tunisie | | | |
| Turkish State Meteorological Service | | | |

ANNEX I

Scale of manpower as of December 2010

(reflecting cumulated manpower contributions since 1 September 1991)

| Country | Person x months on 30/6/10 | Percentage |
|----------------|-----------------------------------|-------------------|
| France | | |
| Czech Republic | | |
| Hungary | | |
| Belgium | | |
| Slovakia | | |
| Romania | | |
| Morocco | | |
| Croatia | | |
| Austria | | |
| Slovenia | | |
| Poland | | |
| Portugal | | |
| Bulgaria | | |
| Tunisia | | |
| Algeria | | |
| Turkey | | |
| Total | | 100 |

ANNEX II

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

ANNEX III

Cooperation Agreement with the HIRLAM Consortium

ANNEX IV

PAC's Terms of Reference

ANNEX V

Local Team Managers' Terms of Reference

Local Team Managers (LTMs) are designated by each Member or acceding Member as being the focal points of the NHMS regarding the ALADIN Programme, under the responsibility of their NHMS respective Director.

The scope of their action, in terms of rights and duties with respect to the Programme, primarily is a national one. LTMs are understood as the most natural (and default) link between the Programme and each NHMS.

Some of the roles of LTMs are listed more explicitly in the sequel:

- LTMs participate to the life of the Programme: they participate to the elaboration of Work Plans as coordinated and on request by the PM and its support bodies (CSSI, Support Team, ACNA, ...). They act whenever necessary as the preferential link between the Programme and their Director on matters requiring political survey or decision-making.
- LTMs participate to the execution of the Work Plans by making proposals in terms of specific local work committed to the Programme, hosting visitors on behalf of the Programme's mobility actions, proposing local staff for local or remote actions, and validating (or not) the involvement of local staff as requested by PM and its support bodies. In accordance with this task, LTMs may need to locally arbitrate between the Programme's objectives with respect to their NHMS-local priorities.
- LTMs are the contacts for some of the Programme's permanent activity, especially the common endeavour for code maintenance: LTMs propose local staff for participation to the maintenance activities and should ensure that their team participates to these activities in a satisfactory manner (local training & competence, phasing visits to Toulouse).
- LTMs make all necessary steps to try and ensure at their local level the implementation of all relevant activities under the agreed Work Plans. This item includes solving practical day-to-day difficulties that may hamper the proper execution of the Work Plan, ensuring that a proper local supervision of the work is done (not necessarily by themselves), ensuring a sound reporting of these activities (mostly by means of Project internal notes).
- LTMs are in charge of registering the quarterly manpower participation of their NHMS to the Programme. They are therefore the first-level local coordinator able to report on the participation of their NHMS to the Programme, and the fulfillment of the statutory commitments.
- LTMs remain the main contact for liaison as concerns the practical administration of the ALADIN budget (this aspect is of particular meaning for non-MF non-LACE LTMs).
- Each LTM keeps his/her director informed about the necessary ALADIN work in order to allow him/her to endorse the ultimate responsibility of his/her NHMS participation. Each LTM is the main contact for his/her Director for solving issues on resources (manpower or financial) concerning his/her NHMS.

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- The LTM encourages scientific and technical communications of the work performed at his/her NHMS, or by his/her staff remotely, and related to the Work Plans. Means of communication include the newsletter (R&D, operations), Project internal notes for the ALADIN (or LACE) website, electronic or peer-reviewed papers. Here, LTMs should play a role of animation and encouragement towards the scientific and public recognition of the ALADIN Programme.
- LTMs should attend at least one of their annual meetings (unless otherwise specified by the PM). They may be, on an exceptional basis, represented by a substitute, member of the same NHMS.
- LTMs offer their full support to the PM and to the Local Team of the chosen venue for the organisation of the annual ALADIN Workshop. They should monitor the match between the Workshop's programme and the choice of the attendees from their teams as well as the latter's proposed contributions.

ANNEX VI

CSSI members' Terms of Reference

The members of CSSI are proposed by the Programme Manager, on behalf of their recognized scientific and/or technical expertise and recognition within the project. The composition of CSSI and the individual nominations are approved by the General Assembly.

The CSSI members support the action of the Programme Manager in order to ensure that the whole spectrum of planned activities can be matched. In order to fulfill this mission, the Programme Manager may delegate some of his management tasks to CSSI members.

The scope of their action, in terms of rights and duties with respect to the Programme, primarily is of transversal nature. The CSSI members are understood as the first level, Programme-wide, coordinators within the following frameworks (this list is possibly not exhaustive):

- scientific coordination per se, in a given thematic area;
- scientific and technical transversal issues, of a more specific nature to the ALADIN System, therefore most likely operational or system oriented;
- scientific and technical collaboration with external Parties, when the latter results from cooperations recognized by and relevant to the Programme.

Some of the roles of the members of CSSI are listed more explicitly in the sequel:

- supervision of the coordinated maintenance effort;
- preparation of the ALADIN Work Plans, in the lines of the ALADIN Strategic Plan
- preparation of progress reports;
- risk analysis: evaluation of R&D opportunities, analysis of technological changes and their implications for the ALADIN System (especially in the IFS/ARPEGE general context), anticipation of day-to-day difficulties and definition of priorities against available resources;
- coordination of the joint activities agreed by the HIRLAM and ALADIN Consortia, within their field of expertise;
- sharing with the PM the decision on manning the scientific and technical participation of the ALADIN Consortium at international Numerical Weather Prediction meetings;
- readiness, when needed, to report to the General Assembly about important evolutions (including risks), results or expectations within their field of competency;
- expertise for the PM, when needed, inter alii for the preparation of ALADIN PAC and Bureau Sessions.

ANNEX VII

Task Force's Terms of Reference; Task Force coordinator's Terms of Reference

1. ToR of the Task Force

The goal of a Task Force is to temporarily assist the PM with managerial, harmonisation or fostering tasks on a well identified topic.

The Task Force is transversal to HARMONIE. As such, the possibility of its existence is a first informal step in direction of a common ALADIN-HIRLAM governance.

The Task Force is an element of flexibility in the realisation of plans but neither a substitute nor a duplication for any other structure in the Programme.

The following principles apply:

- A given Task Force cannot exist for more than 12 months. There cannot be more than 3 'task forces' in activity at any given moment.
- The choice of the topics needing to be treated by a Task Force procedure is decided by PAC on joint proposals of the PM and CSSI on the ALADIN side (and with the corresponding bodies activated in parallel on the HIRLAM side).
- The General Assembly is informed on the outcome of such decisions as well as about the work of the activated Task Forces. It may at every time suspend the activities of any Task Force. A similar possibility exists for the HIRLAM Council.
- Once a Task Force activity is completed, its outcome is presented by PM to PAC.
- If the final outcome contains a work plan proposal for further concretisation, then this proposal is treated within the usual procedures applying to Work Plans as described in the MoU.

2. ToR of the Task Force coordinator

The Task Force coordinator is the steering person of a Task Force : his/her work encompasses analysis, specification and coordination for tasks of either scientific or technical nature, any necessary networking coordination within the ALADIN and HIRLAM Programmes and preparation of documents for the ALADIN and HIRLAM PM and other relevant bodies.

The following rules apply to the task force coordinator :

- The Task Force coordinator is from one ALADIN or HIRLAM country. He/she is proposed by the ALADIN PM (in agreement with the HIRLAM PM), after information to PAC.

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- The choice of the Task Force coordinator is approved by General Assembly, after agreement of his/her NMS.
- The signing of the present MoU implies that somebody having acceded to the responsibility of Task Force coordinator for a given period of time, shall necessarily be allowed by his/her NMS to dedicate at least one third of a full-time-equivalent to the relevant duties, those being defined independently of his/her other statutory tasks of coordinator in the ALADIN or HIRLAM Programmes.
- For the duration of the Task Force, the corresponding coordinator is, de facto, member of HMG²/CSSI.
- The person having been in this position cannot return to a similar one for a period as long as the duration of his/her Task Force, after the end of the latter's period of existence.
- The coordinator decides, in agreement with the PM and the CSSI, on a case to case basis, the rules for the composition and the working practice of the Task Force he/she coordinates.

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