PACHET DE LUCRU # 4
STRUCTURAREA PROPUNERII DE PROIECT ESFRI

Autori: **GEOECOMAR**
INSB
FM Management Consultancy SRL
GEA Strategy & Consulting SA

Experti: *Dr. Adrian Stănică*
Dr. Manuela Sidoroff
Dr. Simona Lițescu
Dr. Mihaela Păun
Mădălin Ioniță
Lavinia Cioară
Virgil Dinulescu
Dana Bețliu
Flaviana Rotaru
Dragoș Pîslaru
Adriana Constantinescu
Albert Scrieciu
Tanislav Manta
Bogdan Alexandrescu

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CUPRINS

1. Elaborarea si semnarea Memorandului de Intelegere intre institutiile partenere ale DANUBIUS - RI privind sustinerea activitatilor acestuia

In timpul discutiilor si negocierilor cu reprezentantii institutiilor partenere in DANUBIUS – RI, s-a convenit ca fiecare institutie partenera va contribui cu scrisori de sustinere. In afara Scrisorilor de Sustinere si Angajament obtinute anterior de la cateva institutii partenere, urmatoarele Scrisori au fost obtinute in perioada 1 aprilie – 30 iunie 2014.

Scrisori de sustinere de la insitutii partenere

(sters originalele).

2. Elaborarea propunerii de proiect pentru infrastructura Centrul International „Dunarea" de Studii Avansate pentru sisteme fluvii – delte – mari, ca infrastructura de cercetare pan-europeana distribuita

Pana pe 30 iunie, nici un anunt oficial nu a fost facut, cu privire la viitoarea competitie ESFRI. La ultima intalnire ESFRI, in Bergen, Norvegia, a fost decis ca competitia se va anunta in septembrie 2014, la Trieste, intr-un eveniment special dedicat acesteia. De asemenea, nici un formular nu a fost aprobat inca si in prezent exista mai multe variante care sunt circulate pentru a fi discutate. Din aceasta cauza, consideram ca este folositor sa elaboram propunerea folosind modelul competitiilor ESFRI anterioare, dar luand in considerare obiectivele stategice ale Europei pentru orizontul de timp 2020. Ca rezultat, prezenta propunere reprezinta un hibrid, dar cel mai probabil aceste capitole vor fi prezente si in propunerea ESFRI.

I. Descriere sintetica

La nivel global, sistemele Fluviuv-Delta-Mare (FDM) sunt de o valoare cruciala din punct de vedere al mediului inconjurator, economic si social si se afla sub o presiune crescanda. Sunt sisteme complexe, dinamice si foarte putin cunoscute si intelese. Starea de sanatate a sistemelor FDM este afectata negativ, *inter alia*, prin poluare din surse punctuale si difuze si prin constructii hidrotehnice pentru navigatie, alimentari cu apa, energie, controlul inundatiilor si eroziune. O intelegere profunda a functionarii sistemelor FDM este esentiala pentru a evita degradarea ireversibila si pentru refacerea fluviilor, deltelor si marilor afectate. Pana in prezent, cercetarea a fost concentrata pe discipline, studiind parti ale sistemelor si nu sisteme in ansamblu. Infrastructurile de cercetare existente nu sunt adecvate pentru sustinerea cercetarilor pluridisciplinare, necesare pentru continuarea vietii si asigurarii unei stari de sanatate a acestor sisteme.

Sedimentele reprezinta importanta arhiva de schimbari climatice pentru sistemele FDM. In Europa, aceste sisteme sunt unele dintre cele mai afectate la nivel global, datorita a mai mult de dous secole de industrializare, urbanizare si intensificare a ctivitatilor agricole. Cercetatorii europeni au fost intens implicati in studierea si rezolvarea acestor probleme, stimulati si de politi europene (Directiva Cadru pentru Apa, Directiva Cadru privind Strategie pentru Mediul Marin, Water Blueprint – legislatie eu privind calitatea apei in mediu arin si fluvial). Peogresele ij acest sens sunt limitate de fragmentarea cercetarii si de lipsa infrastructurii.

DANUBIUS-RI va fi o infrastructura distribuita pan-europeana, care se concentreaza pe sistemele FDM si foloseste excelenta in cercetare existenta deja in Europa. Aceasta va folosi sistemul complex Dunare – Delta – Marea Neagra ca exemplu. Infrastructura propusa va mari impactul cercetarii europene si va maximiza eficienta investitiilor.

DANUBIUS-RI va fi o infrastructura distribuita care va cuprinde facilitati cheie si expertiza complementara, care furnizeaza: i) acces la diferite sisteme FDM europene, facilitati si expertiza specializata; ii) o platforma pentru cercetare interdisciplinara; iii) punct focal pentru schimb de experienta in managementul sistemelor FDM; iv) legatura dintre cercetarea destinata apelor dulci si celei destinata mediului marin; v) o intelegere efectiva, bazata pe fapte practice, a sistemelor FDM; vi) acces la date armonizate si vii) o platforma pentru inspiratie, educatie si formare.

DANUBIUS-RI va cuprinde un Sediu Central, situat in Delta Dunarii si Noduri distribuite in Europa.

Sediul Central va asigura conducerea si guvernanta DANUBIUS-RI. Acesta va coordona si standardiza activitatile in cadrul infrastructurii distribuite si va comunica cu alte infrastructuri si cu alte parti interesate *(stakeholders*). Va furniza capabilitati stiintifice, educationale si analitice. Sediul Central va fi porta catre laboratorul natural Rezervatia Biosferei Delta Dunarii, cea mai intinsa zona umeda protejata din Europa si va facilita accesul catre zona Dunarii de Jos si in partea de vest a Marii Negre.

Nodurile vor fi Centre de Excelenta cu facilitati stiintifice si furnizori de date. Ele for reprezenta interfata cu actorii regionali, facilitand schimbul de cunoastere si informatie. Nodurile vor fi responsabile cu implementarea de proceduri standardizate la scara regionala. Activitatile unui nod vor include facilitati de masurare *in situ* si sau experimentale, capabilitati analitice si de stocare a datelor.

Acesta structura va permite DANUBIUS-RI sa construiasca pe expertiza si sinergiile existente pentru a sustine cercetarea interdispsciplinara si inovarea de top la scara mondiala.

II. Cazul stiintific: domenii stiintifice si utilizatori potentiali si/sau expliciti, cum se va integra noua infrastructura de cercetare (IC) in peisajul existent si viitor al cercetarii si IC, la nivel european si global (o pagina max., legaturi cu documente relevante, referinte).

DANUBIUS-RI va fi o IC ambitioasa care va crea perspectiva de ansamblu, necesara, asupra sistemelor FDM. Va face acesta prin integrarea cunoasterii stiintifice si intelegerii furnizate de

stiintele Pamantului, Vietii, Sociale si Economice. Va facilita si coordona cercetarea si va oferi o infrastructura pentru a instala si mentine statii de observare integrata a mediilor de apa dulce si marine.

DANUBIUS-RI va furniza o platforma pentru revizuirea si sintetizarea stadiului actual de cunoastere si pentru dezvoltarea agendei de Cercetare&Inovare. Prin acesta IC, comunitatea stiintifica va putea implementa agenda de cercetare, va face progrese in cercetarea fundamentala a sistemelor FDM si va gasi solutii la probleme critice si controversate in timp util.

In mod traditional, cercetarea sistemelor FDM a fost fragmentata si vazuta prin specificul fiecarei discipline in parte. DANUBIUS-RI va facilita abordari noi pentri integrarea disciplinelor asemanatoare si va face legatura dintre stiinta, elaborare de politici si planuri de management. Infrastrutura va incuraja echipe interdisciplinare sa faca progrese in intelegerea profunda a sistemelor FDM. Acesta va aborda provocari stiintifice majore, globale, cu care se confrunta sisteme FDM, printre care:

1. Intelegerea originii si evolutiei lor naturale
2. Cuantificarea impactului schimarilor antropice
3. Determinarea gradului de vulnerabilitate si capacitatii de adaptare intr-un climat in schimbare
4. Caracterizarea ciclurilor biogeochimice
5. Promovarea managementului integrat al fenomenelor catastrofice – inundatii, secete si a materialelor periculoase.
6. Investigarea consecintelor distrugerilor fizice ale structurilor morfologice si habitatelor (ex. prin canalizari, terasari, indiguiri) si dezvoltarea de masuri pentru restaurare hidromorfologica
7. Conservarea si refacerea biodiversitatii
8. Sporirea si protejarea capacitati unui ecosistem de a furniza servicii societatii
9. Furnizarea de expertiza stiintifica pentru dezvoltarea, imbunatatirea si testarea de instrumente pentru a dezvolta politici si legi pentru protectia mediului.

In modul sau de lucru stiintific DANUBIUS-RI va urma ‘Ierarhia Intelepciunii’: date > informatie > cunoastere > intelepciune. Datele vor fi achizitionate si stocate folosind protocoale standardizate, realizate la Sediul Central. Datele achizitionate si depozitate la Sediul Central si Noduri vor fi procesate in informatie care sa fie inteleasa atat de catre experti din diferite discipline, care colaboreaza in IC, cat si de alte parti interesate, cu care DANUBIUS-RI vrea sa colaboreze. Diferitele categorii de informatii vor fi combinate pentru obtinerea cunoasterii, ex. informarea asupra modului corect de a proteja si restaura sistemele FDM („a cunoaste calea corecta”) si in final, cunoasterea dobandita va culmina cu obtinerea intelepciunii, i.e. a sti la ce, cum si cand sa fie indreptata atentia planurilor de management („a sti ce trebuie facut”).

DANUBIUS-RI va furniza o infrastructura distribuita de cercetare care va cuprinde patru componenete-cheie:

1. O infrastructura de observare distribuita geografic, pentru cuantificarea dinamicii sistemelor FDM;
2. Observatoare multidisciplinare dedicate achizitiei, procesarii si modelarii datelor;
3. Facilitati analitice de top pentru evaluarea starii de sanatate a mediului;
4. Facilitati pentru sporirea schimbului de cunostinte (dialoguri inter-disciplinare, implicare a partilor interesate; educatie si diseminare).

Initiativa DANUBIUS-RI raspunde nvoilor recunoscute pentru o noua infrastructura de cercetare care sa maximizeze impactul si vizibilitatea cercetarii europene de top pentru mediul inconjurator si care sa abordeze provocari societale prezente si viitoare.

DANUBIUS-RI va avea o mare comunitate de utilizatori care sa cuprinda reprezentanti ai cercetarii, politicii si afacerilor, care vor avea scopuri cu vedere larga.

Utilizatorii directi ai infrastructurii vor fi cercetatori din toate disciplinele legate de mediul inconjurator (cum ar fi geologi si geografi, biologi, chimisti, ecologi, fizicieni, specialisti in modelare fizica si numerica, climatologi, ingineri, sociologi si psihologi, economisti, dezvoltatori de tehnica) care lucreaza in medii de apa dulce, marine si de tranzitie. In plus, DANUBIUS-RI va atrage furnizori de servicii (consultanti) si antreprenori.

Utilizatorii produselor rezultate din cercetare vor fi cei din mediul academic/afaceri/factori de decizie, la nivel local, regional, national, european si global.

III. Importanta strategica pentru stiinta: interdisciplinaritate, potential pentru a deschide frontiere ale cunoasterii, construire de capacitati, educatie si formare, etc

Noua infrastructura distribuita este necesara pentru o schimbare de paradigma in intelegerea actuala a sistemelor foarte complexe si dinamice FDM. DANUBIUS-RI va furniza infrastructura necesara depasirii granitelor din punct de vedere politic, stiintific si al ecosistemelor.

DANUBIUS-RI va da comunitatii stiintifice:

- **Acces** la un laborator natural unic si facilitati pentru cercetari hidrologice, biologice, ecologice, sedimentologice, geologice si hidrochimice, etc.
- Acces la o gama larga de expertiza specializata
- Aplicarea cercetarii proprii intr-o infrastructura mai vasta sau la nivel de ecosistem
- **Coordonarea** monitorizarii**, controlul calitatii, protocoale**
- Oportunitatea de a lucra in **echipe multidisciplinare**
- Furnizarea de mijloace sustenabile pentru a **face legatura** intre cercetarea mediilor de apa dulce si marine
- Abordarea **provocarilor din zona Dunare – Marea Neagra** intr-un mod care ar putea deveni exemplu de ‚**bune practici**' pentru sistemele FDM la **nivel global**

- Folosirea **activitatilor educationale** pentru a introduce tinerii cercetatori si specialisti in general in sisteme complexe
- **Utilizarea in comun a datelor – accesibilitate**
- Acces la **date standardizate la nivel de bazin** (inclusiv zona de tranzitie, costiera-marina)
- Instrumente analitice si de modelare
- Dezvoltare si asimilare de **noi tehnologii**
- Dezvoltarea unor **oportunitati inovative de afaceri**
- ‚Poarta' catre **partile interesate**
- **Otimizarea** strategiilor de conservare si restaurare
- **Reducerea fragmentarii** in cercetare

IV. Importanta strategica pentru inovare

Esenta scopului DANUBIUS-RI – aducerea impreuna a numeroase discipline, expertiza si facilitati de top – are ca motor inovarea. Un schimb activ si recombinarea cunoasterii va alimenta motorul, lucru facilitat si de cercetatori in domeniul stiintelor sociale, cu experienta in depasirea limitelor conventionale ale acestora.

Cateva exemple de domenii in care DANUBIUS-RI va contribui la inovare sunt: dezvoltarea de senzori specializati, sisteme de sprijin pentru luarea deciziilor, o folosire mai eficienta a resurselor naturale (servicii ale ecosistemelor), managementul integrat al sistemelor FDM, si luarea de masuri pentru refacerea habitatelor. Prin aceasta, DANUBIUS-RI va contribui la dezvoltarea Uniunii Inovarii (*EU Innovation Union*) si a foii de parcurs pt o Europa care utilizeaza resursele in mod eficient (*EU Roadmap to a Resource Efficient Europe*).

V. Importanta strategica pentru investitii

Construirea DANUBIUS-RI va reprezenta o investitie substantiala in infrastructuri de cercetare. Acesta investitie, care va fi suportat partial din fonduri structurale provenite de la Uniunea Europeana, va facilita implementarea, printre altele, a politicilor europene relevante. Va exemplifica bune practici folosind specializari inteligente pentru a intari atuurile deja existe din punct de vedere geografic si al performantei in cercetare. Aceasta va reprezenta o contributie majora la Uniunea Inovarii.
Cand va deveni operational, DANUBIUS-RI va functiona independent, prin atragere de investitii:

- Companiile locale vor beneficia de prezenta Sediului Central si a Nodurilor (de ex. prin creearea unei piete mai mari de furnizare de servicii, noi locuri de munca legate de aceasta noi si noi intreprinderi mici si mijlocii);
- Afacerile generate direct si indirect de DANUBIUS-RI vor duce la investitii (private si publice) si rezultatele vor fi disponibile pe plan international pentru uz practic (furnizand avantaje competitive pentru afacerile europene);

- Cunostintele avansate, furnizate de DANUBIUS-RI vor creste eficienta investitiei. De ex. construirea si folosirea de tehnologii verzi vor maximiza eficienta costurilor structurilor de protectie impotriva hazardelor (inundatii, eroziune, seceta). Furnizarea unor sisteme rezistente va reduce in acest fel pierderile de materiale cauzate de hazarde naturale si antropice in sistemele FDM..

VI. Politica datelor si management

Protocoale comune vor fi elaborate de DANUBIUS-RI cu privire la toate elementele si etapele de gestiune a datelor: de la achzitie si pana la procesare si stocare si in final la accesare. Proceduri pentru Controlul Calitatii si Garantia Calitatii (QC-Quality Control si QA-Quality Assurance) vor respecta bunele practici acceptate pe plan international si vor fi strict implementate.

Toate protocoalele care guverneaza armonizarea achizitiei datelor, procesarea si stocarea, cat si QC si QA vor fi elaborate de DANUBIUS-RI. Sediul Central si Nodurile vor juca fiecare un rol specific in procesul de management al datelor.
Politica stocarii si comunicarii datelor digitale va folosi pe cat se poate de eficient infrastructura informatica europeana. Este prevazut ca facilitati pentru stocarea datelor digitale si asigurarea copiilor de siguranta vor fi furnizate de catre Sediul Central si Noduri.

Diferite tipuri de alte date vor fi colectate, stocate si puse la dispozitie de catre DANUBIUS-RI. Acest lucru va cere o atentie speciala pentru ca nu toate datele pot trecute in format digital (ex. colectii de carote sedimentare, probe biologice, etc), iar Sediul Central si Nodurile for furniza instalatii specifice pentru pastrarea si consultarea acestor tipuri de date.

Viziunea DANUBIUS-RI ca furnizor de date este accea a unui agent care contribuie la crestrea bunastarii publice. Utilizatorii majori ai datelor furnizate de DANUBIUS-RI vor acoperi multe domenii de interes: de la cel stiintific, la cel educational si la dezvoltatori de aplicatii comerciale si non-comerciale. DANUBIUS-RI va avea o politica de acces deschis la date pentru toate aceste categorii. Conditiile pentru a accesa datele vor fi specifice fiecarui potential utilizator, de la membrii cu drepturi depline la cei interesati ocazional. Aceste conditii vor fi stabilite printr-un protocol de managemnt al datelor.
DANUBIUS-RI va aborda probleme specifice, reguli si acorduri asupra Drepturilor de Proprietate Intelectuala.

VII. Impactul social si economic al IC

DANUBIUS-RI are potentialul de aduce o gama larga de beneficii sociale si economice, pornind de la un nivel local si pana la unul global. Noile cunostinte generate vor permite folosirea durabila a serviciilor furnizate de sistemele FDM, pe care societatea se bazeaza pentru propria bunastare (EU Roadmap Resource Efficient Europe). Acestea includ prevenirea si atenuarea efectelor dezastrelor folodsind inclusiv infrastructuri verzi (green infrastructure).

Mai mult decat atat, DANUBIUS-RI va pregati noi cercetatori, cu capacitatea instrinseca de a conduce cercetare interdisciplinara. Acest lucru constituie un accelerator pentru inovatie.

DANUBIUS-RI doreste sa aiba o legatura cu intreprinderile mici si mijlocii, care pot exploata din punct de vedere comercial uneltele si instrumentele dezvoltate de catre IC. Acesta doreste de asemenea sa se foloseasca de experineta Comunitatilor de Stiinta si Inovare (*KICs - Knowledge and Inovation Communities*) pentru a facilita dezvoltarea firmelor de tip *start-up*, conrtribuind astfel la crearea de slujbe in Europa.

3. Elaborarea propunerii de Memorandum de Intelegere Interguvernamental pentru realizarea centrului

3.1. Memorandumul de Intelegere

(Draft)

June, 2014

Memorandum of Understanding
on the Preparatory Work
of an Initiative for developing a pan-EU distributed research infrastructure dedicated to river-sea systems
The Danube International Centre for Advanced Studies for River-Delta-Sea Systems
DANUBIUS – RI

Preamble

DANUBIUS-RI represents a new world leading novel science infrastructure that will attract collaboration from across Europe and beyond. The pan-European Research Infrastructure will be state of the art, integrating in-situ and earth technologies and facilitating both multidisciplinary science and innovation that is led by societal-driven questions that encompass the river-delta-sea interface.

The range of research programs to be carried out at the new facility is indicated in the DANUBIUS White Book.

Since 2008, based on a recommendation by the Romanian Committee for Research Infrastructures, the project has been included in the Romanian National Roadmap. With the

support of the Romanian Government, keeping informed the European Commission and ESFRI Environment Thematic Working Group, and with guidance and contributions from renowned experts and science managers, the concept has evolved to a strong scientific case fully described by the White Book v.7.2

DANUBIUS has the strong support of the Government of Romania (stated as the most important RI project in environmental sciences, with provision of land and commitment of funding for the Hub at the Danube Delta, providing access to an unique European natural laboratory: Lower Danube – Danube Delta – Black Sea. Experts and Research Institutions so far in other EU Member States or Associated Countries to EU FP have expressed interest in joining DANUBIUS.

In September 2013 The Danube International Centre for Advanced Studies for River-Delta-Sea Systems (DANUBIUS-RI) Research Infrastructure was awarded the status of Flagship Project of the EU Strategy for the Danube Region. The DANUBIUS – RI project is open for participation worldwide.

Based on these developments, the signatories of this Memorandum of Understanding are willing to participate in the preparatory work of an application for inclusion of the DANUBIUS project in the ESFRI Roadmap in 2015 as a pan-EU distributed research infrastructure dedicated to the integrated management of river-delta-sea systems.

The present Memorandum of Understanding is of limited duration and constitutes no legal or financial commitment for the construction and operation of DANUBIUS.

By signing this Memorandum of Understanding the Parties express their interest in participating in the planning, construction and operation of DANUBIUS.

Article 1

Definitions

Parties, - legal persons, signatories of the present MoU

Pan-European distributed RI – a complex of local **facilities, resources and related services** used by the scientific community to conduct top-level research in their respective fields[1]

ESFRI Roadmap – A Document that identifies new Research Infrastructures (RI) of pan-European interest corresponding to the long term needs of the European research communities, covering all scientific areas, regardless of possible location[2]

White book (scientific case) – a document issued by a renowned scientific community, acknowledged by one, or several, financing agency, which described their needs for new equipment, infrastructures, the associated costs and time schedule, crucial to support/fulfil an outstanding frontier research agenda

[1] See http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=what
[2] http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=esfri-roadmap

ERIC – an EU regulation that sets specific legal form is designed to facilitate the joint establishment and operation of research infrastructures of European interest

Preliminary work – a set of activities described by this MoU having the main goal of an application for inclusion of the DANUBIUS-RI project in the ESFRI Roadmap in 2015 as a pan-European distributed research infrastructure dedicated to river-delta-sea systems. Phase means the work done for:

A. Submitting an application and supporting the DANUBIUS – RI Project to the ESFRI call for updating the Roadmap

B. Preparatory activities – legal, financial, governance, R&D for proper implementation (construction and operation) of the DANUBIUS-RI Project.

Article 2

Purpose

The purpose of the Memorandum of Understanding is to provide the basis for the European and international cooperation regarding the inclusion in the updated ESFRI Roadmap as well as preparatory phase of DANUBIUS project.

During the application stage for the ESFRI Roadmap documents will be generated to demonstrate the scientific and managerial excellence of DANUBIUS-RI.

These documents include:

- A detailed description (The White Book) of the DANUBIUS-RI project
- Letters of support from at least three ESFRI national delegations
- A technical report for The DANUBIUS-RI project (Hub and Nodes)
- A time line for construction and commissioning
- A proposal for the operation of the infrastructure and data policy
- Initial estimates of the project cost and the cost break down (design, construction, interoperability of Hub and Nodes as a unique infrastructure)
- A funding scenario
- A proposal concerning the organizational structure of the project in its two phases, construction and operation
- A draft agreement on partnership for construction of DANUBIUS and operation as an ERIC

Article 3

DANUBIUS Committees and Working Groups

A. The proposal for an International Centre for Advanced Studies of River-Delta-Sea Systems (DANUBIUS-RI) is being developed as a project under the leadership of Romania. The

International Initiative Committee (IIC) has been established to provide help and advice to the DANUBIUS Coordinators in the next phase of the project: to deliver a successful application for inclusion in the ESFRI (European Strategy Forum for Research Infrastructures) Roadmap. The key role of the IIC is to identify, contact and gather support from national and international decision and policy makers as well as funding agencies. In support of this, the IIC will provide the coordinators with advice and help on:

a. the scientific scope and quality of DANUBIUS;

b. the roles of the Hub and Nodes;

c links with other research infrastructures and programmes;

d. principles of governance of DANUBIUS;

e. actions required, including establishment of further committees or bodies, and their prioritisation;

f. other issues identified or agreed by the Coordinator; and

g. transition to a new structure following a successful application for access to the ESFRI Roadmap.

The IIC will report to the DANUBIUS-RI Coordinators and will work together with the Interim Danubius Management Team to prepare by mid- 2014 an interim report of their findings and the elements necessary for the decision by the participating countries to support DANUBIUS as a candidate for the ESFRI Roadmap update.

B. Capitalizing on the expertise and achievements of IIC and its Initiative Groups, in the preliminary work of DANUBIUS – RI all necessary activities will be co-ordinated by the DANUBIUS International Steering Committee (ISC- DANUBIUS-RI), consisting of one representative for each of the signatories of this MoU or funding agency committing to be part of DANUBIUS – RI. The representatives are appointed by the before- mentioned signing bodies.

The ISC – DANUBIUS-RI will supervise all work and aspects related to the project in the preparatory phase.

Two Working Groups will be established with the followings functions:

- The International Initiative Committee on Science and Technical Issues (IIC-DANUBIUS-RI) will develop the scientific goals and the overall layout of DANUBIUS-RI including its technical design. It will explore the overall cost for the construction and operation of the facility.
- The Management Group on Administrative and Funding Issues (MG-DANUBIUS-RI) will work out a legal framework and an organizational scheme for the construction and operation of DANUBIUS. It will reach consensus on the cost for the construction and operation of the distributed infrastructure.

Both Working Groups will report to the ISC-DANUBIUS-RI and will work together with the International DANUBIUS Management Team to prepare:

- By the mid of 2015 the main elements necessary for the legal and financial commitment by the participating countries to construct and operate DANUBIUS-RI, particuarly for the Romania's application to the Structural Funds for construction of a major project DANUBIUS Hub as well as for other application to Structural Funds in the case that other countries are willing to build up their own facilities that will be part of DANUBIUS.
- By the end of 2015 the documents as specified in Article 2
- By the end of 2019 – DANUBIUS-RI first operation as an ERIC.

Article 4

DANUBIUS - Hub and nodes

DANUBIUS has been designed as a pan EU distributed Research Infrastructure integrating under a single Governance structure, a new Hub with new or existing Nodes that will meet the ESFRI criteria and EU ERIC Regulations.

The Hub of the DANUBIUS will be located in Romania, with National Institute of Biological Sciences (INSB) and National Institute for Mari Geology and Geoecology (GeoEcoMar) as hosts.

Article 5

International DANUBIUS Management Team

A. An Interim DANUBIUS-RI Management Team has been established by the IIC and is hosted by GEOECOMAR and INSB.
B. An international DANUBIUS-RI project team will be established by the ISC-DANUBIUS-RI.

Article 6

Cooperation between Parties and Participating Institutions

The R&D work during the preliminary work is carried out by European and international collaborations.

Within the framework of this MoU activities that are to identified can include (but not limited to): exchange of personnel and equipment, workshops, the exchange of relevant data and information, etc. These activities and their funding will be specified in Appendices which will be appended to this MoU and will serve as a record of contributions during the preparatory phase.

Article 7

Duration

This MoU will become effective for each party upon signature. The preliminary work covered by this MoU should be completed by the end of 2018. It can be extended by mutual consent or automatically with one year unless specific requests of withdrawal are received by the Coordinators with at least 6 months before expiration of the actual term.

Article 8

New Parties

This MoU is open to European and international parties, upon unanimous agreement by the ISC DANUBIUS-RI.

Article 9

Difficulties

The parties in the framework of this MoU will do their utmost to settle amicably any differences and difficulties, which may arise out of this MoU or the co-operation itself.

Article 10

Changes, Languages

Changes of this MoU have to be agreed upon in writing by all signatories.

This MoU is done in the English language only, in as many copies as there are parties, each of them equally valid.

For ….(country)…

Done in

(Signature)
Name, Function **On**

Countries shall be listed in alphabetical order

E.g.

For Romania

Ministry of Education and Research		Done in Bucharest
	(Signature) **Mihnea Cosmin COSTOIU** Minister in charge for higher education and research	On …

3.2. Scrisori de sustinere pentru DANUBIUS-RI de la Agentii Nationale de Finantare

BULGARIAN ACADEMY OF SCIENCES
1, "15 Noemvri" Str., 1040 Sofia, Bulgaria,tel.: +359 2 981 66 22, fax: +359 2 981 66 29, http://www.bas.bg

To
Academician Cristian Hera,
Vice President of Romanian Academy

Letter of support

for
the Danube International Centre for Advanced Studies
for River –Delta-Sea Systems (DANUBIUS-IR)

Dear Academician Hera,

Taking into consideration that the Danube River Region and the Black Seas have a strategic geo-political, economic, environmental and social importance for our countries, and in compliance with the basic political documents of the European Union for supporting the development and the sustainable growth of these regions by developing knowledge based society and strengthening the capacities of research infrastructures, the Bulgarian Academy of Sciences declares its interest and strongly supports the initiative of Romania to establish the *Danube International Centre for Advanced Studies for River-Delta-Sea Systems (DANUBIUS-IR)* with the hub in the Danube Delta.

The Bulgarian Academy of Sciences states the support of the Republic of Bulgaria and of the R&D institutes which are part of the Academy and are specialized in Life, Earth and Socio-Economic domains related to the Danube River and Black Sea regions. The Academy will sustain the involvement of Bulgarian researchers and experts in the development of DANUBIUS-RI International Centre, including participation in working groups, committees and meetings, as well as in different managing structures of the Centre.

Major innovation initiatives based on results from fundamental research projects in support of stakeholders from all across Europe (and not only) will be developed within this activity, with cooperation of all interested parties. Education at all level, especially at doctoral and post-doctoral studies will be also an important component of this Centre, which will attract many young brilliant scientists from Europe and overseas.

Based on the above mentioned, the Bulgarian Academy of Sciences supports the project of creating the DANUBIUS-RI International Centre and its inclusion on the next ESFRI Roadmap. It is our intention to take an active involvement in DANUBIUS-RI.

Sofia, 29 April 2014

Acad. Stefan Vodenicharov
President
Bulgarian Academy of Sciences

ACADEMIA DE ŞTIINŢE A MOLDOVEI

Bd. Ştefan cel Mare şi Sfânt,1
MD – 2001, Chişinău,
Republica Moldova
tel: (+373 22) 27-14-78
Fax: (+373 22) 54-28-23
E-mail: consiliu@asm.md

ACADEMY OF SCIENCES OF MOLDOVA

1, Ştefan cel Mare şi Sfânt Ave.
MD – 2001, Chişinău,
Republic of Moldova
tel: (+373 22) 27-14-78
Fax: (+373 22) 54-28-23
E-mail: consiliu@asm.md

Letter of Endorsement of the Academy of Sciences of Moldova

21 March 2014

To whom it may concern,

On behalf of Academy of Sciences of Moldova, I am writing regarding the establishment of the International Centre for Advanced Studies of River-Delta-Sea Systems.

I would like to express the support of the Republic of Moldova, the Academy of Sciences of Moldova for the establishment of this International Centre, in Murighiol, Tulcea county, Romania as the hub of the Danubius Research Infrastructure (DANUBIUS-RI) project. A flagship project for the EU Strategy for the Danube Region, which aims to provide a world-leading research infrastructure that, will enable excellent interdisciplinary research in river – delta – sea systems that will have high economic impact.

With this support, we want to maximally mobilize the stakeholders we represent and support the knowledge sharing in the field of water research and management.

Sincerely,

President of the Academy of Sciences of Moldova,
Member of the Government of the Republic of Moldova,
Academician **Gheorghe Duca**

HELLENIC REPUBLIC
MINISTRY OF EDUCATION AND RELIGIOUS AFFAIRES
GENERAL SECRETARIAT FOR RESEARCH AND TECHNOLOGY
-THE SECRETARY GENERAL-

14-18, Mesogeion Av.
115 10 Athens
Tel: +30 210 7753834-5
e-mail: secgenof@gsrt.gr

Athens, 18.03.2014
Ref. no. 342 (S.G.)

To:
Mr. Mihnea Costoiu
Minister Delegate with Higher Education, Scientific Research and Technological Development of Romania,
Ministry of National Education
Str. Gen. Berthelot 28-30
Sector 1, 010168, Bucharest

Dear Mr. Mihnea Costoiu,

Research, Technological Development and Innovation is a key component of our national policy in consolidating knowledge based society.

In addition science-based information transfer towards end-users and development of turn-key solutions, represents on of our main aim of long term policy for this sector.

As you know, several research groups acting in marine sciences, freshwater research, biodiversity, fisheries etc. strongly encourage the initiative to establish the *Danube International Centre for Advanced Studies for River-Delta-Sea Systems (DANUBIUS-RI)* under the leadership of Romania, as they do believe that this Centre will provide a pan-European centre of excellence.

We state our support for involvement of Greece and the Hellenic Centre for Marine Research researchers in the development of DANUBIUS-RI, including participation in committees and meetings. Major innovation initiatives based on results from fundamental research projects in support of stakeholders from all across Europe (and not only) will be developed within this facility, with

cooperation of all interested parties. Education at all level, especially at doctoral and post-doctoral level will be also an important component of this Centre, which will attract many young brilliant scientists from Europe and overseas.

Based on the above mentioned, we will support a bid for DANUBIUS-RI to be included on the next ESFRI Roadmap and it is our intention to take an active involvement in DANUBIUS-RI preparation, implementation and operational phases.

Best regards,

Dr. Ch. Vasilakos
General Secretary for Research and Technology