

# EUROPEAN RESEARCH INFRASTRUCTURE FOR ANALYSIS AND EXPERIMENTATION ON ECOSYSTEMS



## Newsletter 9

### ISSUE NINE

Dear Reader,

These past two months have been very rich for AnaEE, as we continue to build our shared European infrastructure and lay the groundwork for our pre-operational phase, which will start in May 2016. We thus have 10 more months before the end of our preparatory phase.

The report from the ESFRI's assessment of AnaEE, which happened earlier this year, was published in June, and confirms that we are well on track to achieve our objectives, but strongly encourages the signatory countries to list AnaEE on their national RI roadmaps, to commit long-term (operational) funding and to sign the MoU quickly. It also points out where we should now concentrate our efforts, and while we are confident of our progress, we are not lacking for work!

Our 3<sup>rd</sup> Stakeholder Meeting in Prague, from June 9<sup>th</sup> to June 11<sup>th</sup>, was a good opportunity to exchange with stakeholders and present where we are at in terms of defining our future governance and what challenges we are working on. Governance and Funding in particular were very much discussed, and this has enabled us to start working on even more defined models. We are planning our 4<sup>th</sup> Legal, Governance and Funding meeting in London next November, and we will seize this opportunity to gather the opinions of funding bodies from all over Europe on our proposed structure.

We are currently analysing the many responses from our Call for Expression of Interest, and the huge interest we generated has made the selection process more complex. We want to choose the best, naturally, but also to look at the potential of each platform.

We are therefore developing selection criteria for each type of platform (*in natura*, *in vitro*, modeling, and analytical), through a selection procedure document which we are in the process of writing. We will have a close look at each candidate over the summer, with an examination and decision session coming up at the beginning of September.

We also continue to engage in dialogue with those countries which are not yet active in AnaEE. In this regard, we welcome a deeper involvement from Ireland and Estonia in AnaEE, with new focal points.

More information is available in the newsletter and on the website; you can also follow our LinkedIn group.

Kind regards,

*Abad Chabbi*

AnaEE Coordinator

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### AnaEE Stakeholder Meeting, Prague, 9-11 June 2015

*The meeting was the occasion for AnaEE partners and stakeholders to meet and exchange information and opinions on the current and future development of AnaEE. The featured themes were: the construction and implementation challenges for a distributed research infrastructure (RI), a first analysis of AnaEE's call for expression of interest for national platforms, AnaEE governance and funding model, and partnerships with the private sector.*

The meeting brought together over 75 participants (around 40 AnaEE members and 35 stakeholders) from eighteen countries. Interventions by **Antonella Calvia-Götz**, from the European Investment Bank (EIB), **Florian Gliksohn**, from the Association of European-level Research Infrastructure Facilities (ERF-AISBL), and **Yves Coppin**, from SEDE-Veolia, were a particular highlight. A meeting of the International Scientific Advisory Board was organised in parallel to the stakeholders' meeting, with **Terry Callaghan** (INTERACT), **Tim Clancy** (TERN director) and **Ole Ostermann** (European Commission's Joint Research Centre).

The day started with an introduction by AnaEE coordinator **Abad Chabbi** (INRA, FR), who stressed the AnaEE vision, the challenges it faces in realising that vision, and the impact the mature infra-

structure would be able to have on addressing some of Europe's most crucial grand challenges such as climate change mitigation, loss of biodiversity, or food security issues. He focused on the major AnaEE achievements and the next steps as we move towards the creation of a legal entity (ERIC) for AnaEE. He stressed that 2015 is crucial for completing the signature of the Letter of Intent by the national ministries and responding to the Horizon 2020 call that will allow AnaEE to test its ability to respond to the users.

#### **KEYNOTE: EIB suggestions on research infrastructures' development**

A high point of the stakeholders' meeting was the address by Antonella Calvia-Götz of the EIB. She underlined some **critical points on infrastructure development**.

RIs have potential for economic growth and estimates show that any euro invested will bring high economic returns. They also build bridges across science and innovation communities, and bring academic and industrial partners together. Funding at European level to build RIs is readily available, with about 2.5 billion euros in Horizon 2020, around 5 billion in the European Structural and Investment Funds (ESIF), and 4 billion from the EIB if good RI projects are submitted for funding via loans.

The presentation provided some very useful and practical guidance, such as **the critical importance of a sound business plan** to accelerate financial maturity and governance, and the mechanisms to achieve it. This business plan should show how the scientific challenges and gaps are addressed and what the

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infrastructure contributes to European policies and priorities. Moreover, it should present the **objectives and added value** of the ERIC, the expected societal benefits, a **detailed description** of the infrastructure, and a clear and comprehensive **implementation and funding strategy**. It should **demonstrate the uniqueness** of the research infrastructure in the European landscape and its innovative character. **Services to the users** should be presented in detail: that it is a multidisciplinary platform for innovation, also geared towards companies, which instrumentation and technologies are available, what certification could be provided. The need to **involve industry users** as soon as possible was stressed. Branding is also crucial, as is a comprehensive **market study** beforehand. A **strong hub** is recommended for the governance, able to make decisions swiftly and take care of issues as soon as they arise. Finally, funders should offer **long-term commitment** to ensure the sustainability of the

RI. The plans should be presented in a structured and transparent way.

Questions from the audience centred on means to convince new members to participate in the RI and, in general, public authorities to fund it, especially in the long term. The answers highlighted the importance of stressing the local dimension while taking into account the sensitivities of the funding agencies in the different countries. A key message was to give the governments assurance that their money is well-spent, by providing evidence of the potential of the RI for job creation or the opportunity to retain highly skilled workers in the country.

### **FUNDING: Of the use of structural funds for RIs**

Florian Gliksohn, representing the Association of European-level Research Infrastructure Facilities (ERF-AISBL), presented insights on the use of **structural funds** in the context of RIs. ESIF are used for infrastructure projects suppor-

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## NEWS Ireland

Dr. Karl Richards, head of the Environment Soils and Land Use department at Teagasc (the Irish Agriculture and Food Development Authority) will act as Ireland's focal point for AnaEE and will be actively encouraging Irish platforms to get involved in AnaEE.

## NEWS Estonia

To celebrate the 60<sup>th</sup> anniversary of the birth of Professor Olevi Kull (1955-2007), an internationally known experimental plant ecologist, a field seminar was organised by the University of Tartu in the FAHM (Free Air Humidity Manipulation) experiment site of Rõka, near Tartu, in June 2015. Olevi Kull was the initiator of this experiment. A memorial book about Olevi's life and career was presented at the seminar.

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ting the economic and social cohesion of Europe's regions. In the context of RIs, it is therefore essential to pursue at the same time an objective of **economic development** (and the demonstration of the investment's economic impact) and **scientific excellence**. Applications are assessed and funds managed at country or regional level. The application usually includes a **feasibility study**. Another essential and challenging element is the **demonstration of the expected impact and future financial sustainability** of the RI. Pre-funding, the coordination and support of national authorities and project maturity count amongst the key success factors. Having a reference person for the applications at hub level is quite helpful.

## STAKEHOLDERS: Growing partnerships with the industry

Yves Coppin, from SEDE-Veolia, presented the **case study** of his company's relationship with INRA through QUALIAGRO. The initiative started 15 years ago, and has led to a 4-6 million euro investment by Veolia in total, mostly through direct funding to INRA. It has been characterised by a **mutual understanding** between both partners, in particular thanks to personnel from INRA directly within SEDE,

and **shared leadership** by means of a steering committee with frequent exchanges. From an industrial's point of view, open discussions with the industry are essential for AnaEE, so that the RI can gain a clear picture of what companies are looking for: short- or long-term participation, big projects or small experiments with quick results... **Crucial points should be defined at the beginning**, such as intellectual property management and communication procedures: the closer the relationship is, the better it will work.

## CONSTRUCTION: AnaEE's Call for expression of interest for national platforms

Claus Beier (NIVA, NO), with Francesco Fracaro (FEM, IT), Klaus Steenberg Larsen (University of Copenhagen, DK), and Eric Struyf (University of Antwerp, BE), provided a **summary of the call**. It was launched in autumn 2014, closed in February 2015 (though other platforms can still express an interest in joining AnaEE) and a huge success, with **180 responses** from *in natura*, *in vitro*, data modelling, and analytical platforms. Information was collected on each site: geography, ecosystems, characteristics, data policy, finances, relationship to the users and intellectual property rights. The **overall**

**quality of responses is good**, key ecosystems and main drivers are well represented. Aquatic components, however, have a much smaller spread. **Geographic distribution** is also good, though some parts (the Atlantic/West Arctic and Southern Europe) are underrepresented, and two big Member States, Germany and Spain, are missing. The decision on which sites to select will be a complex one. Interaction with the stakeholders will enable a better understanding of what users look for. The **criteria** need definition, and will be twofold: quality at site level and complementarity, in terms of environments and services offered, at AnaEE level. A consensus has therefore emerged about a **two level** selection.

A parallel discussion involved the **access policy**, presented by Chris Rawlings (Rothamsted Research, UK). The complexity, for AnaEE, stems from the fact that it will be a distributed infrastructure with several types of platforms, and that each platform has pre-existing relationships with other networks which add constraints. The general commitment is to **share data** and implement shared operating procedures and responsibility for quality insurance, with maximised impact as

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the main objective. Since not all data generated will be part of AnaEE, each platform will need a capacity for local data management and quality control.

### CONSTRUCTION: AnaEE supranational entities and funding issues

#### ✦ **Governance model**

Jacques Roy (CNRS, FR) presented the **main features** that are being discussed at AnaEE level for the future AnaEE hub and supranational centres (technology, data & modelling, and interface & analysis): tasks, organisation, and personnel. On the **governance model**, an important issue was whether the centres would be within the ERIC legal entity or outside of it. Being inside would mean more cohesion, while the other option could be set up more quickly and flexibly. A consensus was found on presenting a detailed governance model with the **centres within the ERIC**. Further issues are to be settled at a later date, such as the exact role of the interface and analysis centre.

#### ✦ **Funding model**

The discussions on the AnaEE funding model were summarised by Jaana Bäck (UHEL, FI). The AnaEE hub and central services will need **sustainable base funding** on a European scale,

through two mechanisms: **host country contributions** (in kind), and **membership fees** (in cash). Host contribution for the supranational entities will be 100% during the construction phase, then between 50% and 80% for the operational phase. The remaining 20% to 50% will be covered by the membership fees (for direct costs, the salary of the director). All members pay membership fees to all centres. Several methods are being considered to calculate these fees, based on a mixture of GDP and equal share per platform (to settle on a fair share for each partner country).

### CONCLUSION: Next steps and pending issues

- The **Letter of Intent** must be signed as soon as possible by all national funding authorities.
- An **AnaEE business plan** will be made, building in particular on the EIB advice.
- A detailed **governance and funding model** is being drawn. The stakeholders meeting has enabled progress on that score (centres within the ERIC, role of the centres).
- Some points, in particular the **access policy**, still need discussion at a further point.

## NEWS *France*

✦ The French Ministry of Research is currently updating its research infrastructures roadmap. In the domain of environment, this update allows to better organise national research infrastructures so that they mirror the infrastructures at the European (ESFRI mainly) and international level. AnaEE is well integrated within the strategic scheme, with a strong cohesion and much complementarity and synergies with other research infrastructures.

✦ AnaEE France has discussed its participation in the future AnaEE supranational entities, and has expressed its interest in hosting the AnaEE hub.

## NEWS *Belgium*

In Belgium, the start of the construction of the Ecotron of Hasselt University is near. The infrastructure will be built at the entrance of the "Nationaal Park Hoge Kempen" in the province of Limburg, which is the only national park in the country. Visitors of the park will thus witness how science and nature exploration can go together. In the park a flux tower belonging to the ICOS network will be constructed, providing an effective AnaEE-ICOS link through co-location of research infrastructures.

## NEWS *Norway*

✦ Norwegian participants to the AnaEE Preparatory Phase, i.e. Bioforsk (which became NIBIO on 01/07/2015), NIVA, and the Norwegian University of Life Sciences have been awarded 500 000 NOK in total (about 60 000€) by the Research Council of Norway in order to promote the development of AnaEE at the national level. Supported activities will include organizing a national AnaEE workshop in Oslo (tentative date: 02/11/15), open to all research institutions and stakeholders, to increase synergies in the development and use of

✦ A total of nine research platforms have expressed their interest in the 2015 AnaEE call, with 4 of them being eventually covered by a letter of intent from their respective Institutions. In parallel with efforts at the national level, AnaEE Norway is contributing to the Research Infrastructure Network for Nordic Atmospheric and Earth System Science (Nordic ENVRI), which aims at a better integration of infrastructures such as AnaEE, ICOS, ACTRIS and SIOS at the Nordic level.

## NEWS *UK*

✦ Recommendations from scientific experts and funders following a strategic workshop held in 2013, which brought together a small group of the UK agri-ecosystems community to discuss and explore UK capability in this area, has led to the development of a joint proposal between relevant BBSRC and Natural Environment Research Council (NERC) institutes. This proposal has clear benefits to AnaEE, with the potential to form part of the UK contribution. The proposal is currently undergoing formal peer review process and if funded, will last 3 years with joint funding from BBSRC and NERC in amount of around €2.3 million.

✦ The UK Government will invest £12 million in the first national Centre for Agricultural Innovation. The Centre for Agricultural Informatics and Sustainability Metrics (AIMS) has been proposed by a consortium comprised of leading industry and academic partners including Rothamsted Research who are a partner of AnaEE. When established, the Head Office of AIMS will be based at the Harpenden site of Rothamsted Research.

## NEWS *Italy*

✦ AnaEE-Italia met on 7<sup>th</sup> July 2015 in Firenze at the CNR. Preliminary criteria that were drafted by WP3 after the Stakeholder Meeting in Prague were illustrated by the National Focal Point and subsequently carefully reviewed by the PIs of the different Expression of Interest (EoIs) that were submitted online earlier this year. The Italian AnaEE nodes were considered mature and capable to meet those criteria and, hence, to become reliable candidates for critical nodes of the European Infrastructure.

✦ The possibility of an Italian candidature to host the Data and Modeling Service Center of AnaEE was also examined and there was consensus to further discuss such an option with ministerial stakeholders. A strategy to establish a fruitful interaction at the ministerial level was developed during the meeting and some actions to promote such interaction were agreed by the AnaEE-Italia team. In synthesis, things are progressing on the Italian side and there is enthusiasm to eventually contribute to the success of AnaEE.

## RECENT NEWS AND UPCOMING DEVELOPMENTS

### 5th INTERNATIONAL SYMPOSIUM ON SOIL ORGANIC MATTER, GÖTTINGEN, 20-24 SEP 2015

AnaEE coordinator Abad Chabbi will give a keynote lecture on 'Achievements, bottlenecks and research needs in the context of global change' at the upcoming International Symposium on Soil Organic Matter (<http://www.som2015.org/>).

### USER CONSULTATION MEETING OF THE EUROPEAN SPACE AGENCY, KRAKOW, 15-16 SEP 2015

Abad Chabbi and Franco Miglietta will represent AnaEE at the next User Consultation Meeting (UCM) of the European Space Agency (ESA), scheduled on 15-16 September 2015 in Krakow, Poland. The ESA-UCM is designed to gather the opinions and feedback of the scientific community (users) on the two satellite Earth Explorer Missions to finally select one of those. The Fluorescence Explorer (FLEX) and the CarbonSat missions will confront in Krakow, disclosing all the details of their objectives, requirements and ambitions to a wide scientific audience. AnaEE might play a critical role in favour of the FLEX mission, as the ambition of FLEX is to provide high-resolution (300x300m) global mapping of chlorophyll fluorescence of terrestrial plants as well as of coastal/inland waters. It aims to eventually deliver new remote sensing products for early stress detection and GPP estimation that might for instance become an ideal validation benchmark for AnaEE modelling platforms. More detail on the meeting can be found <http://congrexprojects.com/2015-events/15m24>.

### CARBON SEQUESTRATION IN SOILS: A CHALLENGE FOR FOOD SECURITY AND CLIMATE ACTION, PARIS, 7 JUL 2015

On July 7<sup>th</sup>, the AnaEE coordination was present at the 'Carbon Sequestration in Soils: a Challenge for Food Security and Climate Action' side event of the 'Our Common Future under Climate Change' international science conference. This side event was co-convened by three French research organizations (Cirad, INRA and IRD) with support from several international organizations (CGIAR, CCAFS, GRA, Global Soil Partnership, AGMIP, FACCE-JPI, African soil carbon network and networks supported by UNEP) and from lead scientists in this field. The French Minister for Agriculture, Agri-food and Forestry, Stéphane Le Foll, delivered a speech highlighting the need to store annually four per mil of the soil organic carbon stock, which would be sufficient to offset current anthropogenic CO<sub>2</sub> emissions. This proposal, made by the French authorities ahead of the COP21, is sustained by state-of-the art scientific understanding.

### AnaEE 3rd ANNUAL MEETING AND STAKEHOLDER MEETING, PRAGUE, 9-11 JUN 2015

AnaEE has held its 3rd annual and stakeholder meeting at the Vila Lanna in Prague, from June 9<sup>th</sup> to June 11<sup>th</sup>. The three day event was the occasion to exchange with all AnaEE partners and stakeholders on its future structure, governance, and funding streams (see report p. 2 to 5).

FOR MORE  
INFORMATION  
ON AnaEE

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