



European Coordination for Accelerator Research and Development

PUBLICATION

EuCARD Newsletter Issue 1

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EuCARD Newsletter

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<<http://cdsweb.cern.ch/record/1233998>>



European Coordination for Accelerator Research and Development Newsletter

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Issue 1: April - June 2009

A word from the Project Coordinator



Jean-Pierre Koutchouk, the project coordinator, introduces the EuCARD project and summarises the first three months. [Read more >>](#)

EuCARD in a nutshell

Four years, 37 partners and 11 work packages, the size and complexity of the EuCARD project can be daunting. This article summarises the project's aims and work program. [Read more >>](#)



The EuCARD website



With public pages and a collaborative workspace for project members, the EuCARD website has something for everyone. This article explains the structure, content and what's in store for the future. [Read more >>](#)

MICE – see how they run

The UK-based MICE (Muon ionisation cooling experiment) facility is opening its doors to European researchers via Transnational Access funding from the European Union. This article tells more about this access and how to apply. [Read more >>](#)



For EuCARD members



Need to know more about internal reporting, publications, budgets and timesheets? Need help navigating around the Intranet? Having problems logging in? Read our FAQ for project members. [Read more >>](#)

Please contact the **EuCARD editor** with news, events, achievements, images and ideas that you would like added to the public website, newsletter or Intranet.

Upcoming events

20-25 Jul 09, NuFact09, IIT, Chicago, USA

1-3 Sep 09, 2nd LHeC Workshop, Divonne, France

16-18 Sep 09, LHC-CC09, CERN, Geneva, Switzerland

01 - 03 Oct 09 European Strategy for Future Neutrino Physics, CERN, Geneva, Switzerland

To publicise an event, [contact us](#)

[More events >>](#)

Project Results

In the first three months of the project, EuCARD has produced the following results:

Deliverables:

D2.2.1: EuCARD web site implementation

D4.1.1, D4.2.1 and D4.3.1: Continually updated AccNet, EuroLumi and RFTech web sites

[More results >>](#)

A word from the Project Coordinator

I shall first take the opportunity of the Newsletter to welcome all EuCARD members, whose number just passed 200 persons, and wish them exciting and fruitful collaborations in their various tasks.

EuCARD officially started on April 1st, with a meeting of the Governing Board and two days later a meeting of the Steering Committee. The Governing Board elected Professor Tord Ekelof, Uppsala University, as chairman.

Both meetings were largely attended, focused and lively: a positive signal for a dynamical collaboration.

A variety of questions were debated, including the possible role of EuCARD for communication to science policy makers, its multidisciplinary position (High Energy Physics, Nuclear Physics, Synchrotron Radiation sources, other), how to contribute to sustainable structures and on the respective value of collaboration and competition. We shall come back to some of these points in later newsletters.

Besides these political aspects, the two bodies share the Coordination views of streamlining as much as possible the EuCARD reporting and internal procedures and favour the scientific outcome.

While the Governing Board and Steering Committee gathered the partners' representatives and Work Package coordinators, an additional essential level and responsibility in EuCARD are the task level and task coordination. In addition to the information provided by the EuCARD management structure, we hope that the newsletter will become a privileged link between all coordinators and members to EuCARD. The **editor** of the Newsletter, Kate Kahle, will be delighted to receive not only your comments or questions, but as well short scientific news for informal publication in the Newsletter.

Today, the coordination office is still dealing largely with administrative aspects and the communication framework, always with a goal of helping the EuCARD members to focus on their scientific objectives, by adjusting as far as possible all administrative aspects to the actual needs. The **EuCARD website** is now up and running, including an Intranet of collaborative workspaces using a new technology to facilitate communication.

The trans-national access **MICE** is ready to accept applications and the first project **deliverables** have been reported. A publication portal will soon be implemented, releasing authors from the details of publication and reviewing policies, together with a document repository. We are now looking forward to the scientific/technical milestones and deliverables that are the primary goal of our collaboration.

- Jean-Pierre Koutchouk, CERN

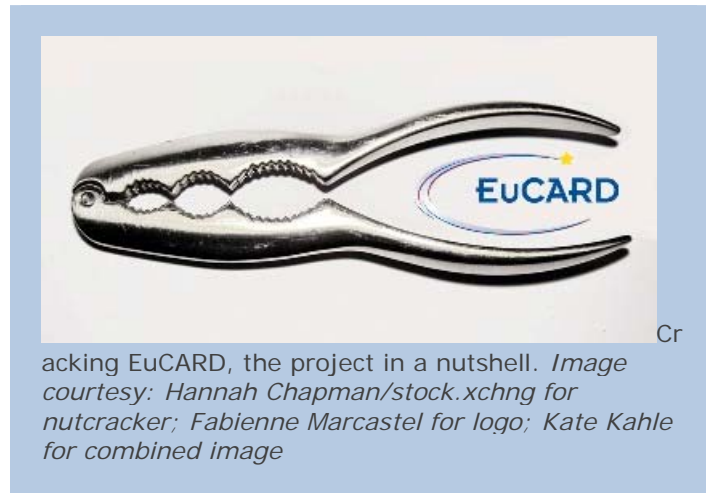


Jean-Pierre Koutchouk, EuCARD project coordinator. *Image courtesy: Jean-Pierre Koutchouk*

EuCARD in a nutshell

EuCARD (European Coordination for Accelerator Research & Development) is a new co-funded European project that began April 1st for a period of 4 years and has a total budget of some 31 MEuros. It includes **37 partners** from around Europe and is split into 11 different **work packages**, coordinated by CERN.

More than 200 people are involved in the project, focusing primarily on R&D on technological challenges for upgrading accelerator potential, for high energy physics, nuclear physics, last generation of light sources and other applications.



Cracking EuCARD, the project in a nutshell. Image courtesy: Hannah Chapman/stock.xchng for nutcracker; Fabienne Marcastel for logo; Kate Kahle for combined image

Accelerating new & emerging technologies

The fundamental ingredients of accelerator sciences are the abilities to guide, focus and accelerate particles. Once these foundations are established, a range of issues govern the performance level that can be achieved. At present, these fundamental ingredients are limited by the existing technologies, provoking EuCARD to join the active, world-wide research and development.

To guide and focus the high-energy particle beams requires magnets with large magnetic fields that are only achievable with superconductors. The superconductor currently in use limits the magnetic field to 10 Tesla. EuCARD's **Work Package 7** will test the suitability of a different material: niobium-tin (Nb_3Sn), that should bring the field to 13 to 15 Tesla, supplemented by High-Temperature superconducting inserts that might boost it to 20 Tesla. These superconductors are brittle and represent real technological challenges to meet the extreme requirements of accelerator magnets.

As particle beams increase in power and intensity, the collimators responsible for the protection of the machine must become more efficient and robust. **Work Package 8** will design and construct prototypes for the Large Hadron Collider (LHC) upgrade and for the Facility for Antiprotons and Ions Research (FAIR) at GSI, Germany using a range of materials to meet these new requirements.

It is generally agreed that the next generation of particle accelerators will be electron linear accelerators. They largely reduce the energy loss inherent to bending charged particles. However issues such as beam acceleration and stabilization need to be investigated, for both the superconducting acceleration technology and an original normal-conducting two-beam acceleration principle. **Work Package 9** and **Work Package 10** will contribute to this research, benefitting from synergies with world-wide networks of experts. **Work Package 11** shall assess novel accelerator concepts, such as crab waist, fixed field alternating gradient (FFAG) and plasma wave acceleration, contributing to new possibilities for a large range of accelerators.

Networking and Transnational Access

Besides R&D, an important dimension of the project is networking, and networks are being established for neutrino facilities (see **Work Package 3**), collider performance and RF technologies (**Work Package 4**) and scientific communication (**Work Package 2**). These platforms of exchange are largely open to interested parties outside the consortium. The importance of networking is emphasized by the European Commission's request to EuCARD to contribute to the emergence of lasting structures in the accelerator field.

Finally, through the European Union's Transnational Access funding scheme, support is given to external users to gain **access** to some high-technology facilities inside the Consortium. EuCARD opens MICE (precision beams, muon cooling facility at STFC, UK) and later HiRadMat (pulsed irradiation at CERN).

- Kate Kahle and Jean-Pierre Koutchouk, CERN

The EuCARD website

With public pages and a collaborative workspace for project members, the EuCARD website <http://cern.ch/eucard> has something for everyone.

Pick a link, any link

Anyone interested in the project and in particle accelerator science can browse through the site's three main sections:

"**About EuCARD**" – gives an overview of the project including management structure, partners, content, and results such as deliverables, milestones, reports and publications.

"**Activities**" – links to the different and varied activities with the project, including accelerator R&D, scientific networks, communication and outreach and open access to facilities via Transnational Access.

"**News**" – keeps visitors up-to-date with project-related news, events and the newsletter.

Quick and easy links to outreach pages for industry, education and the general public are available in the website's header, as well as a list of related projects and a site-specific search engine. The footer contains links to contact details, a glossary and a sitemap.

A way to collaborate

The Intranet is a password-protected collaborative workspace available to all EuCARD members, that is anyone working on the EuCARD project. It allows the coordination office to spread information, and allows members to contribute to the site via discussion lists per work package. See "**How to access the Intranet**" for more details.

With dedicated sections devoted to the different work packages and management bodies of the project, members can customize and add to different areas to fulfill their needs.

The Intranet's homepage unites the internal site, providing links and contact details for all members of the project. It also includes "General Information" containing project documentation such as deliverables, reports, minutes, contractual documents and useful document templates. A calendar and deliverables agenda help to highlight up-coming meetings and deadlines.

What's in store

Both the public site and Intranet will evolve throughout the project's lifetime, with the content significantly increasing.

A publications portal and a document repository will both be linked from the site so that EuCARD-related publication, deliverables and reports can be easily found. There will also be further development of the outreach sections of the site, for industry, education and the general public.

For more information on the EuCARD website and Intranet, see the **EuCARD deliverable D2.2.1: EuCARD web site implementation**.

- Kate Kahle, CERN



The EuCARD website <http://cern.ch/eucard>, a window into the project. *Image courtesy: Kate Kahle*

MICE - see how they run

The UK-based MICE (Muon ionisation cooling experiment) facility is opening its doors to European researchers via Transnational Access funding from the European Union.

A new facility for muons

The MICE beam line is a new specialized facility on ISIS at the STFC Rutherford Appleton Laboratory (RAL) in the UK.

The main purpose of MICE is to allow researchers to assess the efficiency of muon ionization cooling and to perform precise investigations on this new technique. It can also be used to perform tests with high quality low energy (from 100 to 450 MeV/c) beams of muons, electrons, protons or pions.

This new beam line is equipped with high-accuracy instrumentation to characterize the beams; the cooling channel equipment consists of special liquid hydrogen absorbers and a re-acceleration radio-frequency module.

Transnational Access

The European Union's Transnational Access (TA) funding scheme enables researchers to access major research infrastructures within Europe.

From April 2009 until March 2013, researchers can apply for Transnational Access to the MICE facility via EuCARD Transnational Access. The muon beam will be provided free of charge and support will be given for travel, accommodation on site and subsistence expenses.

To be eligible for MICE Transnational Access, researchers must belong to institutions situated:

- outside the UK (where the MICE facility is located).
- in one of the following 38 European Member States or Associated Countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Albania, Croatia, Iceland, Israel, Liechtenstein, Macedonia, Montenegro, Norway, Serbia, Switzerland, Turkey and Bosnia-Herzegovina.
- entitled to publish their results gained at the facility in the open press.

How to apply

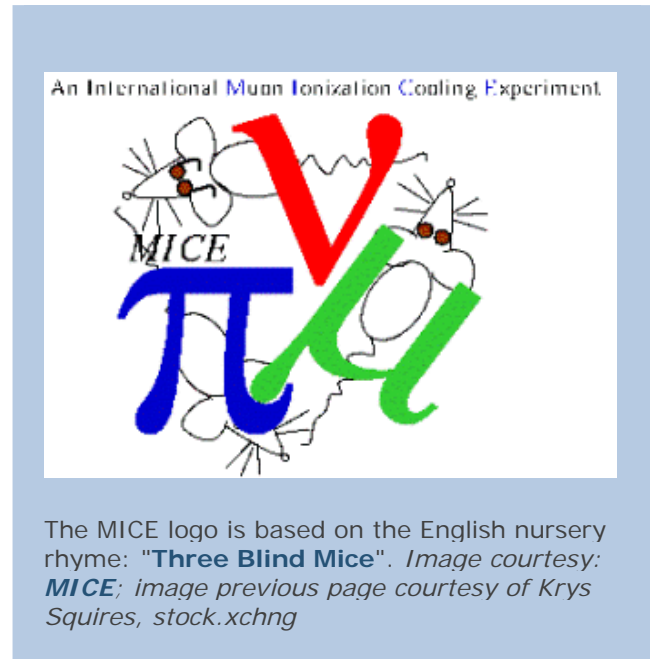
Transnational Access [application forms](#) can be downloaded from the EuCARD website and submitted to miceadmin@rl.ac.uk.

Up-coming deadlines for submissions are **2 July 2009**, **27 August 2009** and **8 October 2009**. More deadlines will be added in due course.

The Collaboration MICE Project Board (CMPB) will review the applications and select research proposals based on their eligibility, relevance, excellence, uniqueness and impact.

For more details on Transnational Access to MICE, see the [EuCARD access pages](#) and the [MICE website](#).

- Kate Kahle, CERN, with Alain Blondel, UNIGE



The MICE logo is based on the English nursery rhyme: "**Three Blind Mice**". *Image courtesy: MICE; image previous page courtesy of Krys Squires, stock.xchng*

For EuCARD members

Here are answers to questions received by the coordination office. Click on the questions below to see the answers. If you have further questions, please [contact us](#).

Access questions

- [Q. How do I become an EuCARD member?](#)
- [Q. Why can't I log into the Intranet?](#)
- [Q. Why can't I log into EDMS?](#)

Reporting questions

- [Q. Where can I find document templates?](#)
- [Q. What internal reporting do I need to do?](#)
- [Q. Why do I need to write a deliverable report?](#)
- [Q. How do I fill in timesheets?](#)
- [Q. What do I need to know about financial reporting?](#)

Communication queries

- [Q. Does my publication need to reference EuCARD?](#)
- [Q. How do I find contact details for other project members?](#)
- [Q. Who are the members of the EuCARD Coordination Office?](#)
- [Q. I can't find what I'm looking for on the Intranet](#)
- [Q. How can I publicise news/an event relevant to EuCARD?](#)

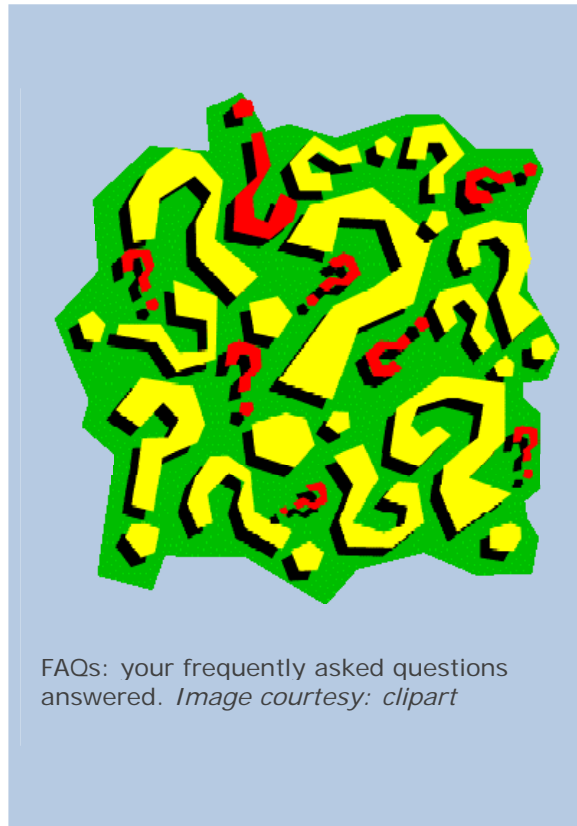
Access questions

- [Q. How do I become an EuCARD member?](#)

A. The title "EuCARD project member" refers to someone working on a task within the EuCARD project. To become an EuCARD member, you should contact the work package coordinator responsible for the work you are doing. It is their responsibility to confirm that your name can be added to a project mailing list. You will also need to create an external account with CERN in order to access the Intranet. For more details see "[How to access the Intranet](#)".

- [Q. Why can't I log into the Intranet?](#)

A. To log in to the Intranet requires two things: that you have a CERN internal or external computing account and that you are on an EuCARD mailing list. For help troubleshooting login problems see "[How to access the Intranet](#)".



Q. Why can't I log into EDMS?

A. The EuCARD project is using the CERN-based Engineering & Equipment Data Management Service (EDMS) as a document repository for project-related documentation such as deliverables, activity reports etc. To access EDMS you need a fully registered (NICE) account at CERN, light-weight external accounts do not work. We are discussing with the EDMS team to make this simpler for external users. In the meantime, we have been given a generic EDMS account for read-access for those without a CERN NICE account. Login credentials are available on our [Intranet](#).

Reporting questions

Q. Where can I find document templates?

A. Once document templates have been finalised, they will be available in the [Templates section](#) of the Intranet.

Q. What internal reporting do I need to do?

A. Every six months internal reporting is required. Depending on your role in the project you will need to add input, write, coordinate or review these reports. See section 6 of the [Internal Guide to Project Reporting and Financial Issues](#).

Q. Why do I need to write a deliverable report?

A. EuCARD deliverables are part of the project's contractual obligation. They can be of the form R (Report), P (Prototype), D (Demonstrators) or O (Other).

The FP7 reporting guidelines [[pdf](#)] state that: "Deliverables that are of a nature other than written "reports", such as "prototypes", "demonstrators" or "others", should also be accompanied by a short report, so that the European Commission has a record of their existence". This differs from the situation in the previous funding program: FP6 and hence the CARE project.

Deliverable reports can be produced using a template that will shortly be available in the [Templates section](#) of Intranet. The [list of deliverables](#) and their deadlines can be found on the public website and on the [deliverables agenda](#) of the Intranet. The procedure for preparation and review is explained both in the [Consortium Agreement](#) (Annex 5) and the [Internal Guide to Project Reporting and Financial Issues](#).

Q. How do I fill in timesheets?

A. Monthly timesheet reporting is an obligation of FP7 programs in order to track personnel costs within the project. All EuCARD members must complete timesheets each month according to your participant's regular accounting practice. Your [administrative contact](#) can advise you on whether to use the [timesheet template](#) given in the Intranet or an alternative.

The administrative contact of each participant must store the timesheets as part of the EuCARD accounting file, for duration up to 5 years after the end of the project in case of audit. For more details see section 4.4 of the [Internal Guide to Project Reporting and Financial Issues](#).

Q. What do I need to know about financial reporting?

A. You need to work closely with your [administrative contact](#) to be aware of the financial issues outlined in the [Internal Guide to Project Reporting and Financial Issues](#).

Communication queries

Q. Does my publication need to reference EuCARD?

A. We are currently designing a publication portal using CERN's CDS tool. When this is up and running (ideally by September) it will automatically add a front page to uploaded pdf publications. This front page will add the necessary reference text to EuCARD funding.

Any publications published before this date need to be sent to your **Task Coordinator**, your **WP Coordinator**, the **Coordinator of WP2** and the **Project Coordination Office** either for information or review depending on the nature of the publication: see Article 14 of the **Consortium Agreement**.

Q. How do I find contact details for other project members?

A. All EuCARD project members are linked from the **Intranet**. Clicking on the different lists gives you a breakdown of all the members on that list and their contact details. If you notice someone is missing from a list, please **contact us**.

Q. Who are the members of the EuCARD Coordination Office?

A. You can find a list of Coordination Office members on the **Intranet**.

Q. I can't find what I'm looking for on the Intranet

A. If you have looked on both the top navigation menu and the left hand navigation menu and still can't find what you're looking for on the Intranet, please **contact us**.

Q. How can I publicise news/an event relevant to EuCARD?

A. We encourage you to send news, stories, events, achievements and images to us to add to the public website, newsletter or Intranet. Please send these to the **EuCARD editor**.