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# PETRUS-III PROJECT

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**Project meeting minutes**

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<b>P</b>	Prototype	
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<b>PP</b>	Restricted to other programme participants (including the Commission Services)	
<b>RE</b>	Restricted to a group specified by the partners of the PETRUS III project	
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**[PETRUS-III]**

Deliverable n° Version n° 1  
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**ABSTRACT:**

Minutes of the PETRUS III meeting in Lisbon (23-24 April 2015).

**RESPONSIBLE:**

Université de Lorraine (UL)

**INTERNAL REFERENCES:**

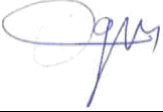
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**[PETRUS-III]**

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## Signatures

	Name	Signature	Date
Prepared by	Alex CAINS		11/05/2015
Revised by			
Approved by:	Behrooz BAZARGAN SABET		04/06/2015

## Document history

Identifier	Date	Short description

## Abbreviations


**[PETRUS-III]**

**PETRUS III**  
**LISBON MEETING, Portugal.**  
**23 April – 24 April 2015 MINUTES**

*For a list of attendees please refer to the separate document LIST OF PARTICIPANTS.  
Participating members are first referred to in the Minutes by their full name and subsequently  
by their initials.*

**Welcome**

**Behrooz Bazargan-Sabet (BB-S), Université de Lorraine.**

**Welcome from IST Representative**

Since joining the group, the IST has been pleased with the experience, as the institute's output fits well with this project. Everyone at the IST hopes that this project will have an impact both in Portugal and abroad. Though the IST can only offer research facilities, they feel that together the group can profit from and encourage the growth of shared skills and collective leadership.

**BB-S** – Thanks and appreciation of the IST's fundamental position in the project

**Introduction and Agenda Review**

**BB-S**

**End-Users Council Extended Meeting**

**Nadja Zeleznik (NZ), REC, Bojan Hertl (BH), ARAO**

The minutes from the end-users council extended meeting are presented in a separate document, available on the database.

**Project Management + PETRUS PhD Conference 2015**

**Document – 'Petrus3\_Lisbon\_Management.pptx'**

**BB-S**

**Project Management – BB-S**

**BB-S** reminds attendees that all financial statements must have been sent by the end of April. It is possible that the EC will ask for more details about certain project items.

**Marjatta Palmu (PMP)** – Grants cannot be processed by the EC until the last of the C-forms is in the system. And if there is required detail information missing then all forms will be returned and need to wait until missing information is submitted. Each member is therefore responsible towards the others.

### Project Roundtable – BB-S

**BB-S** – We will now proceed to a round-table, so as to assess how members see the evolution of the project for the next proposal.

**Pedro Dieguez Porras (PDP)** – I would like to raise two main areas: ENEN members are open to collaboration and agreement is needed as to how PETRUS can work with ENEN. The industry here is smaller and we can therefore identify problems and influence other communities. We are facing the same problems regarding a lack of students and need to develop a platform to be shared by all the communities, as well as certifications.

**BB-S** – Do any PETRUS members wish to become a part of the ENEN?

**Dan Bennett (DB)** says yes. **Bojan Hertl (BH)** requests more info on funding.

**BB-S** – PETRUS grants can be used to become part of ENEN.

It is important to insist on this point, as we increasingly need a common administration of the subject. One side is producing courses, technical things, etc. We need another body for general administration, especially regarding EC expectations for the project. So, if you have the opportunity to join the ENEN, please do, in order to increase visibility.

**Isabel Paiva (IP)** – Portugal has now joined and we are very pleased.

**PDP** – We are 66 members, with one sleeping member. My role is to develop ENEN, but this does not only involve getting members. I want to learn from your experience, so feel free to comment, criticise, and give me ideas. Sometimes it is not easy to find good ideas that solve problems, so please feel free to interact.

**BB-S** – I insist on the fact that we must be visible within the ENEN.

**PDP** – Sometimes your institution may be a member, but it's another person in charge of the membership, so please contact him and influence him. This will give you a voice.

**BH** – We heard that you are working with the IAEA. Can you say more?

**PDP** – We are training them and they are replicating this in various regions. At the same time we are collaborating in other ways. We want to create material, because the problem of generational turnover is important and we want to do something about this aspect but we don't know how.

**BH** – Are you working on nuclear waste management?

**PDP** – Yes. My role is like networking. We offer expertise to the IAEA and then we get contacts with other countries, who can then participate in our training programmes.

**Stefan Mayer (SM)** – I don't know exactly about what Nuclear Knowledge Management did so I can't speak about that. Typically, with workshops, we recruit two or three competent experts and bring them together with the customers and they get training or a workshop.

**PDP** – So what are the key needs? Do you need experts or training management?

**SM** – We need to have a request. This can either be from member states. For example the UAE, who might say to us that they need to meet some standards and can we help them train staff. Then I need to recruit internal and external experts to provide the training.

**HR** – Have there been interactions with other nuclear networks?

**PDP** – We have interacted with security and technology networks.

**HR** – There is also the safety network, designed to bring together different networks. I will send you the information.

**SM** – Based on the very limited part of the agency work I have been involved in, there is very little academic interaction. Prof. Hywell Thomas from Cardiff has been involved, but this can be quite tenuous and just involves some R&D, for example. So we could explore a stronger interaction. We could do with more small projects with limited resources, not like the EC projects.

**BB-S** – How can we interact with this new programme? This will be discussed at the next PETRUS meeting.

### PETRUS Phd Conference 2015 – BB-S

See website: [www.petrus2015.eu](http://www.petrus2015.eu)

Presentation of PhD student work and subjects proposed as PhD content.

Volunteers needed to form the jury – 2 or 3 professors and 1 from the WMO – in order to judge the prizes offered for the best PhD presentation and poster presentation.

Application deadline extended to 22/05.

Please send at least one PhD student and relay this information to others. The success of the event is important for various reasons, including increasing visibility for PETRUS

Expect to have 20-25 PhD students on board and around 100 registered.

**Radek Vasicek (RV)** – Will there be an output?

**BB-S** – We will have all the abstracts and content and, if there is enough, we will make a book. If not we will simply gather them in booklet form. There is a jury, who must read all contributions before presentations, so it's exactly like an official conference.

**RV** – Will the content be part of some official, technical journal?

**BB-S** – No, we do not expect to share it with any specific journal, but, if we receive enough, then we will produce a book with the different pieces produced. But this depends on the number of students involved.

**PDP** – If a student has his content published via this event, can it appear again in a journal?

**BB-S** – From our side, it is not a problem. We do not ask for exclusivity. And these are just extended abstracts, so this is not a problem.

**Phil Vardon (PV)** – For students, it will be good if this has an ISBN.

**BB-S** – We can also think about the jury certifying that they have reviewed these abstracts. To be honest, I don't want to take this further as I don't know how many participants there will actually be.

**DB** – Would the possibility of publication not attract students?

**BB-S** – I prefer not to make an arrangement, as we don't know what the result will be, but yes, we will consider this.

## **WP1**

### **Elaboration of the PD Training Programme Using the ECVET Model**

**Document - PENDING**

**Abdesselam Abdelouas (AA), École des Mines de Nantes.**

Decided to focus on first job profile, completing everything before moving on to the next. WP contributors should assess the quality of each unit themselves and provide feedback so that progress can be made.

**Phil Vardon (PV)** – What is the difference between skills and competencies?

**AA** – Competencies needs to be changed to skills

**PMP** – In relation to Unit 1, what prerequisite knowledge should there be? Or can they start from scratch?



**AA** – Let's say a person who comes from the automotive industry does not know anything about hydrogeological models.

**PMP** – How does that person from another field understand the concept of safety?

**AA** – This is a proposal of the basics. Unit 1 relates to, for example, a hydrogeologist who wants to enter the field.

**BB-S** – But in basic knowledge, we also need a concept of safety.

**PMP** – How does that person understand that his/her main aim is that radioactivity is contained.

**AA** – A hydrogeologist has the basic knowledge of Unit 1, but needs Unit 2 to develop this appreciation of safety, which will complement Unit 1. We can't find people who already have this combination of skills on the market. They do not exist, and must develop their skills while working.

I previously asked what was the profile for this kind of position and I was told that the best would be a hydrogeologist. The units can adapt to the skills of the person in question, with exemption possible. Comment on the wording of the Unit content is very welcome.

**SM** – How long would it take to fill gaps in knowledge?

**AA** – The courses can be adapted and, for an average student, a certain amount of training can be decided upon and applied, for example 20-25 hours on waste forms

**PMP** – You can acquire knowledge by training, but you can also acquire it by other means

**BB-S** – We showed you the evaluation system that we have this morning. Also, the EQF sets out how we assess the training a person needs

**SM** – The list given is very ambitious. How long would it take to cover all of these items? It combined multiple professionals in the same profile. It also seemed to be very heavy on natural barrier systems and light on the engineered side.

**Helen Rycraft (HR)** – We have used this system for a decade or so. We realised that we can't turn everybody into a specialist. Working, Management, and Specialist Knowledge are a good way for breaking things down. Not everybody has to be a specialist. From our experience, we have found the 8 levels to be too many.

**BB-S** – To answer Stephan, we do not want to produce the ultimate specialist. What we expect is that our specialists must have at least elementary knowledge in some other areas. Secondly, we look at the capacities of all the universities around the table here and the idea of the integrated system is to allow us to find different providers who can provide you with this knowledge and information.

**SM** – But how long will they have to spend to get up to speed?

**BB-S** – It depends on what knowledge they arrive with, we expect that they will need 3 years, full-time. Someone with professional experience and knowledge of other areas will be exempted from part of the training.

## **WP 2**

### **Actual Implementation of the PD Training Programme**

**Document – ‘Aalto\_WP2\_April 24\_2015.pdf’**

**Jussi Leveinen (JL), Aalto.**

**PMP** – The whole concept is to implement these systems outside of the standard, existing system, allowing them to be recognised in whatever context the learner needs them. Aalto lawyers have no idea about the relative legislation regarding ECVET as they are a university and this is within the vocational education realm in Finland.

**BB-S** – Do you have something in your system that allows outside qualifications to be validated?

**PMP** – You need to have demonstrated learning outcomes and accumulated credits (in the vocational education also for adults). For this reason, we need to define what is recognised and why.

**JL** – Yes, I agree, we need to have a mechanism that allows international students to be recognised across borders. I have to work within my particular context, but hope we can get something done.

**BB-S** – Discussions with officials need to come after the entire academic system is in place.

**PDP** – What is the expected outcome of the 3 Units? A Masters? A Bachelor + Masters?

**JL** – This doesn't directly aim at a degree.

**PDP** – But what will you be asking for from the lawyers?

**BB-S** – You can have a direct link to existing university courses, but you can have another way, which is not necessarily direct equivalence to courses that reflect Units exactly.

**PDP** – But what is a rough estimate of the size of these Units? Can you give me an idea of how they will be integrated? Will I need another label or not? Is it one year, two years, or six months?

**BB-S** – This depends on your background and what you need to cover. If you need to do everything then you will probably need three years.

**JL** – People could also use other courses available to complement their required studies to complete a Masters. The best situation would be that we could declare a PETRUS Masters programme at Aalto university.

Another ideal would be that they could finance themselves to complete courses provided on the top of their Masters and would therefore have the pre-qualifications for a doctoral degree. Therefore the threshold for accessing a PhD would be lowered. This would prevent us from losing so many engineers to the job market.

**PDP** – With that, I have what I need.

## **WP 2 Supplement**

### **STOPS – Software for Target-Oriented Personal Syllabus**

Document – ‘petrus meeting portugal presentation.pptx’

**Vincent Kuo (VK), Aalto.**

**PDP** – There is very similar research going on already. One of the expected outcomes is very close. Interaction could be beneficial for both.

**SM** – Is it possible to use these tools for large amounts of data to analyse it and break it down into pieces?

**VK** – Yes. This has already been done in literature, as a means of pinpointing concepts.

**Dan Bennett (DB)** – I have seen such techniques applied to abstracts and this has worked effectively, even if the example was very specific. It was capable of sifting.

**SM** – But could it dissect what made the papers important? We would need to be able to break things down to usable building blocks in order to use them for training.

**VK** – It is possible to find what is 'characteristic' in a text. Through occurrence, we can determine correlation.

**BB-S** – Abdel, could this be helpful?

**AA** – I have talked with Jussi in relation to the job profile and he said a lot of information was required for it to be effective.

**VK** – Yes, but we need a lot of information. Typically, when you have a wider spread of topics, you need a larger amount of material to draw comparisons. I am currently doing this in relation to pre-existing educational data.

**PDP** – What software are you using?

**VK** – MATLAB and Excel, because this is very transparent and you can play around.

### WP3

#### Addressing the Challenge of Multi-disciplinary Skills at PhD Level

Document – PENDING

**Francisco Javier Elorza Tenriero (FJET), UPM.**

**PDP** – It would be good to have a link with the University of Cardiff, where they have a programme with only PhD students.

**FJET** – Indeed, the UK are ahead in this respect.

**PMP** – We were talking yesterday about funding and industry. It could be good to be in contact with Aalto, because in our national doctoral school YTERA, the one university that works most on RW is Helsinki University Radiochemistry Laboratory, so it may be good to extend this to cover the wider nuclear field. Our national system had industry funding also, but this doesn't come if there isn't basis for other funding. So industry will not fund this solely.

**FJET** – So we will be in contact.

**BB-S** – How can this system interact with the existing system? In my case, we have 4 doctoral schools. It's not easy to harmonise these.

**FJET** – This overlaps with, but doesn't replace home doctoral schools. You will have recognition from both groups.

**BB-S** – But from a practical point of view, do you foresee a direct contact with the local school?

**FJET** – Well, they need to be in contact, but don't need to change anything.

**BB-S** – I'm basically referring to funding. What happens if the local school has a system of funding, in order to harmonise the payment of PhD students.

**PDP** – If students are paying some time in a company, then they can receive funding from them.

**FJET** – All these things will be studied, but, at the beginning, this will focus on mobility grants. We will then need to see how this interacts with national rules.

**PV** – From our experience, we have just provided mobility funding and not had to interact with official funding lines.

**FJET** – Ok, I will consider what you have said and send this to all the universities participating in the PETRUS project.

## WP4

### Think-tank activities and the link with IGD-TP

Document – ‘Hertl ARAO WP4 PETRUS III Lisbon koncna.pdf’

**Bojan Hertl (BH), ARAO.**

**RV** – As providers, there are main types of cost. It is possible for students to apply for funding via the Erasmus programme, but this does not cover operational costs of the provider. So I must repeat that we need to know who our real customers are. I have looked for the funding available, and, I repeat, Erasmus is the only available and this does not cover providers. So money for providers must come from end-users. If I charge something I need to justify it.

**PMP** – Yes, but it’s also the case that funding can be applied for the funding of research infrastructures.

**BB-S** – Yes, this is important, but the problem is that, even if it is possible to find some funds in the case of the Josef lab, there is no global expense programme. For example, if I come with my students to the Josef programme, or someone else does, we each need to organize it separately. But a general system would be more useful, so that each university or group can do one search. This can be difficult to transfer, as it can be difficult for us to find money that we can spend outside our home institutions.

**RV** – I think we need a resource for fees. And then the question is if we can support students to come and work with us?

**BB-S** – We could try and find general funding for research at Josef, but I don’t think we can have case-by-case funding. It wouldn’t be possible to have individual agreements.

**RV** – This is good for Masters students and doctoral students, but not for general training. I don’t see it just in the PETRUS network. I am talking about the whole system. Our case is one example, but this is the case for all facilities.

**BB-S** – This is a real problem.

**RV** – I have a worse and worse situation.

**PV** – This is general problem. The question is always, how many students, who’s paying? The money has to come from us as there are not enough students. Should money come from the EC? Or from the WMOs, who are the end users?

**BB-S** – With regard to the EC, we need to demonstrate the importance of such infrastructure and this must then be open to everyone.

**PMP** – Could this be on the PETRUS action list? We can’t solve it among ourselves.

**NZ** – I can add here, from what we discussed yesterday, I don't think there is a big need for training. This is my understanding. Mainly because some WMOs are focusing on L/IWM, not geological disposal. At the same time, there is no money available for this, as it comes from special funds. So maybe we could ask the IGTP group what they think, as maybe they could benefit from your services.

**BB-S** – What you say is true, but training at Josef can be done in two different ways. For Masters students, this training part could be very attractive, but is also a necessity on the programme as it makes it unique, with practical training. The other problem is to have a training place for professionals. From a funding point of view, this needs to be covered and often the user or their employer cover part of it. However, if Josef offers this then this can perhaps be covered. So the two things are different. Professionals feel that they might or might not need training and can pay, but for students it is another story and we must cover costs. So we need to find how we can do it in a clever way.

**PV** – We were talking about this yesterday, but there is very little demand. It can cost students a lot, but if this is covered then it looks good.

**RV** - But I need to demonstrate that there is some demand, as we do not survive from training.

**BB-S** – It's the same case for ASPA

## **WP5**

### **Sustainability, external collaborations and link with ENEN**

**Document – 'ENEN-for-PETRUS III.pptx'**

**Pedro Dieguez Porras (PDP), ENEN.**

**PV** – How nuclear do your courses have to be? For example, thermal dynamics.

**PDP** – Each application is studied individually. So there is a jury and each year they study the case of how the units studied combine and whether they should be entitled to be part of what we are doing.

**AA** – Who decided on 60 ECTS? Because this is huge.

**PDP** – It is like a Masters in nuclear engineering, so that is why.

**AA** – But usually people do not take some of the subjects you mention. When I talk about nuclear engineering, it usually focuses on other fields.

**PDP** – I think they were looking for a good mix. The WG can be created and should then inform the rest of the PETRUS members of how things will work. That was why I needed clarification of the units yesterday. In the WG, we can discuss these things.

**BB-S** – The important thing is to proceed step by step. The key thing, at the end of the project, is to have all of the elements on the table, what has been developed, and you already have some ideas as to how to do that. The first thing we need to do is establish this WG within the association in order to have the instrument to produce. This must be the priority for partners in the ENEN association.

## **WP6**

### **Technical aspects**

**Document 1 – ‘PETRUS III expenditures and sustainability.ppt’**

**Document 2 – ‘WP6 Knowledge management.docx’**

**Radek Vasicek (RV), CTU.**

**BB-S** – You have the list of relevant documents submitted to the EC on the site and you can extract what has been accepted to the ENEN

**PDP** – Can you show us this on the website?

**RV** – Demonstrates how this functions on the ENEN site.

**PDP** demonstrates where you can find the E&T courses on the ENEN site, as well as all the info on the WP, including final deliverables.

**RV** – It has previously been decided to include PETRUS in these titles, so as to ease searching.

**PMP** – From practical experience, we are not allowed to charge the videoconferencing costs of the Aalto university as eligible costs of Petrus3, restricts the use of the Aalto system by Posiva.

**RV** – Generally, universities can have free access and real rooms.

**BB-S** – The problem is that we must all share the same system. Can we combine different systems?

**RV** – Adobe Connect allows users to access the application via the internet, if there is one moderator.

**BB-S** – So you have already looked at this possibility?

**RV** – No, we have not looked at it, but we consider that it might be possible. One person needs access rights, but others can access it online. After the meeting we will test it.

## NEWSLETTER

**Behrooz Bazargan-Sabet, Université de Lorraine.**

**BB-S** reminds attendees of the importance of the newsletter and its efficient construction in terms of visibility and creating an outward representation of the vitality of the project.

WP reports will be required, as well as one paper (already provided by **Rodica Elena Ceclan (REC)**), an editorial piece (currently being produced by **IP**), and an agenda of events relevant to **PETRUS** that will be occurring in the near future.

**Alex Cairns (AC)** reminds members that he is simply responsible for the mechanics of the Newsletter. The content and design are basically the choices of **BB-S** as project coordinator.

The newsletter is currently being drawn up. Any events communicated to **AC** will be posted in the next publication. **AC** cannot draw up a list of events due to not being part of this milieu.

**PLEASE NOTE - The reception deadline for all newsletter contributions is Friday 12/06**

## NEXT MEETING

**BB-S** – Now we must choose the place and date for the next meeting.

**PMP** – I would prefer to keep the next **CMET** and **PETRUS** meetings separate.

**BB-S** – This has been noted. **PETRUS** will be scheduled for the end of September or October. Is there a candidate to host?

**RV** and **FJET** offer to host.

**BB-S** – So we can choose between Prague and Madrid?

With no consensus reached, a coin is tossed and Madrid is chosen. October is also clarified as preferable.



**BB-S** requests exact dates. **PMP** suggests weeks starting 12<sup>th</sup> or 19<sup>th</sup> October. Others concur. Wednesday 14<sup>th</sup> to Thursday 15<sup>th</sup> put forward as potential dates. To be certified in the near future.

**BB-S** – I think for the next meeting we need to discuss how we can advance the End-User Council projects. I hope to see you in Nancy and remind you to please advertise the PhD event to your students. We would like to have international candidates, so please spread the information and encourage students to attend.

*Minutes compiled by **Alex Cairns***

*Université de Lorraine.*

*May 2015*