



# PETRUS-III PROJECT

(Contract Number: FP7 - 605265)

## Deliverable: D4.47

### Steering board final report

Nature of the deliverable		
<b>R</b>	Report	X
<b>P</b>	Prototype	
<b>D</b>	Demonstrator	
<b>O</b>	Other	

Author(s): Bojan Hertl, ARAO

Reporting period: M36

Date of issue of this report: 30.8. 2016

Start date of project: 01/09/2013

Duration: 36 Months

Project co-funded by the European Commission under the Euratom Research and Training Programme on Nuclear Energy within the Seventh Framework Programme		
Dissemination Level		
<b>PU</b>	Public	X
<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	
<b>CO</b>	Confidential, only for partners of the PETRUS III project	

## **DISTRIBUTION LIST**

URL: <http://...>

<b>Name</b>	<b>Number of copies</b>	<b>Comments</b>
European Commission INPL/ Behrooz Bazargan-Sabet Petrus 3 consortium members	electronic copy via website and email	

Scope	WP4 deliverable n°4.47	Version:	1.0
Type/No.	Report	Total pages	12
Title:	Steering board final report	Chapters:	5
Filename:	PETRUSIII steering board final report	Suppl. pages:	-
Internet	OWL	Phase	Final draft for official review

## ABSTRACT:

Document reports organisation, activities, results and recommendations of the steering board. In Cardiff Steering board was created and the Terms of Reference for this board has been produced. Steering board meetings was organized in October 2014 then teleconferences were organized in March, April and October 2015 and in January 2016. Last steering board meeting was held in June 2016.

Steering board activities were fostered the interaction between WP1, WP2 and WP3 leaders and project leader. Results were presented on regular PETRUS III project meetings. Steering board also supervised the provision of end-users council and the IGD-TP CMET working group to evaluate, develop, market and pilot the PETRUS education and training programmes. PETRUS PhD Conference 2015 in June - [www.petrus2015.eu](http://www.petrus2015.eu) and PETRUS-OPERA PhD Conference 2016 - [www.petrus-opera2016.eu](http://www.petrus-opera2016.eu) were supported by steering board. Organisation help of two EEUC meetings (Lisbon and Ljubljana) with different stakeholders of EFTS were provided by steering board to get additional inputs for PETRUS III project.

## RESPONSIBLE:

Bojan Hertl, ARAO

## INTERNAL REFERENCES:

1. Steering board was created March 12, 2014 in Cardiff, UK (D4.41)
2. Steering board meeting in Kalmar, Sweden on October 1, 2014 (D4.42)
2. Steering Board teleconference in March 26, 2015 provided by WP3 leader (UPM, Spain), (D4.43)
3. Steering board teleconference in April 1, 2015 provided by WP2 leader (Aalto, Finland) (D4.43)
- 4 Steering board teleconference in October 1, 2015 provided by WP4 leader (ARAO, Slovenia) (D4.34).
5. Steering board teleconference in January 21, 2016 provided by WP6 leader (UL, France) (D4.35)
6. Steering board meeting in Delft, Netherlands on June 30 during PETRUS-OPERA PhD Conference 2016 (D4.36).

## Signatures

	Name	Signature	Date
Prepared by	Bojan Hertl		
Revised by	<b>Steering board members:</b>		
	Abdesselam Abdelouas		
	Jussi Leveinen		
	Francisco Javier Elorza		
	Behrooz Bazargan-Sabet		
	Tommy Claesson		
	Radek Vasicek CTU		
Approved by:	Behrooz Bazargan-Sabet		23/09/2016

## Document history

Identifier	Date	Short description
Version 1.0	36	Final

## Abbreviations

<b>E&amp;T</b>	Education and Training
<b>IGD-TP</b>	Implementing Geological Disposal of Radioactive Waste Technology Platform
<b>CMET WG</b>	Competence Maintenance, Education and Training Working Group
<b>TOR</b>	Terms of Reference
<b>WMO</b>	Waste Management Organisation
<b>ENEN</b>	European Nuclear Education Network Association
<b>EUC</b>	End user council meeting
<b>EEUCM</b>	Extended end user council meeting

# Table of Contents

- 1) Background .....6
- 2) Steering board organisation .....7
- 3) Steering board activities.....7
- 4) Steering board results.....9
- 5) Recommendations for sustainability of the PETRUS initiative ..... 10



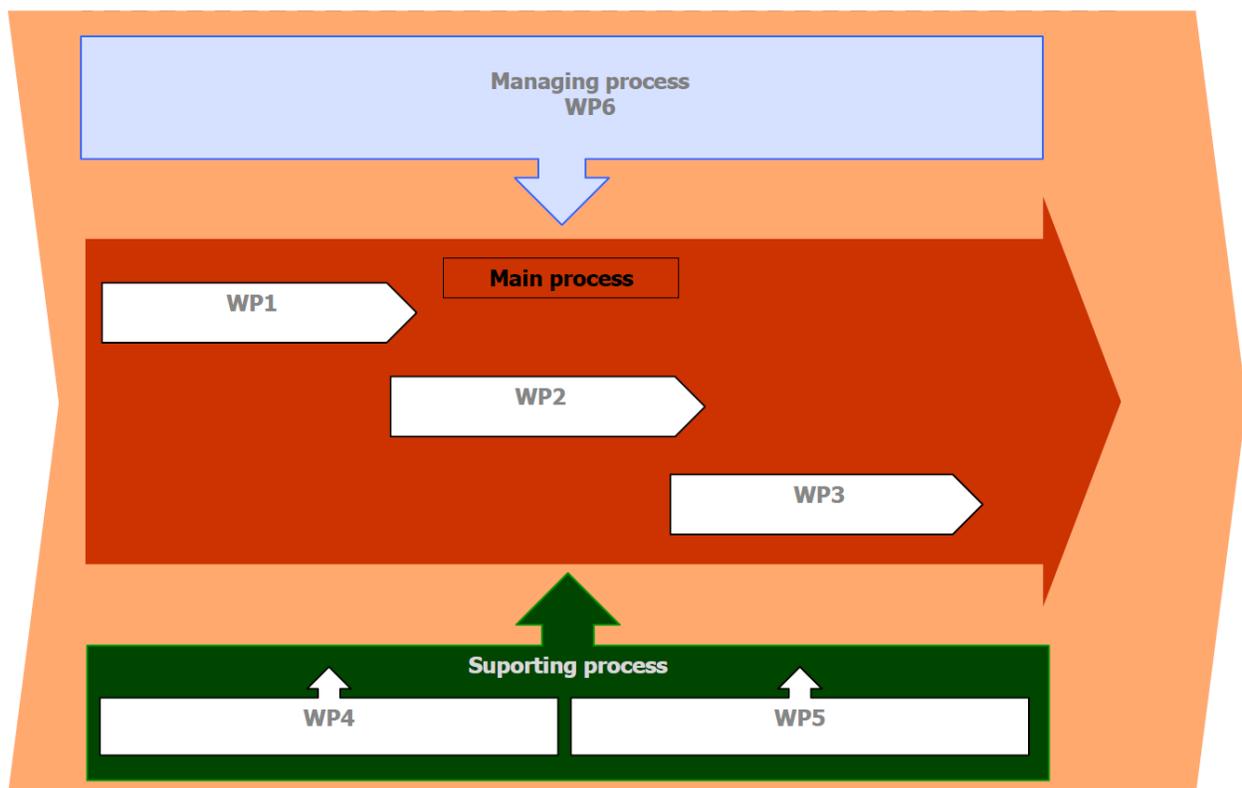
## 1) Background

**PETRUS III project** is the one of ECVET BASED **EFTS** ("EURATOM FISSION TRAINING SCHEMES") implementing sustainable E&T programme in the field of Radioactive Waste Disposal towards geological disposal E&T goals.

Its objectives are:

- Practical implementation of the PETRUS training programme following ECVET principles. Learning outcomes will be defined in a "Competency-Based Curriculum", using the "Designing a Curriculum" (DACUM) process, established by British Columbia University.
- Elaboration of a multidisciplinary training framework for PhD students. The objectives are 1) to fast-track research activities in geological disposal by proposing customised training programmes, 2) organizing periodic PhD workshops and 3) favouring the emergence of multidisciplinary research.

In order to foster the organisation and the management of both existing PETRUS educational programme and future Professional development training programme and to ensure the sustainability of the initiative, a **Steering Board** was created. The work of the Board was focused on issues related to the PETRUS E&T programmes' governance (**Picture 1**).



**Picture 1:** Process approach to PETRUS III project

## 2) Steering board organisation

The works done in **WP4** had as an objective to be more responsive to the needs of waste management organizations and stakeholders in large, to bring inputs and to get support from the platform, and to ensure more efficient and permanent coordination of the PETRUS initiative in order to facilitate its sustainability.

The WP4 activities were organised through PETRUS III steering board, PETRUS III End-users Council and as collaboration with IGD-TP's CMET WG. Links between the **PETRUS III** project and **IGD-TP's CMET WG** was established to continue the E&T initiatives and their deployment relying on the support of the radioactive waste community. This involves setting-up of a strategic policy to match E&T supply with demand and to find a continuing framework for the Professional Development scheme and its coordination.

**Steering board** work was coordination between WP1, WP2 and WP3 to use the “European Credit system for Vocational Education and Training” (ECVET) principles and to develop “competence-based” curriculum for the elaboration of the radioactive waste disposal Professional Development training program that will be accredited for qualification at academic Master’s level, to implement the PETRUS training programme at least in one of the partner universities and to extend this cross-board collaboration to the creation of training programmes and multidisciplinary research tasks for PhD students.

To achieve this goal, the steering board was:

- Working with the project partners, end-users council and the IGD-TP CMET working group to evaluate, develop, market and pilot the PETRUS education and training programmes.
- Developing policy for including new resources, opportunities and partnerships to the existing programmes.
- Managing the practical organisation of the training programmes and shape the long term development.
- Following the quality and programmes’ progress and propose adjustments and necessary improvements (**Picture 2**).

## 3) Steering board activities

In Cardiff Steering board was created in order to foster the organization and the management of both existing PETRUS educational programme and future Professional Development training programme. The leader of work-package 4 chair the Steering Board. The Board also include WP 1, 2 and 3 leaders, the project coordinator, representatives of Linnaeus University and Czech Technical University (D4.31). The Terms of Reference for this board has been prepared (D4.41).

First steering board meeting was organized in Kalmar. Master’s program, PhD program, video conferencing methods, technical information and interesting stand points about PETRUS quality label and ENEN added value in the process were discussed (D4.32). How students can follow additional programme stipulated by IAEA were also mentioned. The idea to invite IAEA representative for further discussion in the frame of extended end-users meetings was suggested.

To foster the interaction between WP1, WP2 and WP3 leaders and project leader, teleconferences were organized in March (provided by WP3 leader) and April (provided by WP2 leader). Petrus PhD Conference 2015 in June - [www.petrus2015.eu](http://www.petrus2015.eu) was the topic. The importance of widely spread information related to success of the conference was emphasized. The communication and deliverables between WP1 and WP2 and influence on WP3 were also discussed (D4.33).

Next teleconference of steering board was successfully organised in October 2015 (provided by WP4 leader) before our 5th PETRUS III meeting in Madrid. Main discussion was focused on deliverables and realisation of planed activities which need to be done on the project (D4.34).

Petrus WP4 leader suggested that three events can be organized synchronously in Ljubljana, Slovenia by ARAO: PETRUS project meeting No.6, PETRUS Extended End-User Council meeting No.2 and under umbrella of PETRUS the IGD-TP CMET WG meeting No.7. PETRUS III project leader welcome the idea. Decision was confirmed in Madrid (Petrus III meeting No. 5).

In January 2016 steering board teleconference was provided by WP6 leader before 6th PETRUS III meeting in Ljubljana, Slovenia. Importance of preparation all deliverables on time, the finance situation and action needed for possible additional work were presented.

The organisation of PETRUS 2016 PhD Conference, which was held in June 2016 in Delft, Netherlands was discussed (D4.35).

Steering board accepted the decision that three events will be organized synchronously by ARAO in Ljubljana, Slovenia:

- 12. April 2016 - under umbrella of PETRUS III the IGD-TP CMET WG meeting No.7
- 13. - 14. April 2016 - PETRUS III Extended End-User Council meeting No.2 and PETRUS III project meeting No.6.

During PETRUS III project meeting No.6 the results of January 2016 teleconference of steering board were presented to the consortium. Based on presented training programme at least in one of the partner university as a pathway for the obtainment of a Master degree with recognition agreements from other partners steering board offered further assistance to Aalto and WP2 leader to arrange education aiming to academic degrees and professional development programs. The recognition of the ECVET-based program as equivalent of MSc-degree by a university was recognised as challenging. It was predicted that National Board of Education has to be involved. The organisation of PETRUS-OPERA PhD Conference 2016 in Delft was presented to the consortium.

Last steering board meeting was organized in June during PETRUS-OPERA PhD Conference 2016 in Delft. Leaders of WP2, WP4 and WP6 were participated. WP 1 and WP 3 leaders were updated by WP6 leader (phone). Main discussion was focused on progress how to reach objective to implement the PETRUS training programme on Aalto University as a pathway to obtain a Master degree with recognition agreements from other partner universities. A prototype of PD programme was also included in discussion. The PETRUS topics for planed teleconference with dean of Aalto University was prepared to help clarify expected goals on WP 2 activities (D4.36).

#### 4) Steering board results

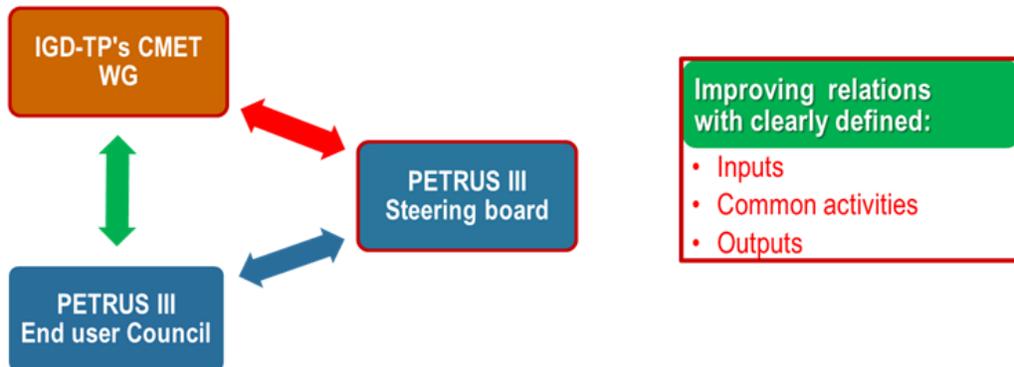
The work of the Steering Board was focused on issues related to the PETRUS E&T programmes' governance as:

1. Follow the quality and programmes' progress especially between WP1, WP2 and WP3 activities and propose adjustments and improvement as necessary.
2. Supervise the provision of end-users council and the IGD-TP CMET working group to evaluate, develop, market and pilot the PETRUS education and training programmes, **picture 3**. Good example is the job profile "Safety Engineer – Assessment and Performance Analysis for construction license of a selected site" developed using ECVET principles (WP1). The profile has been reviewed and improved by the PETRUS III end-users Council with IGD-TP CMET WG and ANDRA collaboration.
3. Organising two EEUC meeting with different stakeholders of EFTS to get additional inputs for PETRUS E&T program:
  - Extended end user council meeting was organised by PETRUS III WP4 leader in Lisbon addressing following questions: What kind of profiles are needed addressing the knowledge, skills and competences? How to create, maintain, transfer and manage the knowledge needed? How to assure skills and competences related to required safety culture? IGD-TP CMET WG members, PETRUS III members and IAEA representatives were participated. Revision of job profile is presented and discussed.
  - Extended end user council meeting was organised by PETRUS III WP4 leader in Ljubljana. The meeting was focused on the connection with other EU initiatives which are under development like JOPRAD and SITEX II projects and are related also to training and education in the RWM. Both are developing the Strategic Research Agenda (SRA) on EU level from implementer and regulatory point of view.
4. Realisation of policy for including new recourses, opportunities and partnerships to the existing programmes. Link between PETRUS III project and ENETRAP III project has been established through the preparation of a specific radiation protection course relative to waste disposal case that will be taught in the frame of PETRUS training programme.
5. Help to manage the practical organisation of the training programmes and shape the long term development:
  - Petrus PhD Conference 2015 in June - [www.petrus2015.eu](http://www.petrus2015.eu) (**Picture 3**)
  - PETRUS-OPERA PhD Conference 2016 in June - [www.petrus-opera2016.eu](http://www.petrus-opera2016.eu) (**Picture 4**)

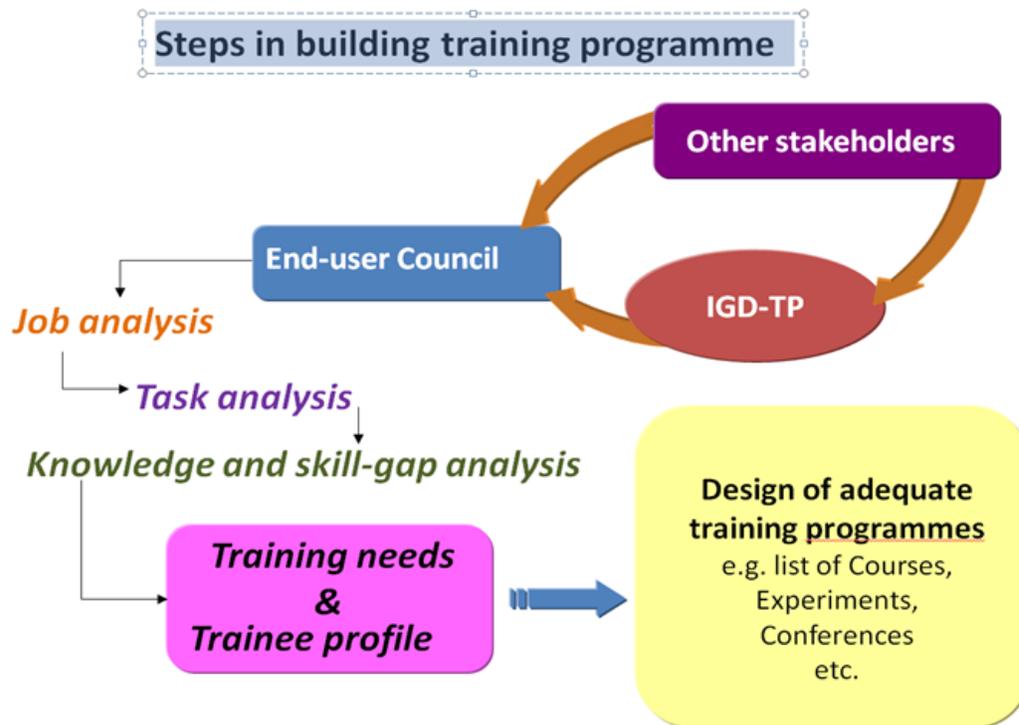
## 5) Recommendations for sustainability of the PETRUS initiative

PETRUS 2013-2016 activities were assessed from end use perspective during final PETRUS III meeting in Pisa, Italy (August 2016). The fruitful discussion bring up some questions about further collaboration between end users and universities as some curses are only in national languages, the collaboration between governmental and private agencies or who will take initiative for further collaboration? Can Brexit influence on IGD-TP work and how can PETRUS program be as sustainable part of JOPRAD project? The integration process of the PETRUS program within ENEN was presented to Consortium (WP5-D5.55). The proposal was accepted by Consortium and pointed out:

- sustainability of the PETRUS initiative toward preparation of the Professional Development Training Programme of PETRUS-III, which represents an important outcome of the project and deserves further actions to complete its implementation and to spread its use throughout Europe.
- The PhD Conferences organised by the PETRUS Consortium represent another important achievement. It supports repeating these events and studying the possibility to merge them into single ENEN initiatives.
- Further cooperation with other groups within EU (e.g., with ENETRAP) as envisaged in the PETRUS-III project.



**Picture 2:** Steering board relations in the project toward IGD-TP's CMET WG



**Picture 3:** End-user Council relations in the project toward IGD-TP's CMET WG

**PETRUS**

Petrus PhD Conference 2015

Home  
 What is Petrus?  
 About Petrus 2015 event  
 Event schedule  
 Lectures  
 Contact Form

CONTACT:  
 PhD-event@petrus2015.eu

Download the event schedule

**PETRUS PhD Conference 2015**  
 Programme for Education, Training and Research on Underground Storage

Date: 22nd June at 2.00 pm - 26th June at 12.00 am, 2015  
 Location: Université de Lorraine - Mines Nancy - France  
 Topic: Radioactive waste management and disposal

**What is Petrus?**

PETRUS III is a project granted by European Commission within the Euratom program (7<sup>th</sup> Framework Program), whose objective is to promote Education and Training (E&T) in geological disposal of radioactive waste.

**Picture 3:** PETRUS PhD Conference 2015 - [www.petrus2015.eu](http://www.petrus2015.eu)

**PETRUS**

Petrus-OPERA PhD Conference 2016

Home  
 What are PETRUS and OPERA?  
 About PETRUS-OPERA 2016  
 Event schedule  
 Field Trips  
 Location  
 Accommodation  
 Contact Form

**2nd Petrus-OPERA PhD and Early-Stage Researchers Conference 2016**  
 Radioactive Waste Management and Disposal

Date: 27th June at 09.00 - 1st July at 15.00, 2016  
 Location: Delft University of Technology - The Netherlands

**Picture 4:** PETRUS-OPERA PhD Conference 2016 - [www.petrus-opera2016.eu](http://www.petrus-opera2016.eu)

**[PETRUS-III]**