



SecIGD2 project

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CMET activity report for 2012-2015

DELIVERABLE (D-N^o: 3.5) Work Package 3

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ACTIVITY REPORT ON THE COMPETENCE MAINTENANCE, EDUCATION AND TRAINING (CMET) ACTIONS DURING 2012-2015

1 Objective of the Report

The support for the IGD-TP's permanent Working Group on Competence Maintenance, Education and Training (CMET) as a Joint Activity (no 14) of the Deployment Plan 2012 was organised under the SecIGD2 project's Work Package 3. The CMET group was established in 2012 by the IGD-TP EG (**Figure 1**).

The competence maintenance, education and training needs of the IGD-TP as an entity were defined by the Deployment Plan in terms of RD&D topics and cross-cutting activities. This triggered the need to implement the Joint Activities. By the nature of the IGD-TP, however, the entry into each Joint Activity is a decision of the individual IGD-TP participant organisation.

As its first step, the CMET group aimed at addressing the needs derived from the Joint Activities. Further the CMET group discussed the expectations and needs of its members that aligned with the group's objectives. Interaction in the group was hoped to provide opportunities to engage in joint efforts beyond the SecIGD2 WP3 agenda that could include a limited number of the CMET group members with a shared interest. However these interests were identified only as a part of the CMET Strategy and Action plan in 2015.

The same time the CMET group interacts with complementary activities especially in geological disposal like PETRUS III but not ignoring potential interaction with more generic projects or networks on cross-cutting topics EHRO-N and ENEN.

The actions of the SecIGD2 Work Package 3 are also reported as a part of the project's progress report no 2 and the final project report compiled by the Secretariat. In addition, it was foreseen that also a short report including an evaluation of the CMET working group actions would be produced as a part of the Work Package 3. The objective this short assessment on is also to summarize the state-of-the-art of the group's activities for the coming year 2016.

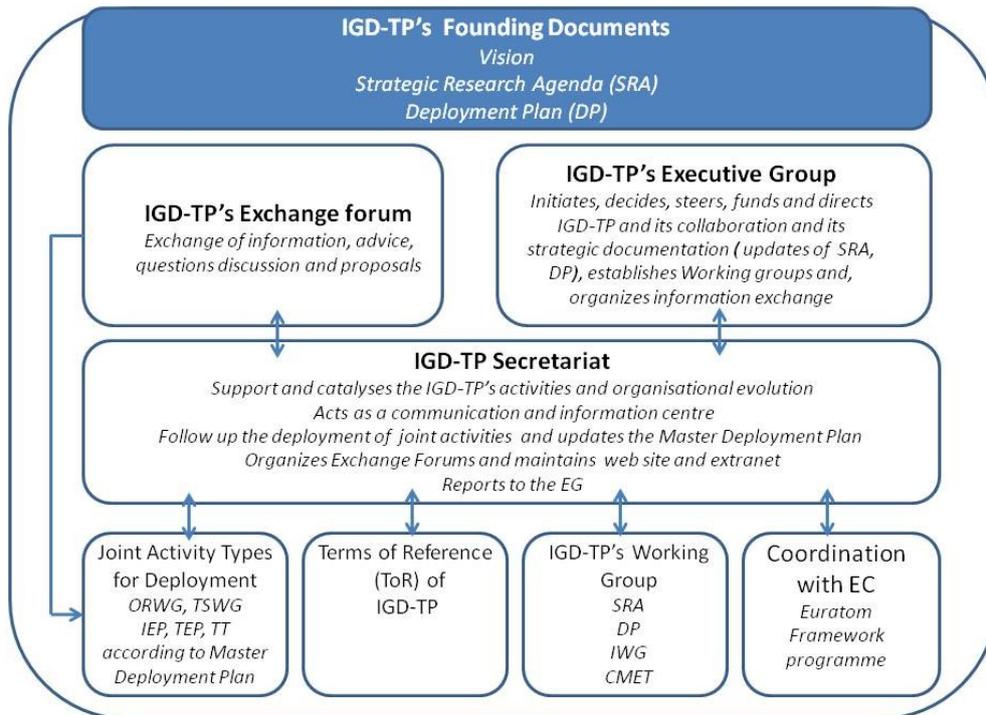


Figure 1. The organization of the IGD-TP in 2012.

The IGD-TP Executive Group decided that the CMET working group as a Joint Activity under the IGD-TP would be closed in the spring 2016 with the CMET meeting no 7. The IGD-TP financial support to the group ends at the end of the SecIGD2 project and the CMET meeting no 7 will be held under the cooperation of the PETRUS III project's Work Package 4. In this coming meeting, a discussion point will be how to continue the interaction of this CMET community of practice now created under the SecIGD2 project support. The motivation for such a forum exists within the CMET Working Group as similar exchange forums dealing with the educational and learning perspectives of geological disposal and engaging so many professionals presenting the education and training providers, research and small consulting organisations and waste management organisations do not exist.

2 CMET Working Group

The CMET Working Group convened first in 2012 in connection with the IGD-TP Exchange Forum 3 meeting. The five group members came from five different organisations. At the end of the SecIGD2 project, the group consisted of 36 members from 14 different European countries and from 29 different organisations. The members have participated in the CMET meetings and other activities so that the number of participants in the venues has varied from 10 to 18 persons. The members with the exception of the CMET chair (SecIGD2 WP3 leader) are volunteers to this Joint Activity. More about the group's background is available in the introductory section of the D3.2 Strategy and Action Plan report.

The CMET group started as a discussion forum intending to share and learn from good practices of its members and from the other European initiatives in human capital

development, competence maintenance and education and training (especially EHRO-N, PETRUS III, ENEN).

During the last three years, a main activity under the SecIGD2 has been the organisation of the group itself into a community of practice. Now the CMET group itself has developed into a community of practice and a forum for exchange in geological disposal competence development and educational issues consisting of both education and training providers and end-users of E&T (professors, professionals dealing with competence development and consultants). In the beginning the CMET group had a stimulating role for the on-going work and for initiating discussions related to competence maintenance, education and training.

The CMET group's original objectives are to assist in defining the competence maintenance, education and training (E&T) needs in geological disposal. The group was not intended to be a training provider, but to assist the education and training providers to meet the end-user needs in E&T. In this way it is seen that also the sustainability of education and training in Europe could be maintained. In the future, this scoping of the CMET activity needs to be discussed based on the prioritized actions identified by the group itself.

The CMET objectives and related actions for 2013 - 2015 included the following four objectives are summarized (in short) in the **Table 1**.

Table 1. CMET Working Group objectives according to its Terms of Reference.

CMET Objective	Activity objective during 2012-2015
1. Transfer of the state-of-the-art and the new competence needs of the geological disposal community to reach "Vision 2025"	Meaning a review of the current status of competency and competency development of IGD-TP members and participants.
2. Quality assurance of training for professionals with the support of a voluntary accreditation scheme	Promoting the ECVET system as the current tool for quality assurance of especially training (Non-Formal and Informal Learning) in the EU
3. Compile E&T approaches and content into a type of curriculum/curricula for professionals in geological disposal	SecIGD2 emphasis on the deployment of the SRA. Looking at the overall E&T recommendations made in the nuclear sector (e.g. SNETP) and their link to IGD-TP CMET strategy.
4. Ensure indirectly that both providers and new personnel will be available, now and in the future.	The recommendations of the CMET group are in their part a contribution to the sustainability and also a collection of a set of needs to ensure sustainability especially from the providers point of view

During the years 2013-2015, the group has succeeded in all of the activities above except on the pooling of resources for actions and initiating new actions that were not included in the WP3 work plan.

3 Actions According to the SecIGD2 Work Plan

The SecIGD2 Work Package 3 plan identified three tasks and five deliverables for this work package. These tasks are also the major outcomes of the CMET Working Group's work in addition to a large amount of discussion topics that were covered and shared inside the group meetings.

The SecIGD2 three tasks were:

Task 1: Organisation and operation of the CMET Working Group including a strategy and action plan for the period of the IGD-TP's Master Deployment Plan (2013-2016) and an agenda based on its objectives and Terms of References.

Task 2: The study of the feasibility of an informal or sector internal accreditation body within the IGD-TP for approving learning outcomes, which then could be applied to the various existing training schemes and concepts in geological disposal in Europe.

Task 3: Support the CMET Working Group to carry out the planned actions, collect the results and experiences of those activities and disseminate them at the IGD-TP's Exchange Forum meeting(s) taking place during the second and/or third project year.

The CMET group has met nine times during the three years (2013-2015) when it has been supported by the Euratom FP7 project SecIGD2 (EC-GA 323260).

One of the venues was a special session at the IGD-TP's fifth Exchange Forum intend to promote and scout the interest in the use of the ECVET system in geological disposal. The views of the participants were collected concerning the feasibility of a sector internal voluntary accreditation scheme. Also the process of the CMET session at the Exchange Forum no 5 was documented into a memorandum. The EF5 presentation materials are published on the <http://www.igdtp.eu> website by the Secretariat.

In addition to the regular meetings of the group twice a year, a special training session on the use of social media and digital tools for outreach was organised for the CMET members and the FP7 project PETRUS III participants.

Table 2: List of CMET deliverables under SecIGD2

Deliverable Number	Deliverable Title
D3.1	D3.1 CMET meetings (starting M3) and producing their minutes (twice a year) CMET Meeting no 1 Minutes
D3.1.1	CMET Meeting no 2 Minutes
D3.1.2	CMET Meeting no 3 Minutes (3A-3B)
D3.1.3	CMET Meeting no 4 Minutes
D3.1.4	CMET Meeting no 5 Minutes
D3.1.5	CMET Meeting no 6 Minutes
D3.2	D3.2 IGD-TP Competence Maintenance,

Deliverable Number	Deliverable Title
	Education and Training Strategy and Action Plan for 2013-2016
D3.3	D3.3 CMET input for the content of IGD-TP's Exchange Forum Meeting no 5 or no 6
D3.3.1	D3.3.1 CMET Training session on social media
D3.4	D3.4 CMET report on the feasibility study on the informal or sector internal accreditation body
D3.5	D3.5 CMET activity report for 2012-2015

The five defined deliverables included:

Under **Task 1**: Organisation of the CMET working group meetings and producing their minutes (**D3.1**). This includes a set of six minutes distributed inside the IGD-TP CMET group on the IGD-TP Projectplace.

IGD-TP Competence Maintenance, Education and Training Strategy and Action Plan for 2013-2016 (**D3.2**) produced for example part of the proposals in the recommendations for the CMET's future activities. In addition, the CMET activities were updated to the IGD-TP's Master Deployment Plans annually as part of the Secretariat work.

Under **Task 2**: CMET input for the content of IGD-TP's Exchange Forum Meeting no 5. (**D3.3**) This input was provided for the EF5 and the presentations were published on the www.igdtp.eu website. The planning and implementation for the EF5 session was reported separately (D3.3). The content of the EF5 session focused more on the view of the Exchange Forum audience on the potential feasibility of a voluntary accreditation scheme than on the needs of the Joint Activities. Two EF5 walkabout stations also addressed the potential CMET needs of the geological disposal community. A special training session (D3.3.1) organised for the CMET members was also reported as a public deliverable under Task 2.

Under **Task 3**: CMET report on the feasibility study on the informal or sector internal accreditation body (**D3.4**) was produced. This report was based on the previous experiences of the Petrus group, on the Workshops organised by JRC/IET around ECVET system and on the Exchange Forum no 5 inputs from October 2014. In addition, the amended Directive 20025/26/EC was used as background material.

The most challenging action was the preparation of the CMET feasibility study on the informal or sector internal accreditation body. This report was met with the most diverse views from the different CMET stakeholder groups. The CMET group, whose members already have identified a need for a credible quality assurance body and have worked with the ECVET system and on the definition of Learning outcomes see several benefits of such a system when implemented. The IGD-TP Exchange Forum participants were quite unaware of the ECVET system, but cautiously in favour of a system for mutual recognition of knowledge, skills and competences. The IGD-TP Executive Group on their part did not see any need for the ECVET system or for an accreditation system for mutual recognition. The responses from the various stakeholders were discussed at length in the CMET group. The use of the term "accreditation" was seen problematic and the group decided that for clarity the emphasis

needs to be on the mutual recognition. The piloting of any form of an accreditation body was not seen currently feasible. However, the different forums and interactions for the feasibility study gave good advice on what would need to be considered when aiming for the mutual recognition of learning outcomes and knowledge, skills and competences in geological disposal.

D3.5 CMET activity report for 2012-2015 is this short document produced assessing the CMET work carried out under the SecIGD2 project.

4 Actions in the CMET Working Group during 2012-2015

The agenda of the SecIGD2 project has influenced much of the CMET activities and these are reported in the Strategy and Action Plan of CMET (deliverable report D3.2). In addition, the CMET discussions have covered a wider range of topics, which have not all been included as part of the SecIGD2 deliverables. During the course of the CMET activities, the CMET members have contributed in providing their facilities as locations for the CMET meetings. This has enabled the group to meet and work in a cost-efficient way at excellent facilities especially at the university members.

2012

In **2012** the main activity was to inform about the CMET group and get more interest volunteers to participate into the CMET work. In the beginning of 2013, the group had 27 members from 24 different organisations and from 12 European countries.

2013

The meetings during **2013** were focused besides the discussion about the CMET Strategy on topics like the main motivations of the group members to participate in the group and what they expected. Education and Training network sustainability issues were and still are a big concern. Master programmes with a possibility to specialise in geological disposal and even training courses that do not collect a participation fee have difficulties in receiving a full number of registrations from participants.

The educational and training programmes in geological disposal were mapped in the member countries. Such surveys have been carried out in 2005 in the CETRAD project (FP6) and in the ENEN II projects. PETRUS II project focussed on the mapping of E&T programmes suitable for the pilot professional development programme. The outcome is that not many new programmes have been developed in this area: France and United Kingdom have the largest offering at the moment.

The competence maintenance was addressed also in the discussions. Especially the retirement ages in the member countries were discussed. Many of the experienced experts are able to retire between 60 to 65 years. In most European countries however the age limit for retirement is going to increase in the near future. This can be considered as a favourable aspect from the competence maintenance point of view.

The revision of the CMET terms of reference and the preparation of two conference papers one for the Euradwaste'13 and one for the NESTet2013 conferences provided future input to



the CMET work in 2014-2015 and contributions from the group members for these publications now also available in the published conference proceedings.

2014

In **2014** the group's membership increased again. The group had 32 members from 27 organisations and from 14 countries. Partly due to new members, members who participated in the meetings for the first time or where prevented from participating, some overlapping explanations and discussions about the CMET objectives and actions were needed. There were two main tasks under preparation: the EF5 CMET session and the editing of the Strategy and Action Plan. The preparation of the EF5 CMET session in October 2014 was worked with starting in March 2014 until April 2015. The final documentation for the feasibility study could however be started only in November 2015. The first major draft for the StrAP was prepared for the November 2013 meeting in Madrid. A small working group of three CMET members had an editing workshop on the StrAP document in Delft that resulted in a revised structure of this document. This work contributed also to the presentation made for the EG no 14 in June 2014. In the same year two CMET posters were produced one for the Geodisposal 2014 in Manchester (GB) and another one to the OECD/NEA Constructing Memory conference in Verdun, France.

2015

In **2015** the group had 36 members from 29 organisations and from 14 countries. The work was presented in the ENEN special event, at EHRO-N SAG no 12 and at the NRC Workshop. The IGD-TP Executive Group no 17 was participated and a decision about the CMET's future under the IGD-TP Deployment Plan was made in the IGD-TP EG no 18. The special training session was organised in connection with the CMET no 5 in Lisbon. The CMET and PETRUS members found the workshop useful for their future E&T activities. The exploitation of the learning in the future is a new opportunity also for the CMET. Job profiles using ECVET system were addressed in connection with the EHRO-N work. The final CMET meeting under SecIGD2 was held in Prague and the project deliverables commented and approved at a very fast pace in December. The next CMET meeting was decided to be held in Slovenia in April 2016 under the PETRUS III umbrella. Also interaction with the ENEN's ANNETTE umbrella is foreseen to continue in the coming year.

The CMET Actions including SecIGD2 Work Package 3 actions are summarized in **Figure 2**.

CMET and SecIGD2 Work Package 3 Actions 2013-2015		
2013	2014	2015
CMET group formed, two annual meetings (1 & 2) and discussion forums including minutes.	CMET group meetings 3 & 4 (three meetings) including minutes	CMET group meetings 5 & 6 (two meetings) including minutes. Action suggestion listing for 2016.
Preparations for Strategy and Action Plan (StrAP) initiated	EF5 preparation – questionnaire for walkabout	CMET Training Workshop and PETRUS III Extended End-User Council
Updated Terms of Reference (v.2)	Activity presentation of StrAP to EG no 14	SecIGD2 project meeting no 3 organisation; Activity presentation to EG no 17
Major presentations, papers to <ul style="list-style-type: none"> • EHRO-N SAG no 7 • Euradwaste13 • NESTet13 conferences 	EF5 feasibility study walkabout session in Kalmar including preparatory meeting and reporting.	EHRO-N workshop for ECVET feasibility evaluation Major presentations: <ul style="list-style-type: none"> •ENEN General Assembly special event •Nuclear Radiochemistry Workshop •EHRO-N SAG no 12
Continuous activities: Annual Master Deployment Plan; SecIGD2 newsletters, dissemination of information to CMET group and from group, and to and from linked activities and IGD-TP Secretariat; updates of CMET member lists and access rights; CMET activity updates to the IGD-TP EG on activities; reporting of deliverables.		

Figure 2. Actions of CMET and SecIG2 Work Package 3 during 2013-2015.

5 Room for Improvements and Recommendations for Future Cooperation

The recommendation for the CMET community of practice in the future is to discuss how to select and continue working together one or two of the activities that the group found to be of most interest out of the commonly identified activities. The first opportunity for this is taking place at the CMET no 7 meeting in April 2016. At this meeting also the scope of the CMET community activities requires discussion potentially shifting to a broader scope from the demand side also to the supply of CMET.

The pooling of the CMET's voluntary resources for the implementation of the prioritized future activities will be a test for the sustainability of this community of practice. The implementation of the CMET Terms of Reference is a good guideline for the future activities after the SecIGD2 project's agenda has been completed.

The list of potential activities for the CMET members to work and pool their resources on were identified as a part of the StrAP (D3.2) and recapped in **Table 3**.

Table 3. Top listing of CMET identified interest for future actions based on the number of interested members

Rank	Content of potential action	Interest (N =)	CMET Obj. no
1	Define some professional's profiles (learning outcomes) for civil engineers, geologists. (ECVET model exists for this). (9.15)	6	OBJ. 2 & 3
2	Use repository/URL sites for practical training or for training in site related work (potential use of Josef, CZ; Grimsel, CH facilities and related access funding solutions needed). (9.9)	6	OBJ. 1 & 3
3	Produce (IAEA style) E-learning course/s on a specialised topic by an international working group by sharing competences and expertise. (9.21)	6	OBJ. 1, 3 & 4
4	Sharing what has been learned in the countries with more advanced programmes with other countries at earlier stages of repository development (sharing method development needed, too). (9.3)	6	OBJ. 1
5	Produce a strategy that is in alignment or aligns with the European Commission's strategy and potential funding requirements. The purpose is to provide inputs to where the E&T priorities in geological disposal should focus on in Europe.(9.12)	4	OBJ. 1
6	Collect/Refresh [the disposal community's] memory around the RD&D that has been conducted in geological disposal in the past (state-of-the-art "summary"). (9.8.)	4	OBJ. 1 & 3
7	Make a (IAEA URF network type) Geological disposal workshop to train people. Provide experts for the workshop (a model exists for this) (9.20)	4	OBJ. 1

The WP3 leader and CMET have not fully succeeded with the timing of its document production. The main documents that would have benefited from a wider consultation were not available for early circulation. The commenting and the handling of the comments thus suffered from the lack of sufficient time especially at the end of the SecIGD2 project.

The interaction with the IGD-TP Executive Group has been limited partly due to the two activities - not all of the Work Packages like the WP3 of the SecIGD2 project not being directly involved with the IGD-TP EG: The regular reporting to the EG has been provided by the CMET chair via the Secretariat and two presentations during the three years have been



given about the activities to the EG. One presentation was about the StrAP outline in June 2014. The small number of interactions can eventually have contributed to the fact that the CMET activity has not produced the desired value in the eyes of the IGD-TP Executive Group. The progress of the IGD-TP and its deployment plan scope also means that all the Executive Group meetings are covering a large scope of issues and the role of the Exchange Forum in more detailed activity development has increased.

The CMET group needs to discuss how it can interact in a new way with the IGD-TP in the future e.g. at the Exchange Forum.