



EUROPEAN
COMMISSION

Community research

ASGARD

Advanced Fuels for Gen IV Reactors: Reprocessing and Dissolution

Contract Number: 295825

DELIVERABLE D 1.3.2 COMMUNICATION ACTION PLAN – UPDATE 2014

EVALION

Author(s): P. Koran, J.Heller, P.Scully, T.Retegan

Reporting period: n.a.

Lead Partner	Due date:	28/02/2014
Evalion	Actual release date:	17/02/2014
	Version:	1.4

WP Leader	DM Leader	Coordinator
P.Scully	T. Retegan	Ch. Ekberg

Project start date: 01/01/12

Project duration: 48 months

Dissemination level			
PU	Public	X	
RE	Restricted for specific group		
CO	Confidential (only for ASGARD partners)		

Version control table

Version number	Date of issue	Author(s)	Brief description of changes made
1.0	16/05/12	Heller, Koran, Stilijanovska, Hanson	Draft version
1.1	06/06/12	P. Koran	Final version,
1.2	28/03/13	Koran, Retegan, Stilijanovska, Tinsley	2013 Annual update
1.3	04/04/13	Koran	publications added
1.4	17/02/14	Koran, Retegan, Heller, Scully	2014 Annual update

Relevant domain(s) and workpackage(s)

Tick **ALL** ☐ or select in the following table:

DM	WP
DM 1 <input checked="" type="checkbox"/>	WP 1.1 <input type="checkbox"/> WP 1.2 <input type="checkbox"/> WP 1.3 <input checked="" type="checkbox"/>

Project information

Project full title:	Advanced fuels for Generation IV Reactors: Reprocessing and Dissolution
Acronym:	ASGARD
Funding scheme:	Large scale collaborative project - ASGARD project is co-funded by the European Commission under the FP7 Euratom Research and Training Programme on Nuclear Energy
ECGA number:	295825
Programme:	FP7 EURATOM
Call identifier	FP7-Fission-2011
Coordinator:	Christian Ekberg
EC Officer:	Michel Hugon
Start date – End date:	01/01/12 – 31/12/15 i.e. 48 months
Coordinator contact:	+46-31-7722801, che@chalmers.se
Administrative contact:	+420 245 008 599, asgard.admin@evalion.cz
Online contacts:	www.asgardproject.eu info@asgardproject.eu
Keywords:	Nuclear fuels, oxide fuels, carbide fuels, nitride fuels, reprocessing, dissolution, Gen IV reactors

Copyright

The document is proprietary of the ASGARD consortium members. No copying or distributing, in any form or by any means, is allowed without the prior written agreement of the owner of the property rights. This document reflects only the authors' view. The European Community is not liable for any use that may be made of the information contained herein.

CONTENT

EXECUTIVE SUMMARY.....	4
1 INTRODUCTION	5
2 OBJECTIVES, TASKS AND EXPECTED RESULTS	6
2.1. OBJECTIVES.....	6
2.2 WP ACTIVITIES.....	6
2.3 Expected Results – Project WP3.1. Deliverables	8
3 TARGET GROUPS / END USERS	9
3.1. End user database	10
4 COOPERATION WITH OTHER PROJECTS, NETWORKING	11
4.1 Method of cooperation.....	12
5 DISSEMINATION CHANNELS	13
5.1 Existing local channels.....	13
5.2 ASGARD Website.....	14
5.3 Dissemination materials	15
5.4 Media channels	15
5.5 Events.....	15
5.5.1 Dissemination actions and publications so far (March 2013):	16
5.5.2 Events to be organized by the project.....	21
5.5.3 Schedule of ASGARD events.....	22
5.5.4 Conferences in 2013	25
6 ARCHIVING DISSEMINATION MATERIAL.....	27
6.1 Archiving strategy	27
6.2 Archiving tools	27
6.3 Materials to archive	27
7 VISUAL IDENTITY OF ASGARD.....	29
7.1. Project Website:	29
7.2 Logo.....	29
7.3 Poster.....	30
7.4 Leaflet.....	31
7.5 Standard PPT template.....	32
8 PUBLICITY OBLIGATIONS	33
9 CONCLUSIONS.....	34

EXECUTIVE SUMMARY

The Communication Action Plan represents a more detailed description of activities and tasks briefly described in the DoW in frame of **WP1.3 – Dissemination, exploitation and networking**. This document identifies and organizes the activities to be performed and dissemination channels to be used in order to promote ASGARD project aims and targets, and to disseminate the project outcomes worldwide. The Communication Plan introduces strategy for identification of the target groups and key stakeholders of the project, definition of the communication channels, description of the dissemination materials to be developed and details of the targeted events and conferences of the project. The visual identification lists all graphical elements of the project, such as the project logo and other tools to be used within the project promotion.

The Communication Action Plan is to be considered a “living” document – it will be regularly updated according to project progress and actual needs and opportunities to make the project more visible.

1 INTRODUCTION

The aim of the dissemination work package (WP1.3 Dissemination, exploitation and networking) is to disseminate ASGARD's goals, progress and results to interested and potentially interested parties at national and international levels. This work package will enable presentation of the project outcomes for further exploitation and examine their possible applications. It will also create links with other European or international projects in order to assure cross-fertilization within the research community.

Work package 1.3 covers the full duration of the project; four partners are directly involved in the organization and realization of various types of promotional activities while the others will support them and contribute to dissemination of project objectives and results mainly through their participation on various scientific events and networking.

The below table shows the allocation of PMs by Beneficiary:

Partner	PMs	Role in WP1.3
CHALMERS	3	Representation of the consortium,
NNL	6,3	WP leader, overall planning and coordination of the project promotion, identification of target groups' representatives, End-user database
CTU	2	Networking
EVALION	2	Administrating webpage, elaboration of dissemination materials, support in IPR issues, updating Communication Plan

2 OBJECTIVES, TASKS AND EXPECTED RESULTS

2.1. OBJECTIVES

The main objective of WP1.3 is to guarantee dissemination of knowledge achieved by the project and its results into the defined target groups, represented mainly by the nuclear community. Reaching this objective requires identification, approaching and management of key target groups represented mainly by nuclear industries, key research organizations and the nuclear technical community as a whole. Dissemination of the project results also includes production and publishing of promotional materials for different target groups. Networking with related projects, initiatives and platforms will be given special attention in order to maximize the impact of the project and to utilize potential synergies.

2.2 WP ACTIVITIES

The work to be carried out within WP1.3 has been divided into 4 tasks covering all areas related to project dissemination, exploitation of results and networking. Their definitions are summarized below.

Task 1.3.1: End users management (partners: NNL, CHALMERS, EVALION)

Main target institutions will be identified in the beginning of the project. **End Users Database (D1.3.1) will be established by NNL and managed** throughout the project. ASGARD will use the stakeholder database to monitor the level of engagement with target groups and record feedback. **The database will be available to project partners in the restricted area of ASGARD website.** NNL will be responsible for the task. EVALION will keep the End Users Database updated throughout the project duration and assure distribution of project results to interested parties.

Duration: M3-M48

Task 1.3.2: Dissemination and external communication (partners: NNL, EVALION)

A number of ways can be used to achieve good communication, such as: information on project webpage and other reachable webpages and portals, brochures and leaflets, press releases, TV and radio broadcasting, scientific papers, presentations, posters, personal communication, educational materials resulting from other WPs, project logo and ASGARD corporate identity.

The target groups will be continuously informed about the project, with key events opened up to invited speakers and attendees. Publication of the results from ASGARD will be encouraged from all participants and a number of papers will be produced. Annually revised Communication Action Plan (D1.3.2) will be used as basis for optimized and efficiently managed communication of the project. Annual Public Reports (D1.3.3) and (final) Executive Summary Reports delivered by DM2-DM4 will be used for communication purposes addressing broad public audience.

All partners will be involved in this task, with NNL taking the lead and EVALION supporting for creation of dissemination materials and administering the webpage.

Duration: M1-M48

Task 1.3.3 Networking (NNL, CHALMERS, CTU)

This task will provide connections with other European networks and organizations (SNE-TP, ENEN, TSO, etc.) and relevant EU projects. The networking, especially with ENEN representatives will be ensured by already well established relations between ASGARD partners and ENEN. Additionally, strong links will be promoted from the very beginning with the present FP7 ACSEPT project. The networking will provide information exchange and timely feed-back on the impact of ASGARD results. Two International Workshops will be organized during the project, the first one two years into the project and the second one at the end of the project. Also presentations will be delivered or small workshops/sessions held at bigger international events and conferences in nuclear or energy field (such as e.g. FISA, GLOBAL, European Nuclear Conference, etc.).

Networking will be coordinated by NNL, CHALMERS and CTU. All partners are expected to contribute in this Task.

Duration: M1-M48

Task 1.3.4 Exploitation and Intellectual Property Management (CHALMERS, EVALION)

An Exploitation Plan will be produced describing the key opportunities for implementation of the project outputs, within the EU and what the requirements will be to development any technology to the point of application. The plan will be based on around a Technology Roadmap format for each of the exploitation paths. Intellectual Property Management Strategy will be produced as a part of the Exploitation Plan. It will detail how each of the programme participants and partnering organizations will be able to extract value out of any IP generated in the project. CHALMERS will compile the final deliverable - D1.3.6. The Exploitation Plan based on all partners' inputs and requirements. EVALION will support CHALMERS in the area of IPR.

Duration: M13-M48

2.3 EXPECTED RESULTS – PROJECT WP3.1. DELIVERABLES

D1.3.1 Project Presentation (M3); responsible partner: CHALMERS

D1.3.2 Communication Action Plan (M6, M14, M26, M38), responsible partner: EVALION

D1.3.3 End Users Database (M9); responsible partner: NNL

D1.3.4 Annual Public Report (M16, M28, M40); responsible partner: EVALION/CHALMERS

D1.3.5 First International Workshop (M24); responsible partner: CTU

D1.3.6 Second International Workshop (M48); responsible partner: NNL

D1.3.7 Exploitation Plan including Technology Roadmap and IPR strategy (M48); responsible partner: CHALMERS

3 TARGET GROUPS / END USERS

Target group (or stakeholder) can be defined as any group or individual who can be affected by the project results and objectives or who can affect them. The project will aim at four levels of dissemination: awareness, understanding, action and participation. **Awareness** will mainly involve delivering the main message of the project in relation to its aim and objectives, while **Understanding** will require providing more detailed information on the project purposes, methods and deliverables. **Action** means that the project products will be delivered to the target group for further use. **Participation** means that some members of the target group will be directly involved in some of the project activities. Dissemination of information is also necessary towards stakeholders who will offer any kind of support within the project duration. The target groups and levels of promotion activities towards them have been identified and are presented in the table below.

Target Group	Awareness	Understanding	Action	Participation
Nuclear industries (involved in IUG, others)	X	X	X	X
Research organizations (SAC and others)	X	X	X	X
University teachers and students (Summer schools, courses, papers)	X	X		X
General Public (Webpage, promotion)	X			
EU legislative and research bodies (EU promotion and networking)	X	X		
Relevant projects (networking)	X	X	X	X
Other related industry (promotion, webpage)	X			
Media (interviews, press releases)	X			

3.1. END USER DATABASE

The end user database has a relatively simple form of Excel table (delivered by NNL). The typical member of the database will be a company or institution but individuals can be included as well in reasonable cases. Each member of the database will be identified by official name, the contact person and e-mail (obligatory). Other means of contact can be added if necessary. Each organization will typically be represented by 1 person, but in some cases more people representing 1 institution can be included. The database will be used for distribution of the information about project progress and its results.

Contact will be made with CINCH project, where a very good start of similar database has been established including for example universities teaching nuclear chemistry and European facilities in nuclear field.

The database has been established and is stored on PingPong in “DM1/WP1.3/End Users Database” folder. It will be populated by consortium members. The table will be administered by AMO (new entries will be sent to the AMO for update).

At the beginning of 2014 the database still has not been populated with entries. PCC meeting in Stockholm (January 2014) decided to collect inputs from each partner by NNL – see action list from PCC minutes.

4 COOPERATION WITH OTHER PROJECTS, NETWORKING

To achieve the highest potential impact and discover multilateral synergies, ASGARD has been cooperating with other initiatives on national, European and international scale. Some of the initiatives identified are the following:

- FAIRFUELS – Fabrication, Irradiation and Reprocessing of Fuels and Targets for Transmutation – FAIRFUELS is looking to develop, fabricate and test innovative nuclear fuels containing Minor Actinides (www.fp7-fairfuels.eu). Joint Winterschool with FAIRFUELS was organized in January 2013.
- ACSEPT – Actinide Recycling by Separation and Transmutation – The ACSEPT project objective is to develop chemical separation processes compatible with fuel fabrication techniques (www.acsept.org). Finished in 2012.
- ACTINET – Integrated Infrastructure Initiative for Actinide Science – The objective of this project is to reinforce the networking of existing European infrastructures in actinide sciences, and to facilitate their efficient use by the European scientific community (www.actinet-i3.eu). Finished in 2012.
- CINCH – Cooperation in Education in Nuclear Chemistry is focused on cooperation in education of the nuclear chemistry in EU in cooperation with Russia (www.cinch-project.eu). Joint Winterschool organized in January 2013, the project is now finished.
- SNETP – Sustainable Nuclear Energy – Technological Platform – promotes research, development and demonstration of the nuclear fission technologies (www.snetp.eu).
- Euratom – The European Atomic Energy Community - helps to pool knowledge, infrastructure, and funding of nuclear energy. It ensures the security of atomic energy supply within the framework of a centralized monitoring system (www.ec.europa.eu).
- SACSESS - Safety of ACTinide Separation processes. FP7 EURATOM SACSESS project will provide a structured framework to enhance the fuel cycle safety associated to P&T. In addition, safety studies will be performed for each selected process to identify weak points to be studied further. These data will be integrated to optimise flowsheets and process operation conditions. Follow-up of ACSEPT project.
- TALISMAN - Transnational Access to Large Infrastructure for a Safe Management of ActiNide. FP7 EURATOM project will foster the networking between existing

European infrastructures in actinide sciences open them widely to any European scientists by offering and supporting transnational access to unique facilities. To meet its objectives, TALISMAN will animate and organize a network of actinide facilities across the EU that will increase our knowledge for a safer management of actinides fostering training and education. Follow-up of ACTINET.

- CINCH-II – Cooperation in Education and Training in Nuclear Chemistry. FP7 EURATOM CINCH-II project aims at mobilization of the identified existing fragmented capabilities to form the critical mass required to implement the courses and meet the nuclear chemistry postgraduate education and training needs of the European Union. www.cinch-project.eu

4.1 METHOD OF COOPERATION

Some of the ASGARD partners are also involved in the ACSEPT, CINCH, CINCH-II, SACSESS, TALISMAN and FAIRFUELS projects. Thus the information flow between these projects and ASGARD is ensured. The other organizations involved in the mentioned projects will be informed about ASGARD via delivering of promotional materials, personal discussions and invitations to the events organized in frame of ASGARD project and vice versa.

Common meetings and courses will be negotiated where possible and appropriate. The first joined event of the ASGARD project was the first ASGARD summer school organized together with FAIRFUELS and CINCH in Netherlands in January 2013.

DM1 Leader (Teodora Retegan) is a member of the mirror group for "SET Plan Energy Education and Training Initiative" since March 2012.

In 2014, ASGARD will continue collaboration with SACSESS project (launched in March 2013) and with CINCH-II project (started in June 2013). The collaboration will be aimed mainly at joint schools and seminars during winter 2013-2014. Joint meetings and related training events have been organized with CINCH-II (ASGARD internal school – Reprocessing Course in June 2013 in Warsaw, Fuel Characterization and Isotope Separation courses in January 2014 in Stockholm). CINCH-II and ASGARD project meetings have been organized jointly in order to enable exchange of knowledge and optimize travel costs.

Networking with the USA partners will be intensified. Established contacts are as follows:

- INL (Idaho National Laboratory) – Dr. Terry Todd
- Washington State University – Prof. Ken Nash
- University of California, Irvine – Prof. Mikael Nilsson
- University of California, Berkeley – Prof. Heino Nitsche

5 DISSEMINATION CHANNELS

In order to effectively reach the targets for dissemination and to maximize the visibility of the project, the partners will use a broad spectrum of dissemination channels. The project (public) website will play an important role in the project dissemination strategy. The website will be complemented by Press Releases, leaflets, posters, scientific articles as well as presentations at various events that bring together the key industry players. On the other hand, only publishable information can be used for wide promotion, which in case of ASGARD limits the number of relevant releases.

5.1 EXISTING LOCAL CHANNELS

Each ASGARD partner will use its existing dissemination channels. As minimum requirement each partner will:

- **Include a link from project partner website** to <http://www.asgardproject.eu>

Update: by February 2012, 7 partners' webpages contain information about the project. This number should be increased in 2014:

	info about asgard	link to ASGARD webpage
CHALMERS	YES	NO
JÜLICH	NO	NO
ICHTJ	YES	NO
NNL	NO	NO
PSI	NO	NO
NRG	NO	NO
KIT	NO	NO
CEA	NO	NO
CTU	YES	NO
KTH	YES	NO
EVALION	YES	YES
WESTINGHOUSE	NO	NO
INCDTIM	YES	YES
UNIVLEEDS	YES	NO
UMAN	NO	NO
UCAM	NO	NO

- **Assure the distribution of the project press releases and other promotional materials on the local/national level** through existing mailing lists, university online conferences etc.

- **Include at least one article in an organization-related publication** (website, newsletter or other) over the course of the project

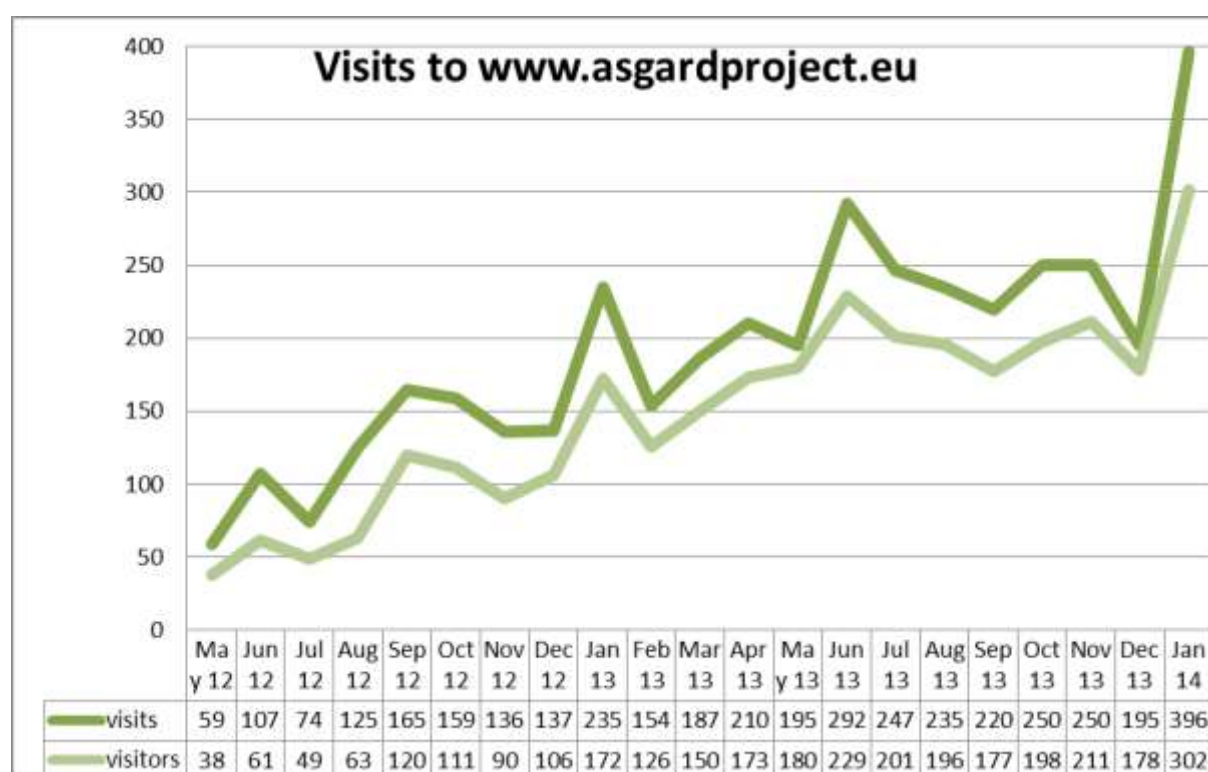
5.2 ASGARD WEBSITE

CHALMERS and EVALION have been developing a website available at www.asgardproject.eu. Website statistics will follow the patterns of use, number of visitors, most accessed directories and top visited pages. In 2014, the webpage will be redesigned by EVALION.

Sections and overall design of the website is described in D1.1.2 Quality Plan - Project Handbook. For dissemination and communication purposes, the following functions and pages within the website are mainly used:

- Calendar of ASGARD events at <http://asgardproject.eu/events>
- Short news at <http://asgardproject.eu/news>
- Contact Form at <http://asgardproject.eu/contact>.

As of February 2014, the ASGARD webpage statistics are as follows:



5.3 DISSEMINATION MATERIALS

Dissemination materials consist of:

- **Project of logo** and visual identity of the project elaborated by CHALMERS
- **ASGARD standard presentation** (PPT)
- **Project leaflet**
- Production of **posters** (one general poster was already elaborated by CHALMERS and EVALION with contribution of other partners; if needed, other posters may be created for special occasions)
- Production of **press releases** – at least **once a year**, usually based on annual public report (condensed version); NNL as the WP1.3 leader will be responsible for elaboration of the press release and coordination of its distribution

5.4 MEDIA CHANNELS

Press campaign and publication of scientific articles and press releases form an important part in the dissemination strategy. On-line and off-line magazines, scientific newspapers and blogs will be the main media channels. Mass media channels such as TV, radio will be targeted only in special occasions, probably in the final stage of the project. **Press releases and articles will be published at least once a year.**

5.5 EVENTS

One of the main dissemination channels to be used is participation on events and organising ASGARD project own workshops.

5.5.1 DISSEMINATION ACTIONS AND PUBLICATIONS SO FAR (FEBRUARY 2014):

Partner(s)	Name of event or media	Date and location	Activity:	Type of audience
Chalmers	Interview in Bohsbladet	12. 01. 2012, Sweden	Gen. Proj. presentation	General Public
Chalmers	Press release	31. 01. 2012, Sweden	Gen. Proj. presentation	General Public
Chalmers	Article at klimatsmart.se	31. 01. 2012, Sweden	Gen. Proj. presentation	General Public
Chalmers	Interview-Swedish radio	8. 02. 2012, Sweden	Gen. Proj. presentation	General Public
Chalmers	Article in Todays Energy Solutions	8. 02. 2012, Sweden	Gen. Project presentation	General Public
Chalmers	Article in Ny Teknik	9. 02. 2012, Sweden	Gen. Project Presentation	General Public
Chalmers	Article in energyheter.se	9. 02. 2012, Sweden	Gen. Project Presentation	General Public
Chalmers	1 st Electra workshop	6.-7.03. 2012, Sweden	Concepts of Fuel production and recycling	Scientific Community
LEEDS	22 nd European Symposium on Computer Aided Process Engineering	17.-20.06. 2012, United Kingdom	The ASGARD poster presented at the event	Scientific Community
INCDTIM	The XXXII Romanian Chemistry Conference	3.-5. 10. 2012, Romania	Presentation	Scientific Community
INCDTIM	The 18 th National Conference with internat. participation – “Progress in Cryogenics and Isotope Separation”	October 2012, Romania	Presentation	Scientific Community
Chalmers	Chalmers internal news	17. 10. 2011	Gen. Project Presentation	General Public
Chalmers	Kemivarlden Biotech	27.10.2012	Article – gen. project	General

			presentation	Public
NRG	Nordic Nuclear Materials Forum for Gen IV Reactors	January 2012	General project presentation	NOMAGE4 project seminar participants
Chalmers	3 rd General Assembly of SNETP	Nov 29-30, 2012 Warsaw, Poland	Poster presentation	Open to public and external stakeholders
Chalmers	SNETP newsletter No.10	July 2012	Project profile	Scientific community
KTH, Chalmers	ATALANTE 2012 conference	September 2012, Montpellier, France	Presentation of work performed by KTH and Chalmers	Scientific community
ICHTJ, JÜLICH	ChemSession'12 – 9th Warsaw's Seminar of PhD students,	Warsaw, Poland, May 10th, 2012,	Poster: Synthesis of Kernels of Uranium Dioxide by Internal Geletion	Polish scientific community
ICHTJ, JÜLICH,	NuMat 2012: Nuclear Materials Conference	Osaka, October 22-25, 2012	Poster: Synthesis of Uranium Dioxide Microspheres doped by surrogates of MA by Complex Sol-Gel Process (CSGP)	Scientific community
INCDTIM	Central European Journal of Chemistry	10(6) 2012	Paper: "Catalytic reduction of sulfuric acid to sulfur dioxide", authors: Ancuța Balla, Cristina Marcu, Damian Axente, Gheorghe Borodi, Diana Lazăr	Scientific community
INCDTIM	The XXXIIth National Conference of Chemistry	Oct 3-5, 2012 Romania	"Determination of the activation energy for different catalysts in the sulfuric acid reduction to sulfur dioxide", authors: Ancuța Balla,	Scientific community

			Damian Axente, Cristina Marcu	
INCDTIM	The XVIIIth ICIT Conference, Progress in cryogenics and isotopes separation	Oct 25-26, 2012, Călimănești-Căciulata Romania	Paper: "Nitride Nuclear Fuels", author D. Axente	Scientific community
INCDTIM	Central European Journal of Chemistry	Submitted for publication	"Determination of the Arrhenius parameters for different catalysts in the sulfuric acid reduction to sulfur dioxide", authors: Ancuța Balla, Cristina Marcu, Damian Axente	Scientific community
JÜLICH, CEA	ATALANTE 2012 - Nuclear Chemistry for Sustainable Fuel Cycles	Sep 2-7, 2012 Montpellier	Oral presentation: The co-conversion of minor actinides in uranium based fuel by internal Gelation. Paper by S. Neumeier, H. Daniels, C. Schreinemachers, G. Modolo, D. Bosbach, G. Leturcq, S. Grandjean	Scientific community
KIT-INE	ATAS workshop 2012	November 5th – 7th 2012, Helmholtz-Zentrum Dresden Rossendorf, Germany	Poster presentation: M. Cheng, M. Steppert, C. Walther, "MonOm species distributions in acidic solution measured by Electrospray Ionization Mass-Spectrometry"	Scientific community
UMAN	Nuclear FiRST Doctoral Training Centre Winter School	January 8-10, 2013 Buxton, UK	poster presentation: "Molten salt reprocessing of carbide fuels"	Scientific community
KIT-INE	2013 Spring Meeting of the German Physical Society	March 18-22, 2013, Hannover,	Oral presentation: "Mo_nO_m species distributions in acidic	Scientific community

		Germany	solution measured by Electrospray Ionization Mass-Spectrometry" by M.Cheng	
JÜLICH	E-MRS 2013 Spring Meeting	27.-29.05.2013, Strasbourg, Poster presentation	E. L. Ebert, A. Bukaemskiy, S. Neumeier, G. Modolo, D. Bosbach, Dissolution behavior of MgO and Mo based ADS inert matrix fuel	Scientific community
JÜLICH	Progress in Nuclear Energy	Accepted in May 2013	E. L. Ebert, A. Bukaemskiy, S. Neumeier, G. Modolo, D. Bosbach, Dissolution behavior of MgO and Mo based ADS inert matrix fuel	Scientific community
ICHTJ	6th All-Polish Conference on Radiochemistry and Nuclear Chemistry	April 21-24, 2013, Poland, Kraków-Przegorzały, oral presentation	M. Brykala et al. : Synthesis of uranium dioxide microspheres doped by neodymium oxide by Complex Sol- Gel Process (CSGP)	Scientific community
NRG	ACTINIDES 2013, Karlsruhe	accepted for oral presentations	G. Ménard, E. de Visser – Týnová: "Dissolution of innovative irradiated fuels: the case of HELIOS and CONFIRM"	Scientific community
CTU	28th Miller conference on radiation chemistry	Israel, 2013, p. 36	T. Pavelkova , V. C uba, F. S ebesta: Radiation-induced preparation of nuclear fuels, Book of Abstracts	Scientific community
ICHTJ	NuMat 2012: Nuclear Materials Conference	Poster	M. Brykala, A. Deptula, T. Olczak, G. Modolo, Ch. Schreinemachers; Synthesis of Uranium Dioxide Microspheres doped by surrogates of MA	Scientific community

			by Complex Sol-Gel Process (CSGP)	
KIT-INE	DPG Frühjahrstagung 2013	Hannover, March 18th – 22nd, 2013	Meijie Cheng, Michael Steppert, Clemens Walther, “MonOm species distributions in acidic solution measured by Electrospray Ionization Mass-Spectrometry”	Scientific community
CEA, CHALMERS	Joint FISA and EURADWASTE 2013 conferences	14-17 October 2013 - Vilnius, Lithuania	S. Bourg (CEA), S. Delpech (CNRS), C. Ekberg (Chalmers) - FISA 2013 Conference - From Fuel to Fuel: Dissolution, Partitioning and Fuel Manufacturing, (Conference proceedings)	Scientific community
KTH	Nucl. Mater. 444 (2014) 7	Issues 1–3, January 2014, Pages 421-427	M. Pukari and M. Takano, Sintering and Characterization of ZrN and (Dy,Zr)N as Surrogate Materials for Fast Reactor Nitride Fuel	Scientific community
CTU	J. Nucl. Mater. 442, 2013, 29–32.	Issues 1–3, November 2013	T. Pavelková, V. Čuba, F. Šebesta: Photo-induced low temperature synthesis of nanocrystalline UO ₂ , ThO ₂ and mixed UO ₂ –ThO ₂ oxides	Scientific community
ICHTJ, JÜLICH	International European Nuclear Young Generation Forum	June 17-21, 2013, Sweden, Stockholm, presentation	Microsphere of Uranium Dioxide Obtained by Complex Sol-Gel Process (CSGP) as Potential Fuels for Transmutation of Minor Actinides – M.Brykała, A.Deptuła, M.Rogowski, G.Modolo	Scientific community
ICHTJ, JÜLICH	IAEA, Technical Meeting on Advanced	November 18-20, 2013,	Complex Sol-Gel Process (CSGP) as a	Scientific community

	Actinide Recycle Technologies	Austria, Vienna, presentation	method to synthesis of mixed oxide fuels - M.Brykała, A.Deptuła, M.Rogowski, Ch.Schreinemachers, G.Modolo.	
KIT-INE	GDCh-Tagung 2013	Darmstadt, September 1 st -4 th 2013, Darmstadt, Germany, presentation	M. Cheng, M. Steppert, C. Walther, "On the dissolution behavior of new Mo fuel matrices for Generation IV Reactors",	Scientific community
JÜLICH, KIT-INE	GDCh-Tagung 2013	Darmstadt, September 1 st -4 th 2013, Darmstadt, Germany, presentation	E. L. Ebert, E. Lichte, M. Cheng, M. Steppert, C. Walther, A. Bukaemskiy, F. Sadowski, G. Modolo, D. Bosbach, „Auflösungsverhalten von MgO- und Mo-basierten ADS Inertmatrixbrennstoffen“	Scientific community
CTU	13. Mikulášské setkání ČNS	4. - 6.12.2013, Brno, Czech Republic, oral contribution	K.V. Mareš, J. John, F. Šebesta: Caesium separation from the solution issuing the reprocessing of CerMet fuels based on molybdenum (in Czech)	Scientific community
PSI	Proc.Int. Conf. Global-2013.	October 2013, Salt Lake City, USA. Conference contribution.	Shcherbina N., Kulik D., Kivel N., Potthast H., Günther-Leopold I. Partitioning of fission products from irradiated nitride fuel using inductive vaporization.	Scientific community

5.5.2 EVENTS TO BE ORGANIZED BY THE PROJECT

Two international workshops with participation of representatives of selected target groups are planned to be organized in frame of ASGAR project. Their timing reflects the necessity of discussing the concrete project results, which will not be available

during the initial period of the project. **The first international workshop was therefore scheduled for the second year 2 of the project and the second workshop should take place during the final year of the project duration.**

Another two events are ASGARD Summer Schools. The first was organized jointly with FAIRFUELS and CINCH in January 2013 in Petten (Netherlands).

See details at <http://asgardproject.eu/news/2013/02/20/winterschool-2013>

The second ASGARD Summer School is preliminary scheduled for the second half of the project.

5.5.3 SCHEDULE OF ASGARD EVENTS

The events are planned in detail on 6 months basis. However, preliminary timing of project meetings, summer schools and courses are planned in advance at least 12 months. The following table, which is also available on internal project portal (Ping Pong), includes current (March 2013) status of the events' planning.

		Meetings	Venue	Organizer	Dates	Other events	Reports
2012	1	Kickoff Meeting, GB meeting, PCC meeting	Uddevalla	Chalmers	11.-13.1.		Project Presentation
	2						
	3						
	4						
	5						
	6	1 st Project Plenary and PCC Meeting	Jachymov	EVALION	11.-14.6.		1st PIR and DAR
	7						
	8						
	9		Montpellier		2-7.9.	Atalante 2012 – ASGARD session	
	10						
	11						
	12						2nd PIR and DAR
2013	13	2 nd Project Plenary and PCC Meeting, GB meeting	Petten	NRG, EVALION	28.1.-1.2.	1st ASGARD S.School, with FAIRFUELS and CINCH projects	
	14						
	15						
	16						Annual Public Report
	17						
	18	3 rd Plenary and PCC Meeting, SAC + IUG review	Warszawa, Poland	ICHTJ	10-14.6.	Internal ASGARD School, Warszawa	3rd PIR and DAR, WPS1, 1st PR
	19						
	20						
2014	21						
	22						
	23						
	24						
	25	4th Plenary and PCC Meeting, Interim SAC Meeting	Stockholm, Sweden	KTH		Fuel Characterization and Isotope Separation Courses, Stockholm	4th PIR and DAR
	26						
	27						

2015	28						Annual Public Report
	29		Marianske lazne, CZ	CTU	12.- 16.5.	1st ASGARD Int. Workshop – NRC 2014 conference 12.-16.5.	
	30		5th Plenary and PCC Meeting, 3rd GB Meeting	Lancaster, UK	NNL	2nd Summer School?	5th PIR and DAR, 2nd WPS, 2nd PR
	31	3 rd EC Reporting Period					
	32						
	33						
	34						
	35						
	36						
	37		6th Plenary and PCC Meeting	Cluj, RO		INCDTIM	6th PIR and DAR
	38						
	39						
	40						Annual Public Report
	41						
	42		7 th Plenary and PCC Meeting, 4 th GB Meeting	Villigen, SUI		PSI	7th PIR and DAR
	43						
	44						
	45						
	46						
	47						
	48		Final Plenary, PCC and GB Meeting, Final SAC Meeting			2nd Int. Workshop	8th PIR, DAR, 3rd WPS, 3rd PR, Final Report
	49		3rd EC REVIEW MEETING	Brussels		to be confirmed	

5.5.4 CONFERENCES IN 2014

The following table includes events where ASGARD will/can be promoted in 2014.

EVENT	DATES				VENUE
247th ACS National Meeting	2014	Mar	16	20	Dallas, USA
ChemEngDayUK 2014	2014	Apr	7	8	Manchester, UK
World Nuclear Fuel Cycle	2014	Apr	8	10	San Francisco, USA
Sustainable Nuclear Energy Conference	2014	Apr	9	11	Manchester, UK
Annual meeting on Nuclear Technology	2014	May	5	9	Frankfurt, Germany
17th RadChem Conference	2014	May	11	16	Marianske Lazne, Czech Republic
ENC 2014: The European Nuclear Conference	2014	May	11	15	Marseille, France
International Conference on Human Resource Development for Nuclear Power Programmes - Building and Sustaining Capacity	2014	May	12	16	Vienna, Austria
CEAS-PGR EPS PG Society Conference	2014	Jun			Manchester, UK
Escape 24	2014	June	15	18	Budapest, Hungary
Radiation Chemistry — Gordon Research Seminar/Radiation Driven Processes in Physics, Chemistry, Biology and Industry	2014	Jul	12	13	Andover, USA
IU-MRS	2014	Aug	26	29	Fukuoka, Japan
Plutonium Futures	2014	Sep	7	11	Las Vegas, USA
ISEC 2014: 20th International Solvent Extraction Conference	2014	Sep	7	11	Würzburg, Germany
4th International Nuclear Chemistry Congress 2014	2014	Sep	13	18	Sao Sebastiao, Brazil
Gordon Research Conference on Nuclear Chemistry	2014	Sep	17	19	Bath, UK
Global 2015	2014	Sep	20	24	Paris, France
International Conference on Development and Applications of Nuclear Technologies, Nutech 2014	2014	Sep	21	24	Poland

13th Information Exchange Meeting: Actinide and Fission Product Partitioning and Transmutation	2014	Sep	23	26	Seoul, South Korea
ICSI Conference "Progress in Cryogenics and Isotope Separation"	2014	Oct			Calimanești-Căciulata, Romania
National Conference of Chemistry	2014	Oct			Calimanești-Căciulata, Romania
NuMat 2014: The Nuclear materials conference	2014	Oct	27	30	Clearwater Beach, USA

6 ARCHIVING DISSEMINATION MATERIAL

ASGARD project partners aim to properly administer and preserve the dissemination material, activities planned and completed for internal purposes and for the European Commission.

6.1 ARCHIVING STRATEGY

ASGARD will use several tools for administration and archiving. The actual version of this plan will be available in the internal area of project website. Specific “folder” is dedicated to WP1.3. Partners have the possibility to upload all their dissemination materials or send them directly to WP leader. Partners are responsible to inform the WP leader of all their dissemination related activities and properly administer it. NNL is responsible for following the planned activities and collect all materials from the related partners after the activity took place. The materials are stored online on the project portal.

6.2 ARCHIVING TOOLS

Archiving of electronic materials:

All presentations, event materials, recorded interviews will be preserved in two places: Firstly at the partner responsible for the activity and secondly at the WP leader, NNL. Project website as the main tool for monitoring, reporting, management and dissemination of project will serve as online archiving space for partners. All partners will upload their dissemination materials in order to have them available as annexes to the regular project progress reports.

Archiving of printed materials:

All printed dissemination materials will be archived by NNL in at least 2 copies (Leaflets, posters, Newsletters, etc.). The partners are therefore asked to provide at least 2 copies of all printed promotional material to the WP leader as soon as possible.

6.3 MATERIALS TO ARCHIVE

The following materials should be archived *if available*.

In case of events

- Event brochure
- Event programme (highlighting ASGARD presentation)
- List of participants

- Pictures taken at the event
- Presentation held

Press

- Press releases published
- Articles published in any language (link and screenshots if online, copy of the newspaper/magazine if printed)
- Scientific papers (copy, pdf or similar)

ASGARD workshops

- Invitation to the event
- Programme
- List of participants
- List of lecturers
- Pictures taken at the event
- Presentations held
- Workshop/Conference material distributed
- Report on the event

Online cooperations

- Screenshots

7 VISUAL IDENTITY OF ASGARD

This section provides thumbs of the main promotional materials and tools available at the time of this report completion (or update). Full files are available online at asgardproject.eu and/or on PingPong.

7.1. PROJECT WEBSITE:

The project website is available at <http://www.asgardproject.eu>



Figure 1 ASGARD website

7.2 Logo



Figure 2 ASGARD logo

7.3 POSTER



Figure 3 ASGARD poster no. 1

7.4 LEAFLET

Project partners

Chalmers University of Technology - project coordinator	(Sweden)
Forschungszentrum Jülich GmbH	(Germany)
Instytut Chemii i Techniki Jądrowej	(Poland)
National Nuclear Laboratory Limited	(United Kingdom)
Paul Scherrer Institut	(Switzerland)
Nuclear Research and Consultancy Group	(Netherlands)
Karlsruher Institut für Technologie	(Germany)
Commissariat à l'énergie atomique et aux énergies alternatives	(France)
Česká vysoká škola technická v Praze	(Czech Republic)
Kungliga Tekniska Högskolan	(Sweden)
E.ON a.s.	(Czech Republic)
Westinghouse Electric Sweden	(Sweden)
Institut National de Recherche et de Développement pour la Technologie	(Romania)
University of Leeds	(United Kingdom)
University of Manchester	(United Kingdom)
University of Cambridge	(United Kingdom)

Core information

ASGARD is a Large Scale Integrated Project supported by the EU within European Atomic Energy Community's 7th Framework Programme (FP7 2007-2011), ED-Grant Agreement No. 299825. Time Frame: January 2012 - December 2015 (duration 48 months)

Contact

Christian Ekberg
(project coordinator)

Chalmers University of Technology
Nuclear Chemistry
Department of Chemical and Biological Engineering
S-412 96 Göteborg, Sweden

Tel: +46-31-7722801
Fax: +46-31-7722801
email: info@asgardproject.eu
Website: www.asgardproject.eu

ASGARD
Advanced fuelS for
Generation IV reActors:
Reprocessing and
Dissolution.

www.asgardproject.eu

Objective

ASGARD project's main objective is to provide a structured R&D framework bridging the research on fuel fabrication and reprocessing issues. The main focus will lie on future fuels for a sustainable nuclear fuels cycle. The main problem today is to tie the recycling of the nuclear fuel to the fabrication of new fuels.

Scope

In order to make nuclear power sustainable there is a clear need to close the fuel cycle and at the same time, if possible, find methods that shorten the storage time of the waste and increase energy utilization. New fuel reactor systems together with a fully developed recycling strategy are needed to achieve this ambitious goal.

The scope of the project is to bridge existing knowledge in nuclear fuel manufacturing with existing knowledge in separation techniques used for waste treatment and recovery and to investigate the production and behaviour of new novel and improve nuclear fuels for the next generation of nuclear reactors. The targeted result of the project itself is to interconnect the recycling of the nuclear fuel to the fabrication of new nuclear fuel. Both oxide, nitride and carbide fuels are addressed with focus on dissolution, reprocessing and fabrication behaviour.

Expected results

Results from carbide fuel production and reprocessing will provide an insight into the safest and most economical carbide fuel design and establish the safest way to process carbide fuel while minimising waste production.

Concerning nitride fuels, the impact of carbon and oxygen impurities on the dissolution rate in nitric acid will be clarified. As data from the literature are ambiguous, these results will be of particular importance for industrial application of nitride fuels in Gen-IV systems. From the industrial perspective, an even more important result will be the ability to enrich N-15 at a sufficiently low cost, as well as to recover N-15 during the dissolution process. The feasibility of reaching this goal will depend on the required N-15 enrichment, the corresponding cost of enrichment, losses of N-15 in the fabrication process and the efficiency of N-15 recovery during dissolution. The ASGARD project will provide industrial objectives for the combined performance of these aspects.

Organisation of the project

European Commission

Governing Board

Coordinator

Scientific Advisory Committee

Administrative Management Office

Industrial Users Group

Project Coordinator Committee

DM1: Management (Coordination and training)

DM2: Oxide fuels

DM3: Nitride fuels

DM4: Carbide fuels

Societal impacts

Seen in this context, ASGARD contributes significantly to increasing the sustainability of nuclear energy by bridging the investigations of the fuel recycling research.

ASGARD will investigate the fabrication and dissolution behaviour of novel fuels for fast reactors. The knowledge advances of ASGARD will allow to Governments, European Utilities and Technology providers that there are several options to the manufacturing and recycling of the novel fuels. It is of vital interest for the project that the outcome will be meaningful for the fuel manufacturing industry. To analyse the results of ASGARD with respect to their applicability in industry, an Industrial Users Group is involved in the project.

Figure 4 ASGARD leaflet

7.5 STANDARD PPT TEMPLATE



Figure 5 Frontpage of official ASGARD presentation

8 PUBLICITY OBLIGATIONS

The main obligations of all project partners have been defined in Article II.12 of the Annex 2 of the Grant Agreement concluded between the coordinator and the European Commission. The partners should especially understand that:

- 1) **Any publicity**, including at a conference or seminar or any type of information or promotional material (brochure, leaflet, poster, presentation etc), **must specify that the project has received research funding from the European Union, EURATOM programme and display the official European emblem.** When displayed in association with a logo, the European emblem should be given appropriate prominence. This obligation implies no right of exclusive use. It is subject to general third-party use restrictions which do not permit the appropriation of the emblem, or of any similar trademark or logo, whether by registration or by any other means. Under these conditions, project partners are exempted from the obligation to obtain prior permission from the Commission to use the emblem. Detailed information on the EU emblem can be found on the European Commission web page.
- 2) **Any publicity** made by the beneficiaries in respect of the project, in whatever form and on or by whatever medium, **must specify that it reflects only the author's views** and that the European Union and Euratom programme are not liable for any use that may be made of the information.
- 3) **The Commission shall be authorised to publish, in whatever form and on or by whatever medium, the following information:**

the name of the beneficiaries; contact addresses of beneficiaries; the general purpose of the project in the form of the summary provided by the consortium; the amount and rate of the financial contribution foreseen for the project; after the final payment, the amount and rate of the financial contribution accepted by the Commission; the geographic location of the activities carried out; the list of dissemination activities and/or of patent (applications) relating to foreground; the details/references and the abstracts of scientific publications relating to foreground and, where provided pursuant to Article II.30.4 of the Annex 2, the published version or the final manuscript accepted for publication; the publishable reports submitted to it; any picture or any audiovisual or web material provided to the Commission in the framework of the project.

The consortium shall ensure that all necessary authorizations for such publication have been obtained and that the publication of the information by the Commission does not infringe any rights of third parties.

9 CONCLUSIONS

By following this strategy, it should be ensured that the dissemination efforts achieve the goals of broad awareness and utilisation of ASGARD results. Next update of the Communication Action Plan (2015) is planned for M38.