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# SITEX

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## Content

# 1 Summary

SITEX plans to help establishing the conditions required for developing a sustainable network of technical safety experts who have their own skills and analytical tools, independently of the operators, and who are capable of conducting their own research programs in coordination with research activities performed by operators.

The SITEX project will initially involve the study of:

- the potential for harmonizing technical expertise practices, by identifying the needs for developing safety guides through technical discussions between regulatory authorities and operators, and by defining and implementing expertise guidance and a training program specific to the role of technical assessment;
- the ability to run R&D programs dedicated to developing the scientific knowledge necessary to perform independent technical assessments, by encouraging joined research and scientific and technical exchanges between TSOs and regulatory authorities as well as with operators at the European level;
- the needs from the civil society actors in interacting with the expertise function with the overall objective in the future to reinforcing the robustness and quality of the decision making process. Practical case studies devoted to define in practice the methodology of sustainable interaction between civil society and expertise function will be proposed.

Expected results of SITEX are to pave the way for the establishment a coordinated European and possibly international Workforce ensuring a sustainable capability:

- to provide an independent technical expertise in the field of RadWaste disposal safety and Radioprotection, in close interaction with the civil society,
- to harmonize and coordinate research programs involving TSOs and regulatory authorities,
- to ensure competence building and transfer of knowledge,

without replacing national competencies.

This future sustainable network of expertise would in particular make possible the technical and scientific dialogue between actors involved in the licensing of deep geological disposal projects over a period of time commensurate with the duration of these projects. This workforce would contribute in encouraging the development of harmonized technical expertise methods among the EU Member States, in particular in the practical implementation of the EC Directive (including the Peer review process), the Aarhus Convention, etc. Societal impact is expected by developing technical skills of public stakeholders and defining the conditions for their involvement in the assessment process ; that participation would contribute in building up the credibility of the safety analysis process over time.

# 2 Context

The long-term management of high-level and long-lived radioactive waste is one of the safety issues faced by the nuclear sector. Disposal in deep geological formations is considered by the international community as an appropriate solution to manage these wastes. Most of the European countries with nuclear power launched studies or more consolidated programmes to study the feasibility of geological disposal. Finland, France and Sweden are the most advanced nations regarding this issue and enter now or within a few years in the licensing process of deep geological disposal facilities.
In consistency with international standards issued by IAEA and international approaches developed within the NEA and EC projects, waste management organisations (WMOs) in those countries are developing a Safety Case for presenting the technical and organizational arguments that support the development of the geological repository concept. For that purpose, the structure, content and level of information presented by the Safety Case should match the set of regulatory expectations relating to safety issues that will provide the basis for the assessment by the regulator. In order to reach a harmonised level of safety, on 3 November 2010, the European Commission has proposed a draft Directive which sets safety standards for disposing spent fuel and radioactive waste from nuclear power plants as well as from medicine or research. With the proposed Directive, European countries agreed safety standards become legally binding and enforceable in the European Union.

**But in order to properly implement that future Directive, some preliminary work should be undertaken within the member countries.**
On the one hand, there is thus a strong need for building a common understanding of regulatory expectations between national actors, as well as at the international level between the different organisations involved in the licensing process. On the other hand, the assessment of the scientific and technical issues developed by the WMOs requires specific skills from the assessor in order to evaluate whether they allow compliance with the safety requirements issued by the regulator. The technical assessor must evaluate whether the elements of safety, and in particular that supported by scientific and technological results, are sufficiently developed to be accepted by the regulator as a basis for proceeding with the decision making process. In that context, the **expertise function**, whether part of a regulatory body or developed in a separate organization, is gaining increased importance in providing the technical and scientific basis for decisions regarding nuclear and radiation safety. When allowing technical dialogue between operators and regulators, the expertise function bridges the gap between the implementing function focused on disposal project development and the regulatory function centred on decision making process. It allows the operator and the regulator identifying the gaps in the safety demonstration with respect to the elements expected by the regulator, and supports the regulatory decision by justifying

the decisions of the regulator on the basis of technical and scientific arguments where necessary.

Today, besides the organisation in place in each EU member country, a number of established groups exist at the international level that aim at fostering exchanges on practices in the field of :

- regulatory function : ENSREG, WENRA, NEA/Regulatory Forum, European Pilot Study for example,
- implementing function : EC/IGD-TP, IAEA/WATEC for example,
- expertise function: Eurosafe, ETSON association

Moreover, specific projects have been launched under the aegis of international organisations as for example the IAEA/GEOSAF and NEA/Mesa projects aiming at developing common understanding of applicable safety standards as well as safety assessment practices.

Such initiatives are of course of importance to reinforce cooperation and mutual understanding of challenges related to the different activities involved in the process of developing, regulating and implementing a deep geological disposal.
But it can be noticed that, generally, such groups work separately in their domain of activity (regulation, implementation or expertise). The projects, even if they present the advantage to foster interactions between the actors in charge of those different functions, are nevertheless limited in time.
Considering:

- on the one hand the necessity (i) to consolidate and clarify the regulatory expectations related to the authorization to construct and implement a deep geological disposal, (ii) to develop and share the technical review methodology of the associated Safety Case and (iii) to strengthen the technical dialogue between the operators and the assessors;
- on the other hand the long duration of such licensing process (possibly several tens of years) in the stages of siting, conceptualisation, design, construction and operation;

there is a need for **establishing a sustainable European (and possibly international) network of experts** that would make available, for a **duration commensurate with the development of geological disposal projects**, the **expertise function** as defined above. **It is expected that the expertise function, based on harmonised practices in reviewing the Safety Case. would contribute to the achievement of a high level of safety by in particular facilitating the technical exchanges between implementers and regulatory bodies and thus the implementation of the high level safety requirements such as those from the future European directive on waste safety or from IAEA.** This challenge is the purpose of the current project as described below.

# 3 Objectives

The fundamentals of the above mentioned network of technical experts rely on a common vision between regulatory bodies, technical safety organisations and if possible other stakeholders as general public, of the expertise role in the decision making process. The present coordinated action aims at establishing this **common vision** by addressing the issues that will structure the development and then the sustainable functioning of the network. Those fundamental issues are that related to:

- mutual understanding between regulatory bodies, TSOs and waste management organisations (WMOs) on (i) the regulatory expectations at decision endpoints and (ii) how the scientific and technical elements carried out by the WMOs comply with these expectations. **In that perspective, the needs for developing new common regulatory guidance will be addressed, taking into account exchanges with IGD-TP. In complement, the role of the expertise function and the different needs for expertise will be discussed;**

- in coordination with or in complement to WMO's research program, the definition of TSO's R&D program that would ensure independent capabilities development for reviewing the Safety Case and assessing the scientific arguments provided by WMOs. The leading role of WMOs in developing R&D programmes is not questioned since they have the prime responsibility to develop all qualitative and quantitative scientific arguments that will support the safety demonstration. But, TSOs strong implication in R&D programmes is legitimated by their mission. **TSO's R&D program and priorities will be addressed by favouring close interaction with IGD-TP and seeking for joined research activities with the WMOs in order to foster common understanding of technical key points for safety and avoiding undue duplication;**
- competence building of experts and transfer of knowledge on waste safety and radiation protection; **the needs in guidance development for harmonising the technical review activity and in dedicated training and tutoring for spreading the expertise culture and practices will be addressed;**
- development of stakeholders capabilities to interact with the expertise function, in a manner more integrated than when only communication or dissemination are envisaged. **Compilation of past actions and learning of ways of interacting with stakeholders in the process of technical review will be discussed.**

When the above conditions are met, the foreseen network of expert will be able to perform harmonized independent technical expertise in the field of waste management safety and radiological protection (RP). On this basis, it should be able to provide standardized services of expertise function to the organizations at national or international level that are involved in the various stages of the licensing process of a geological disposal for spent fuel or high level waste.

***PROGRESS BEYOND THE STATE OF THE ART***

Today, a number of initiatives have been undertaken under the aegis of NEA/RWMC (IGSC, RF, FSC), IAEA (BSS, Watec, GEOSAF), EC (former PAMINA and COWAM-IP projects, on-going IPPA INSOTEC projects, IGD-TP, draft directive), ICRP, as well as from particular established groups (ENSREG, European Pilot Group, ETSON), with the view to debate and possibly share common view about the regulatory expectations and high level requirements and safety principles, the disposal implementation activities and priorities in terms of safety assessment and to a less extent the needs for developing and coordinating the expertise function.
Major outcomes of these initiatives can be summarized as follow.
**Regarding the regulatory function**, high level requirements have been developed at international level or are on-going development:

- On 3 November 2010, the **European Commission** has proposed a draft **Directive** which sets safety standards for disposing spent fuel and radioactive waste from nuclear power plants as well as from medicine or research. With the proposed Directive, internationally agreed safety standards become legally binding and enforceable in the European Union. Main objectives of the Directive are in particular (not exhaustive) to ensure a transposition of the political decisions into clear provisions for implementation of all steps on radioactive waste and spent fuel management from generation to disposal and to achieve and maintain continuing improvement of the management system, based on stepwise decision-taking and social acceptance.
- **The EPS (European Pilot Study)** aims at sharing experience and opinions on the regulatory approaches to various stages of geological disposal development, including very early stages, like conceptual planning and site selection, where regulatory activities may not be explicitly required by legislation and developing a harmonized view within the European Union. The **EPS** sets out what the regulator should expect from the safety case at each stage of the project and how the regulator will evaluate the elements of the safety case.
- **RWMC/RF** has been very active in bringing about an understanding of the complexity of the regulatory function and in examining the basis of regulation for deep disposal of radioactive waste. From the work of the RWMC RF (2011) "*it is clear that an international broad common understanding on the interpretation of all aspects of the safety standards has not yet been reached. Reaching such common understanding would be important for building confidence in the regulatory process as well as in the disposal concepts themselves. A close cooperation between the concerned regulatory authorities can be expected, but it will also be important that an open dialogue is held between implementers and regulators*". The **RF** initiated a working group (2010-2011) with the **ICRP** with the view to harmonizing approach developed by the ICRP with the practice and standards developed for safety of geological disposal. It is recognised that better understanding of recommendations and their principles remains a challenge for the safety assessors.
- **IAEA** published recently the new **SSR5** on radioactive waste disposal safety and is currently reviewing the final draft of DS 355 about safety case and safety assessment development guidance. Those documents have of course been discussed at different

levels but their practical implementation in the national programmes remains challenging. Moreover, some clarification and complements appear necessary, as it is recommended by the IAEA/GEOSAF group (see below).

- **ENSREG/**Working Group 2 - Improving Radioactive Waste Management and Decommissioning Arrangements (**WGRWMD**) of the European Nuclear Safety Regulators Group (**ENSREG**) aims at proposing common principles of radioactive waste management policy and identify mutually agreed reference levels on safety, promoting good practices on radioactive waste and strengthening cooperation.

**Regarding the implementation function:**

- A number of waste management organisations decided to coordinate their scientific efforts (**EC/IGD-TP**) with the view to being able to operate safely the first geological disposal facilities for spent fuel, high level waste and other long-lived radioactive waste in Europe by 2025. It issued recently a strategic research agenda (**SRA**) aiming at prioritizing the research actions in order to provide results in due time with respect to the deep geological disposal development agenda.
- The **IAEA/WATEC** (Waste technical Committee) current activities on geological disposal are addressing scientific, technical, institutional and socio-political issues in support of confidence building for the geological disposal concept and its implementation. WATEC assists in the development, transfer and demonstration of technologies appropriate for the geological disposal of high level and long lived waste.

**Regarding the expertise function**, even if little work is currently undertaken in order to develop and harmonize this activity within the European or international framework some initiatives have been recently launched at European level (ETSON, Eurosafe) and at international level (IAEA):

- **ETSON** is a non-profit legal entity since August 23, 2010 which currently involves 7 European TSOs: IRSN (France), GRS (Germany), BelV (Belgium), VTT (Finland), UJV (Czech Republic), LEI (Lithuania) and VUJE (Slovakia). JNES (Japan) joined recently the group. The aim of ETSON is to promote and develop European scientific and technical co-operation between the TSOs in the field of nuclear safety. This will be achieved by exchanging in particular systematically R&D results and experience in connection with the operation of nuclear facilities and safety assessments. The partners promote a harmonisation of nuclear safety assessment practices in Europe and encourage initiatives to define and implement European research programmes. But we can note the absence of an accepted vision of requirements for technical support.
- Moreover, the IAEA conference (2010) **"*On the challenges faced by technical and scientific support organizations in enhancing nuclear safety*"** recognised that "*the cooperation* [between TSOs] *should comprise an intense exchange with or even participation in up-to-date scientific and technical developments and research. The Conference underlined the importance of ensuring that TSOs are always familiar with the international status of research and technology and that they must have a comprehensive knowledge of international guidance documents. The international*

*exchange of knowledge and sharing of experience and feedback is essential to maintaining and enhancing TSO competence*".

**Regarding the integration of wider socio-political considerations**, various initiatives have been launched at national or international level. For example, France created the Local Information Commissions (Commissions Locales d'Informations or **CLIs**) and the National Association of **CLIs** (Association National des Commissions Locales d'Informations or **ANCLI**). A European initiative **ACN** (for *Aarhus Convention and Nuclear*) was set up by ANC**LI** in 2009 in partnership with the European Commission to consider the practical implementation of the Aarhus convention (Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters) in the nuclear field. The **RWMC** Forum on Stakeholder Confidence (**FSC**) gives its members with an opportunity to view the inner workings of waste-management programmes, the methods they have employed for stakeholder interactions, the successes and failures they have had. The **EC** also fostered European societies to make actual progress in the governance of radioactive waste management while contributing to increasing societal awareness of and accountability for radioactive waste management in Europe in order to reach practicable, accountable and sustainable decisions. The **COWAM** in practice (**CIP**) project contributed to analyse five innovative national processes on radioactive waste management on the basis of COWAM 2 results.

Moreover, a number of **projects complement these group's activities**:

- The Integrated EC Project **PAMINA** (**P**erformance **A**ssessment **M**ethodologies **IN** **A**pplication to Guide the Development of the Safety Case) aimed at improving and harmonizing methodologies and tools for demonstrating the safety of deep geological disposal of long-lived radioactive waste. Today, a report "European Handbook of the state-of-the-art of safety assessments of geological repositories", deliverable 1.1.4, devoted to assess and compile the methodologies and approaches needed for assessing the long-term safety of deep geological disposal is under publication.
- **RWMC/IGSC** started in 2008 the **MeSA** project which concentrated on the evolutions in methods for safety assessment. It paid special attention to safety and performance indicators. The work on "regulatory issues" performed within this project is of particular interest as it can serve as an input for the identification of existing guidance on safety assessment.
- **The IAEA GEOSAF** project has been established to work towards harmonization in approaches to demonstrating the safety of geological disposal with a special emphasis on the expectations from the regulatory authorities engaged in the licensing process with respect to the development of the safety case in order to enable decisions to be made as part of the licensing process. It also considered the process of reviewing and evaluating the safety case by regulatory authorities or technical safety organizations (TSOs) and the needed resources for conducting this technical review. It is worth noting that, after decades of long term safety development, GEOSAF launched in 2010 a specific programme of work on the safety

of the operational phase. This work is under progress and is a valuable input for SITEX.

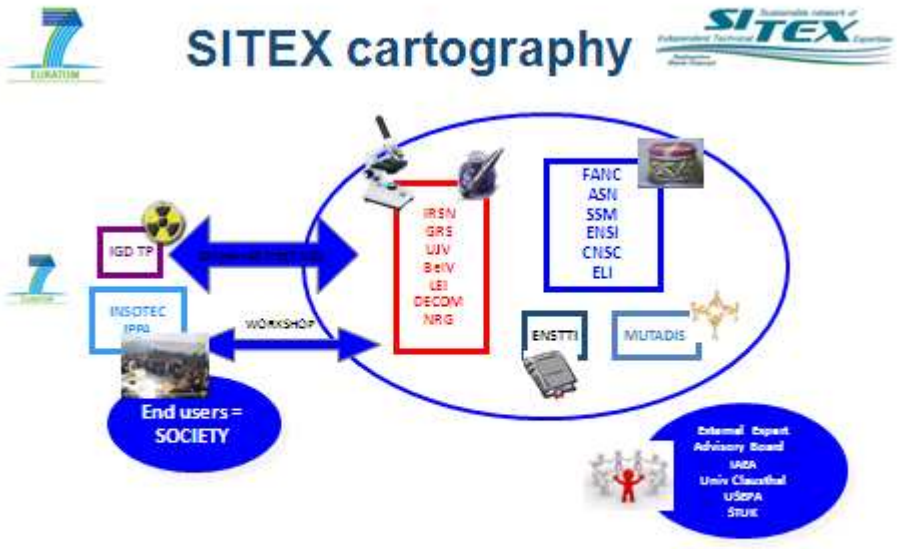
**On the basis of this experience gained by various actors and projects in the different areas of the decision making process, the progress that is expected by SITEX is to pave the way for, at a coordinated European and possibly international level:**

- **organising a sustainable privileged dialogue between regulators and TSOs by the way of the expertise function development, and therefore interact, on scientific and technical aspects with the implementers (IGD-TP in particular), in order to follow and guide the development of the final steps of disposal programs before creation and implementation;**
- **coordinating the implementation in practice of high level requirements by developing specific guidance where needed, in coordination with existing groups (ENSREG/ WGRWMD, RWMC/RF, ICRP, IAEA/BSS for example);**
- **implementing in practice the Aarhus convention principles to geological disposal as well as the future EC Directive; more generally, a major challenge for SITEX will be to improve interaction of expertise function with the civil society in order to improve the quality of the decision making process and to allow in practice the participation of experts from citizens in the review process of the safety case**
- **developing and maintaining independent scientific capabilities of TSOs for reviewing the Safety Case in due time (in coordination with ETSON and ENSTTI).**

# 4 Participants

**In order to efficiently implement the programme of work of the SITEX action, the proposed consortium is composed of regulators, TSOs, and organisations that have experience in stakeholder's participation:**

Autorité de Sûreté Nucléaire, **ASN**, France
**BELV**, Belgium
Canadian Nuclear Safety Commission **CNSC**, Canada
**DECOM** A.S., Slovakia
Eidgenossisches Nuklearsicherheininspektorat **ENSI**, Switzerland
European Nuclear Safety training and tutoring institute, **ENSTTI**, France
Federal Agency for nuclear Control, **FANC**, Belgium
Gesellschaft für Anlagen-und-Reaktorsicherheit, **GRS**, Germany
Institut de radioprotection et de Sûreté Nucléaire, **IRSN**, France
Lietuvos Energetikos Institutas, **LEI**, Lithuania
Ministerie Van economische Zaken, Landbouw en Innovatie , **ELI**, Netherlands
**Mutadis** Consultant SARL, France
Nuclear Research and Consultancy Group, **NRG**, Netherlands
Stralsakerhetsmyndigheten , **SSM**, Sweden
Ustav Jaderneho Vyzkumu Rez A.S, **UJV**, Czech Republic



# 5 Link with other EC projects

The **IPPA** project intends to consider possible added value approaches as part of a wider basic approach to enhancing the acceptability of contentious facilities beyond just public participation and risk communication. This will help stakeholders understand the main purposes of different compensation methods. It is intended to clarify the main concepts, the differences in their meaning and their limitations in the practical implementation of economic compensation theory and to help stakeholders consider different views concerning possible added value packages that may be developed. Participants are mostly from central and eastern European countries. **IPPA** is linked to precedent projects, mainly ARGONA, but also COWAM and CIP.
Recent project **INSOTEC** (International Socio-Technical Challenges for implementing geological disposal) will address socio-political challenges and issues related to radwaste management.
Specific linkage with IPPA and the new project INSOTEC (through the organization of a joined workshop) will be favoured with the view to derive practical conditions for integrating stakeholders in the technical review process.

**IGD-TP** is a reference actor in the ongoing process of deep geological disposal licensing. SITEX will establish practical linkage with IGD-TP with the view to organizing dialogue and interactions between the group of regulators and TSOs and the WMOs. The objective of this coordination is to share vision of **R&D priorities** and propose joined work where possible to the EC in the future FP calls.

The involvement of a wide range of experts from European TSOs with proven expertise and long lasting experience in R&D and safety evaluation of radioactive waste disposal will contribute to the high quality of the project deliverables with the opportunity to propose in fine a plan for developing R&D. Contribution of the coordinating action to the coordination of high quality research will be twofold:

- **Advising the future EC R&D calls** for the future framework programme with respect to the needs identified not only by WMOs but also by regulatory and expertise bodies. By enabling the anticipation and coordination of R&D actions between WMOs and TSOs, the future network would contribute to optimising EC funding in the framework programme;
- **Elaborating a research programme for the expertise organisations** (essentially ETSON) and a plan for developing jointly this programme with the view to optimising resources and increasing exchanges and common understanding of scientific key questions governing the safety.

# 6 Description of work

The work in SITEX has been split into **six Work Packages (WP)** which are designed to address the key topics that would drive the future activities of the foreseen network of expertise.

**Work Package 1: Project management**
Leader **IRSN, France**
The purpose of this WP is to implement the administrative tasks for coordinating the progress of the project and developing and maintaining the web site of the project for internal and external use. In particular, in coordination with WP5, a workshop will be organised a few months before the end of the project in order to provide a forum with external organisations from the consortium, and especially stakeholders and future end-users of the proposed network.

**Work Package 2: Regulatory expectations and needs**
Leader **FANC, Belgium**
Based on a dialogue between regulators, experts in safety (both from the consortium) and implementers (outside the consortium but identified within the IGD-TP group), the aim of this WP is to identify:

- the aspects of the Safety Case where new regulatory guidance or clarifications would be necessary in order to ensure mutual understanding of the expectations of the regulator when assessing the compliance of the Safety Case with the safety requirements;
- the expertise (as technical support of the regulatory function) needed in order to perform an independent assessment of the safety arguments and of the associated scientific developments afforded in the Safety Case and their compliance with safety requirements.

In particular the technical dialogue with IGD-TP will allow exchanges on the scientific issues and their priority with respect to regulatory/technical assessor's expectations.

**Work Package 3: Development of TSO's scientific skills**
Leader **UJV, Czech Republic**
To maintain their knowledge as well as the relevance and credibility of their technical expertise, technical experts and TSOs need to be in the front line of scientific advances. This implies active participation in R&D programmes. The purpose of the WP3 is:

- to define the R&D actions that should be performed by the TSOs in order to support their technical expertise function,
- to identify the available tools (experimental installations, modelling capacities…) that are already available to carry out this programme or that should be further developed in order to improve the TSOs capabilities in performing their R&D programmes,
- to issue a strategy for developing that programme; the development of scientific

capabilities independent from those of the operator is not questionable, but the development and maintain of these capabilities is two way: the establishment of a research programme independent from the research carried out by the operators and/or the cooperation with operators to carry out joined research or participating to joined project.

Members of the WP3 are from TSOs but close interaction with IGD-TP (as it is initiated in WP2) will be developed with the view to prioritizing the programme of work and assessing the areas where scientific cooperation is possible. Outputs from WP2 (needs in expertise function) will also be considered to propose an action plan of TSOs research.

**Work Package 4: Technical review method and competence building**

Leader **IRSN, France**

The objective of WP4 is to establish the conditions for developing common technical review methodologies so as to seek for harmonisation of expertise function and contribute as well to guide the development of the Safety Case by WMOs in Europe. WP2 will provide inputs to identify the areas where technical assessment methodology should be developed in priority. The partners of this group are from **ETSON** members essentially. In complement, the practical application of this methodology relies on available skills. WP3 already deals with the development of scientific skills that must be completed by specific knowledge about technical assessment. In that perspective, it is proposed to issue a plan dedicated to competence building and transfer of knowledge within the expert's community. Such a plan would propose training and tutoring activities on the technical assessment methods using the **ENSTTI** framework. **ENSTTI** provides training and tutoring in the methods and practices required to perform technical assessment in nuclear safety, nuclear security and radiation protection. **ENSTTI** aims at fostering among the European TSO the development of the expertise function by maximizing the transmission of safety and security knowledge, practical experience and culture. Challenge is to identify what is specific in expertise skill that deserves to be developed because it is not already teached in specialised curriculae, or would need to be adapted to the expertise activity.

**Work Package 5: Conditions for associating stakeholders in the process of expertise**

Leader **DECOM, Slovakia**

Overall objective of WP5 is to propose arrangements for associating stakeholders (general public) in the process of technical expertise and sharing, where needed, expertise approach with various stakeholders, in a manner more integrated than when only communication or dissemination is envisaged (e.g. by facilitating expertise activity with volunteers). A specific aspect is to learn about the possibilities of the future expertise network to contribute in developing stakeholder's technical capabilities for ensuring this interaction. Close interaction with the new EC project INSOTEC will be organised. It will consider also the way of implementing the Aarhus convention in the field of nuclear waste, and particularly in various stages of geological repository development.

WP5 will compile the outcomes of the various projects or initiatives already undertaken and organise exchanges with established groups (FSC, ANCLI…). In that perspective, WP5 will be also in charge of developing dissemination and communication activities within the project on its duration. A dedicated workshop will be organised a few months before the end of the

project for allowing exchanges between different actors from the society and the project members.

**Work Package 6: Conditions for the establishment of a sustainable expertise network**
Leader: **MUTADIS, France**
The main purpose of WP6 is the establishment of the conditions required to elaborate a network of entities in charge of developing the expertise function in the EU countries. Those conditions will be derived from the outcomes of the previous work packages. This network should back on the existing European Technical Safety Organisations Network (ETSON) and on organizations that include expertise function in their mission or that carry out research in support of expertise. WP6 will elaborate the terms of reference of the network in order to specify the missions and end-users of such network as well as the profile of the experts who would belong to the network.

# 7 Deliverables List

| # | Deliverable name | WP | Nature[1] | Dissemination level[2] | Deliver y date |
|---|---|---|---|---|---|
| D1.1 | Project presentation | 1 | R | PU | T0+3 |
| D1.2 | Communication action plan | 1 | R | PU | T0+6 |
| D2.1 | Overview of existing technical guides and further development | 2 | R | PU | draft T0+12; final T0+24 |
| D2.2 | Main key technical issues, expertise and support needed | 2 | R | PU | draft T0+12; final T0+21 |
| D3.1 | R&D orientations for the TSO's network programme of work | 3 | R | PU | draft T0+3; final T0+12 |
| D3.2 | Availability and needs of technical and scientific tools for TSOs | 3 | R | PU | draft T0+6; final T0+12 |
| D3.3 | The strategy for implementing TSO's R&D programmes | 3 | R | PU | draft T0+12; final T0+21 |
| D4.1 | Available technical review guidance and further needs | 4 | R | PU | Draft T0+12, Final T0+18 |

[1] **R** = Report, **P** = Prototype, **D** = Demonstrator, **O** = Other
[2] **PU** = Public
**PP** = Restricted to other programme participants (including the Commission Services).
**RE** = Restricted to a group specified by the consortium (including the Commission Services).
**CO** = Confidential, only for members of the consortium (including the Commission Services).

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| D4.2 | A plan for competence build up in expertise of radwaste safety | 4 | R | PU | Draft T0+12, Final TO+20 |
| D5.1 | Compilation of recent approaches to the stakeholder involvement in geological disposal development | 5, 6 | R | PU | T0+7 |
| D5.2 | Interaction with stakeholders in the technical review process in practice | 5, 6 | R | PU | Draft T0+12; final T0+20 |
| D6.1 | Conditions for establishing a sustainable expertise network | 6 | R | PU | Draft TO+18; final TO+24 |
| D6.2 | TOR of the expertise network | 6 | R | PU | Draft TO+18; final T0+24 |

# 8 List of milestones

| # | Name | WP(s) involved | Expected date | Means of verification |
|---|---|---|---|---|
| M2.1 | Exchange meeting with IGD-TP (*Needs for technical guidance)* | 2, 3 | T0<t<T0+6, workshop | Minutes |
| M2.2 | Identification, for each key issue, of the types of expertise and support needed at each stage of the repository project development (*Needs for expertise and technical support)* | 2 | T0+21 | D1.2 |
| M3.1 | Exchange meeting with IGD-TP (*R&D priorities*) | 2, 3 | T0<t<T0+6, workshop | Minutes, D3.3 |
| M5.1 | Organisation of a workshop in order to foster exchanges with CSOs about the opportunities of the project to create real interactions of experts from civil society with the expertise function | 5 | T0+20 | Minutes |