



## DELIVERABLE D4.7: Adopt dissemination & Networking Plan

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## DOCUMENT HISTORY

Version	Date	Comment	Modifications made by
V1	11/11/2014	Structure of the document, first draft of adopt aims and specific objectives of Adopt	Fotini Chaimala after all partners feedback
V2	20/11/2014	Global dissemination plan and template for localized dissemination plans	All adopt partners complete local dissemination template
V3	5/12/2014	Monitoring guidelines for Adopt dissemination and implementation	Fotini Chaimala after all partners feedback
V4	12/12/2014	Consolidation of localized dissemination plans	Fotini Chaimala
V5	15/12/2014	Draft for internal review	Fotini Chaimala & Kathy Kikis-Papadakis
V6	19/12/2014	Integration of reviewers comments and suggestions – final version for submission	Fotini Chaimala & Kathy Kikis-Papadakis after comments from Aristeidis Protosaltis & Yael Shwartz
V7	19/12/2014	Final review and submission	Pat Morton (SHU)

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## EXECUTIVE SUMMARY

The *aim of this document* is to **guide and facilitate** the ENGAGE *consortium in preparing the dissemination and networking actions* for the most effective implementation of the ADOPT stage professional development activities.

For this purpose, a **general dissemination and networking plan** is reported, comprising of the following components: basic principles on which it has been developed (see section 1); general objectives and specific targets of ADOPT implementation (see section 2); general dissemination strategies (see section 3).

In addition, a template for **localized dissemination plans** has been distributed to and completed the ADOPT partners in order to facilitate them reflect their dissemination process and prepare their localized dissemination plans (see APPENDIX).

A **synthesis of the main thoughts and issues** raised by the partners in the process of reflecting on their **localized plans** for dissemination of the ADOPT activities has been conducted and reported, in the view of helping partners consider further opportunities, key audiences, issues about added value for the participants of the ADOPT (see section 4).

Finally, with an aim to facilitate ADOPT partners achieve the challenging targets of the ADOPT phase of the CPD of the Engage project, provided are **recommendations and guidelines on how to monitor what is happening in their countries** during the implementation of the dissemination plan and how they will have early feedback by teachers in order to avoid poor results during implementation (see section 5).

## 1. INTRODUCTION

This document aims at **guiding and facilitating** the ENGAGE **consortium in preparing the dissemination and networking actions** for the most effective implementation of the ADOPT stage professional development activities. In line with the general approach for “dissemination” within the project, as expressed in D7.1, the ADOPT phase dissemination goes beyond “delivering and receiving a message”; it rather targets at “the engagement of an individual in a process” and “the transfer of a process or product” (Harmsworth & Turpin, 2000).

The ADOPT dissemination plans fall upon the **deployment phase** of the general dissemination plan of the project (see D7.1), which aims at **creating opportunities for understanding an action** (see D7.1). As it has been stressed by Harmsworth & Turpin (2000), in the process of developing an effective dissemination and networking plan, it is helpful to think first about the purpose of our disseminating actions at three levels:

- a. Dissemination for Awareness:** at the very least, we wish people to be aware of the work of our project. This may be useful for those target audiences that do not require a detailed knowledge of your work but it is helpful for them to be aware of your activities and outcomes. Creating such an awareness of your project’s work will help the “word of mouth” type dissemination and help us build an identity and profile within your community.
- b. Dissemination for Understanding:** there are target groups that may directly benefit from the developments within our project, such as science teachers and science advisors. It will be important, therefore, that these groups/audiences have a deeper understanding of our project’s work.
- c. Dissemination for Action:** “Action” refers to a change of practice resulting from the adoption of products, materials or approaches offered by your project. These groups/audiences will be those people that are in a position to “influence” and “bring about change” within their organisations. These are the groups/audiences that will need to be equipped with the right skills, knowledge and understanding of your work in order to achieve real change.

Although ADOPT dissemination mainly targets for ACTION, it is acknowledged that firstly the project requires its potential audience to be AWARE of its aims and objectives, they will then become interested enough to wish a more detailed UNDERSTANDING. Involvement in both of these two stages will provide the basis for dissemination for ACTION. As such, in the ADOPT dissemination plan and networking all the above mentioned levels have been taken into consideration, with the main focus **being dissemination for UNDERSTANDING and ACTION**.

In order to facilitate ENGAGE partners who are involved in the ADOPT phase implementation to most effectively disseminate for UNDERSTANDING and ACTION we prepared a **general dissemination and networking plan**, reported in this document, which is based in the following **principles**:

- 1. Specific goal oriented** – the goals of the networking and dissemination efforts should be clearly determined and communicated at the beginning of the task to all involved parties responsible for the task; this allows us to meet the dissemination challenges in terms of awareness.

2. **Coherency between the basic elements that are to be disseminated** – identification of the basic elements of the projected content we have to disseminate to each of the potential user groups and provision of a coherent overview of the basic components that are to be disseminated; this reduces confusion about the key messages that are to be communicated and as a result increase the chances for dissemination for understanding.
3. **Context- based, embedded on national contexts** – dissemination activities should be embedded on the national contexts of the 11 European participant countries of the ADOPT phase, namely: United Kingdom, Greece, Germany, France, Romania, Israel, Spain, Norway, Switzerland, Lithuania and Cyprus; the consideration of the specific country opportunities and barriers increases the chances for dissemination for action and the impact of our actions.
4. **Explicit key audience targeted** – the scope and characteristics of the "potential users" that our dissemination activities are designed to reach for should be considered, under the view of reaching them using the appropriate language for communicating key messages; this increase the chances for dissemination for understanding and action.
5. **Comprehensive of the audience group needs** – each of the target audiences has its own particular needs, creating the need for tailored and specific dissemination strategies; the consideration on “what is there for the audience” helps to clarify the value placed upon dissemination in respect to each target group and increases the chances for dissemination for action.

Based on the above principles, **the main aim of the global dissemination plan** for the ADOPT phase is to **facilitate** partners participating in the implementation of ADOPT to meet the challenging goals of the ADOPT by:

- **Providing them with the specific targets** that we want to achieve by implementing ADOPT program;
- **Helping them acquire a coherent overview of what to be disseminated**, by providing a concise outline of the objectives, tools and expected teacher learning outcomes, expected numbers of participants - of the materials usage, workshop attendance and online courses participation ;
- **Guiding them to embed the activities onto the specific national contexts**, by guiding them to reflect on the opportunities and challenges for participants’ engagement in their country;
- **Helping them identify groups of key audience for participate in each one of the activities**, by providing a list of potential interested parties;
- **Facilitating them to comprehend the specific needs of each group of key audience and identify the added value for them to participate**, by outlining the main project messages for motivating key audience to participate in ADOPT and guide them to shape how the messages will be best delivered to each group according to their specific needs.

For achieving this aim, the next section of this document describes the **goals that we want to achieve by the implementation of the ADOPT stage CPD program**, in the view of partners acquiring a clear vision of the targets that are to be met by the end of year one ADOPT deployment. The following section presents **general strategies for dissemination and networking** aiming at helping partners conceptualise the actions need to be implemented during dissemination as well as reflecting on their own dissemination plans. Then, **a synthesis of the local dissemination plans** is provided – from the feedback of ADOPT partners- while the last

section aims to facilitate partners achieve the challenging targets of ADOPT by providing them with ***recommendations and guidelines on how to monitor*** what is happening in their countries during dissemination and implementation activities.

## 2. GENERAL OBJECTIVES AND SPECIFIC GOALS OF ADOPT

ADOPT is the first step of the ENGAGE continuous professional development (CPD) model. It relates to the teachers' ability to use teaching materials which embed RRI-based teaching techniques, in order to achieve students' productive outcomes. These materials are developed by WP3 based on the framework suggested by WP1. ADOPT is followed by ADAPT, a transitional stage, in which teachers can use RRI teaching with less support, showing a significant change in either their beliefs, knowledge or classroom practice and being able to adapt materials and embed RRI ideas and strategies into their teaching. . The last step (TRANSFORM) is the one where teachers are expected to undergo a shift in their professional self-image, for RRI teaching to be part of their repertoire.

In line with the ENGAGE step transformational CPD model, project work relating to the organization and the delivery of professional development actions has been structured around three work packages (WPs), each for each step, i.e. WP4 – ADOPT; WP5- ADAPT; and WP6-TRANSFORM. For work relating to **WP4-ADOPT**, the **first year implementation concern the period July 2014 till June 2015**. According to our contractual obligations within the project (DoW) the ADOPT phase of the CPD model has the following **objectives**:

- to **attract a large number of teachers to embed RRI approaches** through IBL in everyday teaching practices
- to **engage teachers get onto the path of RRI science**, by acquiring the **ability to use RRI teaching approaches** so as to achieve productive outcomes.
- to **motivate a proportion of teachers propel from the “adopt stage” to reach the “adapt stage”** in the progressive staircase of involvement.
- to **test the model and its impact in Year 1**, which will be re-iterated in subsequent years, and as the basis of subsequent stages (adapt/transform)

Based on current developments within the project, the following lines builds on the general objectives laid out in the DoW, in order to **define the specific targets that we want to achieve** by the end of June 2015.

In short, **ADOPT stage involves the following activities**:

1. **Materials Uptake**: a minimum number of teachers in each country (see Table 1) download the ENGAGE materials of the ADOPT phase (Topicals), use them for classroom experimentation, participate in the online community and provide feedback about the outcomes of the usage;
2. **F2F workshops Attendance**: a minimum number of teachers in each country (see Table1) attend the 1 day F2F workshop, aiming at introducing and engaging teachers to our RRI materials and the online community and at making them aware of RRI teaching techniques/tools -their rationale, characteristics, expected outcomes – i.e. productive dilemma and group discussion;
3. **On-line courses participation**: a minimum number of teachers in each country (see Table 1) participates in the whole cycle of the on-line courses, which focus on RRI teaching techniques (tools) - i.e. productive dilemma and group discussion.

The activities of the ADOPT stage should not be seen in isolation of the broader CPD framework; rather they should be anticipated within **the context of the step transformational CPD model** (ADOPT-ADAPT-TRANSFORM), by creating the conditions to support teachers move towards the next step, i.e. APAPT. As in DoW, at least 25% of the teachers using the ADOPT engage programme in each country are expected to move towards ADAPT.

Table 1: Minimum numbers of participants (teachers) that participate in ADOPT activities for ADOPT year 1.

Partner/Country	YEAR 1		
	ADOPT		
	Materials usage	Online course participation	Workshop attendance
FAU/Germany	700	25	30
SHU/UK	650	25	30
TRA/France	600	25	30
UB/Spain	450	20	25
VUT/Romania	200	20	20
FOR/Greece	100	15	20
WZ/Israel	80	15	15
HIV/Norway	50	15	15
DICS/Switzerland	40	10	10
LEU/Lithuania	40	10	10
UNI/Cyprus	20	10	10

The **ADOPT professional learning outcomes for teachers** being involved in the above-mentioned activities are the following:

**1. Teachers understand the rationale for the Tools and their implications for classroom practice.**

For the *Dilemma lesson Tool*: to understand the characteristics of an authentic RRI dilemma, to make the links to real life for the students, to promote the authenticity of the topic, evaluate the Dilemma as a way of framing the issue, science and skills for students.

For the *Group Discussions Tool*: to understand the purpose of the different group discussion techniques and forms.

**2. Teachers use the Tools to engage students and achieve lesson outcomes, resulting in positive experiences which teachers have reflected upon**

For the *Dilemma lesson Tool*: can describe how they engaged students in the issue and how they reached the goal.

For the *Group Discussions Tool*: can describe different kinds of discussions that happened in their classroom.

Generally: Can describe how they customised the Materials to fit their students' and curriculum requirements, and reflect on how they kept the essential features of the Tool intact.

### 3. Potentially, teachers can customise and apply the Tools beyond the Materials:

For the Dilemma lesson Tool: can provide examples of applying the tool in another context beyond the materials and critically reflect on its effectiveness

For the Group Discussions Tool: can describe how they can use different kinds of discussions in contexts beyond the materials and critically reflect on its effectiveness

**The specific targets** that we want to achieve **by the implementation of the ADOPT CPD activities in each participant country** – in the view of reaching the above-mentioned learning outcomes for teachers - are of both quantitative and qualitative nature: **the quantitative aspects** of the targets relate to the numbers of teachers that are expected to be engaged in each activity; **the qualitative aspects** of the targets concern the expected outcomes that we want teachers to achieve by the participation in each activity. In specific:

#### *ADOPT targets from a quantitative perspective*

From a quantitative perspective, by the end of ADOPT 1<sup>st</sup> year implementation the partners in each country should have been able to:

- **Attract a minimum number of teachers (as in Table 1) to:**
  - Download the materials, to use them in the classroom, to provide feedback and to participate in the online community.
  - Attend the F2F workshop and to provide feedback on the materials and the RRI tools.
  - Participate in the on-line courses and to provide feedback on the materials and the RRI tools.
- **Ensure a proportion of teachers to propel** from the ADOPT to the ADAPT (at least 25% of the teachers using the ADOPT engage programme are expected to move towards ADAPT).

### *ADOPT targets from a qualitative perspective*

From a qualitative perspective by the end of ADOPT 1<sup>st</sup> year implementation the partners in each country should have been able to meet the following challenging targets:

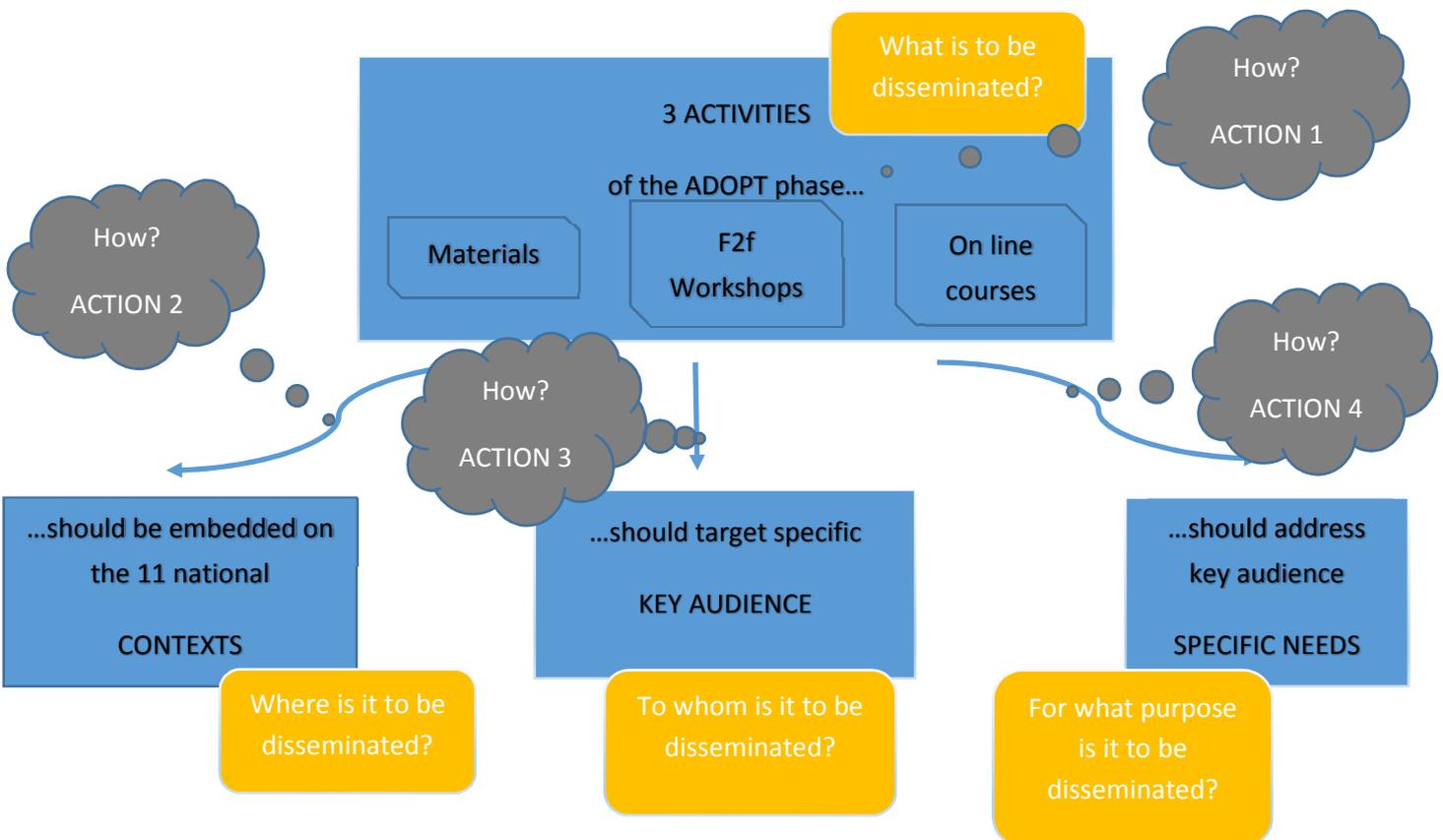
- Ensure that **teachers are able to use RRI techniques/tools (productive dilemma and small group discussion)** with the support of our teaching materials in order achieve students' productive outcomes, by:
  1. Providing teachers using the materials with advice through the online community (materials activity)
  2. Providing teachers with F2F and online support in order teachers to achieve the expected learning outcomes as described in APPENDIX (F2F workshops and online courses activities)
- **Ensure that proportion of teachers that are willing to move to ADPAPT** have achieved what we have defined as level n3 in the RRI integration model, i.e. that their integration of our Topicals materials goes beyond motivational and casual use and has a purposeful intention in the curriculum

In the view of the challenging targets of the ADOPT phase, the next section will provide an overview of global strategies (actions) proposed to be implemented so as to increase the chances that targets are met.

### 3. GENERAL STRATEGIES FOR DISSEMINATION PLAN & NETWORKING

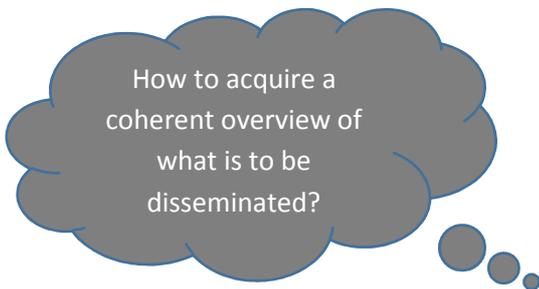
As mentioned earlier in this document, the ADOPT phase dissemination goes beyond “delivering and receiving a message”; it rather targets at “the engagement of an individual in a process” and “the transfer of a process or product” (Harmsworth & Turpin, 2000). The basis for achieving both engagement of individuals and transfer of products and processes is to clarify **what is to be disseminated, where to be disseminated, to whom** and **for which purpose**. The above constitute the main components of the dissemination framework for the ADOPT phase illustrated in Figure 1, below.

Figure1: Dissemination and networking framework for the ADOPT phase of the CPD program.



### What is to be disseminated?

Like the majority of educational development projects, we have, as a core objective, the need to disseminate the outcomes of our project to a particular community or communities. This will only be achievable and successful if, from the outset, every member of your project team has a **shared understanding of exactly what it is you want to disseminate and why**. One of the difficulties of projects of this nature is that the project team usually understand what they are trying to achieve but that the target audience do not. It is essential, therefore, that our team have a shared vision and common understanding of what it is we want to disseminate together with a way of describing this to those that are outside your project and who may stand to benefit from our work.



The dissemination and networking plan for the ENGAGE ADOPT CPD focuses on the 3 main activities of the ADOPT phase of the project, namely: a. the curriculum materials usage, b. the face to face workshop attendance and c. the online course participation by the teachers.

**ACTION 1:**

Refer to Section 2 in this document that briefly outlines the objectives, tools and expected teacher learning outcomes, expected numbers of participants in each country- of the materials usage, workshop attendance and online courses participation.

### Where is it to be disseminated?

ENGAGE is a European project that aims to influence a large number of teachers and engage them in RRI oriented teaching in all participant countries. The consideration of **the specific country opportunities and barriers** increases the chances for dissemination for action and the impact of our actions. These country opportunities and barriers are specified in the survey conducted in the frame of WP1 and its outcomes are reported in D1.1.



ADOPT activities should be embedded on the national contexts of the **11 European participant countries of the ADOPT phase**, namely: United Kingdom, Greece, Germany, France, Romania, Israel, Spain, Norway, Switzerland, Lithuania and Cyprus.

**ACTION 2:**

Refer to D1.1, in your country case study – probable barriers and opportunities for the accomplishment of the project objectives. Identify opportunities for ADOPT phase, that can be used in the emails sent to the key audience.

### ***To whom is it to be disseminated?***

Having clearly identified what it is our project has to disseminate, we now need to think about to whom you want to disseminate. This requires some analysis of your various stakeholders. A stakeholder can be defined as: “Any group or individual who can affect, or be affected by the achievement of the projects objectives - or can influence these objectives.” The term “target audience or group” can be used to describe the different groups of stakeholders connected to your project. It is important to identify and be clear about who our stakeholders are and then you need to be able to map them to one of the categories outlined in the awareness, understanding, and action model (see Introduction).



The main activities of the ADOPT that are to be disseminated target a **specific key audience**, i.e. upper elementary and secondary science teachers (pre-service and in-service), science advisors, science trainers, school principals and heads of departments.

**ACTION 3:**

Refer to D7.1 and D2.1 that outline key audiences. Identify key audience in your country for ADPOT and construct a list of teachers/advisors/heads emails. Consider email marketing plan using mailchimp.

### ***For what purpose is it to be disseminated?***

Effective dissemination can be defined as that which engages the recipient in a process whether it is one of increased awareness, understanding or commitment and action. This is not likely to be achieved unless it is clear to us what **specific needs of the key audience** we come to meet and what is the added value for them to participate in the ADOPT CPD activities. This will facilitate delicing the apporopriate messages to each target group.



It is of high importance that in the disseminating process the specific needs of the people that are invited to participate in the main activities are taken into consideration, as well as the added value that such activity.

**ACTION 4:**

Think about how you can present your project's outputs/outcomes as benefits/solutions. Place yourself in the "shoes" of each target audience/group and think about what problems/solutions you would be looking forty has for them.

In order to facilitate partners reflect their dissemination process and prepare their localized dissemination plans, we distributed a questionnaire and collected their feedback on the following themes:

Actions	Localization guiding questions
Embed the activities (materials usage, F2F workshops, online courses) into your national context	1. What are the specific opportunities that you will take into consideration in the process of disseminating the ADOPT activities in your country? (for example curriculum change, change in the system teachers are assessed extra credits for CPD...) 2. How are you going to use these opportunities in your email marketing of ADPOT?
Identify and reach key audiences to participate	3. Which are the key audiences that are most likely to engage in ADOPT phase in your country? 4. Which are the main actors who are most likely to propel from ADOPT to ADAPT? 5. Please Provide a list of potential teachers/advisors/heads etc. emails.
Identify the specific needs of the key audience and the added value for them to participate	6. Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer? 7. What could be the added value for each target group to participate?

The completed questionnaires from the ADOPT partners are reported in APPENDIX I, while the next section provides a synthesis of the main thoughts and issues raised by the partners.

## 4. LOCALISED DISSEMINATION PLANS SYNTHESIS

This section provides a synthesis of the main thoughts and issues raised by the partners in the process of reflecting on their localized plans for dissemination of the ADOPT activities. The provision of the synthesis is to facilitate partners consider further opportunities, key audiences, issues about added value for the participants than the ones that have already considered.

### *Specific opportunities for dissemination*

ADOPT partners identified opportunities relating to changes in curriculum, exam systems, teachers evaluation and teacher training, as well as focused on science teachers need in their countries for disseminating AOPT activities. In specific:

1. **Curriculum reforms** - “Policy reforms that are in line with RRI framework for age 11-15” (Greece) ; “Curriculum links and curriculum change” (Spain); “In Cyprus we had a recent restructure in the curriculum (2010) with an emphasis on making the connections to everyday science, argumentation and SSI” (Cyprus)
2. **New exams system** - “There is a new exam at 16 years, which will have many challenging questions relating to applying knowledge to real situations and test knowledge of the ‘nature of science’ “ (UK)
3. **Teachers’ evaluation** - “Science teachers want to be judged ‘outstanding’ by inspectors, and this involves showing they can engage students, and set challenging objectives” (UK)- “Teachers get credit for PD if it structures in at least 30 hours programs” (Israel)
4. **Teachers’ needs** - “Romanian teachers, especially those involved in upper secondary education, are trying to find and give interesting examples concerning the connection between theory and practice.” (Romania)- “Since 2013, 8 prototypes “Regional house of science” were created to help teachers to develop their science teaching practices, especially to allow teachers to build or strengthen relationships with current science and technology” (France); “Our teachers belong to earlier generations and they feel lack of pedagogical, psychological knowledge about this new “Z generation”, its motivation, creativeness and training of values. Teachers lack of knowledge of modern science and its technologies, they feel problems following the development of science today.” (Lithuania)
5. **Changes in teachers training** - “The national regulations have been changed so that a formal training will be required. This is linked to substantial funding of CPD for science teachers that do not fill the new requirements.” (Norway)

### *Using opportunities in marketing ADOPT:*

The following extracts from partners’ feedback on local dissemination plan template provide insights on how they plan to use the above mentioned opportunities in their marketing for ADOPT:

- Using specific words like the priorities above - ‘**outstanding**’, ‘**engage**’, ‘**challenge**’ (UK)
- “ADOPT **opportunities for teacher CPD on state-of the art- science content and pedagogies** that will give extra credits to teachers’ assessment” (Greece)

- “A student assistant has created an emailing list with other key actors in the field by contacting teacher training organizations and local teacher training centers. Additionally, German teachers that we registered for **the upd8 mailing** list will also be contacted” (Germany)
- “Except from the teachers who are used to come to with their class to our activities (conference, exhibition, workshops, etc.), we will not directly contact teachers. We plan to **use the network of our partners in informal and formal education** and our contact in National Education” (France)
- “Presenting to teachers that **ENGAGE learning materials represent a good opportunity** to teach Science starting from a **socio-scientific topic connected to the students' daily life**” (Romania)
- “By **stressing and summarizing opportunities in our communication** with stakeholders” (Spain)
- “We will be **pointing out the new requirements** and the fact that the materials and training events **will cover central elements of the national curricula both in schools and teacher training.**” (Norway)
- “Insist that the **materials are very easy to use** and that they “hit” very directly the aims of the study plan. **Discovery of the advantages of on-line courses:** a new instrument useful for your own CDP that is now being very used with success in other countries. F2F courses to learn how to use very interesting pedagogical tools that are being developed by an international group of experts that work collaboratively. **Dilemma lesson tool is highly interesting** to motivate students to learn. **Group discussion is crucial** to foster the fundamental skill of constructive dialogue.” (Switzerland)
- “We plan to attract teachers **giving introduction about the decrease of motivation towards science subjects** and possible reasons at the national scale.” (Lithuania)
- “We plan to **present ADOPT as a way that will help the teachers understand the new trends that are presented in the curriculum** and as a way that will help their students to improve their learning outcomes” (Cyprus)

### **Key audience in ADOPT**

The following key audiences were identified by the ADOPT partners, as more relevant for achieving ADOPT targets:

1. **Everyone in the existing upod8 database** (UK, Germany)
2. **Lower secondary science teachers** (Greece, Israel, Norway, Switzerland)
3. **Pre-service teachers** (Greece, Norway)
4. **Department heads and Headmasters** (Spain)
5. **Participants in professional development courses** (Spain)
6. **Multipliers** (Spain)
7. **Teachers associations** (Spain)
8. **Curriculum designers** (Cyprus)

### **Key audience for moving to ADAPT**

The following key audiences were identified by partners, as more likely to move from ADOPT to ADAPT:

1. Teachers that have **successfully used ADOPT materials** (France)
2. **Experienced teachers who participated in previous CPD programs** focused on IBSE (Romania)
3. Persuadable novices who are **most committed with their professional development**, either because it is compulsory or because they believe they must keep learning along their lives (Spain)
4. Science teachers with a **background on teaching socio-scientific issues and experience on IBL**. (Greece)
5. Teachers participate in ADOPT that will **manifest evident interest and motivation** for ENGAGE. (Switzerland)

### **Target group specific needs**

According to ADOPT partners, the following target group needs have been identified as being relevant to what ADOPT phase of the project can offer:

1. **Need for Continuous professional development opportunities** - “CPD opportunities – teachers get extra credits for participation. Materials helping them implement curriculum requirements” (Greece)  
Build up teaching experience (Spain) “Teachers with insufficient formal education in science: Training that can be assessed and formalized in order to be included in a full certification in accordance with the new requirements. Teachers that already meet the formal standards: A better grasp on science-in-society issues as well as IBSE” (Norway); “Teachers feel shortage of skills of sociocultural integration to the curriculum of science subjects. They lack skills of communication with scientists, and there is a need of social partnership skills. Local teachers have few experience regarding to international collaboration with other science teachers in real or virtual space.” (Lithuania)
2. **Need for Innovative materials on RRI and IBL** - “Science Education and Inquiry based learning. Relevant material will be provided to cover these aspects.” (Germany); “Interdisciplinary and/or news related material link with the curriculum. Easily accessible material to tackle science in its making and science as present in the headlines. Possibility of links with the research communities.” (France); Repository of materials for teachers to use (Spain)

### **Added value for target groups to participate**

According to ADOPT partners, the following issues in terms for the added value of the ADOPT for the participants have been identified:

- “**Motivation** to students, **opportunities for CPD** to teachers.” (Greece)
- “Advancement in science education and IBL method. **Access to new and up-to-date materials and current scientific ideas and practices.**” (Germany)

- “For students: **motivation**. For teachers and supervisor: CPD, **building of a community of practice**, intercepting those teachers that are in a moment of desire of renewal of their professional engagement.” (France)
- “Regarding In-service teachers from secondary education: **Credits for CPD, necessary for promotion**; Curricular relevance of the materials:  
Regarding Department heads from secondary education: Credits for CPD, necessary for promotion; Curricular relevance of the materials  
Regarding Headmasters from secondary education: Credits for CPD, necessary for promotion;  
**Belonging to a network of associated schools to ENGAGE project; Achieving better student results in national and international tests**  
Regarding Participants in professional teachers’ accreditation programmes: **Contributing to educational change; Acquiring skills in science teaching methods**; Safe practice with ready-made materials” (Spain)
- “My **science lessons become really interesting**; they **attract the students’ attention**. I have the skill to direct a discussion in such a way that all the participants are engaged and that they felt comfortable with.” (Switzerland)
- “The possible added value for local teachers: **familiarization with studies and results of new and modern branches of science, improvement subject knowledge on the basis of modern science, learning of evaluation of sociocultural importance of new science results** and their impact for the environment and society, **learning of evaluation of influence to the system of values of schoolchildren**, learning **of evaluation of economic benefit of new studies and to train enterprise (business) skills of young people** and practical application of new results, improvement of skills of training of science motivation on the basis of new science results, training of skills of partnership with scientists and virtual communicative skills with teachers from foreign countries, **learning of creation an attractive curriculum for science lessons using responsible research and innovation approach.**” (Lithuania)
- “Upper elementary school teachers and secondary school science teachers (in-service) will **familiarize with RRI and new trends in science teaching**. People from the Pedagogical Institute will have a chance to **explore designs of lessons**, and hopefully influence how they design curriculum for schools” (Cyprus)

The above insights are considered to provide APORT partners with further opportunities, key audiences, and issues about added value for the participants and facilitate further improvement of their local dissemination plans.

## 5. MONITORING GUIDELINES

The main aim of this section is to **facilitate ADOPT partners achieve the challenging targets of the ADOPT** phase of the CPD of the Engage project, **by providing them with recommendations and guidelines on how to monitor what is happening in their countries** during the implementation of the dissemination plan and how they will have early feedback by teachers in order to avoid poor results during implementation (for both quantitative and qualitative perspectives).

It is reminded that the **challenging targets that we want to achieve** by the implementation of ADOPT CPD activities (provision of RRI materials, F2F workshops and online courses) are

a) of both **quantitative and qualitative nature** and

b) viewed in the context of the step transformational CPD model “ADOPT-ADAPT-TRANSFORM”

(see section 1 – General objectives and specific targets for the adopt stage).

In the view of the above, the following lines give specific guidelines for monitoring in accordance to each specific target of the ADOPT as well as general recommendations for coordinating the work processes in all countries (reporting monitoring, communicating outcomes of monitoring and proposing corrective measures if necessary).

### 5.1. Monitoring guidelines in relation to ADOPT targets

The following table provides ADOPT partners with recommendations on how to monitor adopt implementation in order to increase the chances of achieving each one of the targets that we want to achieve in the frame of ADOPT.

			<b>Recommendation for monitoring implementation under the scope of achieving the target</b>
Targets from quantitative perspective	<b>Within ADOPT</b>	<p><b>Attract a minimum number of teachers (as in table #)) to:</b> Download the materials, to use them in the classroom, to provide feedback and to participate in the online community.</p> <p>Attend the F2F workshop and to provide feedback on the materials</p>	<ul style="list-style-type: none"> <li>⇒ Regular monitoring (each week) via each countries’ admin engage page on the number of downloads of materials (per posts and in total)</li> <li>⇒ Regular monitoring (per 2 weeks) via each countries’ admin engage page on the number of users that have completed the questionnaire for feedback on materials usage.</li> <li>⇒ Regular monitoring (per 3</li> </ul>

	and the RRI tools.  Participate in the on-line courses and to provide feedback on the materials and the RRI tools.	<p>days) of the Blog for users communication, how active it has been.</p> <ul style="list-style-type: none"> <li>⇒ Monthly report via ASANA on numbers reached, risks foreseen towards the goals and proposals for corrective measures.</li> <li>⇒ Invitation and engagement of more participants than promised in the DoW for participation in the F2F workshops, in case of non-show up or drop out from courses</li> <li>⇒ Early communication with WP4 coordination in case of problems during conducted workshops and online courses</li> <li>⇒ Ensure that workshops and online participants provide feedback on the questionnaires for workshops and online courses (see D8.18. Evaluation plan –Indicators, Impact, Influence)</li> </ul>
<b>Proceeding from ADOPT to ADAPT</b>	<b>Ensure a proportion of teachers to propel</b> from the ADOPT to the ADAPT (at least 25% of the teachers using the ADOPT engage programme are expected to move towards ADAPT)	<ul style="list-style-type: none"> <li>⇒ Cooperate with Evaluation team on the outcomes of the questionnaires that inform participants intentions for continuing CPD program (ADAPT)</li> <li>⇒ Early personal invitation to ADAPT participants that are interested in moving to the next phase, based on their interest and achievements</li> </ul>

Targets from quantitative	<b>Within ADOPT</b>	Ensure that <b><i>teachers are able to use RRI techniques/tools (productive dilemma and small group discussion)</i></b> with the support of our teaching materials in order to achieve students' productive outcomes.	<ul style="list-style-type: none"> <li>⇒ Regular monitoring (every 3 days) on the teachers blog.</li> <li>⇒ Providing teachers using the materials with advice through the online community (materials activity)</li> <li>⇒ Regular monitoring (every 3 days) of the blogs on the online courses.</li> <li>⇒ Providing teachers with F2F and online support in order for teachers to achieve the expected learning outcomes as described in APPENDIX (F2F workshops and online courses activities)</li> </ul>
	<b>Proceeding from ADOPT to ADAPT</b>	<b><i>Ensure that proportion of teachers that are willing to move to ADPAPT</i></b> have achieved what we have defined as level n3 in the RRI integration model, i.e. that their integration of our Topicals materials goes beyond motivational and casual use and has a purposeful intention in the curriculum	<ul style="list-style-type: none"> <li>⇒ Cooperate with Evaluation team on the outcomes of the questionnaires that inform us with participants' achievements in ADPOT</li> <li>⇒ Early personal invitation to ADAPT participants that are interested in moving to the next phase, based on their interest and achievements</li> </ul>

## 5.2. Managing monitoring

It is recommended that for managing monitoring of ADOPT activities the ENGAGE project management system ASANA should be used. Each country will create in the project management system (ASANA) a) a dissemination project and b) an implementation project in respect of their country (see the example of UK) within WP4 project. The above recommendation/guidelines should be transformed to tasks with deadlines allocated to responsible partners, with weekly updates on the work progress, with problems faced, risks and proposed corrective actions. WP4 coordinator has assigned relevant tasks to ADOPT responsible partners in each country and challenges and solutions are to be discussed during our weekly online meetings.

This will facilitate a) each ADOPT partner manage dissemination and implementation monitoring in his/her country; b) other ADOPT partners have an overview on what is going on in other countries and c) WP4 leader coordination of the ADOPT in all countries identifying early problems and issues followed up with action to address them.



## 6. REFERENCE

Harmsworth, S., & Turpin, S. (2000, July). Creating an Effective Dissemination Strategy. Available online: <http://www.innovations.ac.uk/btg/resources/publications/dissemination.pdf>

## Appendix

### Localized dissemination plans

#### United Kingdom

**ACTION: Embed the activities (materials usage, F2F workshops, online courses) into your national context**

*1. What are the specific opportunities in your country that you will take into consideration in the process of disseminating the ADOPT activities in your country? (For example curriculum change, change in the system teachers are assessed extra credits for CPD...)*

1) Science teachers want to be judged 'outstanding' by inspectors, and this involves showing they can engage students, and set challenging objectives. So in the UK, we will appeal to this agenda by showing how our strategies engage and how the tasks in the Materials challenge students to develop deeper understanding, and application of knowledge learned.

2) There is a new exam at 16 years, which will have many challenging questions relating to applying knowledge to real situations and test knowledge of the 'nature of science'. Once we are familiar with the details we will adapt our courses/workshops so that ENGAGE is seen as helping equip students with the skills to do well in future examinations.

*2. How are you going to use these opportunities in your email marketing of ADOPT?*

Using specific words like the priorities above - 'outstanding', 'engage', 'challenge'

**ACTION: Identify and reach key audiences to participate**

*3. Which are the key audiences that are most likely to engage in ADOPT phase in your country?*

Anyone on our existing upd8 database.

*4. Which are the main actors who are most likely to propel from ADOPT to ADAPT?*

**ACTION: Identify the specific needs of the key audience and the added value for them to participate**

*5. Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer?*

*We are expecting a large audience of existing upd8 users to use ADOPT materials, and a smaller audience who used our 11-14 curriculum WIKID to move to ADAPT.*

*6. What could be the added value for each target group to participate?*

#### Greece

**ACTION: Embed the activities (materials usage, F2F workshops, online courses) into your national context**

*1. What are the specific opportunities in your country that you will take into consideration in the process of disseminating the ADOPT activities in your country? (For example curriculum change, change in the system teachers are assessed extra credits for CPD...)*

Policy reforms in science education are partly in line with RRI framework, especially for students' age 11-15. This provides a rather fruitful context and an opportunity for the accomplishment of the ADPOT objectives. In addition, changes in the way teachers are evaluated account for teachers' participation in professional development. This is an opportunity for disseminating F2F workshops and online courses, as teachers get extra credits for CPD. In the process of disseminating the project's recourses, it should be taken

into consideration that content relating to socio-scientific issues and technology is relevant and associated with the science curriculum content in the country.

**2. How are you going to use these opportunities in your email marketing of ADOPT?**

We plan to focus on: a) the ENGAGE RRI concept which is in line with policy requirements; b) ADOPT opportunities for teacher CPD on state-of-the-art science content and pedagogies that will give extra credits to teachers' assessment; c) materials developed within the project in the thematic of socio-scientific issues and technology.

**ACTION: Identify and reach key audiences to participate**

**3. Which are the key audiences that are most likely to engage in ADOPT phase in your country?**

We expect a big audience from upper-primary (age 11) and general lower-secondly (age 12-15) science teachers, and a smaller from general higher-secondary (age 15-18) science teachers. Teachers from experimental schools are most likely to engage in implementing the materials, as they have more freedom in terms of curriculum requirements and time limits. We also expect that our network of science advisors would be of great help in disseminating ADOPT.

**4. Which are the main actors who are most likely to propel from ADOPT to ADAPT?**

Upper-primary (age 11) and general lower-secondly (age 12-15) science teachers with a background on teaching socio-scientific issues and experience on IBL.

**ACTION: Identify the specific needs of the key audience and the added value for them to participate**

**5. Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer?**

CPD opportunities – teachers get extra credits for participation. Materials helping them implement curriculum requirements.

**6. What could be the added value for each target group to participate?**

Motivation to students, opportunities for CPD to teachers.

## Germany

**ACTION: Embed the activities (materials usage, F2F workshops, online courses) into your national context**

**1. What are the specific opportunities in your country that you will take into consideration in the process of disseminating the ADOPT activities in your country? (For example curriculum change, change in the system teachers are assessed extra credits for CPD...)**

ILI will prepare an online workshop with 15-25 teachers at this stage.

**2. How are you going to use these opportunities in your email marketing of ADOPT?**

ILI will email the teachers that are working/cooperating with the institute. Also, a student assistant has created an emailing list with other key actors in the field by contacting teacher training organizations and local teacher training centers. Additionally, German teachers that we registered for the upd8 mailing list will also be contacted

**ACTION: Identify and reach key audiences to participate**

**3. Which are the key audiences that are most likely to engage in ADOPT phase in your country?**

ILI will contact around 70 teachers and 20 organizations (see attached list)

**4. Which are the main actors who are most likely to propel from ADOPT to ADAPT?**

Teachers

**ACTION: Identify the specific needs of the key audience and the added value for them to participate**

**5. Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer?**

Science Education and Inquiry based learning. Relevant material will be provided to cover these aspects.

**6. What could be the added value for each target group to participate?**

Advancement in science education and IBL method. Access to new and up-to-date materials and current scientific ideas and practices.

## France

**ACTION: Embed the activities (materials usage, F2F workshops, online courses) into your national context**

**1. What are the specific opportunities in your country that you will take into consideration in the process of disseminating the ADOPT activities in your country? (For example curriculum change, change in the system teachers are assessed extra credits for CPD...)**

As mention in the curriculum analysis, since 2013, 8 prototypes "Regional house of science" were created to help teachers to develop their science teaching practices, especially to allow teachers to build or strengthen relationships with current science and technology. These houses will part of our strategy of dissemination. We are already in contact with one of them. Our objective is to build a partnership with this Regional House of Science.

**2. How are you going to use these opportunities in your email marketing of ADOPT?**

Traces strategy in term of mailing is based on our network. So except from the teachers who are used to come to with their class to our activities (conference, exhibition, workshops, etc.), we will not directly contact teachers.

We plan to use the network of our partners in informal and formal education and our contact in National Education. We are also planning to pair ENGAGE information with our general teacher information.

However our communication is not only based on email, we are planning to inform teacher thought their traditional source of information and resources for example post information on Eduscol (National Portal for teachers) and Eduthèque (Pedagogical portal for culture and science for teacher).

**ACTION: Identify and reach key audiences to participate**

**3. Which are the key audiences that are most likely to engage in ADOPT phase in your country?**

In the first time the teachers who regularly participate to our informal learning activities (or our partners activities), and are really open to experiment.

**4. Which are the main actors who are most likely to propel from ADOPT to ADAPT?**

Teachers that have successfully used ADOPT material. Teachers with whom we had F2F interactions. Teacher from the Parisian region that can make the most of our science communication offer. We are building together with the Nation Museum of Arts and Craft of Paris an offer of training the National Education for Paris Academy

**ACTION: Identify the specific needs of the key audience and the added value for them to participate**

*5. Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer?*

Interdisciplinary and/or news related material link with the curriculum. Easily accessible material to tackle science in its making and science as present in the headlines.

Possibility of links with the research communities.

*6. What could be the added value for each target group to participate?*

For students: motivation. For teachers and supervisor: CPD, building of a community of practice, intercepting those teachers that are in a moment of desire of renewal of their professional engagement.

## Romania

**ACTION: Embed the activities (materials usage, F2F workshops, online courses) into your national context**

*1. What are the specific opportunities in your country that you will take into consideration in the process of disseminating the ADOPT activities in your country? (For example curriculum change, change in the system teachers are assessed extra credits for CPD...)*

The students' interest for Science is decreasing in Romania in last years and teachers are trying to find practical ways of bringing back the students in Science lessons and increase their interest and motivation for learning scientific issues. In this context, Romanian teachers, especially those involved in upper secondary education, are trying to find and give interesting examples concerning the connection between theory and practice.

*2. How are you going to use these opportunities in your email marketing of ADOPT?*

Presenting to teachers that ENGAGE learning materials represent a good opportunity to teach Science starting from a socio-scientific topic connected to the students' daily life. In addition, the ENGAGE materials can be connected with topics already scheduled in the Chemistry, Physics or Biology curriculum.

**ACTION: Identify and reach key audiences to participate**

*3. Which are the key audiences that are most likely to engage in ADOPT phase in your country?*

Physics, Chemistry, Biology or Science teachers from lower and upper secondary school level

*4. Which are the main actors who are most likely to propel from ADOPT to ADAPT?*

Experienced teachers who participated in previous CPD programs focused on IBSE.

**ACTION: Identify the specific needs of the key audience and the added value for them to participate**

*5. Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer?*

To be added

*6. What could be the added value for each target group to participate?*

To be added

## Israel

**ACTION: Embed the activities (materials usage, F2F workshops, online courses) into your national context**

1. *What are the specific opportunities in your country that you will take into consideration in the process of disseminating the ADOPT activities in your country? (For example curriculum change, change in the system teachers are assessed extra credits for CPD...)*

The Weizmann Institute is running the following centers for science teachers: Middle-school science and technology teachers, high school biology teachers, high school chemistry teachers, high school physics teachers and high school science for all teachers. All these centers have their mailing lists available for adopt. Teachers get credit for PD if it structures in at least 30 hours programs.

2. *How are you going to use these opportunities in your email marketing of ADOPT?*

Obviously send email to all mailing lists.

**ACTION: Identify and reach key audiences to participate**

3. *Which are the key audiences that are most likely to engage in ADOPT phase in your country?*

Middle school science and technology teachers + science for all teachers

4. *Which are the main actors who are most likely to propel from ADOPT to ADAPT?*

Teachers- leaders in both groups mentioned on my answer to question 3

**ACTION: Identify the specific needs of the key audience and the added value for them to participate**

5. *Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer?*

To be added

6. *What could be the added value for each target group to participate?*

To be added

## Spain

**ACTION: Embed the activities (materials usage, F2F workshops, online courses) into your national context**

1. *What are the specific opportunities in your country that you will take into consideration in the process of disseminating the ADOPT activities in your country? (For example curriculum change, change in the system teachers are assessed extra credits for CPD...)*

1st opportunity: curriculum link

The learning goals ("objetivos") from science subject ("ciencias de la naturaleza") in the National Curriculum for secondary education (LOE, 2006) are related to several aspects of the ENGAGE RRI curriculum:

Science in society knowledge

Technology:

Goal 1: "Analyse and weigh up the impact of technological and scientific developments and their applications"

Goal 8: "Understand and value the interactions of science and technology with society and the environment, paying especial attention to the issues that humankind is facing and the need to look for solutions and their application considering the principle of caution, in order to achieve a sustainable future"

Scientific community:

Goal 9: Understand the tentative and creative nature of science, as well as its contribution to human thinking throughout the history, thus appreciating the big discussions which overcome dogmatism and the scientific revolutions that have determined cultural evolution of humankind and its life conditions.

Values thinking:

Goal 7: "Understand the importance of using the science knowledge to satisfy human needs and participate in the necessary decision-making processes related to the local and global issues that we are facing"

Media reporting:

Goal 4: "Obtain information about scientific issues, by means of different sources including ICT and use the information, weighing up its content, with the purpose to ground and guide work on scientific issues".

Scientific inquiry skills

Define problems, evaluate solutions: Goal 2: "Apply in problem solving, strategies consistent with science procedures such as discussion of the interest regarding the problems posed, formulating hypothesis, elaborating strategies to solve them and experimental design, analyzing the results, weighing up applications and impact of the study carried out, and searching for a global consistency".

Construct arguments, critique arguments: Goal 5: "Adopt critical attitudes grounded in knowledge in order to analyze, individually or as a team, scientific and technological issues.

Interrogate media: Goal 4: "Obtain information about scientific issues, by means of different sources including ICT and use the information, weighing up its content, with the purpose to ground and guide work on scientific issues".

Communicate ideas: Goal 3: "Understand and express messages with scientific content using oral and written language appropriately, make sense out of graphs, diagrams, tables and elementary mathematical expressions, as well as communicate science argumentations and explanations to others.

2nd opportunity: curriculum change

The Organic Law for the improvement of the quality of education

## **2. How are you going to use these opportunities in your email marketing of ADOPT?**

*By stressing and summarising them in our communication with stakeholders.*

### **ACTION: Identify and reach key audiences to participate**

## **3. Which are the key audiences that are most likely to engage in ADOPT phase in your country?**

In-service teachers from secondary education

Department heads from secondary education

Headmasters from secondary education

Participants in professional teachers' accreditation programmes

These audiences may be contacted directly by email (they are public or they have given them to us) or in an indirect manner. In order to contact them in an indirect manner we will use the following organisations as multipliers for our message:

In-service teacher support organisations

Institutes of Education associated to Spanish universities

Support centers for science education from the Ministry of Education or the Regional governments

Teacher associations

Social networks for teachers

Science education magazines and other publications

Science dissemination organisations (portals, science cafes, science fairs, etc.)

Publishers of educational resources (textbooks, digital textbooks, etc.)

In order to reach these audiences we will use one or more of the following communication channels:

Email

Social networks

Dissemination workshops in selected conferences and teacher events

**4. Which are the main actors who are most likely to propel from ADOPT to ADAPT?**

ADOPT phase is targeted to persuadable novices, i.e. teachers who are open for a change or an innovation in their practice, who understand the RRI and IBSE principles and benefits for achieving their teaching goals and who want to put them in practice even if they do not have much experience with them. From these, those teachers who are most committed with their professional development, either because it is compulsory or because they believe they must keep learning along their lives, are the most likely to propel from ADOPT to ADAPT.

**ACTION: Identify the specific needs of the key audience and the added value for them to participate**

**5. Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer?**

Regarding In-service teachers from secondary education: Lack of time to prepare teaching materials; Open educational resources free of charge

Regarding Department heads from secondary education: Repository of materials for teachers to use

Regarding Headmasters from secondary education:

Building prestige for the school by including RRI and IBSE curriculum

Regarding Participants in professional teachers' accreditation programmes: Build up teaching experience; Effective materials developed by experienced organisations

**6. What could be the added value for each target group to participate?**

Regarding In-service teachers from secondary education: Credits for CPD, necessary for promotion; Curricular relevance of the materials:

Regarding Department heads from secondary education: Credits for CPD, necessary for promotion; Curricular relevance of the materials

Regarding Headmasters from secondary education: Credits for CPD, necessary for promotion; Belonging to a network of associated schools to ENGAGE project; Achieving better student results in national and international tests

Regarding Participants in professional teachers' accreditation programmes: Contributing to educational change; Acquiring skills in science teaching methods; Safe practice with ready-made materials

## Norway

**ACTION: Embed the activities (materials usage, F2F workshops, online courses) into your national context**

*1. What are the specific opportunities in your country that you will take into consideration in the process of disseminating the ADOPT activities in your country? (For example curriculum change, change in the system teachers are assessed extra credits for CPD...)*

Until very recently it has not been mandatory in Norway for teachers that teach science in primary/lower secondary schools to have a formal education in science/ didactics of science. However, the national regulations have been changed so that a formal training will be required. This is linked to substantial funding of CPD for science teachers that do not fill the new requirements.

*2. How are you going to use these opportunities in your email marketing of ADOPT?*

We will be pointing out the new requirements and the fact that the materials and training events will cover central elements of the national curricula both in schools and teacher training. To be able to take advantage of the future national funding for CPD we will need to plan in more detail how the ENGAGE activities should be integrated in more comprehensive courses in science/didactics, so that will eventually lead up to a formal education that meets the new national criteria. In addition, science teachers that already have the basic education in science that is required may wish to explore the didactics of ENGAGE since they reflect parts of the curricula that teachers often find hard to implement

**ACTION: Identify and reach key audiences to participate**

*3. Which are the key audiences that are most likely to engage in ADOPT phase in your country?*

Mainly teachers in lower secondary schools (age groups 13-16), and to some extent pre-service teachers at HBV and cooperating teacher colleges.

*4. Which are the main actors who are most likely to propel from ADOPT to ADAPT?*

To be added

**ACTION: Identify the specific needs of the key audience and the added value for them to participate**

*5. Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer?*

Teachers with insufficient formal education in science: Training that can be assessed and formalized in order to be included in a full certification in accordance with the new requirements. Teachers that already meet the formal standards: A better grasp on science-in-society issues as well as IBSE

*6. What could be the added value for each target group to participate?*

To be added

## Switzerland

**ACTION: Embed the activities (materials usage, F2F workshops, online courses) into your national context**

*1. What are the specific opportunities in your country that you will take into consideration in the process of disseminating the ADOPT activities in your country? (For example curriculum change, change in the system teachers are assessed extra credits for CPD...)*

Materials:

- Several activities concern Switzerland directly (Ebola vaccine tested here, one Suisse physician has caught Ebola and is being treated, interest in population about new energies for cars, etc.)

- We have seen that all the materials “hit” the recently introduced study plan in the French speaking part of Switzerland (see links with Plan d’études romand in our website).

F2F:

- Teachers are encouraged to do CPD courses (but they are not always obligatory). My experience is that the school directors will every now and then remind their teachers that these courses exist and encourage them to participate.

On-line courses:

- To my knowledge, these kinds of courses are not very used here yet. It will be interesting to talk about them and show their advantages.

**2. How are you going to use these opportunities in your email marketing of ADOPT?**

Email:

Principal points:

- Insist that the materials are very easy to use and that they “hit” very directly the aims of the study plan.

- Discovery of the advantages of on-line courses: a new instrument useful for your own CDP that is now being very used with success in other countries.

- F2F courses to learn how to use very interesting pedagogical tools that are being developed by an international group of experts that work collaboratively. Dilemma lesson tool is highly interesting to motivate students to learn. Group discussion is crucial to foster the fundamental skill of constructive dialogue.

**ACTION: Identify and reach key audiences to participate**

**3. Which are the key audiences that are most likely to engage in ADOPT phase in your country?**

- Pre- and in-service science teachers educators in the different cantons.

- Science teacher coordinators in the different cantons.

- Head of department teachers (sciences in secondary schools I, and biology, physics, chemistry head of departments in secondary schools II, i.e. high schools).

- Teachers that have previously participated in CDP courses (this shows that they are motivated and willing to invest time on improving the quality of their teaching).

**4. Which are the main actors who are most likely to propel from ADOPT to ADAPT?**

- Teachers listed above that will manifest evident interest and motivation for engage.

**ACTION: Identify the specific needs of the key audience and the added value for them to participate**

**5. Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer?**

- need to know how to direct a constructive discussion with legitimacy

- need to have motivating topics in hand in connection with the study plan

**6. What could be the added value for each target group to participate?**

- my science lessons become really interesting, they attract the students attention.

- I have the skill to direct a discussion in such a way that all the participants are engaged and that they felt comfortable with.

## Lithuania

**ACTION: Embed the activities (materials usage, F2F workshops, online courses) into your national context**

**1. What are the specific opportunities in your country that you will take into consideration in the process of disseminating the ADOPT activities in your country? (For example curriculum change, change in the system teachers are assessed extra credits for CPD...)**

For Lithuania, we think following: science became unpopular among schoolchildren due to sociocultural changes, the change of life of young generation and decreased motivation. Young generation that is at school now belongs to so called "Z generation" or internet generation. Therefore, our teachers belong to earlier generations and they feel lack of pedagogical, psychological knowledge about this new "Z generation", its motivation, creativeness and training of values. Teachers lack of knowledge of modern science and its technologies, they feel problems following the development of science today. So motivation of young people towards science becomes problematic. Motivation can be described as "understanding what it is knowing + understanding the requirements of a new generation = understanding how to motivate towards science".

**2. How are you going to use these opportunities in your email marketing of ADOPT?**

We plan to attract teachers giving introduction about the decrease of motivation towards science subjects and possible reasons at the national scale. The main focus is on the Z generation and why do teachers do not understand the needs of young people (more than a half of Lithuanian science teachers are at the age of 50 and more, so their background education was absolutely different).

**ACTION: Identify and reach key audiences to participate**

**3. Which are the key audiences that are most likely to engage in ADOPT phase in your country?**

Upper elementary and secondary in-service science teachers and pre-service science teachers mainly. Scientists and some policy makers will be the minority part.

**4. Which are the main actors who are most likely to propel from ADOPT to ADAPT?**

In-service science teachers and pre-service science teachers

**ACTION: Identify the specific needs of the key audience and the added value for them to participate**

*5. Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer?*

Lithuanian teachers lack of pedagogical, psychological knowledge about "Z generation", its motivation, creativeness and training of values. They lack new knowledge about modern experiment, new teaching materials that can be used during teaching. Older teachers do not know foreign languages (except Russian), so they lack knowledge about new discoveries in modern science fields. Teachers do not have enough skills of training of science motivation of a new generation of pupils. Teachers feel shortage of skills of sociocultural integration to the curriculum of science subjects. They lack skills of communication with scientists, and there is a need of social partnership skills. Local teachers have little experience regarding to international collaboration with other science teachers in real or virtual space.

*6. What could be the added value for each target group to participate?*

The possible added value for local teachers: familiarisation with studies and results of new and modern branches of science, improvement subject knowledge on the basis of modern science, learning of evaluation of sociocultural importance of new science results and their impact for the environment and society, learning of evaluation of influence to the system of values of schoolchildren, learning of evaluation of economic benefit of new studies and to train enterprise (business) skills of young people and practical application of new results, improvement of skills of training of science motivation on the basis of new science results, training of skills of partnership with scientists and virtual communicative skills with teachers from foreign countries, learning of creation an attractive curriculum for science lessons using responsible research and innovation approach.

## Cyprus

**ACTION: Embed the activities (materials usage, F2F workshops, online courses) into your national context**

*1. What are the specific opportunities in your country that you will take into consideration in the process of disseminating the ADOPT activities in your country? (For example curriculum change, change in the system teachers are assessed extra credits for CPD...)*

In Cyprus we had a recent restructure in the curriculum (2010) with an emphasis on making the connections to everyday science, argumentation and SSI. Even though the curriculum has been around since 2010, the Ministry is still in the process of designing curriculum materials to address the specific issues. The teachers feel uncertain as to how to deal with the issues and are therefore keen to be educated/trained on relevant topics. At the same time, one member of our group has been invited by the local Pedagogical Institute (in-service training) to prepare a training seminar for science teachers focusing on argumentation. Therefore we plan to use both the need for training on relevant issues, and our networking from the training seminars.

*2. How are you going to use these opportunities in your email marketing of ADOPT?*

We plan to present ADOPT as a way that will help the teachers understand the new trends that are presented in the curriculum and as a way that will help their students to improve their learning outcomes. There will also be references to research science education reports

**ACTION: Identify and reach key audiences to participate**

*3. Which are the key audiences that are most likely to engage in ADOPT phase in your country?*

Upper elementary and secondary school teachers (in-service). Physics and biology teachers are more likely to be involved in the process. People from the Pedagogical Institute of Cyprus will also be likely to engage in ADOPT (these are usually curriculum designers)

*4. Which are the main actors who are most likely to propel from ADOPT to ADAPT?*

Upper elementary and secondary in-service science teachers

**ACTION: Identify the specific needs of the key audience and the added value for them to participate**

*5. Which specific needs in each target group can be met in relation to what ENGAGE and ADOPT can offer?*

*To be added*

*6. What could be the added value for each target group to participate?*

Upper elementary school teachers and secondary school science teachers (in-service) will familiarize with RRI and new trends in science teaching. People from the Pedagogical Institute will have a chance to explore designs of lessons, and hopefully influence how they design curriculum for schools