D4.2 First Validation Report
On Large-Scale Piloting
March 18 2011

http://itec.eun.org
Executive Summary:

Deliverable 4.2 First Validation Report on Large-Scale piloting contains version one of the School Pilot Protocol to be used by National Coordinators that describes the methodology and procedures for selecting schools (both pre-pilots and full scale pilots) and running the validation activities. It also contains the initial set of Decision Criteria for scaling up WP3 prototypes to pre-pilots and eventually to large scale pilots.
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PART I.
SCHOOL PILOT PROTOCOL AND SUPPORT FOR NATIONAL PEDAGOGICAL COORDINATORS
1. INTRODUCTION PART I

The “School pilot protocol and support for national pedagogical coordinations” develops the activities described in the iTEC Description of Work, Task 4.2 “Development of school pilot protocol and support for coordinators”:

- Develop iTEC school pilot protocols (by M7, 31 March 2011)
- Recruit and support teachers for both pre-pilots and large-scale pilots
- Produce Deliverables D4.2-D4.5.

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- WP6: Poul Tang, Leo Højsholt-Poulsen

1.1 Rational of this document

This document's main focus is to provide initial guidance on the Work Package 4 full scale Pilots of iTEC Scenarios. The document tackles the issues of defining a classroom (section 2.1) for evaluation purposes and explains the required numbers of classrooms per project cycle (sections 2.2 & 2.3) and the roles of the National Coordinators (Section 3). In summary, the document covers the following stages of the iTEC Project:

- Participatory Design Workshops – These small focus groups are delivered in each piloting country by National Coordinators in order to gain initial feedback from teachers on the shortlist iTEC Scenarios created through Work Package 2 (Sections 3.2 & 3.2)
- Pre-pilots – The small scale testing of iTEC Scenarios in the classroom in order to help select those Scenarios suitable to be taken to scale in the large scale Pilots (Section 3.4).
- Pilots – The large scale testing of iTEC Scenarios across all piloting partners and in 1000 classrooms (Sections 3.5-3.9)
- Evaluation – The role played by Work Package 5 partners and National Coordinators in evaluating the pilots (sections 2.5 & 3.10)

Section 5 of the document provides workflows of the stages outlined above, from Scenario development through to piloting and evaluation.

Other key issues are also discussed including: incentives for participating teachers (Section 2.6); communities which will be established to support the
school pilots (Section 3.9); and criteria for selecting which Pre-pilots are taken to scale in full pilots (section 6).

1.2 iTEC partners in school pilots

- EUN (Lead), FPCE-UL, AALTO, UNI-C, FULAB, MMU
- 12 representatives of Ministries of Education, as well as one Associated Partner (Finland), as indicated in Table 1, and industry partners whose pilots will cover a variety of countries depending on Cycle.

<table>
<thead>
<tr>
<th>ORGANISATION</th>
<th>COUNTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ANSAS</td>
<td>Italy</td>
</tr>
<tr>
<td>2. BMUKK</td>
<td>Austria</td>
</tr>
<tr>
<td>3. CNDP</td>
<td>France</td>
</tr>
<tr>
<td>4. DGIDC</td>
<td>Portugal</td>
</tr>
<tr>
<td>5. EDUB</td>
<td>Belgium</td>
</tr>
<tr>
<td>6. EDUC</td>
<td>Hungary</td>
</tr>
<tr>
<td>7. ELFA</td>
<td>Slovakia</td>
</tr>
<tr>
<td>8. FNBE</td>
<td>Finland</td>
</tr>
<tr>
<td>9. ITC</td>
<td>Lithuania</td>
</tr>
<tr>
<td>10. MAK</td>
<td>Israel</td>
</tr>
<tr>
<td>11. MONE</td>
<td>Turkey</td>
</tr>
<tr>
<td>12. TLF</td>
<td>Estonia</td>
</tr>
<tr>
<td>13. NCIE</td>
<td>Norway</td>
</tr>
<tr>
<td>14. PROMETHEAN</td>
<td>Diverse countries</td>
</tr>
<tr>
<td>15. SMART</td>
<td>Diverse countries</td>
</tr>
</tbody>
</table>

Table 1. Partners and countries participating in the school pilots (WP4).

Each iTEC partner in school pilots has been asked to nominate a contact point for organising pilots. There are two key roles:

- National Pedagogical Coordinator (NPC). The NPC is responsible at the national level for the overall piloting in schools (WP4) which includes organising Participatory Design-sessions (WP3), selecting and supporting pre-pilot and pilot schools (WP4), and overseeing evaluation data collection (WP5) and case studies.
• National Technical Coordinator (NTC). The NTC is appointed by MoEs as part of WP6. NTCs are responsible for setting up the technical conditions for pilots in schools.

1.3 Shared workspace for WP4

• The names of pedagogical and technical coordinators are documented in the WP4 work area at: http://itec.eun.org/group/itec-partners/wiki/~/wiki/Main/WP4. The area is password protected and project partners have access to that documentation.
• 2 mailing lists have been set up:
  o NPCs: itec-npc@eun.org
  o NTCs: itec-ntc@eun.org
• The NPCs and NTCs participate in teachers’ “online community of practice” where a private workspace is available for them. The support material is made available there with other tools such as forums and ticketing system.
2. DEFINITIONS OF KEY VOCABULARY AND NUMBERS

2.1 What is meant by a “classroom”?

We define "classrooms" as "classes of learners" simply because one teacher may engage with one scenario with more than one of his/her classes. In the following, three examples are illustrated that all can be considered within piloting scenarios:

- Teacher A teaches the same subject to two different age groups of learners:
  - Teacher A teaches math to 12-13 year olds => counts as 1 class piloting a scenario
  - Teacher A teaches math to 14-15 year olds => counts as 1 class piloting a scenario

- Teacher B teaches 2 math classes in the same year but of differing abilities
  - Teacher B teachers a normal class of math to 12-13 year olds => counts as 1 class piloting a scenario
  - Teacher B teachers an advanced math class to 12-13 year olds => counts as 1 class piloting a scenario

- Teacher C teaches 2 different subjects to the same class of learners:
  - Teacher 1 teaches math to 12-13 year olds => counts as 1 class piloting a scenario
  - Teacher 2 teaches chemistry to the same group of 12-13 year olds => counts as 1 class piloting a scenario

As teachers and educationalists know, no two classes have the same "chemistry" and therefore the different "class" responses to the same scenario could vary. Therefore, to count as validated piloting of scenarios, we ask each teacher to submit a separate evaluation form for each of the pilot class of learners.
2.2 Indicators for piloting scenarios

In the iTEC project, both quantitative and qualitative performances as well as research indicators are used (Part B of the proposal: page 20 of 79). Table 2 presents the indicators that are related to the school piloting.

Firstly, in each large-scale pilot, there will be 2 to 3 scenarios. The General Assembly will decide in each Cycle which scenarios are taken to large-scale. Secondly, the minimum number of classrooms (i.e. “classes, see 2.1 above) involved in each large-scale piloting is 250 and they have to come from a minimum of 5 different countries (Table 2; points 2 and 3). Each country is asked to participate in at least 4 Cycles (point 4), out of which the first and second Cycles are strongly encouraged in order to put the right processes in place for the general workflow. Moreover, once in the project, each country is asked to engage in one Cycle with 40 classes, preferably piloting the same scenario, in order to facilitate quantitative evaluation (point 5).

<table>
<thead>
<tr>
<th>Performance indicators</th>
<th>minimum</th>
<th>maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Number of scenarios taken to large scale per Cycle min/max (decision taken by all WPs)</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Minimum number of classrooms involved per Cycle in large-scale testing (WP4)</td>
<td>250</td>
<td>&gt;1000</td>
</tr>
<tr>
<td>3. Minimum number of countries involved in testing each scenario in a large-scale pilot (WP)</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>4. Country has to participate in x Cycles</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. At least once in the project, a country engages in one scenario with 40 classes.</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
2.3 Number of classes for the large-scale pilots

Table 3 presents the minimum number of classes expected by each piloting partners. The allocation of classes is related to the number of person-months assigned to each partner in WP4. Each pilot partner has a defined number of “person-months” in WP4 to cover staff costs. This is defined in the DoW (workplan table, page 24 of 69). Depending on their involvement in other tasks in WP4, the pilot partners have between 9 to 14 person-months for the piloting purposes. These person-months cover the pre-pilots and large-scale pilots. For pre-pilots, there are some provisions under “other costs” (Further information related to other costs can be obtained from the iTEC proposal part B: page 68 of 79). Not all the partners in WP4 are responsible for piloting (e.g. Switzerland, Denmark). On the other hand, there are associated partners (e.g. Finland) who do not receive any person-months in WP4.

Table 3. Minimum number of classes participating in the school pilots

<table>
<thead>
<tr>
<th>Country</th>
<th>Total of classes in 4 Cycles</th>
<th>1 Cycle with min 40 classes (quantitative evaluation)</th>
<th>Average minimum of classes in 3 Cycles (qualitative evaluation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HU (EDUC)</td>
<td>115</td>
<td>40</td>
<td>26</td>
</tr>
<tr>
<td>EE (TLF)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>FR (CNDP)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>IT (ANSAS)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>LT (ITC)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>TR (MONE)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>AT (BMUKK)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>Befl (EDUB)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>IL (MAK)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>NO (NCIE)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>PT (DGIDC)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>SK (ELFA)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>Fi (NBED)</td>
<td>80</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>Promethean schools</td>
<td>115</td>
<td>40</td>
<td>26</td>
</tr>
<tr>
<td>Smart schools</td>
<td>115</td>
<td>40</td>
<td>26</td>
</tr>
<tr>
<td>Other associated partners</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

Total classes in iTEC 1305

Piloting partners are encouraged to participate in each Cycle, however, if needed, the partner is allowed to skip one Cycle. Cycle 1 and 2 are strongly recommended for all. It’s important that all the piloting countries feel responsible for achieving the limit of 1000 classes in the project. The figures that WP4 give for discussion are to ensure that the project will not fail. It is possible to negotiate with WP4 leader case-by-case to achieve the maximum in the project.
Please note that the indicator relating to the number of classes involved in each Cycle will not be met in the first Cycle – this is an exception\(^1\). For example, a MoE could involve a small number of schools (i.e. 10 classes in only 3-5 schools). It is actually preferable in Cycle 1 to start with a small number of schools in order to try out the implementation and evaluation procedures.

The following is an example of what one country’s involvement might look like:

- A country agrees to provide 80 classrooms (remember: “classes”)
- Cycle 1: 10 classes participate in the first Cycle
- Cycle 2: 15 classes participate in the second Cycle
- Cycle 3: 40 classes participate in the third Cycle
- Cycle 4: This country does not participate
- Cycle 5: 15 classes participate

The assumption in the iTEC project is that a scenario may be piloted in more than one Cycle. If so, then it would be desirable to pilot a scenario for a second time with schools which piloted it the first time and also new schools which have no prior experience of the scenario. New classes can be introduced to the project during any Cycle.

\(^1\) Please note that at the time of completing the first version of this document the iTEC coordinator was in discussion with the EC Project Officer regarding the number of classrooms appropriate for the first cycle.
2.4 Five Cycles of the iTEC school piloting

General workflow with pre-pilots and large-scale pilots (slightly modified from iTEC proposal, Part B: p. 22 of 79):

- WP3 conducts the participatory design (PD) sessions with a focus group of advanced teachers. The PD sessions are organised by NPCs in at least 5 countries, preferably in all, in order to get early feedback from teachers.

- WP3 and 4 start pre-pilots with a focus group of regular teachers. 2 teachers/country test the prototypes for the duration of 2 months in all countries.
  - In Cycle 1, there are 2-3 prototypes and in Cycles 2-5 there will be slightly more, probably 5 or 6.

- A decision will be taken collectively by iTEC partners concerning which prototypes tested in the pre-pilots should be validated with a much larger group of schools (i.e. large-scale pilot).

- There is a handover period from WP3 to WP4 (duration 2 months) and the large-scale pilots are prepared.

- The WP4 large-scale pilots are run (duration 4 months).

- Data and feedback from the pilot schools is gathered from the processes throughout the Cycle by NPCs and provided at the end to WP5 for analysis.

- WP4 provides a validation report and WP5 formulates conclusions and submits an evaluation report on this phase of testing (duration 2 months).
<table>
<thead>
<tr>
<th>Cycle</th>
<th>Scenarios for prototyping</th>
<th>PD-sessions</th>
<th>Pre-pilots run by WP3&amp;4</th>
<th>Large-scale pilots run by WP4</th>
<th>Evaluation data to be delivered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle 1</td>
<td>Dec (M4)</td>
<td>February 2011</td>
<td>April-May 2011</td>
<td>Preparation June-July '11, pilot September-December 2011</td>
<td>February 2012</td>
</tr>
<tr>
<td>Cycle 3</td>
<td>Dec (M16)</td>
<td>January 2012</td>
<td>April-May 2012</td>
<td>Preparation June-July '12, pilot September '12 -December 2012</td>
<td>February 2013</td>
</tr>
</tbody>
</table>

Table 4. iTEC Cycles for pre-pilots and large-scale pilots
2.5 Evaluation

Both qualitative data in terms of case studies and quantitative data are collected in the iTEC project by Manchester Metropolitan University (MMU in WP5). National Pedagogical coordinators will assist MMU in the data collection.

2.5.1 Collection of qualitative data from the case study teachers

- For each Cycle in which a country participates, each NPC should select 3 teachers to participate in a Case Study. Each teacher needs to be located in a separate school, if at all possible, but it would be acceptable to have 2 teachers from the same school.
- The same Case Study teachers could be used in every Cycle if preferred, but this is not a specific requirement.
- Each country’s Case Study schools should be representative of the range of schools involved in iTEC nationally (i.e. according to proportions of primary and secondary schools)
- Data collection is conducted in the three Case Study schools (one day per case study teacher) in each large-scale Cycle (to cover Maths, Science and Technology lessons in Secondary schools and relevant lessons in Primary schools) see Evaluation Plan 5.6.1.
- Teachers’ Multimedia Stories, required for evaluation purposes will come from the Case Study teachers.
- As the NPCs will be responsible for ensuring that data collection follows the project’s Case Study guidelines, protocols and instruments, these will be provided as an evaluation handbook by NPCs at a virtual meeting in M9 (June, 2011).
- A member of WP5 will undertake a two-day visit to three separate countries each Cycle (i.e. each country will be visited once during the lifetime of the project). The visit will be timed to coincide with the NPC’s data collection in schools such that the WP5 team member will accompany the NPC in an observational role. In addition, the WP5 team member will spend a day conversing with and interviewing the NPC and possibly visiting other Case Study sites, offering a form of triangulation for data analysis (See more about evaluation in D5.1 Evaluation plan, 5.6.1).

2.5.2 Collection of quantitative data from an on-line survey

Over the course of iTEC each country will provide data from an agreed number of classrooms as negotiated with the WP4 leader on a case-by-case basis. As explained above, the teachers can be involved in more than one Cycle in order to achieve this.

MoEs may wish to identify several classes from within a single school.
It will be acceptable for a country to involve more than the agreed number of classes if they wish to do so. It is not expected that any one country, over the life of the project, will collect data from more than the agreed number of classes.

An online survey, which should be completed during each Cycle by all participating teachers, will be used to capture their perceptions and experiences of implementing their scenario. The online survey will take no longer than 20 minutes.

Each country needs to identify at least 40 classrooms for at least one Cycle (which we suggest should be in Cycles 3, 4 or 5).

The selection of scenario will need to be negotiated with the leader of WP4 as we need to ensure that at least 5 countries pilot each available scenario, during each Cycle. In the Cycle when a country offers 40 classrooms it would be preferable for those classrooms to pilot the same scenario.

2.6 Incentives for schools

Participatory Design sessions with focus groups have some provisions foreseen in the “other costs category”:

- WP3 have some budget allocated for the focus groups with teachers participating in the PD sessions. The specific use of this funding will be discussed with the WP3 leaders who will be coordinating the planning of the PD sessions.

Pre-pilots in the iTEC project have provisions foreseen in the “other costs category” under WP4:

- “Average cost of pre-pilot focus group: 2 teachers per pilot country nominated by each MoE – lump sum of 1,000 Euros per teacher – Cost of 2 * 12 * 1,000 * 4 = 96,000 Euros (cost of 8,000 Euros per partner). + lump sum of 1,000 Euros to cover some travel costs per partner (12,000). Total of 108,000 Euros (9,000 per partner).”

Large-scale pilots

- There are provisions made for partners to support the pilots, this includes possible workshops, training events, meetings. Average lump sum of 12000€ per partner is reserved under “Other costs” in WP4 (see Proposal Part B: page 68 of 79).
Moreover, EUN will organise 3 international workshops for 50 people + travel and accommodation of 650 participants. The fact that some of the teachers will be able to participate in an international event can be used as an incentive by MoEs to encourage people who are in key roles during the large-scale pilots, such as case study teachers or iTEC school coordinators.

Some other examples of possible ways of acknowledging teachers' efforts:

- EUN and/or a Pilot partner can issue a certificate for participating (NOTE: EUN does not have any authority to "accredit" teachers' participation in these events).

- MoEs can have various ways of tying iTEC to some ongoing national initiatives, teacher trainings, CPD. These options will be investigated by the WP4 partners. In some countries, for example, eTwinning projects and/or workshops can be accounted for teachers’ PD activities.

- Teachers’ names will be mentioned as contributors on the iTEC website as well as on the evaluation and validation plans and other documents (e.g. case studies).
3. KEY TASKS IN EACH CYCLE FOR NPC

New pedagogical scenarios will be created in each Cycle of the project. Before the scenarios are ready for pre-pilots and large-scale pilots, they’ll go through many steps where different iTEC partners will review them and make them more suitable for the pilot schools. Figure 1 represents part of such “workflow” and focuses especially on NPCs and NTCs’ tasks.

Figure 1. What happens to scenarios before pre-pilots and during pilots? (See Evaluation Plan for more details).

Whereas Figure 1 focuses on the piloting, evaluation needs and the scenarios after each Cycle, the following part explains the Key tasks for NPCs in each Cycle focusing on pre-pilots and pilots. The Key tasks include:
1. Scenario development and selection - phase

- Providing feedback on scenarios.
- Selection of Focus Group teachers for Participatory Design.
- Participatory Design workshops.
- Pre-piloting of prototypes.

2. Preparation for implementation of scenario - phase

- Participate in a pilot preparation workshop for NPCs (scenarios, ideas for localisation, support material, evaluation procedure).
- Identify schools, school coordinator, teachers and classrooms for pilots.
- Provide the profile of participating schools, teacher and classrooms.
- Prepare teachers for pilots (local meetings and online community).

3. Scenario implementation and immediate impact - phase

- Monitor and support schools during pilot activities.
- Support evaluation, case studies and ensure that questionnaires are filled in.

3.1 Providing feedback on scenarios

NPC and NTCs are fully involved in the development and selection of scenarios in each Cycle. Their feedback on scenarios to Futurelab is important in the process of selection of the final scenarios to feature in the following Cycle. Feedback should cover educational value, implementation prospects, potential difficulties and implications for resources, people and training. The possible feedback mechanisms are elaborated in Part II (Decision Criteria).

3.2 Selection of focus group teachers for Participatory Design (PD)

2-4 teachers in five countries will be identified to take part in WP3 Participatory Design sessions. In each Cycle, 5 countries are required to hold a PD session. Each piloting partner (expect Israel and Turkey) has resources in this task and thus are required to run at least 2 sessions within the project duration. Countries can indicate their willingness to run a PD-workshop pro-actively, otherwise they will be appointed to the task by the WP3.
3.3 Participatory Design workshops

These Participatory Design (PD) workshops are crucially important in ensuring proper reactions and thoughts from teachers from several countries. Therefore, it is desirable that each NPC can organise a PD session in each Cycle, although 5 are the minimum required.

The sessions should last about 3 hours and be documented (i.e. audio recordings, photos and videos). Having an audio recording can help to go through the event and write down the important parts in the summary report in English. Video recording works just as well. Detailed instructions can be found here: [http://leibniz.uiah.fi/projects/itec-wp3/wiki/ParticipatoryDesignWorkshopGuidelines](http://leibniz.uiah.fi/projects/itec-wp3/wiki/ParticipatoryDesignWorkshopGuidelines). After the workshop, the instructions for submission are available here: [http://leibniz.uiah.fi/projects/itec-wp3/wiki/ParticipatoryDesignResults](http://leibniz.uiah.fi/projects/itec-wp3/wiki/ParticipatoryDesignResults).

3.4 Pre-piloting

WP3 and WP4 select suitable prototypes for pre-piloting, which will work as an evaluation and feedback round on the prototypes. In Cycle 1, 2 or 3 prototypes will be selected, while 5 or 6 in Cycles 2-5.

National Pedagogical Coordinators will help arrange pre-pilot testing facilities in each country with teachers and learners. Each MoE has funding (under “Other costs”, see 2.6) to run the workshops. WP3 will provide support for the prototypes so that they can be used by the teachers in pre-pilots.

There should be at least 2 experienced teachers in each country. They are required to have good communications skills in English, as software to be tested and instruments for data gathering will be in English.

In recognition of the heavy demands that will be made in pre-pilot schools, particularly if teachers work on professional development tutoring, the MoE can compensate these teachers (see 2.6) depending on their level of commitment in the project. Pre-piloting teachers are asked to serve for a maximum of two years (to ensure that fresh ideas are brought into the project on a regular basis).

3.5 Selecting schools for the large-scale iTEC pilots

Guidelines for selecting schools are clustered into three groups: people, processes and resources. Selection is also influenced by the characteristics of the particular scenario to be piloted. In each Cycle the schools involved can be the same or different.
3.5.1 People

The school should have:

- A **supportive head teacher / senior management team** who will commit to the project and provide feedback on the organisational changes that may be required by some of the iTEC scenarios in order to ensure their full implementation within their school.
- An **innovative and effective use** of learning technology/technologies in a classroom (preferably a learning environment other than the school’s computer suite/ICT room).
- At least **2 ICT confident teachers** who are:
  - Motivated to **experiment** with new learning technologies and innovative pedagogical approaches and who are willing volunteers and prepared to commit to the project;
  - In a **permanent position** in the school, in order to guarantee continuity of work in the school over a sustained period;
  - Willing and committed to be involved and deeply engaged in a long term project (that could be linked with plans to develop graduate studies in the field of ICT in education) in order to deeply engage teachers in the activities;
  - **From a range of teaching subjects and school levels** to ensure that a variety of subjects and levels are represented across iTEC as a whole (teachers from the same school don’t need to be from different teaching subjects but it would be preferable if they were). However, the focus should be on Mathematics, Science and Technology teachers working with pupils in the first 2-3 years of secondary schools;
  - Be in an **influential role** such as ICT coordinators, or leading teacher or a school-based teacher trainer.
- An **ICT coordinator** (in primary schools this may be one of the above ICT confident teachers) willing to commit to and support the project.
- An **ICT technical support for the teachers** involved in the project (desirable but not essential).
- Someone designated as the “**iTEC school coordinator**” with overall responsibility for ensuring full participation in the project requirements.

3.5.2 Processes

iTEC schools should:

- Have experience in educational projects in ICT at **national level**.
- It is desirable to be experienced in **international projects**, such as eTwinning or EUN Acer project. This is desirable, but not essential to ensure the functioning of the project.
• Be able to influence neighbouring schools in the region (measured according to geographical location, density of schools and type of local organization), in order to spread key ideas and involve more teachers in local communities.

3.5.3 Resources

iTEC classrooms should:

• Have equipment, resources and connectivity levels that enable the scenarios to be developed without major further expenses.

3.6 Profiling pilot schools

Information about the schools, classrooms, teachers and learners taking part in pilots should be provided in a common format. EUN will make such tools available in the project and make sure that the data is also shared with other tools in the project (e.g. conceptual and technical development of the iTEC Composer by WP10, WP7).

At the beginning of the project, relatively simple tools are likely to be used for data collection (e.g. wiki, Google docs, questionnaire tools).

Essentially, the NPC will be responsible for feeding data into the EUN school database, which includes:

• Describing the main demographics and teaching areas of teachers who participate in the project;
• Describing the physical learning spaces and hardware available (e.g. learning platforms, IWBs, responders, handheld devices, netbooks, mobile phones etc.);
• Possibly also describing other information such as vision, ethos, culture, leadership, processes.

The schools included in the iTEC pilots should already be making some innovative use of ICT. However, the dissemination part of the project will seek to engage less advanced schools where the ‘average’ teacher will have lower levels of ICT confidence and probably be less motivated to explore and adopt the iTEC scenarios.

3.7 Participating in a pilot preparation workshop

A “pilot preparation workshop” (face-to-face or online) will be organised in each Cycle to introduce NPCs and NTCs to the selected iTEC scenarios. It will cover the
rationale behind the scenarios and include training on iTEC tools and technical support for NTCs provided by WP6, making use of a strategy based on the engagement of participants in a community of practice (i.e. an online community environment).

The WP3 technical person, and NPCs and NTCs of the focus country where the selected pre-pilot will have been run, will explain the pilot scenarios, while WP6 partners will explain the training related to the iTEC environment.

3.8 Preparing teachers for pilots

EUN will work with NPCs and NTCs to meet local requirements (e.g. language, local relevant resources) of the countries where pilots are run.

NPCs will localise and translate scenarios and other relevant texts in the Teachers online community. They will also create / adapt / translate support materials. They will design and deliver face-to-face and online workshops and animate online communities of practice for teachers, and report on the workshops, training and support provided.

NPCs will be asked to report back to WP4 leaders on how the preparations, local trainings, localisation efforts and introduction of scenarios to schools have taken place in the country. This will be done through an online reporting tool provided to the NPCs latest at the end of the preparation period (see Table 4 for timelines).

At a later stage in the project (M22), the planning module of the iTEC scenario development environment will be used to complete the scenarios. The planning module can be used for detailing the scenario with educational content for example, or for involving people, organising events, etc. The planning module will make use of discovery services offered by the iTEC environment. Initial functionality will become available from the second project Cycle onwards.

3.9 Participating in the teachers’ online community of practice

An online community of practice will be made available during Summer 2011 to all teachers who participate in the iTEC pilots. All participating teachers are expected to become part of this community. Prerequisite for a teacher to participate is being registered into EUN School Database, an action that each participating teacher will undertake.
Throughout each of the scenario implantation Cycles (e.g. M13-16 in Cycle 1), all pilot teachers will be asked to use the online community to share their individual experiences regarding the common events/activities organised in WP4. These can vary from small comments on the online forum to more elaborated reflections on scenarios either in their own mother tongue or in a second language, if possible. Additionally, any pilot country can use its own local online environment to communicate with the teachers, conduct the training sessions and support participants throughout the pilot. Such settings will need to be described in the pilot preparation report for the WP4 (see above 3.8).

3.10 Support pilots and evaluation, case studies and questionnaires

The NPC ensures that the scenarios are implemented on the ground in line with expectations, monitors progress, provides support via the school iTEC coordinator and enables peer support using online tools and services.

At the same time the NPC collects data for use in reporting on the validation results, to WP5 using supplied instruments. The NPCs are expected to ensure that response rates to the evaluation questionnaire at the end of each Cycle are maximised (preferably 100% and no lower than 80%). See the Evaluation Handbook for more details.
PART II.

SCALING UP SCENARIOS – INITIAL SET OF DECISION CRITERIA (TASK 4.3)
4. INTRODUCTION PART II

The following people contributed to this document:

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- WP3: Tarmo Toikkanen, Teemu Leinonen
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- WP5: Cathy Lewin, Maureen Haldane
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4.1 Rational of the document

Task 4.3 Decision for scaling up scenarios M12, M17, M24, M29, M35 (DoW, p.22)

WP4 develops an initial set of decision criteria in close cooperation with WP2, 3 and 5 for selecting which pre-pilots are piloted at a large-scale. These criteria are discussed at a full consortium meeting in Aarhus in March 2011, where feedback from all partners is gathered.

The decision criteria are reviewed thereafter during each project Cycle, based on feedback from national coordinators, project partners and the series of WP5 evaluation reports (D5.2, D5.3, D5.4).

WP4, in close collaboration with WP3 and WP5, prepares a workshop to enable decisions to be taken concerning which scenarios and prototypes can be taken forward for testing with a critical mass of schools in different countries. These workshops will be arranged during full project meetings to enable all project partners to be part of this decision-making process.

Partners in Task 4.3: EUN, PROM, SMART, FPCE-UL, AALTO, FLAN, MMU, ANSAS, BMUKK, CNDP, DGIDC, EDUB, EDUC, ELFA, ITC, MAK, MONE, TLF, NCIE, FULAB all the other partners

First, this document offers a transparent look on the whole scenario workflow in the iTEC project describing the main key points of each phase. The focus will be twofold:

- First, being clear, and not only on how the scenarios are created (with the influence of all partners, teachers and students), but also on how they are then used, modified and perhaps even redefined. This process needs to be transparent so partners know when and how their opinions are incorporated;
- Secondly, pointing out strategic decisions throughout the scenario workflow that can affect the above-mentioned criteria: scenario selection criteria and pilot selection criteria.

The second part of this document will then focus on the pilot selection criteria.
5. GENERAL SCENARIO WORKFLOW IN EACH CYCLE

This document outlines the general workflow on how scenarios are created in the iTEC project and how they travel through different work packages (2, 3, 4, 5 and 6). Figure 2 explains this flow pointing out where and how scenarios are modified and redefined, and where major decisions are taken on selecting scenarios.

![Scenario workflow diagram]

**Figure 2. Scenarios flow and modification process through the Cycle**

There are two different sets of selection criteria that are distinguished:

1. **Scenario selection criteria**: criteria to select which scenarios move forward from WP2 through WP3. The criteria should select “a balanced mix of more futuristic and currently feasible scenarios”.

2. **Pilot selection criteria**: this is the criteria to determine which pre-pilots (WP3) are piloted at a large-scale (WP4), so the criteria will take into account other factors.
5.1 Workflow in creating scenarios

Description of the general workflow with critical points

- **Stakeholder Identification and Survey design**
  - Identification of stakeholders (FULAB)
  - Identification of Pedagogical Board (all partners)
  - Survey design (FULAB)

- **Drafts of educational change**
  - Desk research to develop short descriptors of challenges/possible changes to education (FULAB, WP2 partners)
  - Draw up long list of descriptors (FULAB, WP2 partners)

- **Stakeholder engagement 1**
  - Survey of trends descriptors to be completed (60 stakeholders, all partners, pedagogical board)

- **Analysis and反映 on stakeholder responses**
  - Analysis and reflection on stakeholder responses (FULAB)
  - Categorization of responses against taxonomy of teaching and learning practices (FULAB)
  - Create building blocks of the mini-scenarios from the trends analysis, teachers’ survey, Power League activity and taxonomy of teaching and learning practices (FULAB)
  - Share with all stakeholders (all partners to feedback/comment)

- **Workshop 1 to create the mini-scenarios**
  - Activities to create and co-author 20 mini-scenarios (all partners)

- **Stakeholder engagement 2. Mini-scenarios ordering**
  - 20 mini-scenarios to be shared online for survey ranking (all partners)
  - Selection of 4-5 highly likely, 4-5 less likely scenarios from the responses to the survey (FULAB)

- **Workshop 2 to co-author the full scenarios**
  - Activities to add detail to the 8-10 full scenarios (all partners)

- **Scenarios to design challenges**
  - Work with WP3 partners to review and explore the resources, tools and services in each scenario (FULAB, AAITEC)
5.2 Workflow in participatory design and prototyping

Description of the general workflow

A description of the general workflow can be found in the following video: http://files.eun.org/itec/videos/iTEC%20WP3%20process%20visualisation.mov

This video describes the design process used in the WP3 by Aalto University, to transform mini-scenarios into prototypes, thanks to participatory design sessions organised with focus groups of advanced teachers.

Between 8 and 10 detailed scenarios, or descriptions of preferable learning contexts, are provided for each Cycle by WP2. These scenarios are used in Participatory Design workshops in which teachers selected by the NPCs take part. During these workshops the teachers give their opinions and reactions to the scenarios, pointing out interesting parts, potential problems, their past experiences with similar scenarios, and so on. These sessions are organised in each Cycle by the NPCs in at least 5 different countries and should last about three hours and be documented (i.e. audio recordings, photos and videos). The scenarios are developed and reviewed using an iterative approach to ensure they match the teachers’ needs, and developed into prototypes.

Using the feedback from Participatory Design sessions and the Scenario Selection Criteria, 6-8 prototypes selected. These prototypes, which are proposals for iTEC Environments allowing teachers to realise an educational scenario, are then proposed for pre-piloting.
5.3 Workflow in pre-piloting and piloting

Description of the general workflow

Scenario development and selection
- Scenarios transformed into 6-8 detailed scenarios by WP3
- NPCs select Focus Group teachers for Participatory Design (PD) workshops
- NPCs host PD workshop and give feedback to WP3
- Pre-pilots of prototypes (2 teachers/all countries, 2 months)
- 2-3 scenarios selected for large-scale pilots

Critical: to capture impressions, moods and opinions from PD sessions

Identification of pilot schools
- Each pilot partner selects the scenarios that they intent to pilot out of 2-3
- The participating schools and teachers are identified by the partner
- Schools and teachers profile are described in the EUN School database
- Chosen scenarios are allocated to or offered to school/teacher using an EUN tool

Critical: to capture how the localisation of the scenario took place.

Preparation for implementation of scenarios
- NPCs and NTCs trained (scenarios, tools, evaluation procedures)
- Scenarios are localised by the NPC
- Training resources made available and localised; PNC and TNC provide appropriate levels of support for preparation
- Teachers are inducted to online community of practice (national and EU/level)

Critical: to capture how the introduction of the scenario to schools took place.

Scenario implementation and support
- NPC describe how scenarios have been introduced to schools and how training took place (to be used for validation report and evaluation report)
- NPCs and NTCs monitor and support schools during pilot activities
- NPCs support evaluation, case studies and ensure that questionnaires are filled in
5.4 Workflow in evaluating

Description of the general workflow

**Preparation for implementation of scenario**
- Coordinators trained (scenarios, tools, evaluation procedures)
- Scenarios are selected by NPC, localised, and allocated to or offered to school/teacher
- School/teachers selected, including case study sites, profile data collected
- Training resources made available and localised; NPC and NTC provide appropriate levels of support for preparation
- Teachers are inducted to online community of practice (national and international)

**Scenario implementation and immediate impact**
- Implementation journey: adaptation, change processes, challenges, ease of implementation
- Outcome of implementation: meeting teaching objectives, impact on learners, impact on teachers' practices

**Scenario long-term impact**
- Intended future use of scenario by participating teachers
- Evidence of potential long-term change in teaching practices
- Impact on school policies
- Scenarios with transformative potential identified; change processes identified
- National educational policy reforms (to be explored through WP11)

**Critical:** to introduce the NPCs to scenarios and evaluation tools.

**Critical:** to make sure that the training material supports scenarios (WP6).

**Critical:** to capture the challenges and success stories.

**Critical:** to capture the long-term evidence and impact on school policies.
6. THE PILOT SELECTION CRITERIA

These criteria determine which pre-pilots (WP3) will be piloted at a large-scale (WP4). The criteria is drawn together from the two parts, namely:

1. Structured feedback on scenarios throughout the scenario workflow;
2. Additional criteria to be used to support the decision making at the General Assembly.

The idea of this combined structure of the selection criteria is that when the scenarios go through different work packages, the project partners can be part of shaping scenarios, but also gather information on the desirability of certain scenarios and on the level of the challenges that they offer (See arrows in Figure 3). When feedback from these processes is gathered in a structured way, it can be fed into the decision-making process to support well-informed decision by the General Assembly.

Figure 3. Arrows point out where different partners and stakeholders can influence scenarios
Moreover, it can be envisaged that each feedback element throughout the scenario workflow can be scored and weighted according to its importance to the global decision making process. The importance of each feedback element can be decided in the General Assembly before voting, or by the iTEC Steering Committee, or based on the evaluation of the previous Cycle. Moreover, scores given by, for example, teachers, MoEs and project partners can be given more weight.

Some additional selection criteria can be used to help GA members to shape their vote on the scenarios:

- The scenario has the potential to engage and enthuse both teachers and learners in the pilot country.
- There is scope to adapt and customise the scenario to fit the local/regional/national conditions in the pilot country.
- The scenario has the potential to respond to the current local/regional/national educational challenges in relation to learning, technology and policy in the pilot country.
- At least 10% of schools in the pilot country find the educational implementation of the scenario feasible.
- At least 10% of schools in the pilot country have the technical capacity and conditions to implement the scenario.
- The scenario has the potential to transform teaching and learning practices fundamentally in the pilot country, in relation to pedagogy and technology.
7. ANNEX

7.1 DATA MODEL TO DESCRIBE TEACHERS, CLASSROOMS AND SCHOOLS

The data model will be used for the task “3.6 Profiling pilot schools” to enter the relevant data about the participating teachers and schools into the EUN School Database. This data will be made available to other iTEC partners for project purposes, e.g. WP5 for evaluation or WP9-10 for the Scenario Development Environment.

7.2 Glossary

Although the Glossary is a work in progress it is available under the following link:

https://docs.google.com/document/d/1wIC0EU00rXKX6v3tq2T5wfxQALVZIhhLA_N4BpS23bY/edit?hl=en&authkey=CPHJt-cK
7.2 Email to iTEC National Coordinators: profile, role and tasks
(as sent to WP4 partners in November 2010)

1. Key points

1 Two national coordinators (NCs) are described in the iTEC project. One pedagogical coordinator and one technical coordinator.

2 Both Pedagogical NC and Technical NC are appointed by ministries of education (MoEs), i.e. AT (BMUKK), BEfI (EDUB), EE (TLF), FR (CNDP), HU (EDUC), IL (MAK), IT (ANSAS), LT (ITC), NO (NCIE), PT (DGIDC), SK (ELFA), TR (MONE), and Finland (NBE - Associate Partner).

3 **Pedagogical NCs** are appointed by MoEs as part of WP4. Pedagogical NCs are responsible at national level for the overall piloting in schools (WP4) and evaluation data collection (WP5).

4 **Technical NCs** are appointed by MoEs as part of WP6. Technical NCs are responsible for setting up the technical conditions for pilots in schools.

5 Time has been allocated in WPs 4 and 5 to MoEs (approximately minimum of 41 and 14 days a year respectively) to allow MoE-employed personnel to carry out the pedagogical coordination tasks described later in this document. WP3 also provides most MoE with approximately 18 days per year to support pre-pilot activity.

6 Additional time of approximately 32 days per year is available through WP6 for technical coordination.

7 Other WPs will also require limited support from NCs in particular WP2 and WP10 as described later in this document however the time commitment will be small and can be found within the time allocated to other WPs as described above.

8 The work of NCs (technical and pedagogical) can be carried out by a single person or divided between a number of people if so desired but each country should nominate one person as the main point of contact. The personnel carrying out these roles must meet the profiles described below.

9 There is also a separate budget under Other Costs for Pedagogical and Technical NCs of 2000 Euros a year per MoE, this can be used for working with schools, translation, co-ordinating, liaising with iTEC, data gathering and can therefore provide additional time for the NC role. This amounts to an average additional 8 days (although this does vary with the daily rate of MoE).

10 Please also note that within the funding allocated to MoE there is also funding allocated to travel and subsistence of NC’s.
2. Profiles and expectations

Profile of the Pedagogical NC

- Have pedagogical credibility with schools and have experience of training and supporting teachers
- Lower secondary MST (Maths, Science, Technology) teaching experience if possible
- Able to plan, organise and lead face to face workshops and online communities for teachers
- Understand iTEC and have a critical understanding of the scenarios
- Be technically proficient, i.e. sufficient to use the iTEC tools and environments developed
- Have a basic understanding of data collection and research methods
- Able to write reports and have a good command of written and spoken English.

Profile of the Technical NC

- Good communication skills orally as well as in writing
- Have a good command of written and spoken English – e.g. for localising materials into local language
- Lower secondary MST teaching experience if possible (Grade 7-9)
- Strong organisational skills – especially in teacher training and continuous professional development
- ICT-facilitation skills
- Must be familiar with multiple platforms (for example Mac, Win, Linux, mobile devices, IWB etc.)
- Knowledge of CMS and Learning Management Systems
- Knowledge of Web 2.0(+) approaches and technologies and how to apply them in a teaching environment
- Fundamental understanding of the LAN and WAN
3. Summary of tasks for National Coordinators in each Cycle

*See the iTEC Description of Work for full details and context ([http://tiny.cc/ovtgz](http://tiny.cc/ovtgz)).* Time allocated to each task is indicative and applies to each of the five Cycles of piloting in iTEC, assuming a country takes part in four Cycles. Please note that this is general guidance and that different ministries have different time allocation for these WPs. WP Leaders can provide more detail of time allocation to each activity specific to each MoE.

**WP2: Scenario development**

- **2.3: Surveys of teachers and pupils**
  - Identify an average of 100 classrooms per country to survey twice in the project to gather teachers’ and students’ attitudes towards the role and use of ICT in schools. (Potentially in schools already identified for pilots and pre pilots)
  - Facilitate the use of an “ordering tool” to elicit pupils’ attitudes to the use of technology within the 100 classrooms.
  - Support the translation and localisation of the survey, ordering tool and results
  - 4 person days

**WP3: Pre-pilots**

*Approximately 18 days per year to support WP3 (TR - MONE and IL - MAK have not been allocated funding to participate in this activity)*

- **3.1 and 3.2: Participatory design**
  - Identify groups of 2-4 teachers to take part in participatory design sessions and facilitate the session including translation of material from English, setting up the session and record outcomes. Only five countries are required per Cycle.
  - 8 person days

- **3.3: Pre-piloting**
  - Set up and facilitate the pre-piloting of prototype sessions involving 2-3 teachers in each of the 12 pilot countries (technically and pedagogically advanced teachers are preferred), including localization of the prototypes and instructions
  - Gather results from the pre-pilots and translated into English
  - 10 person days
WP4: Pilots

Approximate minimum of 49 (41 + 8) person days per year

- **4.2: Protocol development:**
  - Contribute to the development of the iTEC school pilot protocol (by Month 7)
  - Identify teachers to join the pre-pilot focus group
  - Recruit and support teachers for both pre-pilots and large-scale pilots
  - Provide schools’ and teachers’ technical and pedagogical profile in the WP4 database, which is used by all WPs.
  - Understand the training and support requirements necessary before large-scale roll-out
  - Take part in pilot preparation workshops (iTEC, scenarios, tools, school selection process, protocols etc.)
  - 12 person days

- **4.5: Teacher training:**
  - Localise and translate scenarios, create / adapt / translate support materials
  - Design and deliver workshops for teachers
  - Write reports on the workshops, training and support
  - Animate online communities of practice
  - 15 person days

- **4.6: Validation**
  - Organise and support validation in schools (implement the scenarios in classrooms in their country, working with the school coordinator and supporting teachers)
  - Report on the validation results (to WP5 using supplied instruments – see below)
  - 22 person days

WP5: Evaluation

Total of 14 person days per year

- **5.3: Instruments**
o Arrange translation of instruments (online survey; guidance for teachers on documenting their experience of implementing the scenario; interview schedules for the head teacher, school ICT coordinator, teacher).

o Arrange transcription and translation of data from one case study school in Cycles 3, 4 and 5 only

o 4 person days (an additional 1.5 person days will be required in the first Cycle)

- **5.4: Evaluation**

  o To attend one half-day training workshop during which the evaluation approach, protocols, research instruments and all the points below will be explained and discussed in detail.

  o Identify three good practice schools (representative of the range of schools participating) as case study sites and 1-3 teachers in each school who will participate fully in the evaluation.

  o Provide MMU with a report on the school selection process for each Cycle.

  o Undertake the following:
    
    ▪ Support teachers identified in case study sites in capturing multimedia stories about their experiences implementing the scenarios.

    ▪ Collect data from case study schools, following guidance materials on observation and data collection/interviews.

    ▪ Identify one case study school for full data transcription/translation in Cycles 3, 4 and 5.

    ▪ Write a short report on each case study using a pro-forma (no more than 3 sides of A4 will be expected per school).

    ▪ Support all participating schools in administering the online survey and follow-up to ensure that everyone fulfills the task. The amount of time will depend on the numbers of schools/teachers participating each Cycle. As a minimum the coordinator will need to liaise with a member of staff from each school to ensure that the online survey is made available and that participating staff complete the survey during the required time period (a 2 week window). This will be entirely quantitative data and will not require any subsequent translation.

  o To be interviewed online by WP5 team (approximately 1 hour per Cycle).

  o 10 Person days

**WP6: Technical**

*Approximately 32 person days per year*
The technical coordinators are responsible for setting up the technical conditions for pilots in schools, and among their many tasks are

- First point of technical contact and support for teachers and pilot schools
- Handling of and training in the use of the iTEC composer to be used in Shell
- Assist with user management
- Provide guidance in obtaining and deploying content
- Help with technological platforms (Mac, Win, Linux, mobile devices, IWB, Ipad ...)
- Manage constraints on the network (firewall, flash)
- Involvement in WP10 Control Boards (further detail will be provided by the WP2 team)

In some cases the tasks of the technical and of pedagogical coordinator overlap. The local situation in the various countries defines how the individual MoE organises the work between the two.
4. Costs for organisation and support of school pilots

Taken from the DoW page 68 (iTECDoW_PartB_2020100920

WP4 has integrated a provision of €593,000 mainly to support the implementation of the pilots in each country. It will comprise some publication and translation costs (for the school pilot) but the major proportion of the budget will be used for supporting the development of each pilot (national technical and pedagogical coordinators). Each partner concerned will organize the pilot according to their national environment.

The detailed breakdown is as follows:

Average cost for national and technical coordinators: 2,000 Euros/year per country paid by each MoE (under their other cost allocation). 12 pilots + EUN pedagogical coordinator. Cost of 13*2,000*4 = 104,000 (8,000 Euros per partner). + lump sum of 1,000 Euros to cover some travel costs per partner (13,000). **Total of 117,000 Euros (9,000 per partner).**

Cost of pedagogical support for moderating CoP and working on CPD: 6 teachers with a lump sum of 3,400 Euros/year over 4 years – Cost of 6*3,400*4 = **81,600 Euros (covered by EUN)**

Average cost of pre-pilot focus group: 2 teachers per pilot country nominated by each MoE – lump sum of 1,000 Euros per teacher – Cost of 2 * 12 * 1,000 * 4 = 96,000 Euros (cost of 8,000 Euros per partner). + lump sum of 1,000 Euros to cover some travel costs per partner (12,000). **Total of 108,000 Euros (9,000 per partner).**

Cost for management tool for monitoring the pilot schools – **15,900 Euros under EUN budget.**

Cost for organising 3 international workshops: 13,000 Euros for organising an international workshop (50 people) – Travel and accommodation of 650 Euros/participant (32,500 Euros). Total cost for one international workshop – 45,500 Euros. **Total for 3 international workshops – 136,500 Euros. Covered by EUN.**

Average Cost for supporting the pilots in the countries (including possibly workshops, meetings, ...) – lump sum of 12,000 Euros per partner. **Total of 12 * 12,000 Euros = 144,000 Euros.**