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D2.2 Integrated Operational Design Strategy

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Abstract:

Large scale innovation projects such as Inspiring Science Education with their aim to reach and impact STEM education in over 27 European countries are organisationally complicated. As such as the ISE project design included a methodological work package with the purpose of providing a support programme to help address organisational challenges such as the differences in focus between those supporting the technological components and those working in educational settings. The Integrated Operational Design Strategy draws from data gathered among the project partners on the perceived challenges in delivering this project. This was done through a qualitative survey, observation of the ISE organisational dynamics and a workshop at the second project management meeting.

This resulted in:

- 1) an analysis of ISE at the organisational level including imbalances in power and knowledge, the emerging culture and levels of collaboration
- 2) a mapping of these challenges to the different dimensions of the project.

The conclusion of this work was in a set of recommendations for how to implement a transversal support package, the Integrated Operational Design Strategy thematised in the longitudinal initiatives of reaching out to the policy makers; reaching out to the schools and opening up the evaluation. and operationalised through a set of support activities. These will include establishment of task forces around the initiatives, proposal of the WP2 support package, developing a communication strategy and a set of the integration indicators.

Keywords: ISE project map, organisational culture, transversal support package, socio-technical systems, integrated operational design, quality assurance, evaluation.

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1 EXECUTIVE SUMMARY

This deliverable reports the first steps made by the ISE project to:

- extract and share partners' views on the main challenges that the project has to face;
- build a common vision on the project success criteria;
- find ways to articulate project activities using all the expertise resources of the project partnership;
- design project activities in an integrated way, overcoming the well known tendency to segment work packages and to minimise inter-disciplinary collaboration.

Since the very conception of the project the need to produce intense interaction among the large number of partners was perceived as a determinant of success for such a large and ambitious project. The development of common ownership, transparent and continuous communication flows and inter-WP interaction is key to create the synergies necessary to produce the expected results.

This document presents on section 2 the methodology followed for stocktaking and diagnosis in ISE as a complex (temporary) organisation that needs to be “governed” with full awareness of diversity of points of view and long term instruments of partners associated to this project. The following sections present the main project challenges as identified by project partners, the “organisational issues” to be considered with ISE and recommendations for action (how the project can progress in an integrated way towards its contractual objectives and long term aims)..

2 METHODOLOGICAL APPROACH

Two project level activities formed the working methodology to develop an operational design strategy across the different work packages and the timespan of the programme. The aim of both was data gathering followed by sense making to develop a strategic plan from the live challenges and concerns of the project partners.

2.1. STOCKTAKING AND DIAGNOSIS SURVEY

This took the form of a preliminary survey of the project partners to gather together the key concerns and challenges facing the project. The responses are detailed in Annex 1 of this report and fed into the design of the integration workshop.

2.2. FIRST INTEGRATION WORKSHOP

The design for the workshop derived from a working hypothesis that the organisation is an appropriate unit of analysis for integrating the aims and objectives of the ISE project as per the aims of Work Package 2 of the project.

The integration workshop used the following methodology:

- action learning– enlisting the collaboration of partners in change to enquire with the consultants; and
- socio technical systems theory – understanding that the interface between the social and the technical is probably the greatest risk to the success of this project
- system psychodynamics – understanding and surfacing the underlying dynamics in which individuals, groups and sub-systems can be caught and their relevance to research and development project work.

2.2.1. **Workshop aims and outcomes**

- To enable participants and stakeholder to see the ISE project as an organisation and to be clear about its purpose
- To begin to understand where it is working and not working
- To start to define mechanisms for collaboration and learning throughout the project.

3 MAIN CHALLENGES AND CONCERNS AS PERCEIVED BY THE PARTNERS

These were the concerns brought by the partners into the workshop relating to their experience so far of interacting in the project and of the project management meetings.

- Major concerns around communication
- Managing expectations on impact of the project (and working with the evaluation in this respect)
- Lack of language around the social impact of new technologies (and how they will be resisted)
- Alignment of the technological platforms and user involvement in this (need to be user friendly)
- Working with and involving key stakeholders, teachers, relevant organisations
- Administration and management of the pilots in the countries and local policy considerations
- How each organisation can fully bring itself to the project. (eg Vernier)

After the presentation of participants and the general considerations on the project meetings, MENON presented the results of a survey conducted among partners on the main challenges and success criteria of the ISE project. The following diagram shows a synthesis of the results. It shows, in the diversity of priorities expressed, several tensions to be faced:

- the one between the ambitious quantitative objectives and the need to gradually involve and get ownership by schools, teachers, learners and other stakeholders;
- the one between technical integration and respect for variety and preferences of users;
- the one between gaining support from top policy makers and being essentially a bottom-up multiplication project;
- the one between a proposed “best way” and the need to accommodate views and constraints from a high number of schools in different national contexts.

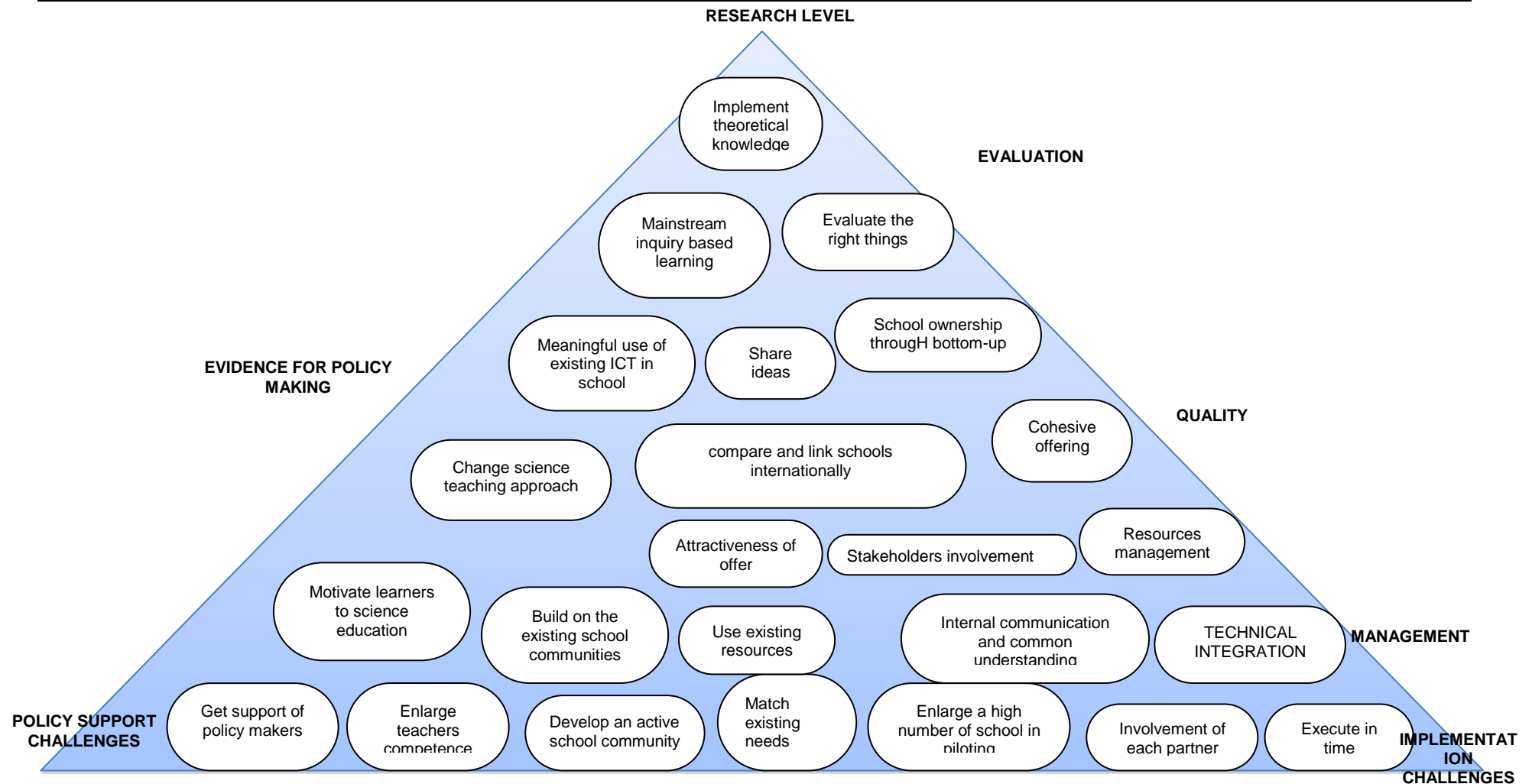


Figure 1: ISE challenges as perceived by partners

4 IDENTIFYING THE ‘ORGANISATIONAL’ CHALLENGES FOR ISE AS A PROJECT

ISE is large scale project with 30 partners and funding of over a million Euros (half EU and the half from the project partners themselves) and yet there is a lack of evidence in these early stages that this is supported by the relevant governance, communication systems, policies and procedures to organise this complexity of partnership, activity and engagement. These are all necessary because complex systems become vulnerable to internal and external politics and because the quality and timely delivery of the task itself can be anxiety provoking and inhibiting in delivering the work. The task of integration is about developing ISE as an organisation rather than within the mechanisms and limitations of a project management model enabling partners and stakeholders to be involved and to contribute to their full potential.

This first integration workshop built on the stock taking survey of partners (Task 2.1) and aimed to identify some on-going mechanisms for collaboration and learning that will support a more integrated delivery of the project. The project management meeting had already surfaced many of the tensions at play in the project, but through more in-depth dialogue in the workshop it was possible to become more explicit about what these were and in addition to question some of the assumptions. These are listed in further detail below:

- There are assumptions about who knows what in the project, particularly in relation to who holds an overall idea of the original conception and the DOW. This is playing out dynamically as a fear of expressing ‘not knowing’ and not wanting to work through the stages of getting to know the project. Furthermore these concerns are being expressed at two extreme levels: by the project management (WP1) representative and at the outer extremes of the project by the partners without official status, who nonetheless will be key to engaging schools in the project. This represents risks to the project of disillusionment and disengagement.
- Delivery of a project of this size to the contract deadlines and requirements is a sizeable task and one likely to evoke anxiety at all levels in the face of uncertainty as to whether this is achievable. This ‘usual’ situation has been heightened in ISE by the slow start of the project. These are ideal circumstances for defensive and disabling routines to begin to play out in an organisation and there is much evidence of this happening within ISE. The project management meeting was a good example of these defensive routines, set up to enforce reporting and control deliverables and with very little space for dialogue and learning. This is exacerbated by the continually defensive and ‘all-knowing’ role taken by the project management team in choosing to always answer questions from the floor and not deferring them to WP leads or other experts.
- ISE faces a challenge in how it is born out of other projects and the assumptions of knowing and membership that come with this. Organisationally this is about the knowledge transfer that needs to take place (but has not yet) between those who carry with them experience and relationships from other and current projects e.g. ODS and GoLabs. It also means recognising the power held by those that know more and how this affects newer members. This imbalance needs to be addressed by working more overtly to surface and sharing the knowledge that resides in the project.
- This is a project about the introduction and development of new technology platforms, yet it depends upon a profoundly social activity to engage 5000 schools, teachers and children in the use of new technologies. Organisations often fail to acknowledge the relationship between the social and the technical and moreover to create a dialogue between the two. There is plenty of evidence that this is happening within ISE, with dialogue being promoted and encouraged between the technology work packages, but not with other WPs. For example in the evaluation work, which has the potential to draw out learning about the social interaction with the technology. The integration workshop itself was underrepresented by members of the technological teams and the evaluation itself seemed to be being defined in purely technical terms.

The risk therefore inherent in not addressing these organisational issues is that they will get transferred into the project and impact the results. The task of WP2 is to identify strategies to address these points.

5 RECOMMENDATIONS AND ACTIONS

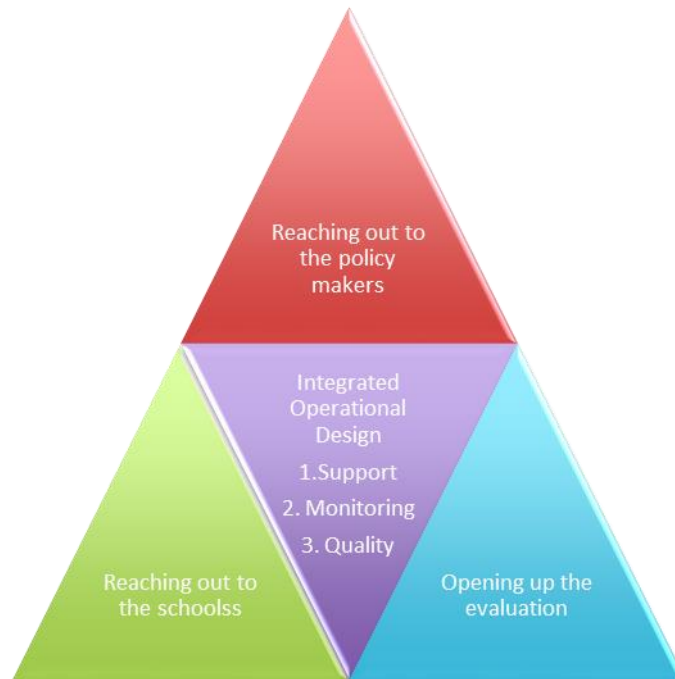
From the observations of the meeting dynamics and the following debate some concrete recommendations were developed, some of which were already being considered at the level of project management in response to concerns raised in the project management meeting:

1. **More participation among the partners** Meetings should contain more collaboration sessions than project management issues and WP review of progress and due deliverables by coordinators: the amount of expertise available in the partnership need to be visible and used, and this can only be done if sufficient time is devoted to participatory activities.
2. **Mapping the related projects** The “knowledge gap” between partners who are active in a chain of related projects (ODS, Go-Lab, etc.) and those who are only involved in ISE needs to be bridged with adequate relationship and achievement maps regarding all the related projects and short briefing session for new partners; by the way, these maps may result to be very useful for a number of external stakeholders to clarify the difference and point out what is really specific and focal in each project.
3. **Fuller exploitation of the partnership** There are several problems that are, by their nature, common to different WPs and need to be faced by using all the experience available in the partnership, e.g. “How to engage schools” or “How to attract policy support”. These could be addressed by temporary Task Forces to be established across WPs and working mostly on line after a first kick-off session to be associated to the next Partners Meeting.
4. **Articulating the project** The exercise conducted in two groups to define the “essence” of ISE was extremely useful to perceive the different “accents” that partners express out of the official aims and identity of the project; this is quite normal in a large partnership, but the aim of reaching a synthesis out of the many views should be assumed at a project level, not only in the workshop organized by WP2.
5. **Defining the success criteria more holistically** there is a need to broaden the scope of the evaluation to one that enables a much broader participation in defining the success of the project and in drawing out meaningful lessons in relation to its future sustainability. This means a more inclusive evaluation working with all stakeholders from the project partners themselves through the schools to policy makers.

6 ACTIONS TO DEVELOP THE INTEGRATED OPERATIONAL DESIGN STRATEGY

The following suggested actions to develop the integrated operational design take into account the challenges, concerns developed through the tasks 2.1 (Stocktaking and diagnosis) and 2.2 (First integration workshop) and the organisational analysis of the project.

They are seen as longitudinal initiatives transversal across all partners and work packages and at their core a set of support activities provided through WP2 to both enable the project as a whole and with the interaction and relationship with the project management elements including quality assurance monitoring.



- **Introducing and refining the longitudinal themes.** Use of the third project management meeting to launch the longitudinal themes of *Reaching out to the policy makers*; *Reaching out to the schools* and *Opening up the evaluation* with a three dedicated parallel sessions on the themes (each attended by a cross sectional representation from the project) and drawn together through a plenary session. The aim will be to establish a programme of longitudinal work, identify key actors and the support needs e.g consultative support through action learning sets, other learning events.
- **Proposing and implementing the support package.** Following the recommendations and suggestions coming out of the thematic workshops we will need to set up an integration support 'package'. This will involve engaging experts from within and possibly outside of the project and allocating them to the task groups along with assigning WP2 consultants. It will also involve the design of the support programme e.g. online action learning sets and learning events at key points in the project.
- **Developing a communication strategy.** Integration relies on good communication and WP2 needs to acknowledge and implement a closer interaction with WP1 project management helping them to evaluate the effectiveness of the different communication channels e.g Yammer, email, project management meetings as well as identifying and understanding what is happening with other less formal communication channels such as the 'political' networks of the project. A communication plan is key to WP2 and will involve the strategies to engage the partners in the key messages and to commit to the workshops, for example producing summaries of key findings, multiple communication channels.

- **Developing a set of integration indicators.** In recognition of the effort and energy that will be asked of partners in 'getting the oil into the work and activity of the project' it will be important to develop a set of indicators by which to measure the success of this the strategy being proposed in this work package. This will be closely linked to the quality assurance and evaluation work.

7 ANNEX 1: WORKSHOP AGENDA

Attendees:

Name	Organisation
Cornelia Helmstedt	UDE
Mathy Vanbuel	ATiT
Jani Koivula	UHelsinki
Chris North	Cardiff
Paula Havaste	HEUREKA
Augusto Choccariello	CNR-ITD
Rosa Doran	NUCLIO
Margaret Farren	DCU
Yvonne Crotty	DCU
Eric Chataigne	Intrasoft
Julier Scott	Menon
Claudio Dondi	Menon
Nikos Zygouritsas	Menon

Mapping the ISE organisation and designing for integration	
14.00 – 14.30	Introductions <ul style="list-style-type: none"> - Structure and aims - Being explicit about our ISE concerns and our hopes for the workshop
14.30 -16.00	A mapping exercise to reveal the different dimensions of the project <ul style="list-style-type: none"> - Mapping the concerns and challenges of the project - How does the existing structure fit with the aims and objectives of the project (creating an integrative map)?
<i>16.00 to 16.30</i>	<i>Break (16:00 to 16:30)</i>
16.30 - 17.00	Defining the ISE organisational task <ul style="list-style-type: none"> - Short illustrative input from CD, JS - Work in teams on the task
17.00 -17.45	Designing for collaboration and learning <ul style="list-style-type: none"> - Developing ongoing mechanisms for learning and resources
17.45 – 18.00	Final plenary and sense making