SEQUOIA PROJECT
"Socio-Economic Impact Assessment for Research Projects"

Contract n° 258346

WP4: Dissemination and Assessment Methodology Transfer

Deliverable D4.2.2
Consultation Workshop Report

Project funded by the European Commission "Information Society and Media Directorate - General", Support Action

Contract Number: 258346
Project Acronym: SEQUOIA

Deliverable N°: D4.2.2
Due date: 31 Oct 2011
Delivery Date: 4 May 2012

Author: Paolo Dini (LSE), Antonella Passani (T6 ECO), Francesco Bellini (EK)
Partners contributed: LSE, T6 ECO
Made available to: Public

Versioning		
Version	**Date**	**Name, organisation**
1	23/4/12	Paolo Dini (LSE)
2	26/4/12	Antonella Passani (T6 ECO), Francesco Bellini (EK)
3	27/4/12	Anne English (LSE)

Quality check: Louise Newton-Clare (LSE)

Internal Reviewers: Anne English (LSE)

Table of Contents

1. INTRODUCTION **4**

2. PRESENTATIONS **4**

2.1 Plenary Session 4

2.2 Techo-Socio-Economic Session 6

2.3 Dissemination Session 12

3. CONCLUSION **13**

1. INTRODUCTION

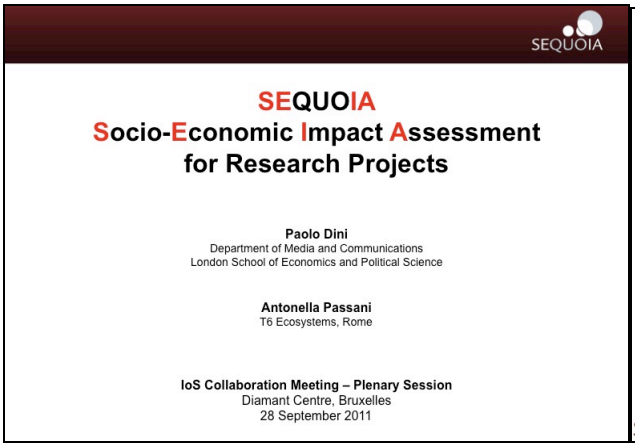
The Consultation workshop had the aim to disseminate the activities of the SEQUOIA project, to present the methodology and preliminary results, and to facilitate the networking among Call 1 and Call 5 projects and their possible beneficiaries, users, and other actors interested in supporting the exploitation of their results. Due to the difficulty of organising a dedicated workshop that a sufficiently high number of projects would attend, these activities were integrated with the EC Collaboration Meeting for the IoS Cluster, held in Brussels on 28 September 2011. This report documents the materials that were presented by the SEQUOIA project at that event.

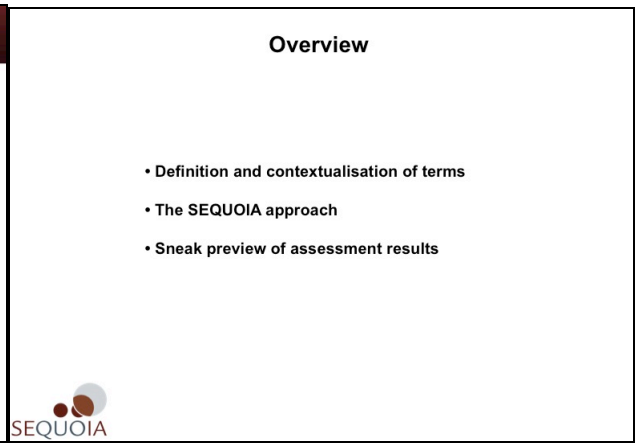
2. PRESENTATIONS

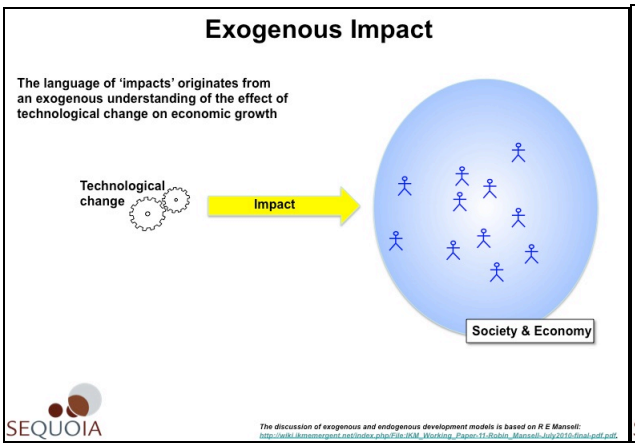
2.1 Plenary Session

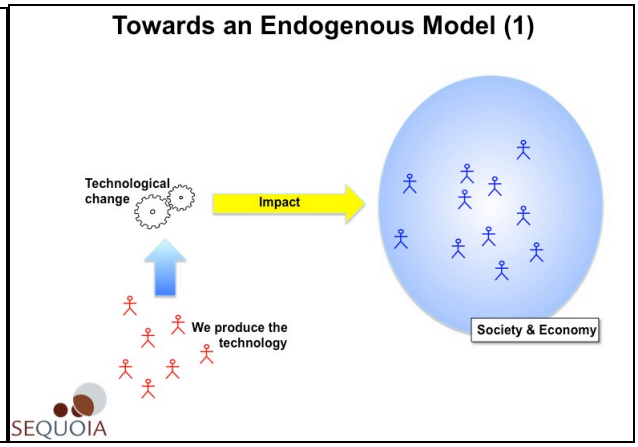
SEQUOIA was presented together with the following other projects HOLA! and SOFI, Support Actions, and S-Cube, Network of Excellence.

In the SEQUOIA presentation we addressed the question of "Why impact assessment?", we discussed the need to overcome a linear, exogenous approach, and presented a high-level summary of the preliminary results of the SEQUOIA questionnaire.

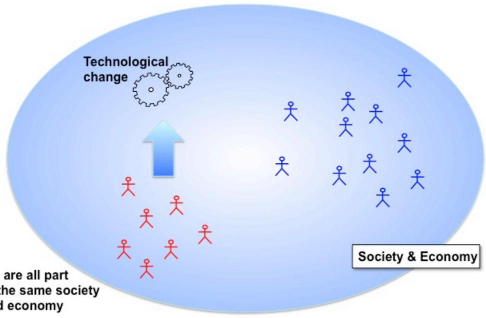








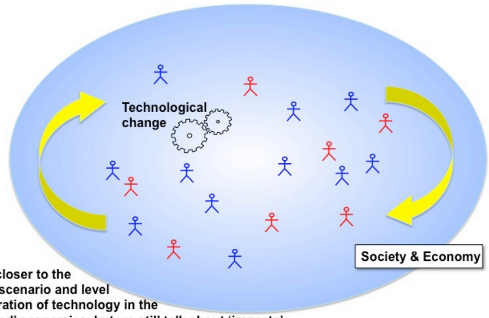
Towards an Endogenous Model (2)



We are all part of the same society and economy

SEQUOIA

Towards an Endogenous Model (3)



This is closer to the current scenario and level of integration of technology in the 'advanced' economies, but we still talk about 'impacts'

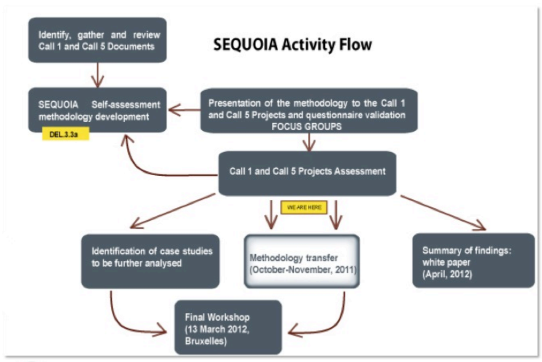
This is the starting point of the SEQUOIA methodology

SEQUOIA

SEQUOIA's Methodology

- SEQUOIA's methodology is based on the assumption that social, technical and economic processes are tightly interdependent
- Therefore, in addition to specific products and services, a project's 'impact' can derive also from the type and depth of engagement with the stakeholders, collaborators, and community at large

SEQUOIA



SEQUOIA

Applying the SEQUOIA Self-Assessment Methodology: Preliminary Results

SEQUOIA

Projects that Answered the Questionnaire

- 45 invited
- 17 fully completed + phone interviews
- 5 partial

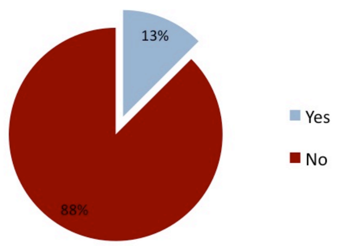
SERENOA	SOCIOS
ADMIRE	PERSIST
VISION CLOUD	SLA@SOI
IRMOS	DiVA
REMICS	FastFix
SRT-15	SOCIETIES
CONTRAIL	I2Web
CLOUD4SOA	Choreos
S-CUBE	

SEQUOIA

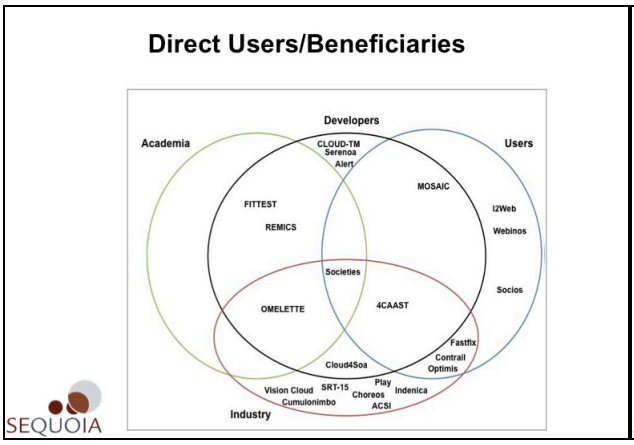
Keywords

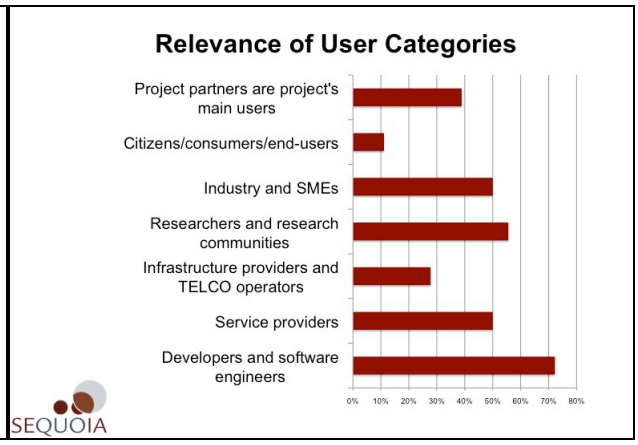
SEQUOIA

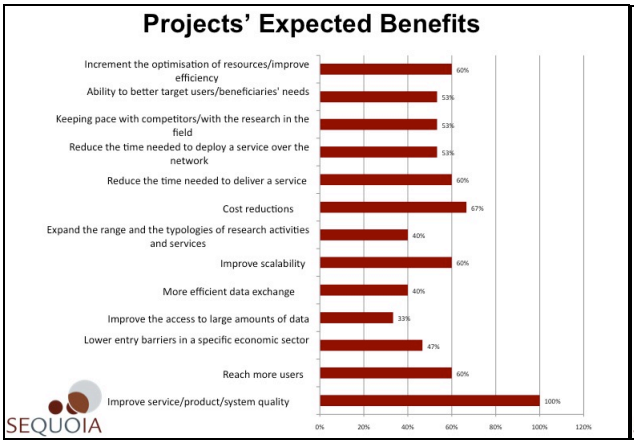
Use of Self-Assessment Methodologies for Socio-Economic Impact Evaluation

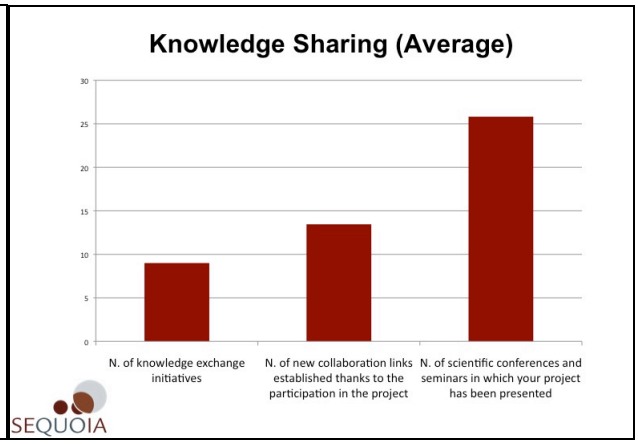


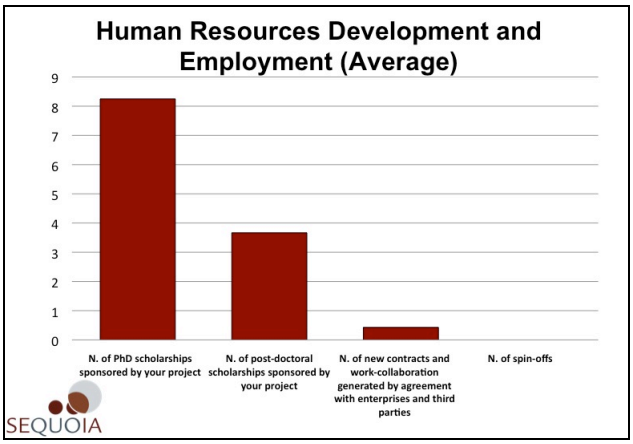
SEQUOIA











An interesting and open discussion about impact assessment emerged during the Q&A session. Some time was spent discussing the challenges of assessing research-project impacts. As a result of this session more projects asked to collaborate with SEQUOIA and more projects completed the questionnaire. Therefore, the SEQUOIA team decided together with the Project Officer that it was better to keep the questionnaire open a couple of weeks extra in order to allow more projects to complete out and return it.

2.2 Techno-Socio-Economic Session

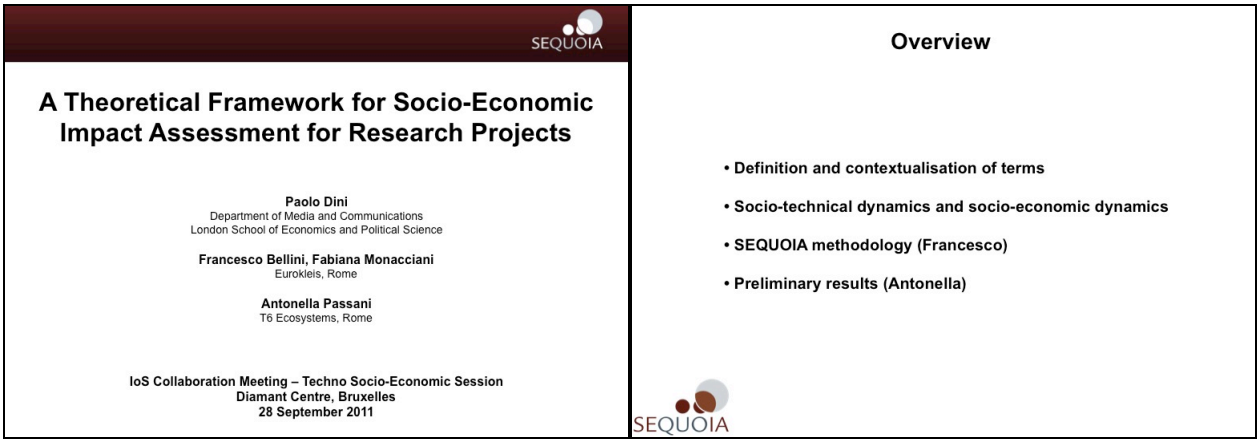
The aim of the session was to provide an overview of the on-going initiatives that are addressing the socio-economic implications of the technologies implemented for the Internet of Services research area.

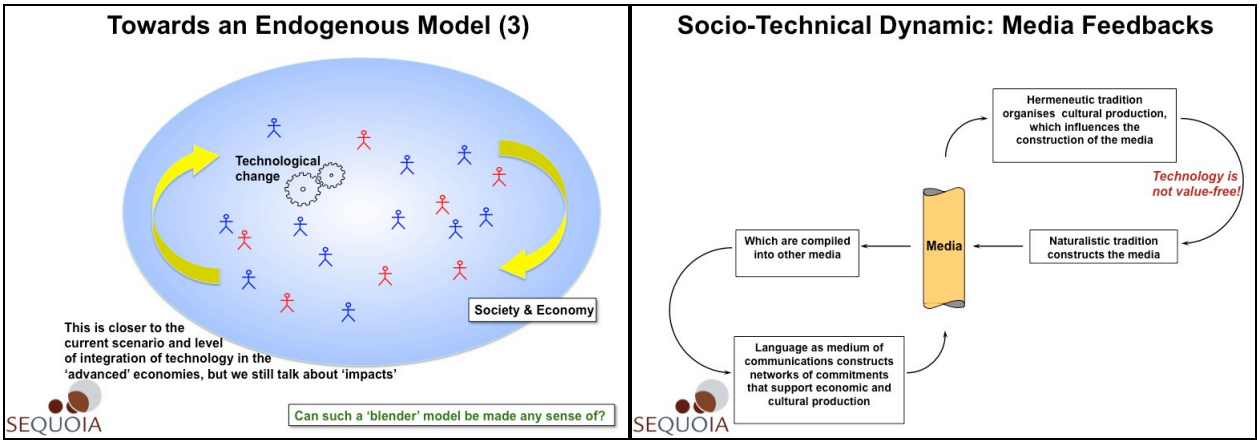
The approach was multi-faceted, trying to capture the most relevant issues addressed by the current research activities. The main topics were:

- Socio-economic impact assessment of research projects
- Issues raised from the Future Internet collaborative environments
- Public-Private Partnerships in the Future Internet
- Service Level Agreements

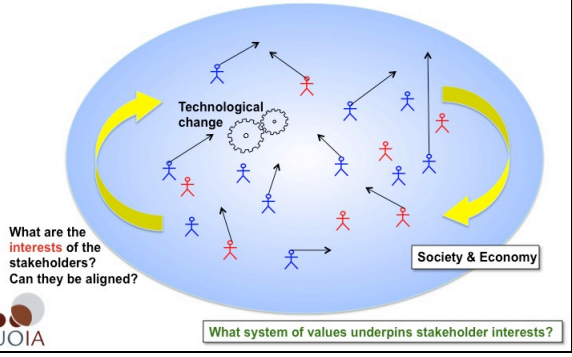
The SEQUOIA session was introduced by Francesco Bellini (EK). The presentation was divided in three parts, as follows. SEQUOIA's work aims to extend more traditional understandings of quantifiable economic impact in two different ways. First, it includes an explicit social element, which we rationalised from the point of view of economic anthropology. Second, it emphasises *self*-assessment over assessment by third parties or funding bodies.

A consequence of the former is that the concept of "value" is also extended to include the less visible "use value", which is rooted in community, in addition to the more familiar "exchange value", rooted in the market. Open source is an increasingly successful example of how these two understandings of the economy can be integrated. A consequence of the latter is that it internalises the analysis and strategy for value generation within the research projects themselves, leading to (1) greater bottom-up and individual initiative in commercialisation on the part of the projects and (2) greater interdisciplinary integration between computer science and social science researchers. After outlining these ideas, in this talk we summarised the collaboration activities undertaken, the preliminary results from the questionnaire, and the steps planned for the final 6 months of the project.

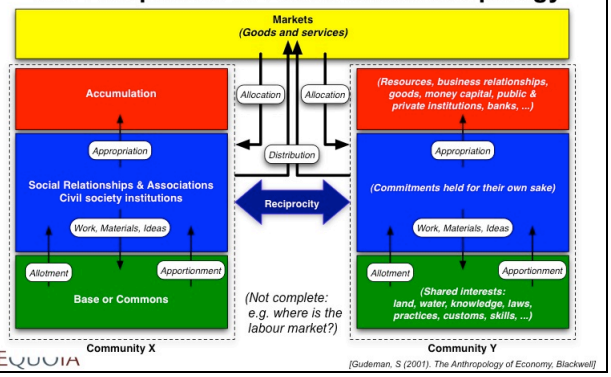




Towards an Endogenous Model Informed by Political Economy

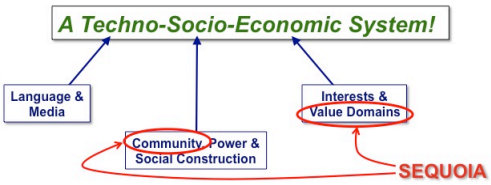


Socio-Economic Dynamic: The Perspective of Economic Anthropology



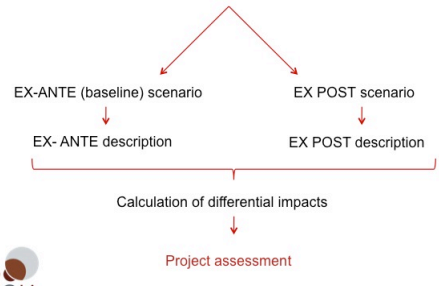
Towards an Endogenous Model Informed by Political Economy and Economic Anthropology

- Can't draw a picture, it's too complicated!
- Imagine integrating the media feedbacks with the community dynamics, the power relationships, the social constructivist processes, the interests of the stakeholders, and the 4 systems of value of economic anthropology. The result is…

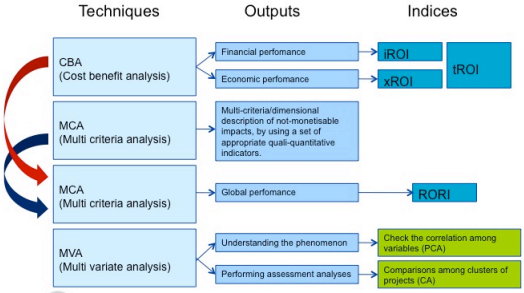


Background information

The SEQUOIA exercise will not consider the "gross" effects related to each project, but their "net" impacts (e.g. differential/incremental)



The SEQUOIA methodology



iROI

- Aims at evaluating the internal financial return of the project (its financial sustainability) and, therefore, measures the financial return for the consortium's partners
- iROI is based on the financial evaluation of the total cost for performing the research project and on the identification of the financial returns for the consortium's partners, deriving mainly from selling the outputs produced

$$iROI = \frac{investment\ financial\ inflow - investment\ financial\ outflow}{Investment\ cost}$$

iROI - Indicators variables and proxies

		Typology	Measure or Proxy	Data source
iROI	*Benefits*	Revenues	(Number of Products) * (Unit Price)	Questionnaire
		Fees	Total Revenues From Fees	Questionnaire
		Royalties	Total Revenues From Royalties	Questionnaire
	Costs	Investment in R&D	Total cost of the project	Project website

xROI

- Quantifies the amount of net economic benefits that the project generates in society as a whole (both research output users and not users).
- In order to be included into the xROI, each impact of the project (positive or negative), other than the financial ones, must be expressed in monetary terms by using appropriate proxies

$$xROI = \frac{Socioeconomic\ Benefits - Socioeconomic\ Costs}{Investment\ cost}$$

xROI - Indicators variables and proxies

		Typology	Measure or Proxy	Data source
xROI	*Benef its*	Technological[1]	(net benefits for one user) * (number of users)	Questionnaire
		Environmental[2]	Savings on Kwh consumption	Questionnaire
			Other environmental savings	Questionnaire
		Impact on induced employment	(Incremental salary of skilled employee) * (Number of skilled employees induced by the project)	Questionnaire and EUROSTAT
	Costs	Investment in R&D	Total cost of the project	Project website
		Operational cost	Labour cost = (Number of workers * Average Salary in EU)	Questionnaire and Eurostat
		Maintenance costs	20% labour cost	Questionnaire and Eurostat

List not exahaustive

SEQUOIA

tROI

- Sums up all the information gathered by the iROI and xROI and quantifies, in monetary terms, all the impacts on consortium, on softwares users and on the society as a whole

tROI = iROI + xROI

SEQUOIA

RORI

•It expresses the global Return On Research Investment

• It summarises the financial direct impacts for the consortium partners (iROI), the economic direct impacts on the project's outputs users (xROI), and the set of non-monetisable impacts both on the software users and on society as a whole

RORI = $\Sigma_n (X_n * w_n)$

where:
n = 1, ..., N (N is the number of variables)
w are the *indicators normalized weights* ($\Sigma_n w = 1$)
X are the *normalized indicators* describing the following impacts:

- Financial (iROI)
- Economic (xROI)
- Technological
- Environmental
- Knowledge production
- Impact on social capital
- Employment & Working Routine

SEQUOIA

RORI – An example

Projects	Financial	Economic	Other							RORI
	iROI	xROI	xxx	xxx	xxx	xxx	xxx	xxx	xxx	
x	-1	1	0,89	0,67	0,95	0,67	0,52	0,96	0,33	**0,3527**
y	-0,5	0,8	0,8	0,2	0,56	0,44	0,21	0,49	0,35	**0,2741**
z	-1,00	0,30	0,78	0,99	0,83	0,99	0,86	0,88	0,55	**0,31**
Weights	0,25	0,15	0,05	0,05	0,02	0,09	0,05	0,04	0,06	

SEQUOIA

Applying the SEQUOIA Self-Assessment Methodology: Preliminary Results

SEQUOIA

Projects that Answered the Questionnaire

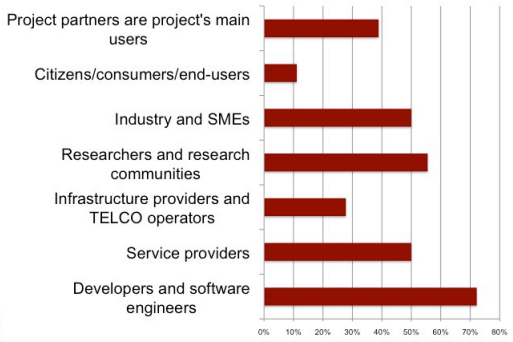
- 45 invited
- 17 fully completed + phone interviews
- 5 partial

SERENOA
ADMIRE
VISION CLOUD
IRMOS
REMICS
SRT-15
CONTRAIL
CLOUD4SOA
S-CUBE
SOCIOS
PERSIST
SLA@SOI
DiVA
FastFix
SOCIETIES
I2Web

Choreos

SEQUOIA

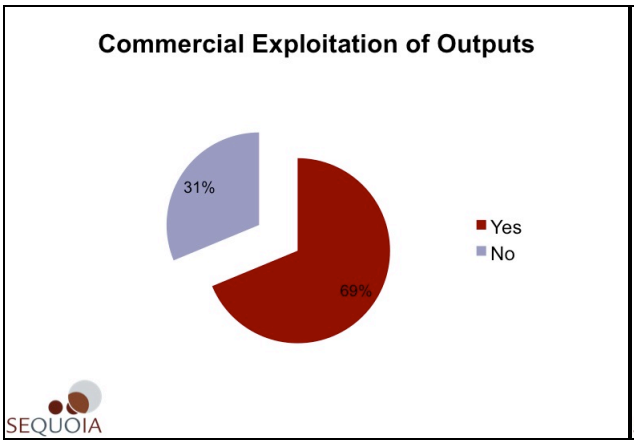
Relevance of User Categories

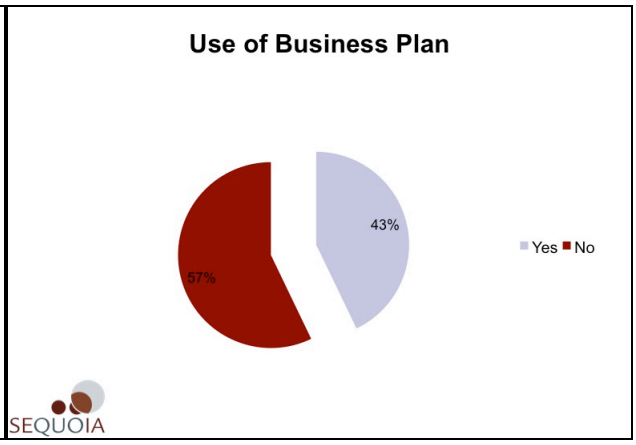


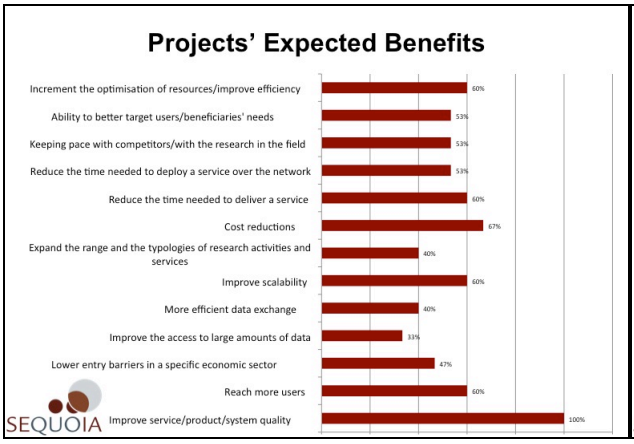
SEQUOIA

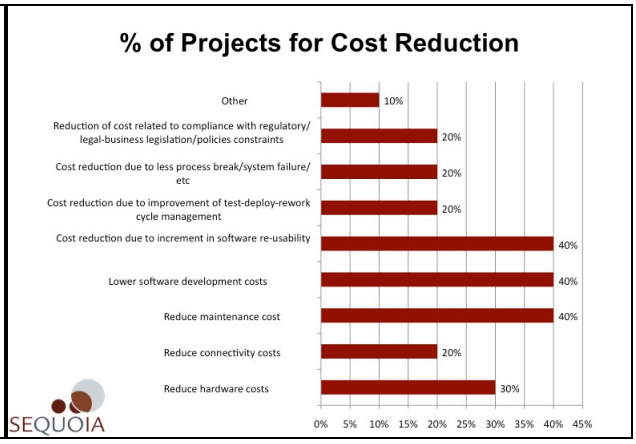
Economic Impacts

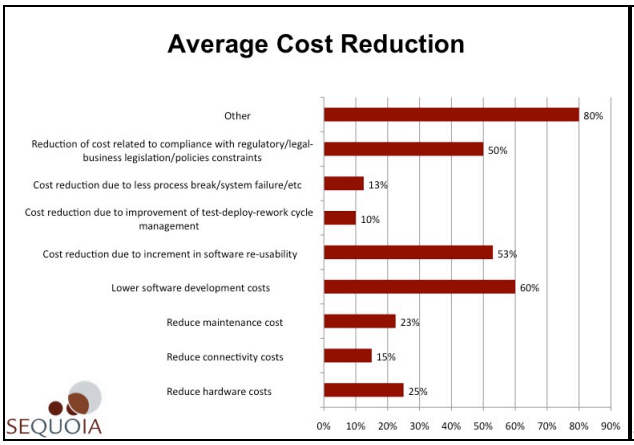
SEQUOIA

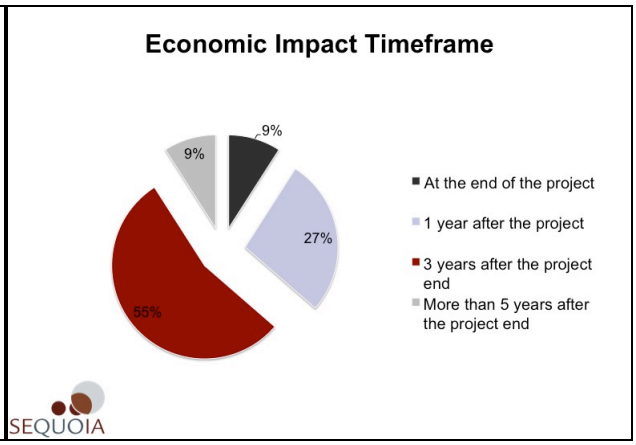

Commercial Exploitation of Outputs
31%
69%
Yes
No
SEQUOIA

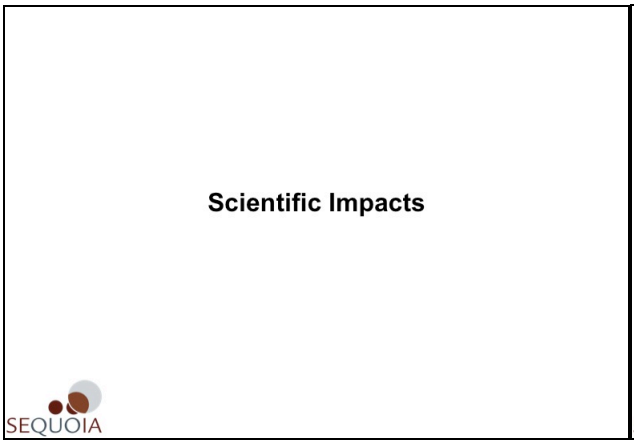

Use of Business Plan
43%
57%
Yes
No
SEQUOIA

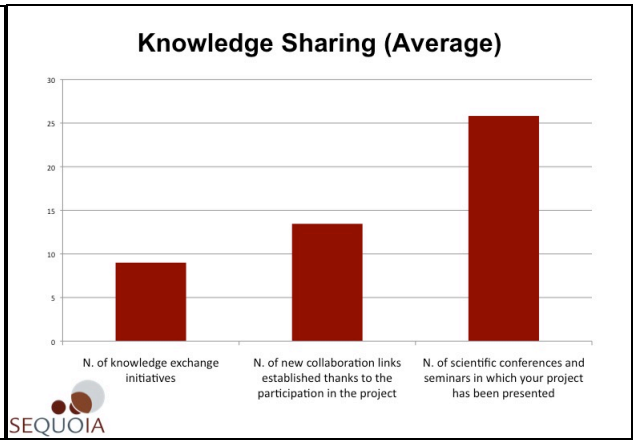

Projects' Expected Benefits
Increment the optimisation of resources/improve efficiency 60%
Ability to better target users/beneficiaries' needs 53%
Keeping pace with competitors/with the research in the field 53%
Reduce the time needed to deploy a service over the network 53%
Reduce the time needed to deliver a service 60%
Cost reductions 67%
Expand the range and the typologies of research activities and services 40%
Improve scalability 60%
More efficient data exchange 40%
Improve the access to large amounts of data 33%
Lower entry barriers in a specific economic sector 47%
Reach more users 60%
Improve service/product/system quality 100%
SEQUOIA

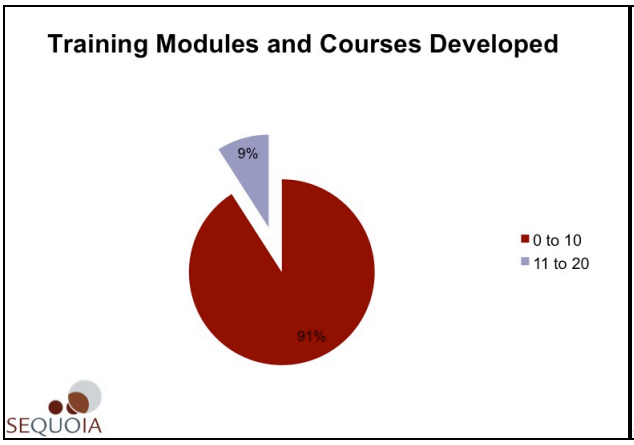

% of Projects for Cost Reduction
Other 10%
Reduction of cost related to compliance with regulatory/ legal-business legislation/policies constraints 20%
Cost reduction due to less process break/system failure/ etc 20%
Cost reduction due to improvement of test-deploy-rework cycle management 20%
Cost reduction due to increment in software re-usability 40%
Lower software development costs 40%
Reduce maintenance cost 40%
Reduce connectivity costs 20%
Reduce hardware costs 30%
0% 5% 10% 15% 20% 25% 30% 35% 40% 45%
SEQUOIA

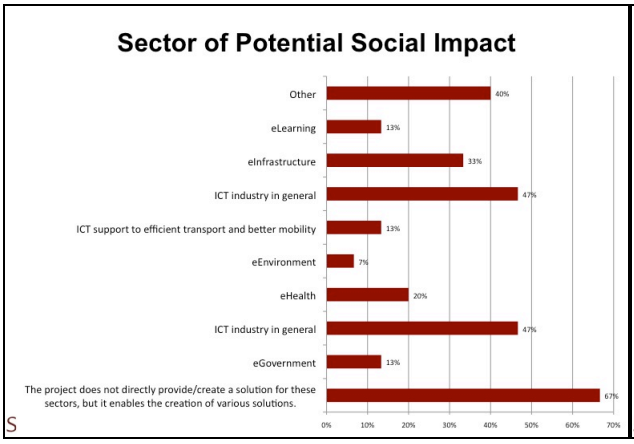

Average Cost Reduction
Other 80%
Reduction of cost related to compliance with regulatory/legal-business legislation/policies constraints 50%
Cost reduction due to less process break/system failure/etc 13%
Cost reduction due to improvement of test-deploy-rework cycle management 10%
Cost reduction due to increment in software re-usability 53%
Lower software development costs 60%
Reduce maintenance cost 23%
Reduce connectivity costs 15%
Reduce hardware costs 25%
0% 10% 20% 30% 40% 50% 60% 70% 80% 90%
SEQUOIA

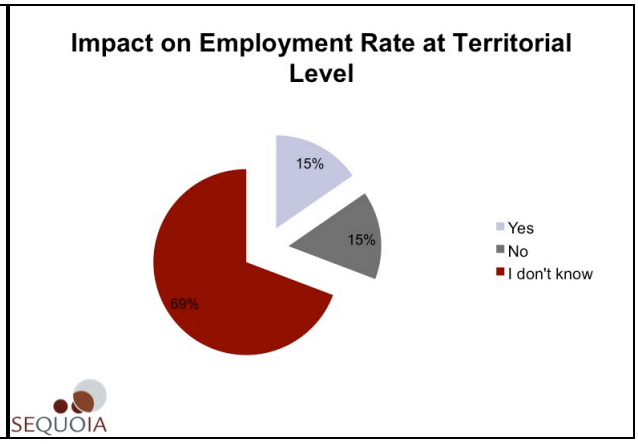

Economic Impact Timeframe
9%
9%
27%
55%
At the end of the project
1 year after the project
3 years after the project end
More than 5 years after the project end
SEQUOIA

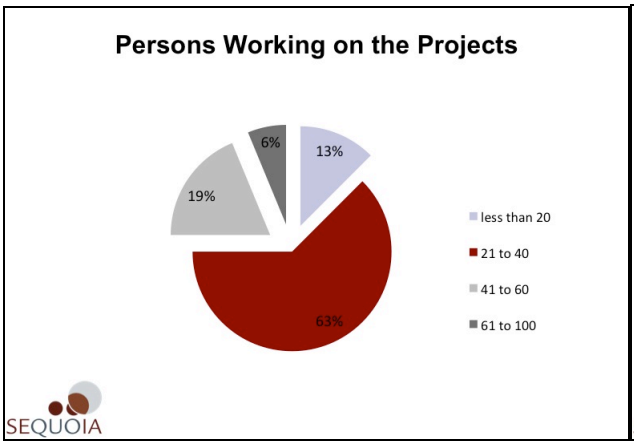

Scientific Impacts
SEQUOIA

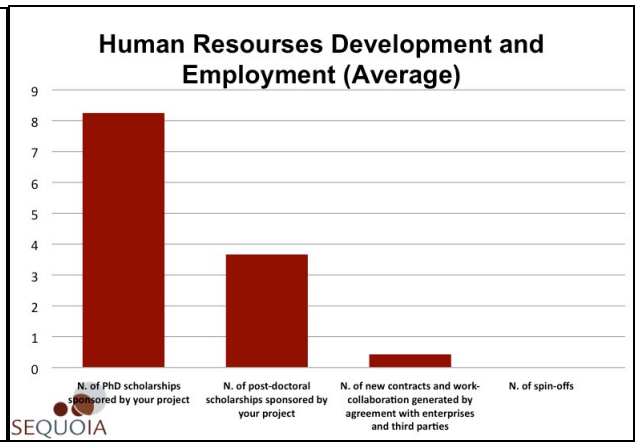

Knowledge Sharing (Average)
30
25
20
15
10
5
0
N. of knowledge exchange initiatives
N. of new collaboration links established thanks to the participation in the project
N. of scientific conferences and seminars in which your project has been presented
SEQUOIA











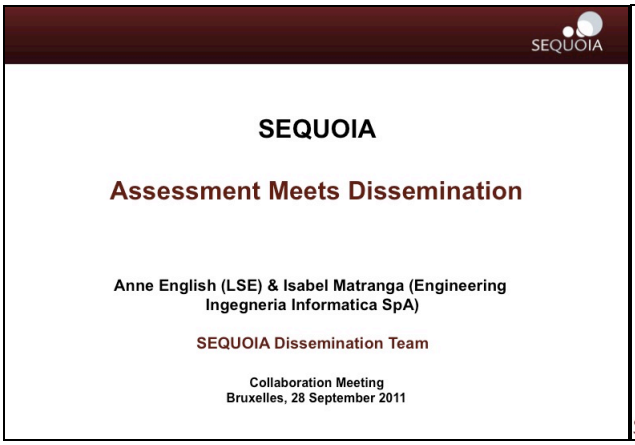
After the presentations an open discussion ensued. Again it was an opportunity to clarify the SEQUOIA methodology and to support the projects in better gathering and providing the data needed by our analysis. In addition, the audience started discussing the difficulties in realising a concrete economic impact during or soon after the end of the projects. Some of the participants asked for more specific support instruments guiding the researchers towards the market. Others highlighted the independence of research and the well-known difficulties in imagining what future applications a technology could have in the future. The time-frame of impact assessment emerged also as a concrete concern; using the project life-time was generally thought to be too short as some impacts do not become visible until well after the end of the projects.

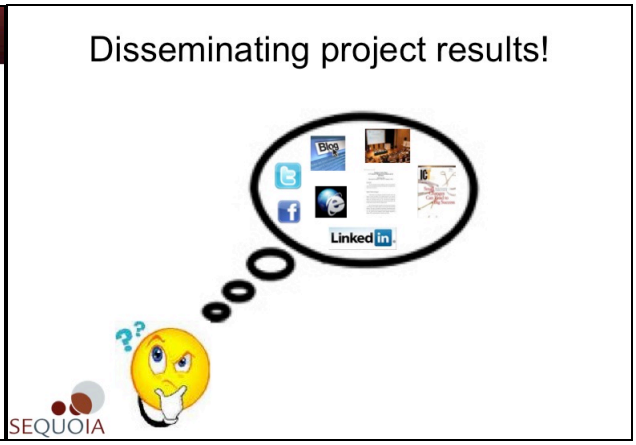
One of the most relevant outcomes of the session was the raising of awareness of the need to have a standardised, even comprehensive toolkit for projects' socio-economic impact assessments that can be proposed to research initiatives from their commencement in order to monitor how to better address socio-economic needs during the lifetime of projects.

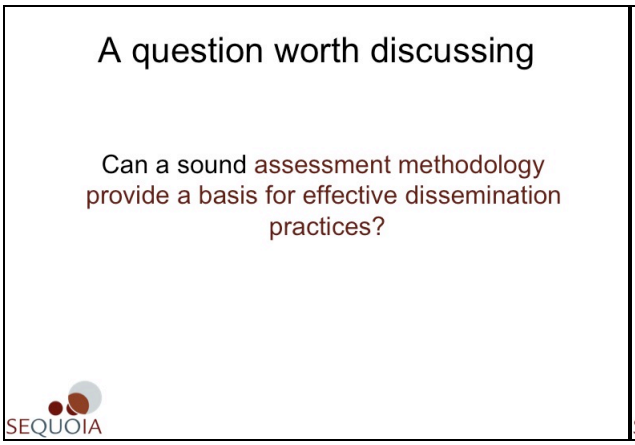
2.3 Dissemination Session

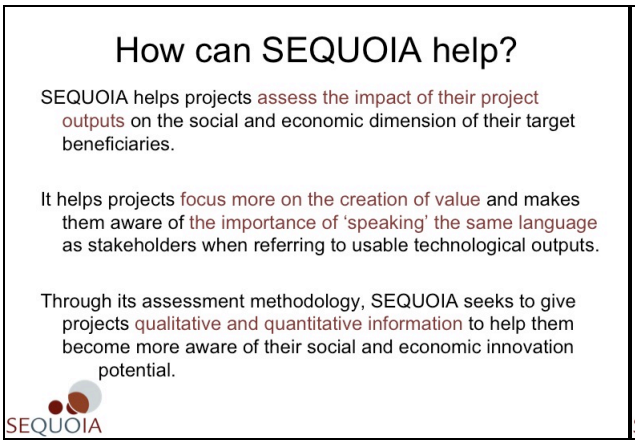
The title of the SEQUOIA session was "Identification of target audience and the right message, and how SEQUOIA can help projects in this"

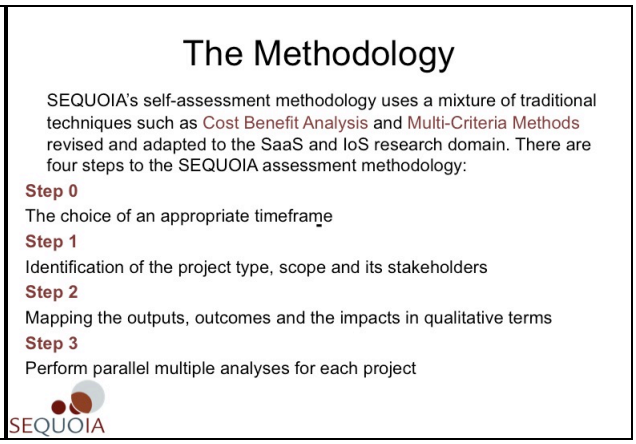
This presentation sought to highlight that a sound assessment methodology can provide significant support for effective dissemination. If projects can assess the impact of their outputs on social and economic beneficiaries they can focus more on the creation of value. SEQUOIA gives projects the quantitative and qualitative information needed to help them become more aware of their social and economic innovation potential. The SEQUOIA assessment methodology offers some key starting points for dissemination activities such as identifying the beneficiaries, the potential intended and unintentional impact, potential value creation and economic and/or socio-economic or indeed scientific impact.

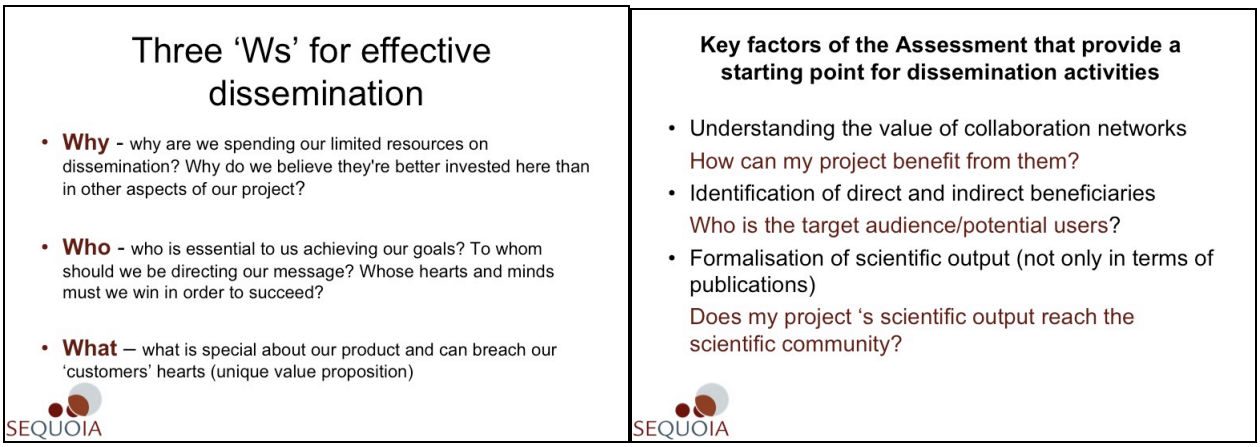


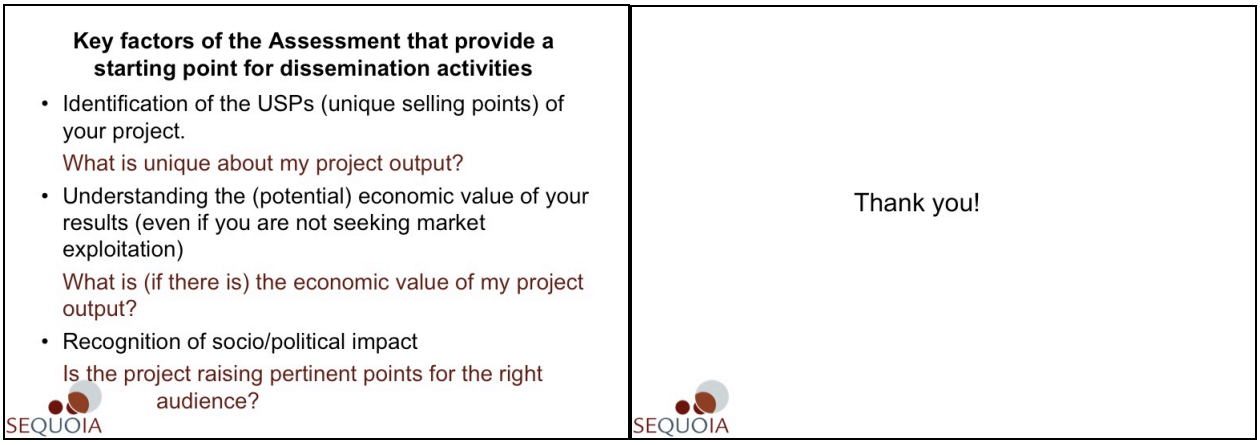












3. CONCLUSION

The decision to utilise the IoS Collaboration Meeting to increase the visibility of SEQUOIA and communicate our findings to the projects proved to be a good one. We would not have been able to obtain such visibility by organising an ad hoc event.

Thanks to the work performed during the Collaboration Meeting 6 more projects entered the self-assessment process. Moreover, it was an important occasion for spreading the impact assessment culture behind the SaaS-IoS projects: The consortium received several questions about the possibility of using the methodology in other contexts and exchanged information with stakeholders attending the event. In addition, it was a good opportunity also to network with the other support action HOLA!

Thus, based on the amount of information exchanged and feedback received from the projects, the IoS Collaboration Meeting served as a very effective Consultation Workshop, even if we did not follow a strict workshop format and we split up the discussion over three separate sessions. It was also another important occasion for transferring the methodology: This activity actually started early in the project lifetime with the online focus group sessions. After that the online/phone interviews that followed the circulation of the questionnaire were important opportunities to better explain to projects the specifics of the methodology and the "reasons why" of the questions. The IoS Collaboration Meeting/Consultation Workshop was then an excellent opportunity to discuss the main SEQUOIA concepts with everyone at the same time, to give preliminary feedback on the questionnaire results, and to stimulate further participation.