Social Inclusion by Proactive Design

- InclusiveByDesign -

Project Progress and Evaluation Report

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1. Introduction

The purpose of this report is to complement the InclusiveByDesign interim report of activities and provide an update on project progress. Furthermore, it documents the project evaluation which continuously takes place during the project's lifetime.

2. Project progress

2.1 Project meetings

On February 12, 2001 all project partners met at Heraklion, Crete, Greece, for a full day project meeting hosted by the Institute of Computer Science (ICS), Foundation for Research and Technology – Hellas (FORTH). In the context of this **kick-off meeting**, the main emphasis was on the methodological aspects regarding a) the definition of 'successful examples of proactive approaches' concerning products / services and policies, and b) the broad surveys to be conducted within the first project phase.

On June 29, 2001 the **second project meeting** took place in Florence, Italy. Hosted by CNR-IROE, this one-and-a half day meeting focused on the presentation of the broad products / services and the policy surveys and their preliminary outcomes. A discussion on how to proceed with the selection of 'successful examples' was also initiated together with a presentation of the basic questions regarding the project evaluation report.

During November and December a **virtual project meeting** was held to co-ordinate the activities for the preparation of case studies. Without the need for traveling, the participants have had several communications both e-mail- and phone- based, discussing the details of the process and objectives for the second project phase.

2.2 Surveys

On the basis of the allocation of tasks agreed during the first project meeting and the guidelines adopted, ITA and FORTH-ICS launched the survey for the **technology and business perspective**. The entities contacted were 376 European companies and organizations offering products / services in the domains of education, vocational training and employment. They were chosen from a wide address pool drawn via internet-based research so as to 'fit' to the project's objectives. The questionnaire formulated for the survey was structured so as to allow researchers to assess the degree to which *proactively designed IST products / services, within a suitable policy context, might have a positive impact on some of the non-monetary indicators of social inclusion.* All steps to ensure the appropriateness of the procedure have been taken. In the end of June, this broad survey was almost complete and a number of preliminary results could be drawn.

Regarding the **policy perspective**, the partners responsible for it (CNR-IROE and VFA) launched a broad survey at all policy levels (local / regional - national - EU) to identify, and then analyze, examples of policy measures in education, vocational training and employment that not only promote social inclusion but do, or could, serve as a trigger to stimulate and support the introduction and use of IST-based technologies to facilitate social inclusion.

The team has so far identified, through content analysis and a filtering process, thirty relevant examples of policies which vary regarding: geographical coverage (i.e. national or European), policy type (i.e. action plans, legislation, resolutions), policy target (i.e. target-group specific or addressed to the general population), and source (state, private sector, third sector). All these examples were drawn from a wide pool of policy documents related to social inclusion. As soon as the 'success criteria' are finalized, the team will proceed to the case studies as foreseen.

2.3 Web site

A **web site** was created specifically for the project, available at http://ibd.ics.forth.gr. The site, hosted and maintained by FORTH-ICS, is structured in such a way that it serves multiple purposes: a) it provides information on the project to any interested party (see figure 1), b) it facilitates the carrying out of the surveys (see figure 2), and c) it serves as a virtual meeting 'point' for project partners, hosting documents and other information internal to the project (see figure 3). The use of the internet in comparison to other dissemination and communication media has had several benefits, which in turn have contributed to enhancing the efficiency of the project:

- The information can be accessed by interested visitors
- Costs for printing and distribution have been saved
- Prospective interviewees were contacted with a relatively short time expediture
- The invitation to participate in the survey was the only information e-mailed to interviewees
- Anonymous participation in the survey was made possible through the web-based questionnaire
- Large documents can easily be exchanged among working partners, via the participants-only area of the project's website

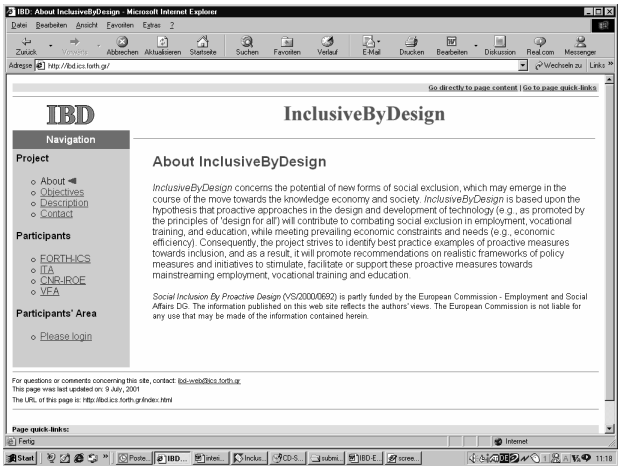

Figure 1: Screen-shot of the InclusiveByDesign web site

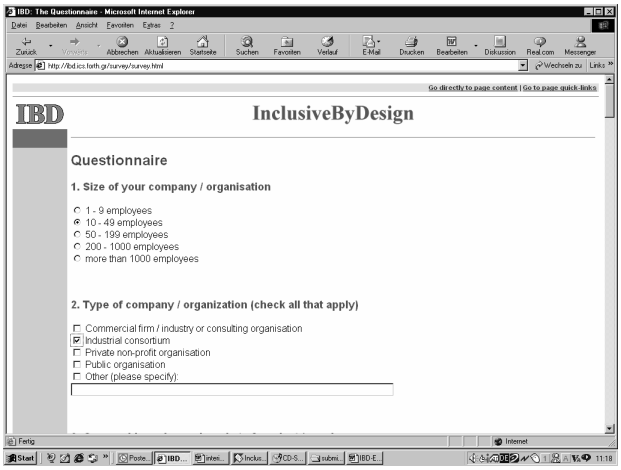

Figure 2: Online questionnaire project phase 1

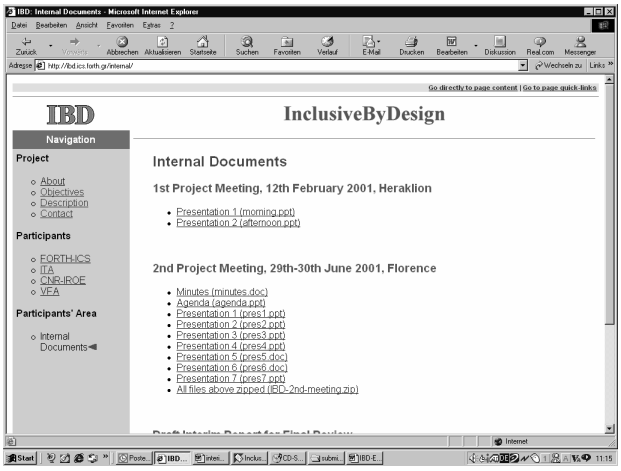

Figure 3: Participants' area

To evaluate the effectiveness of the web site, the log files of http://ibd.ics.forth.gr have been analysed to draw further conclusions. Table 1 displays the main outcomes for the reporting period.

The first category reported in the statistics table is focusing on the number of **hits**. A hit in this context is a request to a web server for a file. "Total Hits" is the total number of files that have been requested from the server by a visitor's web browser. Beyond the called HTML page this total number additionally includes all graphics, audio/video files, and other supporting files which are part of the page. Furthermore, "Total Hits" includes all requests, whether or not the files were successfully retrieved. Other sub-topics under this category display the average number of hits compared to the time, the transferred amount of data or number of visitors.

The next category is focusing on the number of **visitors**. These are counted using the visitor's individual IP address, domain name, or cookie. This number reflects more precisely the amount of people that have visited the web site. Independently of how many pages one specific visitor has opened on the IBD web site during one session, the counter of the number of visits is increased only by one.

However, the same people might return to the web page several times, e.g., with days or weeks of delay in between. Therefore, the next category **Uniq Ips** counts each computer from which the IBD web pages have been accessed only once. As sometimes computers are shared by several users, the number of "Total Uniq Ips" might underestimate the real number of visitors. Content-wise it is interesting to see, how many visitors returned to the web site.

In the following category the number of **Page Views** is recorded. Page Views is the number of pages viewed, not including the supporting graphic or media files. Pages counted are files with extensions such as ".htm", ".html", ".asp" and others. Additional information, e.g., on the number of downloads (e.g., presentation slides from project meetings, interim project report) or on the number of visitors who bookmarked the web site are of importance to understand the web site's effectiveness.

The final category is focusing on **bandwidth**, which is of interest to choose appropriate hardware and connections to maintain best service for the visitors.

Table 1: Usage statistics of http://ibd.ics.forth.gr (23.02.2001 - 29.11.2001)

Statistics		
Hits	Total Hits	10684
	Total Cached Hits	1406
	Average Hits Per Day	38
	Average Hits Per Hour	1
	Average Hits Per Visitor	12.5
	Average Data Transferred per Hit	9.1 KB
Visitors	Total Visitors	858
	Average Visitors Per Day	3
	Average Time Spent	229 Seconds
	Average PageViews per visitor	2.48
	Average Downloads per visitor	0.06
	Average Data Transferred per Visitor	112.8 KB
Uniq IPs	Total Uniq IPs	422
	Visitors Who Visit Once	330
	Visitors Who Visit more than Once	92
PageViews and Downloads	Total PageViews	2124
	Average PageViews Per Day	7
	Total File Downloads	52
	Average File Downloads Per Day	0
	Total Images	1820
	Average Images Per Day	6
	Total failed requests	5047
	Total Incomplete File downloads requests	16
	Number of visitors bookmarked your web site	18
Bandwidth	Total Data Transferred	94.48 MB
	Average Data Transferred per Day	345.53 KB

Figure 4 shows that the most viewed web pages during the reporting period were the project homepage itself ("/") and the survey pages ("/survey/", "/survey", "/survey/survey.html" and "/cgi-bin/af.pl").

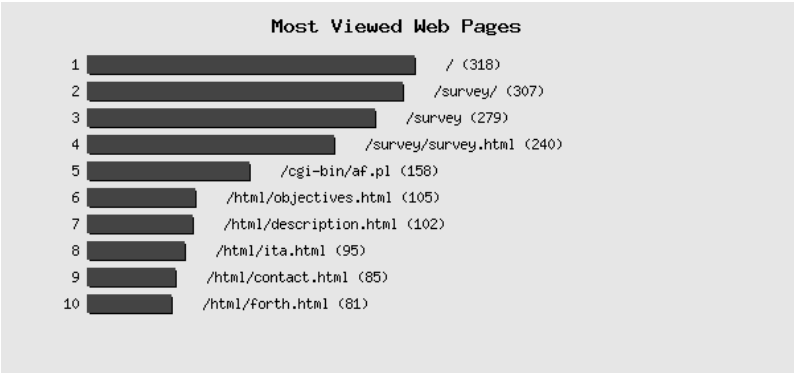

Figure 4 : Most viewed web pages

2.4 Timetable and milestones

The project was developed along a timetable, which was used both for structuring and monitoring of project efforts. The main purpose of a timetable in the preparation phase of InclusiveByDesign was to discuss with project partners the processes necessary to reach the

project aims. Synchronisation of certain activities to facilitate distributed work is reflected in the timetable and the respective milestones (see Table 2).

Table 2: Timetable and milestones

Month [Project month]	Event	Milestones
Dec 2000 [1]		
Jan 2001 [2]		
Feb 2001 [3]	Kick-off meeting; launch of project web site	Indicators and Definitions
Mar 2001 [4]		Questionnaires; Pretest
Apr 2001 [5]		Send out; Reminders; Coding
May 2001 [6]		
Jun 2001 [7]	2nd project meeting (29.-30.06. Florence)	Data analysis
Jul 2001 [8]		Presentation / Documentation
Aug 2001 [9]	Preliminary report	Case studies
Sep 2001 [10]		
Oct 2001 [11]	Virtual meeting	Internal project evaluation
Nov 2001 [12]	Project progress and evaluation report	
Dec 2001 [13]		
Jan 2002 [14]		
Feb 2002 [15]		
Mar 2002 [16]	3rd project meeting (05.-06.04. Kaiserslautern)	
Apr 2002 [17]		Report preparation
May 2002 [18]	Final synthesis, evaluation & project report	Dissemination

The milestones listed in the right column of Table 2 constitute necessary steps in the process of performing broad surveys and follow-up case studies. Within the first project year all milestones have been met, and for the remaining 6 months no problems and deviations are foreseen.

3. Evaluation

The project evaluation constitutes an important task within the partnership. It is structured across two axes: effectiveness (see section 3.1) and efficiency (see section 3.2) with the additional aim of 'continuous improvement'. ITA, the project partner responsible for evaluation, has introduced the partners to the procedures to be followed during the second project meeting and the key criteria against which effectiveness and efficiency will be judged. The 'continuous improvement' process is ensured through the incorporation of internal evaluation procedures within the overall project management scheme.

3.1 Effectiveness

The effectiveness of the project will be evaluated against the following key criteria:

- coverage of the four foci of interest: technology, business, local / regional and national / European scope (section 3.1.1);
- coverage of the three main target areas: employment, vocational training, and education (section 3.1.2); and
- identification of best practice examples according to widely accepted indicators (section 3.1.3).

3.1.1 Coverage of the four foci

To ensure the first key criterion, each partner was appointed to, and holds responsibility for, one of the levels of interest (technology, business, local / regional and national / European scope). Therefore, clear work assignments in the project guarantee the fulfillment of this aspect.

In practice, the two policy-related levels of analysis (local / regional and national / European scope) could not easily be distinguished, therefore the two responsible participants (CNR-IROE and VFA) split the pool of policies into two parts. For the survey on technological and business-oriented aspects, the design of the questionnaire acknowledged both perspectives equally (see interim report).

3.1.2 Coverage of the main target areas

InclusiveByDesign sets the focus of analysis on the three main domains of employment, vocational training, and education. Consequently, the address pool for the technology and business process oriented survey was filled with company addresses that are active in one or more of these areas.

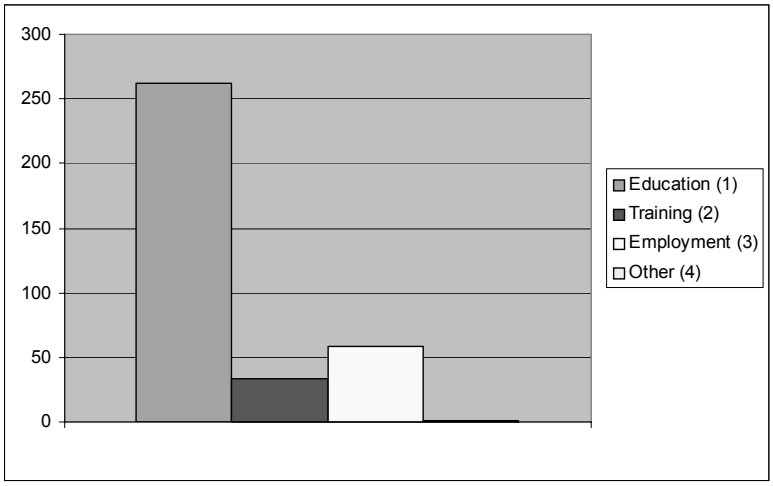

Figure 5: Preliminary distribution of domains in address pool (main area only)

Figure 5 shows a clear dominance of the educational field in the address pool. However, survey results suggest that product or service developers most often categorized their respective products / services as belonging to more than one domain. In practice, several products and services can often be used both in the educational and vocational training domain, without the need for any technological adaptations. The main difference is on the content, but not on platforms and technologies.

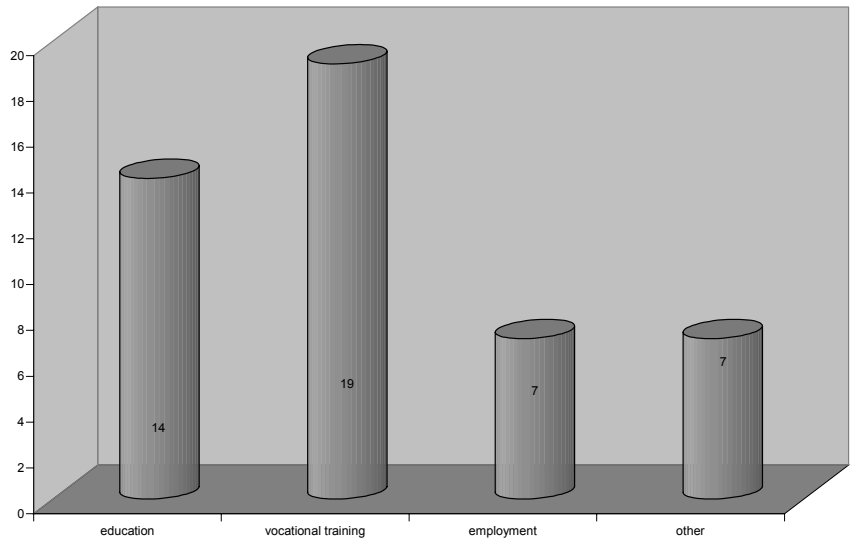

Figure 6: Distribution of domains in responses
(N=33, n=24, multiple-category responses allowed)

Correspondingly, the domain distribution among respondents differs from the domain distribution among sampled addresses, as multiple-category responses were allowed (see Figure 6). Here, products / services from the domain of vocational training were prevalent. It was expected that the domain distribution in the latter sample would be different than the preliminary distribution of Figure 5, since the developers would themselves have attributed their products / services to the domains in their own ways. Unfortunately, a post factum categorisation of the address pool is not possible.

3.1.3 Identification of best practice examples

The second criterion requires more detailed analyses. Examples, which have been identified and collected in the first project phase, need to be 'measured' in such a way that they can be ordered according to their potential to support inclusion. In this case, *InclusiveByDesign* will employ widely acknowledged and accepted indicators of social exclusion[1] to distinguish successful ('good') examples from less successful examples.
Regarding the preparation of case studies, project participants decided on the selection process at their second project meeting in Florence, Italy. This selection process needs to fulfil the following criteria:

- To distinguish between good and bad design examples
- To facilitate a kind of ranking between good design examples
- To elicit strengths and weaknesses of a certain case study candidate

The project participants agreed on three priority levels, all in the category of good design. Examples which do not fulfil the criteria of any of these three levels are considered to be bad examples. Within these three levels, a ranking order exists (see Figure 7).

[1] E.g., indicators collected in: EUROSTAT (Ed.). Non-Monetary Indicators of Poverty and Social Exclusion. Final Report. 4th Framework Programme SUPCOM 95 Lot 2 "Non-monetary indicators of well-being", p. 21. [Online] Available [http://europa.eu.int/en/comm/eurostat/research/supcom.95/02]

Priority 1 Criteria:
Proactive and/or inclusive Design
[6a) 6c) 7) 8b) 8c) 11g) 11e) 13a/c) 14)]

Priority 2 Criteria:
User-centred design but not design for diversity / inclusiveness
[9) 11c) 11d) 12a) 12b) 12c) 13b/d) 6b) 8a)]

Priority 3 Criteria:
"Good" design but neither user- nor diversity-focused nor proactive
[11a) 11b) 12d) 13e)]

Figure 7: Initial priority levels (corresponding questions from questionnaire listed in brackets).

These initial priority levels contained the following elements:

Priority 1 Criteria: ***Proactive and/or inclusive Design***

- 6a) Specific target groups taken into account for design
- 7) Types of support, tools, etc. used in designing and developing for diversity
- 8b) Product adaptable by user
- 8c) Automatic adaptation to different users or conditions of interaction
- 11e) Accessibility planned for diverse target groups?
- 11g) Benchmarking regarding usability for "every" potential user (inclusiveness)
- 13a/c) Product testing either with representative or with informal sample of diverse users
- 14) Additional contributions to inclusive design
- 6b) Additional target user groups taken into account for product design
- 8a) Product adaptable by technician to accommodate user's needs

Priority 2 Criteria: ***User-centred design, but not design for diversity/inclusiveness***

- 9) measurement of users' satisfaction
- 11c) benchmarking with regard to users' satisfaction
- 11d) benchmarking with regard to usability (effectiveness + efficiency + satisfaction)
- 12a) involvement of current end users
- 12b) involvement of future / potential end users
- 12c) involvement of user representatives / user advocates
- 13b/d) representative or informal samples of *average* target user involved in design

Priority 3 Criteria: "*Good" design,* but neither user- nor diversity-focused nor proactive

- 11a) benchmarking with regard to effectiveness
- 11b) benchmarking with regard to efficiency,
- 12d) involvement of external experts
- 13e) small sample for in-depth product-related feedback

Furthermore, some side constraints had to be taken into consideration, namely the domain to which a service / product belongs, the geographic region, a "good" market position, and the size of a company / organisation. These side constraints were used as a caveat, to ensure that

not all selected case studies belong to just one of these categories, e.g., either addressing only one of the three domains (i.e., effectiveness criterion of the project), or being located in a very specific European region / country, or focusing on a single type of company / organisation in terms of size (e.g., SMEs), or claiming to fulfil the priorities listed above, but failing user appreciation expressed through a good market position.

First selection: (16 out of 22)
As a first refinement step, the priority-1-criteria were split into two sub-categories:

Table 3: Sub-categories Priority 1a / 1b

Priority 1 Criteria: ***Proactive and/or inclusive Design***	
Priority 1a	**Priority 1b**
Benchmarking (BM) regarding accessibility for diverse target groups (11e)	Specific target groups (6a)
Benchmarking (BM) regarding usability for "every" potential user (inclusiveness) (11g)	Additional user groups (6b)
Representative sample of diversity of users (13a)	Types of support, tools, etc. used in designing and in developing for user diversity (7)
Adaptable by user AND Automatic adaptation (8b combined with 8c)	Adaptable by user (8b)
	Automatic adaptation (8c)
	Adaptable by technician (8a)
	Informal/occasional sample of diversity of users (13c)
	Additional contributions to inclusive design (14)

Rationale for sub-category 1a:

- Products/services claiming to be designed in an "inclusive way" should be (ideally) *accessible* (11e) and *usable* (11g) for diverse target groups. (Please note that 11e/g do not reveal the benchmarking results but state the existence of benchmarking processes.)
- Striving for inclusive design ideally requires the involvement of *representative* samples of *diverse* end user groups. (13a)
- In many cases, designing for diversity requires adaptation of user interface and/or contents. The combination of *automatic* adaptation AND adaptability by *users* seems to be the most desirable one (8b combined with 8c).

This sub-categorization was used for a first selection process. The rows in Table 4 refer to the 22 potential candidates for case studies, i.e., organizations which are explicitly willing to participate, and organizations which have not explicitly refused to participate.

- The left-most column contains the case record numbers.
- The right-most column indicates if the organization is *explicitly* willing to participate in a case study.
- The other columns refer to the priority-1 criteria.
- The highlighted columns refer to the priority-1a criteria.

In detail:

- column “target users” contains the number of target user groups taken into account
- column “additional users” contains the number of additional user groups accounted for
- column “support for diversity” contains the number of different categories of design supports used (tools, methods, etc.)
- the highlighted columns, as well as the column “occasional sample” indicate the “existence” of the respective items, e.g., *whether* a product /service is adaptable by users (1) or *not* (0).
- column “additional contributions” contains the number of additional organizational measures.

Table 4: 22 candidates with regard to priority-1 criteria

Record-No.	Target users	Additional users	Support for diversity	Adaptation by user	Automatical adaptation	BM reg. accessibility	BM reg. usability for all	Repres. sample of diversity	Occas. sample of diversity	Additional contributions	Willingness for case study
	6a	**6b**	**7**	**8b**	**8c**	**11e**	**11g**	**13a**	**13c**	**14**	Statem
1	3	3	7	1	0	1	1	0	0	3	yes
2	0	0	6	1	0	0	0	0	0	0	yes
4	0	0	0	1	1	0	0	0	0	0	
6	3	2	6	1	1	0	0	1	0	0	yes
7	0	0	3	1	0	0	0	0	0	1	yes
8	1	0	4	1	0	0	0	1	0	1	yes
9	3	7	7	1	0	1	1	0	1	0	
10	1	4	3	0	0	0	0	0	0	1	yes
11	1	0	5	1	1	0	0	1	0	6	yes
13	0	0	6	0	0	0	0	0	0	0	
15	0	2	4	0	0	0	1	0	0	1	yes
17	1	0	4	0	1	0	0	0	0	0	
19	2	5	7	1	1	1	1	1	0	3	yes
20	2	0	4	0	0	0	0	0	0	4	yes
23	3	0	5	0	0	0	0	1	1	2	yes
24	1	1	3	1	0	0	1	0	0	1	
25	1	2	5	1	0	0	0	0	0	0	yes
28	9	0	6	0	1	1	1	1	0	0	yes
29	0	0	0	0	0	1	0	0	0	7	yes
31	0	0	6	1	0	1	0	0	1	0	yes
32	0	0	4	0	0	0	0	0	0	5	yes
34	2	1	0	0	0	1	0	0	0	1	yes

Out of the 22 candidates, 16 records / organizations have been chosen as a first selection step. The record numbers are highlighted.

- The records No. 1, 4, 6, 8, 9, 11, 15, 19, 23, 24, 28, 29, 31, 34 “fulfil” at least one of the priority-1a criteria

- Record no. 32 was chosen due to the high number of "additional contributions" (priority-1b criterion).
- Record no. 7 was chosen due to the fact that it represents the only job web site.

The 6 remaining "discarded" records neither "fulfil" any of the priority-1a set of criteria, nor have they been judged as very "interesting", regarding the priority-1b set of criteria.

Second selection: (11 out of 16)
In a second refinement step, the 16 pre-selected records were analysed more in-depth ("informal content-analysis"). The focus of analysis was the detection of contradictions and the absence of clear indications towards inclusive design. This resulted in a reduction to 11 records.

Third selection: (7 out of 11)
In a final step, the full data records of each of the remaining 11 cases were circulated to the project partners for final review. Table 5 highlights the selection process involving individuals from all four partners. The selected candidates will be contacted in the second project phase to fix dates for visits. Their distribution to the three domains is visualised in Figure 8.

Table 5: Results from the final selection procedure

CNR	1	8	9	11	15	19	23	28	29	31	34
VFA	1	8	9	11	15	19	23	28	29	31	34
ICS	1	8	9	11	15	19	23	28	29	31	34
ITA	1	8	9	11	15	19	23	28	29	31	34
	1	**8**	**9**	**11**	**15**	**19**	**23**	**28**	**29**	**31**	**34**

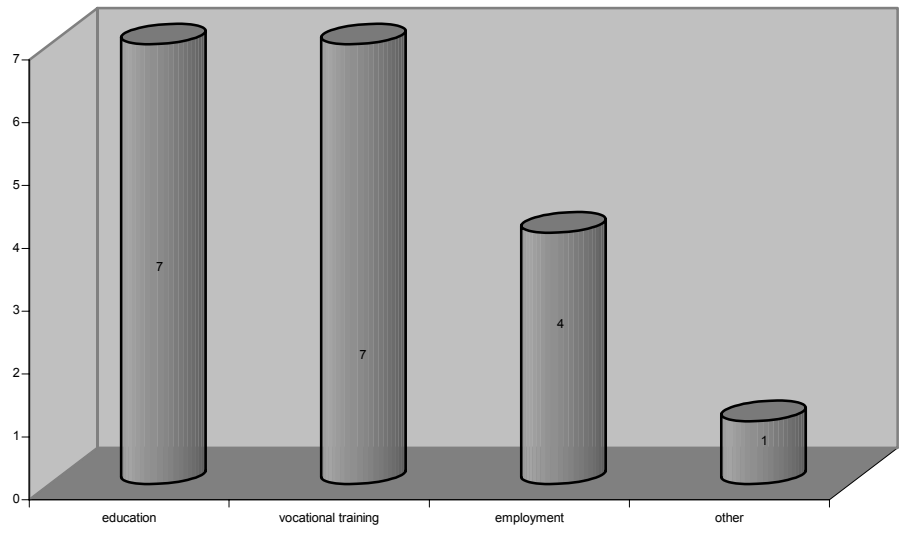

Figure 8: Distribution of domains for case study candidates
(n=7, multiple-category responses allowed)

The selection process and appropriate criteria have ensured, to a large extent, that the case study candidates are successfully developing products and services that address the requirements and needs of a diverse group of potential users. However, as every survey is based on the assumption that participants report on true facts, these assumptions need to be verified. Success in the context of this project was defined as the fact that the products / services developed by the involved companies contribute to social inclusion or combat social exclusion. Consequently, examples of good practice need to refer to indicators of social exclusion, which are not easily observable through surveys. Therefore, the case studies will focus both on the "How?" and the "How successful?" of the identified products and services.

3.2 Efficiency

In order to continuously monitor the appropriateness of the chosen approach, as well as the invested resources and the quality of outcomes, the project meetings have been used for internal discussions and exchange, and also to establish agreement among participants on the activities of the subsequent project phase. To facilitate a high efficiency of work, *InclusiveByDesign* has additionally applied certain project management methods, e.g.:

- Precise work plan with milestones (see section 2.4)
  Distributed work needs synchronization along timelines, which have been discussed and agreed upon by project participants. Within the first year of the project, all participants were able to meet the deadlines and to contribute to the various milestones. No deviation from the work plan is foreseen for the last six months of the project.

- The project manager ensures that milestones will be reached in time (monitoring mechanism)
  The approach of reminding participants to submit contributions in time, as well as of reviewing timetables and the work plan from time to time has proven very efficient. Practical work often uncovers problems that have not been foreseen during the write-up of a proposal. Direct communication between the project manager and each single participant helped to resolve these situations easily and quickly.

- Regular project meetings to keep all partners informed about the progress (see section 2.1)
  The timing of project meetings was beneficial for the structuring of work. Furthermore, participants were able to synchronise their activities with other projects, due to an early agreement on dates and places.

- Provision of a web site with information on the project progress with a 'participants-only' area (see section 2.3)
  Communication between project participants based on e-mail communication is a standard in European projects. Nevertheless, e-mail communication has some limitations, especially when it comes to the transfer of relatively large amounts of data. The provision of a web-based information space for the exchange of huge data files (e.g., statistical evaluation of the surveys, reports, presentation slides) has proven to be very beneficial, especially for participants with slow internet connections.

- Usage of electronic communication means
  Although considered necessary, a fourth project meeting in the context of InclusiveByDesign was replaced by a virtual meeting due to budget constraints. Experience has shown that the use of electronic communication means (for exchange of documents, but also for short-term co-ordination tasks, or day-to-day communication) is

able to some extend to minimise the need for (expensive) meetings with the partners throughout Europe, therefore contributing to an efficient use of time and budget resources.