



LIFE Project Number
LIFE08 ENV/D/000027

Final Report
Covering the project activities from 01/01/2010 to 31/03/2013

Reporting Date
23/08/2013

LIFE+ PROJECT NAME or Acronym
SUBSPORT – Substitution Support Portal

Data Project

Project location	Hamburg, Germany
Project start date:	01/01/2010
Project end date:	31/03/2013
Total budget	1.275.700 €
EC contribution:	635.459 €
(%) of eligible costs	49.93

Data Beneficiary

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2 LIST OF KEY-WORDS AND ABBREVIATIONS

ANSES	French Agency for Food, Environmental and Occupational Health & Safety	EU-OSHA	European Agency for Safety and Health at Work
Alternativas	Spanish database on alternatives developed by ISTAS	CMR	Substances classified as carcinogenic, mutagenic and toxic for reproduction
BaltAct Haz	Baltic actions for the reduction of pollution of the baltic sea from priority hazardous substances (LIFE07 ENV/EE/ 000122)	CMS	Content management system, for SUBSPORT website
BAuA	Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (Federal Institute for Occupational Safety and Health, Germany)	CNRCOP	Centro Nacional de Referencia sobre Contaminantes Orgánicos Persistentes (National Reference Centre for Persistent Organic Pollutants, Spain)
BEUC	The European Consumer Organisation	CP/RAC	Regional Activity Centre for Cleaner Production
BMLFU W-UW	Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft (Federal Ministry of Agriculture, Forestry, Environment and Water Management, Austria)	DG	Directorate General
CATSUB	Substitution database run by Danish project partner	EASHW	European Agency for Safety and Health at Work
CCOO	Confederación sindical de comisiones obreras (Trade Union Confederation, Spain)	ECHA	European Chemicals Agency
CLP	Regulation on classification, labelling and packaging of substances and mixtures	EEB	European Environmental Bureau
Column Modell	Practical tool for identification of alternative substances developed by the Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA)	EMKG	Einfaches Maßnahmenkonzept Gefahrstoffe (Easy-to-use Control Scheme for Hazardous Substances at the Workplace)
ChemSec	International Chemical Secretariat, Sweden (associated beneficiary)	EPA	Environmental protection agency
CAS number	Chemical abstract service number, unique numerical identifiers	ETUI	European Trade Union Institute

Cleantool	Europe wide database for parts cleaning, metal surface cleaning, component cleaning and degreasing	ETUI-REHS	European Trade Union Institute – Research, Education, Health and Safety
EU	European Union	NMS	New Member States of the EU
FTP	File transfer protocol for document exchange using a client-server	OHIM	Office in the internal market
GAIA	Finnish consultancy company	OSPAR	Convention for the protection of the marine environment of the north-east atlantic
GHS	Globally harmonized system of classification and labeling of chemicals	PBT	Persistent, bio-accumulative and toxic Substance
GIZ	German Association for international cooperation	POP	Persistent organic pollutant
GM	Grontmij, Denmark (associated beneficiary)	POPRC	Persistent Organic Pollutants Review Committee, subsidiary body to the Stockholm Convention
HBCDD	Hexabromocyclododecane, brominated flame retardant, pilot substance for specific database	QM QMH	Quality management Quality management handbook
HEAL	Health and Environmental Alliance	OSH	Occupational safety and health
IncR	Inception Report	REACH	Registration, evaluation, authorisation and restriction of chemicals (Regulation (EC) No 1907/2006)
INSHT	Instituto Nacional de Seguridad e Higiene en el Trabajo (National Institute for Health and Safety, Spain)	RSC	Royal Society of Chemistry
ISTAS	Instituto Sindical de Trabajo Ambiente y Salud (Union Institute of Work, Environment and Health, Spain; associated beneficiary)	SAICM	Strategic Approach to International Chemicals Management
Joomla	Content management system	SDSC	Substance Database according to SUBSPORT Screening Criteria
KEMI	Kemikalieinspektionen (Swedish Chemicals Agency)	SME	Small and medium-sized enterprise
KOOP	Kooperationsstelle Hamburg IFE GmbH, Germany, (coordinating beneficiary)	SIN List	‘Substitute It Now!’, database of SVHC run by ChemSec
MTR	Midterm Report	SVHC	Substance of very high concern

NACE	Statistical Classification of Economic Activities in the European Community	TAIEX	Technical Assistance and Information Exchange instrument managed by the Directorate-General Enlargement of the European Commission
NGO	Non-governmental organisation	TRGS 600	Technical Rules for Hazardous Substances on Substitution by the German Committee on Hazardous Substances (AGS)
TURI	Toxics Use Reduction Institute at the University of Massachusetts Lowell	WECF	Women in Europe for a Common Future
UBA	Umweltbundesamt (Federal Environment Agency, Germany)	WFD	Water Framework Directive (Directive 2000/60/EC)
UNEP	United Nations Environment Programme	wordpress	Content management system
US EPA	US Environmental Protection Agency	WP	Working paper
vPvB	Very persistent and very bio-accumulative substance	WWF	World Wide Fund For Nature, nature protection organisation
Blue Green Alliance	Us Unions and environmental organisation	Green Screen	Method for chemical hazard assessment

3 EXECUTIVE SUMMARY

3.1 Results achieved as compared to what was planned in the project proposal

The overall expected result was a web portal containing information on substituting hazardous substances by safer alternatives. The goal was to develop an internet portal, which constitutes a state-of-the-art resource on safer alternatives to the use of hazardous chemicals that provide information on alternative substances and technologies as well as tools and guidance for substance evaluation and substitution management. The portal should support companies in fulfilling substitution requirements of EU legislation, such as those under the REACH authorisation procedure, the Water Framework Directive or the Chemical Agents Directive and provide interested parties with information and tools to facilitate effective substitution of hazardous substances. The portal should support other stakeholders, such as authorities, NGOs or scientists in raising awareness and promoting safer alternatives.

A number of 18 activities/tasks were planned within the 3 years of the project. All activities were completed within the project's period.

SUBSPORT is now a multifunctional instrument that can help in any step of the substitution process. SUBSPORT is the first entry point for everyone interested in substitution and is mentioned as useful information source for alternatives and substitution related issues by all relevant stakeholder websites and reports. Information on substitution has been selected to be relevant and accurate, structured to meet practical needs, (pre)-evaluated and made accessible in one place.

Furthermore SUBSPORT is an internationally acknowledged stakeholder in the field of substitution and alternatives assessment and contributes to major relevant networks. SUBSPORT set up an active network of stakeholders interested in substitution issue and addressed a very broad target group (industry - big companies and SMEs -, authorities, academia, trade unions, NGOs) on an international level.

Within the 3 years project period SUBSPORT raised the awareness of substitution through intensive and effective (successful) dissemination activities such as conferences, fairs, publications, newsletters, and training sessions. SUBSPORT was presented at more than 60 national and international conferences, workshops, events etc. by oral presentations, poster presentations or by disseminating folders and brochures in several languages. The events covered various regions of Europe and outside as well as a broad variety of target groups, from authorities to environmental NGOs and enterprise associations.

The user of the SUBSPORT website can access:

Background information

- definition of substitution and its importance
- legal aspects concerning substitution included in tens of different law texts
- general steps of the substitution process with indication of applicable tools for each step
- latest achievements, legal changes and trends on substitution published as news and newsletters

Information to identify substance of concern

- criteria used to define substances of concern, with the exemplification of 16 approaches in Europe and USA
- links to reliable databases and software for hazard identification and toxicological characterisation of substances
- SUBSPORT methodology (in detail) for alternative assessment
- SUBSPORT methodology (short) to evaluate hazards of substances for case stories
- Substance Database according to SUBSPORT Screening Criteria SDSC
- SUBSPORT criteria for substances of high concern

Information for alternative assessment

- database created by SUBSPORT that presents substances banned or restricted (or proposed to) by authorities, companies, NGOs, trade unions.
- presentation of 10 of the most used methods and tools for substitution management and publishing of links to several others
- links to databases and tools usable in estimating exposure and risks for the alternatives
- links to guidance for cost benefit estimation
- SUBSPORT methodology for alternative assessment

Examples of substitution

- case stories on substitution collected from companies and or published reports. Case stories include, among others, information on substituted substances and alternatives, availability of alternative and producer, reliability of information, hazard assessment (according to methodology), substitution description, and case evaluation (SUBSPORT point of view)
- case studies with detailed information on alternatives to critical uses for 10 substances of very high concern

- case studies on substitution presented by 23 selected websites published by reliable sources, made easily accessible from SUBSPORT by the use of an integrated Google site search engine.

Information on training

- training material in English, German, Spanish, Danish and Swedish
- news about free webinars published in news section
- list of training sessions

Interactive parts

- feedback form and questionnaire to provide feedback on the website
- entry form and help to provide case story information and documents
- comments on specific case stories
- forum to discuss substitution issues linked from every case story published in the case story database

Auxiliary information i.e. general information to guide users and prevent misunderstanding

4 ADMINISTRATIVE PART

4.1 Presentation of management and organogram

The coordinating beneficiary of the project is Kooperationsstelle Hamburg IFE GmbH and the associated beneficiaries are ISTAS, ChemSec and Grontmij, presented below. All consortium members are experienced in project management and hazardous chemicals management.

KOOP – Kooperationsstelle Hamburg IFE GmbH – is specialised in matters involving OSH and environment protection. The main goal of KOOP is to support development of companies and their personnel via joint projects and consulting.

ISTAS – Union Institute of Work, Environment and Health – is a self-managed trade union's technical foundation supported by the Spanish Trade Union Confederation CCOO to promote the improvement of working conditions, occupational health and safety and environmental protection in Spain.

ChemSec – The International Chemical Secretariat – is a non-profit organisation dedicated to working towards a toxic free environment. ChemSec works actively with business, academic institutions, legislators and NGOs.

Grontmij is a consultancy company offering services within the sphere of building, water, environment, occupational health energy and industry. Its mission is to create sustainable improvements of people's working and private lives.

Organisation chart of the project structure

The project's management structure has been agreed as attachment to the Grant Agreement and has not been affected by the change in the coordinating beneficiary's legal status from public body to private company, in January 2010.

In order to avoid confusion between the two groups of experts (steering group and ad-hoc group) the steering group has been renamed “Expert Committee”. No other provisions concerning the steering group/Expert Committee have been affected by this change.

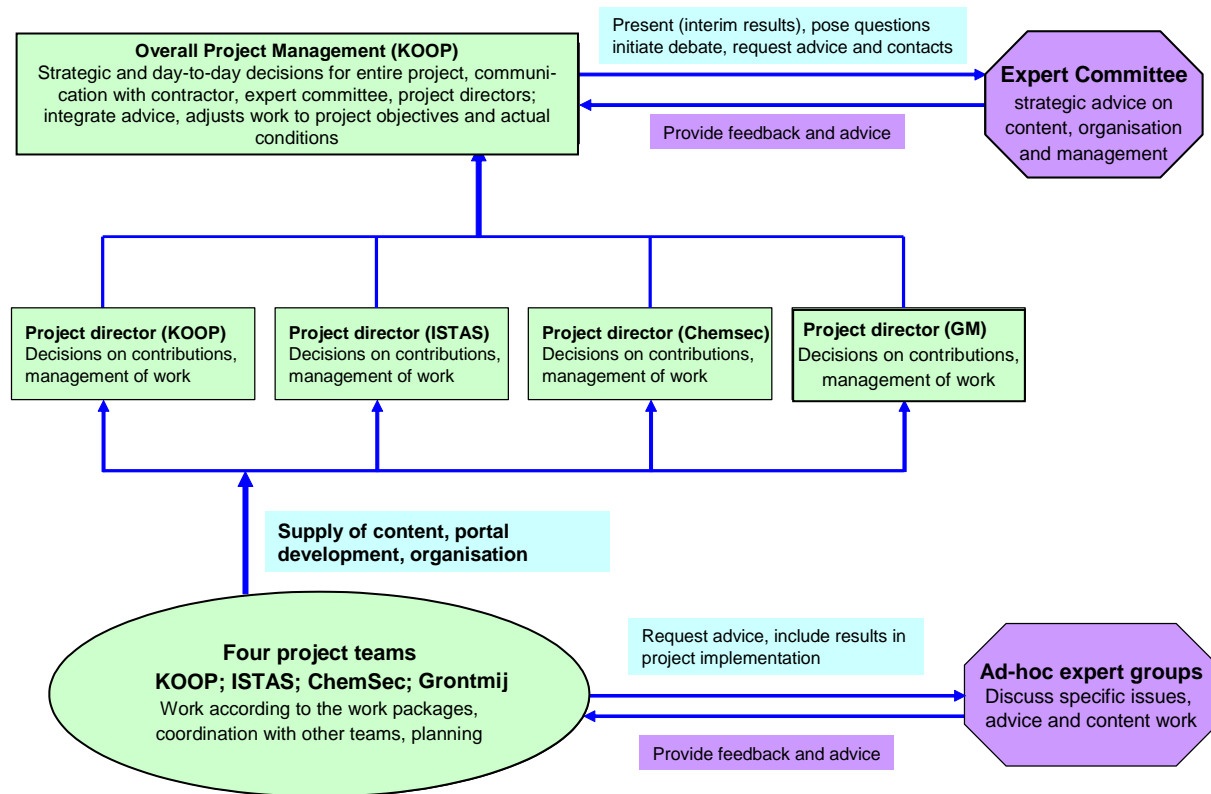


Figure 1: Organigramme of SUBSPORT project. To be read as green & frame: consortia members; violet & frame: Expert Committee and Ad-hoc expert groups; blue: activities of consortia; violet: activities of the Expert Committee and Ad-hoc expert groups.

The inception report was submitted on 30/09/2010 and the mid-term report on 31/10/2011. Both reports were accepted by the LIFE unit. A progress report was not necessary as agreed with the LIFE unit. A Layman’s report was produced and printed in English, German and Spanish in May 2012, which can be found in annex 9.

The grant agreement was amended twice due to the change of the legal status of the coordinating beneficiary in 2010 and the prolongation of the project until 31 March 2013.

4.2 Evaluation of the management system

Project partners observed the management responsibilities and instruments agreed in the attachments to the Grant Agreement.

General planning was based on the project description attached to the agreement. The project actions and sub-actions described in the agreement are managed in the Master-to-do list containing responsibilities, deadlines and progress indications. Current planning was documented by the coordinator in detailed to-do lists, regularly updated (after video conferences, meetings or according to necessity) and made available for all partners.

Implementation of the Master-to-do list and current to-do lists, by daily activities carried out by each team, were managed by each partner’s Project director who provided the interface with the rest of the consortium. Communication was organised to serve daily purposes (e-mails, phone calls) but also for periodic evaluations of the project activities. Video conferences were organised for direct updating on project progress, clarifying problems and tuning the operational planning process.

A discussion forum software was made available. For the exchange of documents an FTP server with a document management system has been set up.

A quality management handbook has been prepared to ensure high quality of the information on SUBSPORT. In the handbook responsibilities are defined as well as rules for writing, cross-checking, publishing and updating of information etc. A guidance document on the use of the content management system for the website and databases covering also technical aspects has been updated continuously and was integrated in the handbook as annex.

Project partner meetings were the major instruments that enabled evaluation of the project's progress and quality. Some of these meetings were combined with Expert Committee meetings or workshops. In total 7 meetings took place.

The Expert Committee (ExpCom) was set up with 10 very experienced experts from different sectors and regions of Europe. In 3 meetings and via e-mail and phone calls the experts provided very valuable ideas, feedback and expert opinions for the project. The LIFE monitor, who attended the second meeting, regarded the Expert Committee as very competent. Besides internal evaluations, the project is also monitored and evaluated by the co-financers. The inception report has been sent on 30/09/2010 and the mid-term report on 31/10/2011 to the LIFE unit, to BMLFUW-UW the project's progress has been reported in Nov. 2010 and Oct. 2012 and BAuA received an annual report in April 2011. The reports were accepted by the co-financers, concluding that the project progress supported the decision to maintain financial support.

Any partner could have suggestions for the improvement of activities and several such measures have been implemented (e.g. centralised record of exchanged documents, moderator for the Expert Committee meetings, workshop on website design and database programming, Google site search, communication plan for database launch etc).

The coordinating beneficiary worked according to the quality management system EN ISO 9001:2008. As part of internal and external audits SUBSPORT was checked at least once a year for compliance with the QM system. The final financial report as audited by the company BDO.

5 TECHNICAL PART

5.1 Task overview

Tasks	Foreseen start date	Actual start date	Foreseen end date	Actual end date	Status
1. Project management	01/2010	01/2010	03/2013	06/2013	completed
2. Networking of stakeholders	01/2010	01/2010	03/2013	03/2013	completed
3. Development of portal structure	01/2010	04/2010	06/2010	06/2011 (1. version 07/2010)	completed
4. Development of general information of the portal	05/2010	04/2010	06/2010	06/2011 (1. version 07/2010)	completed
5. Structuring and presentation of legal information on substitution	02/2010	03/2010	06/2010	11/2010	completed
6. Quality management and criteria for the substitution portal	05/2010	04/2010	03/2011	03/2011	completed
7. Lists of substance of high concern and alternative assessment	01/2010	01/2010	10/2010	09/2011	completed
8. Development of database with specific substitution information	06/2010	06/2010	03/2013	06/2013	completed
9. General alternatives database	02/2010	03/2010	03/2013	03/2013	completed
10. Implementation of substitution tools section	09/2010	09/2010	06/2011	03/2011	completed
11. Programming of interactive parts of the website	12/2010	01/2011	12/2012	03/2013	completed
12. Preparation and Evaluation of English master version and translation	05/2011	10/2011	03/2013	03/2013	completed
13. Training guidance on substitution and alternatives assessment	12/2010	03/2011	08/2012	12/2012	completed
14. Training sessions on substitution and alternatives assessment	06/2011	06/2011	12/2012	03/2013	completed
15. Dissemination activities	01/2010	04/2010	03/2013	03/2013	completed
16. Continuation and activities to maintain the portal	01/2012	06/2011	03/2013	06/2013	completed
17. Monitoring of project impact	09/2010	07/2010	03/2013	03/2013	completed
18. After Life communication	no start date given	04/2012	03/2013	06/2013	completed

5.2 Description of State of Play

Text that is highlighted in italics in this chapter refers to the sections of the SUBSPORT website (www.subsport.eu) as indicated in the website's navigation menu.

Task 1	Foreseen	Achieved
Project management	<ul style="list-style-type: none"> • Set up of an Expert Committee (originally it was named steering group) • Organise ad-hoc expert groups for reconciliation in case of differing opinions and experiences (e.g. regarding the substitution of a substance). • Project management staff: • Project director (strategic decisions, overall responsibility) • Project coordinator (scientific decisions and coordination) – (one of the chemists / engineers). The project coordinator is responsible for the day-to-day management. • not full-time: Project research officer (specialised scientific or technical contribution) – chemists / engineers / WEB and IT-developer • not full-time: Database administrator (responsible for structured input and organisation of data in the database) 	<ul style="list-style-type: none"> • The Expert Committee has been set up with 10 participants. Meetings on 07/09/2010, 28/06/2011 and 31/05/2012. • Project partner meetings: 14-15/06/2010, 06/09/2010, 27/06/2011, 03/11/2011, 25/05/2012 and 15/01/2013. An additional meeting to discuss and decide on website design and the database was done on 14/03/2011. • 16 video conferences and one phone conference have been used for tele-meetings • Master-to-do list • FTP server for document exchange • Discussion forum software available
<p>▪ Results (a short overview is available as presentation at the auditing visit in June 2013 in Annex 21):</p> <p>The primary measures of project management have been the preparation of a Master-to-do list, video conferences and project partner meetings. The Master-to-do list includes responsibilities, deadlines and progress indications for the actions and sub-actions defined in the project description of the grant agreement. For current planning more detailed to-do lists were used which were updated continuously when new activities had been agreed. The Master-to-do list can be found in annex 15.</p> <p>In total 16 video conferences have been held in March, May and Sept. 2010, Jan., March, May, June, July and Dec. 2011 as well as in Jan. (two conferences), Feb., March, April, May and Nov. 2012 using the online meeting tool "Flashmeeting". Project partner meetings took place on 14-15 June and 6 September 2010 in Copenhagen and on 27 June 2011 in Madrid, the latter two combined with meetings of the Expert Committee. Further partner meetings took place on 3 Nov 2011 in Gothenburg in combination with a workshop on alternatives assessment the day before, on 25 May 2012 in Helsinki combined with the case story database launch and on 15 January 2013 in Hamburg. Although not foreseen in the original workplan, a partner meeting on website design and database programming has been realised on 14 March 2011 in Hamburg to facilitate direct communication of the project team and the subcontracted programmers (see Task 3). In combination with the workshop a meeting between KOOP and ChemSec took place on 16 March 2011 to clarify the partner's responsibilities. Minutes were prepared for each of the meetings to document agreements and resulting to-do lists as well as the presence of participants (some examples were check at the LIFE audit on 03/06/2013).</p> <p>An FTP server with a document management system is used since October 2010 for the exchange of documents. In the private section of the SUBSPORT website a discussion forum software was set up. For internal discussions, however, e-mails and video conferences are the preferred measures. Expertise from outside EU is obtained from the Toxic Use Reduction Institute (TURI) at the University of Massachusetts Lowell (USA). A representative attended the second project partner meeting on 6 September 2010 and held the alternatives assessment workshop on 2 November 2011, in which the main issues of the alternatives assessment methodology for the 10 specific case studies (see action 8) have been agreed.</p> <p>An Expert Committee (ExpCom) has been installed with 10 experts from various regions of Europe. ExpCom members are active in the field of environment, occupational safety and health, chemicals, trade unions and they hold key positions in EU organisations (EASHW, ETUI-REHS, ECHA), national authorities (BAUA, BMLFUW-UW, KEMI) or industry (Schülke & Mayr). The list of Expert Committee members can be found in annex 1.</p> <p>Initially planned for June 2010, the first ExpCom meeting had to be postponed, due to the significant number of unavailable experts. The first ExpCom meeting took place on 7 September 2010 in Copenhagen with 9 of the</p>		

invited experts. The meeting had important outputs regarding the website, the database and the 10 specific substances. The second ExpCom meeting was held on 28 June 2011 in Madrid after the demo version of the database of case studies and documents had been programmed. Six experts, a stakeholder from the Spanish National Reference Centre on POPs (CNRCOP) and a representative of the LIFE monitoring team participated and provided valuable ideas and suggestions on the case story database, how to collect case story data, the substitution training materials and on the continuation of the SUBSPORT internet portal after the project end in March 2013. The third ExpCom meeting took place on 31 May 2012 in Hamburg, in which seven experts provided feedback on the case story database and search functions, ideas for the organisation of training sessions also after the project's end as well as valuable input on further activities for dissemination and continuation of the SUBSPORT portal.

The protection of the name SUBSPORT as a trade name has been requested at the office for harmonization in the internal market (OHIM) in April 2012. The approval is still pending due to a conflict about name similarity with a company named 'subreport'.

The inception and mid-term report were submitted in due time and accepted by the EC. A progress report was not necessary as agreed with the LIFE unit. A Layman's report was produced and printed in English, German and Spanish in May 2012 and used for dissemination activities.

The grant agreement has been amended twice due to the change of the legal status of the coordinating beneficiary in 2010 and the prolongation of the project until 31 March 2013.

- Conclusions: Results achieved are in line with the work plan and related objectives have been met.

Task 2	Foreseen	Achieved
Networking of stakeholders	<p>Set up a strong network (50 stakeholders regularly) in order to:</p> <ul style="list-style-type: none"> • Focus on the needs of the future users. • Collect experience and information from actors involved in substitution. • Ensure the portal's sustainability and further development beyond the LIFE project end <p>Activities:</p> <ol style="list-style-type: none"> 1. request for "expression of interest" 2. Needs assessment of the stakeholders 3. Invitations to contribute 4. Regular activities: e-mail on project progress, publications, information on launches of new portal elements 5. Extraordinary activities in case of challenges 6. Networking infrastructure within the portal (information, discussion and/or expert forums). 	<ol style="list-style-type: none"> 1-2) Introduction letter and questionnaire sent to over 200 contacts 3) General/open invitation to contribute with information added to website 4) Information on the schedule for launching portal elements published on the website, invitation to test the case story database and the discussion forum 5) Has not been the case 6) The discussion forum is available on the website

- Results:

As a measure of contacting stakeholders an invitation letter and a questionnaire have been sent to the project partners' networks asking for ideas on a substitution portal as well as their involvement in substitution processes. In total over 200 contacts have been identified working in the field of environment, occupational safety and chemicals in big companies, SMEs, industry associations, insurance companies, specialised consultancy firms, universities, research institutes etc. from European countries (including New Member States and non-EU) and non-European regions (e.g. Latin America, Japan). As the stakeholders were asked to express their willingness to share their substitution expertise, the questionnaire was also an invitation to cooperate with the SUBSPORT project.

Finally, after new stakeholders could be won through personal contacts and some stakeholders left the project, a number of 39 active stakeholders with contacts were available to support the project team in addition to the 10 members of the Expert Committee (in total 50, quantitative objective: 50 stakeholders). The list of stakeholders can be found in annex 16. 30 questionnaires have been filled in.

A general invitation to contribute with substitution information and an online version of the questionnaire was added to the SUBSPORT website.

Stakeholders were invited to test the demo version of the case story database, to join the launch event of the case story

database and to test the discussion forum before publication. Dissemination materials have been sent to stakeholders and circulated in some of their networks.

SUBSPORT has developed into an internationally acknowledged stakeholder contributing to currently all relevant substitution related initiatives (see action 15 and 17). As a result networking activities have been extended and valuable feedback has been received from personal contacts to other stakeholders supporting the objectives of this action.

▪ **Conclusions:**

The expected results were achieved.

Task 3	Foreseen	Achieved
Development of portal structure	1-3) Questionnaire for needs and ideas assessment. (particular attention on SMEs and new Member States). If necessary phone interviews in addition. From questionnaire analyses and summary report focussing on current difficulties in substitution and lack of information and tools as well as potentials for inclusion in the web-portal. 4) Discussion workshop on portal structure (max. 25 participants, 1 day) 5) Expert Committee meeting to finalise structure 6) Description of final portal structure and of issues, which cannot be realised during this project 7) Programming of portal structure and web launch	1-3) Over 100 questionnaires sent to interested parties (including SMEs and MS representatives) 4) Replaced by e-mail consultation of ExpCom members and stakeholders. 5, 6) General structure has been agreed in the ExpCom meeting in September 2010. 7) Website launched in July 2010. Final website structure and layout were realized in June 2011. Features related to case story database were added in May 2012. - <i>Restricted and priority substances database</i> published in June 2011 (www.subsport.eu/listoflists) - <i>Case story database</i> launched in May 2012 (www.subsport.eu/case-stories) - <i>External substitution websites and databases</i> search function www.subsport.eu/search-substitution-db The complete SUBSPORT portal can be found on a DVD in Annex 2.

▪ **Results:**

Portal overall structure has been discussed and general features have been agreed by partners and Expert Committee.

The company for web programming and design was selected in April 2010 from 5 bids after a tendering procedure. The website has been launched in July 2010. The procurement for the programming of the databases has been done separately, on the basis of 3 offers, in September 2010. The two databases have been renamed as compared to the mid-term report: *restricted and priority substances database* (formerly list of lists database) and *case story database* (formerly database of case studies and documents).

SUBSPORT website has been launched at www.subsport.eu in July 2010. Several other domains have been purchased for the site (subsport.info/subsport.org/subsport.nu), to protect the project from name confusion.

To meet increased requirements for data security and due to a higher capacity needed for the expected number of visitors the SUBSPORT website was moved to a more powerful server in Nov. 2010 (at the web hosting company Hetzner online). The content management system 'Joomla' used for the realisation of the SUBSPORT website was replaced in Jan. 2011 by 'Wordpress' to solve technical problems observed regarding the publication of information in the four project languages and to ensure the availability of current updates in the future. The use of 'Wordpress' also offered the possibility to manage the data sets of the databases in a more convenient way.

Questionnaire on SUBSPORT portal features and information sources on substitution has been sent to stakeholders and contacts (over 100 in total, see also action 2). Data processing has been finished at the end of September 2010 and considered for improving the portal structure.

Feedback on the structure and layout of the website has been received from the European Commission, the Expert Committee, stakeholders, project partners, training participants, personal contacts and via the website's feedback form. The initially planned discussion workshop on portal structure was replaced by e-mail consultation of the ExpCom members and stakeholders in Feb. 2011 resulting in written feedback from 3 experts and 3 stakeholders.

During the development process it became obvious that a meeting with partners and programmers on website

design and database programming was required to effectively facilitate the discussion of the project partners' ideas and their realisation with the subcontracted programmers. To finalize the development of the portal structure, website layout and the restricted and priority substances database (see action 7) and to further develop the structure and search functions of the case story database the meeting was held on 14 March 2011 in Hamburg although not foreseen in the original work plan. The programmer of CATSUB, a substitution database run by one partner, also supported the project team and proposed the use of a 'Google site search' function.

According to the agreements of the workshop the final website layout was realized by the programmers, a licence to use the 'Google site search' function to search selected other substitution related websites and databases using Google algorithms in combination with the SUBSPORT layout has been purchased yearly and the website content was restructured and amended in June 2011. More than 20 substitution related websites and databases can be searched for case studies using the 'Google site search' function (*External substitution websites and databases search function at www.subsport.eu/search-substitution-db*).

The case story database was optimized for data structure, data entry, data administration and data presentation as well as search functions after the first case stories had been entered. General and specific case stories (see action 9 for general and action 8 for specific information) were entered into the database and have a common surface to avoid users' confusion. Only the 10 specific case stories are presented in a pdf format. The case story database with case stories in English was launched in May 2012. After that the database programming was extended to facilitate data entry for French, German and Spanish translators as well as search functions and presentation of case stories in four languages.

The search field for the website search, the restricted and priority substances database, the case story database and the 'Google site search' as well as a feedback form including a questionnaire (see action 2) and an entry form for case story information are accessible from every part of the website.

The complete SUBSPORT portal can be found as offline version on a DVD in Annex 2.

The subcontracted programmers prepared a technical documentation of the website and database programming. Instructions on how the project consortium can use and update the databases were added as annexes to the quality management handbook (see action 6).

- Conclusions: Results achieved are in line with the ones planned for action 3.

Task 4	Foreseen	Achieved
Development of general information of the portal	1) Text development 2) Internet information research (e.g. for news page) 3) Commenting by project team 4) Text revision 5) Going online 6) Regular news update and programme for automatic newsletter.	1) General information published in English, German (July), Spanish (September) French (October 2010); The glossary was added in December 2010. As of June 2011 information about substitution steps and the list of useful links followed. 2-5) News template agreed by partners; first news published end of July 2010; 6) Newsletter function implemented. Newsletter published about every two months since October 2010.

- Results:

Portal pages providing general and service information are available on the website in English, German, Spanish and French since 2010 in the website section *About the Project*.

The *News* section has been designed and programmed, and is structured in four categories: SUBSPORT Project News, Events & Training, Legislation, Publications & Tools. From July 2010 to March 2013 a number of over 220 news have been published. They reflect important legislation changes and events but they also inform on free webinars and guides. The *Newsletter* website section/function is active since October 2010 and the letter has been sent about every two months (11 letters within the project period) to a constantly growing number of subscribers (over 930 in March 2013). Past issues are available in the *Newsletter Archive*. News and Newsletter publication are being continued after the end of the project (see e.g. May 2013 Newsletter).

The information on the homepage has been restructured in June 2011, with three main information sections: one for the latest news, another presenting the project and how it can help in the substitution process and the third presenting the general steps of substitution, which are described in more detail in the website section *Substitution Steps*.

The list of useful *Links* is not just a connection to other relevant sites, but is correlated with the substitution steps. For each step the list presents exact links to several applicable tools, methods and databases allowing users quick access to reliable information. The *Glossary* covers terms that may be encountered by the user in SUBSPORT or

in other sources: toxicological, legal, technical, scientific publications. *Imprint* and disclaimer including prevention of hidden publicity are published as well as a *Contact* page with contact details of all project partners.

- Conclusion: Results achieved are in line with the ones planned for action 4.

Task 5	Foreseen	Achieved
Structuring and presentation of legal information on substitution	1) Legislation and frameworks with direct or indirect substitution requirements (e.g. REACH, WFD, Chemical Agents Directive, Stockholm Convention Persistent Organic Pollutants Review Committee) 2) Compact description of substitution requirements for web presentation 3) Text commenting by the project team 4) Text revision 5) Text commenting by group of SME, revisions if necessary 6) Text integration into web pages and links to original sources 7) Update in case of change of legislation or Annex XIV of REACH etc.	1) List of identified relevant legislation has been agreed by partners 2) Template for legislation presentation has been agreed by partners 3,4,6) Text presentations and publication in section <i>Substitution in Legislation</i> are finished 5) Replaced by feedback from trainings and experts (personal contacts) 7) Updated
<p>Comments:</p> <ul style="list-style-type: none"> ▪ Results: <p>A list of 28 regulatory items relevant for substitution has been agreed by partners. It contains legislation from EU (directives, regulations), international (e.g. OSPAR convention) and national level, for USA and China. Legislation at national level within EU is only presented as a link to national websites.</p> <p>A streamlined and understandable presentation format has been developed and used for the publication of resumes of legal texts in the website section <i>Substitution in Legislation</i>. Links to the original texts and to related documents have been also published.</p> <p>The website section has been updated in August 2011 to reflect legal changes and to improve existing presentations.</p> <p>Feedback was received from personal contacts and participants of training sessions (see action 14) instead of holding a workshop. Many training participants worked for SMEs. The feedback was mainly positive and no need for revision was identified.</p> <ul style="list-style-type: none"> ▪ Conclusions: Results achieved are in line with the ones planned for Action 5. 		

Task 6	Foreseen	Achieved
Quality management and criteria for the substitution portal	1) Search for existing quality management (QM) handbooks, extraction of relevant information 2) Identification of further relevant issues and development of working paper 3) Internal discussion of QM documents 4) First revision of working paper (WP) 5) Presentation and discussion of WP in Expert Committee 6) Presentation and discussion at stakeholder workshop 7) Second revision of working paper, transfer into QM handbook, development of graphical work flows 8) Article on information requirements for QM in the context of substitution 9) Analysis of feedback on QM handbook 10) Updating of QM handbook and publishing of relevant parts on web	1) QM references have been identified (3 handbooks, a glossary and a standard). 3, 4) Discussion of WP at partner meeting and by e-mail and revision of WP 2, 5) Templates for presenting specific information (legislation, case stories, database on substances) have been presented to the Expert Committee. 6) Re-planned as e-mail consultation and rescheduled for early 2011 7, 9) Rescheduled and performed in February 2011 8) Replaced by more general article in high impact publication 10) Alternatives assessment methodology, use instructions for databases and technical documentation of programming added as annexes. User relevant parts of QMH were published
<p>Comments:</p> <ul style="list-style-type: none"> ▪ Results: <p>The search for quality management reference has identified two handbooks and a glossary for key words used by the EASHW as well as another handbook used in the CLEANTOOL database which is provided by KOOP. The provisions of ISO 9001 standard that are related to communication, information and documents were also considered.</p> <p>The workshop on quality was replaced by e-mail communication and rescheduled from September 2010 to February 2011, when the members of the ExpCom and the stakeholders were consulted. Results of the consultation were considered in the first revision of the QM handbook.</p> <p>Criteria that are relevant for the users have been published. They include general quality criteria and specific screening criteria for the alternatives. The latter are defined by mentioning the relevant reference (legislation or authoritative list) with a link for further direct information. Criteria are published in the website section <i>Case Story Database / Criteria for case story descriptions</i> and the screening criteria are also part of the 'alternatives assessment methodology and data presentation for the general database of SUBSPORT' document (linked to the <i>Case Story Database</i>, see action 9), which was added to the QM handbook as annex.</p> <p>Warning phrases, meant to prevent users from misinterpreting information, have been included in the SUBSPORT sections, where needed.</p> <p>The article, which was planned to discuss specific QM requirements in the context of substitution, was replaced by a more general article on substitution and SUBSPORT in a high impact publication to disseminate project results to a broader audience (see action 15).</p> <p>Instructions for internal use have been elaborated explaining how to use and update the databases. The subcontracted programmers prepared a technical documentation (in German) of the website and database programming to allow for future modifications by other programmers. Instructions and technical documentation were added to the QM handbook as annexes. Documents are available for all partners on the FTP server. The QM handbook can be found in annex 17.</p> <ul style="list-style-type: none"> ▪ Conclusions: Results achieved are in line with the ones planned for this action. 		

Task 7	Foreseen	Achieved
Lists of substances of high concern and alternatives assessment	1+2) Identification and analysis of criteria and assessment methods for substances of high concern and alternatives used in existing databases (internet research) and in literature (bibliography review) 3) Working paper on criteria and assessment methods, proposal of criteria for web portal 4) Discussion with selected experts and Expert Committee 5) Revision of working paper, web presentation 6) Development of data base with substance lists, including search functions 7) Short descriptions of assessment tools 8) Quality check (internal commenting), web publishing 9) Article on alternatives assessment methods 10) Update of QM handbook if necessary	1-4,7) List of lists of restricted and priority substances (excel format), criteria for substances of high concern, methods for alternatives assessment elaborated and presented to ExpCom 5) Publication of criteria in website section <i>Identifying Substances of Concern</i> 6) Database development finalised 7) Descriptions of 10 tools published in <i>Substitution Tools</i> section 8) <i>Restricted and priority substances database</i> published, extended and updated 9) Contribution for a book published by RSC 10) Use and update instructions for database added as annex to QM handbook.
<p>Comments:</p> <ul style="list-style-type: none"> ▪ Results: <p>Criteria for substances of high concern applied by well known organisations have been described and presented in an understandable format that will allow comparison of existing approaches and even recombining criteria according to users' view/needs. The presentation of criteria was published in the website section <i>Identifying Substances of Concern</i>.</p> <p>The <i>restricted and priority substances database</i> includes 31 lists with several thousands of substances restricted or banned by legislation or due to company policies. Lists based on legislation are EU (6), international (3), national/local (9, with 3 non European), there are 2 priority lists of non-profit organisations and 10 company or sector lists, as well as one list compiled by SUBSPORT (SDSC, see action 9). Each list has a description and a link is provided to the original source. The database has been tested and improved by project partners before publication in June 2011 (www.subsport.eu/listoflists). At the second ExpCom meeting final feedback was provided and resulting changes were accomplished in Sept. 2011. In 2012 the database was extended with 3 lists and one company requested the removal of its list. To support the extension of the database a tool was programmed for the automatic assignment of an EC number (numerical substance identifier from EU chemicals regulatory framework) to a substance's CAS number (numerical substance identifier from Chemical Abstracts Service). This was necessary because most original lists included only substance names and CAS numbers, lacking the EC numbers relevant within the EU.</p> <p>Publication of short presentations of assessment methods for hazardous substances and alternatives as well as substitution tools in the website section <i>Substitution Tools</i> (see action 10): 10 assessment methods/substitution tools from countries in Europe and USA have been presented, using an agreed template that included chapters on: elaborator, description, applicability, user friendliness, limitations, availability and a link to the original document. At the second ExpCom meeting minor additions were proposed and accomplished. Two of the tools (column model and green screen) have been used for the training sessions. It turned out that for the described tools it cannot be clearly distinguished between assessment methods (action 7) and substitution tools (action 10) and that such a differentiation would not be helpful for the portal users. Therefore some efforts done under action 10 on substitution tools are also reported here.</p> <p>The associated beneficiary ChemSec contributed with a chapter on 'NGO Initiatives in the EU – Identifying Substances of Very High Concern (SVHC) and Driving Safer Chemical Substitutes in Response to REACH', which includes a subchapter on SUBSPORT, to the book 'Chemical Alternatives Assessments' published in 2013 by the Royal Society of Chemistry (Issues in Environmental Science and Technology, Vol. 36, p. 230-255).</p> <ul style="list-style-type: none"> ▪ Conclusions: Results achieved are in line with the ones planned for this action. 		

Task 8	Foreseen	Achieved
Development of database with specific substitution information	<p>Aim: provide detailed information on alternatives to critical uses of 10 substances of very high concern and therewith support substitution actions and discussions.</p> <p>Each of the following steps will be done for these 10 substances:</p> <ol style="list-style-type: none"> 1) Selection of the 10 substances based on internal criteria 2+3) Identification and collection of information on substance of high concern and on alternatives, processing of information, summarising of information and extraction of relevant elements for further work 4) Screening of alternatives, use and evaluation of assessment tools, documentation 5) In-depth assessment of alternatives, acquisition of case stories and documentation of results 6) Development of case study description 7) Revision of case studies, web publishing 8) Feedback and potential revision on use of QM handbook 9) Article on substitution case 10) Testing of web portal and search functions, feedback and potential enhancements 	<ol style="list-style-type: none"> 1) initially 23 substances have been proposed by partners; 10 substances and substance groups have been selected and agreed with ExpCom 2-7) a framework methodology was developed <ul style="list-style-type: none"> - pilot testing of first steps of the methodology - 4 substances and assessment of HBCDD agreed as pilot substance for assessment by the experienced subcontractor TURI - reports of pilot testing were revised according to final methodology - case study description template agreed by partners - data collection, identification, screening, in-depth assessment and comparison of alternatives performed - 10 reports were written - 10 reports were linked to <i>Case Story Database</i> website section and published in the database 8) No need for revision identified 9) Article on substitution case replaced by more general article 10) Reported under action 9

Comments:

■ Results:

Activities realised under action 8 and action 9 were strongly interlinked and in practice they are not fully separated as written in the project description, which is part of the grant agreement. The outcomes of the two actions are:

- ‘SUBSPORT Specific Substances Alternatives Assessment’ reports (pdf format) for 10 specific substances or groups of substances, including detailed information on the substances, their uses, alternatives for the uses and alternatives assessment for selected uses. The 10 reports comprise the specific section of the *Case Story Database*. Activities taken for the 10 reports are reported here under action 8.
- Substitution case stories documenting practical substitution efforts collected from companies or published reports and information on alternative substances or technologies are part of the general section of the *Case Story Database*. Activities on case stories in the general section are reported under action 9.

Criteria for the selection of 10 substances or groups of substances of high concern were established: criteria are related to hazards to environment and health, volume of production, concern on behalf of authorities/public opinion (foreseen for authorisation under REACH/ under evaluation by the POPRC/subject of public debates etc.) balanced representation of type of sectors (industry/non-industry) and reliability of available information.

The 10 substances or groups that comply with the selection criteria were selected and agreed by the ExpCom (with the recommendation to reduce some of the groups of substances, applied in practice by focusing on relevant representatives of the groups): chloroalkanes, chromium VI and compounds, bisphenol A, dialkylphthalates, lead and its inorganic compounds, nonylphenol and ethoxylates, tetrachloroethylene, formaldehyde, brominated flame retardant: hexabromocyclododecane (HBCDD), parabens (methylparaben, ethylparaben, propylparaben, butylparaben).

TURI the Toxics Use Reduction Institute at the University of Massachusetts at Lowell (USA), which is very experienced in alternatives assessment, was subcontracted to develop the ‘specific substances alternatives assessments methodology’ together with the SUBSPORT team. This was achieved by an alternatives assessment workshop (originally planned for action 9) for the project team on 02/11/2011 in Gothenburg as well as by video conferences and e-mail discussions on the methodology document. The methodology is linked from the *Case Story Database* website section.

TURI applied the methodology on one of the 10 specific substances (HBCDD) and prepared a model report. The project team applied the first steps to four substances, one for each partner. Based on the outcomes and experiences acquired a final template for the presentation of the reports on the 10 substances was agreed and the parts already elaborated were revised accordingly.

The reports include: profiling of chemical hazards, identifying functions and uses, prioritization of uses, identifying potential substitutes, screening out regrettable substitutes, in-depth characterisation and comparison of alternatives

(hazard profile and if available technical and economic performance, availability). Information sources checked are clearly presented. Information sources are substance data bases, risk assessment reports, risk reduction studies, scientific and technical journals and publications, expert interviews etc. In addition many manufacturers and users of alternatives were contacted to get detailed information. Case stories published in the general section of the database dealing with the 10 specific substances are linked from the reports.

To screen out regrettable alternatives the screening criteria described in the quality management handbook (action 6) were applied. For each hazard criterion (CMR – carcinogenic, mutagenic or toxic to reproduction; (v)P(v)BT – very persistent and very bioaccumulative or persistent, bioaccumulative and toxic; endocrine disruptors, neurotoxicants and sensitisation agents) substance lists compiling substances known to fulfil these hazard criteria (having these hazardous properties) are available, which were published by authorities, NGOs or researchers. The substance lists were merged into the Substance Database according to SUBSPORT Screening Criteria (SDSC, www.subsport.eu/listoflists?listid=31), which is published and searchable as part of the restricted and priority substances database. Each alternative substance was checked for presence on SDSC. Alternative substances listed on SDSC were screened out and excluded from further assessment due to their hazardous properties.

The 10 reports (in PDF format) are linked from the *Case Story Database* website section and can be searched using the search function of the case story database. The reports were published between March and June 2013 (www.subsport.eu/case-stories-database). One of the 10 reports can be found as an example in annex 24 (SUBSPORT specific substances alternatives assessment – formaldehyde).

The article on case studies, which was planned for this action, was replaced by a more general article on substitution and SUBSPORT in a high impact publication to disseminate project results to a broader audience (see action 15). In addition the team was contacted and interviewed by journalists to support the publication of media articles on SUBSPORT and substitution including references to several case stories in the database.

▪ Conclusions:

Results achieved are in line with the ones planned for this action.

Task 9	Foreseen	Achieved
Inclusion of information in general alternatives database	<p>Aim: provide an “inspiration catalogue” for “idea hunters” by making general information on alternatives available.</p> <ol style="list-style-type: none"> 1) Identification of information on alternatives and existing reference cases 2) Development of a system to interlink information/ documents, e.g. assigning a certain process description to a hazardous substance 3) Summary description of key documents, key-words and links search options (substances, uses/functions, articles, sectors) 4) Description of information sources and data bases, which are not yet included in portal 5) Internal workshop discussing difficulties in alternatives assessment 6) Compilation in different formats, evaluation of information quality, key-words and substance link 7) Web publishing in data base 	<ol style="list-style-type: none"> 1) Main sources of case studies have been identified 2) Descriptors for sector, function and process can be used as search filters. Separate database for substance information connected to the case story database. 3,4) Description template and database search options developed and agreed with ExpCom 5) The alternatives assessment workshop is reported under action 8. 6) Methodology for alternatives assessment, quality check and data presentation was developed. 7) Case story database was launched in May 2012 with 100 cases.
<p>Comments:</p> <ul style="list-style-type: none"> ▪ Results: <p>Activities under action 8 and action 9 were strongly interlinked and in practice were not fully separated as written in the project description, which is part of the grant agreement. Here activities on substitution case stories documenting practical substitution efforts collected from companies or published reports and information on alternative substances or technologies, which comprise the general section of the <i>Case Story Database</i> (www.subsport.eu/case-stories), are reported.</p> <p>The structure of case story data and a template for data presentation was developed with partners, discussed with the ExpCom and added to the quality management handbook (see action 6). The template was also used for data collection and extended by some fields for internal data administration and communication between the case story provider and the project team only. The demo version of the case story database was presented and discussed at the second ExpCom meeting. After the case story launch event in May 2012 and the very positive resonance in media and substitution relevant networks made it easier and more successful to address companies to ask for case stories. Due to the very good reputation of SUBSPORT, companies started to proactively offer case story information for publication in the case story database, which is ongoing even after the end of the funding period by LIFE.</p> <p>Identification of important sources of information included a list of reliable sites that provide case stories. A ‘Google site search’ function has been implemented that allows searching for cases stories in a selected number of websites run by reliable sources. Sites specialised on substitution like CATSUB, ALTERNATIVAS (in Spanish), CLEANTOOL and ANSES Substitution CMR (in French) have been added, in total over 20 websites and databases are included (<i>External substitution websites and databases</i> search function, www.subsport.eu/search-substitution-db, see also action 3).</p> <p>Reports and studies that contain examples of substitution and that have been published by reliable sources have been continuously identified in order to extract, evaluate and present useful examples as alternative to company case stories. The list was used for the share of work among partners.</p> <p>Case story descriptions were prepared according to the template and entered into the case story database along with some internal data for case story administration, which is not presented to the user. Case stories include among others information on substituted substances and alternatives, sector, function, process, application (company using the alternative, state of implementation etc.), availability of alternative and producer, reliability of information (standardised communication according to quality management handbook), hazard assessment (according to methodology), substitution description (point of view of information provider), case evaluation (SUBSPORT point of view), further info (e.g. links to material safety data sheets), information source with link to sources/documents, contact details of information providers with link (to guarantee optimal transparency). At the end of each case story presentation a link to the forum is provided where users can comment on case stories and substitution topics.</p> <p>Descriptors for sectors, functions and processes are based on the NACE code and ECHA’s use descriptor system to interlink case story information and to allow users to filter search results of the database search function. Data on substituted and alternative substances (name, synonyms, CAS and EC numbers, harmonised classification according to CLP Regulation etc.) were entered into a separate database, which was connected to the case story database. In this way it was achieved that different case stories dealing with the same substance always contain the same substance information. This system to interlink case story information is especially important when users search the</p>		

database by substance information.

For an objective assessment of chemical hazards and to communicate the assessment procedure to the user an 'alternative assessment methodology and data presentation for the general database of SUBSPORT' was prepared and linked to the database. The methodology was also added to the quality management handbook as annex. Before a database search can be performed the user has to confirm that the methodology has been read. This is to increase the methodology's visibility, which includes also a disclaimer to avoid misunderstandings. The methodology includes a check of the Substance Database according to SUBSPORT Screening Criteria (SDSC, www.subsport.eu/listoflists?listid=31, see description in action 8) to screen out alternatives. Case stories presenting alternatives listed on SDSC are not subject for publication in the database, unless the SUBSPORT team regards the alternative to be still safer than the original substance, for the considered application. Those cases were discussed within the project team and as a result several cases were rejected for publication. A cross-checking procedure among project partners was established to guarantee quality standards. Company case stories required the company's consent for publication. As a result a number of elaborated case story descriptions could not (yet) be published. Most companies that provided case stories refer to them on their websites or publications, which also adds to the dissemination of project results.

All case stories were published in English. Around 80-100 case stories were also translated to French, German and Spanish (see also action 12). The case story database was launched on 24/05/2012 containing 100 case stories at that date (see action 15). A screenshot of the case story database can be found in annex 3.

In addition to the case story database SUBSPORT facilitates access to more case stories and substitution information from over 20 other websites and databases in different languages via the 'Google site search' function (*External substitution websites and databases* search function, see also action 3), which was not included in the original work plan.

▪ Conclusions:

Results achieved are in line with the ones planned for this action.

Task 10	Foreseen	Achieved
Implementation of substitution tools section	Aim: provide tools and methods to support the users in their substitution activities (task 7.7 concerns assessment tools only): 1) Identification of relevant tools facilitating substitution 2) Evaluation of tools 3) Short description of tools 4) Inclusion of these tools descriptions on the Web and check for further development necessary.	1-4) Methods, interactive tools or other instruments that facilitate substitution have been identified. After evaluation some of them were selected for publication with a presentation or just as a link in the list of useful links.
<p>Comments:</p> <p>▪ Results:</p> <p>Identified substitution tools useful at different stages of the substitution process were evaluated and described according to the template mentioned in action 7 and published in the website section <i>Substitution Tools</i>. More information can be found under action 7. A webinar was held explaining how to work with the substitution tool TRGS 600 (see action 14).</p> <p>Tools, instruments and software were also mentioned and linked in the Substitution Steps section, structured so that each step has several examples to support the user.</p> <p>Other similar tools like ECETOC Targeted Risk Assessment Tool etc. are linked in the <i>Link</i> section without detailed description.</p> <p>▪ Conclusions: Results achieved are in line with the ones planned for action 10.</p>		

Task 11	Foreseen	Achieved
Programming of interactive parts of the website	Aim: enable future users to discuss and exchange experience. 1) Description of tools for portal users (a "Thread"-tool for online discussions and a content management tool) 2+3) Stakeholders workshop on interactive elements and decision. 4) Development of rules and rights for the interactive elements (e.g. no advertisement, no information without linking to source etc.) 5) Implementation of interactive elements 6-8) Test, evaluation and improvement of interactive elements	1-3) Interactive elements were described and discussed with partners and ExpCom. Decisions on implementation were taken. 4) A disclaimer was added to the forum. 5) Entry and feedback forms were programmed and published. Forum demo version was programmed for test run. 6-8) Threats and first contributions were entered into the forum by the partners. Forum structure and presentation were revised.
<p>Comments:</p> <ul style="list-style-type: none"> ▪ Results: <p>Interactive elements have been implemented to allow users to contribute to SUBSPORT and to allow SUBSPORT to benefit from users' contributions.</p> <p>Possible interactive elements were described and presented to the ExpCom instead of holding a stakeholder workshop. With the launch of the new website layout in June 2011 the first interactive elements were implemented.</p> <p>A feedback form with an online questionnaire is accessible from any section of the website. The user can provide general feedback or specific feedback on information provided by SUBSPORT and is asked to contribute with case story information.</p> <p>For users willing to offer case stories to SUBSPORT a separate entry form including a function to upload documents is also accessible from any section of the website. Data added into the entry form are received as e-mail. The initial idea was to provide a direct access to the case story database for those users interested to add their case stories. This would have added to the portal's maintenance as users would have been able to update their case stories and to add new ones even after the project end date. But with the development of the quality criteria the team realised that each case story added has to be assessed and evaluated by the SUBSPORT partners. Along with comments on possible problems with database security received from the programmer the team decided to implement the e-mail version of the entry form.</p> <p>The forum software was available for internal use and discussion with experts since Aug. 2010. However, internal discussions were realised via e-mail. The forum has finally been published with fora on the 10 specific substances (see action 8), 'Other topics' for general substitution related discussion and 'Other chemicals'. After registration users can add comments to existing threats or add new threats to start discussions. The administrators can move threats to other fora and add new fora e.g. on another chemical. Above the forum a disclaimer was published referring to the 'netiquette', possible languages and the possibility that contribution can in some cases be deleted by the administrator. The forum is linked from every case story published in the database. Stakeholders and members of the ExpCom were invited to test the forum before publication. A screenshot of the forum can be found in annex 4.</p> ▪ Conclusions: Activities have been postponed after the publishing of first case studies. 		

Task 12	Foreseen	Achieved
Evaluation of English “master version” and translation	1-3) Portal tests with example cases and guidelines by different target groups. Questionnaires for feedback. 4) Analysis of feedback and follow-up discussions 5) Revision of portal and/or guidelines 6) Acceptance of ‘final English master version’ by Expert Committee and contractor 7+8) Decision on translation and translation 9) Launch of language versions	1-4) presentation of the portal and discussion with ExpCom; using the portal in training sessions – feedback through discussion and questionnaires; questionnaires to stakeholders 5) continuously revision of portal according to feedback 6) agreed on final English master version in 6/2011 7+8) Translation of complete website, except news, newsletter and restricted and priority substance database 9) launch of website available in 4 languages in 5/2012
<p>Comments:</p> <p>When the new website structure and layout was launched in June 2011 most website sections except for the case story database were already published. At this stage the website was presented at the second ExpCom meeting and the final English master version was accepted. It was agreed to translate the complete website except for the news and newsletter as well as the restricted and priority substances database because the translation of a huge number of substances was not possible and not considered reasonable when users can search for CAS and EC numbers. Translation to French, German and Spanish was subcontracted and translated texts were entered into the website’s content management system section by section for each language. For the launch event in May 2012 the entire website was available in four languages with the exception of some pages related to the case story database, for which some adaptations were deemed necessary. At the end of 2012 when around 300 case stories were published in English the project partners agreed on a number of around 78 case stories to be translated by subcontracted translators. The German and Spanish partners had already translated some cases. After translation, quality check by project partners and some adaptations of the database programming the French, German and Spanish versions of the case stories were published in February and March 2013.</p> <p>The translations were considered very important to address a broad range of international users including representatives from SMEs, who may be less used to dealing with English texts.</p>		

Task 13	Foreseen	Achieved
Development of training guidance and material	1) Description of target groups for training 2-4) Development of training 5) Revision of training material after internal feedback 6) Translation of material to Spanish and German 7) Web publishing of training material 8) Revision after pilot trainings	1) Target groups have been identified. 2-4) A first concept has been discussed with the partners on 27.06.2011. 5) A training guidance was developed and agreed by the partners. 6) English training material was translated to Spain, German, French, Danish and main parts to Chinese. 7) Training material in English was published in 2013 8) The training material was slightly amended after the pilot trainings and updated after the case story database launch.
<p>Comments:</p> <p>Identification of target groups were discussed. It has been agreed to focus on users at company level, with a special attention paid to SMEs.</p> <p>The methodology of the training is based on "Small Group Activity Method", using the idea that the main knowledge transmission is not primarily from the trainer to the participants but rather from participants to participants and from participants to the trainer. This method was also used for "Green Chemistry Awareness Training" in the US.</p> <p>The overall goal of the Alternatives Identification and Assessment Training is to provide basic concepts and tools to help participants to get started in substitution processes, understand the different stakeholders involved and their interests, which substances are of most concern, how and where to look for new ideas and alternatives and get introduced to existing tools to assess alternatives and costs. The concept has been developed for a 4 hours training session with around 20 participants. The training guidance is divided into 6 activities. Participants get a short introduction by the trainer for each activity before they split up into small working groups to work on the tasks defined for each activity. Within the small groups discussions, knowledge exchange among participants and the successful search for solutions is realised before a wrap-up session is moderated by the trainer at the end of each activity. For each group a computer with internet access is necessary as the work on the tasks requires the use of the SUBSPORT website and databases. Working materials like e.g. the Column Model to assess alternatives and material safety data sheets were provided as annexes to the training guidance. The notes for trainers contain introduction to the methodology background information. After a pilot training on 30 Oct. 2011 the guidance was slightly changed according to participants' comments.</p> <p>The training guidance was translated to Spanish and German. In addition, the Regional Activity Centre for Cleaner Production CP/RAC in Madrid, which belongs to the United Nations Environmental Programme UNEP, financed the French translation. The Danish project partner also prepared a Danish version. A presentation covering the main aspects of the training guidance was translated to Chinese by Greenpeace East Asia.</p> <p>Printed training materials were only produced in numbers needed for each of the training session because after gaining more training experience and due to the publication of the case story database the electronic version of the guidance was continuously updated.</p> <p>The training concept is quite flexible and can be adapted according to the length of the training sessions and number of participants. For the two webinars considerable changes had to be made.</p> <p>GIZ, the German association for international cooperation, offered their very comprehensive training materials for publication in the training section of SUBSPORT.</p> <p>The English version of the training guidance can be found in annex 5.</p>		

Task 14	Foreseen	Achieved
Training sessions on substitution and alternatives assessment	1) Organisation of training schedule and venues 2+3) Invitation and implementation of training 4) Evaluation of trainings	1) Possible training sessions (time and place) were discussed on the ExpCom meeting 28/06/2011, also possible collaborations with experts. More than 15 possible training sessions were identified. 18 training session took place during the project time, 2 training sessions are planned in Sept. and Nov. 2013. 2-3) pilot training was held in Madrid in October 2011, first training in Madrid in December 2011 4) A questionnaire was prepared and distributed to the participants to evaluate the trainings.
<p>Comments:</p> <p>Training sessions were organised in collaboration with co-organisers i.e. well know organisations, authorities, companies trade unions and NGOs invited participants and provided facilities for the training sessions which were held by SUBSPORT trainings free of charge. The training schedule was announce in the website section <i>Training</i> and circulate in the co-organisers' networks. The list of training sessions can be found in annex 6. Using the multiplying effects of the co-organisers it was possible to hold 18 training sessions in Spain, France, Egypt, Romania, Sweden, Denmark, Germany and China with 15-210 participants. The average number of participants was 37 (if the session in China with 210 participants is excluded, the average would be 27 participants), in total over 650 persons were trained. Two training sessions were realised as webinars and the trainings in Egypt and China were held outside LIFE. The number of participants for most sessions was documented using signature lists. An example of a signature list of training participants can be found in annex 18. A questionnaire was used to get feedback on the training and on the SUBSPORT portal. In annex 19 an example evaluation of feedback questionnaire can be found.</p> <p>The training sessions were an effective measure to address a broad range of participants, many of them from SMEs, from various regions of Europe, to disseminate SUBSPORT and to get direct feedback and suggestions on the trainings as well as on the SUBSPORT portal. Participants provided very positive feedback and appreciated the interactive methodology of the training sessions including discussions among participants.</p> <p>For the after-LIFE period two more training sessions are already announce on the website for Sept. and Nov. in Hamburg. These training sessions are commercialised offers.</p>		

Task 15	Foreseen	Achieved
Dissemination activities	1) The portal (www.subsport.eu) itself is a means of dissemination, regarding the contents and results as well as information on the LIFE project. 2) Dissemination via printed media is integrated in actions 1 and 2 (regular information) or in other actions (specific topics, e.g. publication of an article on quality criteria for substitution information). 3) Personal dissemination measures are training sessions, conferences, seminars, contacts to other Life projects working on chemicals, such as the project BaltActHaz. 4) A dissemination workshop at the end of the project will present the portal to a wider audience.	1) Portal launched in July 2010 2) Life notice board poster, roll-up; SUBSPORT poster in E, ES, DE; project flyer in E, DE, ES, FR; folder available in E, ES, DE, TR; layman's report brochure in E, ES, DE; newsletter disseminated every second month 3) Presentations at 60 national and international conferences, workshops and events; Dissemination on 18 training sessions; Several publications; SUBSPORT launch at the Helsinki Chemicals Forum; Booth: Informal meetings and phone calls 4) Replaced by dissemination activities and launch at the Helsinki Chemicals Forum.
<p>Comments</p> <p>The major mean of dissemination is the SUBSPORT portal (www.subsport.eu) itself, which has been launched in July 2010. A preliminary version was online starting from March 2010. The newsletter is disseminated every second month as a general rule since October 2010 to currently over 930 subscribers.</p> <p>Several dissemination materials were produced including the LIFE notice board poster, which was installed at the offices of each beneficiary, a flyer, a folder available in English, German, Spanish and Turkish, a poster in English, German and Spanish (see annex 7), a roll-up display and the layman's report brochure in English, German and Spanish (see annex 9). The folder and the brochure can be downloaded from the SUBSPORT website as well as partners' websites.</p> <p>SUBSPORT was presented at more than 60 national and international conferences, workshops, events etc. by oral</p>		

presentations, poster presentations or by disseminating folders and brochures in several languages. The events covered various regions of Europe and outside as well as a broad variety of target groups. A list of events where SUBSPORT was presented can be found in annex 8. For several events SUBSPORT representatives had been invited and were paid from other sources than LIFE.

The central dissemination event was the SUBSPORT launch at the Helsinki Chemicals Forum on 24-25/05/2012. As ECHA is located in Helsinki the city is seen as “Europe’s chemical capital” and the Helsinki Chemicals Forum is attended by high-level representatives from industry, regulators and other stakeholders. SUBSPORT was presented at a booth during the two days forum (see short video at http://www.youtube.com/watch?v=2C-HvaWqL_E&feature=youtu.be&t=2m32s), a presentation of the director of ChemSec (associated beneficiary) was part of the programme and the official launch was celebrated at an one-hour side event with 50 participants. At the launch event SUBSPORT was presented by the project team and 3 case story providers from industry and trade unions were invited to present their cases followed by a discussion session. The event was accompanied by several widely spread news and a press release followed by numerous media articles and newsletters referring to the event and to SUBSPORT. The highly increased public attention is also reflected by peak numbers of visits on SUBSPORT in May, June and July 2012. After that average visit numbers are around 4 times higher than before the launch (see action 17).

The 18 training sessions were also effective dissemination measures as participants got detailed insights into the project and the SUBSPORT portal.

In the workplan it was foreseen to publish 3 articles (see actions 6, 7 and 8). The project team published 4 articles and 1 book chapter on SUBSPORT and substitution:

L. Lissner and D. Romano, *Substitution for Hazardous Chemicals on an International Level – The Approach of the European Project "SUBSPORT"*, NEW SOLUTIONS, **2011**, Vol. 21(3), p. 477-497 (<http://dx.doi.org/10.2190/NS.21.3.1>)

A. Lennquist, *Knowledge sharing drives substitution*, CHEMICALWATCH, European business briefing, **2012**, Issue 48, p. 23 (<http://chemicalwatch.com/11266/ngo-platform-knowledge-sharing-drives-substitution>)

R. Stepa, S. Brenzel, E. Schmitz-Felten, *SUBSPORT - Substitution Support Portal*, BARENTS NEWSLETTER ON OCCUPATIONAL HEALTH AND SAFETY, **2012**, Vol. 12, No. 2, p. 54-55 (in English and Russian, http://www.ttl.fi/en/publications/electronic_journals/barents_newsletter/Documents/BM_2012_2_korjattu210113.pdf) (full article in annex 13)

L. Lissner, *Substitution – einfacher gemacht! Das Web-Portal SUBSPORT*, Chem – News XXI, Aktuelle Stoffpolitische Schwerpunkte der Abteilung VI/5, Oktober **2012**, p. 28-37 (in German , http://www.lebensministerium.at/dms/lmat/umwelt/chemikalien/chemnews_xxi/ChemNews_XXIWeb.pdf) (article in annex 14)

J. Lighthart, *NGO Initiatives in the EU – Identifying Substances of Very High Concern (SVHC) and Driving Safer Chemical Substitutes in Response to REACH*, The Royal Society of Chemistry **2013**, Chemical Alternatives Assessments, Issues in Environmental Science and Technology, Vol. 36, p. 230-255 (<http://www.rsc.org/shop/books/2013/9781849736053.asp>)

SUBSPORT exchanged information with other LIFE projects like BaltActHaz (LIFE07 ENV/EE/ 000122). SUBSPORT took part in an event of the project PVCfreeBloodBag (LIFE10 ENV/SE/037) and was offered that this project will add substitution information for PVC in blood bags to the SUBSPORT case story database when the information will be available.

Also ExpCom members and other stakeholders actively disseminate SUBSPORT in presentations or when referring to it from reports or linking to it from their websites.

In conclusion the dissemination activities have been very successful and the number of activities was much higher than initially planned, for which more resources were required.

Task 16	Foreseen	Achieved
Continuation and activities to maintain the portal	<p>Development of options for “ownership” of portal by stakeholders network or single actors,</p> <p>Management handbook for inclusion of information in the portal and further development</p> <p>Two stakeholder workshops on continuation.</p> <p>Launching of project proposals contributing to further development of information</p>	<p>1) On expert meeting 28.06.2011, among the partners and with interested organisations possibilities were discussed.</p> <p>2) Technical documentation for database programming is available in German. QMH includes instructions for practical aspects of using the website and databases (in English).</p> <p>3) Replaced by second expert committee meeting and discussions with interested organisations.</p>
<p>Comments:</p> <p>The coordinator and the partners are interested to maintain SUBSPORT after the end of Life financing. This will be made by voluntarily maintaining the website and database until the mobilisation of new financial resources offer more opportunities. Up to now the coordinating beneficiary identified a number of continuation options.</p> <p>At the ExpCom and partner meetings possibilities to maintain and develop the portal were discussed. Two workshops, which were planned for this action, have been replaced by direct consultations with interested organisations. This was regarded to be more effective and more convenient for possible future funders. Accepted proposal for future funding: Starting from September 2013 the DBU – The German Federal Foundation for the Environment – supports a project to extend SUBSPORT into the textile sector .</p>		

Task 17	Foreseen	Achieved
Monitoring of the impact	<p>Assess changes achieved by the project regarding awareness of substitution actual use of the portal (should reach an estimated 5m page impressions per year and 1,5m visitors) cooperation in the network</p> <p>Activities:</p> <p>1) Project kick-off meeting: choose indicators</p> <p>2) Agree with Expert Committee on impact indicators</p> <p>3) Develop methods to collect data</p> <p>4) Data collection and indicator analysis</p> <p>5) Reporting within mid-term report and final report</p>	<p>1) Progress indicators: according to proposal</p> <p>2) Impact indicators: number of web visitors, number of SUBSPORT subscribers</p> <p>3) Web statistics software active since July 2010, online feedback form with questionnaire available, questionnaires for training sessions</p> <p>4) periodic analysis of trends, questionnaires sent to stakeholders, feedback from training participants, feedback from workshops; links to relevant websites; inclusion of SUBSPORT in relevant substitution and alternative assessment discussion and information material.</p> <p>5) Reporting in mid-term report and final report</p>
<p>Comments:</p> <p>The impact indicators are those in the initial proposal: web statistics data and user and stakeholder feedback. The web statistics software ‘Piwik’ has been active since July 2010 except for the period from Nov. 2010 – Feb. 2011. Trends are analysed periodically as well as the number of subscriptions for the Newsletter.</p> <p>Feedback was received from experts, stakeholders, personal contacts, training participants and website users etc. It ranged from general feedback about the project idea and usefulness to specific suggestions on data presented, database search functions, training sessions as well as website structure and layout. Feedback was mainly very positive. Some suggestions for improvement could be realised others were not possible to implement with the project’s resources.</p> <p>As documented in annex 8, SUBSPORT was presented at over 60 national and international events. For several events SUBSPORT was invited to inform about the project and substitution related topics e.g.:</p>		

- Workshop on REACH compliance for Turkish industry – EC, DG Enlargement, TAIEX the Technical Assistance and Information Exchange instrument, in 2011
- ECHA stakeholder day
- Substitution: From principles to practice – workshop as part of a project for EC, DG Employment, Social Affairs and Inclusion
- Workshop on Carcinogens and Work-related Cancer – European Agency for Safety and Health at Work (EU-OSHA)
- SAICM conference in Nairobi/Kenya (United Nations Environmental programme UNEP). Lecture and booth. SUBSPORT was presented on an international level with representatives from over 150 countries plus ICCA, WHO, OECD, Pesticide Action Network etc.
- Workshop on analysing alternatives and socio-economic impacts in applications for authorisation – European Chemicals Agency (ECHA)
- Zero Discharge of Hazardous Chemicals initiative - stakeholder summit – substitution initiative by the textiles industry
- Substitution under REACH – authorisation procedure or substitution – BAUA

SUBSPORT was invited and participates in all relevant substitution related networks and initiatives. The Organisation for Economic Co-operation and Development (OECD) established an adhoc group on the substitution of harmful chemicals, in which SUBSPORT is represented and which will among others set up a tool box including the SUBSPORT portal.

SUBSPORT has become an internationally acknowledged stakeholder and the portal is linked as useful information source from all relevant websites and publications dealing with substitution, REACH or alternatives assessment (see annex 20).

Companies and users appreciate SUBSPORT as useful information source and started to proactively offer case story information for publication in the case story database after the database was launched. The portal is linked from over 80 websites and publications ranging from international organisations and EU bodies to authorities, universities, companies and NGOs. The training sessions were attended among others by many SME representatives. This illustrates that the objective of address a broad international audience was achieved.

- Conclusions: Results achieved are in line with the ones planned for action 17, in the reporting period.

Task 18	Foreseen	Achieved
After LIFE communication plan	<p>Communicating and promoting the substitution portal in further projects of the network partners and in training activities.</p> <p>Promotion of substitution portal on trade fairs, presentations, materials of the network partners (flyers, web pages etc.)</p> <p>Further activities may be carried out and will be requested by the project team from the future owner(s) of the web portal</p>	
<p>Comments:</p> <p>The SUBSPORT website and newsletter will be maintained for at least five years. All partners will continue to promote SUBSPORT, mention it in presentations, networks etc. Substitution and alternatives assessment networks will continue to use and promote SUBSPORT.</p> <p>Future activities and publications on substitution will also refer to SUBSPORT and in this way promote SUBSPORT, e.g. further training sessions or further extension projects (translations, specific sector projects, specific chemical groups)</p> <p>National and international authorities are involved into the continuation planning. The transfer of knowledge might be extended to other continents.</p> <p>SUBSPORT networking was planned to include as many the stakeholders as possible. The forum is opened and might develop towards a useful communication platform for substitution discussions</p>		

5.3 List of Deliverables:

Deliverable	Foreseen due date	Transmission date
Expert Committee installed	02/ 2010	02/ 2010
Life notice board	03/ 2010	07/ 2010
Portal structure programmed	06/ 2010	02/ 2010
General information on SUBSPORT website	06/ 2010	06/ 2010
Legislative items described	06/ 2010	09/ 2010
Case story database (first launch)	12/2010	05/ 2012
Specific case studies (first launch)	06/2011	05/2012
Alternatives assessment and substitution tools (first launch)	06/ 2011	06/ 2011
Exchange forum online and working	07/ 2012	02/ 2013
Training guidance on substitution and alternatives assessment developed in English	07/2011	06/2011
English “master version” of the web portal finalised	12/2011	11/2011
Training sessions on substitution and alternatives assessment completed	03/2012	12/2012
Dissemination – Folder	06/2012	05/2012
Continuation plan	06/2012	Continuous
Dissemination - Fairs	12/2012	05/2012
Reporting		
Inception report	30/09/2010	30/09/2010
Mid-term report	30/06/2011	31/10/2011, postponement agreed with LIFE unit
Progress report	30/06/2012	Not necessary as agreed with LIFE unit
Final report	Originally: 31/03/2013, after prolongation: 30/06/2013	23/08/2013, postponement agreed with LIFE unit
Laymen report	See final report	

5.4 List of Milestones:

Milestones (most of them were stated as deliverables)	Foreseen due date	Achieved date
Project management – Expert Committee installed. (Name changed, originally "steering group").	02/2010	15.06.2010
1st Expert Committee meeting (discussion of general portal structure and content)	04/2010	07.09.2010
2nd Expert Committee meeting (discussion of quality management, general information, concepts for data bases and related issues and tools etc.)	spring 2011 (originally 09/2010)	28.06.2011
Life notice boards (= poster) initially provided, update continuously	03/2010	06/2010
Portal Structure programmed	06/2010	10/2010
Content developed / General Information	06/2010	07/2010
Content developed / Legal information on substitution	06/2010	10/2010
Content development (web-site)	12/2010	06/2011
Substitution tools section of portal (first launch)	06/2011	12/2010
Database general alternatives (technical)	12/2010	12/2010
Database specific substitution (first launch)	06/2011	06/2011 (internally) 24.05.2012 (publicly)
Content General alternatives database included (first launch/last updates included)	06/2011, 03/2013	24.05.2012
Content specific substitution data base included (later updates may be necessary)	07/2011, 02/2013	24.05.2012
Ready programmed and designed website	12/2010	06/2011
Exchange Fora online and working	11/2012 (orig. 07/2011)	10/2011.
3rd Expert Committee meeting (acceptance of the –English “master version” of the portal)	12/2011	05/2012
Training Guidance development in English	07/2012	10/2011
Training sessions completed	12/2012	11/2012
Training Guidance and Manual revised and Translated	08/2012	09/2012
Dissemination – Fairs	12/2012	5/2012

5.5 Evaluation of results.

5.5.1 Project implementation

The project implementation was fully achieved in March 2013 after a three months prolongation of the project. All actions were completed in line with the proposal, the deliverables were prepared and completed at this date.

SUBSPORT is now a well-structured information resource on hazardous substances and their alternatives, based on the most up-to-date data and practical examples. It covers legal, financial and technical aspects. Due to its structure it can be used not only by experts from science, government, larger enterprises or NGOs, but also by enterprises with limited knowledge in chemicals issues. It presents easy understandable case stories, to motivate such enterprises to a change.

The main elements of the information offer are: a comprehensive website and underlying database, 31 lists of restricted and priority substances, 330 published case stories, four languages (English, French; Spanish and German).

SUBSPORT partners conducted 18 national and international training sessions based on a multilingual modular training guidance, over 650 persons were trained.

The dissemination activities of SUBSPORT were very broad and exceeded massively the scope of the project proposal. SUBSPORT was presented at over 65 events (no quantity foreseen in the proposal), over 80 websites and reports link to SUBSPORT (50 were expected in the proposal). This shows that SUBSPORT met the existing needs for comprehensive and practical information. These needs became even stronger during the project period due to higher substitution demands from legislation, the status of the implementation of REACH process, which now is coming to a point, where restriction or ban of certain substances becomes a reality. There is also a growing demand for green products from consumers and also an approach from enterprises to fulfil these demands.

In this respect the SUBSPORT project was overdue, because many stakeholders required such an information portal, but found no organisation to create it. The still dominant approach of different institutions is to provide negative lists of hazardous substances, which are already a support for professionals in showing them which substances need attention.

SUBSPORT goes far beyond this approach and assists users in finding substitutes or alternatives. This unique approach and current position makes SUBSPORT world-wide known and probably the world leading portal on substitution.

5.5.2 Analysis of long-term Environmental benefits

SUBSPORT will help to reduce the production, use, emissions and wastes of hazardous substances. It may also contribute to reducing material and energy resources for treatment of hazardous emissions and wastes.

SUBSPORT addresses mainly substances of very high concern as defined by REACH: carcinogens, mutagens, reprotoxicants, (v)PBT and those of similar concern. SUBSPORT

addressed hazards like neurotoxicity, sensitisation and climate related hazards, that are not specified in REACH but are considered by SUBSPORT to be of equivalent concern. On long term this approach could also be adopted by EU legal provisions and authorities. One example is the endocrine disrupting hazard, addressed by SUBSPORT before endocrine disruptors were included in the ECHA Candidate list.

SUBSPORT results are relevant for the EU policy concerning the environment. The Roadmap to a Resource efficient Europe/2011 provides that efforts should be made so that “by 2020, all relevant Substances of Very High Concern are placed on the REACH Candidate List” Also that “avoiding, wherever possible, the use of dangerous chemicals and promoting green chemistry can help protect key resources like soil and water” while “substituting dangerous chemicals with safer and technologically and economically viable alternatives”.

The effects of chemicals on the environment are generally difficult to determine, especially in quantitative form. This has several reasons:

- In order to allocate a particular effect in the environment to a specific substance, measurements of the concentrations in the environment or the organism would have to be performed; this is costly, and respective data (such as monitoring information on water) is only available for a limited number of chemicals.
- Chemicals are used by many actors and hence there are numerous emission sources. The effect of reducing the use of one substance by certain chemical users can only be determined if the overall environmental exposure is known.

In the context of development of the REACH legislation, several impact assessments were carried out to predict the effects of the legislation on business activities (costs) and human health and the environment (benefits). Only a small share of impact assessments attempted to quantify the benefits of REACH. A study commissioned by DG Environment analysed 13 impact assessment studies on environmental benefits of REACH. The exposure reduction by risk management measures and particularly the substitution of substances of very high concern is one of the core mechanisms to improve the state of the environment, according to the studies. The summary of the analysis is that all studies that assess the benefits from reduced chemicals exposure state that the baseline situation (state of the environment) is difficult to describe.

5.5.3 Analysis of long-term sustainability

According to several legislations a hierarchy of measures to protect the environment are foreseen. The elimination of hazardous chemical or substitution is always at the top of this hierarchy, because it is a measure to avoid problems from the scratch which is more effective and sustainable than end-of-pipe solutions. The approach is often called STOP (Substitution, Technological measures, Organisational measures, Personal protection).

Making informed decisions helps prevent bad choices of substitutes that are not safe enough or have significant knowledge gaps. SUBSPORT makes it easier and faster to screen potential alternatives and to keep only those that pass the set of criteria reducing costs and saving time. Substitution also directs funds to the source of the problem instead of investing in end-of –pipe solutions, which according to studies proved to be more beneficial in the long run in economical terms and as regards sustainability.

The avoidance of hazardous chemicals can be achieved by technological changes, different equipment, newly developed chemicals or other means.

As described in the chapter on environmental benefits, it is difficult to quantify the effects. SUBSPORT surely is a contribution to the use of less hazardous chemicals and to promoting sustainability, but for a higher impact extended measures on a global level would be necessary, like recommended in the “GCO Global Chemicals Outlook -Towards Sound Management of Chemicals - Report on Rio after 20 years”. Substitution is listed as general recommendations, “3. Regulate and reduce the use of chemicals of highest concern and substitute with safer alternatives.”

The use of hazardous chemicals is moving from the traditional industrial centres in Europe, the US or Japan to BRIC-Countries or developing countries. This global change has to be reflected in the languages of SUBSPORT, a global approach would be necessary. That means, if SUBSPORT can be a model for such an approach, global lists, more language versions, and case stories from these countries should be included.

Secondly, complementary to a global approach a more regional or even country specific approach is necessary to fulfil also national requirements and address national actors. The case stories can be extended in a way that substitution by environmental authorities can be enforced based on legally and technically convincing facts. For this purpose the information needs to be in line with national legislation requirements on specific region (e.g. EU) or country.

Long term sustainability can be achieved, if more and more countries use SUBSPORT-like information offers. A baseline monitoring compared with progress reports will then be necessary.

5.5.4 Analysis of replicability, demonstration, transferability, cooperation

SUBSPORT was planned in a way that its results could be adopted as models and guidance, replicated in practically any sector that needs substitution of chemicals, and transferable even to sectors that were outside the scope of the project (such as agricultural pesticides, which were not included in the current project).

Replication of SUBSPORT results is facilitated by the way the information is structured and presented. Methodologies can be used for any type of substitution. Case studies provide sufficient information to initiate replication at company level, with the needed adjustments.

SUBSPORT results can be used to demonstrate feasibility of substitution as primary prevention measure (also its limitations), possible methodological approaches, available tools and other means of support.

Substitution solutions presented in some cases can be transferred to other applications. SUBSPORT stresses the necessity to perform full assessments under actual implementation conditions.

Although SUBSPORT is a European project transferability in the geographic sense is facilitated, because it represents in practice, already a global approach. This is due to the

focus on multilingual internet based information and to the inclusion of cases from outside Europe from the supply chain (e.g. in the textile industry).

SUBSPORT has already inspired action inside and outside EU or Europe, because it provides practical support to general principles protecting health and environment that are included, in a way or another, in legislation worldwide.

5.5.5 Analysis of innovation

SUBSPORT is regarded globally as a unique information source. It gathered information that otherwise is spread between many information sources, that are often hard to relate and sometimes contain contradicting/confusing information even on basic data such as substance identification. Many case stories were hidden and not all available to the public, or contained incomplete information.

The overall development of SUBSPORT is based on simple principles, yet innovative, compared to other approaches:

- it makes information available in one place, in a structure that follows substitution steps
- it structures information for case studies on the scheme: what is substituted by what, in which application,
- it uses a terminology that is official, correlated with legislation (REACH) and whenever possible, codified (like EC/CAS numbers, NACE codes, etc)
- it helps searching high volume of data by putting it into databases.

SUBSPORT developed 3 databases that help to identify very fast hazardous substances and possible solutions.

The Priority and Restricted Substances Database puts together points of view of different stakeholders - authorities, NGOs, trade unions, industry – regarding substances that are or should be banned or restricted. This multi-stakeholder approach is an achievement of SUBSPORT as well as the great number of substances that it covers.

The Substance Database according to SUBSPORT Screening Criteria (SDSC) is included in the one mentioned before but it can also be used separately to pre-screen hazardous substances. It has an innovative approach to the definition of very hazardous substances in REACH, including hazards like neurotoxicity, sensitisation, endocrine disruption among those of equivalent concern. By this it prevents shifting the hazards from those specified to those not clearly specified by REACH, but are in the spirit of the law (as „equivalent concern“).

The methodologies for the development of the case stories databases (the general and the specific ones) provide a new approach based on clear criteria, specified reliable sources and focus on objective data.

The methodologies can be applied by SUBSPORT users in combinations with the tools and databases provided.

6 ANNEXES

Annex 1	List of Expert Committee Members
Annex 2	DVD with SUBSPORT website, only added to printed versions of this final report.
Annex 3	Screenshot of case story database
Annex 4	Screenshot of forum
Annex 5	Alternatives identification and assessment training guidance in English (French, German and Spanish versions as well as the annexes to the guidance (66 pages) are available on request)
Annex 6	List of alternatives identification and assessment training sessions
Annex 7	Folder in English, German, Spanish and Turkish
Annex 8	List of events where SUBSPORT was presented
Annex 9	Layman's report brochure in English and German (Spanish version is available on request)
Annex 10	Poster in English (German and Spanish versions are available on request)
Annex 13	Article in Barents Newsletter (in English and Russian)
Annex 14	Article in Chem News (in German)
Annex 15	Master-to-do list
Annex 16	List of stakeholders
Annex 17	Quality management handbook
Annex 18	Example of a signature list of training participants (signature lists for other training sessions are available on request)
Annex 19	Example evaluation of feedback questionnaire from training session (feedback from other training sessions is available on request)
Annex 20	List of websites that link to SUBSPORT
Annex 21	Project presentation for LIFE audit on 3 June 2013
Annex 22	Web statistics
Annex 23	Output indicators - results
Annex 24	Report on one of the 10 specific substances as example (SUBSPORT specific substances alternatives assessment – formaldehyde). The other 9 reports are available on request and can be downloaded from the portal.

6.1 Deliverables

List of Expert Committee Members	Annex 1
LIFE notice board poster	Inception report
Portal structure	Mid-term report
General information on SUBSPORT website	Annex 2 (DVD with SUBSPORT website, only added to printed versions of this final report)
List of legislative items described	Mid-term report and annex 2
Case story database	Annex 3, annex 2 and annex 24
List of alternatives assessment and substitution tools	Mid-term report and annex 2
Forum (screenshot)	Annex 4 and annex 2
Alternatives identification and assessment	Annex 5

training guidance	
English master version of portal	Annex 2
List of alternatives identification and assessment training sessions	Annex 6
Dissemination folder	Annex 7
Dissemination – list of events where SUBSPORT was presented	Annex 8
Partnership agreements	Inception report

6.2 Dissemination material

SUBSPORT website	www.subsport.eu and annex 2 (DVD with SUBSPORT website, only added to printed versions of this final report)
Folder in English, German, Spanish and Turkish	Annex 7
Layman's report brochure	Annex 9
Poster	Annex 10
Article in Barents Newsletter (in English and Russian)	Annex 13
Article in Chem News (in German)	Annex 14

6.3 Output indicators (result)

The output indicators as defined in the inception report can be found in annex 23.

6.4 After-LIFE Communication Plan

The after-LIFE communication plan is reported under action 18.

6.5 Layman's report

The Layman's report was produced as electronic and printed versions in English, German and Spanish and can be found in annex 9.