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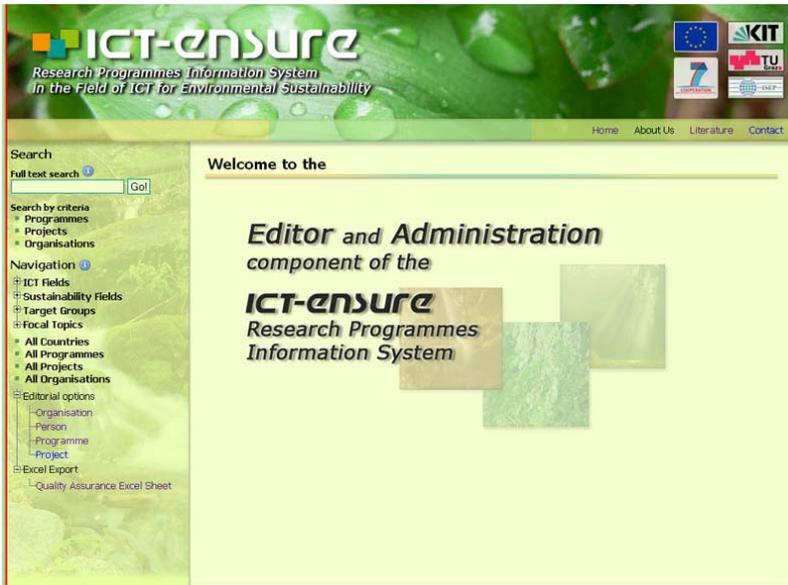
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# User Manual for the Authoring Component of the Research Programmes Information System

## Addendum 3 to Deliverable D9.3



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### Document History

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1.x		Several incremental updates
2	2010-04-27	Review TU Graz
3	2010-04-28	Document finalised



## Executive Summary

In Workpackage 9 of the ERA project ICT-ENSURE, a Research Programmes Information System has been developed. This web-based information system offers metadata on research programmes and projects of the EU Member States in the field of ICT for environmental sustainability. The metadata have been investigated by national experts and entered into the system by means of an authoring component. The data are presented to the user by means of a presentation component which offers various search and navigation facilities to the user.

The final Deliverable of WP 9, Deliverable D9.3, is the Research Programmes Information System itself which can be accessed via the internet address <http://is.ict-ensure.eu>. As a supplement to the information system itself, the system is being documented in three addenda to D9.3:

- Addendum 1 is devoted to the general concept and to the user interface of the system
- Addendum 2 contains the manual for the investigation of national research programmes
- Addendum 3 provides the user manual of the authoring component of the system

This report is the Addendum 3 of D9.3. This user manual for the authoring component of the Research Programmes Information Systems describes the general process of editing the information elements of the system. It explains some overall editorial features and goes into details about editing the various attributes and references of the different information elements. Furthermore, it describes tools and means for access control and for quality assurance of the data.

The user manual is given to the investigation experts for national research programmes and projects and to other authors of the information system in order to support them and to ensure a high efficiency at the gathering of information.





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# 1 Introduction

## 1.1 Purpose of this document

To establish a European Research Area in the field of ICT for environmental sustainability, the ICT-ENSURE project is carried out from May 2008 to April 2010. Within the framework of this project, funded by the 7th Research Framework Programme of the European Union (FP7), two web-based information systems are being developed to enhance the exchange of information on research programmes and research results in Europe: an information system on national research programmes in the field of ICT for environmental sustainability and a literature database with publications in this research field, in particular with publications of the EnviroInfo conferences.

In the European Union, most of the research programmes in the field of ICT for environmental sustainability are either funded by the European Commission or are national research programmes of the member states, including research programmes of regional bodies in the states. The research programmes funded by the European Commission generally are well documented on the Internet. Information can be accessed with the help of the CORDIS information system of the European Commission (<http://cordis.europa.eu/>).

In contrast to this, information on national and regional research programmes was available before ICT-ENSURE in a distributed manner only, if at all. A central information system or single entry point to this information did not exist. Often, the information was available in the respective country's language only. Consequently, it couldn't be used by interested persons, who do not speak this language. This resulted in a risk of double development of research results and prevented them from being broadly used.

The ICT-ENSURE Research Programmes Information System aims at offering meta-information on national research programmes and projects in the field of ICT for environmental sustainability in the Member States of the European Union on the Internet and making this information searchable. Moreover, a single entry point to detailed information on these programmes and projects shall be provided.

## 1.2 Scope of this document

This manual is addendum 3 to Deliverable D9.3, the ICT-ENSURE Research Programmes Information System, <http://is.ict-ensure.eu/>. It outlines the features of the authoring component and their handling which are used by the authors during the investigation process (Lutz et al., 2010).

The report will describe the distinction between programmes and projects, the general edit process and the detailed description of all elements and their attributes that can be entered into the system.

This user manual shall support the authors of the information system to insert or update programme and project metadata acquired during the investigation process which is supported by the guidelines in the Manual for Investigation (Lutz et al., 2010). An author in the context of this document is a person who is responsible for the metadata about some programmes or projects. The author must have a system account to be allowed to enter or modify data. The account can be made available by contacting [ict-ensure@iai.fzk.de](mailto:ict-ensure@iai.fzk.de).

This document is an addendum to Deliverable D9.3, the website of the information system (<http://is.ict-ensure.eu>).

As this manual is intended to be considered stand-alone for its purpose, there are some redundancies to other reports (e.g. distinction between programmes and projects or the list of research fields in the appendix), which are intentional.

## Layout remarks regarding Addendum 3 to Deliverable D9.3

The Manual for the Authoring Component is created using the  $\LaTeX$  document preparation system for the TeX typesetting application, which uses a markup language to define the document's structure. This system was chosen due to its typesetting features which enhance the readability on screen (as the manual is distributed electronically) because e.g. TeX is using ligatures. Throughout the development of the Research Programmes Information System, the used screenshot images are being updated to fit new versions and contain new features.

Using  $\LaTeX$ , those screenshots have to be replaced by updated versions on the file system only, and the automated document building process is integrating them into the resulting PDF file. This resulting PDF document is appended to the prologue template as is (except for its original title page and the already stated disclaimer) and uses a slightly different layout.

### 1.3 Related documents

The Research Programmes Information System has been developed on the basis of the requirements outlined in D9.1 (Lutz and Geiger, 2008). A first prototypic software implementation is described in D9.2 (Lutz et al. 2009). Further development and improvements are outlined in addendum 1 to D9.3 (Geiger et al., 2010) This manual has been created in close relation to the manual for investigation experts in the field of ICT for environmental sustainability (Lutz et al., 2010), which deals with the principles of the investigation of the metadata of research programmes and projects while this document rather aims at the input of the data.

## 2 Distinction between Programmes and Projects

A research programme is an instrument for supporting research and development activities in a special research field (here: in the field of ICT for environmental sustainability). In general a research programme is funded by a governmental institution (supranational, national or regional). Usually, the funding organisation is not performing the research activities itself, but other (research) institutions are charged with the research work or are funded. A research programme typically comprises several research projects.

In ICT-ENSURE, also large projects in the field of ICT for environmental sustainability shall also be collected. Such a project can be part of a research programme or it can be a large, independent project without being embedded in an explicit research programme.

There are only a few research programmes completely devoted to an ICT for environmental sustainability field (e.g. research programmes for environmental information systems or for environmental/climate modeling and simulation). More often the main focus of a programme is either an environmental sustainability field, with challenging ICT tools or techniques (e.g. more sophisticated than just using MS office tools), or an ICT field, with an environmental sustainability area as application field.

Examples of research programmes and projects are given in the prototype system of the ICT-ENSURE Research Programmes Information System (<http://is.ict-ensure.eu>).

## 3 General Process to Edit Information System Elements

The ICT-ENSURE Research Programmes Information System comprises the following information system elements: programmes, projects, organisations, persons, weblinks, contacts, addresses, and e-contacts. For details about these information system elements, see section 5. This section will describe the general process of editing these information system elements.

To activate the authoring component, a login process has to be passed. The login process can be started with the selection of the link at the bottom of the website (see figure 1).

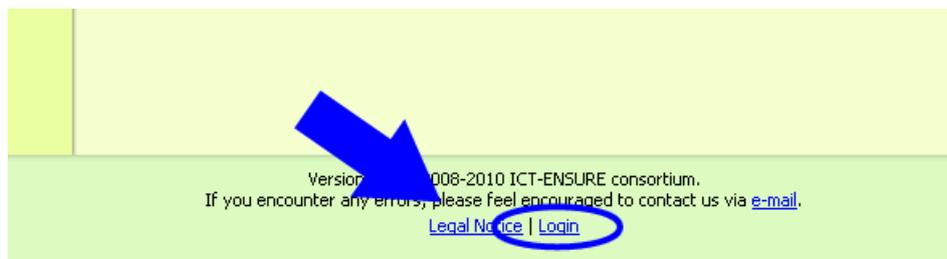


Figure 1: Link to start login process

After the login process was passed successfully, the title page of the Authoring Component is shown (see figure 2).

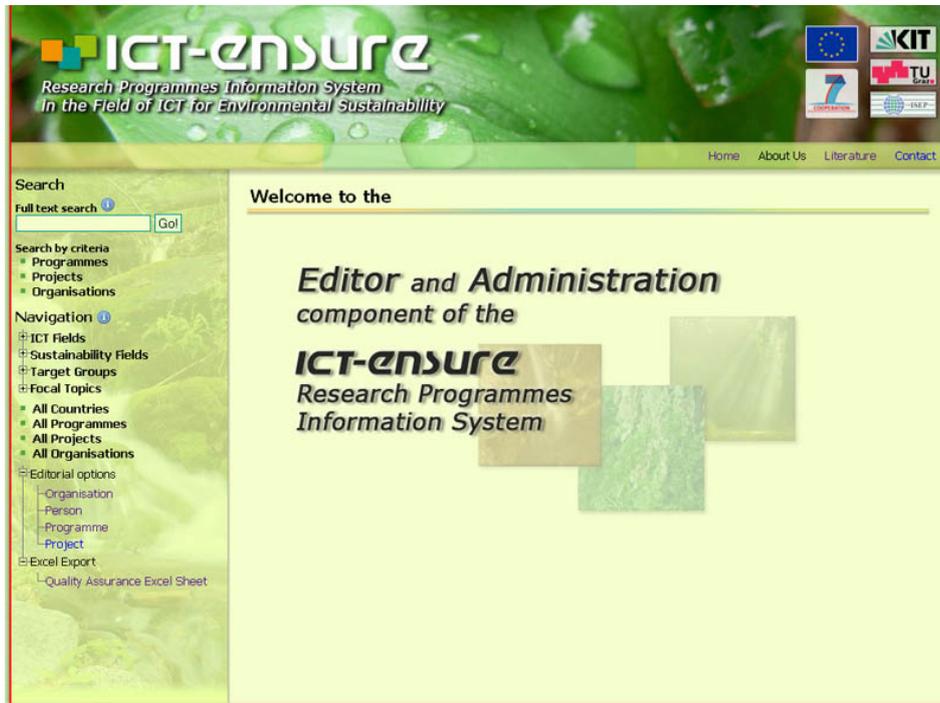


Figure 2: Title page of the Authoring Component, framed with red border

### 3.1 Creating New System Elements

After having successfully logged into the system, the information system's *Editor and Administration component* is displayed with a red border to indicate the authoring status. The following **editorial options** extend the navigation bar on the left side of the internet page with links to lists of editable elements (see Figure 3a):

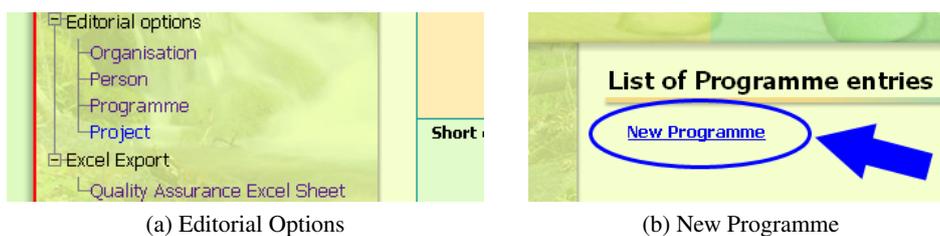


Figure 3: Editorial Options Menu and Link for Creation of a New Programme

- Organisations,
- Persons,
- Programmes, and
- Projects.

The selection of one of the links leads to the list of all element types, which have been created and are owned by the currently logged-in user as well as the ones created by other users that are accessible due to group membership. All other elements of the selected type are hidden to reduce the data amount displayed on the screen and to prevent the user from opening an element for modification without the required privileges which would result in an error message.

Each element list contains one element per row with optional links to show its data in detail (*details*) or to *edit* it. The element list is captured with the text “List of \*\*\* entries”.

To create a new element, the link “New \*\*\*” (e.g. “New Programme”, see Figure 3b) below the list capture can be selected. It creates a temporary element and opens the edit dialog (see Figure 4) for the selected element type. The element will be saved in the database, when the save button is pressed at the bottom of the edit dialog.



Figure 4: Authoring homepage with editorial options

The administration of all elements will be described in detail in the following sections.

## 4 Editorial Features

### 4.1 Working with the Inline Editor

The handling of the inline text editor *FCKeditor*<sup>1</sup> is similar to popular word processing software. Text formatting (e.g. **bold**, *italic*, underline) and paragraph orientation can be defined, as well as ordered and unordered lists. For further details, please check the official *User Guide* of the editor software ([http://docs.fckeditor.net/FCKeditor\\_2.x/Users\\_Guide](http://docs.fckeditor.net/FCKeditor_2.x/Users_Guide)).

### 4.2 Working with References (Links)

One of the most powerful features of the information system is the cross-referencing between several information system entries (e.g. link from a *programme* to *involved organisations*). The following sections describe the procedure to set these links using the authoring component.

For ordinary attributes like *names* or *abbreviations*, simple text fields are provided to enter this information. References can be established with special search and creation facilities. Those special search and creation facilities can be recognised by specific keywords below the name of the reference attribute: [Set] and [Add].

<sup>1</sup><http://www.fckeditor.net/>

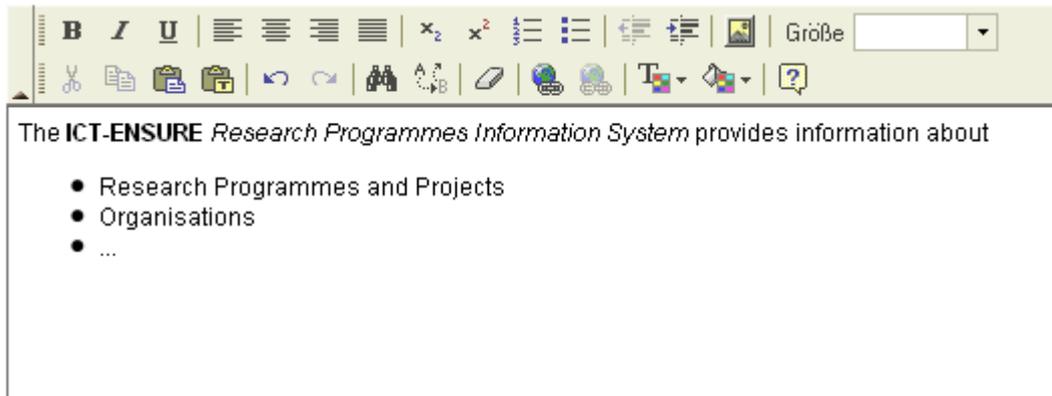


Figure 5: Example of the inline text editor *FCKeditor*

Figure 6 shows an example of such a reference field. Already added items can be removed (meaning the *reference to the created or edited object* will be removed, not the item itself!) or — if the currently logged-in user has the required privileges — edit the object in an overlay window. The *Add* or *Set* links to set references are shown on the left-hand side of a field below the field title.



Figure 6: Example for a multiple references field with three *weblink* entries

- **Set** means, that an existing entry can be referenced, or, if the entry in question is not yet available, eventually a new one can be created. An overlay window will be opened and present a form to search for an entry (see section 4.2.1).
- **Add** means, that *multiple* existing entries can be referenced, or, if one or more entries in question are not yet available, eventually new ones can be created. Similar to *Set*, this process will open an overlay window with a search form.

Figure 7 features an example for each reference control link. In some special cases, if there is just a limited, discrete amount of possible result values, instead of a search form a selection list will be displayed immediately in *Set* and *Add* overlay windows. The handling of such result lists are equal to the result lists generated after a search process.

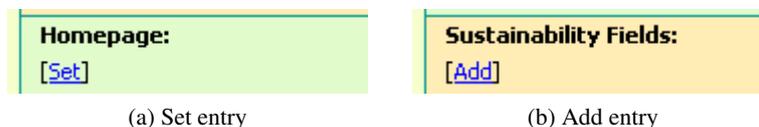


Figure 7: Controls to establish references between different entries

If the user has the required privileges, the search forms and result lists generated in the *Set* and *Add* overlay windows include a link to create new entries.

#### 4.2.1 Working with Overlay Forms

Depending on the type of the reference, a form will be displayed in an overlay layer. By pressing *New*, the user can enter the information for a *new information system entry* as shown in Figure 8a.

After pressing *OK*, the entry will be created on the server and added to the list of references of the entry the overlay form was called from. By pressing *Add* or *Set*, a *search form* will be presented as shown in Figure 8b. By entering criteria, the



Figure 8: Example of overlays for forms to create or search entries

user can search for *an existing information system entry* that can be referenced by this entry. After pressing *Search*, the search will be performed and a result list will be displayed in the overlay window.

As stated in section 4.2, in some special cases of *Set* and *Add* links, the result list will be generated instantaneously. The handling of these result lists will be described below.

#### 4.2.1.1 Search Result Lists for Single References

If the reference is a single reference (*Set* link), a result list as shown in Figure 9a will be displayed. To set the reference to the object that is edited or created, the user simply has to press a [*Set*] link. The [*Set*] control will disappear, and the reference is set in the background. By pressing another [*Set*]-link afterwards, the current reference will be removed and its entry in the result list regains the [*Set*]-link.

Figure 9a shows an example for a country selection, where *Germany* was set as *Responsible Country*. After closing the window, the reference is visible in the reference field of the form (see section 4.2).

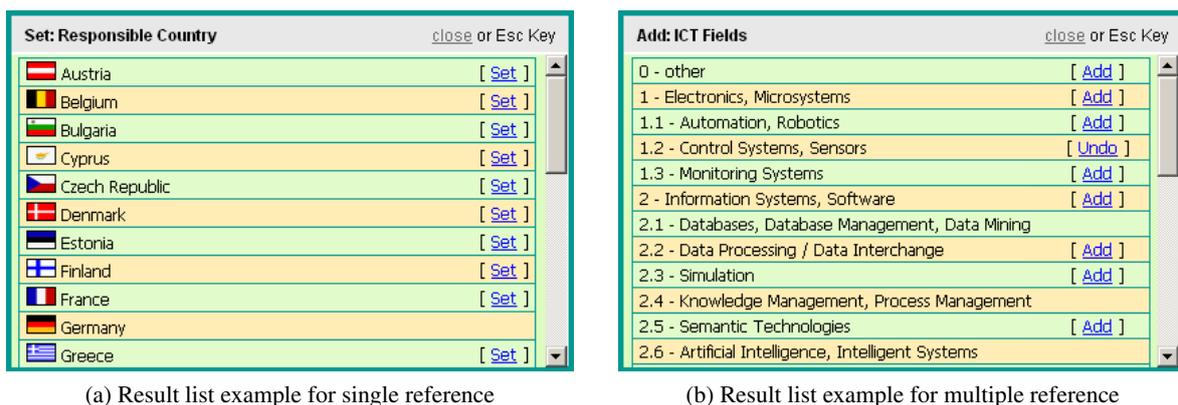


Figure 9: Example of overlays for forms to create or search entries

#### 4.2.1.2 Search Result Lists for Multiple References

If the reference is a multiple reference (*Add* link), a result list as shown in Figure 9b will be displayed. To add a reference to the reference list of the object that is edited or created, the user simply has to press a [*Add*] link. The [*Add*] control will change into an [*Undo*] link. This *Undo* feature enables a user to remove an already added reference without closing the overlay window first. Figure 9b shows an example for a list of *ICT-Fields*. The items without an *Add* or *Undo* control

are the items that are already linked before the overlay window was opened. If all intended references were added, the user can close the overlay window and the reference is visible in the reference field of the form (see section 4.2).

#### 4.2.1.3 Unsuccessful search: Create new Entries in Overlay Windows

If the search for an entry to link with the object that is currently being created or edited is unsuccessful, there are two possibilities. Either the search terms were not detailed enough to find the correct item, or the item in question doesn't exist in the database of the information system. If the entry is not yet in the database of the information system, it can be created inside the overlay window by using the links shown in Figure 10. These links are only present, if the current user has sufficient privileges. For the meaning of the attributes of the several object types see section 5.

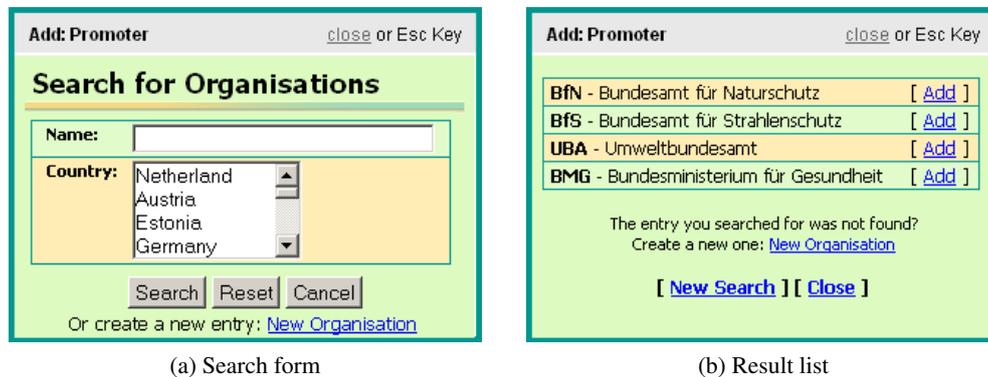


Figure 10: Example of overlays with a link to create a new information system object

## 5 Attributes and References of the System Elements

The following sections describe the attributes of the different information system objects. Mandatory attributes are underlined and coloured red.

### 5.1 Programmes

A programme has one of the following states: *temporary* or *existing*. A temporary programme is represented only by the data inserted in the template, without being created in the database. To create the programme, the *save* button at the bottom of the template has to be pressed. Then the status *existing* is assigned to the programme and it can be reloaded and re-edited as often as desired.

The programme element is characterised by several attributes and by references to other elements. Some of them are mandatory for the identification of the programme, some are optional, because this information is not available and some are necessary to reach a representative amount of programme metadata to ensure a high level of data quality and quantity. The following programme attributes and references (links) are offered for editing:

- **Programme Name**: the English name of the programme, any text can be inserted here (**mandatory**)
- **Programme Name (local language)**: the name of the programme in its native language, any text can be inserted here. This field is intended to offer an existing local name. If the programme name is only available in English, the insertion can be omitted.
- **Abbreviation**: the acronym of the programme (optional, but highly recommended).
- **Status**: the status of the programme. If not all information is completed use *stub*, else *completed*. Incomplete programmes (*stubs*) are listed gray in the listings of the *Editor and Administration Component*. If a programme status is marked to be a stub, the author intends to complete the data afterwards.
- **Promotion Amount**: the promotion amount in € (optional).



- **Abstract:** any text can be inserted here using the inline-editor (**mandatory**). Generally the abstract text must be provided in English. A version in the local language may be appended after the English version. Alternatively, the short description field can be used for the native language version. For more details about the usage of the editor, see section 4.1.
- **Short Description:** any text can be inserted here using the inline-editor. For more details about the usage of the editor, see section 4.1.
- **Continuative Links:** links to websites or documents about the programme (URLs). For more details about working with references see section 4.2, for more information on weblinks see section 5.5.
- **Contact Persons:** contact persons of the programme (**mandatory**). At least one contact person must be referenced. For more details about working with references see section 4.2, for more information on persons, see section 5.4.
- **Promoter:** promoters (organisations) of the programme (**mandatory**). At least one organisation exists which is financing the programme. For more details about working with references see section 4.2, for more information on organisations, see section 5.3.
- **Homepage:** link to the programme's Internet homepage (**mandatory**). The referencing of the homepage is mandatory to provide the Internet user with detailed information about the programme. For more details about working with references see section 4.2, for more information on weblinks, see section 5.5.
- **Promotion Period:** the start and end dates for the promotion period. There are programmes which are promoted during a given period which may sometimes be longer or shorter than the official period for the implementation of the programme. If there is no information available about the promotion period, the same data as the venture period shall be used.
- **Venture Period:** the start and end dates for the implementation period of the programme. The promotion period may sometimes be longer or shorter than the official period for the implementation of the programme. To ease the selection, the period dates of the promotion period can be copied to the venture period and vice-versa.
- **Responsible Country:** the country which is responsible for the programme (**mandatory**). Most often, the country to be set is the same as the country which hosts the promoting organisation(s) or the country – or one of its organisations. It is chosen to be responsible for the implementation of the programme. For more details about working with references, see section 4.2. The banner of the responsible country will be shown in listings (e.g. search results) in the public frontend.
- **Involved Countries:** countries which — or whose organisations — are involved in the implementation of the programme (**mandatory**). For more details about working with references, see section 4.2.
- **National or International:** selection to define if this project is either a national or an international research programme (**mandatory**).
- **Involved Organisations:** the organisations which are involved in the programme (**mandatory**). There is at least one organisation which works on the programme. For more details about working with references see section 4.2, for more information on organisations, see section 5.3.
- **Managing Organisation:** the organisation which manages the programme (**mandatory**). For more details about working with references see section 4.2, for more information on organisations, see section 5.3.

At least one of the following three attributes, **ICT Fields**, **Sustainability Fields**, and **Target Groups** is **mandatory**. Nevertheless all three attributes as listed in appendix A should be assigned to characterise the programme in the most detailed way.

- **ICT Fields:** add or remove ICT Fields which characterise the programme. The ICT Fields can be selected from a given list. Either the specification of ICT Fields or Sustainability Fields or Target Groups is mandatory to ensure a clear categorisation of the programmes. To ease the selection and insertion process for the ICT Fields of a subordinate project, the fields can be selected from a list of all ICT Fields that were already selected for the superordinate programme. For more details about working with references, see section 4.2, for a complete list of all ICT Fields see appendix A.1.
- **Sustainability Fields:** add or remove Sustainability Fields which characterise the programme. The Sustainability Fields can be selected from a given list. Either the specification of ICT Fields or Sustainability Fields or Target Groups is mandatory to ensure a clear categorisation of the programmes. To ease the selection and insertion process for the Sustainability Fields of a subordinate project, the fields can be selected from a list of all Sustainability Fields that were already selected for the superordinate programme. For more details about working with references, see section 4.2, see section 4.2, for a complete list of all Sustainability Fields see appendix A.2.
- **Target Groups:** add or remove Target Groups which characterise the programme. The Target Groups can be selected from a given list. Either the specification of ICT Fields or Sustainability Fields or Target Groups is mandatory to

ensure a clear categorisation of the programmes. To ease the selection and insertion process for the Target Groups of a subordinate project, the Target Groups can be selected from a list of all Target Groups that were already selected for the superordinate programme. For more details about working with references, see section 4.2, for a complete list of all Target Groups see appendix A.3.

- **Related Programmes:** related programmes (if available). A related programme is a programme, that has a topic or scope in common with the current programme. For more details about working with references, see section 4.2.
- **Related Projects:** related projects (if available). A related project is a project, that has a topic or scope in common with the current programme. For more details about working with references, see section 4.2.
- **Superordinate Programme:** the superordinate programme (if available). A programme may have a superordinate programme. This means, that the currently edited programme is a part of the superordinate programme. For more details about working with references, see section 4.2.
- **Subordinate Programmes:** subordinate programmes (if present). A programme may have subordinate programmes. For more details about working with references, see section 4.2.
- **Subordinate Projects:** subordinated projects (if present). A programme mostly has subordinate projects. For more details about working with references, see section 4.2, for more information about projects, see section 5.2.
- **Additional Information:** in this field additional information about this programme shall be entered that didn't fit for the other attributes.

## 5.2 Projects

A project has one of the following states: *temporary* or *existing*. A temporary project is represented only by the data inserted in the template, without being created in the database. To create the project, the *save* button at the bottom of the template has to be pressed. Then the status *existing* is assigned to the project and it can be reloaded and re-edited as often as desired.

The project element is characterised by several attributes and by references to other elements. Some of them are mandatory for the identification of the project, some are optional, because this information is not available and some are necessary to reach a representative amount of project metadata to ensure a high level of data quality and quantity. The following project attributes and references (links) are offered for editing:

- **Project Name:** the english name of the project, any text can be inserted here (**mandatory**)
- **Project Name (local language):** the name of the project in its native language, any text can be inserted here. This field is intended to offer an existing local name. If the project name is only available in English, the insertion can be omitted.
- **Abbreviation:** the acronym of the project (optional, but highly recommended).
- **Status:** the status of the project. If not all information is completed use *stub*, else *completed*. Incomplete projects (*stubs*) are listed gray in the listings of the *Editor and Administration Component*. If a project status is marked to be a stub, the author intends to complete the data afterwards.
- **Promotion Amount:** the promotion amount in € (optional).
- **Parent Programme:** set or remove a superordinate programme (if available). A project may have one parent programme. This means that the currently edited programme is a part of the superordinate programme. For more details about working with references, see section 4.2.
- **Abstract:** any text can be inserted here using the inline-editor (**mandatory**). Generally the abstract text must be provided in English. A version in the local language may be appended after the English version. Alternatively, the short description field can be used for the native language version. For more details about the usage of the editor, see section 4.1.
- **Short Description:** any text can be inserted here using the inline-editor. For more details about the usage of the editor, see section 4.1.
- **Continuative Links:** links to websites or documents about the project (URLs). For more details about working with references see section 4.2, for more information on weblinks see section 5.5.
- **Contact Persons:** contact persons of the project (**mandatory**). At least one contact person must be referenced. For more details about working with references see section 4.2, for more information on persons, see section 5.4.
- **Promoter:** promoters (organisations) of the project (**mandatory**). At least one organisation exists which is financing the project. For more details about working with references see section 4.2, for more information on organisations, see section 5.3.



- **Homepage:** link to the project's Internet homepage (**mandatory**). The referencing of the homepage is mandatory to provide the Internet user with detailed information about the project. For more details about working with references see section 4.2, for more information on weblinks, see section 5.5.
- **Promotion Period:** the start and end dates for the promotion period. There are projects which are promoted during a given period which may sometimes be longer or shorter than the official period for the implementation of the project. If there is no information available about the promotion period, the same data as the venture period shall be used.
- **Venture Period:** the start and end dates for the implementation period of the project. The promotion period may sometimes be longer or shorter than the official period for the implementation of the project. To ease the selection, the period dates of the promotion period can be copied to the venture period and vice-versa.
- **Responsible Country:** the country which is responsible for the project (**mandatory**). Most often, the country to be set is the same as the country which hosts the promoting organisation(s) or the country – or one of its organisations. It is chosen to be responsible for the implementation of the project. For more details about working with references, see section 4.2. The banner of the responsible country will be shown in listings (e.g. search results) in the public frontend.
- **Involved Countries:** countries which — or whose organisations — are involved in the implementation of the project (**mandatory**). For more details about working with references, see section 4.2.
- **National or International:** selection to define if this project is either a national or an international research project (**mandatory**).
- **Involved Organisations:** the organisations which are involved in the project (**mandatory**). There is at least one organisation which works on the project. For more details about working with references see section 4.2, for more information on organisations, see section 5.3.
- **Managing Organisation:** the organisation which manages the project (**mandatory**). For more details about working with references see section 4.2, for more information on organisations, see section 5.3.

At least one of the following three attributes, **ICT Fields**, **Sustainability Fields**, and **Target Groups** is **mandatory**. Nevertheless all three attributes as listed in appendix A should be assigned to characterise the project in the most detailed way.

- **ICT Fields:** add or remove ICT Fields which characterise the project. The ICT Fields can be selected from a given list. Either the specification of ICT Fields or Sustainability Fields or Target Groups is mandatory to ensure a clear categorisation of the projects. To ease the selection and insertion process for the ICT Fields of a subordinate project, the fields can be selected from a list of all ICT Fields that were already selected for the superordinate project or programme. For more details about working with references, see section 4.2, for a complete list of all ICT Fields see appendix A.1.
- **Sustainability Fields:** add or remove Sustainability Fields which characterise the project. The Sustainability Fields can be selected from a given list. Either the specification of ICT Fields or Sustainability Fields or Target Groups is mandatory to ensure a clear categorisation of the projects. To ease the selection and insertion process for the Sustainability Fields of a subordinate project, the fields can be selected from a list of all Sustainability Fields that were already selected for the superordinate project or programme. For more details about working with references, see section 4.2, see section 4.2, for a complete list of all Sustainability Fields see appendix A.2.
- **Target Groups:** add or remove Target Groups which characterise the project. The Target Groups can be selected from a given list. Either the specification of ICT Fields or Sustainability Fields or Target Groups is mandatory to ensure a clear categorisation of the projects. To ease the selection and insertion process for the Target Groups of a subordinate project, the Target Groups can be selected from a list of all Target Groups that were already selected for the superordinate project or programme. For more details about working with references, see section 4.2, for a complete list of all Target Groups see appendix A.3.
- **Related Programmes:** related programmes (if available). A related programme is a programme, that has a topic or scope in common with the current project. For more details about working with references, see section 4.2.
- **Related Projects:** related projects (if available). A related project is a project, that has a topic or scope in common with the current project. For more details about working with references, see section 4.2.
- **Additional Information:** in this field additional information about this project shall be entered that didn't fit for the other attributes.

### 5.3 Organisations

- **Name:** The name of the organisation in English (**mandatory**).

- **Name (local language):** The name of the organisation in its native language. This attribute is not mandatory but recommended.
- **Abbreviation:** The abbreviation of the organisation. This attribute is not mandatory but highly recommended.
- **Homepage:** Reference to a weblink entry which represents the homepage of the organisation (**mandatory**). For the handling of this reference see section 4.2. For the description of weblink attributes see section 5.5.
- **Contact:** Reference to a contact entry which represents the postal and electronic contact data (**mandatory**). This attribute is mandatory if no homepage is available. For the handling of this reference see section 4.2. For the description of weblink attributes see section 5.6.
- **Country:** Reference to the country where the organisation is located (**mandatory**).
- **Type:** The type of this organisation. Defines whether this organisation is either *national* or *international* (**mandatory**).
- **Superordinate Organisation:** Reference to another organisation which is superordinate to this organisation. This is only required for organisations in a hierachical structure. For the handling of this reference see section 4.2.
- **Subordinate Organisation:** Reference to another organisation which is subordinate to this organisation. This is only required for organisations in a hierachical structure. For the handling of this reference see section 4.2.
- **Additional Information:** In this field additional information about this organisation shall be entered that didn't fit for the other attributes.

## 5.4 Persons

### Important note:

If data of persons are recorded, these persons have to be notified due to privacy policy. Please use the e-mail template provided with the *Manual for the Investigation of National Research Programmes in the Field of ICT for Environmental Sustainability* as base for the notification mail. As soon as the information system managers receive the copy of the notification mail (please use the CC field of the e-mail to send a copy to [ict-ensure@iai.fzk.de](mailto:ict-ensure@iai.fzk.de)) they will unlock the person entry to be publicly available.

To ease the notification process, the personal data to be sent with the notification e-mail can be obtained directly from the information system. Go to the **Editorial options** menu as shown in figure 11a and use the **Show personal information** link for the person to be notified shown in the resulting list (see figure 11b). **The user should select and copy the entire information text as shown in the overlay window depicted in figure 12 directly into the template for the notification mail mentioned above.**

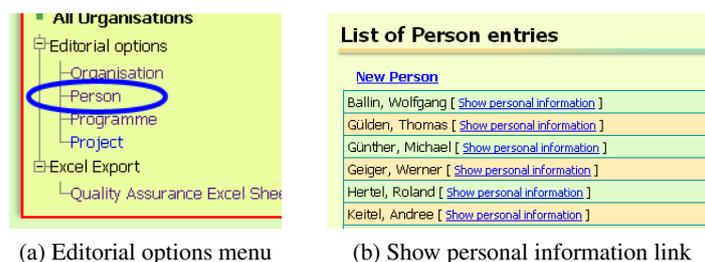


Figure 11: Obtain personal data for notification mail from the information system

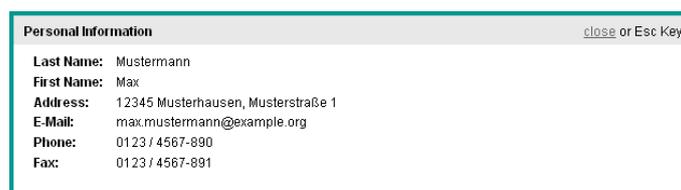


Figure 12: Example for personal data attributes for notification e-mail

Please be also aware of the fact that notified persons **cannot** access the authoring component! Due to that, please **never** include a link of the authoring component in the notification mail. The authoring component can be identified by the `admin` pattern in the URL in the address bar of the web browser or the red border around the layout of the system (see title page of this document). The user can return from the authoring component to the public frontend by logging out or simply clicking on the *ICT-ENSURE* logo in the header.

- **Name:** The last name of the person (**mandatory**).
- **First Name:** The first name of the person (**mandatory**).
- **Title:** The title of the person.
- **Homepage:** Reference to a weblink entry which represents the homepage of the person. For the handling of this reference see section 4.2. For the description of weblink attributes see section 5.5.
- **Contact:** Reference to a contact entry which represents the postal and electronic contact data (**mandatory**). At least the specification of the person's e-mail address is mandatory (e-Contact, see below). If no e-mail address can be identified, the telephone number or the postal address of the person must be specified. For the description of address attributes see section 5.7. For the handling of this reference see section 4.2. For the description of weblink attributes see section 5.6.
- **Function:** The position/area of responsibility of the person.
- **Additional Information:** In this field additional information about this person shall be entered that didn't fit for the other attributes.

## 5.5 Weblinks

- **Web-Address (URL):** URL of this weblink (**mandatory**).
- **Shown text (label):** Text that will be displayed as link text (**mandatory**).
- **Description:** Further description of this link. Information is currently not displayed to the public, but additional information can be entered if available.
- **Target:** Target window of this link. The user can select if this link should either be opened in a new window or be displayed in the same one (**mandatory**).

## 5.6 Contacts

A contact entry consists of an address and an e-contact. **At least one of them must be set.**

- **Address:** Reference to an address entry which represents the postal address. For the handling of this reference see section 4.2. For the description of address attributes see section 5.7.
- **e-Contact:** Reference to an electronic contact entry which represents the electronic contact data. For the handling of this reference see section 4.2. For the description of e-Contact attributes see section 5.8.

## 5.7 Addresses

- **ZIP code:** The ZIP code of this address (**mandatory**).
- **City:** The name of the city of this address (**mandatory**).
- **Street or Postbox:** The street or postbox information of this address (**mandatory**).
- **Country:** The country that belongs to this address (**mandatory**).

## 5.8 e-Contacts

At least one of the following attributes should be used.

- **Phone:** The phone number. The number is treated as text, i.e. no particular format is given. If possible, specify the leading international phone numbers with "+".
- **Fax:** The fax number. The number is treated as text, i.e. no particular format is given.
- **E-Mail:** The email address (**mandatory**).

## 6 Change of the Personal Password

The initial password that is a random combination of characters and digits that the user received with the registration email can be changed by using the `Change Password` link that appears at the bottom of the page when the has logged in (see Figure 13).

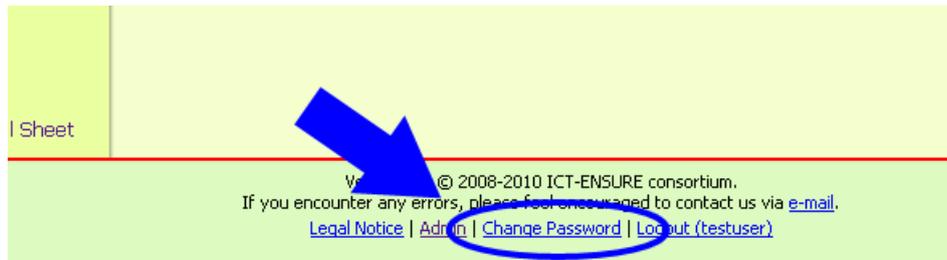


Figure 13: Link to change password

The user can change the personal password by entering the current password in the first field and the new password in the second field. To avoid typing errors, the new password has to be confirmed (re-entered) in the third field.

### Please note:

- The new password **must be** at least 8 characters long and **must contain** at least 2 digits or special characters!
- The system **will not** store passwords in plain text! The password will be one-way encrypted and can not be recovered. The stored information can only be used to verify the entered password during login process (see section 3).

## 7 Excel Document for Quality Assurance

The *ICT-ENSURE Research Programmes Information System* is capable to generate a Microsoft Excel™ spreadsheet with information about the data that was entered for programmes, projects, organisations, and persons.

The Excel™ document indicates whether the quantity of the entered data is sufficient to be considered as completed according to the requirements set by the ICT-ENSURE consortium (see sections 5.1, 5.2, and 5). The semantic quality of the data is not determined automatically by the system. This can only be ensured by the authors and/or the programme and project managers, respectively.

The document can be obtained with latest data contents via the authoring component by using the link *Quality Assurance Excel Sheet* on the bottom of the left-hand side menu of the *Authoring Component* (see figure 14).



Figure 14: Link to Download the Quality Assurance Excel Document

The Excel™ spreadsheet lists all programmes, projects, organisations, and persons and most of their attributes that were created by the author in a tabular manner.

Mandatory attributes that are not set are marked with a red *missing* entry. Attributes that are of great interest, but sometimes not available or not necessary, are marked with a blue *missing* entry, if they are not set. Further information about the contents of the Excel™ file is included in the spreadsheet.

## 8 Software Updates and Maintenance

The software of the information system is being updated when new features and/or improvements are available. This may result in some minutes of non-availability of the system during the update process. In this timeframe a software update information screen (see figure 15) will be displayed instead.

Scheduled updates will be announced via e-mail. Urgent fixes will be installed immediately if no *Authoring Component* session is active.

**The ICT-ENSURE Research Programmes and Literature  
Information Systems are currently being updated.**

**Please try again in a few minutes.**

Figure 15: Information Screen for Software Update

## 9 Acknowledgements

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## 10 References

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# Appendix

## A Description of the Research Fields for the Investigation of Research Programmes

The subject area of the research programmes shall be categorised systematically and consistent within the survey of the national research programmes and for the research programmes information system of *ICT-ENSURE*. To achieve that, a systematic classification of the entire research area “ICT for environmental sustainability” is required. Three attributes have been identified for the characterisation of the subject area of the research programmes and the classification of the research area.

- ICT technology area (ICT Fields)
- Environmental sustainability area (Sustainability Fields)
- Target Groups

For each of this categorising attributes there is a pre-defined catalogue of possible values. For an accurate characterisation of the research programmes, multiple values of the catalogues can be selected.

### A.1 ICT Fields

ICT Fields characterise research programmes according to the utilised ICT methods, tools and techniques used to improve the environmental sustainability. The *ICT technological areas* of the *IST ERA Taxonomy* were the base for the classification<sup>2</sup>. This taxonomy was extended by some categories that are especially important for the research area *ICT for environmental sustainability* (marked *italic*). Some categories that were not important or didn't fit in this research area were removed. The numbering of the *ICT-ENSURE* categories differs to the numbering of the *IST ERA Taxonomy*, but the category labels are identical. The numbering can be mapped unambiguously.

No	Field Title	Remarks
1	Electronics, Microsystems	
1.1	Automation, Robotics	
1.2	Control Systems, Sensors	
1.3	<i>Monitoring Systems</i>	
2	Information Systems, Software	Incl. ICT for Env. Information Systems, Information Management
2.1	Databases, Database Management, Data Mining	
2.2	Data Processing / Data Interchange	
2.3	Simulation	Incl. Modelling
2.4	Knowledge Management, Process Management	
2.5	Semantic Technologies	Incl. Semantic Web
2.6	Artificial Intelligence, Intelligent Systems	Incl. Cognitive Systems, Decision Support Systems, Expert Systems Agent Systems
2.7	User Interfaces, Usability	Incl. Personalisation of Information, Ergonomics, Barrier-free Access
2.8	Advanced Systems Architecture	
3	Media and Content	Incl. ICT for eLearning
3.1	Publishing, Digital Content	Incl. Access to Information
3.2	Information Filtering, Semantics, Statistics	
3.3	Visualisation, Virtual Reality	Incl. Multimedia
3.4	<i>Spatial Information, Location-Based Content</i>	Geographic Information Systems (GIS), Geocomputing
4	Communication Technology, Networks, Distributed Systems	

<sup>2</sup>Source: [http://www.cistrana.org/files/cistrana\\_taxonomy\\_revision\\_2.pdf](http://www.cistrana.org/files/cistrana_taxonomy_revision_2.pdf), Revision of June 2008. Document currently (October 2009) not available on the Internet.

4.1	Audiovisual Equipment and Communication Technology	
4.2	Broadband Technologies	
4.3	Internet Services, Web Services, Service Architectures	Incl. Interoperability, SOA
4.4	Mobile Communications	Incl. Mobile Systems, Internet of Things
4.5	Network Technology, Network Security	Incl. Internet, Web
4.6	Grid Computing	Incl. Cloud Computing
4.7	Satellite Technology / Systems / Positioning / Communication	
4.8	Ubiquitous Computing, Pervasive Computing	
4.9	Computer-Supported Cooperation, Portal Technologies	Incl. Web 2.0, Social Web, CSCW

## A.2 Sustainability Fields

Sustainability Fields characterise research programmes and projects according to their involved environmental sustainability area or to the sustainability of the environmental realm that the research programmes and projects are about.

Besides the scope of *Environmental Sustainability* in general, three superordinate scopes are defined:

- Ecology (Protected natural resources, climate, nature and landscape)
- Economy (Processes alongside the life-cycle of products)
- Social sector (urban development, health protection, management of natural disasters)

In the scope of economy, the processes of the life-cycle work flow (e.g. production of raw material, production of the product, transport, use, recycling, and disposal) are used for classification, not economic sectors e.g. industry or agriculture.

Due to the enormous importance of the attribute *Sustainability Field* and its large area, a three-stepped categorisation catalogue is used.

The categories are all referring to *Environmental Sustainability*, but due to overview reasons it is not included for the items of the table. As an example, the category *Energy Generation* means *Environmentally Sustainable Energy Generation*.

No	Field Title	Remarks
1	Ecology, Natural Environment	
1.1	Climate, Climate Change	
1.1.1	<i>Climate Research</i>	Incl. Atmospheric Chemistry
1.1.2	<i>Climate Adaptation</i>	
1.1.3	<i>Climate Mitigation</i>	
1.2	Natural Resources	
1.2.1	<i>Water</i>	Incl. Water Pollution / Protection / Treatment / Management
1.2.2	<i>Soil</i>	Incl. Soil Pollution / Protection / Management, Contaminated Sites, Minerals
1.2.3	<i>Air</i>	Incl. Air Pollution / Protection
1.3	Nature, Biodiversity	Nature, Biodiversity Conservation
1.3.1	<i>Nature</i>	Incl. Nature Conservation, Ecosystem Management, Habitat Connectivity, Animal Protection
1.3.2	<i>Landscape Conservation</i>	Incl. Use, Planning
1.3.3	<i>Biodiversity</i>	Biodiversity Conservation, incl. Protection of Species
2	Economy (along Product Life-cycle)	
2.1	Raw Material Production and Energy Generation	
2.1.1	<i>Raw Material Production</i>	Incl. Forestry, excl. Food
2.1.2	<i>Energy Generation, Energy Storage</i>	Incl. Nuclear Energy Generation, Radioactive Waste
2.1.3	<i>Energy / Resource Efficiency</i>	Energy / Resource Efficiency (at Raw Material / Energy Production)
2.2	Production of Goods and Food	
2.2.1	<i>Production of Goods</i>	



2.2.2	<i>Production of Food</i>	Incl. Food Production in Agriculture, Fishery, Aquaculture, Mariculture
2.2.3	<i>Energy / Resource Efficiency</i>	Energy / Resource Efficiency (in Production / Manufacturing)
2.2.4	<i>Waste, Pollutants</i>	Incl. Pollution in food (e.g. Nutrient and Pesticide Accumulation)
2.2.5	<i>Noise, Vibrations</i>	
2.3	Transport, Consumption	
2.3.1	<i>Transport, Distribution</i>	Incl. Logistics, Lorry Traffic, Alternative Fuels / Drives, Pollutant Emissions
2.3.2	<i>Consumption, Use</i>	Incl. Green Consumption, Ecological Footprint
2.3.3	<i>Energy / Resource Efficiency</i>	Energy / Resource Efficiency (at Transport, Use), incl. Green IT, Electricity Distribution Grids
2.4	Recycling, Waste Management	
2.4.1	<i>Recycling</i>	
2.4.2	<i>Waste Management</i>	Incl. Household Waste Management
3	Social	
3.1	Health / Quality of Life	
3.1.1	<i>Health</i>	Incl. Allergies, Pollen, Noise/ Vibration Effects, Radiation (Radioactive and Electromagnetic) Effects, Outdoor/Indoor Exposure to Pollutants
3.1.2	<i>Quality of Life</i>	Incl. Independent Living, Inclusion
3.2	Mobility /Tourism	
3.2.1	<i>Mobility</i>	Incl. Car Traffic
3.2.2	<i>Tourism</i>	
3.3	Spatial and Urban Planning	
3.3.1	<i>Landscape Planning</i>	
3.3.2	<i>Spatial Planning</i>	
3.3.3	<i>Urban Planning / Development</i>	Incl. Urban Development, Construction and Housing, Urban Waste
3.4	Environmental Risk Management	Incl. Disaster Management
3.4.1	<i>Management of Man-Made Risks from the Environment</i>	
3.4.2	<i>Management of Natural Risks from the Environment</i>	Incl. Risk Management of Hydro-Geological Disaster Processes, Thunderstorms, Avalanches, Forest Fires, Droughts, Earthquakes, Volcanos
3.4.3	<i>Management of Risks to the Environment</i>	Incl.: Invasive Species
4	Environmental Sustainability (general)	
4.1	Overall Concepts of Environmental Sustainability	General and overall questions of environmental sustainability, incl. Life Cycle Thinking, Environmentally Sustainable Information Society, Economic and Social Assessment, Environmental Ecology
4.2	Eco-Balance, Sustainability Indicators	Incl. Life-Cycle Assessment, Eco Audit

### A.3 Target Groups

Target Groups characterise research programmes and projects according to the target audience for their results.

No	Field Title	Remarks
1	Policy, Justice	Incl. Legislative, Jurisdiction
2	Public Administration	Incl. Executive, Government
3	Business, Economic Sector	Incl. Industry, Manufacturers, Trade, Distributors, Agriculture, Forestry, Fishery
4	Research, Science	
5	Education, Learning	Incl. Environmental Education
6	General Public	Incl. consumers, NGOs