

# System for Environmental and Agricultural Modelling; Linking European Science and Society

# **How to Handle SEAMLESS-IF Prototype 1**

### A short how-to description

### PD5.6.3.1

# Patrik Wallman, Irina Bezlepkina, Rob Knapen

Partner: Lund University, Wageningen University, Alterra

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SEAMLESS integrated project aims at developing an integrated framework that allows ex-ante assessment of agricultural and environmental policies and technological innovations. The framework will have multi-scale capabilities ranging from field and farm to the EU25 and globe; it will be generic, modular and open and using state-of-the art software. The project is carried out by a consortium of 30 partners, led by Wageningen University (NL).

Email: seamless.office@wur.nl Internet: <u>www.seamless-ip.org</u>

Authors of this report and contact details

Name: Patrik Wallman Address: LUCSUS, P O Box 170 SE-221 00 Lund, Sweden E-mail: patrik.wallman@lucsus.lu.se Partner acronym: LU

Name: Bezlepkina, I. Partner acronym: WU Address: Hollandseweg 1, 6706KN Wageningen, the Netherlands E-mail: irina.bezlepkina@wur.nl

Name: Knapen, M.J.R. Partner acronym: Alterra Address: PO Box 47, 6700 AA Wageningen, the Netherlands E-mail: rob.knapen@wur.nl

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# **General information**

Task(s) and Activity code(s):5.6.3.1Input from (Task and Activity codes):Task 1.4, Activity 1.4.1Output to (Task and Activity codes):M 1.4.2

### **Executive summary**

This document is a description of how to use SEAMLESS-IF Prototype 1. It describes the most important steps on how to install the software, create and manage projects including choosing indicators, building and running model chains and exploring the results. A brief introduction to the general features of the software, such as text formatting, sorting of lists and tables is also provided.

Also the Trac system, a web-based management system of software for reporting bugs, missing functions, glitches in design and usability as well as collecting wishes and requests for future versions, is described in a stepwise how-to format along with information about support and contact information.

# 1 Introduction

The SEAMLESS-IF Prototype 1 How-To Manual is an informal and short description of how to install and set up SEAMLESS-IF Prototype 1 and how to accomplish some of the most important specific tasks. Also the general features of the software are described as well as how to handle project files. It is meant to help users who will perform testing of Prototype 1, and may leave out details that are only important to modellers and software engineers.

Also the web-based Trac system for reporting bugs and suggested enhancements of SEAMLESS-IF Prototype 1 is described.

The models that are installed with SEAMLESS-IF Prototype 1 are not described in this document but in corresponding deliverables of WP3 and WP1. Elaborations on the software design and the modeling environments used to create or run the models in the SEAMLESS-IF Prototype 1 can be found under deliverables of WP5.

Due to the rapid and always ongoing development of SEAMLESS-IF, some of screenshots in the versions that you download might look a little different from the ones in this document.

It should be noted that the features that are available in Prototype 1 and described in this manual are not meant for the end user. Many features will be further developed and become accessible to various groups of users, for example modellers, viewers, etc.

# 2 How to install SEAMLESS-IF Prototype 1

### **2.1** Technical requirements

Currently SEAMLESS-IF Prototype 1 is only available as a Microsoft Windows-application. A PC with available hard disk space of 2 GB is required to install the system. Additional space of at least 1 GB is required to run models. SEAMLESS-IF Prototype 1 also requires that a Java 5 Runtime Environment (JRE) and the Microsoft .NET Framework 2.0 are installed on the system.

To utilize all the functionality of the CAPRI TableViewer also the software SVGView from Adobe is required.

### 2.2 How to install and setup SEAMLESS-IF Prototype 1

Often the installation can be done by users themselves but in case the user accounts are managed by System Administrators, it is recommended to use their assistance.

To install the SEAMLESS-IF software, the installer has to be available either on a CD with Prototype 1 (D1.4.1) or on your local computer. If not available, download the content of this CD from an ftp location as described in the Release Notes and unzip the folder Prototype1.zip. Note that the total download size is over 400 Mb, so it might take some time. After unzipping the Prototype1.zip folder, open the file Index.htm (Figure 1) or go to the directory called Installer. The file index.htm allows you to navigate through the content of this CD and to install the SEAMLESS-IF software (Figure 2) along with other programs necessary for its successful functionality.

Content of this CD	navigating links	
Concepts and Methods	report on methodologies (PD1.3.8)	
Installation of SEAMLESS-IF Prototype 1	installation instructions install Java now (required) install .NET now (required) install SEAMLESS-IF now install SVGViewer now	

Figure 1. Index.htm, to install SEAMLESS-IF and other software

The directory Installer has four files; double-click 'Setup' (or 'Setup.exe' if you have chosen to show file extensions on your Microsoft Windows system). The installer only works under Microsoft Windows.



3ack ▼ 🕑 - 🕖   🔎 Search   ss 🦳 C:\Downloads\installer	Folders			💌 🏹 G
rs	× Name +	Size	Туре	Date Modified
	📓 install.jar	408 905 KB	Executable Jar File	2006-07-05 18:39
	- Jauncher, ini	1 KB	Configuration Settings	2006-03-31 15:20
E Deciments and Settings	🔊 launcher-Win32.exe.manifest	1 KB	MANIFEST File	2005-10-27 18:10
Downloads     demo2006-04-24     installer     demo2006-04-24	setup.exe	1 231 KB	Application	2005-10-27 18:10

#### Figure 2.

If Java Runtime Environment is not installed on your computer or the installer cannot find it, a dialog box appears (Figure 3b) with options to either download the latest JRE from the Internet or to locate an already existing installation on your computer manually.

### 2.3 Installing the Microsoft .NET Framework

If .NET is not installed on your computer, follow the installation link available in the index.htm (Figure 1).The following window will appear (Figure 3a). By clicking the Download button, the process on the .NET guided installation will start. The Microsoft .NET Framework is necessary to run the Modcom Engine that is in the core of the APES Tool.

3 • 🗇 🛛 🖻 😭	🔎 🛧 🛛 🙆 🖓 📲 🗧 🖉 🕻	🙏 🛃 au -		Eile 🔭 Address 🥂 – 🗗 🗙
			Quick Links 👻	Home   Worldwide
Microsoft			Search Microsof	t.com for:
Download Center				
Download Center Home	Search All Downloads	✓	Go Advanced Search	
Product Families Windows Office Servers Developer Tools Business Solutions Games & Xbox MSN Windows Mobile All Downloads Download Categories Games DirectX	Microsoft .NET Fra Package (x86) Brief Description The Microsoft .NET Framework ver runtime and associated files requi On This Page Quick Details System Requirements Additional Information What Others Are Downloading	mework Version 2.0 rsion 2.0 (x86) redistributable packag red to run applications developed to t <u>Overview</u> <u>Instructions</u> <u>Related Resources</u> <u>Related Downloads</u>	Redistributable e installs the .NET Framework arget the .NET Framework v2.0.	Visual Studio
Internet Windows Security & Updates Windows Media Drivers Home & Office Mobile Devices Mac & Other Platforms System Tools Development Resources	Download Quick Details File Name: Version: Date Published: Language:	dotnetfx.exe 2.0 3/22/2006 English		
Download Resources Microsoft Update Services Download Center Help Related Sites	Download Size: Estimated Download Time: Change Language:	ZZ.4 MB Dial-up (56K) ¥ 55 min English ¥ Chang	3	
Download Notifications Notifications Signup	Overview			
Worldwide Downloads Countries & Regions	The Microsoft .NET Framework to run applications developed 1	version 2.0 redistributable package in to target the .NET Framework v2.0.	nstalls the .NET Framework runtim	e and associated files required
e				🧐 Internet

#### Figure 3a.



### 2.4 Installing Java Runtime Environment

If a Java Runtime Environment (JRE) is not present on your computer and you did not install it from the link available on the CD (Figure 1), chose to download the latest version (you need at least Java version 5.0 for running SEAMLESS-IF) from the internet and click 'Continue' (Figure 3b).

The software that you are trying to install requires a Java Runtime Environment. The Java Runtime Environment could not be detected on your computer but it can be installed for you.
You have the following installation choices:
C install the Java Environment included with this software
C manually locate an already installed Java Runtime Environment
I download the latest version of the Java Runtime Environment from the Internet.

#### Figure 3b.

Your default internet browser will open the Java download web page (Figure 4). Follow the download and installation instructions on the web page. You might have to allow the ActiveX-control from Sun Microsystems, Inc. to be run in your browser.



Figure 4.



When JRE has been installed or successfully located by the installer a welcome screen appears (Figure 5), click 'Next'.



Figure 5.

#### The default installation path suggested 😽 IzPack - Installation of SeamlessIF (Figure 6) might not suit your Microsoft Windows system, depending on what language it is. The folder 'Program' generally does not exist on English Windows versions, where it instead is called 'Program Files', on German systems 'Programme' etc. To avoid creating an extra directory for program 📔 Select the installation path: files, change the installation path to your C:\Program\SeamlessIF Prowse... default folder for programs. You will be prompted by the system that the target directory will be created (Figure 7). seamless (Made with IzPack - http://www.izforge.com/) Figure 6. 3 Previous 3 Next 3 Quit Meddelande It is also possible to install the SEAMLESS-IF onto a different drive. The target directory will be created: C:\Program\SeamlessIF Figure 7. 0K

## 2.5 Installation Path



When the installation path is set, click 'Next' to go to the pack installation screen (**Figure 8**a). Choose the models you want to be installed, click 'Next'.

IzPack - Installation of	SeamlessIF	
	Select the packs you want to install:	
	NET APES FSSIM GAMS GAMSLicense EXPAMOD CAPRI SeamlessIF	22.42 MB 30 MB 10.17 MB 126.01 MB 335 bytes 85.55 KB 905.09 MB 61.33 MB
soamloss.		
sed in ress	l otal space Required:	1.13 GB
	Available space.	> 2 GB
Made with IzPack - http://www.	izforge.com/)	
	G Previous	😡 Next 🛛 😡 Quit



Installation of the Microsoft .NET Framework can be deselected if this software is already installed. If it was not deselected, the .NET will be reinstalled and the following screen may appear (Figure 8b). Continue by selecting the Repair option.

Figure 8b.

	S	е	a	m	1	е	S	S

### 2.6 GAMS and CAPRI

A screen with options to fill in pathways to GAMS and CAPRI installations appears (Figure 9). If you do not have any of these pre-installed, leave the text fields empty to use the defaults and click 'Next'.

	GAMS/CAF	PRI location
	Leave fields empty to u	se default
	Location of GAMS.	
	GAMS Executable path	Browse
	Location of the GAMS li	cense.
	GAMS License File	S22.0\gamslice.bt  Browse
	Location of the CAPRI S CAPRI System location	System.
		Browse
seamless		

Figure 9.





installation

of

😽 IzPack - Installation of	í SeamlessIF	SEAMLESS-IF Prototype 1
	<ul> <li>Setup Shortcuts</li> <li>Create shortcuts in the Start-Menu</li> <li>Create additional shortcuts on the desktop</li> <li>Select a Program Group for the Shortcuts:</li> </ul>	is finished you have the option to create shortcuts to the software (Figure 11).
	Accessories ACD Systems Administrative Tools Adobe Avery DesignPro Belastingdienst 2006 Citrix Codec Pack Data Export EMQ	t fo r
seamless	Seamless Default	
(Made with IzPack - http://www	v.izforge.com/)	Guit Figure 11.

After a successful installation a box similar to the one in Figure 12a should show up on your screen. Click 'Done' and the installation of SEAMLESS-IF is finished.



Page 15 of 64



During the installation the directory Uninstaller is created. In case you need to uninstall SEAMLESS-IF, double click on the file uninstaller.jar and confirm the process of uninstalling by clicking the "Uninstall" button (Figure 12b):

🔐 IzPack - Uninstalle	er 📃 🗖 🔀
📌 This will remove the ins	stalled application(s)!
Force the deletion of I	D:\A Seamless\proto1
[Nothin	ng]

Figure 12b.

### 2.7 Starting SEAMLESS-IF Prototype 1

Locate the shortcut 'Start SeamlessIF' on your desktop and double-click it or use the shortcut created in the Start menu. The start-up and initialization of SEAMLESS-IF Prototype 1 takes some time, for quite a while (30 seconds or so) you will only see the black MS DOS-window. This window will remain open during the whole session; if you close it you will also close SEAMLESS-IF Prototype 1. The best is to minimize it to the task bar.

### 2.8 Creating a working directory

The current version of the installer does not create a default folder for saving projects. It is advisable to create a directory for all SEAMLESS-IF projects, and a subdirectory in it for every project. Then save the project file in its subdirectory. This will make managing projects and related files easier. Note that the sample project file that comes with Prototype 1 is stored in the directory testcases. To avoid creating disorder in this folder and to make sure that you always have a fresh copy of the sample file it is strongly suggested that you create a project folder, e. g. Sample Project in My Documents, copy the sample file to this directory and work with it from there and then also save all your projects to this folder.

Save In:	Sample Project  Desktop  knape001  Constants		The newly cr Working directory ca chosen to store project files (Figure 1	eated an be the 13).
	Sample Project  My Computer  KGR (C:)  Data (D:)  DVD/CD-RW Drive (E:)			
File <u>N</u> ame: Files of <u>I</u> yp	MySampleProject pe: XML files (.xml)	▼ Save Cancel	Figure 13.	



### **3** How to use the general features of SEAMLESS-IF Prototype 1

### **3.1** Text formatting

Text you write in the text boxes in SEAMLESS–IF Prototype 1 can be formatted to some extent to make your text more expressive. To format a text, click the 'Formatting' menu in the top of the screen (Figure 14). Point and click the formatting style you want to use, and the style will marked with a check mark. When you do not want to use the formatted text anymore, do the same thing again, the check mark disappears and the text you write will go back to normal.





It is also possible to open the Formatting menu by pressing ALT+F (press and hold the ALT-key, then press the F-key and release both). Once the formatting menu is opened, press ALT+B to toggle the bold option, ALT+I for italic, and so on. A selection will close the menu, but it can also be closed without selecting anything by pressing the Escape-key. In general a small underline below a letter in the menu or on a button indicates a keyboard shortcut. Pressing the ALT key together with the underlined letter has the same effect as clicking on the menu item or button with the mouse.

Note that not all text fields can use formatted text, e. g. names in the indicator library and similar. This feature is only meant to be used in running text.

Also note than on some tabs the size of the text fields can be changed (Figure 15), either by clicking on the small black arrows to the left on the bar between the text fields or by simply placing the cursor on the bar and drag it.

A.T.	
Describe the main policy objectives:	

Figure 1	15
----------	----

### 3.2 Sorting of lists

To help you to find the item of interest in a list or a library, SEAMLESS-IF Prototype 1 has a sorting function attached to all its lists. By clicking the headline of the column of the parameter that you want to sort the list depending on, you can chose from having the list sorted chronologically (no arrow showing in the headline, Figure 16a), alphabetically or numerically (depending on the content of the column), ascending (up arrow showing, Figure 16b) or descending (down arrow showing, Figure 16c)



Name N	Author	#Components	#Links
estchain K	Zlatan Ibrahimovic	2	8
et another testchain	Zlatan Ibrahimovic	3	6
nother testchain	Zlatan Ibrahimovic	1	1
Name 🔬 📐	Author	#Components	#Links
odel Chains used in the Project			
Name A	Author Ziatan Ibrahimovic	#Components	#LINKS
estchain 8	Zlatan Ibrahimovic	2	
et another testchain	Zlatan Ibrahimovic	3	
odel Chains used in the Project	1		
Name	Author	#Components	#Links r
et another testchain	Zlatan Ibrahimovic	3	n
estchain	Zlatan Ibrahimovic	2	

Figure 16.

### 3.3 Graphical editing

When it comes to the graphical representation of models and other entities used in SEAMLESS-IF Prototype 1, in e. g. diagrams in the work plan, systems description part and the model chain builder, there are certain possibilities to edit these to make them clear, structured and pedagogic.

Double-click on the graphical representation, the box that represents the model, element or activity, or right-click it and choose 'Graphics...' from the pop-up menu you want to edit to open the editor (Figure 17).

ystem	Cell Appearance	×
Biophysical: (National: Element	Foreground Colour:	
	Background Colour:	S
	Gradient Fill: 🔽	Check to use a gradient fill for the cell background
	₽	
	Opaque; 🗹	Check to make the cell background opaque
	Auto Sizing: 🔽	Check to have the system automatically adjust the cel
		OK Cancel

#### Figure 17.

You can change the colour of the text by clicking either of the foreground colour boxes. You can choose the colour you want to use by clicking the samples that are shown (Figure 18). Also other ways to change the colour are available, the HSB and RGB tabs, experiment with them if you would like.

The different elements can be moved to the back or the front of the diagram if they are overlapping by marking an element and then clicking 'Move to front' or 'Move to back'



🛔 Choo	ose Col	our						2
Prov	HSB	RGB						
								Tidigare:
Gransl	ka I		Exe Exe	mpelter mpelter	d Exe d Exe d Exe	mpelt mpelt	ed ext	
			ок	Avbryt	Åţe	rställ		

Figure 18.

Also the link and arrows in the graphical representations can be edited. Double-click the line or rightclick it and choose 'Graphics' from the pop-up menu to open the editor (Figure 19.).

Line Style:	Orthogonal	N			•
Line Colour:		-S			
Line Width:	1				
Dash Pattern:	Solid				*
Auto Routing:	<u>а</u> сн	eck to enable	automatic line	routing	

Figure 19.

You can edit the colour of the line the same way as the boxes mentioned above. You can also choose different line styles from the drop-down menu and enabling the automatic line routing if you would like to use curved or only straight lines. Line width and different dash patterns can also be chosen. On the 'Source Symbol' and 'Target Symbol' tabs you can chose symbol, size and filling of the arrows starting and ending points, respectively.

### **3.4 Copying text to SEAMLESS-IF Prototype 1**

There are no possibilities to import documents or formatted text to SEAMLESS-IF Prototype 1. Only text in ascii-format can be pasted in into the text fields. If you have text in Microsoft Word format or similar, the work-around would be to save the document in ascii-format (\*.txt), open it in a simple text



program, like Microsoft Notepad and copy it from there with ctrl-c, then paste it into the text window in SEAMLESS-IF Prototype 1 using the ctrl-v command.

### 3.5 Navigating in SEAMLESS-IF Prototype 1

SEAMLESS-IF Prototype 1 is a quite complex piece of software which is not trivial to navigate within. If you loose track, one way to always come back to a known point is to navigate back to the overview screen or any of the task screens by clicking the 'appropriate' button in the top menu. This menu is always visible and can always be used to go directly to any of the task screens. You do not have to worry about loosing any information by doing this; everything you do is instantaneously written to the project file (it is important to save changes when quitting the whole application). If you open an item in a list there is always a 'Back to list' button to click to return to the list.

### **3.6** The colour coding system



In SEAMLESS-IF Prototype 1 a colour coding system is implemented to give some guiding regarding the operational status of the screen you are working with. A green rectangle in the upper right corner of the screen (Figure 20) shows that most the indented functionality of the screen has been implemented.

Figure 20.

A blue rectangle means that the screen is under development and is going to be changed considerably. If you place the mouse pointer over the coloured rectangle for a short while a tooltip will be displayed with a short explanation.

### 3.7 The help system

SEAMLESS-IF Prototype 1 has the help system that is accessible from the top menu and in other specific screens of the program. On some screens you will find a clickable question mark button (Figure 21) behind which you can find additional information about the item or function it belongs to. Additional information can be also found when clicking the "I" – standing for Info – button.



Figure 21.



In the 'Help' menu at the top of the screen you can find a list of all the available keyboard shortcut commands you can use when working with SEAMLESS-IF Prototype 1 (Figure 22a).

Tools	Help
	Help
	🔲 Keyboard shortcuts
	PICA tool Documentation
	📮 Console
	🔐 About
	Ordanisation

Figure 22a.



#### Figure 22b.

From here you can also look at the PICA (Procedure of Institutional Compatibility Assessment) tool and start the applications console window (see Section 4.1 below). The screens of PICA tool (Figure 22b and c) are not operational in Prototype 1.



Impact assessment o ject Formatting Tools	t of WTO trade liberalisation scenario * - SEAMLESS-IF 1.0 Prototype1 build 2467 Js Help	
seamless	Ogenview Problem Scenarios Indicators Models Calculation Results	
	PICA Tool Documentation	
Procedure for In Pre-Model Anal Step 1 PICA applicatio	Institutional Compatibility Assessment (PICA) alysis Post-Model Analysis Step 2 Step 3 Step 4 Click on one of the boxes to see its explanation.	
In a <i>forth step</i> , we v outputs of the PICA of institutional comp to statements abou to draw conclusions	e will elaborate on indications for institutional constraints which are regarded as CA model. These outputs will have a qualitative character and will be thematic issues mpatibility rather than single indicators. The composition of relevant issues will lead us out the effectiveness of policy options from an institutional perspective. They allow us ns about an institutional fit or misfit.	
Policy	V Density of Number of newspapers droutating Information access Composite indicators Composite indicators Composite indicators	
	Type of Area of Considering Co	

Figure 22c.

# 4 How to handle projects in SEAMLESS-IF Prototype 1

Start SEAMLESS-IF Prototype 1 by double-clicking the shortcut on your desktop. After 30 seconds or so (depending on your computer specifications) SEAMLESS-IF is started and initialized, ready to be used.

### 4.1 How to set application settings

Start by looking up the application settings (Figure 23) for SEAMLESS-IF Prototype 1.

Project Formatting	Tools	Help
seamles	s S	Settings.
Project Management		

#### Figure 23.

Fill in your name and then check the locations of the different libraries used by SEAMLESS-IF Prototype 1 (Figure 24a). These are generally correct by default. You can change the font size used in the application by ticking the check box. You can also choose how you would like to handle the console window. In the console window you can see the output from the underlying Java-program. This should not be considered as some kind of output from SEAMLESS-IF Prototype 1. For many users the information in the console window is not very useful, and it can be closed without influencing the performance or capabilities of SEAMLESS-IF Prototype 1.

Note that if you choose not to use the console window or close it SEAMLESS-IF will instead use the MS DOS window it was started from to write (internal) messages to. These might only be of interest (for developers) when an error occurs so that the problem can be located quicker, or for modellers to study intermediate outputs from models when they are run by SEAMLESS-IF.

The look and feel and the size of the fonts used in the software can also be chosen in 'General Options'. These changes take effect when you restart SEAMLESS-IF Prototype 1.

In case there are some display problems in Windows XP when the 'Windows and Buttons' (Control Panel|Display|Appearance) is set to 'Windows Classic Style', it is recommended to change the Windows and Buttons setting to 'Windows XP Style' or change in the look and feel of SEAMLESS-IF Prototype 1 (Tools|Settings) to 'GoodiesPlastic3D' (see Figure 24a and b).



👙 Settings		X
User Enter your name here	. it will be used when creating new projects.	
Name:	researcher	
Locations		
Some general inform	ation is stored in library files. You can select locations by clicking the browse buttons.	
Temporary files:	C:\DOCUME~1\bezle002\LOCALS~1\Temp\	<b>.</b>
Indicator library:	D:\A_Seamless\proto1\data\IndicatorRepository.xml	6
Component library:	Standard	6
Tool library:	CrossPlatform GoodiesWindows	6
General Options	GoodiesPlastic GoodiesPlastic3D	
The following setting	Goodies Tastics D	
Look and Feel:	Standard 🗸	
	OK Canc	el

#### Figure 24a.

Enter year name non	e, ic will be used when creating new projects.	2
Name:	Zlatan Ibrahimovic	
ocations		
Some general inform	ation is stored in library files. You can select locations by clicking the browse buttons.	
Temporary files:	Ci\DOCLIME~1\pwall\LOCALS~1\Temp\	-
Indicator library:	C:\Program Files\SeamlessIF\data\IndicatorRepository.xml	6
Component library:	C:\Program Files\SeamlessIF\data\ComponentRepository.xml	6
Tool library:	C:\Program Files\SeamlessIF\data\ToolRepository.xml	6
eneral Options	<u>&gt;</u>	
The following setting	is will be effective after application restart.	
Look and Feel:	Standard 🗸	
Display font:	Use larger font size	
Console window:	O Do not use the SEAMLESS-IF console window	
	Open the SEAMLESS-IF console window (minimized)	
	Open the SEAMLESS-IF console window (normal)	
lodel Component Set	tings	
Installed model com	oonents might require configuration settings. Click the button to start the editor for this	. =

#### Figure 24b.

The option to use a larger display font is only recommended for presentation purposes so that people in the back of a room can better follow a demonstration. Since the larger font size requires more screen space for all the text, some other things might move accordingly or not display correctly anymore. For working with SEAMLESS-IF it is best to keep the large font setting turned off.



In some cases installed model components might require changes in the configuration settings. This is done in the Model Component Configuration Editor (Figure 25 and Figure 26). What is given here are keys and relative search paths for the different model components used by SEAMLESS-IF Prototype 1. These should normally be correct by default, and nothing the user should have to care about.

rt the editor for this.
or l craul
UK Cancel



#### Figure 26.

When you are satisfied with the program settings, click 'OK', and restart SEAMLESS-IF Prototype 1 to activate your changes.

### 4.2 How to open an existing project

Click 'Open' either in the 'Project' menu at the top, or in the menu to the left on the overview screen (Figure 27). Locate the project file of interest by navigating in the dialog box that appears. Click 'Open' and the project is loaded.







SEAMLESS-IF will try to load the file you have selected. If it is not a proper project file or when errors are detected a message will be displayed and not all information about the project might be loaded.

When opening a project SEAMLESS-IF will automatically validate if the project requires additional subdirectories. For example for storing scenarios settings and calculation results. Should these directories not exist (e.g. when the project file is copied or moved from a different location) new empty directories will be created.

Details about the active project can be reviewed and modified by opening the Project Settings dialog (Figure 28). To do this select *Project / Details* from the menu, or click on the *Details* button in the Management panel.

👙 Project	Settings					
Name:	Impact assessment of WTO trade liberalisation scenario					
Location:	D:\knape001\Seamless Projects\Brixen Sample\sample_project_testcase1.xml					
Author(s):	researchers of SEAMLESS-IP					
Description:	This Project serves as working material for the Prototype 1. It aims at illustrating the workability of the SEAMLESS-IF by adressing the policy question: "What will happen to the sustainability of agriculture and the impact of agriculture on sustainable development if there is a WTO induced trade liberalization?" The application is done for the four sample regions: Flevoland (NL), Brandebourg (DE), Midi-Pyrenees(FR) and Andalucia (FR). Prototype 1 will be used as a basis for the group work when using SeamFrame and its tools.					
	OK Cancel					

Figure 28.

The Project Settings dialog will be opened. Click *OK* to close it and save any modifications made, or *Cancel* to close it without saving the changes.

### 4.3 How to create a new project

You can create new project either by clicking 'New...' in the Management menu to the left on the main screen or by using the Project drop-down menu (Figure 29.).



Project	<u>E</u> ormatting	Tools I	Project	Eormatting
se	∦ amless	3		V Project
Manage		Proje	Clear	ηυρ
<u></u>	New Proje	ct)		pen
De	ð tails		De	etaijs

#### Figure 29.

The 'Project Settings' screen appears. Here you can name your project, provide the names of the project authors (your name should already be filled in if you filled it in the SEAMLESS-IF Prototype 1 settings). You can also write a description of the project here (Figure 30a.).

Name: Author(s):	Manual project	
Hatrior(3).	Zlatan Ibrahimovic	
escription:	A test project.	

When a project is created or loaded its location is known by SEAMLESS-IF. You can review it by looking at the location field in the Project Settings dialog (select *Project | Details*).

Changes made to the project are detected by the program, and an asterisk will be placed in the window title after the project name (Figure 30b). This indicates that the project in memory does not match the project on disk anymore and saving is needed if the modifications must be kept.

	👙 Impa	ct assessme	ent of \	WTO trade liberalisation scenario * -
	Project	Formatting	Tools	Help
1	C'			

Figure 30a.

Figure 30b.

To save the project simply click on the *Save* button in the Management panel, or select *Project | Save* from the menu. After the project file is updated the asterisk marker will disappear, until you make a new change.



Click 'OK' to close the project settings and save it to the working directory you created before (see Section 2.8). The project is saved in the extensible markup language (xml) format (Figure 31) under the name you gave it in the project settings. You can handle the project files just as any other file, copy, zip or e-mail. For example, to exchange projects with your fellow-colleagues, it is recommended to send in a zipped package the following files: project file, indicator repository file). After receiving such a package, it is necessary to locate the files properly as it is described in Figure 23.



#### Figure 31.

### 4.4 How to manage projects

In the management menu on the left side of the overview screen you have the option provide a lot of information about the project.

#### 4.4.1 Work plan

Whether and when the users and stakeholders are interviewed as part of the project can be documented in the Workplan. This shows all relevant project activities and the relations between them. Project activities can be managed in a table like schedule or in a diagram.

For each Workplan activity it is possible to specify Time, Expected Date of completion and the percentage of completion. Moreover, the activities will be stored in the Knowledge Base with their Name, Method and description. Finally, when an activity box is selected in the diagram the input fields in the lower part the properties of the activity can be modified. To provide a work plan, click 'Workplan' to open the work plan screen (Figure 32a and b).



eaml	ess	Oyaniaw	Problem	Scenarios	Indicators	Models		Calculation		Results
	000			Workpla	n					
ities and Re	elations:									
edule   <u>D</u> ia	agram									
	Time			Activity			%	o Complete		*
ine 2006			Intro							50
plan Activit	ty Information:									
plan Activit Name: Lit	ty Information: terature review									
plan Activit Name: Lit Iption: R	ty Information: terature review eading journa	l articles								
plan Activit Name: Lit iption: R	ty Information: terature review teading journa	I articles.			Participation				Task Sci	reen

#### Figure 32a.

You can add an item to the work plan by clicking the green plus sign button. A new entry is created in the schedule in the upper pane and simultaneously in the Workplan Activity Information in the lower pane. Fill in the appropriate information in the text fields. You can choose among a set of participation methods if that is applicable for the activity and also what task screen in SEAMLESS-IF Prototype 1 it belongs to (e.g. project overview, policy impacts, indicator selection, etc.) (Figure 32b).

	None	^	PROJECT_OVERVIEW	^
	World Cafe		PROJECT_WORKPLAN	
	Focus groups		PROBLEM_DESCRIPTION	
	Policy excercises		PROJECT_STAKEHOLDERS	
	Scenario analysis		POLICY_IMPACTS	
	Participatory modelling		SYSTEMMODEL	
<b>D</b>	Citizens juries		SCENARIO_DEFINITION	
Participat	Planning cells	~	INDICATOR_SELECTION	~
Method:	None	~	PROJECT_OVERVIEW	~

#### Figure 32b.

By clicking on the 'Diagram' tab a visual representation of the activities and relations between them in the project (Figure 33). It should be noted that when elements are removed from the diagram, they are automatically removed from the table as well. Details about graphical features of diagrams are discussed in Section 3.3. Below an explanation on building the diagram is presented.

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rkplan						
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		Itterature review				1 50 5 1 50 5 1 50 5 1 50 5 1 50 5
						a saas saas saas sa
						이 문제에서 문제에서 문제에서 문제한
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						이 방법이 방법이 방법이 있다.
						21 NAMES NAMES NAMES NAME
						0 2023 2023 2023 202 3 2023 2023 2023 20
			1163 1163 1163 1163		ENTER STOLEN	
	🔄 📔 🛷 Graphics	To Front	😭 To Back	Remove	AND ADDE SOUTH	🏷 Task screen
	Graphics	To Front	To Back	Remove		🏷 Task screen
8	Graphics	To Front	To Back	Remove		Task screen
lan Activity Informati	Graphics	To Front	To Back	Remove		Task screen
lan Activity Informati	Graphics	To Front	To Back	Remove		Task screen
kan Activity Informatii Vane: Intro	Graphics	To Front	To Back	Remove		Task screen
plan Activity Informati Name: Intro	ion:	To Front	r To Back	Remove		Task screen
plan Activity Informatia Name: Intro ription:	Graphics	To Front	To Back	Remove		Task screen
plan Activity Informati Name: Intro iption: Searching in	Graphics	To Front	1 To Back	Remove		Task screen
plan Activity Informati Name: Intro ription: Searching in	ion: nfo sources	To Front	To Back	Remove		Task screen
plan Activity Information Name: Intro iption: Searching in Planning	ion: nfo sources	To Front	편 To Back	Remove		Task screen
plan Activity Informati Name: Intro iption: Searching in Planning	ion:	To Front	To Back	Remove		Task screen

Figure 33.

The activities created in the previous step are already created in the work plan. You can add relations between the activities and further activities by clicking the respective buttons. The name of the activity can be modified by selecting it and updating the name in the input field in the bottom part of the screen. A second option is to double click on the box in the diagram and entering a new name there. To indicate a relation between two activities it is possible to add arrows to the diagram. Clicking on the 'Add Relation' button will add a new relation arrow in the top left corner of the screen.

Also relations in the diagram can be described by clicking the relation of interest in the diagram and fill in the Workplan Relation Information form that shows up in the lower pane.

You can go directly to the task screen that is related to an activity by clicking the 'Task screen' button in the lower right corner.

Manual project * - SEA	MLESS-IF 1.0 Prototype1	build 2384					■ The next task in the
seamless	Oyenview	P <u>r</u> oblem Sce	narios In <u>d</u> icators	Models	Calculation	Results	to provide infor-
		Affected	Stakeholders				mation about the
Stakeholders							major stakeholders
Name	Organisation	Position	Scale	Expertise	Int	erests	involved To provide
New O	rganisation		Default	Chporeso			involved. To provide
							information about the
							stakeholders in the
							project click the
							project, click the
							'Stakeholders' button
							to open the 'Affected
							Stalsaholdars' sorrage
							Stakenoluers screen
							[ (Figure 34).
Stakeholder information:							
Name: New							
Organisation: Organisation	8						
Position:							
Contact:							Figure 34
Expertise:							Figure 54.
Scale:						• IE	1
Interests:							-
Description:							
L							
							Page 30 of 64
							0

#### 4.4.2 Stakeholders



The screen Affected Stakeholders consists of two main parts. The top part of the screen (in the center area) contains a list of all the specified stakeholders.

Add a stakeholder by clicking the green plus sign to the right and fill in the information in the lower pane. The scale at which the stakeholder is active can be chosen from the drop-down list. You can edit or add an item to this list if you click the list button to the right to open the list management screen (Figure 35). Stakeholders can also be deleted by marking them in the list and then click the red cross to the right.

👙 List Management	X
Select from current items:	
Default	▲ X
Field	
Farm	
Regional	
National	
EU	
Global	<b>•</b>
Modify item or enter a new one:	
Field	
	OK Cancel

#### 4.4.3 Impacts

Figure 35.

Impacts can be described in the 'Impacts of Interest' screen. Click the 'Impacts' button and provide the appropriate information in the screen that opens (Figure 36).

Add an impact by clicking the green plus sign to the right. Aspect and scale can be chosen from the drop-down menus and items can be added or edited as mentioned in Section 4.4.2 above.

Figure 36.

sear	mless	Concession of	Pioblem	Scenarios Indicat	tors <u>M</u> odels	Calculation	Results	
				Impacts of Interest		_	_	_
pacts:	Nr		Title	Asper	+.	Scale		
		1 Test impac 2	tt	Biophysical Default	Glo Def	bal fault		A
pact Infor	mation:							
Pact Inform	mation:							1
bact Inform	mation:							][
pact Inform Number: Title:	mation: 1 Test impact							
Dact Inform Number: Title: Aspect:	mation: 1 Test impact Biophysical							
oact Inform Number: Title: Aspect: Scale:	mation: 1 Test impact Biophysical Global						X	
oact Inform Number: Title: Aspect: Scale:	mation: 1 Test impact Biophysical Global						×	
oset Tefer	making							
sact Inform Number: Title:	mation: 1 Test impact							
Dact Inform Number: Title:	mation: 1 Test impact							
pact Infor	mation:							
pact Inform Number: Title:	mation: 1 Test impact							
pact Inform Number: Title: Aspect:	mation: 1 Test impact Biophysical							
pact Inform Number: Title: Aspect;	mation: 1 Test impact Biophysical							
pact Inform Number: Title: Aspect: Scale:	mation: 1 Test impact Biophysical Global						X	
pact Inform Number: Title: Aspect: Scale:	mation: 1 Test impact Biophysical Global						×	

Impacts can also be deleted by marking them in the list and then clicking the red cross to the right.

#### 4.4.4 System overview

When entering the information about the stakeholders and impacts of interests already some relevant scales and aspects for the system model have been defined. In the **System Description** screen *elements* can be specified for these scales and aspects and the *relations* between them. Together they document the system that is applicable to the integrated assessment project.

Given the Test Case 1 description, which is focusing on arable farms, the example screen of a system represents four levels: Field, Farm, Regional and EU. There is no claim of having a full representation of the system to make an impact assessment. The example serves illustrative purposes only.

The elements can be modified and reviewed in table format or as a diagram (which also shows the relations between the elements). The first image illustrates the table format of system elements, which are specified in accordance with system aspects and levels:

As it was presented in Section 3.3, the graphics of system elements and system relations allows using various visualisation schemes (shape, colours and heading of arrows, colours and headings of the boxes).

Adding elements and editing them in the diagram uses the same methods as the Workplan diagram described before and no further detailed description will be provided for that. The only difference is that for an element it is not possible to modify its name by double clicking on it. Since the caption in the element box is a combination of aspect, scale and element name it can only be changed by using the input fields in the bottom part of the screen.

The Relation can be named and described (Fig. 37a). Its name will also appear in the diagram.

Details for th	e selected system relation		
Relation:	influence		
Type:	Aggregation	•	🕐 Info
Description:	No description.		of Graphics
Figure 3'	7a.		
Various	types of relations can be identified as shown in Fig. 37b.	Figure 37b.	Unspecified Casual Relation: Association Aggregation

The following diagram (Fig. 37c) of a System Description is included in the example project file of Prototype 1. The elements are grouped and coloured as the four system levels: Field, Farm, Region and EU. The elements that are placed at the EU level at the top right area (GDP Growth, Inflation rate, etc.) are exogenous to the scenarios which will be formulated at the next step (see Section 6) and further implemented under the Calculation.



Problem	Senarios Indicators Models Calculation Besuits
eamless	
	System Model
Elements and Relations:	
ents Diagram	
stem	
Biophysical::Regional::Production 🗕 🗕 🗕	Aggregation Economic::EU::Production Economic::EU::Production
	Andrenation Biophysical::EU::Land use Economic::EU::Output price
Productive Designated and	Economic::EU::Employment
Economic::Global::Water Use Biophysical::Regional::Land	Economic::EU::Subsidies
· · · · · · · · · · · · · · · · · · ·	Apprendition 1 influe
	and the second sec
Economic::Regional::Employment	The second se
	Influence
physical::Field::Nutrient losses	Biophysical: Farm: Land Lice Biophysical: Farm: Production Economic
Biophysical::Field::Crops	
Biophysical::Field::Soil	
Biophysical: Field: Crop Mapage	Fronomic: Farm: Income
	Institutional::Farm::Management

Figure 37c.

This is the same screen that is used for providing "Exogenous elements" in the Scenario formulation screen (see Section 6).

### 4.5 Cleaning up projects

SEAMLESS-IF Prototype can help you in managing your projects. In the 'Project' menu chose CleanUp (Figure 38) to open the 'Project CleanUp' screen (Figure 39). You can also delete files and folders that are no longer used by the project by clicking 'Delete'. Please verify that the items in the list are safe to delete. To be extra cautious a good idea can be to copy the files and folders to another directory before deleting them from the project.

Figure 38.





Project CleanUp	×
alidate and Create	
checks the project subdirectories and (re)creates the missing ones.	Update
Irphan Files and Directories	Validate and fix missing directories
The following files and directories seem to be no longer in use by the project:	
(Please verify before deleting!)	
C:\Documents and Settings\pwall\My Documents\Seamless projects\scenarios\(1) C:\Documents and Settings\pwall\My Documents\Seamless projects\scenarios\capri_scenario.gms C:\Documents and Settings\pwall\My Documents\Seamless projects\scenarios\New Scenario(1)	X Delete
ОК	Cancel



Should there be problems with missing scenario subdirectories in the project, you can try to fix it by clicking on the *Update* button in the Validate and Create section. Where needed new (empty) directories will be added.

When there are orphan files and directories reported in the second section, for example when you created a test scenario and later decided to not save the project, first verify if they can really be deleted and not contain any essential data anymore. Then click the *Delete* button, the system will now attempt to delete all listed files and directories (with their contents). This option should be used with care!

# 5 How to define a problem in SEAMLESS-IF Prototype 1

Open the problem definition screen by either clicking 'Problem' in the top menu (Figure 40) or the icon in the workflow on the overview screen (Figure 41). Remember that can you can always return to the overview screen by clicking 'Overview' in the top menu.

Manual project * - SEA	MLESS-IF 1.0 Protot	ype1 build 2311	
Project Formatting Tools	Help		
seamless	Overview	Problem	I Scenarios
			Overvi

Figure 40.

	Overview
-Project Workflow	
	and the second sec
	Problem

#### Figure 41.

Navigate on the problem description screen by clicking the different tabs and fill in the appropriate information (Fig. 42).



seamless	Oynoview	Problem	Scenarios	Indicators	
			Problem Desc	ription	
			Project: Manua	al project	
Policy Context Policy Opti	ons   Policy Impacts   Mo	dels Used			
Describe the main identifie	d problems:				
		t			
Describe the spin pality of	stacht, agu	<b>↓</b>			
Describe the main policy of	ojectives:	Ţ			
Describe the main policy of	ojectives:	<b>↓</b>			
Describe the main policy of	ojectives:	<b>↓</b>			
Describe the main policy of	ojectives:	ţ			
Describe the main policy of	ojectives:	<b>↓</b>			
Describe the main policy of	ojectives:	ţ			
Describe the main policy of	ojectives:	<u></u>			
Describe the main policy of	ojectives:				
Describe the main policy of	ojectives:	Ţ			
Describe the main policy of	ojectives;	ţ			
Describe the main policy of	ojectives:	ţ			
Describe the main policy of	ojectives:	Ţ			

#### Figure 42.

Note than on some tabs the size of the text fields can be changed, either by clicking on the small black arrows to the left on the bar between the text fields or by simply placing the cursor on the bar and drag it (Figure 42).

Also note that there is no 'Save' button, the information provided is saved automatically in the project file and also updated if you return to this screen to change something.

## 6 How to define a scenario in SEAMLESS-IF Prototype 1

Click 'Scenarios', either in the top menu or in the project workflow map on the overview screen to open the scenario formulation screen (Figure 43).

eamless	Diarview	roblem	marios Indicators Mo	Calcu	lation Results
		Scenari	o Formulation		
ect Scenarios					
nario Framework:					
seline and Policies Scenarios					• 🤊
narios:					
licy	Туре		Festscenario	Name	
			1		
specified		he	vew Scenario		<u> </u>
specified	1	R.	vew Scenario		
specified	1	<b>1</b>	vew Scenario		
specified		<i>\</i> }	vew Scenario		
specified			vew Scenarro		
specified Nation about the highlighted s	icenario: Jus Elements )		vew Scenarro		
specified Nation about the highlighted s	icenario: Jus Elements	-5	eev >cenario		
specified wation about the highlighted s ing and Objectives Exogene Aspect	icenario: pus Elements	Scale	ew Scenario Element		Setting
specified wition about the highlighted s ng and Objectives Exogenc Aspect	icenario: nus Elements	Scale	ew Scenario Element		Setting
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specified hation about the highlighted s ng and Objectives Exogenc Aspect	scenario: uus Elements	Scale	ew Scenario		Setting
specified hation about the highlighted s ng and Objectives Exogenc Aspect	icenario: uus Elements	Scale	ew Scenario Element		Setting
specified nation about the highlighted s ng and Objectives Exogenc Aspect	icenario: Juse Elements	Scale	Element		Setting
specified Nation about the highlighted a ng and Objectives Exogen Aspect Aspect	icenario: Jus Elements	Scale	Element		Setting

#### Figure 43.

To see the description of an already existing scenario highlight it in the list in the upper pane and the description is shown in the lower pane.

Figure 44.

To add a scenario, click the green 'plus' to the right in the upper pane and fill in the name, choose what type of scenario you are providing from the drop-down list (e.g. Baseline, Policy, Contrasting, Ceteris Paribus) and fill in the description in the text field in the lower pane.

To delete a scenario, highlight it in the list and click the red cross button to the right.

To add exogenous elements to your scenario click the 'Exogenous Elements' tab in the lower pane (Figure 43). Click 'Select Element(s)' to see a list of already existing exogenous elements (Figure 44).

Selected	Element	Aspect	Scale
¥	Test element	Social	Global
Ū₹	Another test element	Economic	EU

s e a	m 1	ess

To add an element to a system model, click 'Define Elements' and click on the workspace of the system model that appears (Figure 45). Fill in the appropriate information in the lower pane. Aspect and scale can be chosen from drop-down menus and new item in the list can be added according to Section 4.4.2 above. Add relations between the elements by clicking the add relations button at the bottom. When selecting the graphical representation of the relation in the system model a form for system relation information in which you can provide information is shown in the lower pane.

To return to the scenario formulation screen click 'Scenarios' in the top menu.

seamless	Ouestview Problem Scenarios Indicators Models Calculation Results
	System Model
tem Elements and Relatio	ins:
ements Diagram	
System	
Social::Global::Test	
	Move to front Move to back Remove Selected
em Element Information	Move to front      Remove Selected
em Element Information	Move to front Move to back Remove Selected
tem Element Information Element: Element Aspect:	Move to front Move to back Remove Selected
tem Element Information Element: Element Aspect: Scale:	Move to front R Move to back Remove Selected

#### Figure 45.

Also here everything is automatically saved and hence no 'Save' button. The scenarios are saved in separate folders in the scenario folder of your home directory.

# 7 How to select indicators in SEAMLESS-IF Prototype 1

To open the indicator management screen (Figure 46), click 'Indicators', either in the top menu or in the project workflow map on the overview.

Indicator Management Selection of Indicators  ndicator Library  Indicator Conservation Indicator Selection of Indicators  ndicator Library  Indicator Conservation during the year) Indicator Selection of Pield, Farm Yes  O3 leaching (farm type (average concentration during the year) Environmental Field, Farm Yes Total welfare Economic National, EU Yes Toffs of processing industry Economic Regional, National, EU Yes  Nofts of processing industry Economic National, EU Yes Money metric (consumer surplus) Economic Farm, Regional, National, EU Yes Energy consumption due to the use of mineral fertilizers Environmental Farm Yes	seamless	Scenarios Ind	icators Models Calcu	lation Results	
Selection of Indicators         Indicator       Type       Scale(s)       Operational         Slobal warning potential       Environmental       EU       Yes         Total welfare       Economic       National, EU       Yes         Total welfare       Economic       National, EU       Yes         Portiso processing industry       Economic       National, EU       Yes         Budgetary expenditure       Economic       National, EU       Yes         Money metric (consumer surplus)       Economic       National, EU       Yes         Spriguidural income       Economic       National, EU       Yes         Energy consumption due to the use of mineral fertilizers       Environmental       Farm       Yes		Indicator Manage	ment		
Indicator         Type         Scale(s)         Operational           Slobal warning potential         Environmental         EU         Yes           Slobal warning potential         Environmental         Field, Farm         Yes           Total welfare         Economic         National, EU         Yes           Total welfare         Economic         National, EU         Yes           Poritis of processing industry         Economic         Regional, National, EU         Yes           Budgetary expenditure         Economic         National, EU         Yes           Money metric (consumer surplus)         Economic         National, EU         Yes           Apricultural income         Economic         Farm         Yes           Energy consumption due to the use of mineral fertilizers         Environmental         Farm         Yes	dirates Liberari	Selection of Indic	ators		
Slobal warning potential         Environmental         EU         Yes           VO3 leaching /farm type (average concentration during the year)         Environmental         Field, Farm         Yes           Total welfare         Economic         National, EU         Yes           ariff revenues         Economic         National, EU         Yes           Profits of processing industry         Economic         National, EU         Yes           Sludgetary expenditure         Economic         National, EU         Yes           Sudgetary expenditure         Economic         National, EU         Yes           graditure         Economic         National, EU         Yes           gradicultural income         Economic         Farm, Regional, National, EU         Yes           Energy consumption due to the use of mineral fertilizers         Environmental         Farm         Yes	indicator	Туре	Scale(s)	Operational	
NO3 leaching /farm type (average concentration during the year)     Environmental     Field, Farm     Yes       Total welfare     Economic     National, EU     Yes       Profits of processing industry     Economic     National, EU     Yes       Budgetary expenditure     Economic     National, EU     Yes       Money metric (consumer surplus)     Economic     National, EU     Yes       Apricultural income     Economic     National, EU     Yes       Energy consumption due to the use of mineral fertilizers     Environmental     Farm     Yes	obal warming potential	Environmental	EU	Yes	
Total welfare     Economic     National, EU     Yes       Tariff revenues     Economic     National, EU     Yes       Profits of processing industry     Economic     Regional, National, EU     Yes       Budgetary expenditure     Economic     National, EU     Yes       Money metric (consumer surplus)     Economic     National, EU     Yes       Agricultural income     Economic     Farm, Regional, National, EU     Yes       Energy consumption due to the use of mineral fertilizers     Environmental     Farm     Yes	D3 leaching /farm type (average concentration during the year)	Environmental	Field, Farm	Yes	0
Tariff revenues         Economic         National, EU         Yes           Profits of processing industry         Economic         Regional, National, EU         Yes           Budgetary expenditure         Economic         Regional, National, EU         Yes           Money metric (consumer surplus)         Economic         National, EU         Yes           Agricultural income         Economic         Farm, Regional, National, EU         Yes           Sinergy consumption due to the use of mineral fertilizers         Environmental         Farm         Yes	otal welfare	Economic	National, EU	Yes	
Profits of processing industry     Economic     Regional, National, EU     Yes       Sudgetary expenditure     Economic     National, EU     Yes       Aoney metric (consumer surplus)     Economic     National, EU     Yes       gricultural income     Economic     Farm, Regional, National, EU     Yes       inergy consumption due to the use of mineral fertilizers     Environmental     Farm     Yes	ariff revenues	Economic	National, EU	Yes	-
udgetary expenditure     Economic     National, EU     Yes       foney metric (consumer surplus)     Economic     National, EU     Yes       gricultural income     Economic     Farm, Regional, National, EU     Yes       nergy consumption due to the use of mineral fertilizers     Environmental     Farm     Yes	ofits of processing industry	Economic	Regional, National, EU	Yes	
Anney metric (consumer surplus)     Economic     National, EU     Yes       Agricultural income     Economic     Farm, Regional, National, EU     Yes       inergy consumption due to the use of mineral fertilizers     Environmental     Farm     Yes	udgetary expenditure	Economic	National, EU	Yes	
gricultural income Economic Farm, Regional, National, EU Yes nergy consumption due to the use of mineral fertilizers Environmental Farm Yes	oney metric (consumer surplus)	Economic	National, EU	Yes	Select:
nergy consumption due to the use of mineral fertilizers Environmental Farm Yes	gricultural income	Economic	Farm, Regional, National, EU	Yes	
	ergy consumption due to the use of mineral fertilizers	Environmental	Farm	Yes	
ndicators selected for the Project	dicators selected for the Project				Add highli
Indicator Type Scale(s) Operational	Indicator Type	Scale(s)	Operational		0
Slobal warming potential Environmental EU	obal warming potential Environmental	EU.	Yes		

#### Figure 46.

In the scrollable list you can see all the indicators in the indicator library, their types (economic, environmental, social or institutional), scale or scales on which the indicator is applicable and if the indicator is operational within the framework. Information about the indicator (Figure 47) is available if you click on the "I" button or if you double-click on the indicator in the list. This screen is build from the indicator factsheets and it can also be populated by using these factsheets (available at WP2 portal).

To select an indicator for your project, highlight it in the list of the indicator library and click the select button with the yellow down arrow to the right. The chosen indicator will show up in the list of selected indicators in the lower pane.

To add a new indicator to the library, click the green 'plus'. A 'New indicator' entry appears at the bottom of the list. Double-click this line to open the indicator description (Figure 47). Navigate in the description by clicking the different tabs and fill in appropriate information. When you return to the library list by clicking the 'Back to list' button in the lower right corner your indicator is saved in the library.



😫 New project * - SEAMLESS-IF 1.0 Prototype1 build 2467
Project Formatting Tools Help
Overview         Problem         Scenarios         Models         Calculation         Results
Indicator Management
Description of Indicator (see factsheet)
Library Indicator: Global warming potential
General Frameworks Scales Calculation Threshold/Target Representation Relations Evaluation
Name of indicator:
(Slobal warning potentia)
General scope of indicator:
GWP of hol-CO2 GHGs are usually expressed relative to CO2 of a Holo GHOL dass. Since different GHGs has different annospheric liftimes, the GWP will change depending upon the time period over which GWP is assessed. The convention is now to assess GWP over a 100 year time frame. Over 100 years, the GWP of <u>CO2 by definition is 1. The GWP of NOC (attracts or wide) is 296 and the GWP of Brief description of the impact, process, scales treated by the indicator CH4 (methane) 23 (IPCC, 2001). Using these GWPs; the full GHO impact on ration verticing can be expressed in terms of CO-2 equivalents (CO2-eq.) by adding up the combined impact</u>
Unit of indicator:
GWP itself is dimensionless (i.e. the relative radiative forcing over 100 years of non-CO2 GHG relative to CO2). The full radiative forcing of all GHGs combined, calculated using the GWPs, is often expressed in tonnes CO2-equivalents (t CO2-eq.).
♥ Operational (calculation is supported by the system)
Back to list

#### Figure 47.

To delete an indicator, either from the indicator library or from your project, highlight the indicator in the list, click on the red cross button to the right of the appropriate list.

Your choice of indicators for the project will be saved in the project file automatically.

# 8 How to build a model chain in SEAMLESS-IF Prototype 1

Click 'Models', either in the top menu or in the project workflow map on the overview screen to open the model chains screen (Figure 48).

Manual project * - SEAMLESS- oject Formatting Tools Hel	-IF 1.0 Prototype1 build 2384		
seamless	Ogensien Problem Scenarios	Indicators Models Ca	Iculation Results
	Model Chain Ma	anagement	
Indel Chains used in the Proje	Selection of M	odel Chains	
Name	Author	#Components	#Links
estchain	Zlatan Ibrahimovic	2	1 2

Figure 48.

### 8.1 How to open an existing model chain

You can select an already existing model chain in your project by selecting it in the list and then click the editor button to the right (Figure 49), or double-clicking it. A graphical representation of the chain opens. The chain can then be edited following the same steps as described in Section 8.2 below.

#Links	•
1 0	
	Open the editor for the model chain

### 8.2 How to create a new model chain

To create a new model chain, click the green plus sign button on the right side to open the composition settings (Figure 50).

Figure 49.



🐇 Composil	tion Settings		×
Title:	Yet another testchain		
Author:	Zlatan Ibrahimovic		
Description:	The second testchain.		
	1		
		Car	ncel

#### Figure 50.

After filling in the title and the description click 'OK' to open the model chain building diagram (Figure 51a).

ect <u>F</u> ormatting Tool	; <u>H</u> elp						-
seamless	Oyarvitor	Problem	S <u>c</u> enarios	Indicators	Models	Calculation	Resul <u>t</u> s
		M	del Chain N	lanagement			
			Yet anothe	r testchain			
2003 2003 2003	12100 12100 1210	1 12 12 1 12 12 1	123 1323 13	23 13 23 13			
	$\mathbf{k}$						
			P				1

#### Figure 51a.

To add one or more model(s) to the chain in the diagram enable the 'Add models to the diagram' button in the lower left corner of the screen (Figure 51a). Click anywhere on the workspace in the diagram and a list of available models appears (Figure 51b).



👙 Component Selection	$\mathbf{X}$	Highlight the model(s) of your choice and
Select Component Type -		click 'OK'. When you add multiple model
		at once (Figure 51c), they will appea
Type: Mi		stacked in the diagram, and you should
Available Components —		manually rearrange them to a more prope
Name	ID	location. The blocks that represent the
APES	APESWrapper	models, can be moved by clicking on them
AlternativeAPES	AlternativeAPES	with the mouse (this selects a block
PEG	PEG	with the mouse (this selects a block
PTG	PTG	followed by dragging (move the mouse
TCG	TCG	while keeping the mouse button pressed) i
FSSIM-MP	FSSIM-MP	to a new location
CAPRI	CAPRI	
PEG DataLoader	PEGData	
EXPAMOD	EXPAMOD	
LinkVIEWER	LinkVIEWER	
	OK Cancel	Figure 51b.
Alternative Agricu	President State Contract State Contr	
	Production Orient	Figure 51c.

You can also select the models one by one by repeatedly opening the selection dialog. When you are finished with this your diagram could look something like Figure 52.



Figure 52.



Appearance	OpenMI Info	
OpenMI Com	ponent	
ID:	EXPAMOD	
Description:	The EXPAMOD Wrapper	
OpenMI Con ID:	ponent Model Whatever	
Description:	EXPAMOD GAMS based model	

Figure 53.

You can edit the appearance of the model icons, according to Section 3.3 above by right-clicking the model icon and choosing 'Properties' from the pop-up menu or select the model by clicking it and then click 'Properties' in the bottom menu. In the properties you can also see the OpenMI (the programming interface used to link models in SEAMLESS-IF Prototype 1) information about the component (Figure 53).

To link the models, enable the 'Add links to the diagram' button in the lower left corner (Figure 52). Start by clicking the knob on the model that receives data by the link, and then drag the link (a thin green line) over to the knob of the model that provides data. As soon as you have clicked the knob of the providing model, the link turns into a thin grey arrow linking the models. The appearance of this link can be edited according to Section 3.3 above. This way of linking illustrates that OpenMI employs a pull approach which means that models ask other models for necessary data and not the other way around (i.e. models offer data to other models, the so called push approach).

At this stage of development, SEAMLESS-IF Prototype 1 cannot help you on how to link the different models. However the linking of models is only possible in the following sequence: PEG Data Loader, PEG, PTG, APES, TCG, FSSIM-MP, EXPAMOD, CAPRI. This is ensured by the fact that each model input can be linked to only one output of a neighboring (in the sequence) model. An alternative to APES model can be used. This Alternative APES component has been developed as a component for the SEAMLESS prototype 1. Alternative APES uses simple rules of thumb to produce similar outputs as APES (i.e. APES which is a dynamic crop growth simulation model, is temporarily left out); alternative APES as a temporary component, facilitates development of the other components (e.g. FSSIM and EXPAMOD) by supplying reasonable values for yields and environmental effects to all crop types and all agricultural activities without limitations.



### 8.3 How to import and export model chains

You can import model chains from other projects by clicking the open icon to the right on the 'Model Chain Management' screen (Figure 54). Navigate to the location of the xml-file of interest and click 'Open'.



To save a model chain to a file, click the save button, name the file what it is named in the list. This name is saved in the xml-file, but is not filled in by default in the save dialog. If you import the model chain to another project, it will be opened with the name it had when saving it, regardless of the file name it was saved with.

# 9 How to execute a model chain in SEAMLESS-IF Prototype 1

Click 'Calculations' in the top menu or the 'Run Calculations' button in the project workflow map on the overview screen to open the SEAMLESS Calculation Wizard (Figure 55).

👙 My Sample Project * - SEAMLESS-IF 1.0 Prototype1 build 2467	_ 🗆 🛛
Project Eormatting Tools Help	
Seamless Problem Scenarios Indicators Models Calculation Results	
SEAMLESS Calculation Wizard	
Welcome to the SEAMLESS Calculation Wizard This wizard guides you through setting up and running calculations	
Follow these steps:         Image: Connect indicators to model chain outputs.         Status: Not available, please select indicators first         Image: Status: Available         Image: Status: Available         Image: Status: Available, please complete steps 1 and 2 first         Image: Status: Available         Image: Status: Available	Close

Figure 55.

The Calculation Wizard guides you through the (currently) four steps needed to set up and run calculations. The buttons marked 1 to 4 can be clicked to go to a particular step directly. Use the Next and Previous buttons in the lower right to navigate through the wizard sequentially.

After the 1 to 4 buttons a short text explains the step needed and a status message indicates if the step is available to you or not. A step will not be available until the required prerequisites are fulfilled. The status message will indicate what type of information you need to provide to SEAMLESS-IF first.

### 9.1 Step 1: Indicator binding

Click '1' to connect the indicators you chose to the outputs of your model chain (Figure 55). Highlight the indicator in the upper pane and then the model chain output you would like to connect it to (Figure 56). The link button to the right is highlighted if the link is possible. Click this button if you want to create the link.



It should be noted that once an indicator is linked to a model, this model will pull other relevant model chain components. Thus, if none of the indicators is linked to APES, APES will nevertheless be activated by FSSIM or by CAPRI through FSSIM. APES will calculate a lot of outputs per agricultural activity, while FSSIM will select the agricultural activity with the optimal values. In Prototype 1 it is important that at least one indicator is linked to CAPRI to run the full\_model\_chain and one indicator linked to FSSIM model to run the FSSIM model chain. Adding other links does not

influence the whole workflow of calculations that are performed on the background.



An message shows up in the lower pane if the indicator will not yet be calculated (Figure 57).

Unspecified		N		
For the se	lected indicator it	Select the method is currently not specifi	d used to derive the indicator values ed how it is to be calculated or deriv	ved. Pleas
select one	of the available me	thods and fill in the ap	propriate information.	

#### Figure 57.

Go to the next step by clicking 'Next' on the previous screen or by clicking '2' on the Wizard screen (Figure 55).

### 9.2 Step 2: Specify scenario settings

Inspect the scenario(s) you want to run by selecting them from the drop-down menu (Figure 58).



To edit the configuration arguments (input parameters) of the different components in your model chains, select the component by clicking it in the list in the lower pane.

amless	Ogeral	Problem	Scenarios Indicators	Models Calculation	Results
		SEAMLES	S Calculation Wizard		
Specify scenario	o settings				
a scenario;					
Policy: Testscenario					-
allowing settings have	been snecfied	For this scenario:			
morwing secongs nave	been specs ieu	TOT CITS SCENARIO.	1		
Aspec	ct .	Scale	Element	Setting	
s configuration for the	e scenario (acco	ording to the settings listed above)			
s configuration for the Model C	e scenario (acco	ording to the settings listed above) Component	: Argument	Value	
s configuration for the Model C Testchan	e scenario (acco	ording to the settings listed above)	: Argument CAPRIScenariuFile	Value C:Documents and Settings/p	
s configuration for the Model C Testchain Testchain	e scenario (acco chain	crding to the settings listed above) Component CAPRI	: CAPRIScenarioFie RunEngine	Value C-/Documents and Settings/p true	welt.
s configuration for the Model C Testchain Testchain	e scenario (acco Ihain G	Component CAPRI CAPRI EXPAMOD	: Argument CAPRIScenarioFié RunEngine RunEngine	Value CriDocuments and Settingslp True true	
s configuration for the Model C Testchain Testchain Another testchain	e scenario (acco Chain K	Component GAPRI CAPRI EXPANOD EXPAMOD	Argument CAPRIScenarioFle RunEngine RunEngine RunEngine	Value C:Documents and Settingslp true true true	melt 🛌
s configuration for the Model C Testchain Testchain Another testchain Yet another testchain	e scenario (acco chain k n	Component Component CAPRI EXPAMOD EXPAMOD EXPAMOD EXPAMOD	Argument CAPRIScenarioFle RunEngine RunEngine RunEngine RunEngine	Value C:Documents and Settingslp true true true true true	·····
s configuration for the Model C Testchain Testchain Another testchain Yet another testchain Yet another testchain	e scenario (acco chain h	Component CAPRI CAPRI EXPAMOD EXPAMOD CAPRI EXPAMOD CAPRI	Argument CAPRIScenarioFie RunEngine RunEngine RunEngine CAPRIScenarioFile	Value C:IDocuments and Settingslp true true true true	

Figure 58.

Currently, the only model that has a kind of extended integrated user interface for this in SEAMLESS-IF Prototype 1 is CAPRI. Other values can be changed from True to False to enable/disable viewing intermediate model outputs appearing as pop-up screens; select various rotation filters and management practices; choose among three farm types in Flevoland. The final specification of a model chain available in the sample\_project file is described in the Release notes available in the package of Prototype 1 (D1.4.1).

To edit the CAPRI scenario highlight the line where the argument says CapriScenarioFile, and click the 'Edit' button to the right. The CAPRI Scenario Editor appears. Open up the tree to see the different editable items in the CAPRI scenario file (Figure 59). All the three Boarder Protection Measures are editable, whereas other items in this tree are not enabled in the current version of SEAMLESS-IF Prototype 1.



r Capri	Rules and size for Tariff chan	ges		
Macroeconomic assumptions     Inflation rate     GDP growth	Band 1: Tariffs above 90 Band 2: Tariffs between Band	% are cut by 1 and Band 3 are cut by	60 50	% %
Currency exchange rates Policy measures Rules and size for Tariff changes Changes tariff rate quotas Export subsidies commitments Market policies Market policies Market policies Coupling degree of premium schemes Budget of premium schemes	Band 3: Tariffs below 15	% are cut by	40 Set	%

#### Figure 59.

When your scenario files are set, click 'OK' to return to step 2. If everything is set to your likings, click 'Next' to go to step 3.

### 9.3 Step 3: Start calculations

Select the scenario you want to run from the drop-down menu and click 'Start'. You can follow the progress of the calculations in the lower pane (Figure 60).

and the second second second second second	SEAMLESS	Calculation W	izard		
Run calculations		_	_	_	
e scenario to run the calculation for:					
nspecified: New Scenario					*
Model Chain estchain by Zlatan Ibrahimovic	Component	Start Time	End Time	State Prepared	Message
estchain by Zlatan Ibrahimovic	CAPRI			Prepared	
actobain bu Zlatan Ibrahimousio	IN A PARTICULULA			rioporou	
estchain by Zlatan Ibrahimovic nother testchain by Zlatan Ibrahimovic	EXPAMOD		1	Prepared	
estchain by Zlatan Ibrahimovic nother testchain by Zlatan Ibrahimovic et another testchain by Zlatan Ibrahimovic	EXPAMOD EXPAMOD FSSIM-MP	17:40:02	17:40:02	Prepared Calculated	
estchain by Zlatan Ibrahimovic nother testchain by Zlatan Ibrahimovic et another testchain by Zlatan Ibrahimovic et another testchain by Zlatan Ibrahimovic	EXPANOD EXPAMOD FSSIM-MP EXPAMOD	17:40:02 17:40:02	17:40:02	Prepared Calculated Calculating	
estchain by Zlatan Ibrahimovic nother testchain by Zlatan Ibrahimovic et another testchain by Zlatan Ibrahimovic	EXPAMOD EXPAMOD FSSIM-MP EXPAMOD CAPRI	17:40:02 17:40:02	17:40:02	Prepared Calculated Calculating Prepared	

Figure 60.



When the calculations are finished, go to step 4, which is Result visualization, by clicking 'Next'.

Note that though the calculations will be started as a background process allowing you to keep working in SEAMLESS-IF (and e.g. open different screens and modify information), this is not recommended. Please allow SEAMLESS-IF and the models to finish the calculations first before continuing work, unless you absolutely know what you are doing.

### 9.4 Step 4: Result visualization

This part of SEAMLESS-IF is currently under development (note the blue status rectangle in the upper right corner); the MapViewer and TableViewer tools from CAPRI are available by clicking the appropriate buttons on this screen (Figure 61). This is further described in Section 10.

# 10 How to handle outputs in SEAMLESS-IF Prototype 1

Step 4 in the Calculation Wizard is Result visualization. You can also open the Presentation tools if you click 'Results' in the top menu of the overview screen or the results icon in the workflow map on the same screen (Figure 61).

👙 My Sample Project * - SEAMLESS-IF 1.0 Prototype1 build 2467	- 0 🛛
Project Formatting Tools Help	
Seamless Problem Scenarios Indicators Models Calculation Results	
SEAMLESS Presentation Tool	
Welcome to the SEAMLESS Presentation Tool           This tool helps you with presenting the calculated data	
Currently this functionality is being developed. Until it is ready please use one of the following options to examine data calculated by the models. Select a scenario:	
Policy: My Alternative Policy	
Options:         Image: Browse the scenario result files.         Image: Start the CAPRI Map Viewer for the selected scenario.         Image: Start the CAPRI Table Viewer for the selected scenario.         Image: Preview:	
See some ideas for the next version  Previous Next	Close

Figure 61.

### **10.1 File browsing**

Currently, the visualization possibilities in SEAMLESS-IF Prototype 1 are limited. You can browse the results files by clicking the 'Browse the scenario result files' button (Figure 61). Most of the files you will see are csv (comma separated values) files that can be opened in Microsoft Excel, Notepad or any other text editor (Figure 62). Unfortunately, export options for results in formats such as xls or ASCII are not yet implemented. It is, however, easy to save files in a different format after e.g. a CSV file is loaded into Microsoft Excel. The files can be opened by a double-click directly from the SEAMLESS-IF, but also can be browsed through in the folder with results. This folder will be stored under the location where the SEAMLESS-IF is installed:

"SEAMLESS-IF\YourProjectName\scenarios\NameOfYourScenario\NameOfYourModelChain\".

ect * - SEAMLESS-IF 1.0 Prototype1	build 2379				
miless	Problem	Scenarios Inc	licators Models	Calculation	Resul <u>t</u> s
11000	SEAMLE	SS Presentation	n Tool		
owse calculation results					
Name	Size		Туре	Modified	
lle svensson		0 Directory	0.34	2006-jun-19	
capri_scenario.gms		616 File		2006-jun-19	
⊁ kalle		0 Directory		2006-jun-26	
- 🗁 CAPRI		0 Directory		2006-jun-26	
🔻 🧀 map2		0 Directory		2006-jun-26	
Aggregates_2001_(		201221 File		2006-jun-26	
Aggregates_2001_(		201346 File		2006-jun-26	
Aggregates_2012_0		201216 File		2006-jun-26	
Aggregates_2012_0		10E27 Eile		2006-jun -26	
Aggregates 2012 (		201424 File		2006-jun=26	
Aggregates_2012_(		201124116 201186 File		2006-jun-26	
Aggregates 2012 (		201430 File		2006-jun-26	
Addregates 2012 (		201400 File		2006-jun-26	
Aggregates 2012 (		2740 File		2006-jun-26	
AppletFrame.class		1324 File		2006-jun-26	
AppletFrame.java		3471 File		2006-jun-26	
Arab_Crops_2001_I		134388 File		2006-jun-26	
Arab_Crops_2001_		134410 File		2006-jun-26	
Arab_Crops_2012_0		134186 File		2006-jun-26	
Arab_Crops_2012_1		135480 File		2006-jun-26	
Arab_Crops_2012_0		6573 File		2006-jun-26	
Arab_Crops_2012_0		135475 File		2006-jun-26	
Arab_Crops_2012_		135297 File		2006-jun-26	1000
Arab Crops 2012 1		135477 File		2006-iun-26	-

Figure 62.

### **10.2 CAPRI results**

You can also view the CAPRI related result files, either in the Map Viewer or in the Table Viewer.

#### 10.2.1 The Map Viewer

To open the Map Viewer, click the button (Figure 61) and the Map Viewer tool opens as a Java application in your default web browser (Figure 63). By using the drop-down menus (Figure 64) you can filter the information you want to visualize. When you place the cursor over a NUTS II area in the map, information is shown in the box in upper left corner (Figure 65).





#### Figure 63.

#### **CAPRI** Mapping Tool

Theme	Products	Items	Scenario	
Cereals	Soft wheat	Revenue	01MTRST1	*
	Soft wheat Durum wheat Rye and Meslin Barley Oats Grain Maize Other oareals Paddy rice			

#### Figure 64.

In the diagram in the lower left corner you can change colour coding of the map by dragging the scrollable list to desired positions.



#### **CAPRI Mapping Tool**

Theme	Products	Items	Scenario	Countries	Map zoom
Oilseeds 🔽	Rape	Revenue	01MTRST1	•	100
Sydsverige(SE040000000)					#180
Revenue	548				
Total input cost	745				
Gross value added	-197				A L
CAP 92 premiums	230			1	7 162
GVA plus CAP 92 prem.	33				and the
Activity Level	0			/ EST	
Yield	2870			and the second	1. 57S
Production	0			5 6542	1 to to to
Activity Level per UAA	0		-	K	ma gra
Production per UAA	0				pl' (m)
Price	166				in the second
			E Star		

#### Figure 65.

#### 10.2.2 The Table Viewer

To look at the results in the Table Viewer, click the button on the SEAMLESS presentation tool screen (Figure 61). The Table Viewer opens up in your default web browser (Figure 66). Probably you have to allow you web browser to run the active web page contents used by the tool (Figure 67).

Table:     View:     Output:     Graphic type :       Scenario information     Items/Scenarios, Items     Pegions/Scenarios, Items     go       Region: European Union 15     Regions, Products/Scenarios, Items     go       Year: 2012     Information on the model run     Items in rows       Time and date     draw     Items/Scenarios, Products     asseline       Market model for agrinus     draw     Items/Scenarios, Products     asseline       Market model for young animals     draw     Items/Scenarios, Products     asseline       Farm type models     draw     draw     construction of the model for young animals     of the second for young animals       Regional break down (NUTS- draw     draw     construction of the young here young
Scenario information     Items/Scenarios     Items/Scenarios       Regions: European Union 15 Year: 2012 Information on the model run     Regions, Scenarios, Items Regions, Items/Scenarios, Items Regions, Items/Scenarios
Regions / Years     Regions/Years       Regions / Evenarios, Hems     Regions/Scenarios, Hems       Regions / Scenarios, Hems     Regions, Products/Scenarios, Hems       Regions on the model run     Regions, Hems / Years       Time and date     draw       Market model for young animals     draw       Market model for young animals     draw       Regional break down (NUTS- level)     draw
Region : European Union 15 Year : 2012 Information on the model run     Regions, Items : Years - Items in rows Items in rows Items : Years     Baseline       Market model for agricultural outputs     draw     Items/Scenarios, Products Items/Scenarios     Items/Scenarios, Products       Market model for young animals     draw     draw     Items/Scenarios       Farm type models     draw     draw     Items/Scenarios       Regional break down (NUTS- level)     draw     Items/Scenarios
Time and date     draw     Items/Scenarios,Products     14:15:47 7.00       Market model for agricultural outputs     draw     Products/Items     14:15:47 7.00       Market model for young animals     draw     draw     Items/Scenarios       Farm type models     draw     draw     draw
Market model for agricultural outputs     draw     Items/Scenarios       Market model for young animals     draw       Farm type models     draw       Regional break down (NUTS- level)     draw
Market model for young animals     draw       Farm type models     draw       Regional break down (NUTS-seven)     draw
Farm type models     draw       Regional break down (NUTS evel)     draw
Regional break down (NUTS- evel) draw
imulation years draw 2
Immeter States included         draw         BL000000 DK000000 EL000000 EL000000 FR000000 IR000000 IR000000 AT000000 AT000000 AT000000 St000000 CY000000 MT000000 B000000 R00000
umber of inner iterations draw
umber of infeasibilities in arket model

Figure 66.



दे की	88	- Chttps://jose	fina.keg.lu	se/e	C:VEC	lipseWSW	118proto\dat
👂 To he	p pro	Allow Blocked Cor	tent	rer has r	estricted t	his webpa	ge from running s
		What the Risk?	TOCHTON I				
		More information					
Table:	Scena	rio information			-	View:	Items/Scenario
Scena	rio: Sc SE	enario AMCAP Test cas	e 1, Proto	type 1 🔽			

Figure 67.

In the drop-down menus you can filter the information to be shown by the tool. Choose among numerous items to show, cut in many ways in the drop-down menus and then click the 'Go' button in the upper right corner. If you would like to visualize the tables as graphs, you have to install a program called SVGView (see Figure 1). It is available free of charge from Adobe on the Internet: http://www.adobe.com/svg/viewer/install/main.html

Download the appropriate version to your computer and save in a location where you can easily find it. Double-click the downloaded file SVGView.exe and the installation will be carried out automatically. Click the blue 'draw' hyperlink after the item you want to visualize in a graph and the graph tool is started (Figure 68).





### **10.3 Ideas for the next version**

You can also view ideas for the FSSIM (Figure 69a) and APES (Figure 69b) results presentation under the button 'Ideas for the next version'. These results are recognisable from results provided with the sample project file (see Release Notes).

			SEAWLESS	resentation 1001	i.		
review Samples							
5IM APES					Carrow		
					🔮 Sample	4	
Sample 3	il tochnicu	o and oveter					
Grop rotation level per so	iii, techniqu	e anu system			POTACRA		BOTACDAROBACEA
e.c. instants	Soil	Tophotos	2010//5-2		POTAFALLE	ALLGRAS	PUTAGRASGRASPA
Rotation		recnnique	CONV (na)				
POTAGRASGRASFALL	S1	TGeGfGfGd	17,257212	Sample 5			
	-			Production	lovol		POTAFALLGRASGRAS
POTAFALLGRASGRAS	S1	TGeGdGfGf	17,826316	Production	level		
POTAGRASGRASGRAS	S1	TGeGfGfGf	6,513671			Supply(T)	
POTAGRASFALLFALL	S1	TGeGfGdGd	0,570159	GRAS	SEED	43,677059	
	1		- ()	POTA	SEED	764,19997	
POTAFALLFALLGRAS	S1	TGeGdGdGf	0,001055	DOTA	WADE	764 40007	
	100	10	- 10 C	PUTA	WARE	104,19997	

Figure 69a.





Figure 69b.

## **11** How to use the Trac system

Trac is a web-based management of software projects, and is available for all SEAMLESS-IF users for reporting bugs, missing functions, glitches in design and usability as well as for collecting wishes and requests for future versions. Its goal is to simplify effective tracking and handling of software issues and improvement suggestions.

### **11.1 How to login to Trac**

To use the SEAMLESS Trac system you need a login ID and a password. If you do not already have an ID or you have forgotten your ID or the password, please contact Benny Jonsson (benny.jonsson@lucsus.lu.se, phone: +46-46-2224809)

Open your favorite web browser and go to <u>http://trac.seamless-ip.org</u>.

Start logging in by clicking 'Login' in the upper right corner (Figure 70).

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			Login St	ettings Help/	Guide	About Trac	
	Wiki	Timeline	Roadmap	View Tick	ets	Search	1
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s fo s fc Wis	The server trac.	seamless-ip.org at	Trac requires a user	name missing fu track	The wher and syste	login screen e you should password pro m administra	appears (Figure 71) fill in the user name ovided from the Trac tor.
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### 11.2 How to submit a ticket

Start browsing tickets by already submitted by others to see if your issue/problem/request has already been addressed by someone else. Click 'View Tickets' in the upper right corner of the screen. You will be presented a list of available ways of sorting the tickets already in the system (Figure 72). Choose a suitable report format (all tickets by milestone is often a good choice) by clicking on it. As you can see, you can also keep track of your own submitted tickets here for follow-up and to see the progress of its handling.



In these reports you can explore what tickets are submitted, to whom it has been assigned, the severity etc. (Figure 73). You can also look at individual tickets by clicking them in the list.

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TW2 2	006-09-15 Release								
Ticket	Summary	Component	Version	Туре	Seve	erity Owne	r		Created
#9	Baseline generator	06_scenario_form		missing	bloc	ker FSSIM	I\CAPRI\G	TAP\APES	03/21/0
#11	Baseline consistency between models	10_scenario_impl	1.00	missing	bloc	ker FSSI	A/CAPRI\A	PES	03/21/0
#49	WP6 wants to have more detailed descriptions of the workings of the models	15_N/A		missing	majo	r WP3			03/23/0
#106	Can't create scenario.	3.1 Scenarios	1.00	enhance	ment majo	r robk			06/28/0
#50	WPS needs to provide learning materials for SEAMLESS-IF prototype	15_N/A		missing	nom	al mats			03/23/0
#107	Problem data doesn't save	2. Problem	1.00	defect	mino	r robk			06/28/0
#26	Indicator calculation is a component and sould be in the model chain	09_indicator_calc	1.3.9	missing	norn	nal jan-e	rik		03/22/0
#108	Right-click menues in textfields	0. General	1.00	wish	nom	nal robk			06/28/0
#109	Can't passform MS-Word	0. General	1.00	wish	nom	ial robk			06/28/0
	View ticket								
m18_n	n4_20060630 Release								
Ticket	Summary	Component		Version	Туре	Severity	Owne	r C	reated
#97	Trac configuration to WP6 members	N/A		1.00	defect	blocker	andre	ae * 0	6/22/06
=40	The list of shared indicators is not complete	07_indicator_se	lect	1.00	missing	critical	WP2	0	3/23/06
#25	Give information on minimum GAMS/solver license requirements	00_general		1.00	missing	normal	mats	0	3/22/06
#103	browse outputs does not work	5. Results		1.00	defect	normal	some	body 0	6/27/06
m32pr	roto Release								
Ticket	Summary	Component		Version	Туре	Severity	Owner		Created
#57	Improvement of the GIII	00 general		1.00	anhancama	at blocker	MIDE		02/27/0

Figure 72.



If you find out that your issue is not already reported, click 'New Ticket' in the menu in the upper right corner of the screen (Figure 74).

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Figure 74.	itle Index	Recent	anges	Page History



Fill in a description of what you want to report and the type of the ticket; defect, enhancement, missing, wish or task (Figure 75).

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Note: See TracTickets for help on using tickets.

#### Figure 75.

You can change the ticket properties by using the drop-down menus in the 'Ticket Properties' box. Priority can be set from lowest to highest and severity from trivial to blocker on multi step scales. How these properties are set is not critical; all tickets will be individually read, assessed and labeled by the software developers in WP5.

Assign the ticket to a person. If you do not know to whom it should be assigned or otherwise are in doubt, assign it to a WP leader.

The milestone and version properties are automatically set according to what software version is out for testing; you should not have to change these in a normal case.

You can provide some keywords to help the readers of the tickets in the sorting procedure, but that is optional.

The CC field is not used.



Submit the ticket by clicking 'Submit ticket'. There is no reply function enabled in the system, so you will not receive a receipt on your submission, neither will you be notified on the progress of your ticket. You will have to follow that yourself by looking in the system as described above every now and then.

For the interested reader lots of documentation and help functions are provided on the web page, but you are also always welcome to contact the SEAMLESS Trac Team in Lund:

Mats Svensson (<u>mats.svensson@lucsus.lu.se</u>, phone: +46-46-2220513) Benny Jonsson (<u>benny.jonsson@lucsus.lu.se</u>, phone: +46-46-2224809) Patrik Wallman (patrik.wallman@lucsus.lu.se, phone: +46-46-2224809)

### **11.3 Support**

An FAQ (Frequently Asked Questions) web page has been set up in the Trac system. Just click on the link in the menu on the right on the web page (Figure 76).

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Figure 76.