



# *Planning and Development Consulting*

*A Systemic, Spatial, Multi-scale Decision Support System (DSS) for Sustainable  
Development applications*

*Integrated Spatial Planning – Version 6.0*  
User Manual

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**Operating Office**

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**Cover (Page 1)**

# Chapter 1 Installation

## 1. Minimum system requirements

Any computer running Microsoft Windows 7 or later releases.

## 2. Installation url: [http://www.progesconsulting.it/ISP60\\_Download.aspx](http://www.progesconsulting.it/ISP60_Download.aspx)

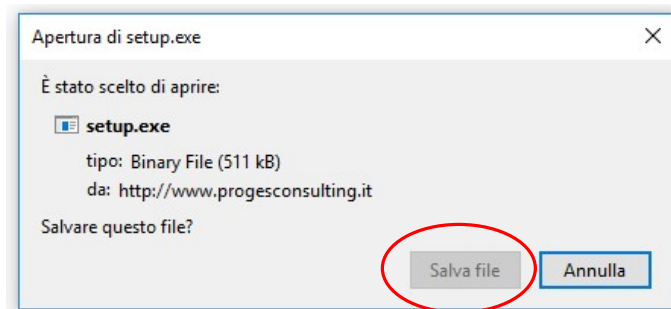
## 3. Installation process

Browse to the Installation url and the following page will be displayed. (see Fig. 1).

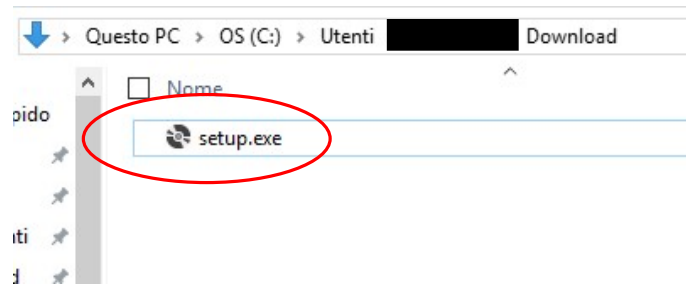


**Fig. 1**

Click on "Save" button and wait for the download:

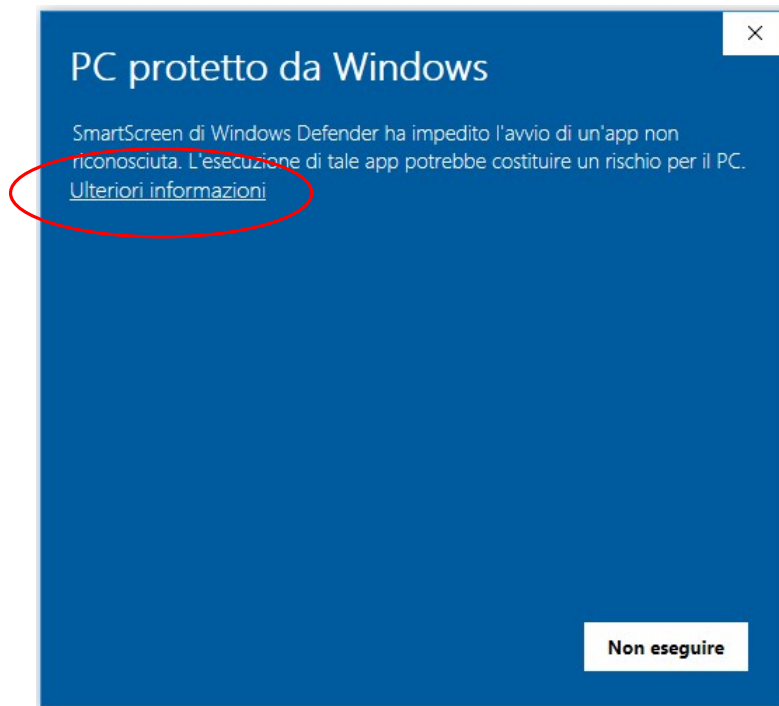


Once the download is complete, if the installation procedure doesn't start automatically, access the "download" folder of your computer and run the "Setup.exe" file (Fig. 2):



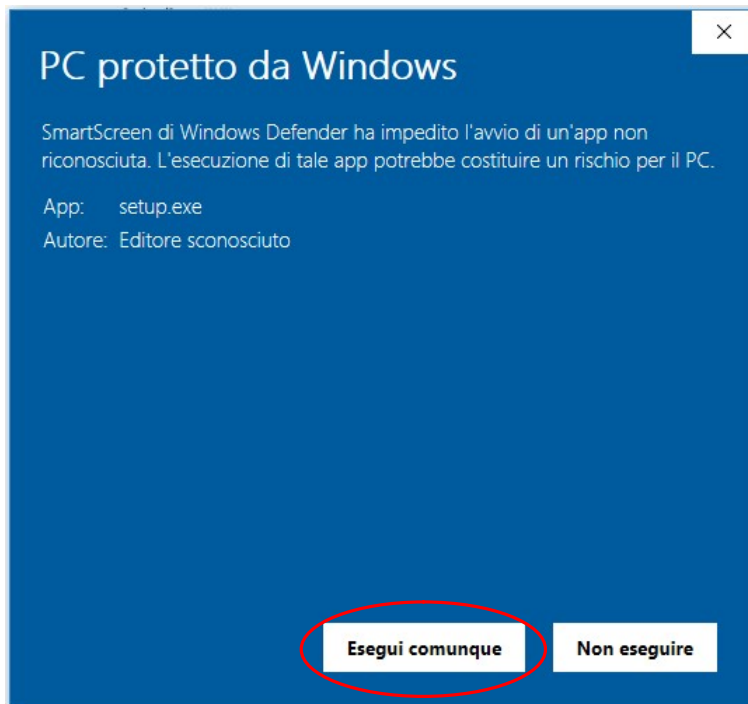
**Fig. 2**

The computer will show a security warning:



**Fig. 3**

Click on "More Info" and then click on "Run Anyway":



**Fig. 4**

After clicking on "Run Anyway" the installation of the ISP60 package will begin with the download of all the necessary files.

Once the installation is completed, the ISP60 software will start automatically.

**PS: This procedure is valid for the installation of any products provided by Proges Consulting s.r.l. through his dedicated website.**

**Operating Office**

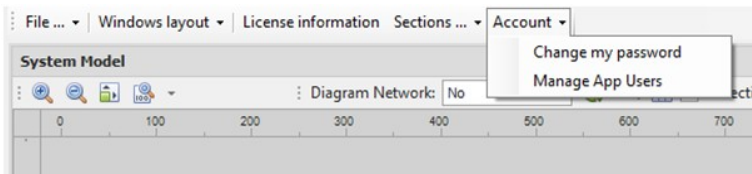
Via Policrate di Samo, 20 - 00124 Roma, Italy  
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**Cover (Page 4)**

## 4. User Account



The menu "Account", according on the type of user, allow to perform two different types of operations:

For users "Read-Only" and "Read-Write" it is only possible changing the password to access the ISP project using the submenu "Change my password".

For users "Full-Admin", using the form illustrated here below, which can be accessed through the submenu "Manage App Users", it is possible to create new users and modify or delete existing ones.

The differences between the three types of users in terms of interaction with an ISP project are as follows:

**Full-Admin:** Full control over the ISP software and/or project(s)\*;

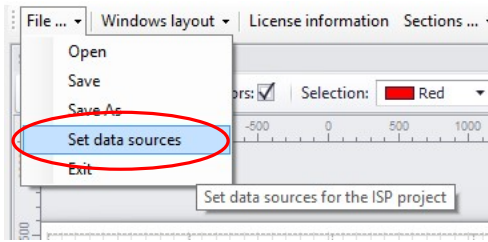
**Read-Write:** Querying data, full management of system diagram and indicators, reporting;

**Read-Only:** Querying data and reporting.

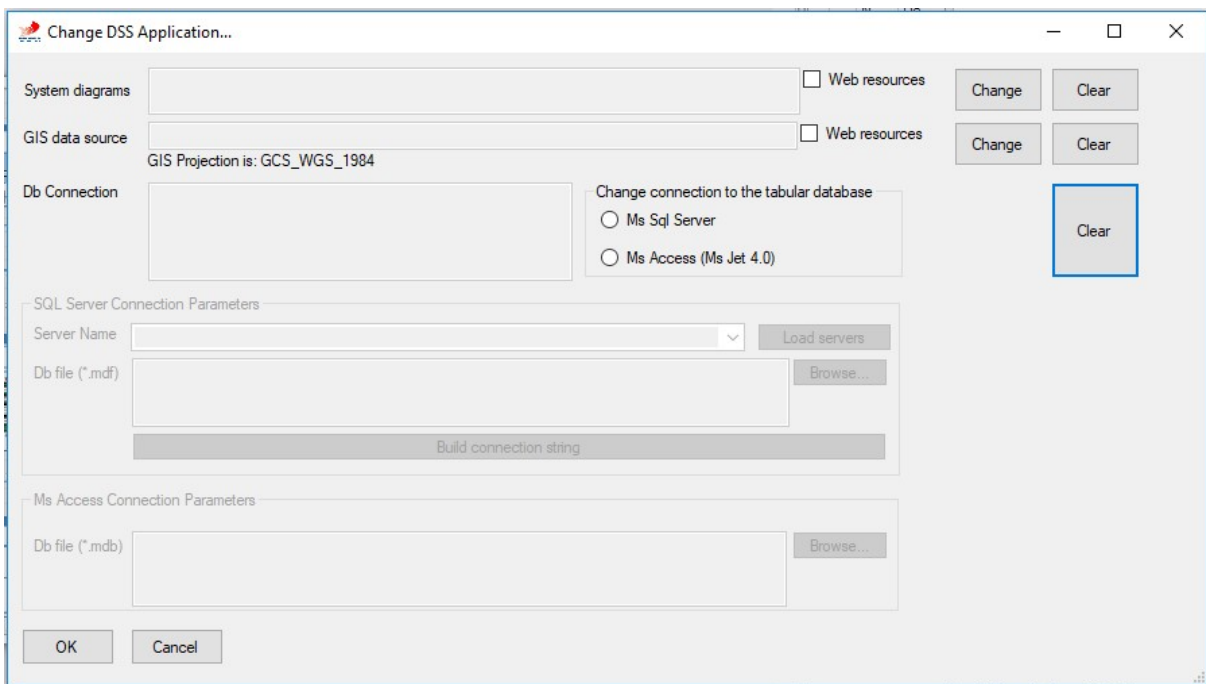
\*The full control by the "Full-Admin" user over the entire IPS software or just over a project(s) depends on the type of license purchased. For more detailed information regarding the types of licenses available, please send an enquiry to: [dss@progesconsulting.it](mailto:dss@progesconsulting.it)


5. **Connecting the ISP60 software with the desired project folder (Only for Full-Admin users with Enterprise License)**

Click on "File" and then on "Set Data Sources";



On the opened interface proceeding with the setting of the required parameters:




**"System Diagrams"** click on "Change"  and select the folder where are the xml files of the DSS diagrams (sysmodel\_data.xml and sysmodel\_drawings.xml); usually the main folder of the project.

Example:

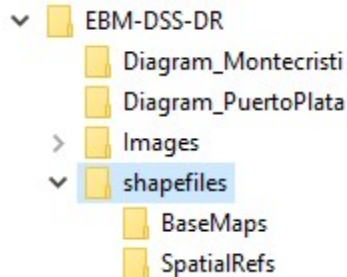


Selecting "Web resources" it is possible to use a network shared folder (internal network or internet).

If you need to start a new project, simply choose the destination path for the xml (project folder) and the IPS50 software will create all the necessary files.

**"GIS Data Source"** click on "Change"  and select the folder where the GIS shape files layers of the project.

Example:



N.B.: Inside the folder of the GIS data sources there must be two more folders "BaseMaps" and "SpatialRefs". If they are not present, the software will automatically create them.

The folder "BaseMaps" is for all the shape files which the user wants to use as the project's GIS base; these files will automatically load and displayed at the opening of the project.

The folder "SpatialRefs" is for all the shape files which the user wants to use as a spatial reference for displaying the various data linked to the indicators; these files will automatically load and displayed as needed.

**IMPORTANT ADVICE: ALL THE SHAPE FILES MUST HAVE THE SAME PROJECTION SYSTEM.**

Selecting "**Web resources**" it is possible to use a network shared folder (internal network or internet).

If you need to start a new project, simply choose the destination path for the shape file (GIS folder) and the IPS60 software will create all the necessary folders.

**"Db Connection"**: choose "Ms Sql Server" or "Ms Access (Ms Jet 4.0)" according to the database type used for the DSS project:

For "Ms Sql Server" setup the Server Name, the path to the related ".mdf" file and click first on "Build connection string" and have a look at the final step.

Db Connection

Change connection to the tabular database

Ms Sql Server

Ms Access (Ms Jet 4.0)

Clear

SQL Server Connection Parameters

Server Name  Load servers

Db file (\*.mdf)  Browse...

Build connection string

Ms Access Connection Parameters

Db file (\*.mdb)  Browse...

OK Cancel

For "Ms Access (Ms Jet 4.0)" set the path to the Ms Access DB file and have a look at the final step.

Db Connection

Change connection to the tabular database

Ms Sql Server

Ms Access (Ms Jet 4.0)

SQL Server Connection Parameters

Server Name  Load servers

Db file (\*.mdf)  Browse...

Build connection string

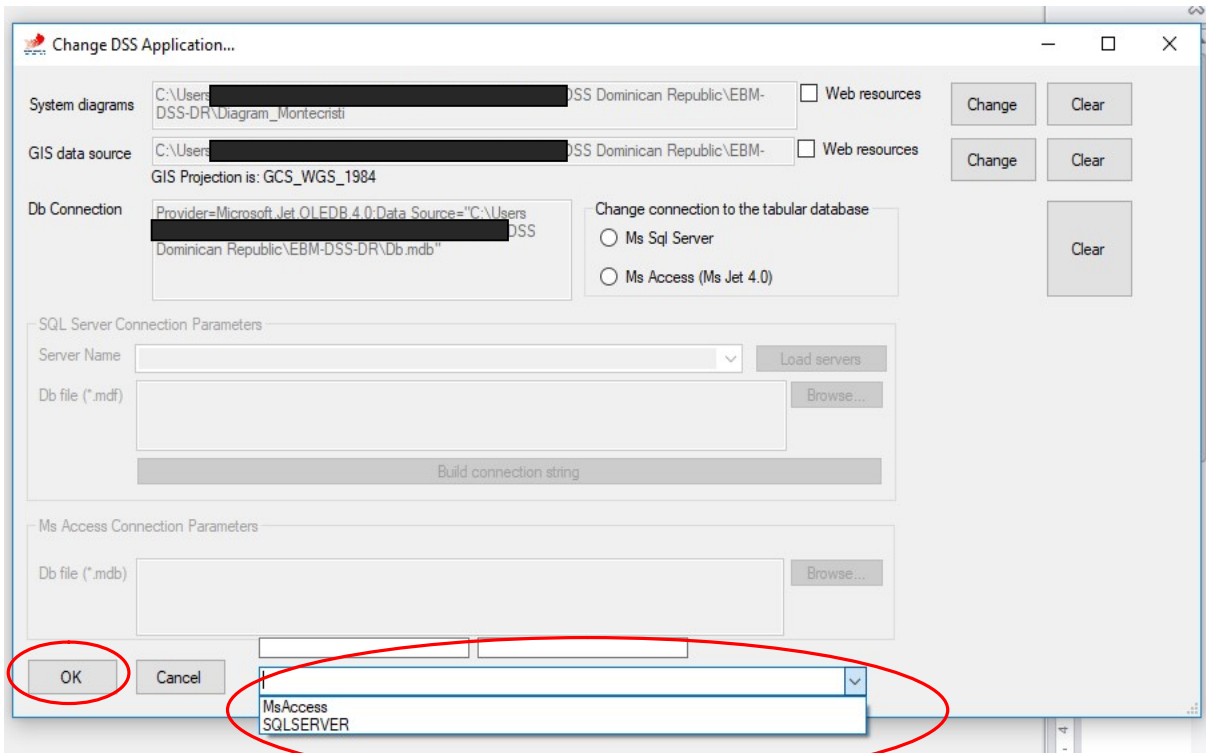
Ms Access Connection Parameters

Db file (\*.mdb)  Browse...

OK Cancel



## **FINAL STEP:**

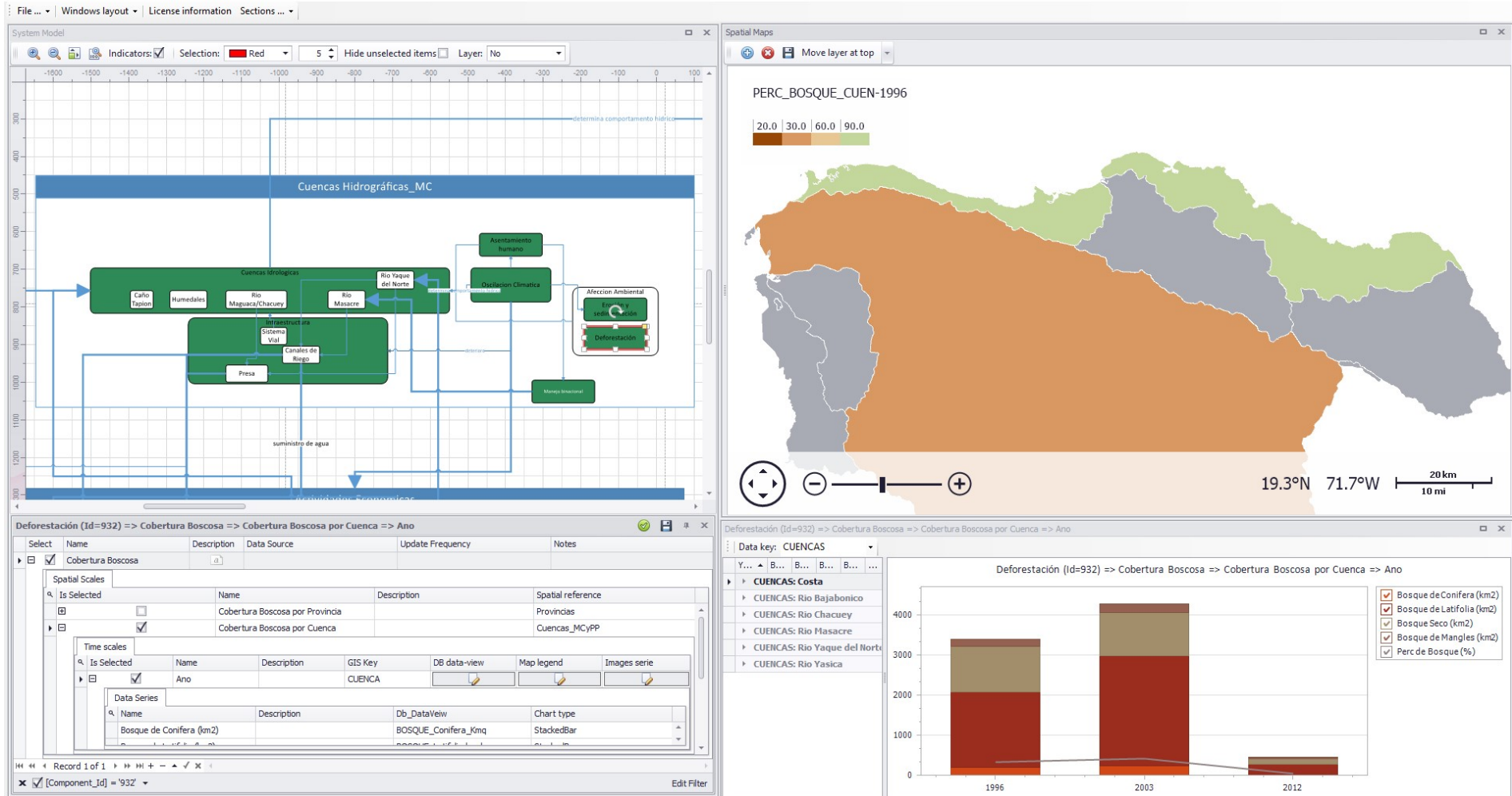


Regardless of the type of database chosen; before completing the data connection setting, select the appropriate driver in the last drop-down menu and then click "Ok".

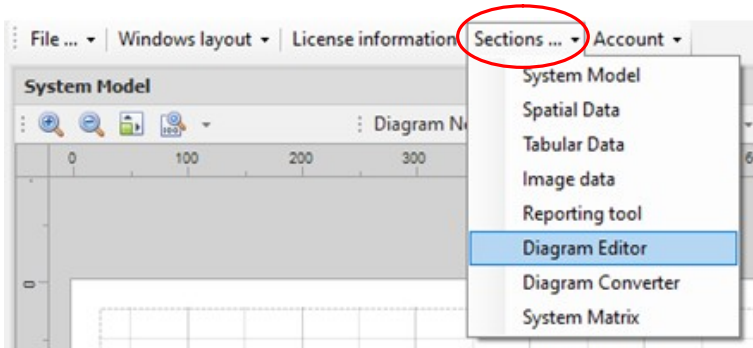
Once these settings are completed, the ISP60 software is ready to be used.

# Chapter 2 The DSS application operating framework

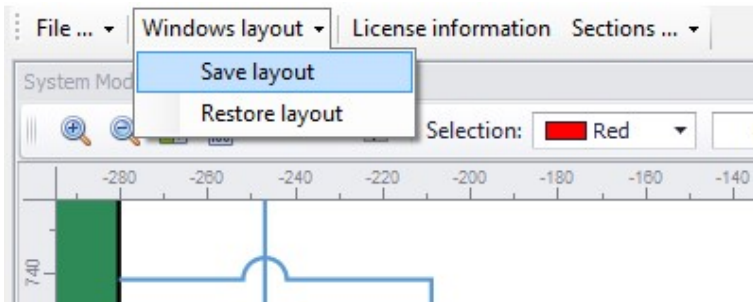
## 1. Main DSS Form



The main form is divided in different section as illustrated in detail in Section 2 below. Each of such section can be resized or moved by drag and drop operation. It can be possible also hidden a section using the classic "x" button on the upper-right edge or re-open it by clicking one of the options contained into the "Section" drop-down menu present in the main toolbar.

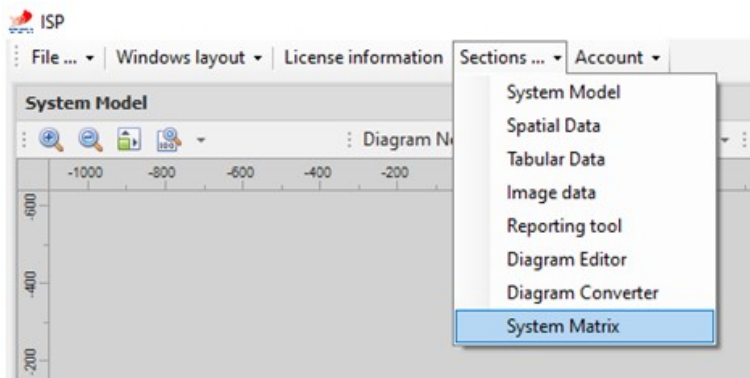


Founded the most congenial arrangement for the various sections it is possible to save (or in case restore) the layout using the specific menu "Windows layout".

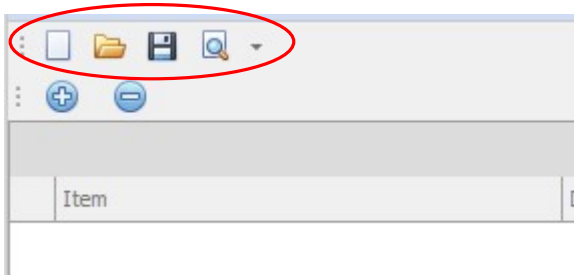


## 2. Description of the various section of the main DSS form

System Matrix:

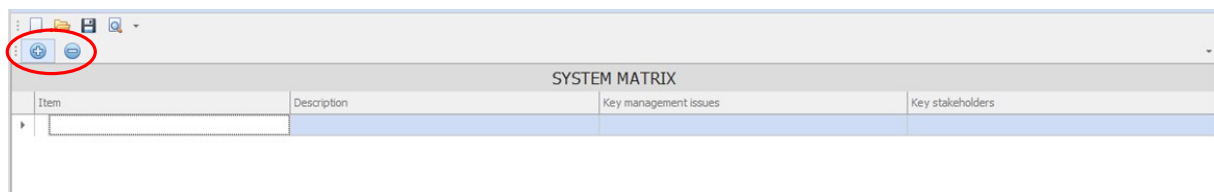


This section is devoted to transpose the document of the Thematic Scoping and the Stakeholders Analysis (task described in the Step 1 of the manual for the application of the EBM methodology published on Proges website: [http://www.progesconsulting.it/EBM\\_DSS.aspx](http://www.progesconsulting.it/EBM_DSS.aspx)) in the system matrix needed to subsequently create the ISP60 system diagram.



Using the highlighted menu it is possible (from left to right): start a new matrix, open a matrix already created, save the work or the changes made and open the interface to print the matrix both digitally (pdf) and/or physically on paper. For printing on paper, it is recommended to use the Landscape layout or printer larger than the classic A4 size.

To add or remove records to the matrix, use the appropriate buttons highlighted here below:



Each record is equivalent to a component of the system to be analyzed and managed and therefore must be described using all the information collected through the Thematic Scoping analysis illustrated at the beginning of the paragraph.

SYSTEM MATRIX			
Item	Description	Key management issues	Key stakeholders
Item 1	Description Item 1	Key Management Issues Item 1	Stakeholder related to the Item 1 (manager or data source)
Item 2	Description Item 2	Key Management Issues Item 2	Stakeholder related to the Item 2 (manager or data source)
Item 3	Description Item 3	Key Management Issues Item 3	Stakeholder related to the Item 3 (manager or data source)
Item 4	Description Item 4	Key Management Issues Item 4	Stakeholder related to the Item 4 (manager or data source)
Item 5	Description Item 5	Key Management Issues Item 5	Stakeholder related to the Item 5 (manager or data source)

Each record can be, through drag and drop, nested within other records of the matrix to create different levels for the best description of the system (in this phase it is possible to create maximum 2 level).

The screenshots illustrate the drag-and-drop functionality of the SYSTEM MATRIX. The top-left window shows a flat list of 10 items. The top-right window shows Item 3 nested under Item 2, and Item 4 nested under Item 3. The bottom window shows the final nested structure with columns for 'Key management issues' and 'Key stakeholders'.

Item	Description	Key management issues	Key stakeholders
Item 1	Description Item 1	Key Management Issue Item 1	Stakeholder related to Item 1 (manager or data source)
Item 2	Description Item 2	Key Management Issue Item 2	Stakeholder related to Item 2 (manager or data source)
Item 3	Description Item 3	Key Management Issue Item 3	Stakeholder related to Item 3 (manager or data source)
Item 4	Description Item 4	Key Management Issue Item 4	Stakeholder related to Item 4 (manager or data source)
Item 5	Description Item 5	Key Management Issue Item 5	Stakeholder related to Item 5 (manager or data source)
Item 6	Description Item 6	Key Management Issue Item 6	Stakeholder related to Item 6 (manager or data source)
Item 7	Description Item 7	Key Management Issue Item 7	Stakeholder related to Item 7 (manager or data source)
Item 8	Description Item 8	Key Management Issue Item 8	Stakeholder related to Item 8 (manager or data source)
Item 9	Description Item 9	Key Management Issue Item 9	Stakeholder related to Item 9 (manager or data source)
Item 10	Description Item 10	Key Management Issue Item 10	Stakeholder related to Item 10 (manager or data source)

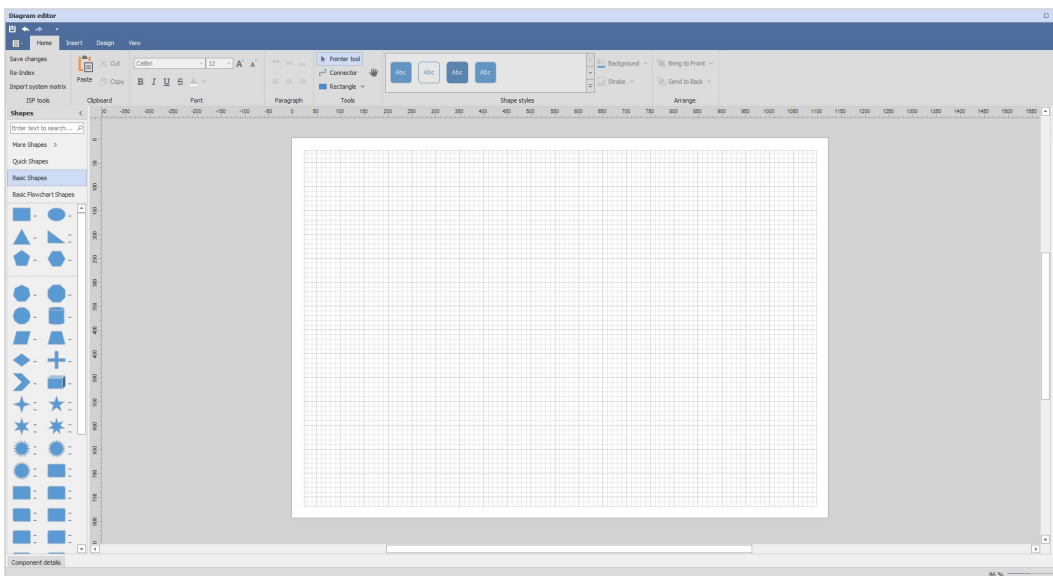
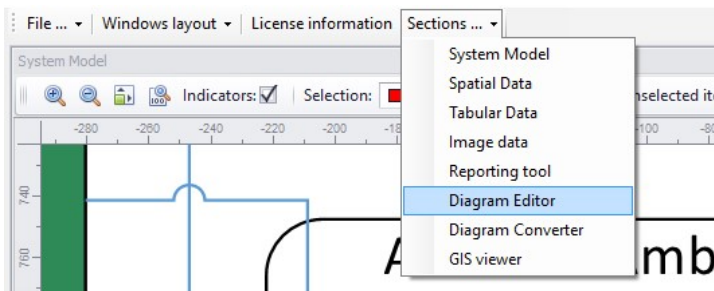
Once the desired stratification and description degree has been reached, proceed to save the matrix.

Diagram Editor:

The Diagram Editor section has three main functions:

1. Import the system matrix created in the previous paragraph and automatically transpose it in the form of a system diagram (components).
2. Modify all the components created automatically by importing the system matrix, including the creation of additional components and/or nesting levels (beyond the two created during the system matrix development).
3. Create connections between the various components of the diagram (arrows).

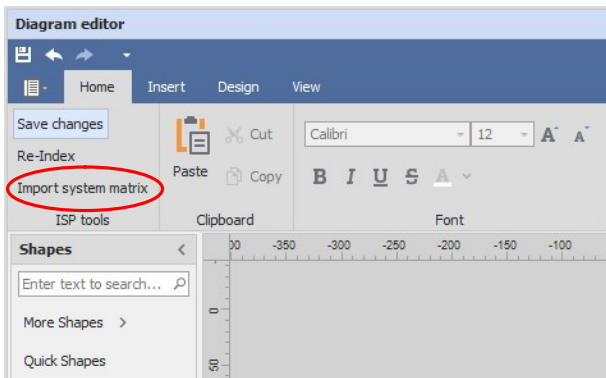
This section is usually closed or hidden; to view the editor use the "Section" menu and select "Diagram Editor"



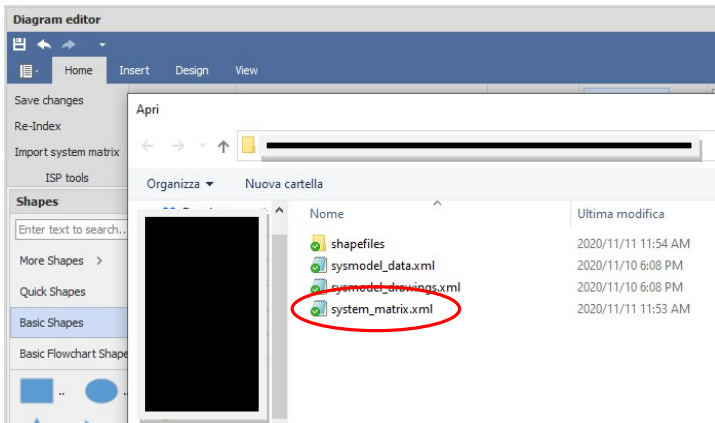
The Diagram Editor is developed using a third-part tool. The use of this editor is meticulously described in the manual available at the following link:

<https://documentation.devexpress.com/WindowsForms/114835/Controls-and-Libraries/Diagrams/Diagram-Designer>

## Importing the System Matrix:

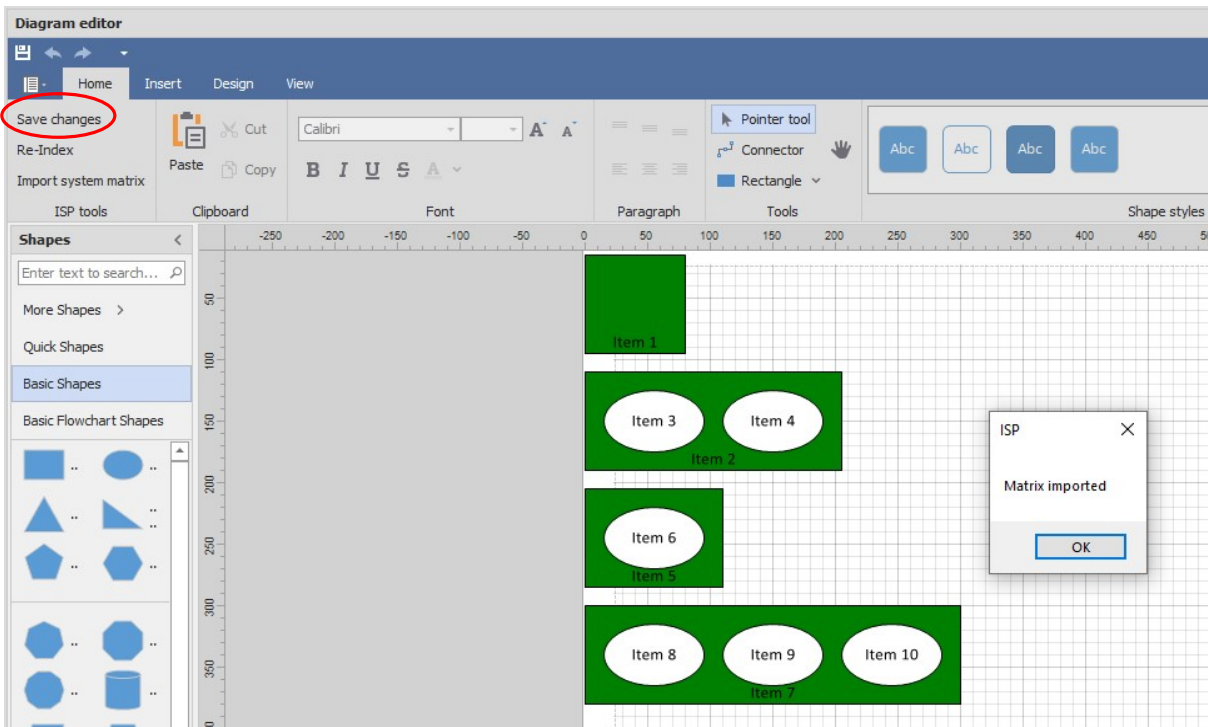


Just click on the highlighted button and select the xml file of the saved system matrix created in the previous paragraph:

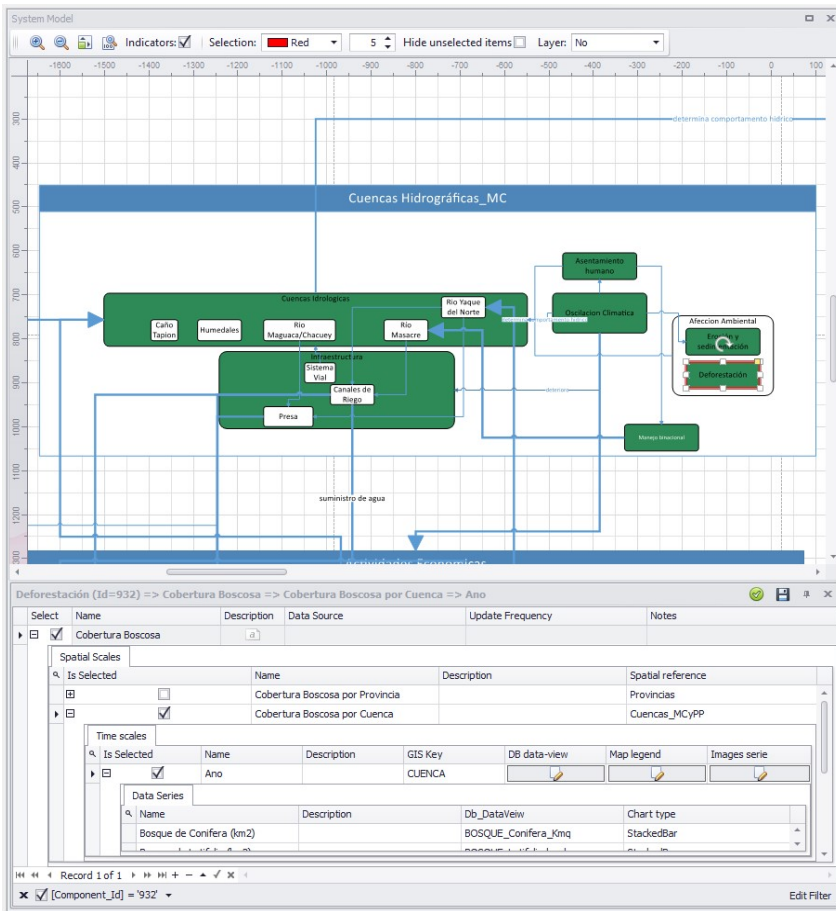


The software will create components with name, description and stratification identical to what was decided during the creation of the system matrix.

To complete the creation of the diagram it will be necessary to save the changes made using the Diagram Editor (see next figure).



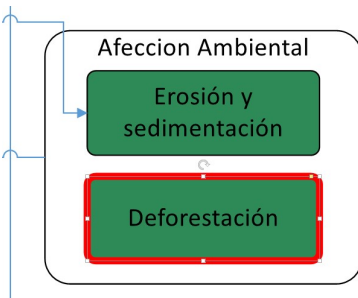
## System Model Section: System Diagram



This section is deputy to the System Diagram consultation and to the “indicators based” data connection between databases and the several components of the diagram.

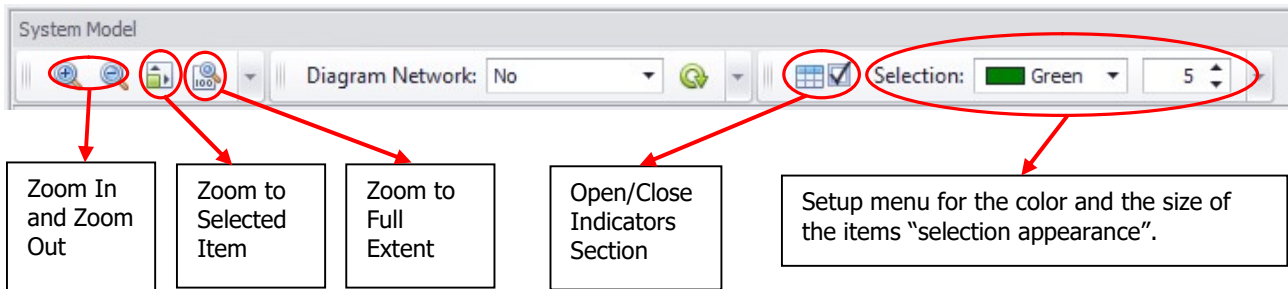
### Selection:

All the “entity” (components, arrows and containers) that are present inside the System Model Area are selectable by a single click of the mouse and the selected item is highlighted in RED or with the color chosen in the specific menu illustrated in the section here below.



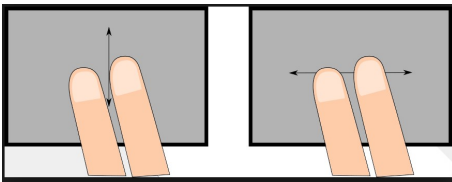


## Surfing the Diagram:

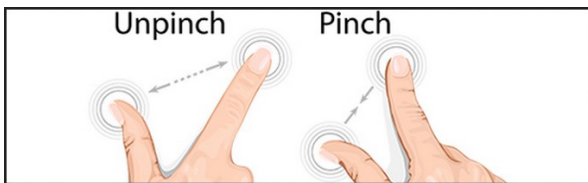


The area of the System Diagram is mousepad sensitive (2<sup>nd</sup> generation mousepad).

Scroll the Diagram: Using two fingers simultaneously is possible to scroll the entire Diagram (Vertical and Horizontal).

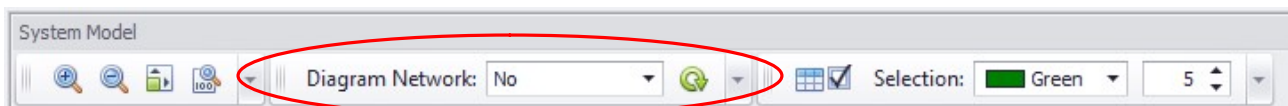


Zoom the Diagram: Using the "pinch to zoom" is possible to zoom-in or zoom-out the system Diagram Area.

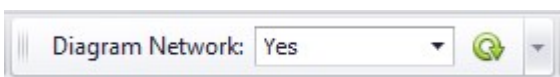


## System Model Section: Simplify the Diagram Network/Hide unselected items

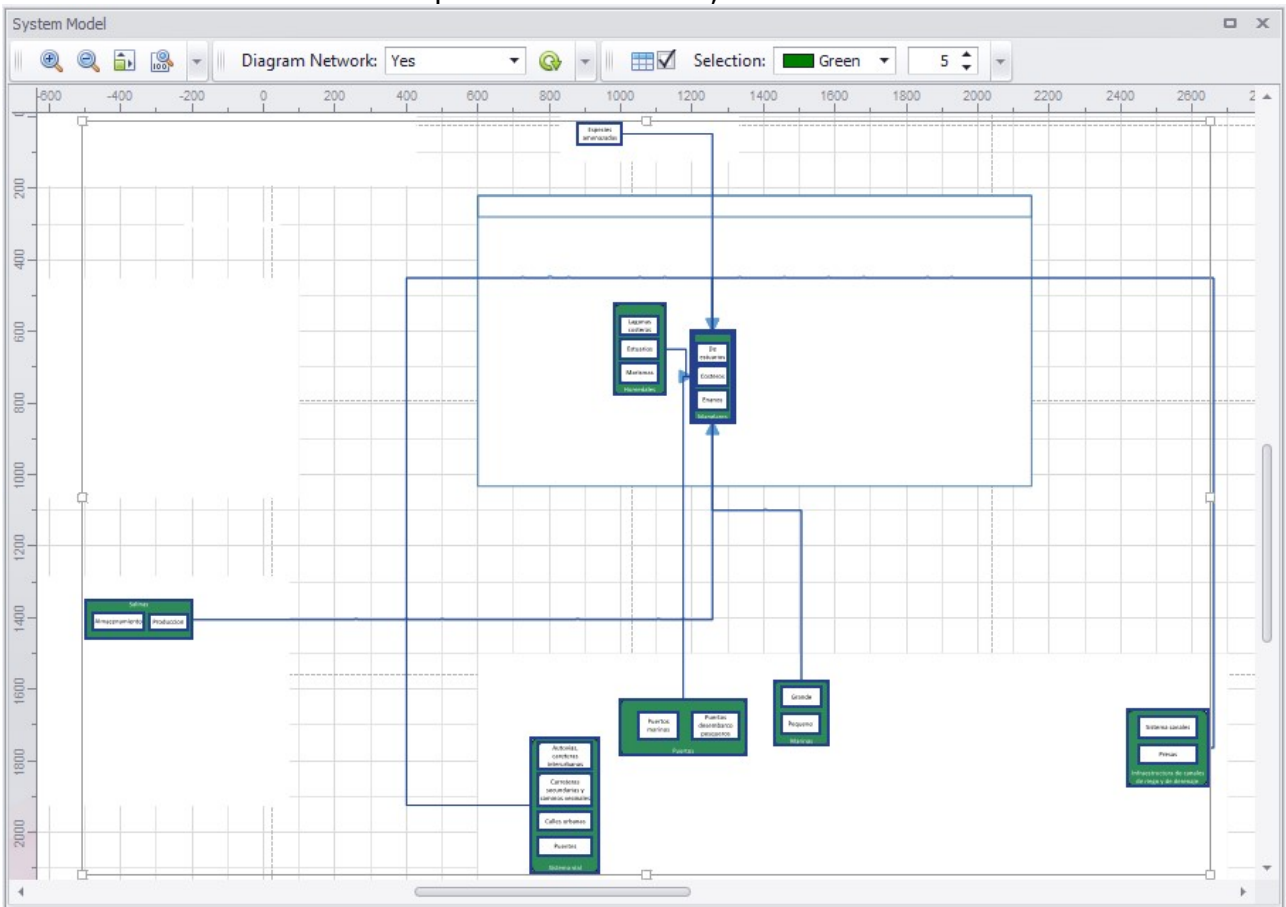
Often the complexity of the System Diagrams makes complicated the specific understanding of all the various relationships that are occurring among the several components. To overcome this disadvantage and to analyze the diagram with an efficient and organized approach it is possible to "Hide the unconnected components" of the diagram.



A. Choose "Yes" in the Diagram Network drop-down menu for activating this option,

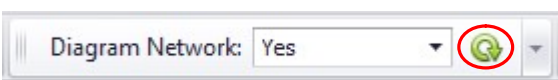


- B. Select the component and automatically all the connected components will be highlighted, and the unconnected components will be hidden;

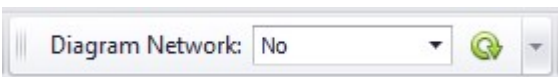


- C. It is possible to click others connected (and visible) components for continuing the "step by step" analysis of the network;

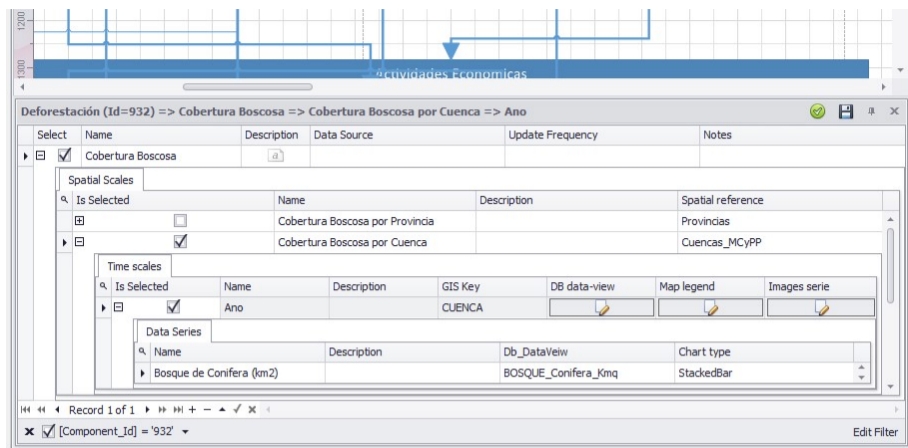
- D. For returning to the complete diagram refresh the view using;



- E. For disable this option and return to the standard navigation of the diagram choose "No" in the Diagram Network drop-down menu and refresh the view;



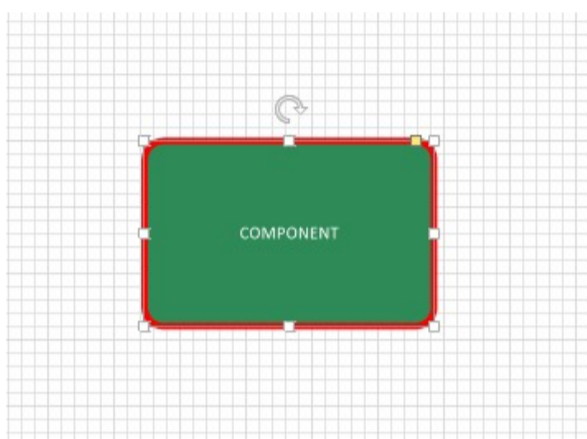
## System Model Section: Indicators and Data Connection



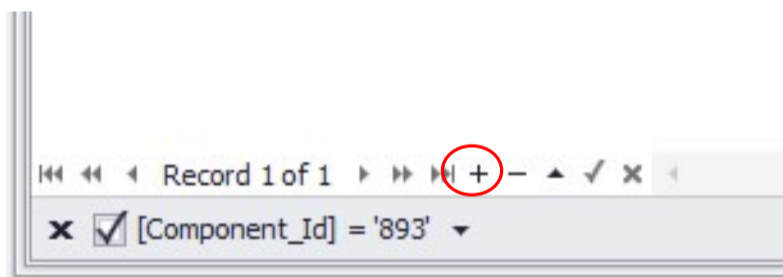
This section allows to add indicators to the related component for the connection of the data contained into the database.

Each component can have as many indicators are needed and each indicator can contain more than one spatial and time reference.

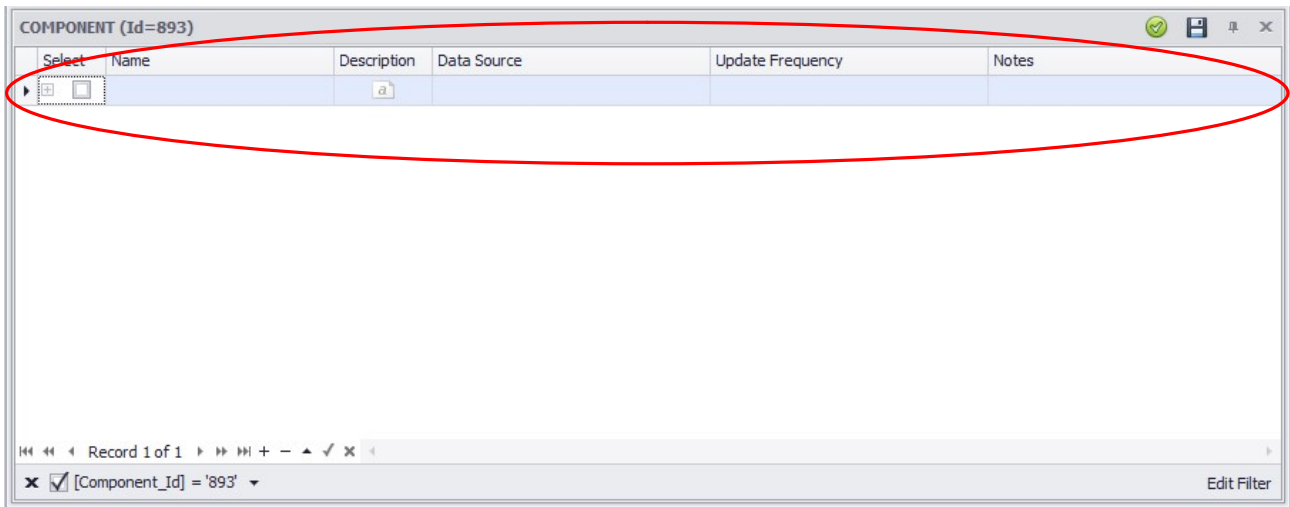
A. Select a component;



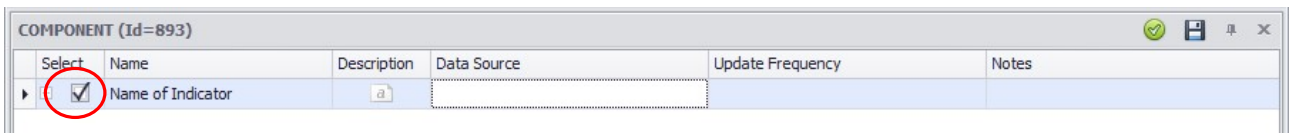
B. In the lower part of the System Model Section click "+";



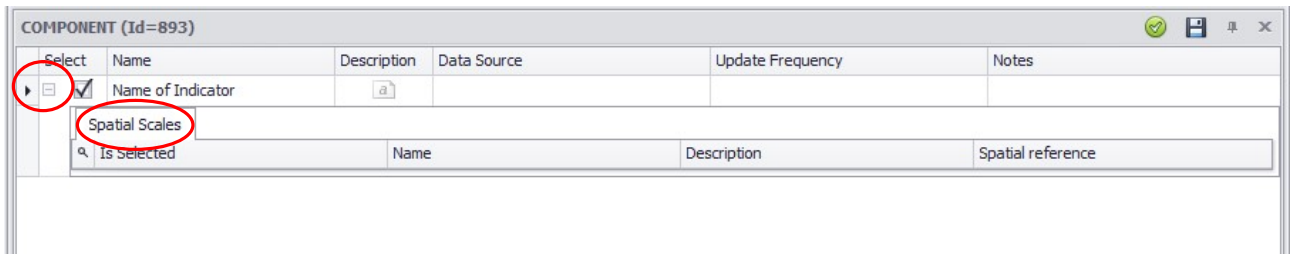
C. A New "object" appear;



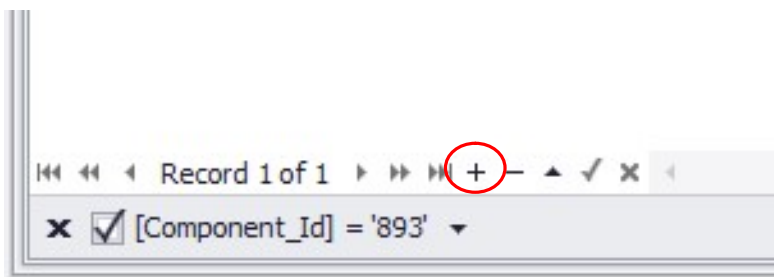
D. Select the "New Indicator", Type the "Name of the Indicator" and fill all the necessaries information;



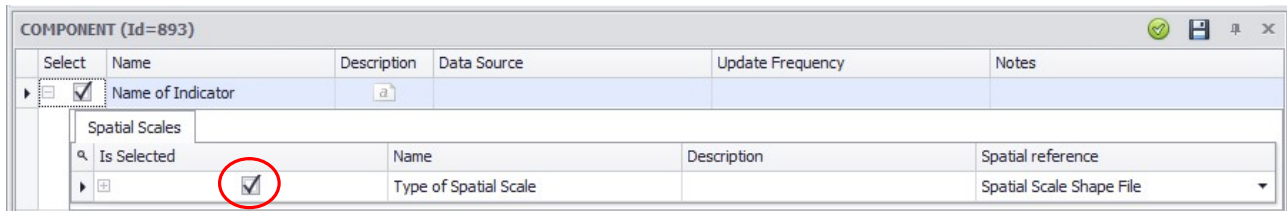
E. Click on the "+" and then click on "Spatial Scale";



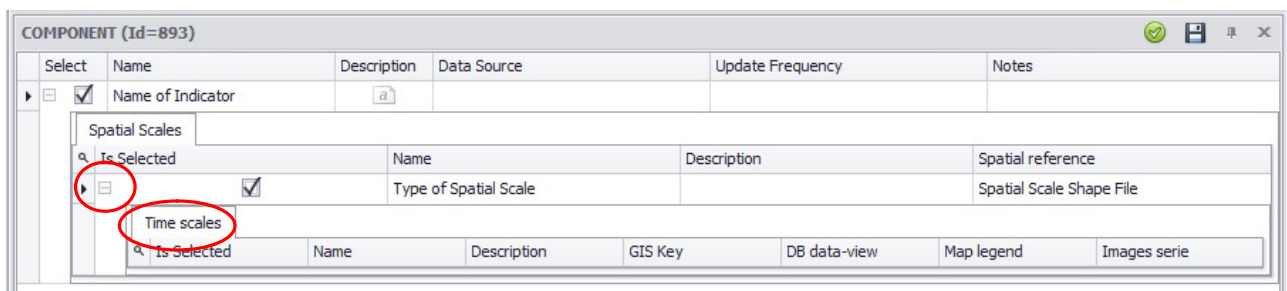
F. In the lower part of the System Model Section click "+";



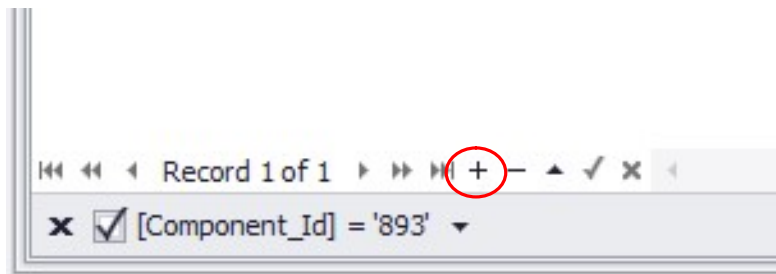
- G. Select the "New Spatial Scale", Type the "Name of the Spatial Scale" (Province, Watershed, Protected Area Boundary, etc.), Type the Description (if needed) and Select the Spatial Reference Shape File (these shape files are contained into the SpatialRefs folder: see section 4 sub-section "GIS Data Source"), if the needed Shape File doesn't appear on the list just type the shape file's name without any extension (eg: Shape file name = Main\_Watershed.shp → Spatial reference = Main\_Watershed);



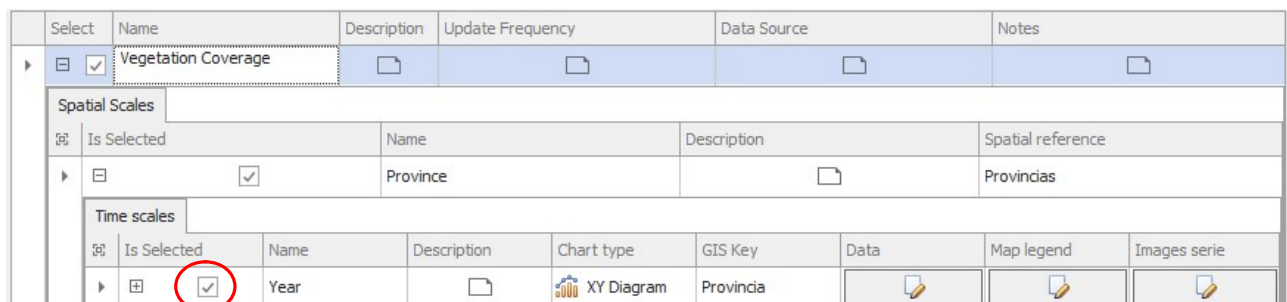
- H. Click on the "+" and then click on "Time Scale";






- I. In the lower part of the System Model Section click "+";






- J. Select the "New Time Scale", Type the "Name of the Time Scale" (Year, Month, etc.), Type the Description (if needed), choose the "Chart type" (according to the type of data to be shown) and Select the GIS Key (the GIS Key is the field inside the shape file for the spatial distribution of the data);






K. Click on "Data";

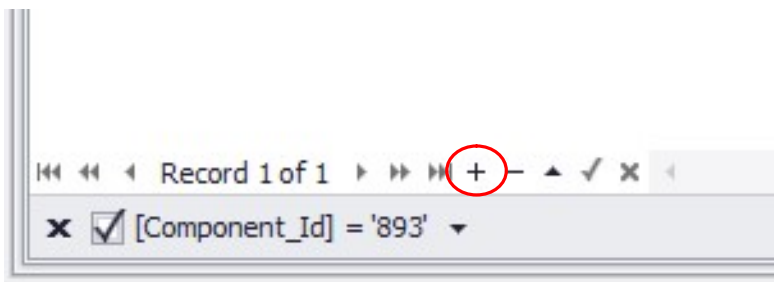
Select	Name	Description	Update Frequency	Data Source	Notes		
<input checked="" type="checkbox"/>	Vegetation Coverage						
Spatial Scales							
Is Selected	Name	Description	Spatial reference				
<input checked="" type="checkbox"/>	Province		Provincias				
Time scales							
Is Selected	Name	Description	Chart type	GIS Key	Data	Map legend	Images serie
<input checked="" type="checkbox"/>	Year		XY Diagram	Provincia			

DB data-view	Map legend	Images serie
		
Data View	Qry_Cobertura_Boscosa_Prov_MC	
Spatial key	Provincia	
Time key	YEAR	
Default key	<input checked="" type="radio"/> Spatial key; <input type="radio"/> Time Key	
<input type="button" value="Ok"/> <input type="button" value="Cancel"/>		

- L. Data View Field = Data table containing the related data;
- M. Spatial key Field = Field of the data table for the spatial distribution of the data (same of the GIS Key described above);
- N. Time Key Field = Field of the data table containing the "temporal value";
- O. Default key Field = Default visualization of the Data (Spatial or Temporal Visualization);
- P. Click "OK";
- Q. Click on the "+" and then click on "Data Series";

Select	Name	Description	Update Frequency	Data Source	Notes		
<input checked="" type="checkbox"/>	Vegetation Coverage						
Spatial Scales							
Is Selected	Name	Description	Spatial reference				
<input checked="" type="checkbox"/>	Province		Provincias				
Time scales							
Is Selected	Name	Description	Chart type	GIS Key	Data	Map legend	Images serie
<input checked="" type="checkbox"/>	Year		XY Diagram	Provincia			
Data Series							
Is Selected	Name	Description	Db_DataVeiw	Chart series	Chart Pane	Secondary Axis	Label Pattern

R. In the lower part of the System Model Section click "+";



S. Select in "Db\_DataView" the field of the Data table containing the data to be showed;

T. Choose the "Chart type" (Bar, Line, StackedArea, StackedBar, Pie);

U. Type the "Name of the Data Series" and the Description (if needed)

Select	Name	Description	Update Frequency	Data Source	Notes
<input checked="" type="checkbox"/>	Vegetation Coverage				
<b>Spatial Scales</b>					
<input checked="" type="checkbox"/>	Province				Provincias
<b>Time scales</b>					
<input checked="" type="checkbox"/>	Year			XY Diagram	Provincia
<b>Data Series</b>					
<input checked="" type="checkbox"/>	Coniferous Forest		BOSQUE_Conifera...	Bar	

V. Repeat the points R, S, T and U for each field of the Data table containing the data to be showed;

Select	Name	Description	Update Frequency	Data Source	Notes
<input checked="" type="checkbox"/>	Vegetation Coverage				
<b>Spatial Scales</b>					
<input checked="" type="checkbox"/>	Province				Provincias
<b>Time scales</b>					
<input checked="" type="checkbox"/>	Year			XY Diagram	Provincia
<b>Data Series</b>					
<input checked="" type="checkbox"/>	Coniferous Forest		BOSQUE_Conifera...	Bar	
<input checked="" type="checkbox"/>	Dried Woodland		BOSQUE_Seco_kmq	Bar	
<input checked="" type="checkbox"/>	Mangrooves		BOSQUE_Mangles...	Bar	
<input checked="" type="checkbox"/>	% of Vegetation		PERC_BOSQUE_P...	Bar	

W. Click "Data Series" **1** → Click  **2** → Click  **3**

Deforestación (Id=2869) => Cobertura Boscosa => Cobertura Boscosa - Provincia => Ano

Select	Name	Description	Update Frequency	Data Source	Notes
<input checked="" type="checkbox"/>	Vegetation Coverage				

Spatial Scales

Is Selected	Name	Description	Spatial reference
<input checked="" type="checkbox"/>	Province		Provincias



Time

Is Selected	Name	Description	Chart type	GIS Key	Data	Map legend	Images serie
<input checked="" type="checkbox"/>	Year		XY Diagram	Provincia			

**1**

Data Series

Name	Description	Db_DataVeiw	Chart series	Chart Pane	Secondary Axis	Label Pattern
Coniferous Forest		BOSQUE_Conifera...	Bar			
Dried Woodland		BOSQUE_Seco_kmq	Bar			
Mangrooves		BOSQUE_Mangles...	Bar			
% of Vegetation		PERC_BOSQUE_P...	Bar			

**2**  **3** 

X. After this last operation the data are connected to the component through the related indicator;

File... Windows layout License information Sections...

System Model

Layer: No Selection: 255... 5

Spatial Model

COMPONENT (Id=893) => Vegetation Coverage => Province => Year

Select	Name	Description	Data Source	Update Frequency	Notes
<input checked="" type="checkbox"/>	Vegetation Coverage				

Spatial Scales

Is Selected	Name	Description	Spatial reference
<input checked="" type="checkbox"/>	Province		Provincias

Time Scales

Is Selected	Name	Description	GIS Key	DB data-view	Map legend	Images serie
<input checked="" type="checkbox"/>	Year		Provincia			

Data Series

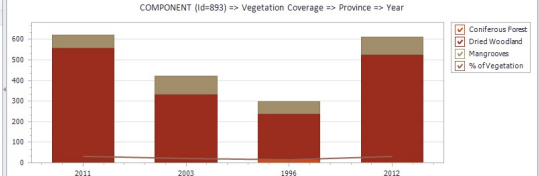
Name	Description	Db_DataView	Chart type
Coniferous Forest		BOSQUE_Conifera_1astfolia_1mq	StackedBar
Dried Woodland		BOSQUE_Seco_1mq	StackedBar
Mangrooves		BOSQUE_Mangles_1mq	StackedBar
% of Vegetation		PERC_BOSQUE_PROV	Line

COMPONENT (Id=893) => Vegetation Coverage => Province => Year

Data key: YEAR

Province: Monte Cristi

COMPONENT (Id=893) => Vegetation Coverage => Province => Year





Y. Creating the "Legend" → Click on "Map legend";

Select	Name	Description	Update Frequency	Data Source	Notes
<input checked="" type="checkbox"/>	Vegetation Coverage				

Spatial Scales				
Is Selected	Name	Description	Spatial reference	
<input checked="" type="checkbox"/>	Province		Provincias	

Time scales							
Is Selected	Name	Description	Chart type	GIS Key	Data	Map legend	Images serie
<input checked="" type="checkbox"/>	Year		XY Diagram	Provincia			

Data Series							
Name	Description	Db_DataVeiw	Chart series	Chart Pane	Secondary Axis	Label Pattern	
Coniferous Forest		BOSQUE_Conifera...	Bar				
Dried Woodland		BOSQUE_Seco_kmq	Bar				
Mangrooves		BOSQUE_Mangles...	Bar				
% of Vegetation		PERC_BOSQUE_P...	Bar				

Z. Choose the "Value-Field" for creating the Legend [eg: Bananos(Kmq)] = Bananas Crops (SqKm);

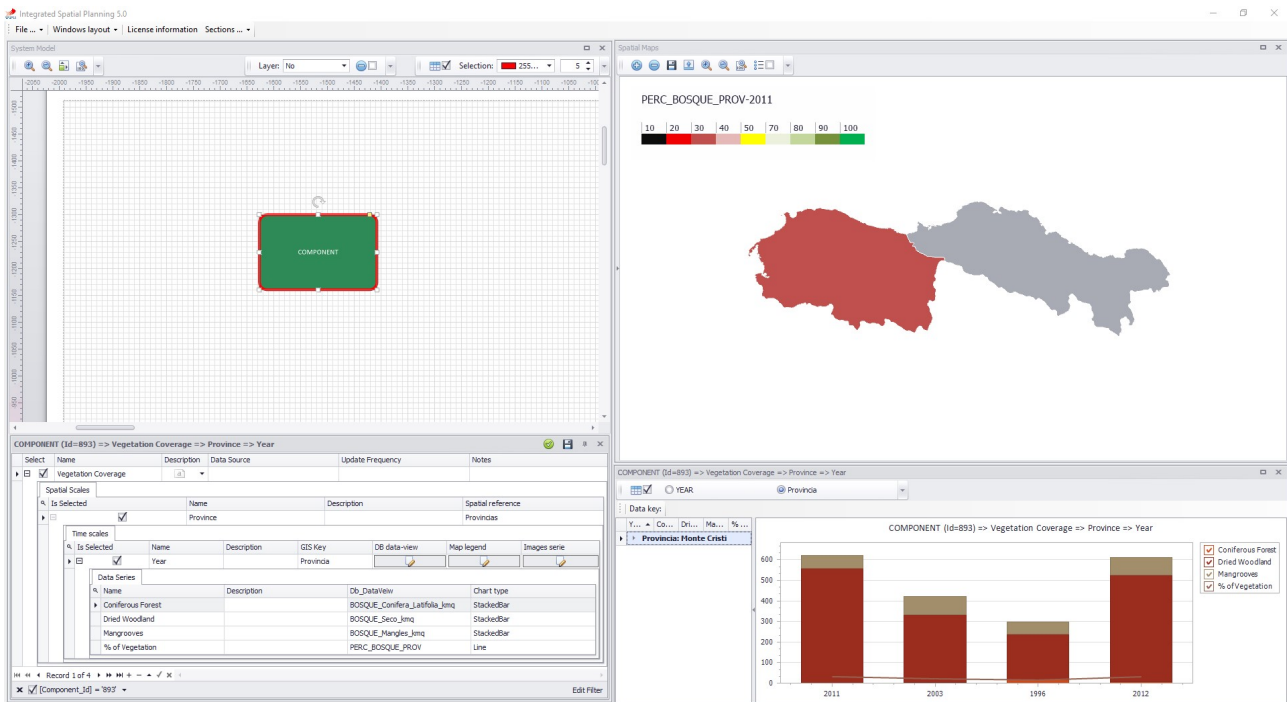
AA. Choose the number of the intervals and click the refresh ;

BB. Adjust the "Value" and/or the "Colors" of the intervals if needed;

CC. Save the Legend .

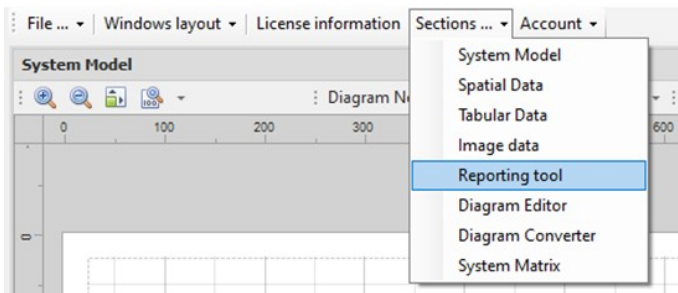
Map Legend Settings		
Equal intervals	Bananos(Kmq)	10
+	×	
Values	Colors	
	10	146, 208, 80
	20	118, 146, 60
	40	0, 176, 240
	80	49, 133, 155
	160	255, 255, 0
	320	227, 108, 9
	640	217, 150, 148
	800	149, 55, 52
	900	99, 36, 35
	1000	0, 0, 0

Refresh the indicator performing the operation described into the bullet "W" above.

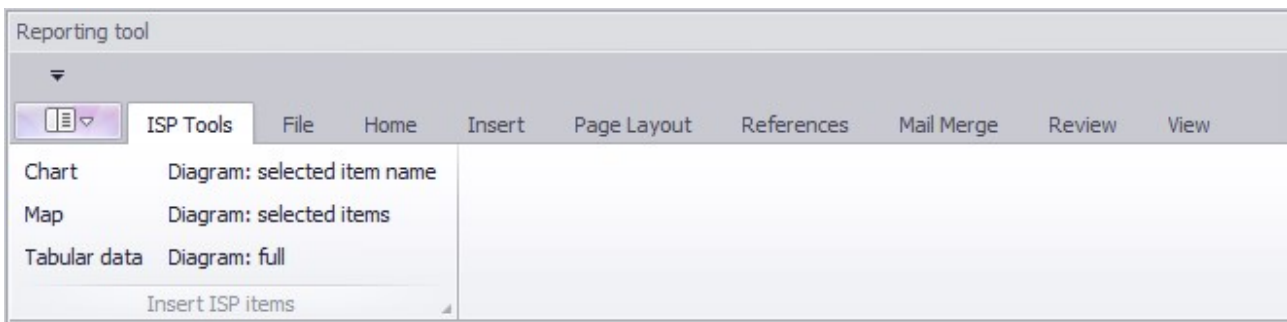


## Reporting Tool

This section is usually closed or hidden; to view the editor use the "Section" menu and select "Reporting tool"



The reporting tools include a Microsoft Word in-style text editor. In addition to the standard tool bars, a specific one to link and/or import all the ISP60 data features (e.g. maps, tables, charts, diagrams and components) has been added.



All other toolbars of the text editor include standard Microsoft word style commands; full documentation as well as tutorial videos can be found at the following web link:

<https://documentation.devexpress.com/WindowsForms/4946/Controls-and-Libraries/Rich-Text-Editor>