kamstrup

User guide

eTools

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Contents

1 About this guide

This manual is based on eTools version 2.0. It describes how to install and use the eTools application.

In this manual,

- User refers to the person at the utility using the eTools program
- Customer refers to the person who has meters installed to measure energy consumption.

The guide is divided into the following main chapters:

Topic	Description
eTools: Network Management System	Provides an overview of the eTools software.
Start using eTools	Provides instructions for installing and starting up the program, including descriptions of Login, Logout, Refresh, Progess bar, GSM connection to concentrators and user management.
Import	Contains descriptions of the import function in the File menu.
Concentrator connection media	Contains descriptions of how to set up and test the concentrator connection.
Project navigation	Contains descriptions of how to navigate through the program.
Concentrator tasks	Contains descriptions of the concentrator tasks.
KML Viewer export	Contains description of the export in KML format for using KML Viewer as geographical view.
Project handling	Provides guidelines on how to start up a project and continuously move parts of the project to the AMR readings server.
Additional information	This topic describes where to find additional information.

The following typographical conventions are used in the guide:

Typography	Description
Bold	Text that appears in the user interface is written in bold style.
⇨	An ⇨ (arrow symbol) between pieces of text, e.g. File menu ⇨ Print, means that you should first select File menu and then select Print.

1.1 What's new?

The following new features are introduced with eTools 2.0:

- It is now possible to change your eTools password. For details, see Change password.
- New user management features have been introduced that let you create and delete users, grant and revoke administrator rights and reset passwords. For details, see User Management.

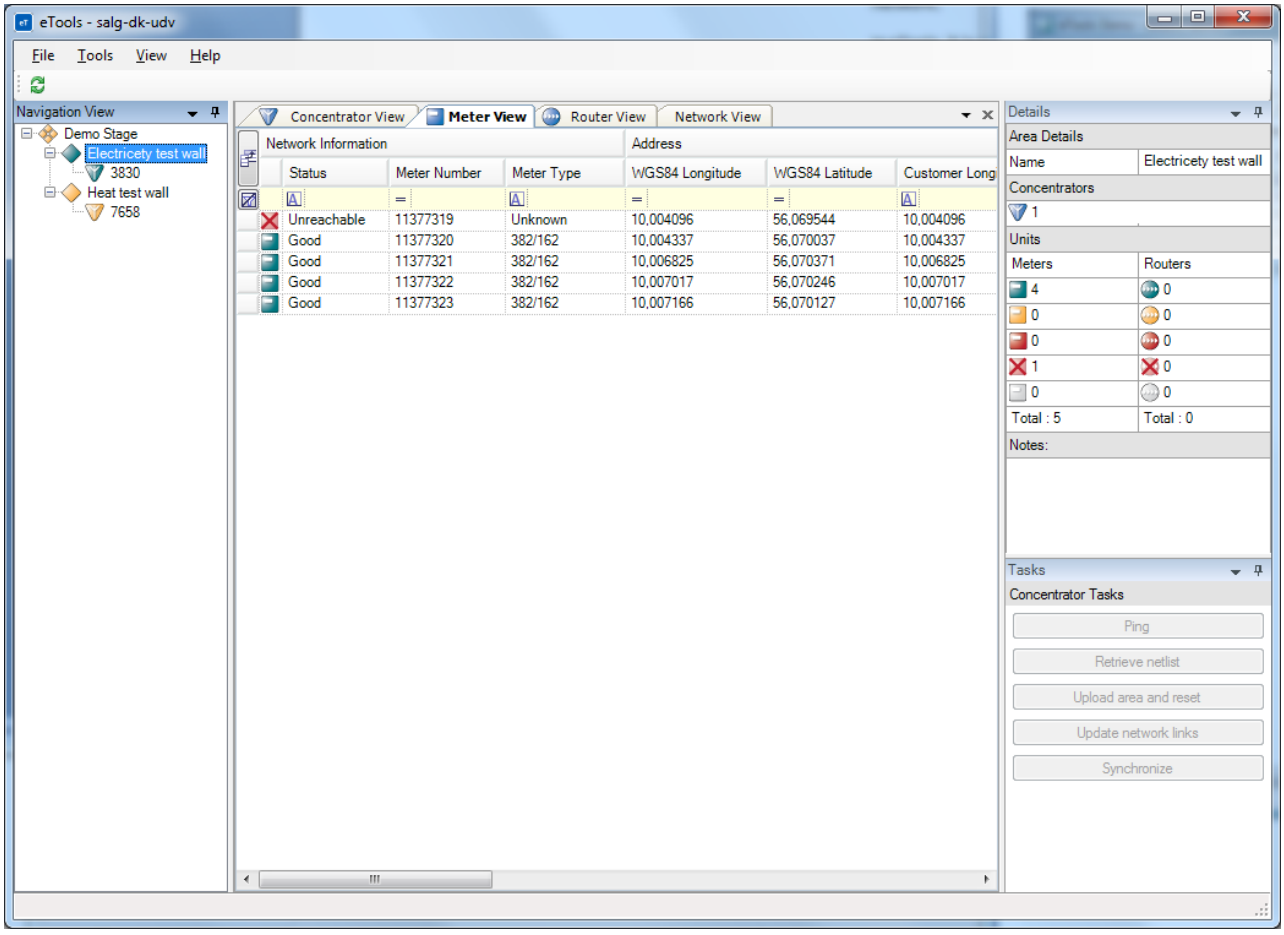
2 eTools: Network Management System

eTools is a tool made for building up and administrating a Kamstrup radio network.

In eTools, it is possible to show status and quality of communication units and have a complete overview of all units in a project.

Together with Kamstrup hardware, e.g. concentrators, eTools can initiate different kinds of tasks, changing network structure and starting analysis in the network.

eTools is a building tool used to build up a network, making it ready for meter readings through other programs, e.g. PcBase III.



Kamstrup radio network consists of different components with built-in radio modems. The communication frequency is within the 433 MHz band. Kamstrup can deliver components that use license free frequencies and components that require a license.

The main function of a radio network is to read Kamstrup energy meters from a central computer without any manual handling. To do this in a cheap and fast way, the user can build up small networks that can read meters simultaneously.

The main components in a network are:

- Concentrators: central collecting units
- Routers: communication stepping stones for transferring data

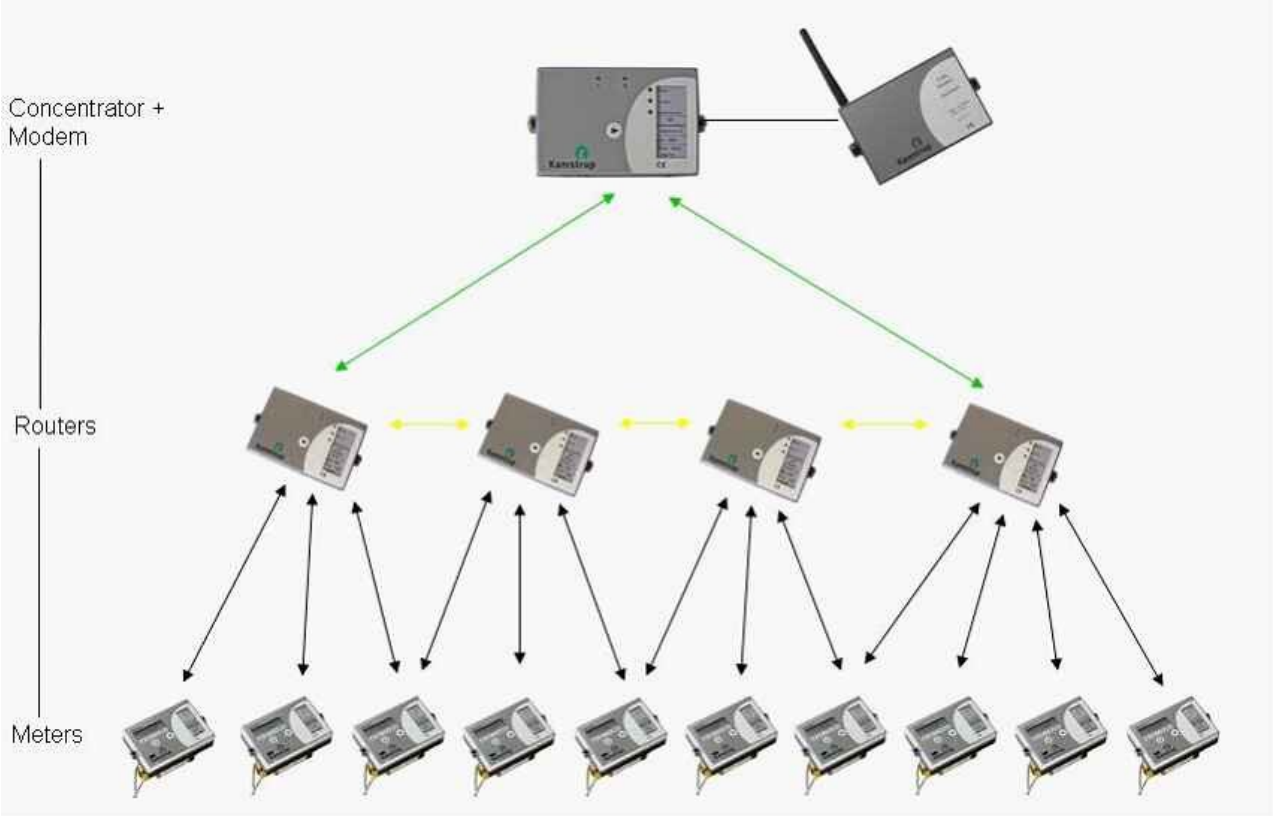
- Meters: energy calculators with numerous registers.

Reading meters in the network is basically done by the central AMR system that orders meter registers in the different concentrators. After the registers have been ordered, the concentrator starts collecting meter registers to its memory. It uses routers to send radio messages in up to 10 steps in order to reach all meters. When data has been collected, the AMR system fetches the data from the concentrators to its central database. What kinds of registers that are read can be individually controlled from the central system.

The Kamstrup radio network is optimised for low power communication. This means that the network can be based on battery components that reduce the cost of power supply wiring. Using battery components is, however, reducing the maximum reading frequency to 1 reading per month to keep the specified lifetime.

2.1 Components in the network

The concentrator is the central unit that controls all communication in the network. Its main feature is the network list. The network list is a list of the all units that the concentrators can read and use for communication. The list consists of communication links between units in the network. This means that without a network list, the concentrators do not know where to send radio messages when reading meters.



The connection from the central AMR system to the concentrator can be made in different ways. In principle, the concentrator has a serial interface that can connect to different kinds of modems. Most common is a GSM/GPRS modem that is very easy to handle. But Kamstrup A/S can also deliver built-in IP modems or other modems that have a serial interface.

Routers can be standalone units or integrated in meters. An integrated router means that the meter

has routing functionality, and the need for external routers in the network is lowered. A typical network with external routers (no integrated routers) uses 1 router per 4-5 meters. The number is dependent on the placement of routers and the distance from router to meters. Please read the installation guidelines for installing network components.

As the network list constitutes the central information in the concentrator, the eTools program's central functionality is to analyse and edit the list in order to configure the concentrator with the information needed. The concentrator has a set of instructions that eTools uses in order to analyse links and improve the network quality, in the following called tasks. One example of a task is that eTools defines which meters the concentrators should be able to reach, and then starts a meter search function in the concentrator.

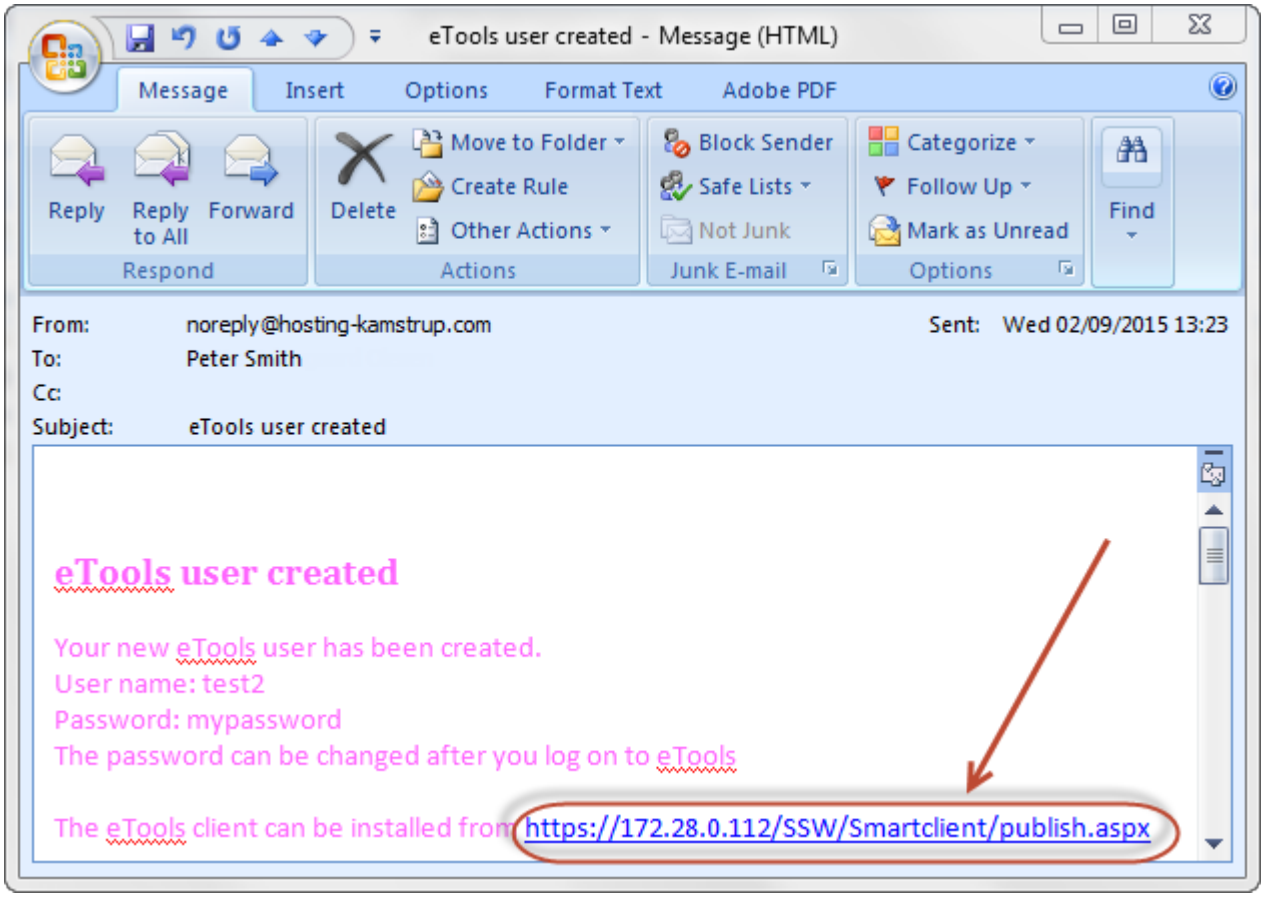
3 Start using eTools

See the following sections for information on how to start using eTools:

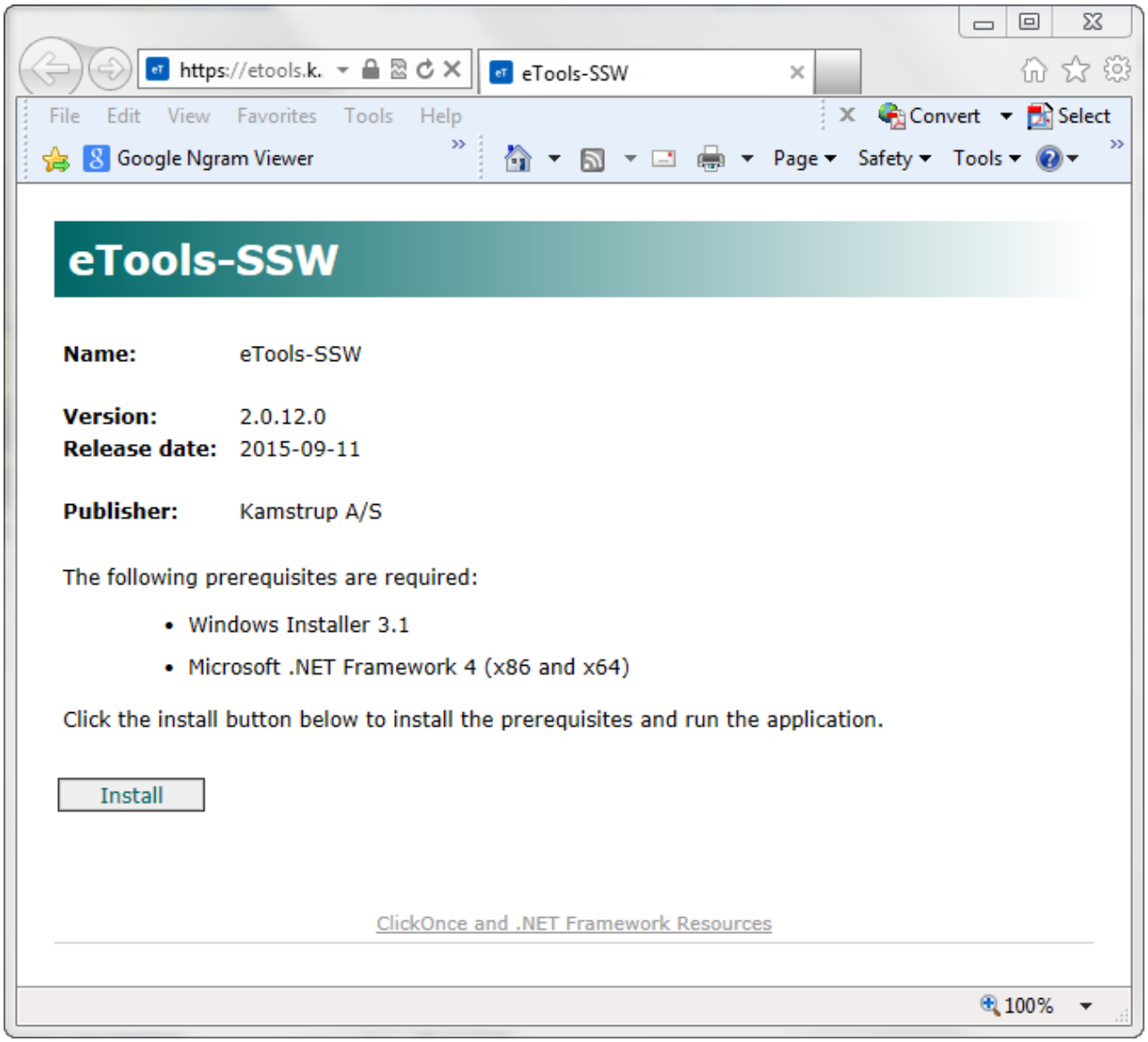
3.1 Program set-up

eTools is a client/server program that uses a central database and communicates via web services over the internet. Therefore, it is a prerequisite that the user has internet access when using the program. This makes it possible to access the project from different computers that have the program installed.

In order to install the program, click the installation link in the email that you received from Kamstrup:



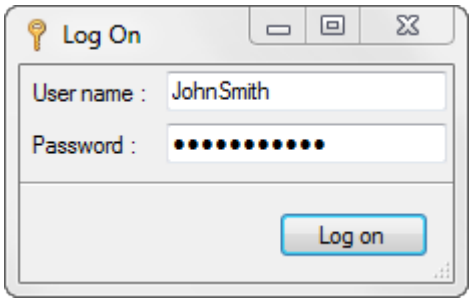
Choose **Install** and accept the download of the program:



The program is started in Windows by clicking **Start** ⇨ **Programs** ⇨ **Kamstrup** ⇨ **eTools** or using the shortcut generated on the desktop.

3.2 Login

When logging in to each project, the user needs to type in a user name and password. This login information is granted by Kamstrup A/S when a project is registered.

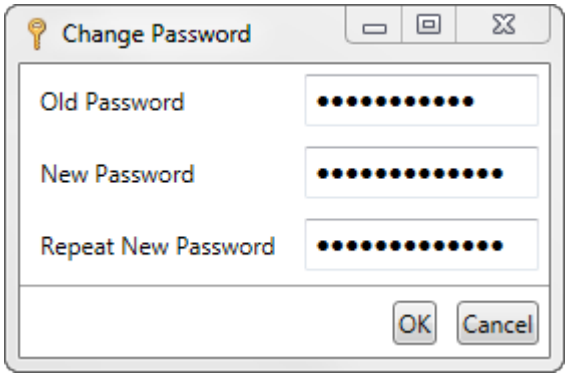


The login gives access to each individual project. It is possible to change the password and to create more users accessing the same project.

3.2.1 Change password

Follow the steps below to change your password:

1. Choose **Tools** menu ⇨ **Change password**.



2. Enter the old password and the new one twice. Click **OK**.

Your password has now been changed.

3.3 Logout

The user can log out of the program by shutting it down or choosing **Logout** under the **File** menu. Using the **File** menu to log out allows the user to log in again directly.

3.4 Refresh data

Any changes made in the network are being stored in a central database. This means that several clients can access the same project simultaneously. If the user wants to update the client with data according to the contents of the central database, it is possible to refresh data. Data is always being automatically refreshed at start-up. Manual refresh can be done from the **File** menu or using the shortcut in the top of the window.

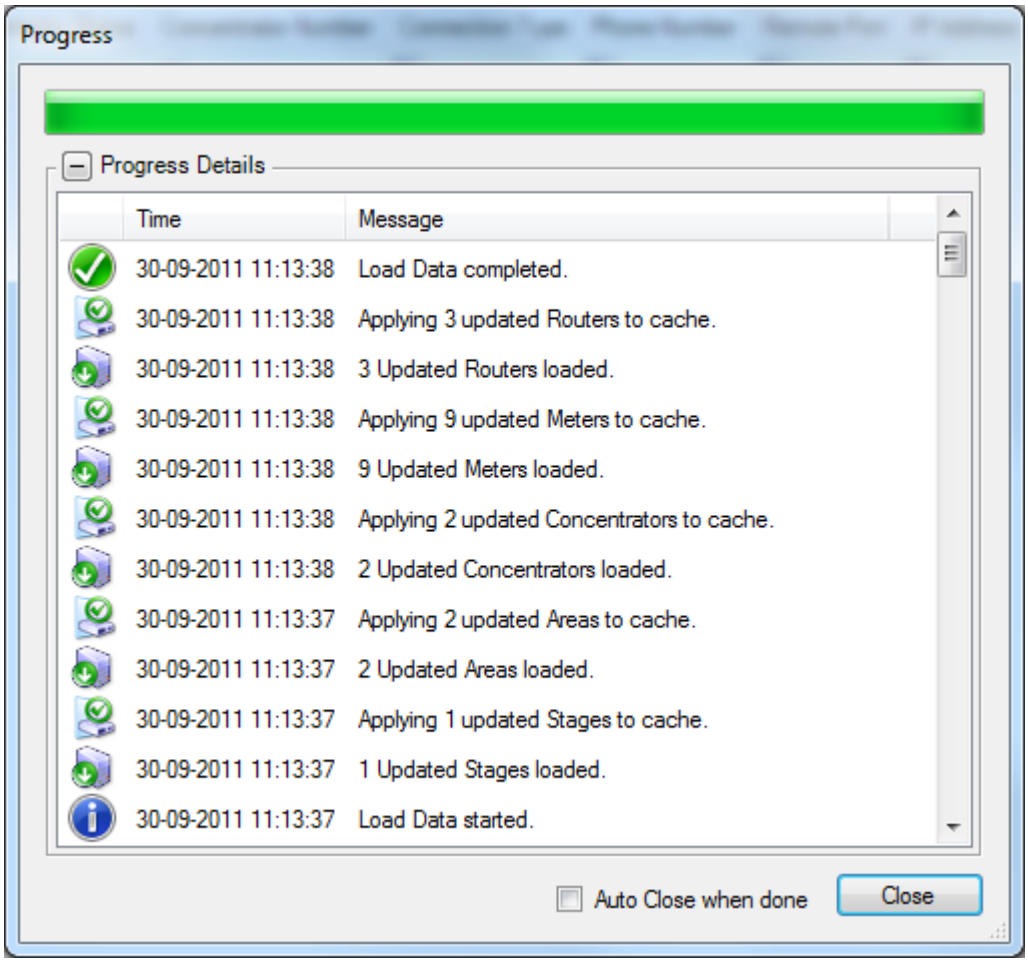
3.5 Progress bar

Communicating with external systems (network or databases) can be monitored in the **Progress Details** window. The window appears automatically when the client is communicating and gives a description of the progress. The **Progress Details** window will disappear automatically if:

The checkbox **Auto Close when done** is ticked

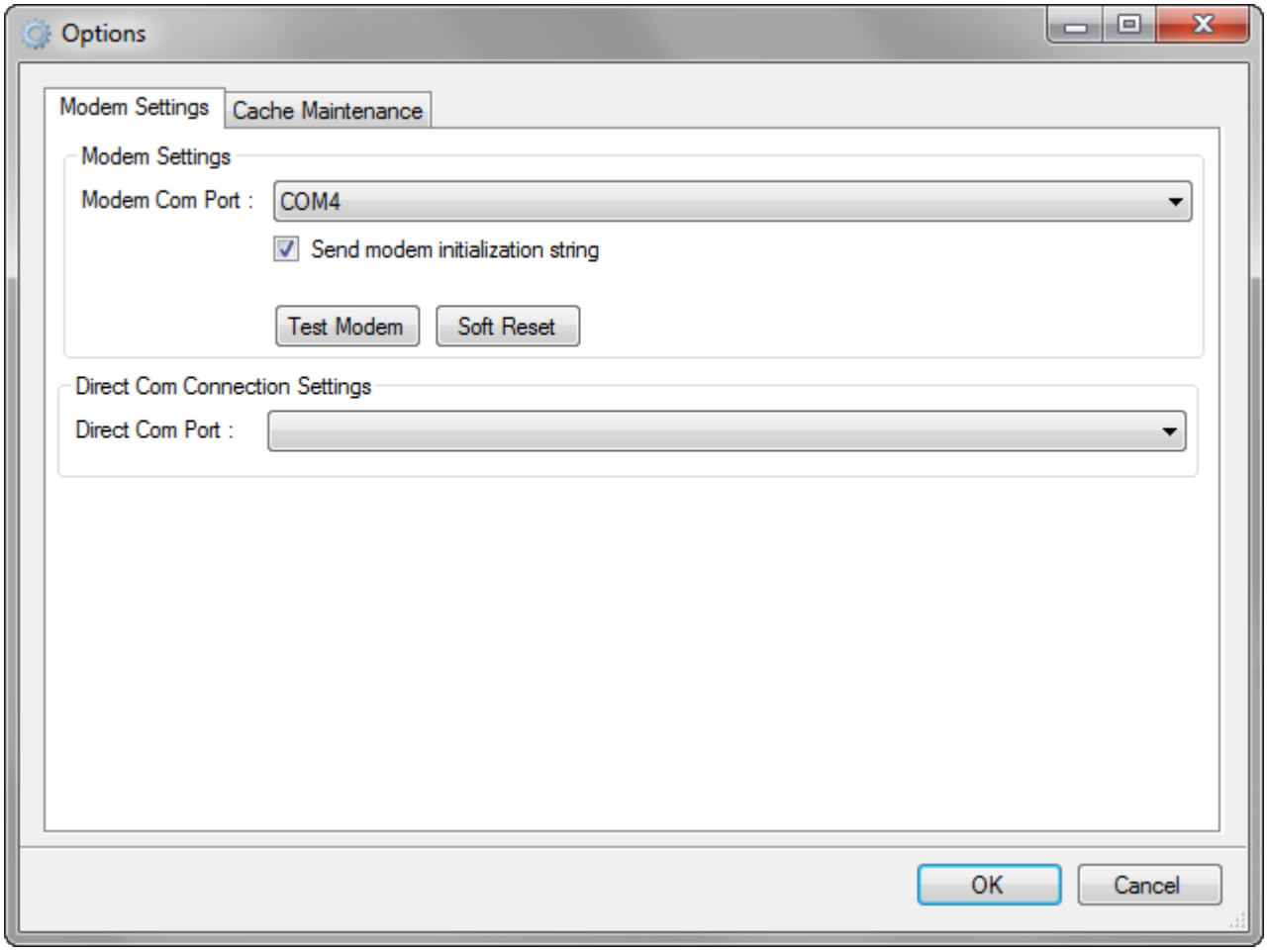
No error occurs during the communication.

Otherwise, the progress will be visible until **Close** is clicked. The last progress can be recalled in the menu **View – Progress Log**.



3.6 GSM connection to concentrators

One of the basic functionalities of eTools is to communicate with concentrators. This can be done over different media. If the concentrators use GSM connections, the program needs a GSM master modem connected to a COM port on the computer (Kamstrup A/S has master modems on stock). In the **Tools** menu, under **Options**, the user selects to which COM port the master modem is connected.



The COM port could be a physical or virtual COM port through COM port converters from e.g. LAN, fibre, USB etc. The master modem has to be set to 9600, 8, n, 1.

eTools will set up a number of default parametres for the master modem. If you want to set up the modem yourself (independently of the eTools application), clear the selection in the **Send modem initialization string** check box. If in doubt, keep this option selected.

The user can test the connection to the modem. This function also gives a signal indication of the master modem (this should be over 15.0). In addition, the user can reset the modem. This function might be necessary if other programs have accessed the modem and changed its settings.

The concentrator can also be connected directly to the computer's COM port. Then the user has to select to which COM port the concentrator is connected. This is especially intended for demo purposes. This set-up requires a special RS232 cable.

3.7 User Management

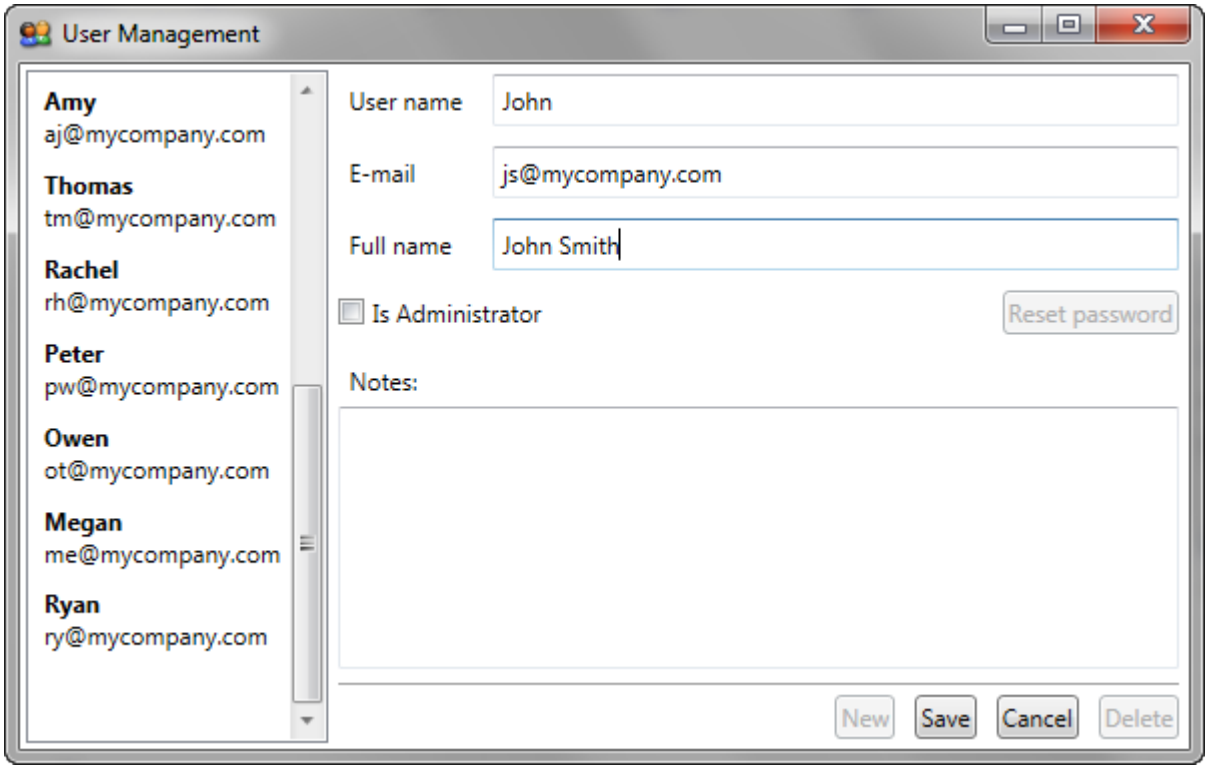
Users with administrator rights are able to:

- Create new users
- Delete users
- Grant or revoke administrator rights for a user
- Reset passwords

3.7.1 Create new users

Follow the steps below to create a new user of eTools:

1. Choose **Tools** menu ⇨ **User Management** ⇨ **New**.



2. Enter user name, e-mail address and full name of the new user.

   Note An e-mail address must be specified as the system automatically sends an e-mail with user name and password to the new user.

3. Select **Is Administrator** if the new user should have access to the **User Management** window.

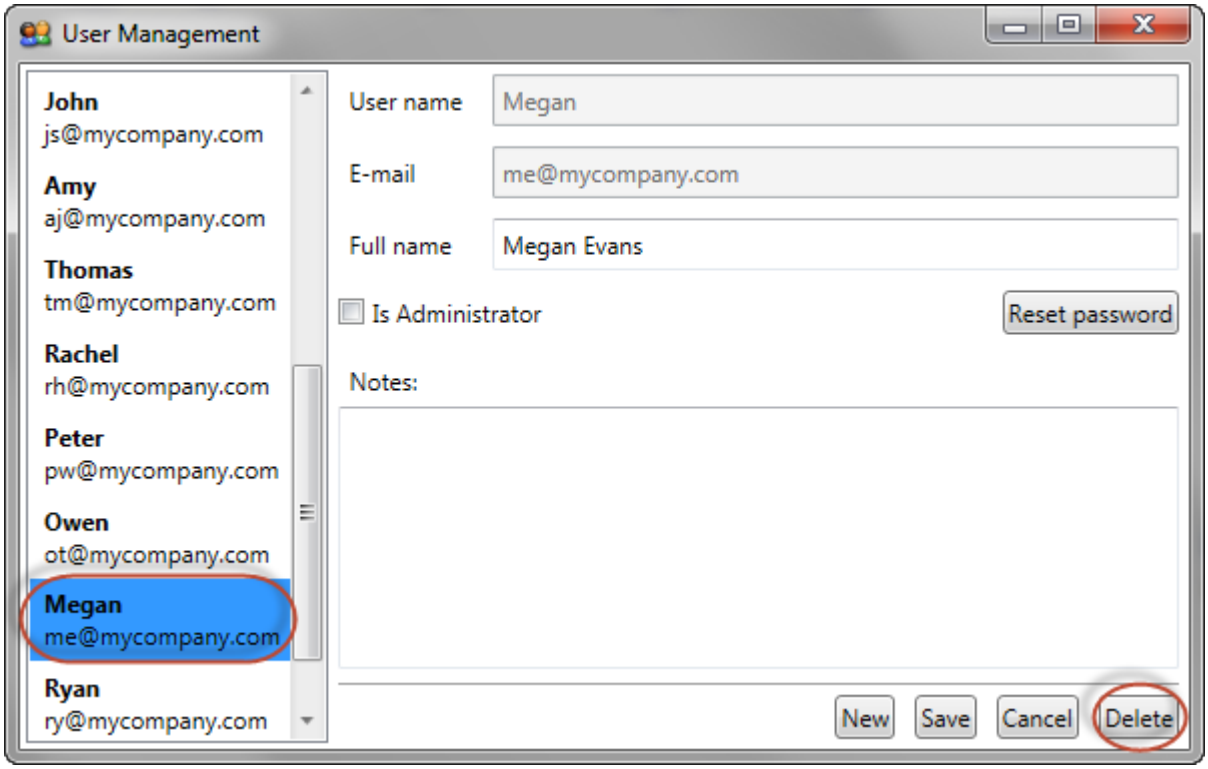
   The only difference between an ordinary user and an administrator is that the administrator is able to create and delete users, reset passwords and grant these rights to other users.

4. Click **Save**.

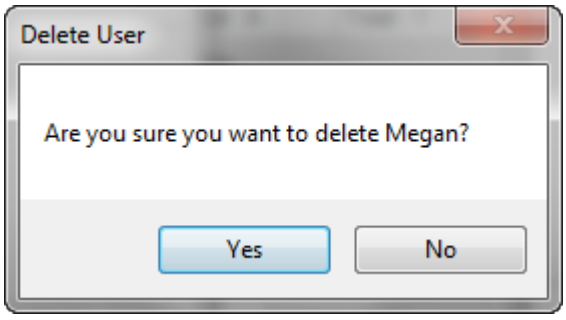
3.7.2 Delete users

Follow the steps below to delete a user:

1. Choose **Tools** menu ⇨ **User Management**.
2. In the list of users to the left, select the user you want to delete.



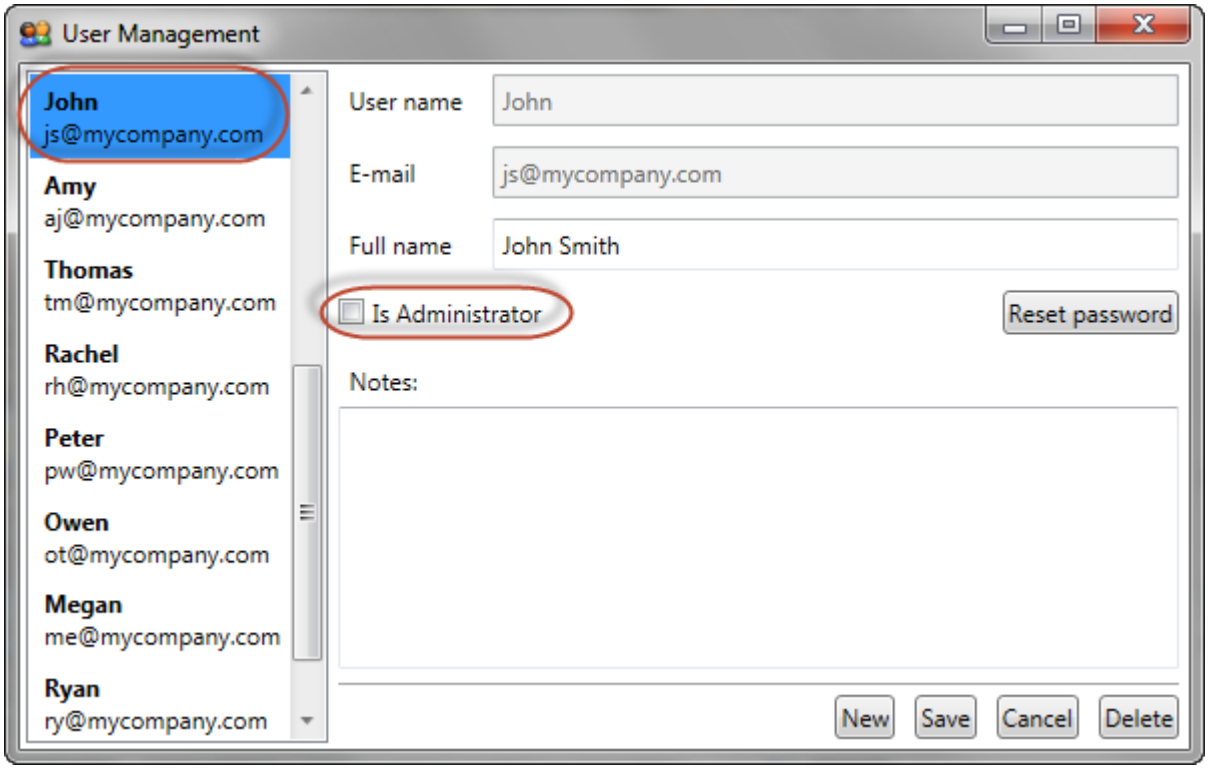
3. Click **Delete**.
4. In the message that appears click **Yes** to confirm the deletion:



3.7.3 Grant/revoke administrator rights

Follow the steps below to grant or revoke administrator rights for a user:

1. Choose **Tools** menu ⇨ **User Management**.
2. In the list of users to the left, select the user in question.

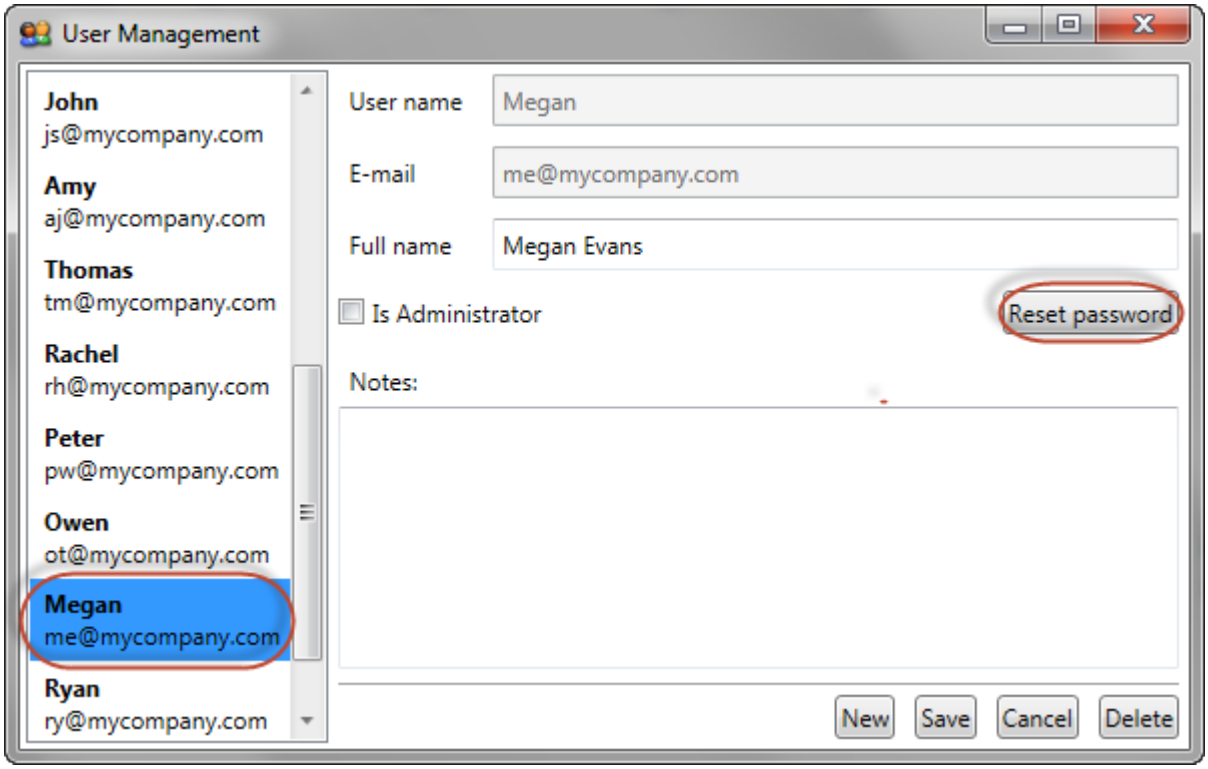


3. Select **Is Administrator** to grant administrator rights or clear the selection to revoke them.
4. Click **Save**.

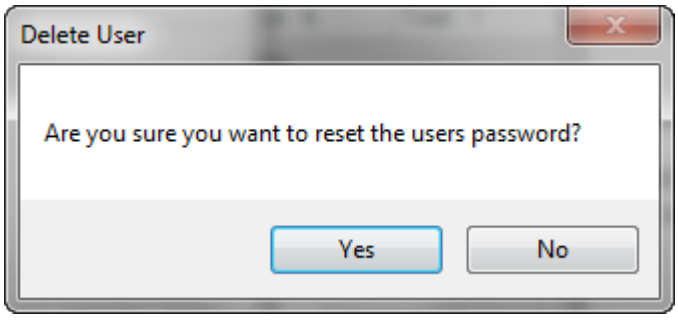
3.7.4 Reset passwords

Follow the steps below to reset the password of another user:

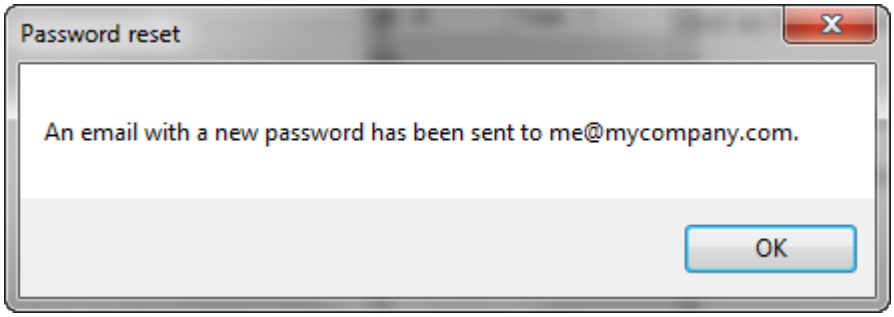
1. Choose **Tools** menu ⇨ **User Management**.
2. In the list of users to the left, select the user whose password you want to reset.



3. Click **Reset password**.
4. In the message that appears click **Yes** to confirm:



5. Click **OK** to automatically send an email with the new password to the user in question:



4 Import

eTools is a planning and analysing tool, and in order to view network units in the program, the user has to import installation data on meters, routers and concentrators into the program. Installation data is e.g. installation number, meter number, address information and coordinates.

4.1 Import wizard

Meters, routers and concentrators have to be imported separately. The user can import installation data from Excel or text files to each stage into the project. eTools guides the user through the steps of the import by means of an import wizard. In the **File** menu under **Import**, the user can select to import meters, routers or concentrators.

In the following example, the file ImportMeters.csv is imported into eTools:

External Id; Meter Number;Street Name;Street Number; Longitude;Latitude;Area Name

1;11377320;Industrivej;38;10,00529741;56,070218;Area 1

2;11377321;Industrivej;40;10,00521701;56,0695993;Area 1

3;11377322;Industrivej;42;10,00634;56,0694119;Area 1

4;11377323;Industrivej;44;10,00744862;56,069831;Area 1

5;11377319;Industrivej;46;10,00599758;56,0706128;Area 2

6;11377320;Error Dummy

etc.

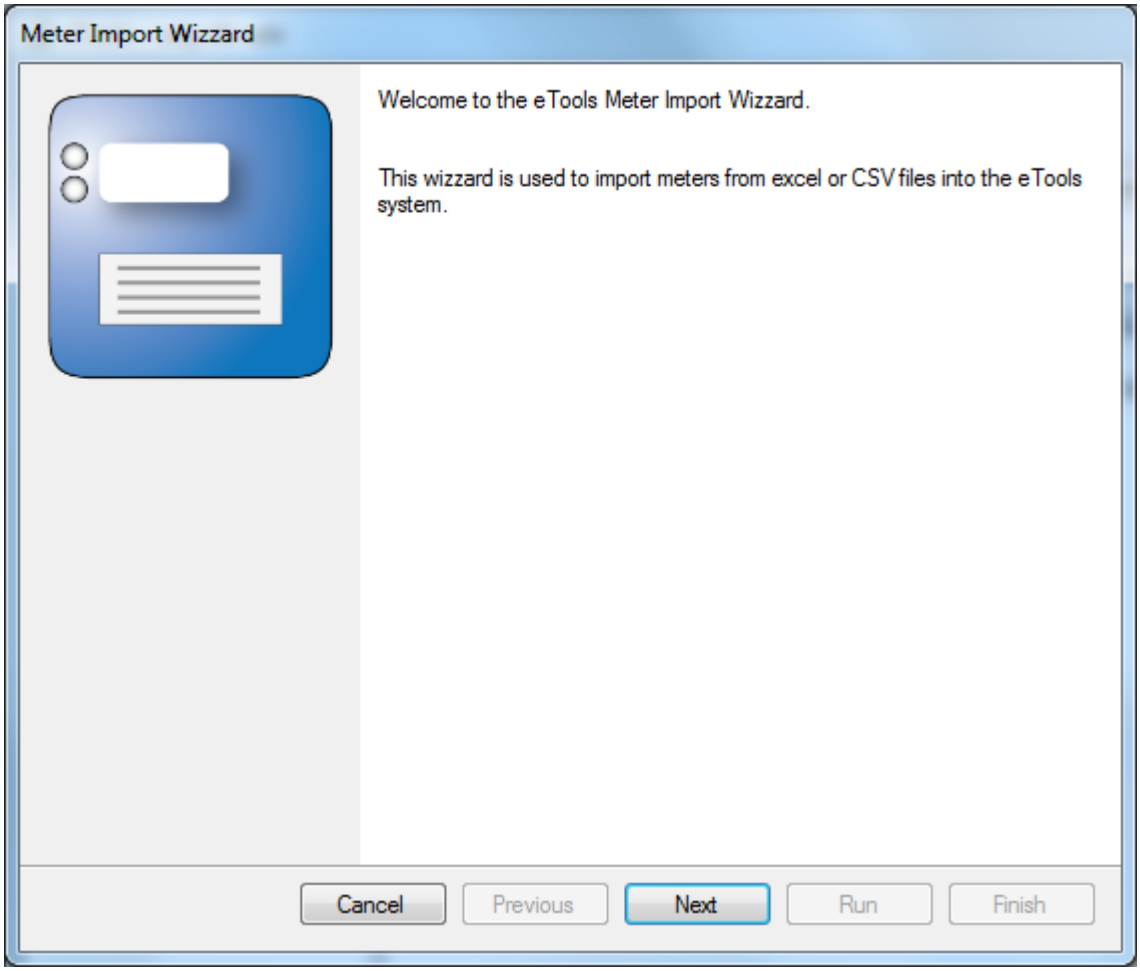
1. Select stage

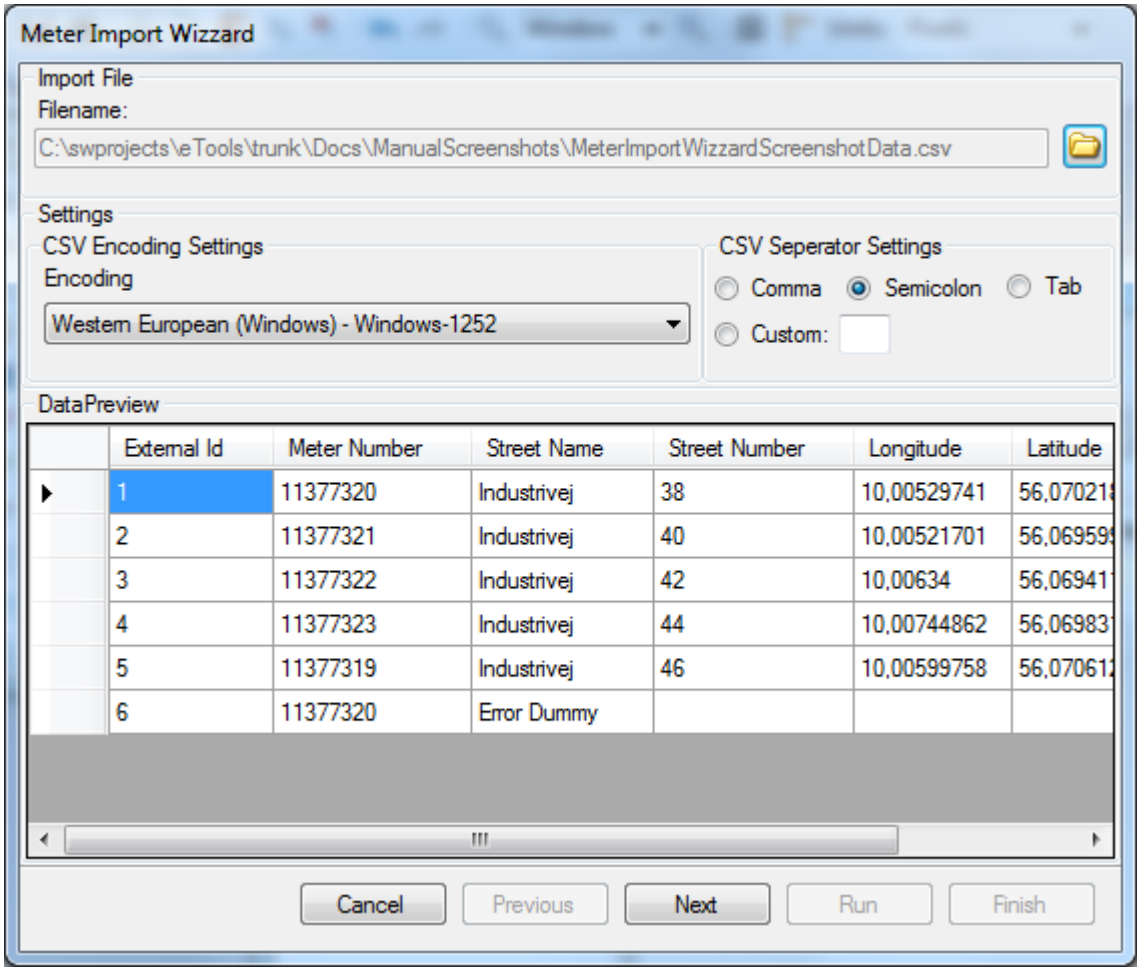
   Mark the stage into which the units should be imported, and choose **Import meters** in the **File** menu (marking the project imports the meters into the project without placing them in a stage).

2. Select the input file with installation data

   If the file is supplied with header information, tick the checkbox **Use first line as header**.

   The wizard automatically tries to detect the format and separator in the file, but this information can be manually changed. Under **DataPreview**, the user can verify if the data is interpreted correctly before proceeding by clicking **Next**.


Meter Import Wizzard
Welcome to the eTools Meter Import Wizzard.
This wizzard is used to import meters from excel or CSV files into the eTools system.
Cancel
Previous
Next
Run
Finish



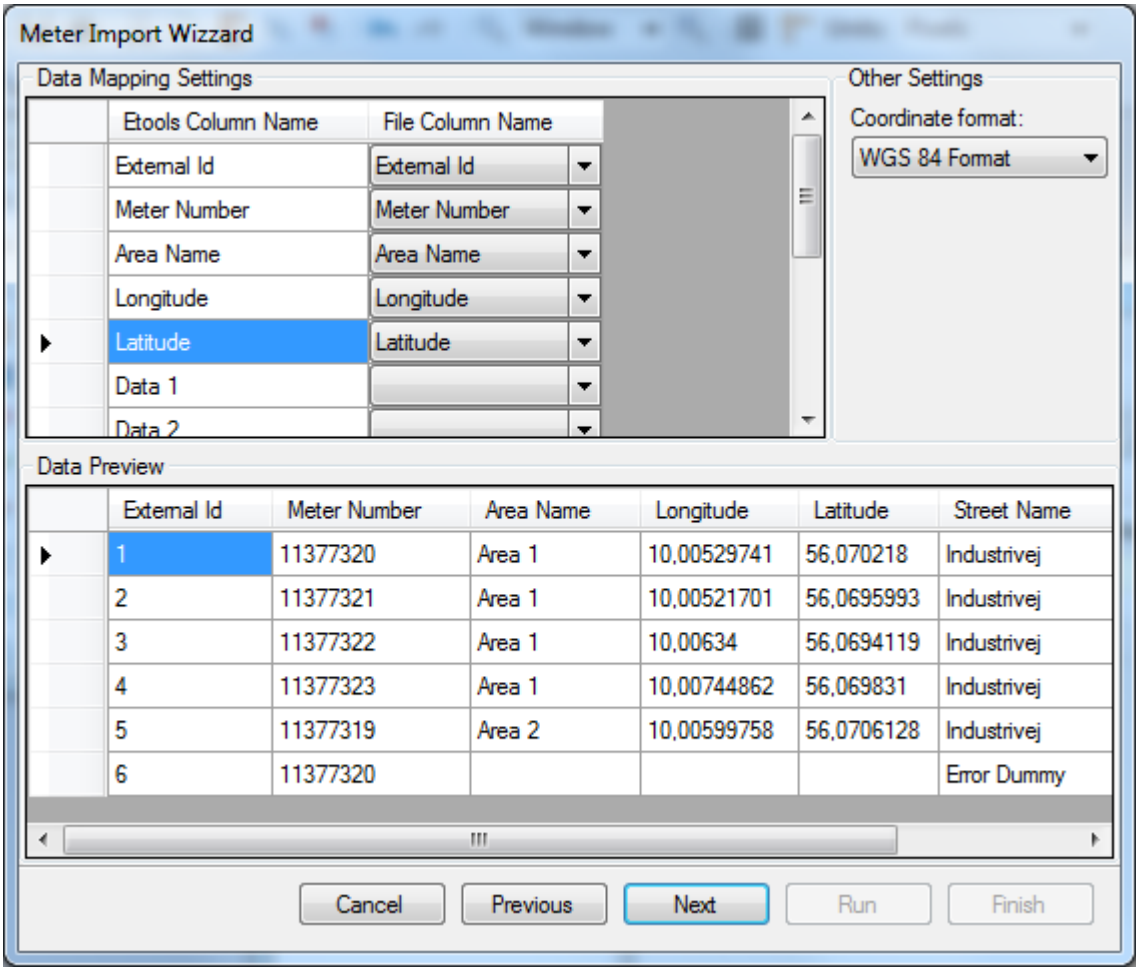
3. Data mapping

   Next step is to map the data from the selected file into the data fields used in eTools.

   Under Data Mapping Settings, the left column represents the eTools data field, and the right column represents the input. For each row, the user maps the data field in eTools to the column of data in the file. The field ExternalId is mandatory and is the key for the import. If units are imported with the same ExternalId, data is overwritten by the wizard. This means that the user can import installation points before the meters are exchanged in the field. When the exchange has been done, the user can import the new meter number just selecting the same ExternalId. Any changes or extra data can be imported using the same ExternalId. Other eTools data fields are optional. If coordinates are imported, the user has to select if the coordinates are in WGS84 or another format.

   Overview of eTools standard data fields:

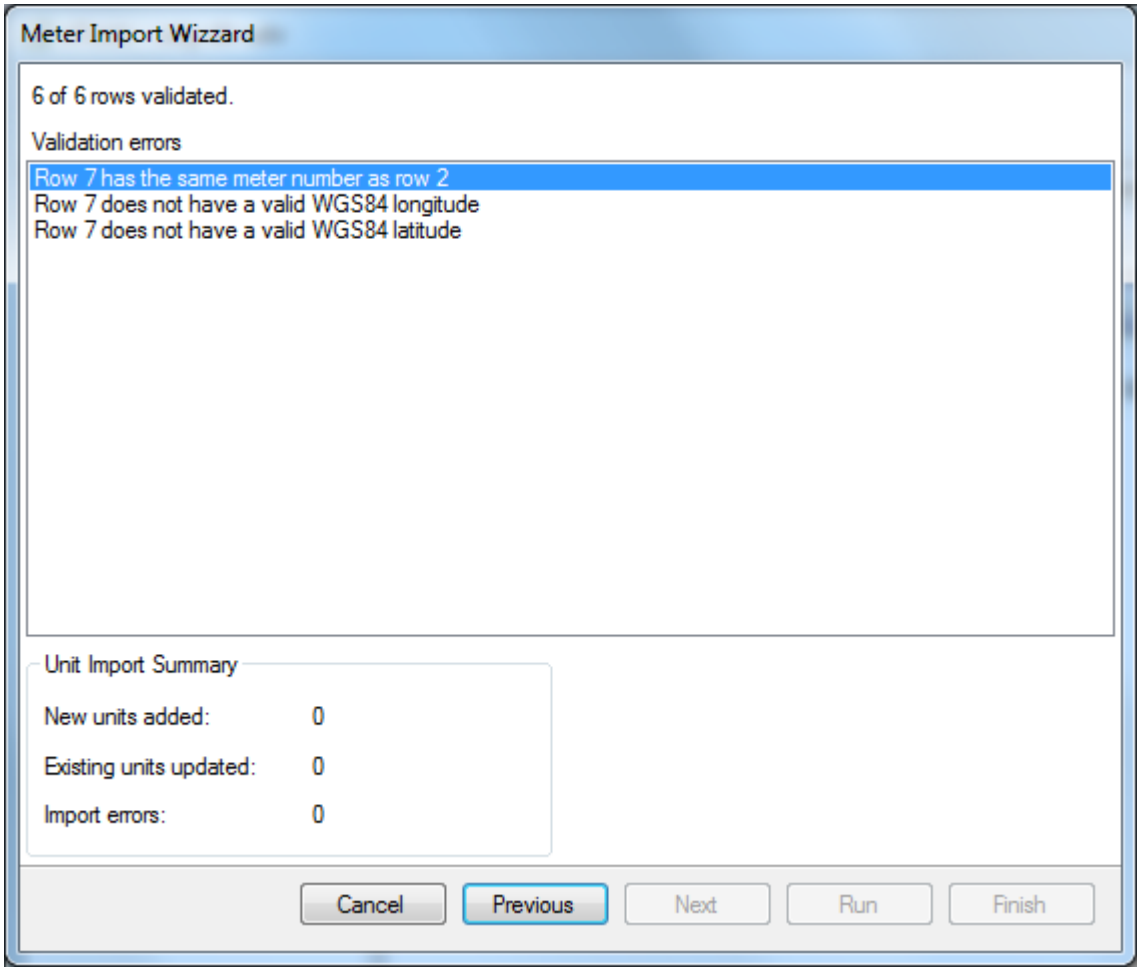
ID	Data field name	Description
1	ExternalId	Unique ID for the installation
2	MeterNumber	The Kamstrup meter or router number
3	AreaName	Name of the area of which the units are part
4	Longitude	Coordinate longitude (WGS84 or other format)
5	Latitude	Coordinate latitude (WGS84 or other format)
6	City	City name
7	Postal Code	Zip code
8	Streetname	Name of the street of the installation
9	Streeetnumber	Number of the house of the installation
10	Letter	Extra street information like first floor information or A and B
11	Data 1-4	Extra customer data field.



4. Start the import

   After the mapping set-up, start the import into the database by clicking **Run**.

   The wizard is now updating the data on the server.



5. Click **Finish**.

Data is now imported into the eTools database.

4.2 Concentrator options

The import of concentrators will give more options due to the connection information needed for each concentrator. This information could also be manually typed in at a later stage.

Overview of extra eTools concentrator data fields:

ID	Data field name	
1	ConcentratorNumber	Number of the concentrator
2	PhoneNumber	Phone number of the GSM connected to the concentrator
3	RemotePort	Port selection on the remote GSM (2 ports are normally available)
4	IpAddress	IP address of the IP module in the concentrator (e.g. 172.16.25.255)
5	IpPort	Port selection on the remote IP module (normally 1025)

4.3 Import area build up

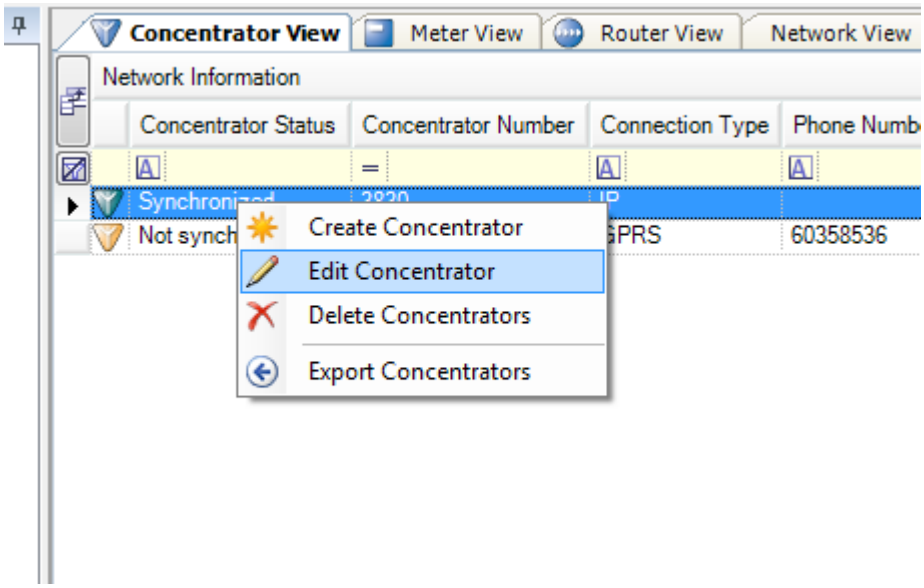
The communication units are always imported into the active stage in the **Navigation View**. If the import file consists of area information, this can be imported into the program with the field **AreaName**. The import function will create the area and place all units with the same name in that particular area.

5 Concentrator connection media

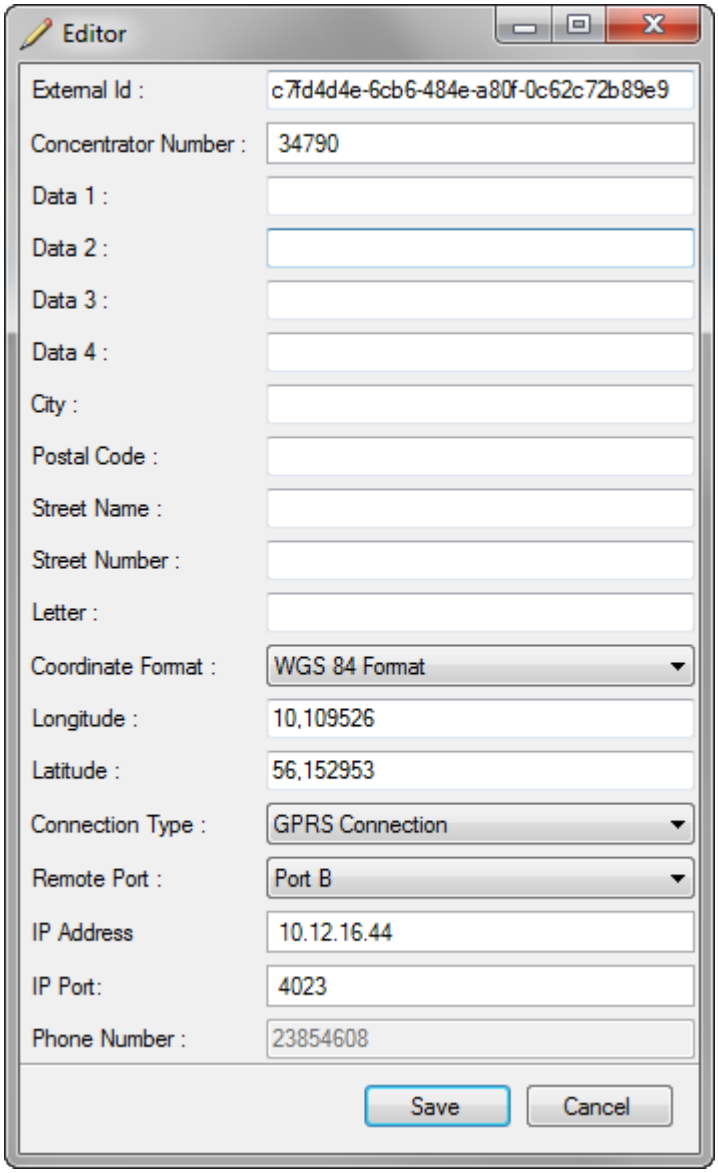
The eTools program must be able to contact each concentrator in the system. The program supports different kinds of connection media. The connection is made from the client computer, making it possible to communicate in a closed IP network. The currently supported media are:

- RS232 (direct COM port)
- GSM
- GPRS
- IP.

To set up the connection media, right-click on the concentrator in the **Concentrator View**, and select **Edit Concentrator**.



In **Editor**, you can change all settings manually. The last fields in **Editor** regard the connection settings. Changing the field **Connection Type** will enable the necessary input fields.



5.1 RS232 (direct COM port)

Especially for test and demo purposes, it is possible to connect a concentrator directly to a COM port on the client computer (it requires a special cable for the concentrator with a DIN SUB-9 connector). This makes it possible to make a demo network and test minor network functionalities.

See GSM connection to concentrators on how to set up the COM port.

5.2 GSM (data subscription)

If GSM is used as communication medium between the client computer and the concentrator, the client computer must have a master modem connected to a selected COM port. The master modem is used to establish connection to the concentrators. It will make a GSM data call, initiate the concentrator tasks and automatically disconnect the line. The subscription of the SIM card must cover data calls.

Setting up the GSM connection is done by selecting **GSM Connection** as **Connection Type**.

The remote port is port A or port B on the GSM module to which the concentrator is connected.

The phone number must be entered without any spaces.

5.3 GPRS

A fast connection can be made by using GPRS as connection medium to the concentrators.

Using GPRS, the concentrators are online and no connect (call up) or disconnect sequence is needed. The client must have access to the GPRS network. The GPRS connection transmits data using the UDP Protocol. Setting up the GPRS connection is done by selecting **GPRS Connection** as **Connection Type**. The remote port is port A or port B on the GPRS module to which the concentrator is connected. The IP address must be entered in the format: a.b.c.d, where a, b, c and d are positive numbers between 0 and 255 (e.g. 172.12.8.255). The IP port is the UDP port on the module. Port 4023 is normally used if there is direct access between module and client computer.

5.4 IP

The standalone concentrator can be supported with a built-in IP stack module. This module makes it possible to communicate directly over IP cables using the TCP/IP Protocol. Please note that this set-up requires IP access between the client computer and the concentrator. Setting up the IP connection is done by selecting **IP Connection** as **Connection Type**. The IP address must be entered in the format: a.b.c.d, where a, b, c and d are positive numbers between 0 and 255. The IP port is the port on the module (if direct addressing is possible) or the port used as firewall to forward the module's IP and port (if forwarding the port is necessary). Port 1025 is normally used if there is direct access between module and client computer.

5.5 Testing the connection

When a new concentrator connection is entered and saved, the connection has to be tested by making a ping to the concentrator. See Ping for further information about the ping task.

6 Project navigation

Navigation in the program is easy if the project has been built up correctly from the start. It is important to use the terms stages and areas correctly in order to get a good overview of the project.

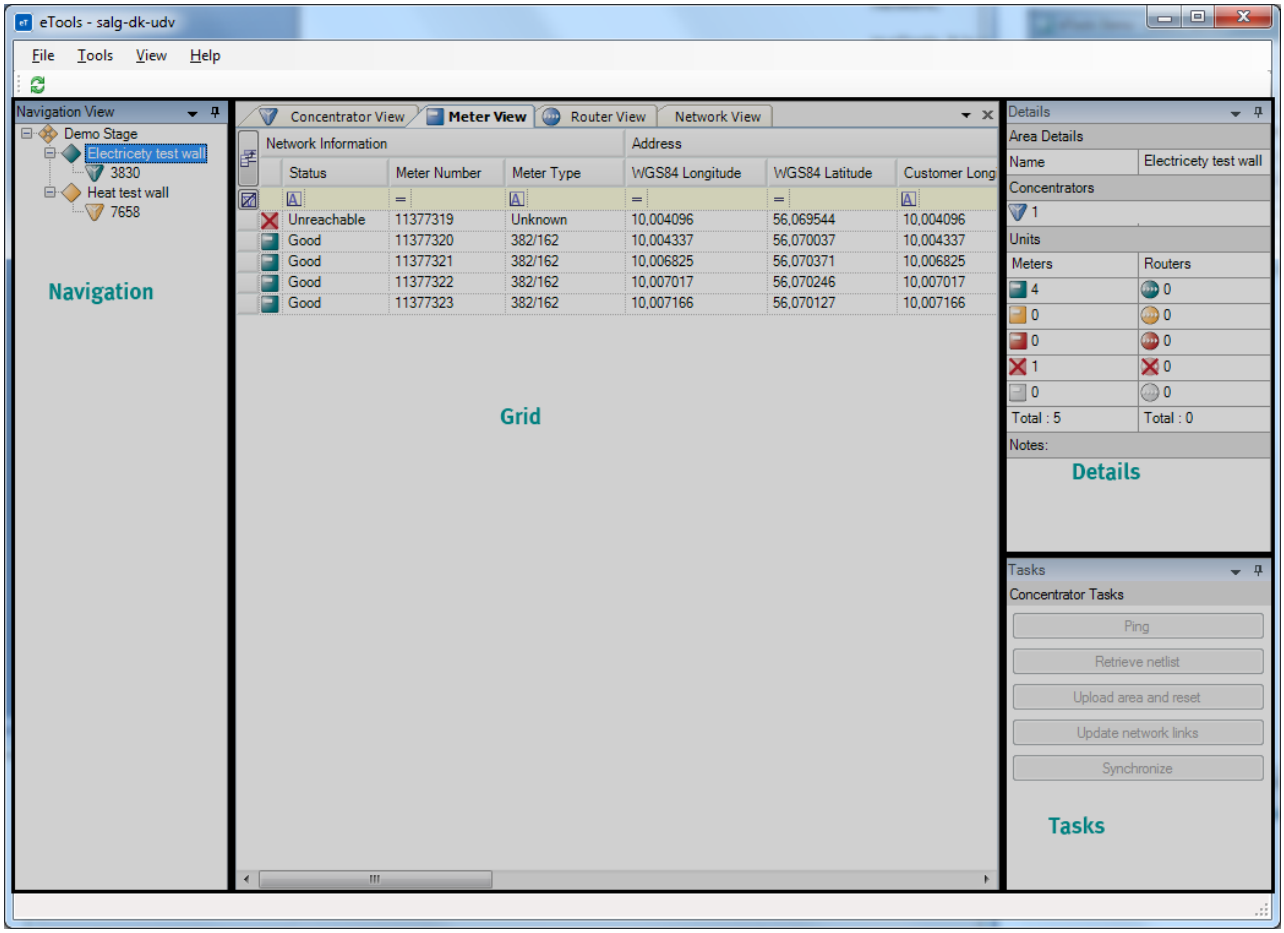
6.1 Stages

The definition of a stage is a geographically isolated area with up to 2000 communication units. A project can be divided into a number of stages, but the installation of communication units should be done one stage at a time in order to finalise the network in continuous stages and move the stages to the reading system.

6.2 Areas

A stage can be divided into smaller areas. The definition of an area is a minor geographically isolated area within the stage with 1 to 600 communication units. An area is directly bounded to concentrators, meaning that communication units in each area have to be able to communicate with the concentrators placed in the particular area. Having two concentrators in each area will result in a good network security increasing the number of communication links and making it possible to backup failing concentrator connections.

The program is divided into different views for easy navigation.



6.3 Navigation View

This view is primarily used to switch between stages and areas. Selecting a stage, area or concentrator will change the **Grid** view showing all communication units connected to the selection.

Right-clicking in the view makes it possible to create stages.

Selecting stage and right-clicking makes it possible to edit stages and create areas.

Selecting area and right-clicking makes it possible to edit areas and show them in KML Viewer (see KML Viewer export for further information).

The colours of the icons identify the synchronisation status of the concentrators in each area.

	Stage	Sync ok
	Stage	Changes made in stage but not moved to concentrator
	Area	Sync ok
	Area	Changes made in area but not moved to concentrator
	Concentrator	Sync ok
	Concentrator	Concentrator not updated
	Concentrator	Concentrator not yet contacted
	Concentrator	Error (outdated firmware or similar errors that eTools cannot correct)

The synchronisation status will change when the user is initiating different tasks towards the concentrators.

Moving units between stages and areas can easily be done by selecting the units in the **Grid** view, dragging them to the area or stage in which you want them to be placed, and selecting **Copy** or **Move**. **Copy** means that the units remain in the old stage/area. **Move** means that the units are removed from the old stage/area.

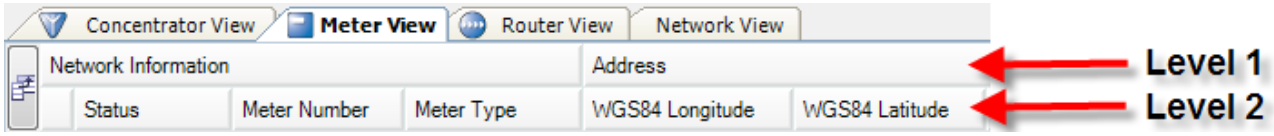
6.4 Grid View

The **Grid** view presents the communication units in the network. The view is linked to the **Navigation** view and only shows units in the selected area, stage or project. It is divided into four views:

1. **Concentrator View**
2. **Meter View**
3. **Router View** (standalone routers)
4. **Network View**.

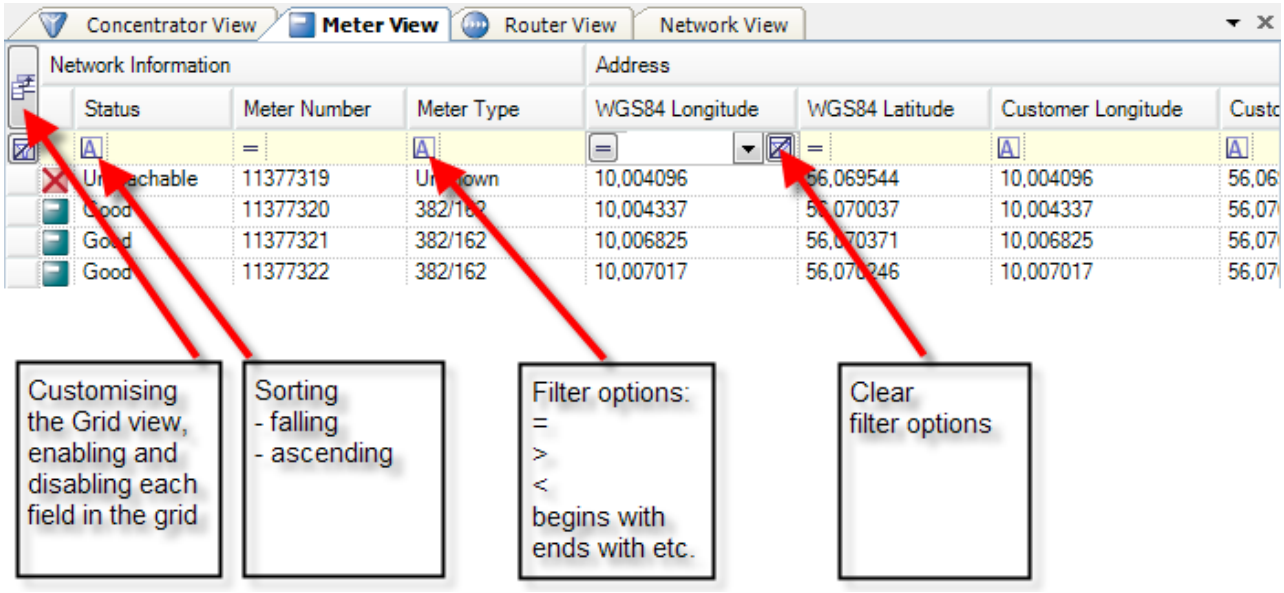
If the communication unit is a meter with integrated routing, it is shown in the **Meter** grid. If the router is a standalone router, it is shown in the **Router** grid.

The views 1, 2 and 3 will show all information regarding each unit in the network in a combined grid. The grid is built in two levels:



Level 1 indicates the type of information, Level 2 the detailed information.

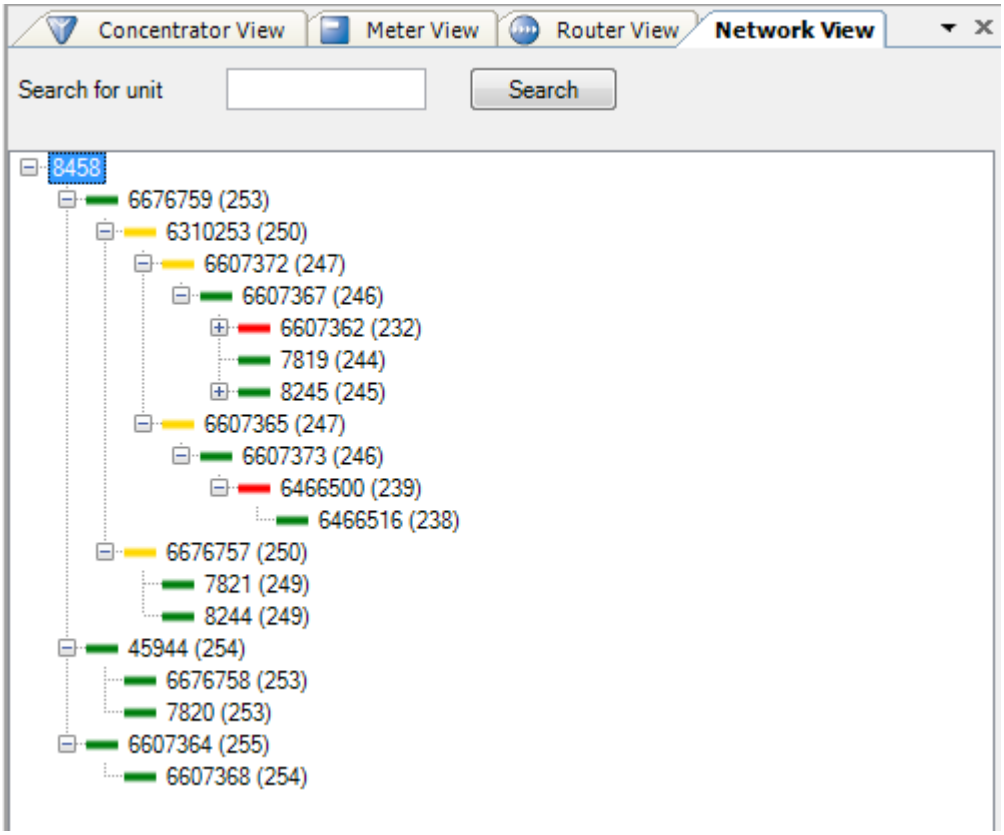
The grid offers various filter and sorting possibilities:



These possibilities make it possible to focus on the exact meters, types, groups, streets, network quality etc.

6.5 Network View

To evaluate the communication path in the network, eTools provides a **Network** view. The view shows how the concentrators are using each router and meter for communication. The view is based on the concentrator's netlist. Therefore, the view is only possible when a netlist has been imported into or retrieved from the program (see Retrieve netlist for further information).



	Link quality	Description
	Good	Signal level is good and normally very stable
	Medium	Signal level is acceptable, but can have power cuts
	Bad	Signal level is bad and will probably have low performance

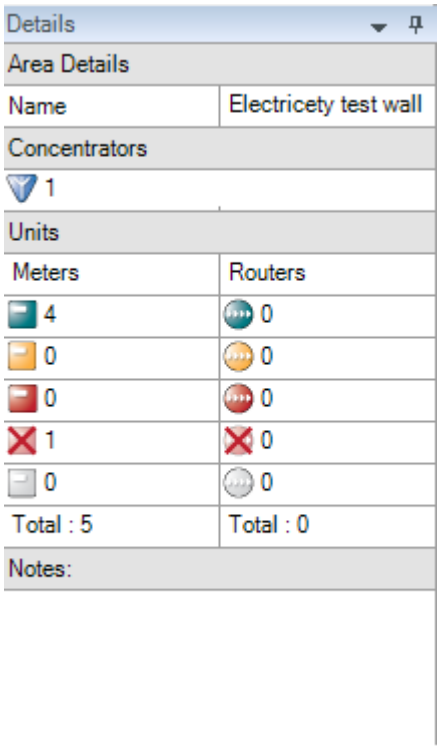
The number in parentheses, e.g. (253), is a quality stamp for each meter. The number starts at 256 on the concentrator and will drop down to 0 depending on the signal quality and number of communication links used. Evaluating the numbers can help find the worst links in the network and view how many other communication units are dependent on each link.

This tool is very effective to spot weak links in the network that might be important for several meters.

6.6 Details View

The Details view shows detailed information about stages, areas, concentrators, routers and meters. The view is dependent on the selected unit in the **Navigation** or **Grid** view.

Information about stages and areas can be added as customised notes. Right-click on the stage or area in the **Navigation** view and select **Edit**. The user can now type in specific information. The view also counts the total number of units in the selected stage or area (e.g. Meter # = 180).



6.7 Task View

The **Task** View provides possibilities to start different tasks in the concentrators. The tasks will be started on the concentrator visible in the **Details** view. Each task will start an operation in the concentrator that will block the concentrator for a period of time. For a detailed description of each task, see Concentrator tasks.

7 Concentrator tasks

The task provided by the program starts operations in each concentrator. With these tasks it is possible to build up the network and let the concentrator analyse the signal level of each meter. The concentrator stores its network information on the netlist. This netlist controls all communication in the network, and most of the tasks concern operations where the concentrator alters or delivers information on/from the netlist.

7.1 Ping

The ping task is primarily used to test the connection to the concentrator. If the concentrator response is OK, the concentrator is not doing any mayor operations like readings or network updates. The ping task updates the detailed information in the program concerning the concentrator.

7.2 Retrieve netlist

The **Retrieve netlist** task imports the netlist from the concentrator into the program. After having retrieved a netlist from a concentrator, the program will update all status on each meter connected to the actual concentrator, making it possible to analyse the network. The program will combine information from all netlists in the project and will show the best quality of each meter in the grid.

7.3 Upload area and reset

When an area has been specified in the program, the task **Upload area and reset** clears the concentrator's net list and starts an operation in the concentrator that scans for all meters in the area. This task will take some time as the concentrator is building up the network list according to the link information from each router in the network. The task should be used as the first step of evaluating an installed network, and if major changes have been made in the area (e.g. moving many meters between areas).

7.4 Update network links

This task will try to optimise the links in the concentrator. The task is used if the area is not changed, but major corrections have been made since the last reset (e.g. placement of important antennas in the area). The task updates all links and scans all meters for better signals.

7.5 Synchronise

If smaller changes have been made in the area (e.g. adding or removing 3-5 meters), it is possible to synchronise the information in the program with the concentrator. This task will remove and scan meters individually. It will stop the scan when the meter is found with reasonable signals. It will focus on getting contact with the actual meter, not using it for optimising other meters' communication. The synchronisation will also automatically start a scan for meters that are "unreachable" in the network, trying to get contact with all meters. This means that the task can also be used if smaller corrections in the installation (e.g. antenna adjustments) have been made

to get contact with a missing meter.

7.6 Timing in the network

Starting tasks in the concentrators will sometimes start communication in the network that can influence other concentrators operating concurrently in the same geographical area. The user has to evaluate which concentrators might influence each other and only start tasks on one concentrator at a time in the same geographical area. The duration of each task varies and will depend on the number of meters in each area. The synchronisation task starts background operations that will be paused if the concentrator is used for readings or other tasks.

The normal duration each task is:

Task	Task type	Task duration
Ping	No network communication	Immediately
Retrieve netlist	No network communication	Immediately
Upload area and reset	Main communication	Max 2 minutes per router in the network
Update network links	Main communication	Max 2 minutes per router in the network
Synchronise	Background communication	Dependent on the network and number of changes.

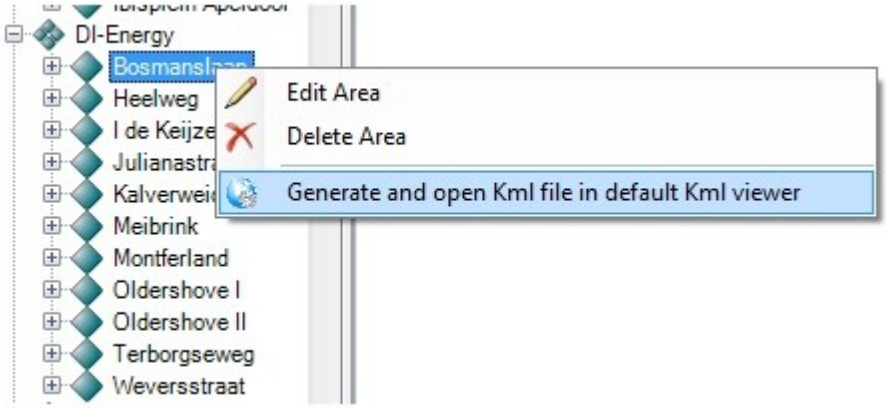
7.7 Battery systems

Be aware that operations initiating communication in the network will use battery in all the battery components that can be reached. The user has to minimise the number of resets in order to keep the battery level high for future readings. Normally, keeping the number of resets/updates below 10 pcs. should not influence the specified lifetime of the battery network. In addition, using the synchronisation task will use battery and should be limited.

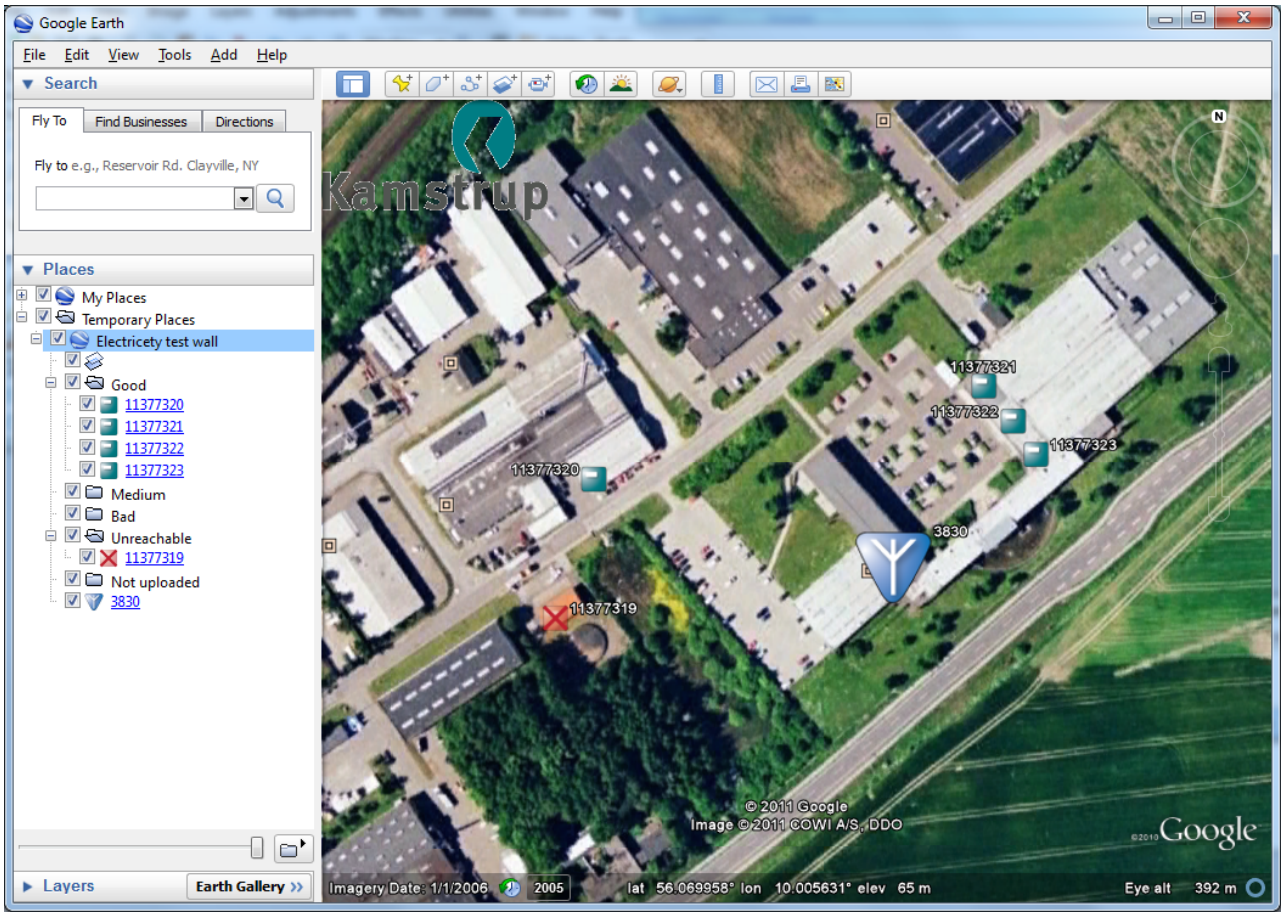
One way of minimising the communication is to wait to initiate the tasks until all components in the area are installed. Another important issue is to install all components according to the specified guidelines.

8 KML Viewer export

Each area can be viewed in the geographical view program KML Viewer. eTools exports KML files consisting of communication units and links in the network.



Right-click on the area and select **Generate and open KML file in default KML Viewer**. This starts up KML Viewer (if it is not already started) and import the KML files, making it possible to view the area.



In KML Viewer, the communication units are grouped in quality segments. This makes it possible

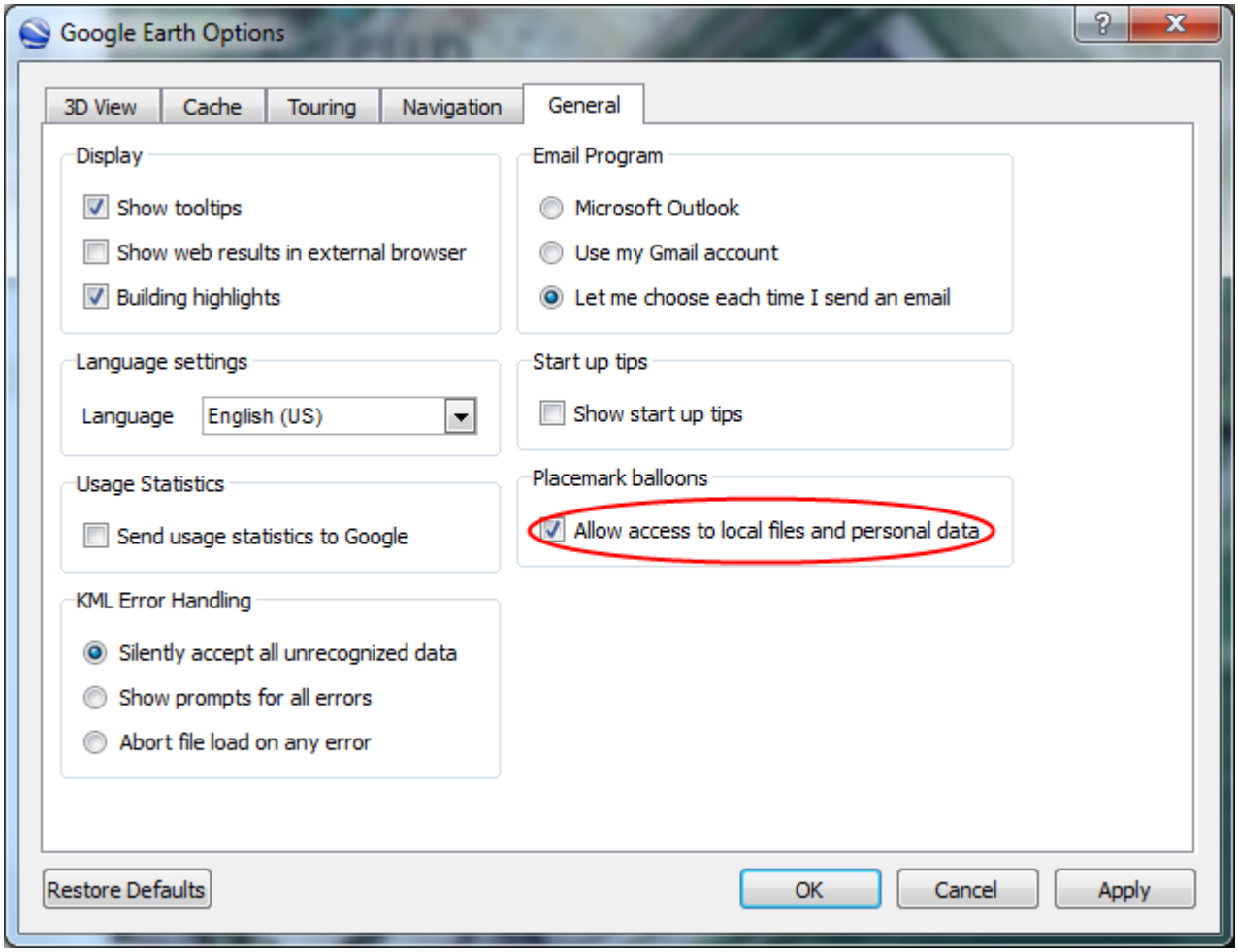
to easily switch on and off different groups and identify and focus on problem areas.

Selecting a unit on the map makes it possible to get information about the unit, and its link quality. Through this menu, it is also possible to show actual links in the network from the unit to each concentrator. Be aware that deleting the links is done manually by selecting the link in KML Viewer and deleting it.

8.1 Requirements

To be able to export to map applications, KML Viewer must be installed on the client computer. Some computers prefer to use DirectX or OpenGL when using KML Viewer. Please try both options.

The map application must be configured to allow access to local files from placemark balloons.



9 Project handling

The basic function of the tool is to administrate communication units in stages and areas and move this information to the concentrators in the network. The main steps for handling a normal project could be:

- Create a new stage in the project
- Import meters, routers and concentrators
- Build up the areas
- Upload area and reset each concentrator (be aware of concurrence)
- Retrieve net list from concentrators
- Evaluate result
- Fix unreachable and bad units in the network
- Synchronise or update the network
- Move finalised areas to the reading server for test readings.

When installing the communication units, it is important to follow the installation guidelines given by Kamstrup A/S. Experience shows that not following the guidelines will result in extra work at a later stage, having to visit the customers more than once. In some cases, it might be necessary to adjust the guidelines to local or special cases.

Fixing and adjusting the network can be done in several ways, e.g. moving meters to another area, using extra routers or concentrators, optimising the placement of the antenna etc. These adjustments should be minor if the guidelines are followed.

9.1 Moving meters to the reading system

When the quality result is satisfactory, the area is ready to be moved to the reading system. A satisfactory result should consist of at least 90 % good signals. A few meters might have medium or even quality, but this might be OK for stable readings. The reason for this is that performance is not 100 % dependent on signal levels. An example is that a “line of sight” radio link is very stable even with a low signal level. A reflected radio link is more dependent on the signal level. Therefore, an area should always be finalised with stability readings from the actual reading system.

For systems using Kamstrup CDAPI and AMR Manager, the area is moved by adding the concentrators to AMR Manager (use the function **Add entry point**). When the concentrators have been added and the net list has been downloaded to AMR Manager, the meters are ready for the reading system to read. Please refer to the manual for the exact reading system. After having moved the area, the user of the reading system uses AMR Manager to maintain the system. eTools could also be used to maintain the network, but as this will require a parallel set-up of the reading system, it is necessary to evaluate when communication with the network is possible.

Separating eTools and the AMR system functions makes it possible to divide the work into a project. One company could be responsible for building up the network with eTools, and another could own the AMR system when the system is ready for readings.

10 Additional information

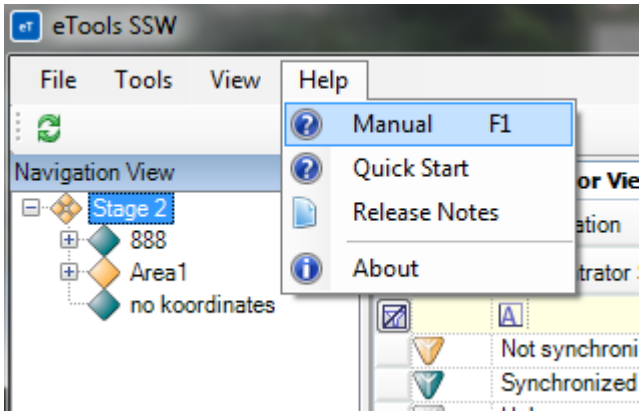
This chapter provides you with an overview of where to find additional relevant information.

What do you want to do?

- Access the eTools online help
- Contact Kamstrup online support
- See news update on eTools or other Kamstrup products

10.1 Accessing the eTools online help

You open the **eTools** help window by pressing F1 or by choosing **Help** menu ⇨ **Manual**:



10.2 Contacting Kamstrup support

You can contact Kamstrup support in one of the following ways:

Service desk:
https://servicedesk.kamstrup.com/

Online system support:
https://support.kamstrup.dk/

Email:
Support.systems@kamstrup.dk

Telephone:
+45 8993 1110
Monday - Thursday from 8 am to 4 pm.
Friday from 8 am to 2.30 pm.

10.3 eTools Manager news update

To obtain the latest information about eTools and our other products, visit our website: www.kamstrup.com.

If you have any further questions, do not hesitate to send us an email.

Kamstrup A/S
Industrivej 28, Stilling
DK-8660 Skanderborg

TEL: +45 89 93 10 00
FAX: +45 89 93 10 01