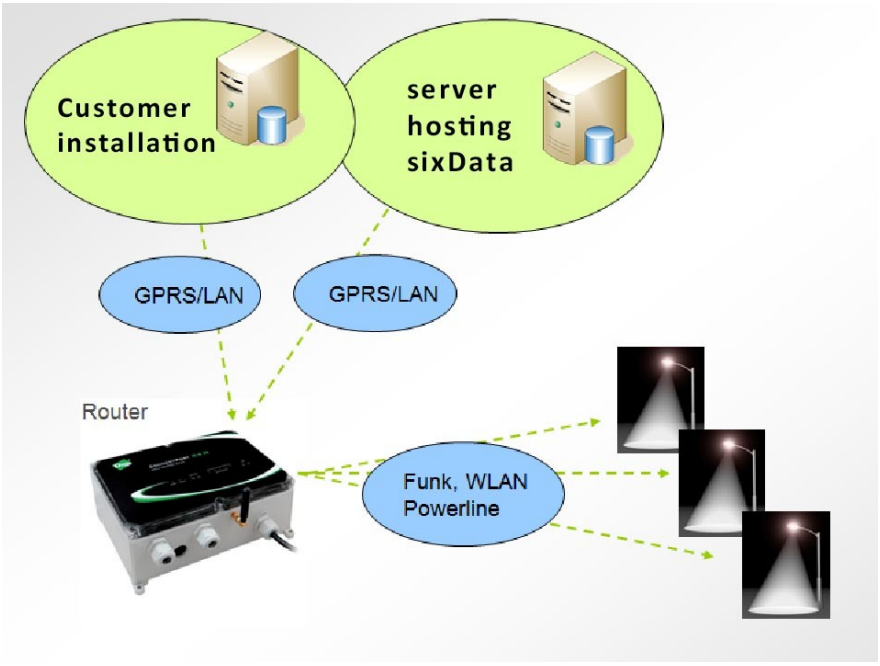
All in One mit ...

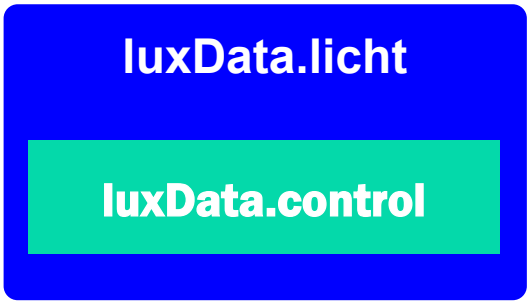
luxData.control

Hardware-independent lighting control in conjunction with the proven luxData.licht



What is luxData.control?

luxData.control is a manufacturer-independent software for controlling lighting systems and for data acquisition. luxData.control is an expansion module for luxData.licht.



Benefits of intelligent control

It's possible to realise great savings potentials compared with conventional lighting systems by using modern LED lamps.

These are savings in:

- Energy costs (improved efficiencies) and
- Maintenance costs (longer life spans)

LED lamps also help reduce light pollution and CO2 emissions.

Lighting points using LED lamps also offer unprecedented ways for controlling and reading out important data. Lighting points equipped with intelligent controllers may be regulated in almost any conceivable way with the help of the appropriate software.

The potential to realise savings even increases when intelligent controls are used. For instance, dimming allows the life spans of LED lamps to be extended.

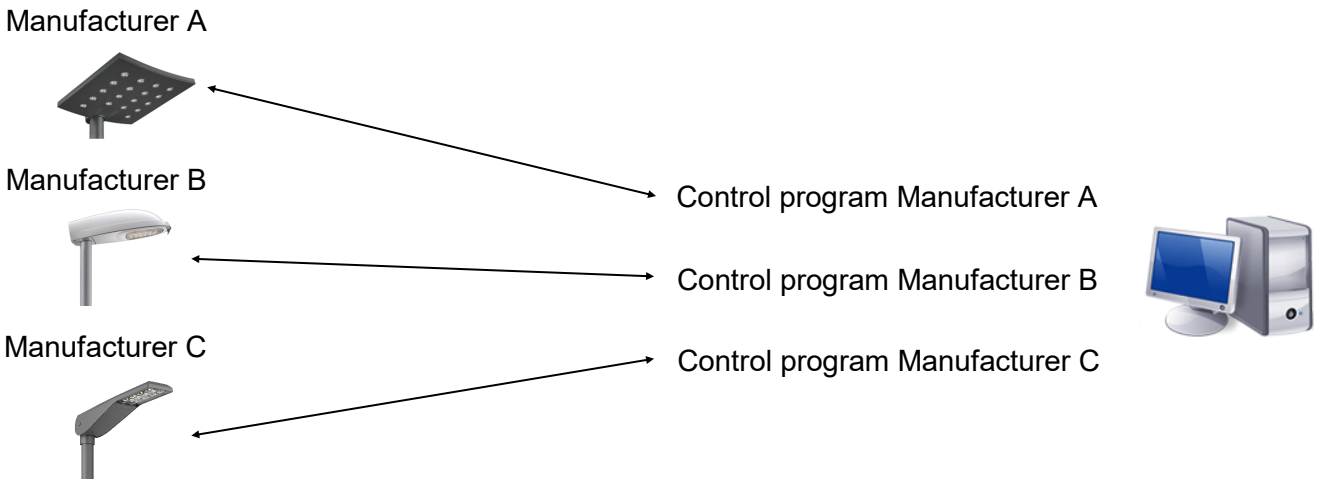
Flexible controls also allow light to be adapted to local requirements without the need to make any additional modifications to the lamps being used. It's even possible to individually control every single lamp when necessary.

The fact that additional information may be continuously read and archived constitutes an additional benefit as such data acquisition permits important information (e.g. temperature, operating status, malfunctions) to be centrally viewed and responses to be rapidly initiated.

The task

Many lamp manufacturers are currently working on their own “ideal” solutions for controlling street lighting. Each one is, however, taking a different approach towards the creation of solutions. The individual LED-lamp manufacturers have, for instance, developed their own networking and control protocols.

Many of these manufacturers also offer their own programs for generating and transmitting control signals for their lamps.



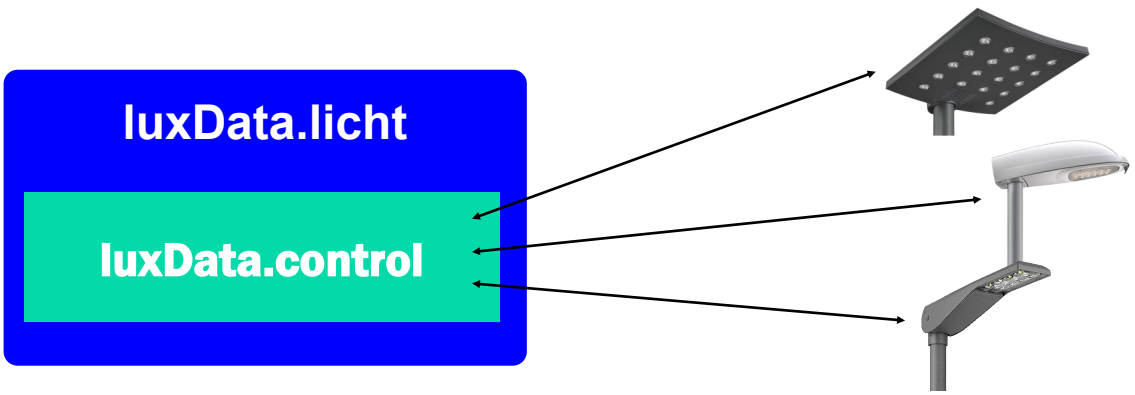
Our solution – luxData.control

We've taken up the various routing and controlling methods employed by the different manufacturers to create luxData.control – a manufacturer-independent control system. luxData.control is able to control and read intelligent LED lamps made by all the popular manufacturers.

luxData.control is part of luxData.licht and therefore provides an ideal all-in-one solution for all lighting points to meet all your requirements.

This includes, among other things, management, maintenance planning and handling, documentation, archiving, energy calculation, integrated GIS, the storage of switching programs and contract data as well as controlling and much more. It's a one-stop system for all your needs.

All that's needed to enable luxData.control in our proven luxData.licht system is the code. No other software for controlling different LED lamps therefore needs to be installed in addition to luxData.licht. Only one software system is required to manage and control street lighting.



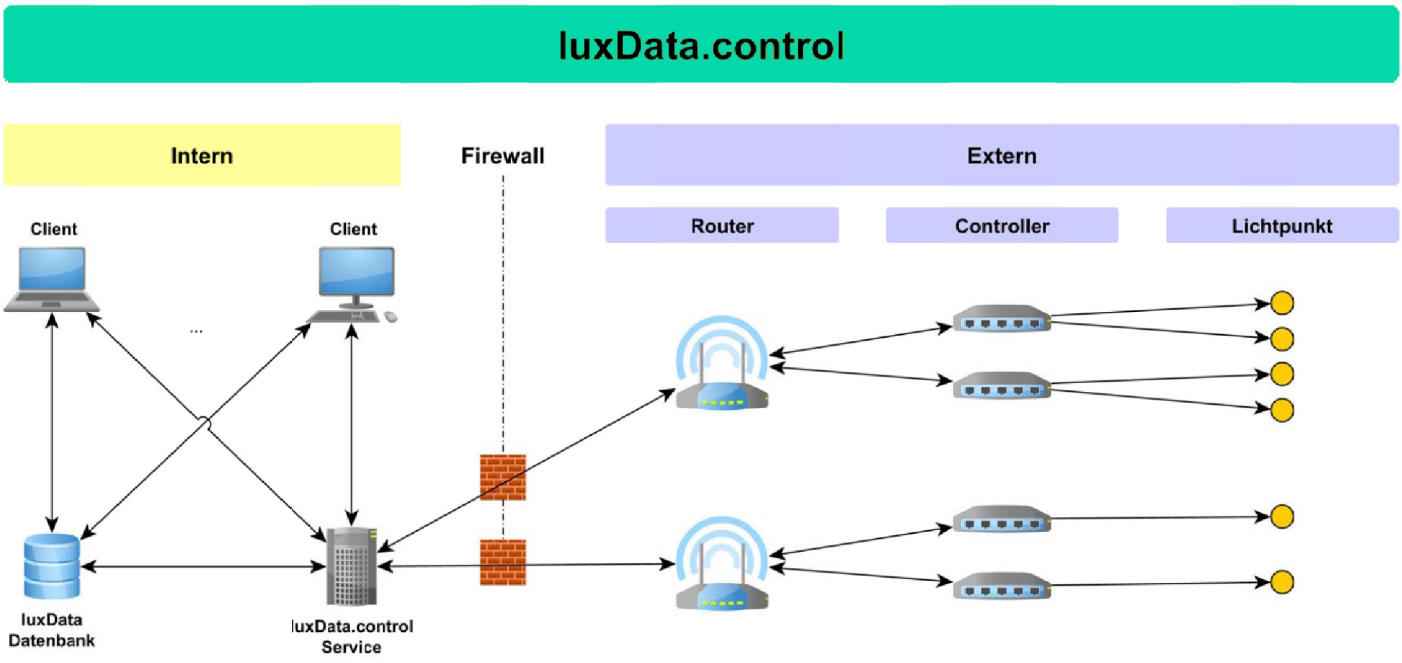
Overview of luxData.control features

Central control of intelligent lighting points	✓
Central reading of information from intelligent lighting points	✓
Monitoring of intelligent lighting points	✓
As well as all the features of luxData.licht, including:	
Documentation of equipment portfolios with comprehensive hostory tracking	✓
Type catalogue for all the required components	✓
Maintenance management Including malfunctions, maintenances, accidents, cost controls	✓
Report pool with numerous templates and integrated report generator	✓
Statistics, processing and analysis tools	✓
Extensive filter tools	✓
Consumption billing Including switching programs, electricity contract data, billing rules	✓
Twilight calendar	✓

Please refer to luxData.licht's product description for other features available with luxData.

Structure

Simplified structure mapping.

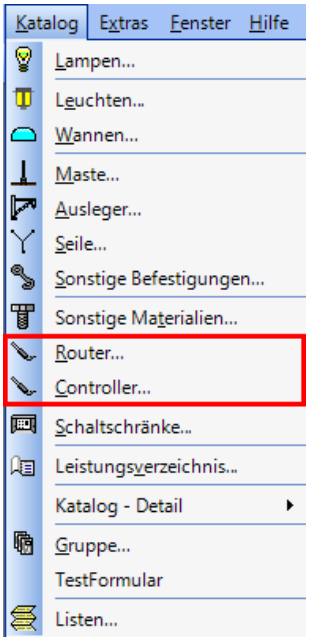


Forms

luxData.control draws on luxData.licht's sophisticated methods and functions.
The forms have also been adapted to the familiar user interfaces.

Catalogue

All the employed parts required to control lighting are first created as components in luxData.licht's catalogue. Each required type only needs to be entered once. The **Router*** and **Controller**** sections are available in the catalogue menu to this end.



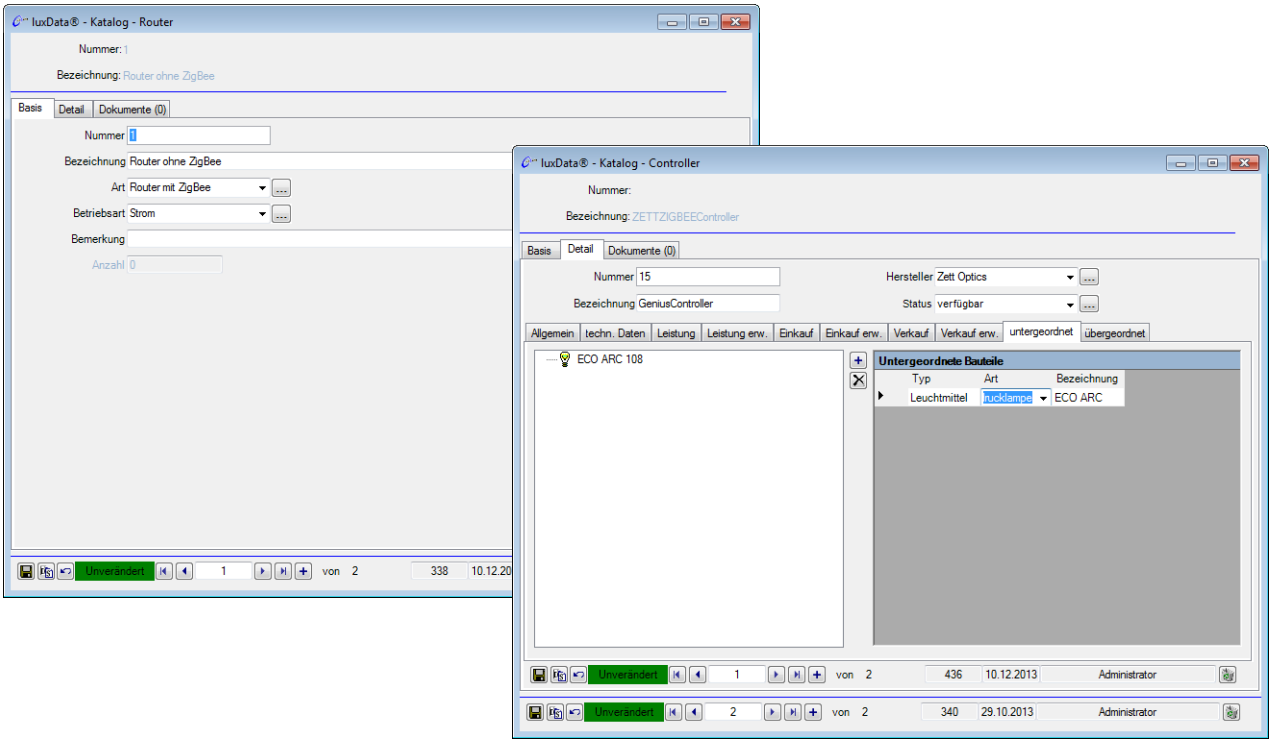
* Components that are required for communications between a central computer and lighting points are deemed to be routers.

Simple routers only deal with the distribution of information (like switches).

Intelligent routers, on the other hand, allow control signals to be stored and managed. Manufacturers call these components SmartServers, data concentrators, segment controllers, and so on, for example.

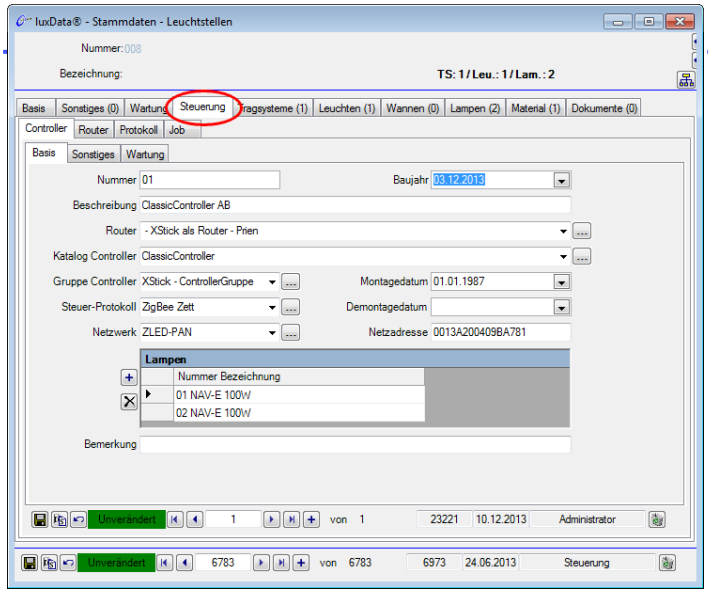
** Controllers are electronic components that enable LED lamps and/or LED modules to be controlled and read.

Intelligent controllers, on the other hand, allow control signals to be stored and managed. Control signals are frequently supplied to intelligent controllers by simple routers.



Forms

Control tab



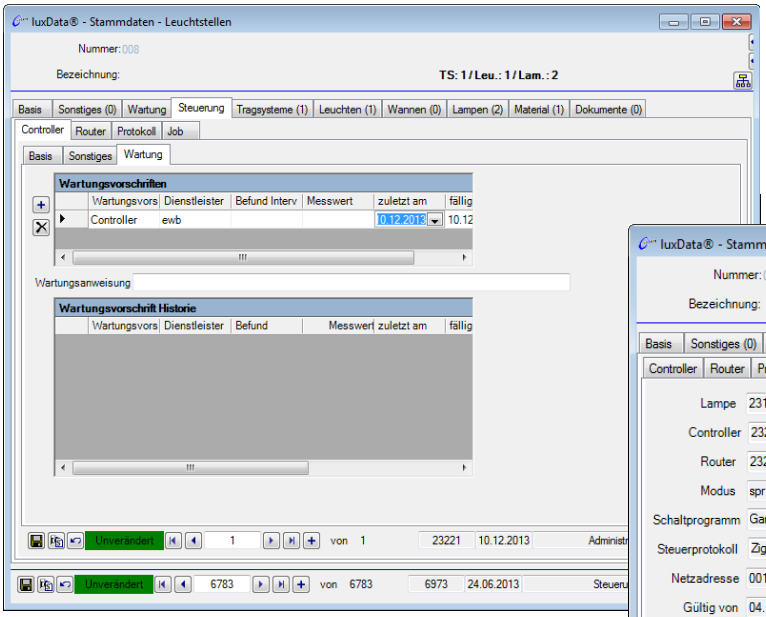
Following activation of luxData.control, the control tab is displayed in the forms for lighting points and switch cabinets.

These require the following data to ensure smooth connections between the routers and controllers:

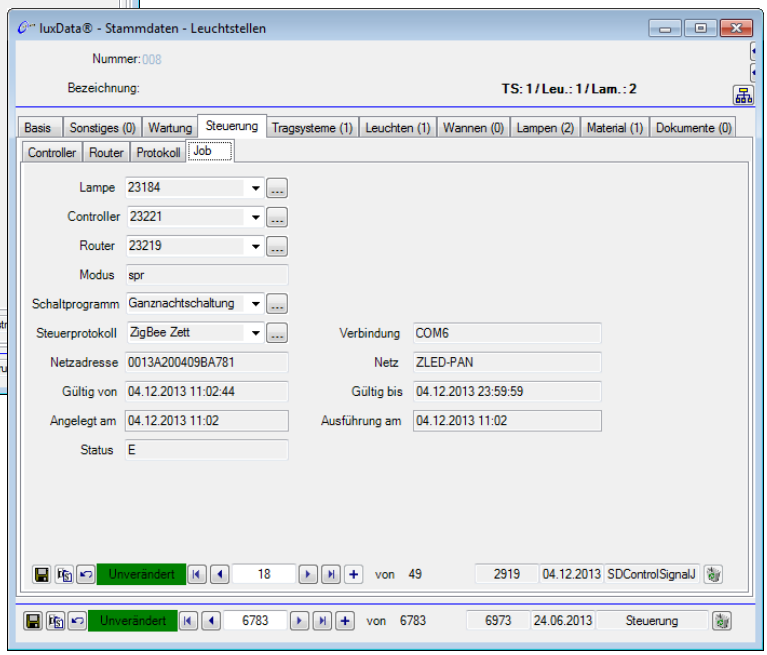
- **Router** used
- **Controller** used (alternatively a controller for use with a group)
- The **controller's control protocol**
- **Network used**
- **Network address**

The correct interface is addressed in luxData.licht on the basis of these settings. This interface makes it possible to send the control signals to the correct lighting points or to read measured values.

Different sub-tabs



Both routers and controllers may be incorporated into luxData's familiar maintenance sequence.



The sub-tab for jobs displays the control signals that have not yet been sent or that experienced an error during transmission (e.g. no connection) and which are therefore sill open.

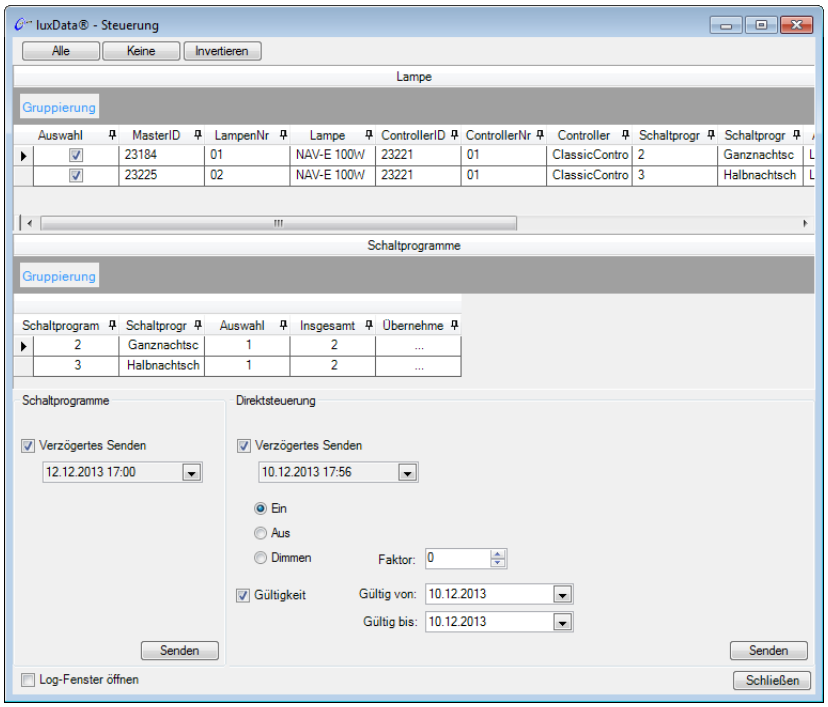
Control

Individual lighting points and selected numbers of lighting points may be addressed through luxData.control. Switching times from the switching programs saved in luxData.licht may be transmitted as control signals.

Simple direct control commands (on, off, dim) may alternatively be sent to the appropriate lighting points' controllers. Any dimming factor may be set with the dimming option. A period of validity may also be set with the direct control.

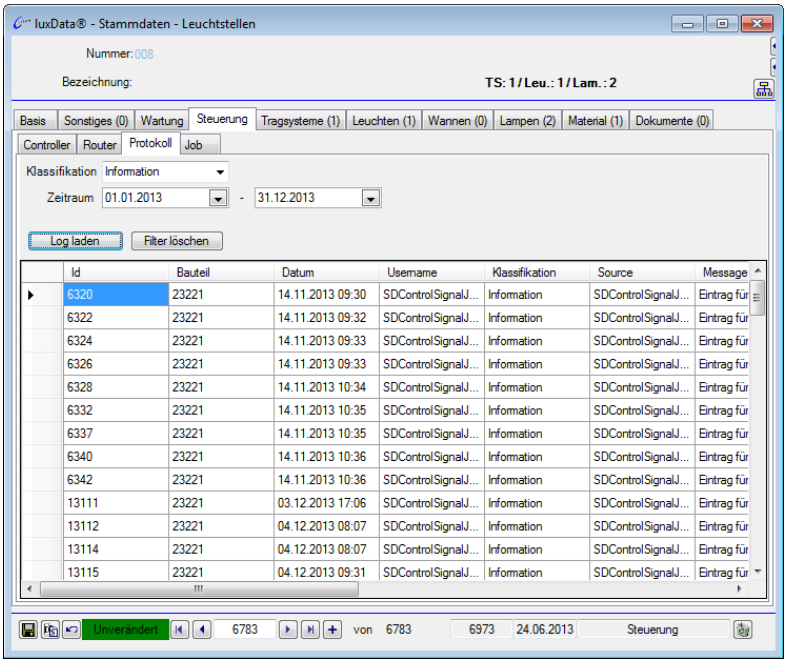
The control signals may be transmitted to the appropriate controllers as required, i.e. immediately or with a time delay.

Here, the transmission time may be specified precisely to the minute in a calendar.



The luxData.control's Windows service is used to maintain the connection even when luxData.licht is not open. This service acts as the intermediary between luxData and the external infrastructure.

The **luxData.control service** handles job generation, transmission and the provision of information to the provider. These jobs are stored in the service and processed at cyclic intervals.



All jobs created in the service are logged in the **Protocol sub-tab**.

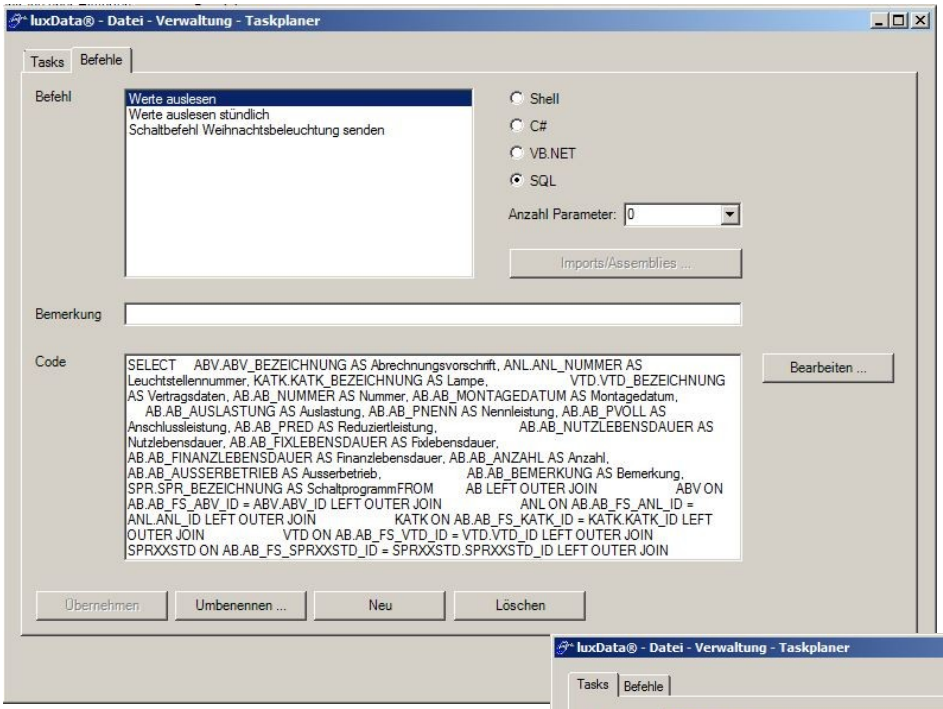
Reading out information

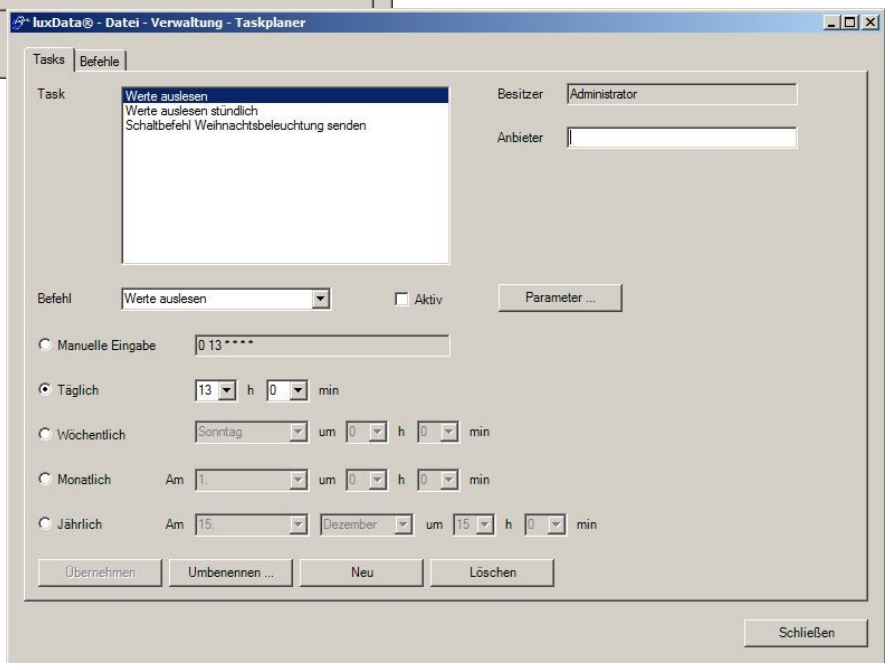
A broad range of measured values and information may be read out from the intelligent lamps' controllers and saved to a table using luxData.control.

Which measured values can be read out depends on the respective lamp manufacturers!

Scheduling processes

The automation of all operations, e.g. the transmission or retrieval of data, is also possible. A task scheduler which may be used to schedule control tasks has been incorporated into luxData to this end.



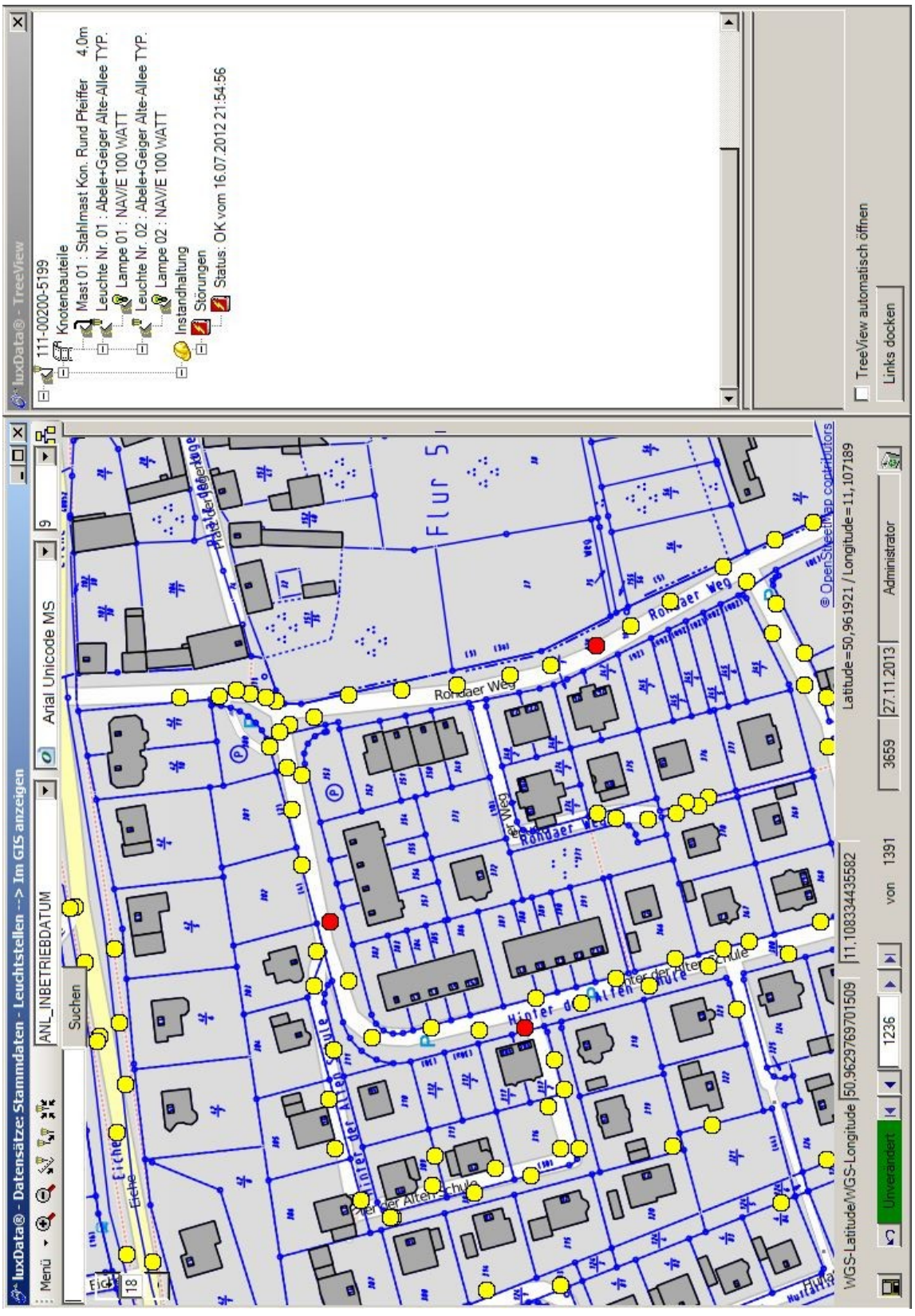


This means that it's possible to schedule defined commands without the need for any manual interventions by users. The “tasks” are stored centrally and are carried out automatically by the luxData task service when they become due.

These may be switching commands but also commands to read specific kinds of data.

A set of rules may, for example, be used to process data that's been read and to trigger actions when certain values have been exceeded (mail, alarm, new switching command…).

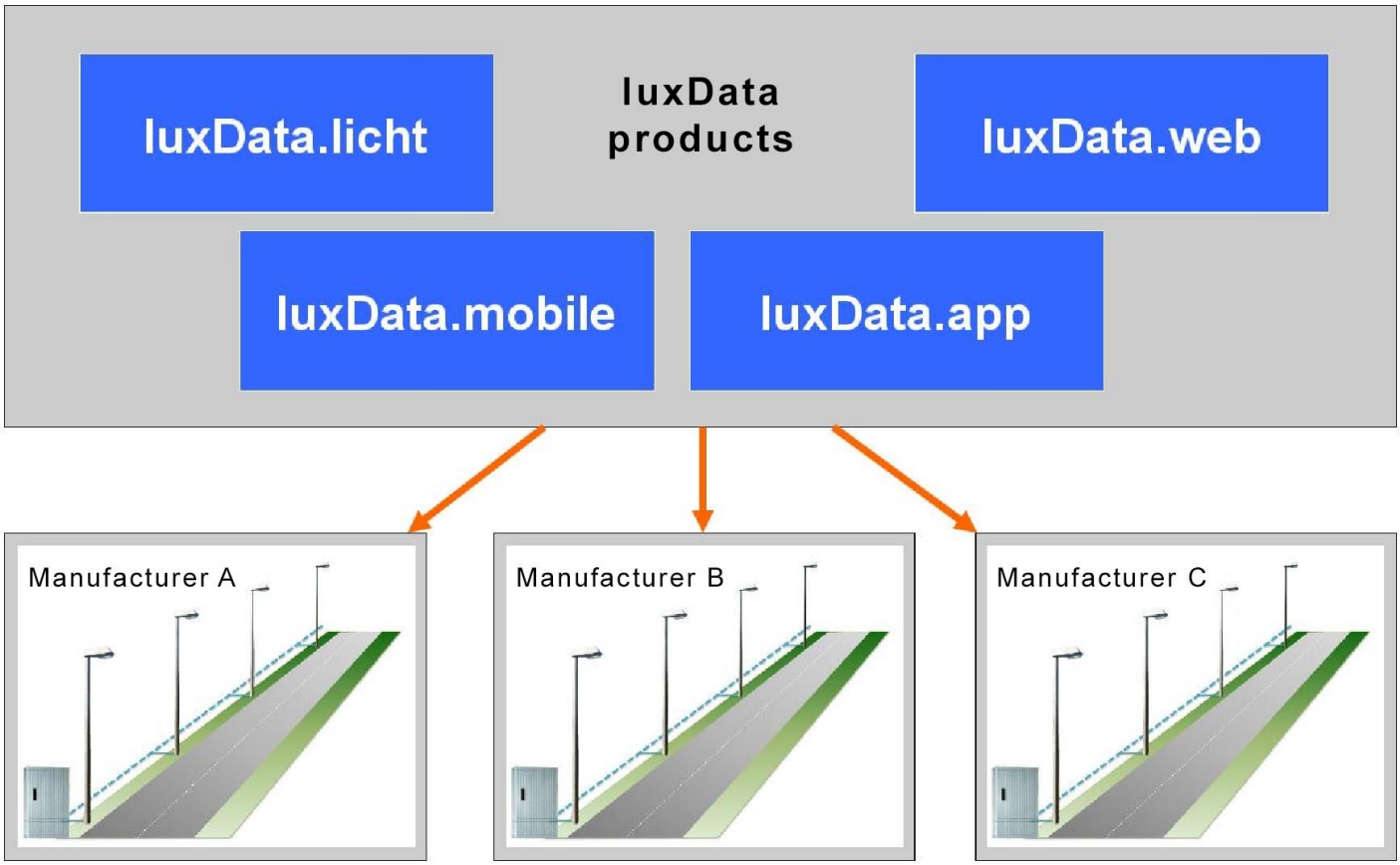
Overview



luxData.control will keep you informed of the status of your systems at all times. The GIS will thus enable you to quickly determine where malfunctions within your systems have occurred and thus dispatch your maintenance personnel specifically to the respective location.

Overview

The development of **luxData.control** is being incorporated into all products. This means that lighting control will become central within luxData.



Supported protocols several manufacturer

Functions of luxData.control	direct control		dim profile		messages (faults)	measured values			create assets
	shifting	dim	send	read out	query	temp.	activation time sum	activation time single	transfer objects
luxData.licht	X	X	X	X	X	X	X	X	X
luxData.web	X	X	-	-	-	-	-	-	-
luxData.mobileApp	X	X	-	-	-	-	-	-	-

Functions	direct control		dim profile		messages (faults)	measured values	Energy value	create assets
	shifting	dim	send	read out	query	abfragen	abfragen	transfer objects
ALiS	✓	✓	✓	✓	✓	✓	-	-
Schréder/Owlet/Nightshift	✓	✓	-	-	✓	✓	✓	-
Schréder Exedra	✓	✓	-	-	✓	✓	✓	-
Paradox	✓	✓	-	-	-	-	✓	-
Tvilight	✓	✓	-	-	✓	✓	✓	-
Zett Zig Bee	✓	✓	✓	✓	✓	✓	-	-
Signify Citytouch	✓	✓	-	-	✓	✓	✓	✓
Signify Interact	✓	✓	✓	✓	✓	✓	✓	-
SITECO	✓	✓	✓	✓	-	-	-	-
Echelon	✓	✓	✓	✓	-	✓	✓	-
Sustainder	✓	✓	-	-	-	-	-	-
esave	✓	✓	✓	✓	✓	✓	✓	✓
GreenBox	✓	-	✓	✓	-	-	-	-
Hausheld	✓	✓	-	-	✓	✓	-	-
Moxa	-	-	-	-	-	-	✓	-
F8 Solar	✓	✓	-	-	✓	✓	-	-