

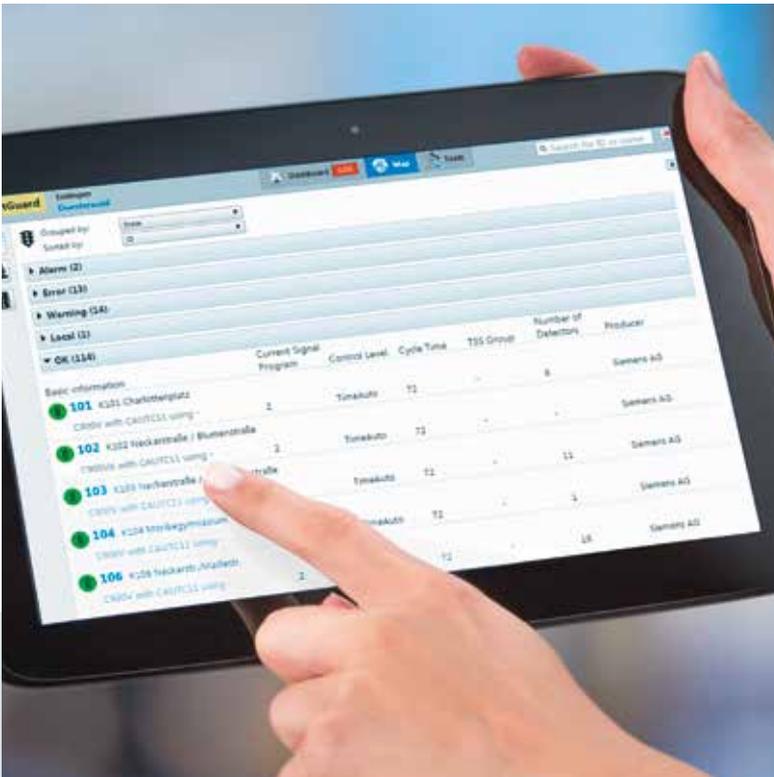
SIEMENS



siemens.com/mobility

Sittraffic smartGuard

The web-based mobile traffic control center



You can use Sitrtraffic smartGuard to ...

... control

Traffic lights (on, off, switching)

... monitor

Traffic infrastructure such as:

- Traffic signal installations
- Detectors and measurement points
- Route sections
- Parking facilities
- Detector systems (TEU)
- Automatic number plate recognition cameras (ANPR)
- Mobile objects as well as registration points for satellite-based prioritization systems (Sitrtraffic Stream)

... connect

All devices and systems featuring one of the following interfaces:

- CANTO
- OCIT
- XKOM
- NCOM

For connection to Sitrtraffic sX controllers, there is a preconfigured Plug&Play function.

Sitraffic smartGuard is the world's biggest traffic computer. But without the hardware needs.

More than 5,000 traffic signal installations, 12,000 detectors, 250 parking facilities and 50 buses in 18 countries have already been linked up to Sitraffic® smartGuard. This makes the web-based traffic control center from Siemens the world's biggest traffic computer and offers huge advantages to all municipalities who have decided to use this innovative Siemens system.

- Sitraffic smartGuard allows them to use any web-enabled mobile device (smartphone, tablet PC, notebook) to monitor and control their traffic equipment.
- They do not need to buy and maintain any traffic computer hardware of their own.
- They can always use the latest software versions, without any effort for software administration or updates.

Sitraffic smartGuard has been equipped with three very useful new functions: "Visu SZP" for the second-by-second visualization of signal timing plans, "Statistics" for highly convenient statistical analyses, and "Stream" for monitoring a satellite-based prioritization solution.

Sitraffic smartGuard is the ideal system in two different setups:

1. As a virtual basic traffic control center for small towns

We call it "virtual" because it is Siemens Munich who operates the control center hardware while the customer pays only for the service. And "basic" because it covers the key functions of a traffic control center. So the customer can rent traffic control center functionality without having to invest in hard- or software.

2. As a perfect addition to traffic control centers such as Sitraffic Concert and Sitraffic Scala

With Sitraffic smartGuard, the user can access data and functions not only via the classical user interfaces at the control center, but also via mobile terminals. This makes it possible, for instance, to provide the police with direct access to on-street traffic control equipment.

"All our emergency service dispatchers appreciate Sitraffic smartGuard as a definitely helpful tool. The program operates reliably and requires minimal operator training."

Olaf Hary,
Police Headquarters
in Karlsruhe



Is there an easy way to control and monitor traffic infrastructure via mobile devices? Yes, there is: Sitraffic smartGuard!

“The graphical user interface is well designed and clearly structured. The stylish graphical symbols allow easy access to the detail data of each intersection. An excellent product!”

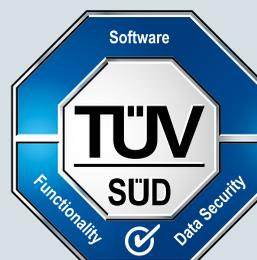
Johannes Wetzinger,
municipality of Innsbruck,
Austria

Would you like to see at first glance if there are any malfunctioning traffic lights or detectors, if there is any risk of congestion, or if a parking facility is approaching its capacity limit? And when on standby duty, wouldn't it be great if you could stay at home and still easily modify the signal plan of an intersection as soon as a major event is over, so that the visitors can leave the parking lot quickly? With Sitraffic smartGuard, these convenient options become a routine part of your daily work – even if your municipality does not operate a traffic control center of its own.

Renting performance instead of buying hardware – the smart choice

Sitraffic smartGuard offers traffic control center functionality under an operator contract. So you can always use the latest traffic control software without having to buy it since the fully equipped traffic control center is operated by Siemens. Siemens also takes care of all maintenance work as well as of all updates to the latest software versions and upgrades to state-of-the-art technology. You as the customer can simply rent the key functions of a modern traffic control center and pay only for their use, without troubling yourself with maintenance and updates. No need to buy computer hard- and software, hire IT staff, rent special premises or install safety and security systems.

Positive side effect of the rental concept: Sitraffic smartGuard connects considerably faster to the traffic control center than conventional solutions – simply open the browser, log in and start the desired functions.



Availability, reliability and security levels of Sitraffic smartGuard have been certified by TÜV Süd. The security features include a two-level security architecture and high security standards for server operation and data transfer, especially between server and field devices.

Clearly structured, easy to use – and offering everything you need to control and monitor the traffic in your area

The graphical user interface of Sitraffic smartGuard is setting new standards in traffic control technology. The display shows only those functions that are supported by Sitraffic smartGuard – for an uncluttered user interface and easy operation. Even persons who have not yet worked with a traffic computer will quickly and intuitively learn how to handle the system, without formal training. Anybody who knows how to use a smartphone and smartphone apps, knows how to work with Sitraffic smartGuard!

The map display –

Your one-click overview

OpenStreetMap is the smart way to a complete overview of your entire system. The map contains integrated “bubbles” with key information on the different objects such as traffic lights, detectors or parking facilities. Swiping the mouse cursor or your finger tip across such a bubble will display a tool-tip and a window with the related details.

You can zoom in or out with the pinch gesture typical for smartphone or tablet use, move between map sections with a swipe, and use object search and filter functions. From the map you can also directly access other functions, whenever a traffic light signal plan needs to be modified or a traffic light must be turned off. And it is just as easy to access the archive, where all traffic light signal plan changes and detector data from past months are stored.



Map display



List format

**The list format –
Sorting and grouping objects according
to your criteria**

Those preferring to work with lists will choose the list format to display the key data of the objects that are part of the traffic control system. Very convenient in this respect are the flexible sorting and grouping functions: Objects can be sorted on device type, control level or even name and number. A simple click on a particular traffic light system will open a details window with all the relevant data. And if detectors are assigned to the installation in question, the related information can be accessed directly from here as well.

**The dashboard –
Easy monitoring with the watchlist**

The dashboard provides you with a one-look overview of the system's current status: Red is the color used for alarms, yellow for warning messages, and the cause of the alarm or warning can be quickly queried. Objects that you want to monitor even more closely can be included in the integrated watchlist, which makes it easy to keep track of any changes to individual objects over an extended period of time. The dashboard also permits the display of all status changes, including time stamp, of any traffic infrastructure objects – individually or in hourly, daily or weekly summaries.



Dashboard



Signal plan archive

**The signal plan archive –
All operational data in clear view**

Sittraffic smartGuard also offers user-friendly visualization functions for operational data. You can access the signal plan switching routines for certain periods of time, or display past error messages and status changes. This means that you will have an automatically generated operation log for each traffic signal installation.

**New application! Sittraffic Stream –
Monitoring satellite-based prioritization systems**

Sittraffic smartGuard now also offers access to Sittraffic Stream, Siemens' satellite-based prioritization system for buses and emergency vehicles. This means that the registration points and the current locations of buses and emergency vehicles can be displayed on the map and in list format.

**New application! VISU SZP –
Second-by-second visualization of signal groups and detector status**

The "Visualization of the Signal Timing Plan" (VISU SZP) function provides a clear overview of the status of the signal groups and detectors installed at the individual intersections. You can access historic data (90-days archive) and

current data (delay of max. 3 minutes, depending on the interface type used).

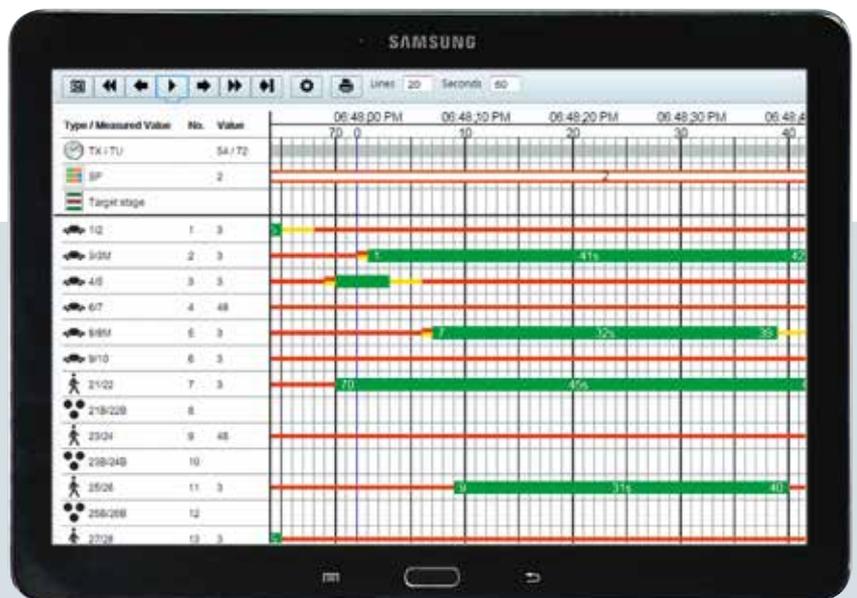
**New application! Statistics –
Wide range of analysis options**

Peak hours, traffic density and congestion, annual summaries – the Statistics app turns your smartGuard device into a powerful analysis tool. The measured values from the system are aggregated and processed accordingly and displayed in diagram or tabular form. You can export the statistical data in PDF or CSV format and import them to Microsoft Excel for further customized analyses. The following statistics can be displayed:

- Peak hours
- Percentage of truck traffic
- Minute-by-minute profiles
- Annual summaries of daily traffic volumes
- Quality assessment



Sittraffic Stream



VISU SZP

**Sitraffic smartGuard –
The most important display options**

1. **Map display:**
Your one-click overview
2. **List display function:**
Sorting and grouping objects according to your criteria
3. **Dashboard*:**
Easy monitoring with the watchlist
4. **Signal plan archive:**
All operational data in clear view
5. **New application! Sitraffic Stream*:**
Monitoring satellite-based prioritization systems
6. **New application! VISU SZP*:**
Second-by-second visualization of signal groups and detector status
7. **New application! Statistics*:**
Wide range of analysis options

* Not suitable for the small display sizes of smartphones or iPhones.

**Two-tier security architecture
for monitoring and intervention**

For full access to the monitoring functions, only a user name and a password are needed. But active interventions, such as changes in traffic light switching plans, require an additional PIN as a second protection level, just like with many telebanking applications.

**Sitraffic smartGuard – successful
applications across the world!**

Sitraffic smartGuard has passed the test of numerous real-life deployments. Municipalities in 18 countries are already benefitting from this innovative technology: Angola, Austria, Colombia, Czech Republic, Finland, Georgia, Germany, Greece, Hungary, India, Italy, Norway, Poland, Portugal, Slovakia, Switzerland, Turkey, USA.



Sitraffic Stream gives priority to buses and fire engines – Sitraffic smartGuard keeps you updated!

The satellite-based prioritization system Sitraffic Stream makes bus or emergency routes safer for all road users, allowing buses and emergency vehicles to travel much faster without blocking cross traffic longer than absolutely necessary. The new "Sitraffic Stream" function for Sitraffic smartGuard allows you to use your mobile device for watching the prioritization system in action and monitoring the current position of all vehicles, the location of the registration points, any points that have just been passed, and much more.



Sittraffic smartGuard is the tool that will truly simplify your daily work!

Plug&Play connection to Sittraffic sX traffic controllers – All data immediately available

One of the “core competencies” of Sittraffic smartGuard is to provide mobile terminals with access to traffic infrastructure components via the Internet. The combination with the new Sittraffic sX traffic controller ideally plays to this strength because Sittraffic smartGuard provides the user with full access to the controller. Sittraffic sX offers Plug&Play functionality for automated data synchronization with Sittraffic smartGuard. When new traffic lights are installed, these are immediately integrated in the system and displayed on the map.

Like Sittraffic smartGuard, Sittraffic sX is web-based and its unique operations and diagnosis concept offers access via web browser from mobile terminals. So wherever you are, you can immediately detect and track any malfunction – and even modify green phases and signal plans. The identical graphical layout ensures instant familiarity with the user interface.

Targeted troubleshooting – Mobile access to equipment data enables optimum preparation

When a service technician receives a malfunction message, for instance via the “maintenance alert” function, he uses

his tablet PC to log in to the smartGuard traffic center platform on the Internet. On the map, he can spot the failed red light at first glance. Then he can access to the Sittraffic sX controller via smartGuard to find out how urgent the repair actually is and if it requires an aerial platform. Thanks to this advance information, the repair work can be carried out without delay or organizational detours.

Stay at home while on standby duty – Interventions can be initiated from anywhere

Major events often require one or several traffic engineers to be on standby duty. With Sittraffic smartGuard, however, nobody needs to spend their evenings or weekends in front of a monitor in the traffic control center or the town hall. The technicians on duty can monitor the traffic situation around the event venue from the place of their choice and, if needed, modify the traffic light switching routines so as to enable a smooth and fast trip home for the spectators after the event.

The new Sittraffic sX controller can be monitored and operated via PC, smartphone or tablet, including full remote maintenance functionality and convenient remote data upload. Following automated configuration (Plug&Play), the controller is directly included in the maps and lists of the Sittraffic smartGuard user interface.



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The information in this document contains general descriptions of the technical options available. The required features should therefore be specified in each individual case at the time of closing the contract. For the secure operation of Siemens products and solutions, it is necessary to take suitable preventive action and integrate each component into a holistic, state-of-the-art security concept. Third-party products that may be in use should also be considered.

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