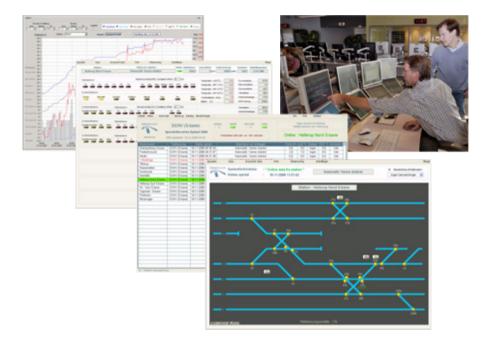
## SAN

### **Railway Systems**





### SUPERVISION SOFTWARE RAILWAY SWITCH POINT HEATING

### Reliable Winter Railway Traffic

Get instant error messages about missing heating in critical switches and react in time.

### Up to 60% Energy Saving

Heating only when needed - based on latest official meteorological institute weather reports and locale weather stations.

### Energy management

Energy counters for every switch combined with stored weather information makes optimization easy.

### **Reduce Maintenance Cost**

Bundle and prioritize service and maintenance calls based on on-line switch point information.

### Save installation cost

Use existing communication installations or wire less GPRS. No need for new wire installations.

### **Easy adoption**

Install as a Stand alone application or make it integrate with the existing Scada system or run it as a WEB application.

On-line Management and Control software to Bond all Heated Switches in a Territory Together. Valuable Information at the Fingertip of:

- Traffic Control Department.
- Maintenance Depertment.
- Technical Department.

System Blue Point is a scalable modular system ranging from small stand alone heating systems to large intelligent weather controlled solutions with scada interface and management of energy & maintenance.

"Management & Remote Control" is the scalable software package that makes System Blue Point to an energy and maintenance cost efficient switch point heating solution.

Energy saving without never compromising the track conditions for reliable train operation.

Get full control over:

- · Individual Temp. settings for every station.
- Energy counters and statistics.
- Call for maintenance.
- · Read out locale weather conditions
- · Force individual switches to heat
- · Errors or other mall functions on-line

# SAN

### **Railway Systems**

#### SCREEN VIEWS

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### STATION OVER VIEWS

Easy over view of all stations in a territory. Information is displayed about locale weather conditions, last update time and information about switch point heating mode is active. Stations with faults and errors changes colour and a small error message is displayed.

This screen also gives access to any of the listed stations for a closer look.



#### **SINGLE STATION - TRACK MAP**

Easy over view of a single station. The track map contains easy to see symbols regarding the switch point heating components. Data about temperature is displayed where they are measured. If an error occur the colour changes and might be flashing in the switch in question.



### **SINGLE STATION - DATA**

Behind every station (master control cubical + slave cubicals) there is a more detailed information screen. All energy, and mode counters are displayed and light bars is showing status for every switch, weather station, master and slave cubical.

Indicators are showing which kind of error is present and in which switch.



### **ADVANCED DATA & SETTINGS**

The advanced data & settings screen makes it possible to adjust all triggers that brings the system into the different weather modes.

These settings can be done for the entire system or individually station by station.

Individual settings will optimize the system to match different weather pattern from area to area in the same country.



### DATA ANALYSIS

All data is stored in a database. The "Analysis" tap provides information about how power is distributed in the different weather modes, Historical temperature curves and event log about errors and modes.

These analysis is a great tool to fine tune the system settings for saving energy without compromising traffic interruptions.

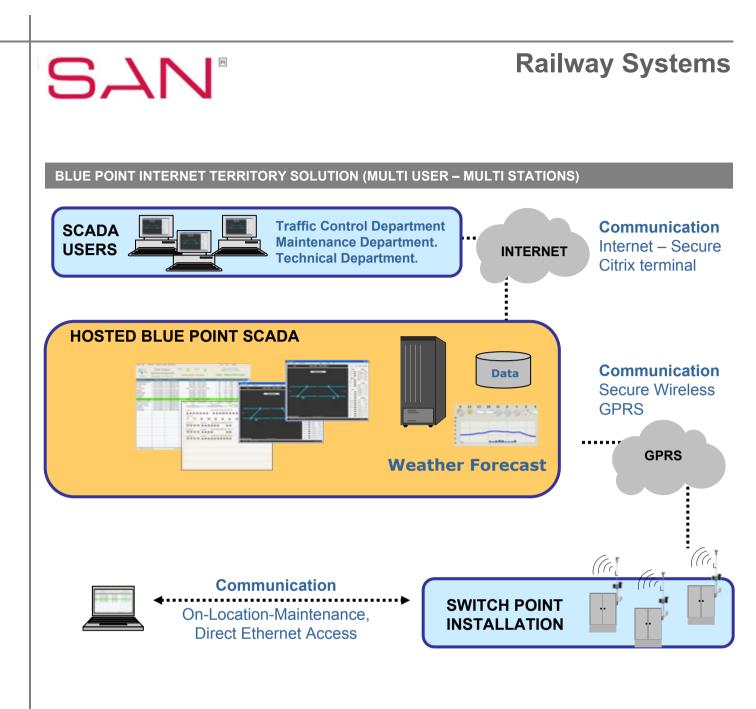
The analysis can also show irregularities e.g. manual operation of the heat.

### **Railway Systems** SAN **BLUE POINT LITE SOLUTION (SINGLE USER – SINGLE STATION) BLUE POINT SCADA** Single user Communication Ethernet (LAN) **RS485** Communication SWITCH POINT INSTALLATION **On-Location-Maintenance**, Single station **Direct Ethernet Access BLUE POINT TERRITORY SOLUTION (MULTI USER – MULTI STATIONS) Traffic Control Department** SCADA Communication Maintenance Department. USERS Ethernet (LAN) **Technical Department.** Communication **BLUE POINT SCADA** Ethernet (LAN) **GPRS** Wireless Data **PSTN** Wireless **GSM Wireless** Weather Forecast



Communication On-Location-Maintenance, Direct Ethernet Access





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#### SAN Electro Heat A/S (Member of the NIBE group)

(Formerly known as Svend A. Nielsen A/S) a Danish international company offer you more than 50 years of experience in developing and manufacturing of advanced, technical electric heating solutions and components. Not only standard products but also highly optimized customer solutions. Our focus and know-how is divided into four business divisions: Wind Power, Industrial Process, Comfort Heating and Rail Way Systems.



#### SAN - Railway Systems

(Formerly known as Lübcke Rail) Offer complete systems to secure optimal operation of switch points under any winter weather situations. Our focus is to deliver systems that reduces energy consumption and reduces the total cost of ownership. Our design has proven its reliability trough thousands of installations all over Europe.

Complete system delivery covers everything from the heating elements through intelligent controllers to the advanced server based computer monitor program. Including all necessary fittings, safety and power transformers, weather stations etc.

 $\bar{\rm 50}$  years know-how also gives you access to advisory regarding financial, technical and maintenance issues.

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