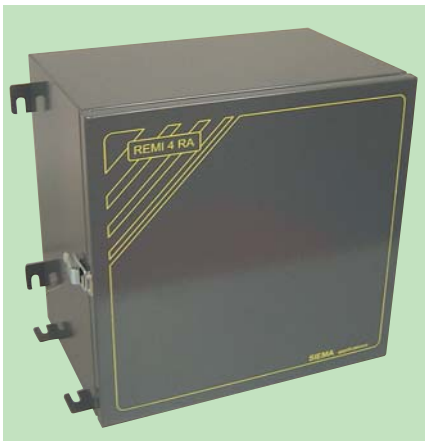


# SIAM ST2

Event Monitoring System



### The requirement

To have a system designed specially for the railway, using a modern and powerful data- processing structure. This system has to offer several kinds of information and possibilities to organize an efficient maintenance.

The goal of this Event Monitoring System is to display dated events and produce alarms in order to take optimum action for the maintenance of railway equipment, whether geographically close or distant.

### The SIEMA Applications answer

SIEMA Application proposes the Event Monitoring System SIAM ST2. This system allows functions here after:

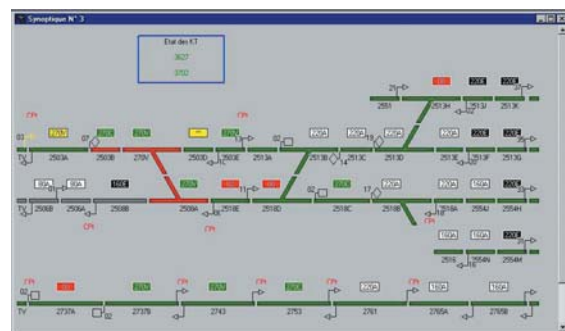
- To monitor equipment along the railway tracks. For example signaling and telecommunication systems. In case of detected default, the SIAM ST2 send an alarm to an operator
- To show a synoptic in real time or in batch mode (play back mode). This graph shows data for maintenance such as track circuit or speed instructions
- To analyse file events filtered by type of operator
- To generate and to send alarms to external equipments. Alarms can be forwarded on digital output

Évaluation des événements - Liste des événements ultimes

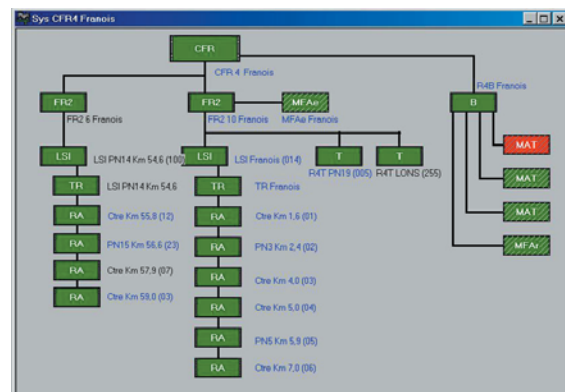
Localisation géographique : Ligne de la Seine (non mesurée)  
 Localisation matérielle : Evaluation 102 (en non mesurée)  
 Réseau : Réseau 102 (en non mesurée)  
 Classification : AL2 / ALP / AMO / JAM / JAU / JEU / JEM / JEC  
 Type d'événement : Param. alarm / Changement d'état / Valeur anormale / Télécommande / État / Anomalie / Fa. / Param. anormale  
 Période : du 18/05/2001 00:00:00 au 18/05/2001 11:00:00

Date & Heure	Localisation géographique	Localisation matérielle	Nature	Message	Niveau	Statut	Message de l'événement	Message de l'événement	Type
18/05/2001 09:38:18	PN2 km 11,2	Armoire 20000	Température	U 240	Info	OK	Mesure température	28,9 °C	VA
18/05/2001 09:38:18	PN2 km 11,2	Armoire 20000	Température	A 100	Info	OK	Mesure température	28,9 °C	VA
18/05/2001 09:38:21	Centre H	PN2 km 11,2	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:38:28	Centre H	Centre km 18,2	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:38:34	Centre H	Centre km 18,2	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:38:38	Centre H	Centre km 20,4	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:38:44	Centre H	Centre km 20,4	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:38:48	Centre J	Centre km 24,8	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:38:48	Centre J	Centre km 24,8	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:37:03	Centre H	Centre km 24,8	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:37:07	Centre H	Centre km 24,8	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:37:18	Centre J	Centre km 29,4	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:37:28	Centre J	Centre km 31,8	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:37:28	Centre J	Centre km 31,8	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:37:28	Centre J	Centre km 31,8	Info PSEET	Info PSEET	Info	OK	Information d'événement	Transmission ok	CE
18/05/2001 09:47:43	PN2 km 14,8	Armoire 20000	Température	A 100	Info	OK	Mesure température	28,9 °C	VA
18/05/2001 10:20:01	Section 0	CFR M 2 Mouchard	Info PSEET	Info PSEET	Info	OK	Défaut matériel	Liaison CFR Mouchard	CE
18/05/2001 10:20:01	Section 0	CFR M 2 Mouchard	Info PSEET	Info PSEET	Info	OK	Défaut matériel	Liaison CFR Mouchard	CE
18/05/2001 10:20:24	Section 0	CFR M 2 Mouchard	Info PSEET	Info PSEET	Info	OK	Défaut matériel	Liaison CFR Mouchard	CE
18/05/2001 10:20:24	Section 0	CFR M 2 Mouchard	Info PSEET	Info PSEET	Info	OK	Défaut matériel	Liaison CFR Mouchard	CE
18/05/2001 10:20:59	Section 0	CFR M 2 Lons	Info PSEET	Info PSEET	Info	OK	Information d'événement	Suppression des 10 commandes PSE	CE

Archive list



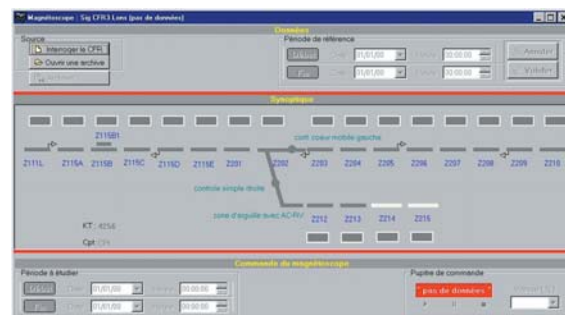
Real time track circuit monitoring



Material architecture monitoring



Setting and testing department



Recorder function



## Features

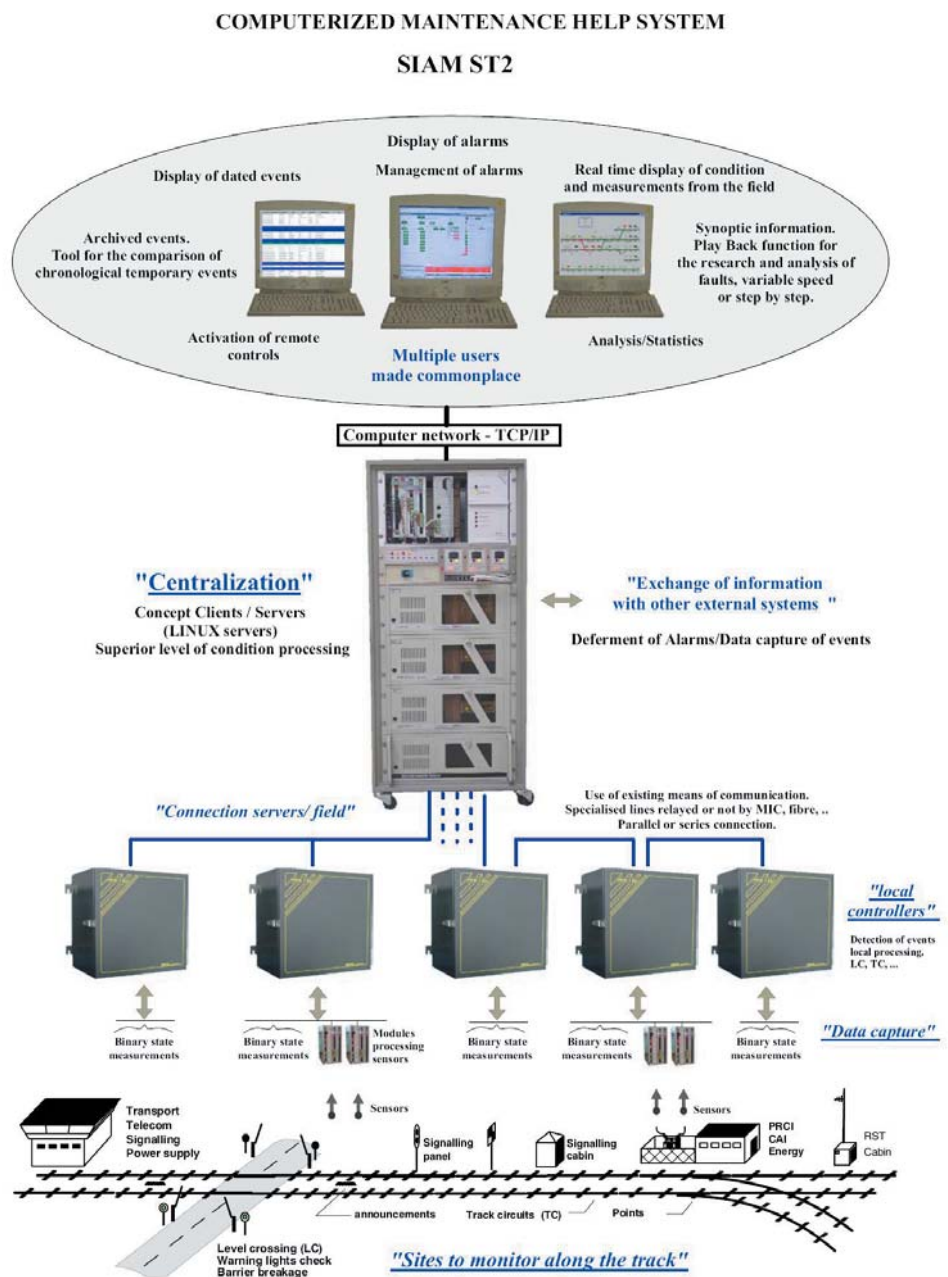
- Visualizes alarms and selectively distributes them to the interested users
- Identifies informations by geographical sectors, sectors of operation and families of monitored elements (Signalling, Telecom, Energy)
- Identifies and time-stamps all events and alarms generated (hierarchical system of alarms)
- Records events and alarms for exploitation (analysis, comparison, graphic visualization with or without play back function, ...)
- Allows modification of parameters on line with automatic diffusion into the system after validation
- Permits an unlimited number of user by using a browser and a TCP/IP network
- Captures data with dedicated local controller adapted to the railway environment
- Supply information to all external services in charge of monitoring maintenance

## Technical characteristics

- Centralization computer can manage up to 255 local controllers
- Allows to treat up to 36000 events per hour for a centralization computer
- Each local controller can manage 64 digital input, 16 analogue input, 16 digital output, 128 counting data, specific interface...
- A large scale of Network interface (RS232, JBUS, IP, ...)

## IN BRIEF

- Optimises maintenance works and site visits.
- Improves quality of maintenance by the permanent monitoring of all the installation and the possibility to cross-check events and alarms between sites
- Modular architecture allows additional facilities for a large scale of application
- Operates with all types of support.



## References:

France:

- High speed line: LGV  
Paris-Lyon-Marseille (LN1-3-4), LGV  
Paris-Strasbourg (LGV Est)
- Most of regions in France:  
Paris, Lyon, Marseille, Chambéry, Dijon,  
Metz, Nancy, Bordeaux, Toulouse,  
Reims, Lille, Renne, Strasbourg,  
Amiens, Montpellier

More than 40 installations in France

More than 2000 sites monitored

More than 70000 point of mesure



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