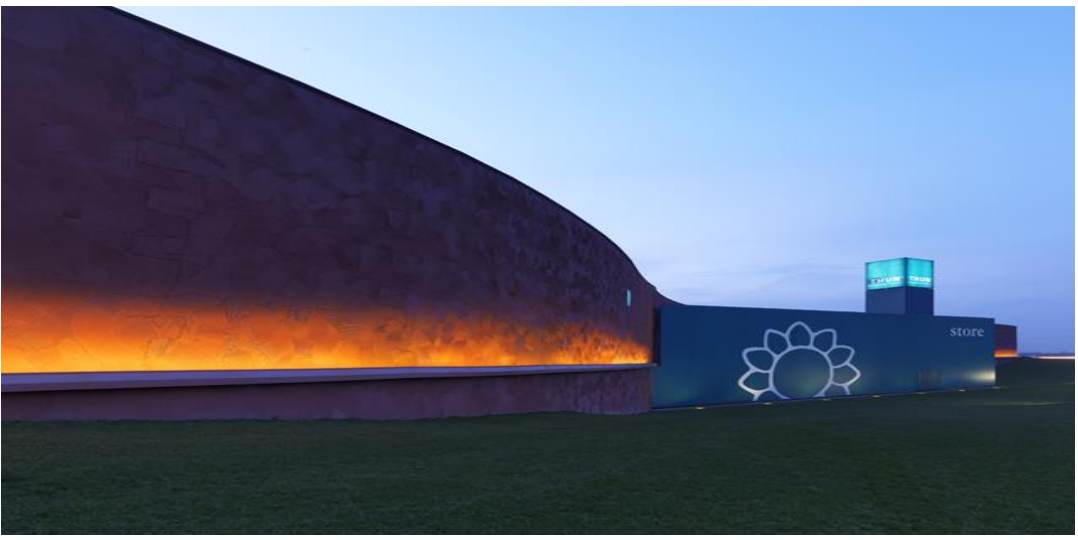
Logistics management in the new Thun center.

A 50 million euro cutting edge technology and automation system investment: Thun has realized a major junction for managing worldwide product distribution logistics.

Thun is a special company which has been able to create a fairytale aura and a way of life with its unique artistic creativity. Thun was established in 1950 as a small ceramics workshop in Castel Klebestain in Bolzano by Count and Countess Otmar and Lene Thun. T
he company soon became famous for its particular artistic representations of ceramic angels created by the Countess Lene Thun. Under the management of Count Peter Thun, the Thun creations and works of art are now famous all over the world. Due to their artistic creativity their products have been able to correspond to a certain way of living which has a positive attitude towards life and the world.
Constant expansion and growth have made the company a global giant in this sector with an exclusive chain of shops in the most strategic points in every city. In 2008 the company inaugurated a very modern and innovative logistics center in Valdaro, in the province of Mantua in Italy.
The company has invested 50 million euro on the whole structure which is a very modern Logistics Center spread out over 150,000 square meters of land. This center consists of an indoor area covering 35,600 square meters of land, a 1,650 square meter outlet open to the public and a four storey office block with each floor covering an area of 750 square meters. Thun has 80 employees currently working in this logistics center and has estimated to increase this number to 200 in the near future.



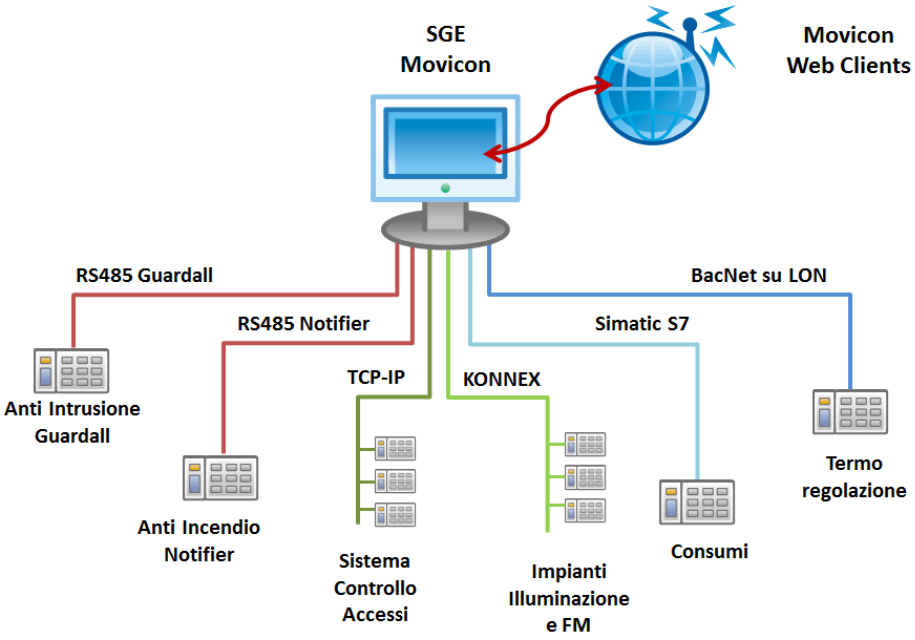
The Thun Logistics center architecture is the result of project designed by Matteo Thun.

The Logistics Center

The Thun logistics center can be clearly seen while travelling along the A22 Brennero motorway near Mantova (Munturia). Designed by architect Matteo Thun, it stands out for its originality of thematic style and intense colored walls. The centre of the building resembles the earth and has been painted in different shades of yellow and brown which merge into warm shades of orange and red towards the bottom where the dispatch and shipment zone is located. It then transforms into blue and light ice blue towards the adjacent warehouses.

Feng Shui's logic was used and applied to the machinery during the construction phase. Each machine has been painted with the colors used in antique geometric Taoist art thought to be more suitable for this kind of working environment.

The most noted machinery components include the Sorter, an advanced technological automation system worth 10 million euro, one of the biggest ever realized in Italy for its expandability, complexity and integrability with existing sub-systems. This system is completely automated to manage collecting, bundling, weighing, labeling, sorting and loading of products into vehicles. The Sorter machine is capable of sorting up to 19,500 items an hour for a total of 156,000 items a day with the ability to handle exceptional peak product flows. It has a 26,000 pallet storage capacity which can be extended to 75,000 by expanding traditional warehouse facilities which has a self-supporting storage system equipped with auto-transporter elevators and stackers. All activity is supervised by software that can also be used to simulate collection processes, work load balances, delivery times as well as other various parameters. Due to its great processing capacity the logistic center has planned to further improve its customer services by creating a "bridgehead" towards marketing and sales development in new market areas such as: Spain, Portugal and the Far East where the company is already in the process of expanding its business.



The integrated SGE supervision system architecture

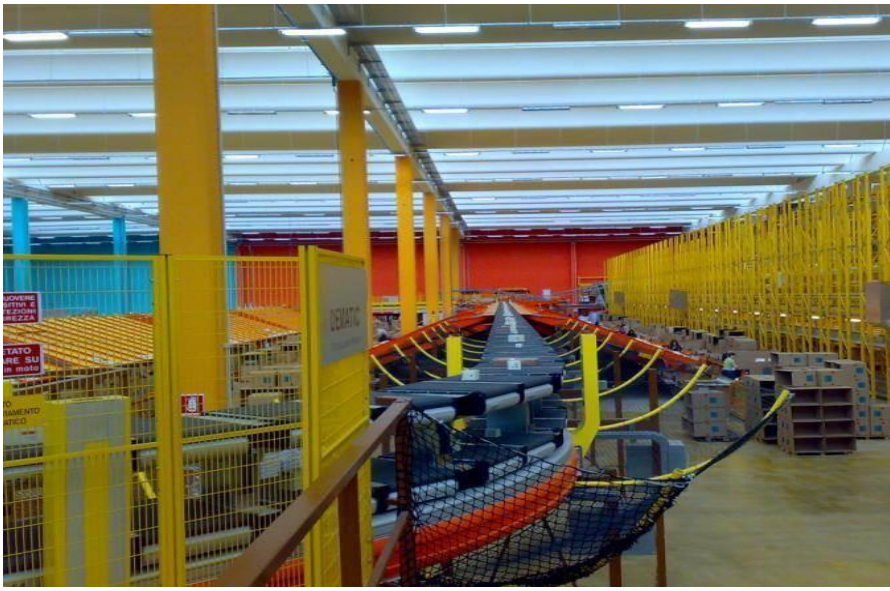
The structure and its technology

Such an important structure could not do without integrating a main supervision system capable of connecting to the structure's various management subsystems.

The project was therefore commissioned to HAS Srl, an engineering company belonging to the Riese Energy Group. Founded in 1999 the HAS Srl specialists have been working in the project engineering and business services transmitting their unique know-how in using new technology and applying procedures with integrated services to offer solutions specifically tailor-made to suit customer requirements.

HAS Srl prefer to use the Movicon software platform for integrating and supervising systems designed by them and due to their vast experience with Movicon have become Movicon Solution Providers.

In this particular case, the Thun Logistics Center required open and flexible solutions which could manage the whole structure with great efficiency. Movicon proved once again to be the ideal tool for this kind of project, by achieving objectives set by Thun with great effectiveness.



The Thun Logistics center's plant production floor completely managed by Movicon.

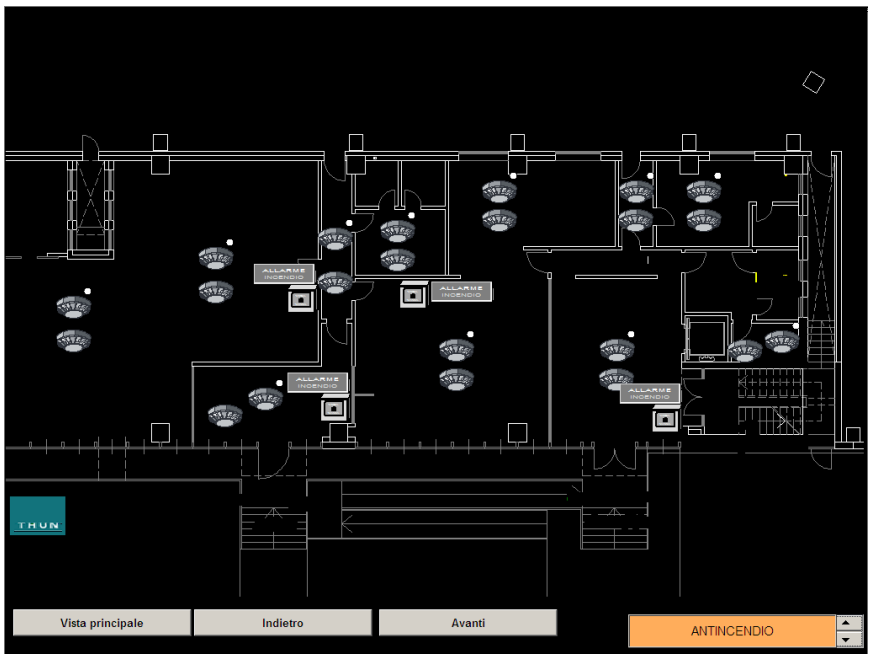
Burglar Alarms

The Movicon supervisor is connected to the PX500 Guardall center using RS485 protocol for managing the Burglar Alarm system activated in all 143 offices in the Thun center. Specially designed supervision screen pages display all situations and statuses with information.

The Supervision

The center's supervision system, defined as SGE, is the major reference point and displays all the installed substations within the center, chosen by the client based on their technical and functional needs.

By using the SGE system, based on the Movicon 11 technology, users can control and manage around 3,000 subsystem points that in turn manage and control the entire structure. The advantage of centralizing all information into one integrated supervision system is that all user managements, alarms, plant system information and consumptions can be joined together to achieve great management rationalization, simplicity of use and overall improved efficiency, both in running the structure and its maintenance. Another big bonus is that all of Movicon's native communication drivers can be used without having to use external drivers to collect



One of the integrated supervision system screen pages. Visualization of the whole system is completely accessible using web architecture.

precision to enhance diagnostic efficiency.

Fire Alarms
The Movicon supervisor is connected to the AM2000 Notifier using RS485 protocol for supervising smoke and fire sensors within the center's offices. All fire alarm system information and diagnostics are also provided.

Alarms and security
The SGE system realized with Movicon includes a simplified system that uses flashing icon graphics on screen so that security alarms can be detected, identified and located at a glimpse. This system is also used by the local Fire Brigade which is connected in remote control using a simple web browser. Just a few mouse clicks will enable the user to identify alarm sensors by navigating the user friendly center's layout designed on screen with clearly recognizable graphical icons.

Access Control
Entrance access to the structure's areas are controlled by the Movicon supervisor which controls external entrance gates and doors and public areas using proximity cards and reader devices connected to the building's Ethernet network.

Technical system supervision
All the establishment's technical utilities are connected to the Movicon supervisor in Konnex (EiBus) network. These utilities include:

- lighting
- motive power switchboards
- Driveway gates and sheds
- Power Center
- FM Cabinet and Power Units
- Digital clocks

Each utility is represented and managed through the related system screen pages, which can be navigated using extremely intuitive menus and navigation buttons.

Consumption meter system
The Power Center is connected to the Movicon Supervisor using the Konnex network through which real time data reveals how much energy is being consumed. All calculated consumption data is recorded in a relational Data Base. This data can then be analyzed using the supervisor by applying specific time period filters to represent the resulting data in graphical displays (Trends) and statistical reports. In addition to the Power Center, the supervisor is also connected a transformer substation panel, which supplies all the information contained in the Siemens S7 PLC using TCP-IP protocol.

Temperature control system
A temperature control system is connected to the Movicon supervisor. This central heating and cooling system is controlled by the Landis PXG80N system connected in LON using the BacNet network. All the devices located throughout the 143 offices and public areas are connected with the Konnex bus. Various parameters can be set by using the relevant screen pages to regulate temperatures to ensure maximum comfort all over the center. Furthermore, information flows are managed within the system so that events, parameter settings and acquisitioned data get recorded on historical log. Analysis can then be carried out using this data to ascertain how control process performances can be improved and energy consumptions can be made more efficient.
The SGE application has a very intuitive and user friendly graphical interface based on a plan of the building divided into different areas. Each area can be clicked on to activate various commands

Many advantages have been gained by using the Movicon Scada technology both in terms of speeding up develop time and using flexible technology for system integration, visualization, analysis and web access.

accordingly or navigated for monitoring and controlling the various statuses.
A special effort has been made to graphical interface usability so that users clearly recognize the area they are in and easily navigate to all the other areas as listed below:

Dispatch
Reception
Warehouse Stock
Office Block (4 floors)
Transformer Substation
All Central Heating Areas
All External Areas
All External Entrance Gate Driveway Areas
Environmental Variables
Active Alarms
Historical Events
Energy Consumptions
Scheduled System Operations
User Management
Access Control

Conclusion
''Each one of the Thun company's decisions is influenced by the desire to convey an image consistent to its brand name" declares CEO Paolo Denti - "Both our products and customers have specific logistic requirements: hense the need to implement a customized and technologically advanced solution to ensure the efficiency and services that we are very well known for". By implementing such advanced technology Thun has proved to be a very flexible company capable of growing and giving joy to all those that have contact with its world without compromising great value and sentiments such as love, joy and friendship that flow out from within.

Ing. Gino Prampolini
HAS Srl