Success Story – Frejus Tunnel

Organization:
TECNOSITAF SpA

Location:
Savoie, France
Province of Turin, Italy

Business Partner:
REnovation Srl

Web Site:
www.tecnositaf.it/en

Facilities Facts:

Approximately 13 km long tunnel opened in 1980, allowing 1.726 million cars to travel between Italy and France in an average of 13 minutes in 2015. The main cities connected by the tunnel are Turin, Milano, Genova, Chambery, Lyon, and Grenoble.

ARCHIBUS Applications:

- Building Operations Management
- Call Center Wizard
- Asset Portal
- On Demand Work + Preventive Maintenance

Reasons for Implementing:

- No work monitoring and historical data for equipment and maintenance work.
- No tools to manage preventive maintenance.
- Work orders managed through an Excel spreadsheet.
- No integrated platform to connect data for different systems in the tunnel.

Top Benefits Gained:

- Updated database of equipment and spaces based on AutoCAD integration
- Efficient ticketing and tracking process from opening of the ticket to its completion
- Integrated maintenance calendar and preventive maintenance process for all equipment

World's Ninth Longest Road Tunnel Relies on ARCHIBUS to Manage Complex Trans-Alpine Operations

Frejus Tunnel is the ninth longest road tunnel in the world and is one of the major trans-Alpine links between France and Italy. Approximately 2.7 million people live on either side of the tunnel in Savoie, France and the Province of Turin, Italy, with another 1.36 million in the nearby city of Milan. More than 1 million cars have used the tunnel every year since it opened in 1980, and the number is steadily increasing. The tunnel is a complex operation involving ventilation, traffic monitoring, fire prevention, and emergency response systems. To further complicate matters, while the tunnel is maintained by the Groupment d'Exploitation du Frejus (GEF), the day to day management is handled by concessionarie companies, SFTRF on the French side and TECNOSITAF, a subsidiary of SITAF, on the Italian side.

GEF identified the need for integrated asset management and workflow systems, so TECNOSITAF turned to ARCHIBUS Building Operations Management, On Demand Work, and Preventive Maintenance applications to streamline the work order process and to centralize maintenance records for the systems in the tunnel.

Too Many Systems, Not Enough Organization

In 2014, GEF realized that they were handling too many separate sets of equipment while managing the Frejus Tunnel, partially due to safety measures implemented since 2000. In addition to systems for ventilation and multiple forms of signage and lighting, they also had to track the data output from, and the maintenance of, 241 video cameras, complex fire detection and suppression systems, and thermal gates at each entrance. Safety concerns also led to the

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construction of a new rescue tunnel in 2007. While TECNOSITAF had their own software to manage the input from these systems and to respond to emergencies, some of their maintenance systems were outdated. For instance, what few CAD drawings they had of the tunnel dated back to the tunnel's construction in 1980; they did not have a clear maintenance history for their assets, and they managed work orders through an Excel spreadsheet. While the tunnel was being maintained effectively, GEF and TECNOSITAF decided that it needed to be maintained more efficiently as well, and turned to ARCHIBUS.

Implementing an Integrated Approach

Having identified these tunnel maintenance issues, TECNOSITAF began working with ARCHIBUS to integrate and update their maintenance systems in 2014. The first step in the process was to gather and update the relevant data about the tunnel assets and systems. This involved updating and creating new CAD drawings and recording asset information for over 4,300 pieces of equipment over 13 kilometers of tunnel, 5 buildings, and 26,000 square meters of platform space.

By the fall of 2014, TECNOSITAF was ready to integrate this new data into the ARCHIBUS Building

Operations Management application to modernize their workflow processes. The Excel spreadsheet was abandoned as TECNOSITAF began directing 60 staff members over 5 work teams managing 5 service lines all through one platform. With the On Demand Work application, not only was the day-to-day operation of the tunnel made more efficient, but the work order and maintenance processes were also integrated and simplified. Work orders could now be generated with a click of a button.

With the workflow process streamlined, TECNOSITAF turned their attention to asset management. The first step was to integrate asset history with the work order process, so that the craft person assigned to a ticket had access to the maintenance history of the asset, better equipping him to do his job effectively and efficiently. The second step was to begin the transition into

preventive maintenance rather than just repairs. This meant that, in 2015, TECNOSITAF focused on implementing equipment monitoring. This not only made it easier to know when a piece of equipment broke, but also realize when equipment was starting to malfunction. And it became possible to increase system efficiency by tracking energy consumption.

Tunnel to Tomorrow

The next step for the Frejus Tunnel project is to go live with Preventive Maintenance. Now, instead of using ARCHIBUS only to track whether systems are functioning properly, and efficiently repair them when they break, TECNOSITAF is starting to streamline and automate the maintenance of the systems so that nothing will break. This involves a greater level of data collection and tracking, taking full advantage of the ARCHIBUS integrated database approach to facilities management. Once TECNOSITAF has completed the transition to ARCHIBUS for its facilities management needs for the existing road tunnel, it will begin the process again by updating and collecting information about the emergency tunnel.