FULLER®

NEW DIGITAL SOLUTIONS LIFT PERFORMANCE

AT LAFARGE EMIRATES CEMENT

The cement plant at Fujairah, UAE, needed to keep up with the rapid advances in industrial automation hardware and software. They decided to equip their team with the best digitalisation tools available in the industry - control and monitoring system upgrades from Fuller Technologies (then FLSmidth.)

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KEEPING UP WITH DEMAND

The United Arab Emirates (UAE) is currently experiencing one of the fastest growing and active construction markets worldwide, driven by a strong property market, thriving tourism sector and increasing investor interest.

Lafarge Emirates Cement plant (LEC). a member of the LafargeHolcim Group, is making a significant contribution to the building materials and construction sector in the UAE. The plant can produce up to 3.2 million tonnes of cement per year. To keep up with the rapid advances in industrial automation hardware and software, LEC commissioned Fuller to upgrade its aging version 7 (V7) Plant Control system (ECS®) and ECS/PlantGuide® reporting systems (PLG) to the latest version 8 (V8) product.

LEC realized that the control and monitoring systems needed to meet the ever-growing demands of a wide range of users, from the control room operators to process engineers, the production team and management teams. Ali of these users interact with plant automation system data to make decisions that ultimately benefit the profitability of the plant operation.

LEC decided to equip its team with the best digitalization tools available in the industry by investing in control system upgrades for its cement plant at Fujairah, UAE.

Our digital systems had successfully supported the plant site for over ten years, building a strong and effective relationship that reassured LEC we could be trusted to deliver the upgrade solutions.

Fuller offices came together to collaborate, plan, engineer and execute these upgrade solutions from Valby in Denmark, Brno in the Czech Republic, Chennai in India and Bethlehem in the USA.

Each of these offices played a significant role in shaping the upgrade by sharing their knowledge and resources. The project was initiated in the Denmark office. The hardware system was built in the Czech Republic. And the system engineering took place in America and India by the V8-Global Upgrade Team, who are experts in handling version 7 to version 8 upgrade projects.

The V8-Global Upgrade Team finished installation, configuration and commissioning of the ECS/ControlCenter™ v8 and ECS/PlantData Management V8 at LEC in 2017.

“It was big challenge far us to deliver the upgrade project online without stopping at disturbing plant operation“, says Sherif Salah, Project Manager at LEC.

Sherif Salah continues; “What I liked most about the new system is the level of redundancy, which will help with achieving more robust and reliable plant operation. The new PlantData Management provides a new era of performance analysis which helps in optimizing and reporting operation parameters specifically on quality, power, heat, alternative fuels and feed rate.“

> “By a very detailed level of project planning, the great level of collaboration and the circumspect level of work done during the implementation phase, we succeeded in delivering the project on time without disturbing plant operation.“
>
> SHERIF SALAH
> Project Manager at LEC

“We trained the LEC team on the operation, configuration and maintenance of the new V8 control system. The plant staff have noticed significant improvements with the new system and enjoy the easy one-click installation of workplace and cluster-switching on client stations, improved access control configuration and control actions logging.“

He added that the users liked the simplified dashboard and reporting tools that assisted them with quick visualisation. The potential far manual errors is avoided by using externa! Excel-based data handling to view trends and management data reporting.

“They really appreciate that the look and feel of the V8-Mimics layout is engineered to be almost
identical to the V7-Mimics, making it easy to operate. It also facilitated smooth switch over to new system,“ he said.

A SUCCESSFUL TRANSITION

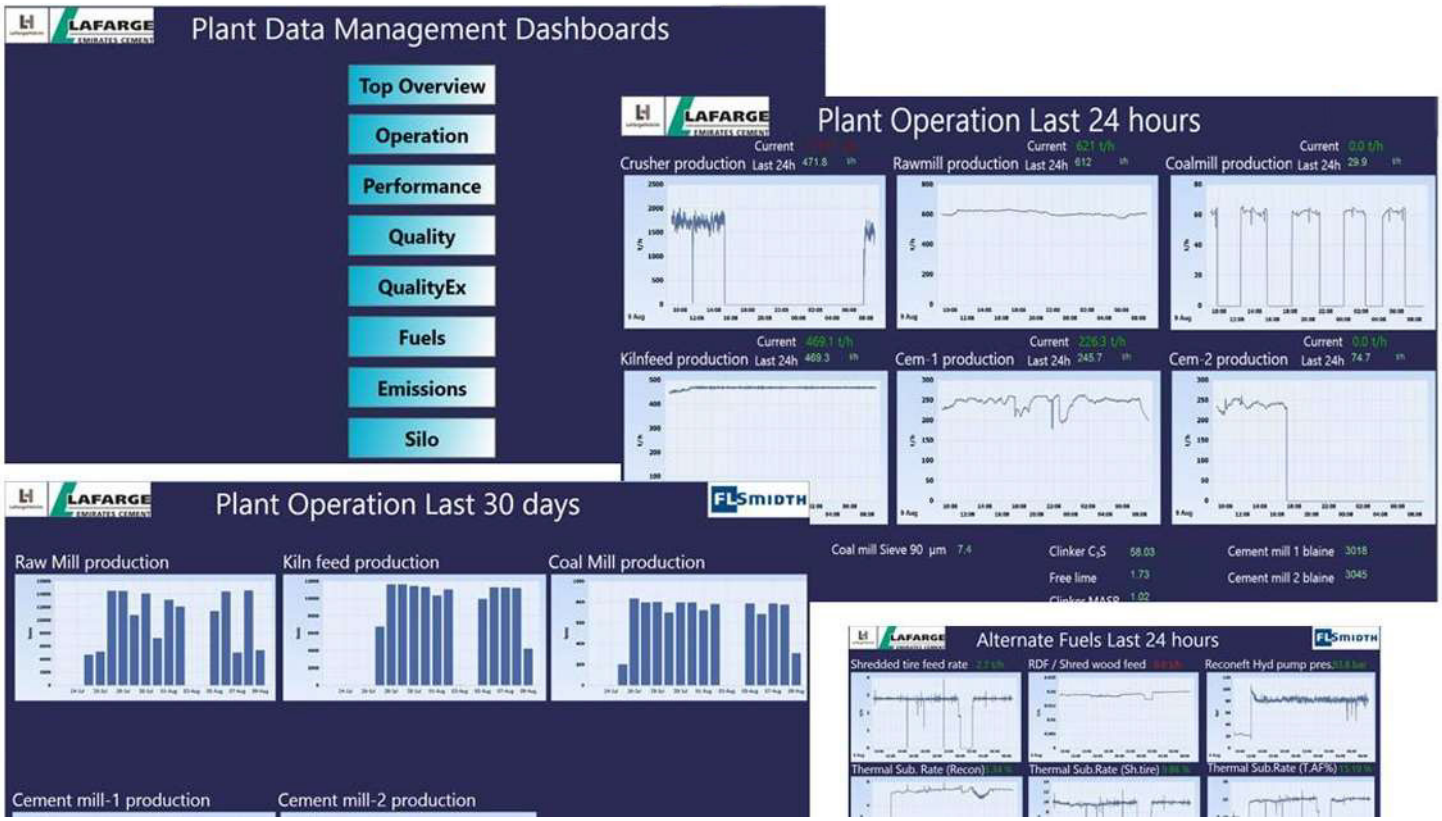
Mr. Hasmukh Patel (Manager - Process Applications, Systems & Technologies) from the Fuller USA office attributes the seamless transition to the new system to the meticulous planning and scheduling of engineering and site commissioning activities by the control systems teams of Fuller and LEC.

The VS system explained

The ECS/Contro!Center system provides a process automation platform with dual redundant servers collecting 1/0 data from the PLC (motors, drives, field instruments, process values, etc.). It provides HMI/SCADA functionality for operator supervision and control of all departments in large production facilities at cement and mineral plants. This system also includes machine control directly at the machi ne. Users connect to a portal workplace to view or operate specific departments or equipment using operator display screens, trends, alarms and reporting tools.
User access rights can be configured to control what information is made available. The ECS/Plaot Data Managlillliilll.(P.PM)_system provides a comprehensive management information system that makes critica! plan! data readily available to the users who need it most. This valuable data can be used for decision making on plant operation, performance optimisation, compliance monitoring, KPI benchmarking, equipment maintenance, inventory accounting and measuring profitability.

The PDM system provides long-term storage of all plan! data (10+ years) with dashboard displays for visualisation of real-time data, historical values on screens, trends, pie charts and bar charts. It also includes flexible reporting tools to assist users to configure and generate any reports, schedule autogeneration of reports for printing or network folders for shared storage, and the ability to custom design report templates.

It can store and retrieve spot and historical values and events up to 10+ years and retrieve trends history with finer one-second resolution up to one year, as well as log signal values that are highly dynamic ata much faster rate than slowly varying signals. The system can provide trend data of multiple tags in a trend package for long-term analysis (30, 60, 90, 180 and 365-day time horizons) with a zoom-in precision for any past periods. It is supported by seamless switching between ECS/ControlCenter V8 and PDM V8 data retrieval. This is a big advantage for better performance analysis and process optimisation.



SMOOTH IMPLEMENTATION

Smooth Implementation

The project to upgrade the control and monitoring system at the Fujairah plant was successfully implemented through close collaboration between FLSmidth and LEC. The upgrade was pivotal in replacing an ageing system with a more detailed and robust one, with useful data solutions provided through the PDM system.

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About LafargeHolcim

- A world leader in building materials
- Currently the leader in construction and building materials industries globally
- Runs 2,300 plants including over 1,400 in ready mix concrete, over 600 in aggregates and over 200 in cement and grinding plants

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