# TF1 Data center modernization project with Legrand:
A sustainable transformation

In the journey to modernize its data center infrastructure, TF1 partnered with Legrand, a trusted partner in equipping and upgrading its computer rooms. David Sarfati, Systems Service Owner in the Cloud Infrastructures and Engineering Division of the TF1 Group, reflects on the successful completion of this pivotal and sustainable data center infrastructure transformation project.

Over three decades, TF1 Group's audiovisual and IT infrastructure at its Boulogne-Billancourt headquarters has continually adapted to evolving technology and digital advancements. Recognizing the need
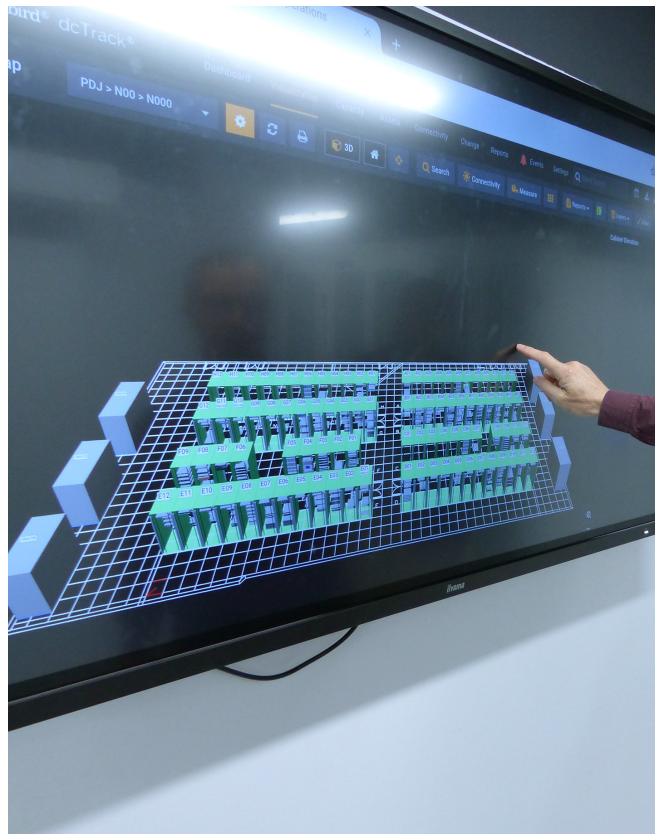
David Sarfati,
*Systems Service Owner,
Technology Department*

for modernization in 2019, TF1's Technology Division and General Affairs office embarked on a project to revamp their computer rooms. The transformation involved consolidating audiovisual and IT equipment by embracing denser technologies (e.g., 1U video servers replacing 6U VCRs) and leveraging virtualization and cloud solutions. This transition also necessitated abandoning the outdated 800-mm racks and reducing the use of coaxial and copper cables in favor of fiber, which aligned with TF1 Group's commitment to reduce electricity consumption by 30% by 2030 using more efficient air conditioning and equipment that consumes less energy.

The project started in 2020 for The Bouygues Energies & Services teams in partnership with Legrand to create two new state-of-the-art technical rooms under the supervision of TF1. The aim was to create two large new technical rooms so that around ten other rooms could be eliminated, reducing the number of racks by 30%. The use of advanced audiovisual and IT

devices that were denser, heavier, and deeper made this consolidation achievable.

This extensive overhaul met TF1 Group's corporate social responsibility (CSR) goals and aimed to modernize infrastructures, enhance system efficiency, and address concerns of cooling and energy redundancy. The project was exceptionally challenging, as described by David Sarfati, "The Bouygues Energies & Services and Legrand teams handled the complexity of creating two new data centers in a building where production was ongoing and in an occupied area. One of them replaced an upstairs office area, and the other was on the parking level. The whole operation took place quietly and without interrupting production."

LEGRAND PLAYED A PIVOTAL ROLE
Legrand provided critical support in selecting and equipping the racks. They offered guidance during the pre-sale phase and during installation with integration plans and ensured that tailor-made racks were designed to accommodate ❯

the building's unique constraints, including low ceilings, false floors, and cold aisles for efficient air conditioning. The careful separation and isolation of fluids, high-voltage and hydraulic lines under the floor, and low-voltage lines in the ceiling enabled the installation of a reliable double-induction cooling system.

TF1's order of 150 42U Minkels racks, chosen for their height compatibility, featured low-voltage cable routing above and were factory built, and installed in less than two weeks. These racks included network racks with brushes and wider cable trays on the front panel, secure racks for critical devices, and standard racks, with Raritan covers and KVMs. David Sarfati explains, "We chose white Minkels racks so that they would be bright, to optimize the lighting, and for their warmth. The 42U racks satisfy our height constraints, and they provide two cable trays: one for copper cables, because we still have some, as well as network and video cables and the other for single-mode fiber. Legrand also helped integrate the In Row racks and the sealing adjustments for the cold aisle air conditioning."

MODELLING, MEASUREMENT, DCIM, AND SMART PDUS

Recognizing the importance of meticulous data center management, David Sarfati emphasized implementing a Data Centre Infrastructure Management system (DCIM) to monitor energy consumption over time. "The solution we chose, which Legrand also recommended, was DCTrack from Sunbird. It provides a view of the data center modelled in three dimensions, right down to the components, which are identified and codified, which is very helpful to the technicians."

The choice to implement Raritan smart PDUs complemented the DCIM by measuring electricity consumption, temperature, and humidity in each rack. This data was integrated into the DCIM for comprehensive tracking.

Notably, fire protection was a significant consideration as due to the building's high occupancy, it was impossible to deploy a gas-based solution. A water mist fire extinguishing system was chosen as a safe alternative.

*Fabrice Barbero, Business Manager
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VALUABLE ADVICE FROM DAVID SARFATI

David Sarfati offered valuable advice to peers considering a similar project: "Fitting out new rooms and populating them according to our rules has simplified maintenance. The rooms are clean now, and they will remain clean. That is why we have published a set of rules, which everyone must obey in the data center, governing the location and numbering of the machines and cables. You also need to have the right people to manage the modelling and use of the DCIM. The data center also contributes to company CSR performance, with a new electrical system and new, more efficient air conditioning. Above all, I advise planning ahead because these facilities will have a longer lifetime, and the equipment will evolve. Don't underestimate the amount of work and the rigor required for modelling in a DCIM."

Legrand's continuous support, from rack selection to integration, has been instrumental in ensuring the project's success and ongoing efficiency. ◾