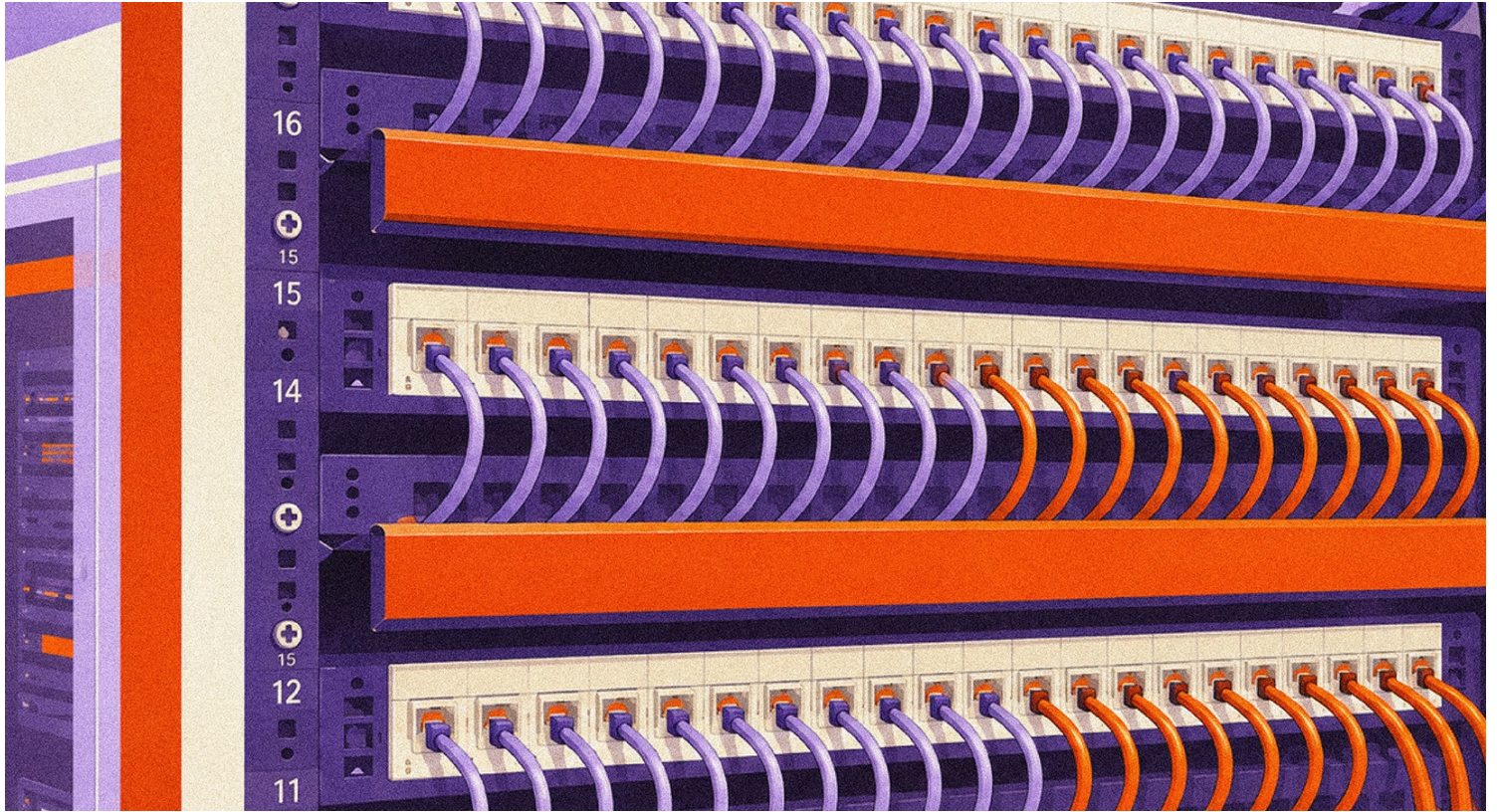


REWORK IN STRUCTURED CABLING NETWORKS: HIDDEN COSTS, CAUSES AND HOW TO AVOID IT

Posted on 03-09-2026 by Sérgio Coutinho



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How technical decisions impact performance, costs and certification, and how to ensure a fault-free infrastructure from the outset

The invisible cost that compromises network projects

Rework in structured cabling networks is one of the most invisible and most damaging costs in infrastructure projects. When an installation needs to be corrected after execution, the impact goes far beyond the technical aspect: it results in margin loss, project delays, additional resource consumption and

increased risk in the customer relationship.

In structured cabling environments, both copper and fibre, this issue is often underestimated at the initial stage. It does not appear in the budget, but it emerges later in the form of failures, corrective interventions and certification difficulties. In practice, rework compromises not only network performance, but also the operational efficiency and long-term sustainability of the project.

What is rework in structured cabling networks?

Rework refers to the need to correct, replace or redo parts of an infrastructure after installation. In most cases, it results from design errors, incompatibilities between components or execution failures.

It is rarely caused by a single mistake. On the contrary, it tends to arise from the accumulation of decisions made throughout the project, often driven by short-term criteria, such as reducing the initial cost or integrating solutions without end-to-end validation.

These decisions introduce weaknesses that may not be visible at an early stage, but become evident during operation through intermittent failures, inconsistent performance and difficulties in network certification.

The impact of rework: time, cost and trust

The impact of rework appears across three critical dimensions.

The first is time. The need to return to site for diagnosis and correction consumes qualified technical resources and compromises the planning of new projects, reducing overall team productivity.

The second is cost. The expenses associated with rework, including material replacement, unplanned technical hours, additional logistics or contractual penalties, are in most cases unrecoverable. Their cumulative effect directly erodes project margins.

Finally, trust. An infrastructure that requires corrections conveys a lack of technical robustness. Even after the issues are resolved, the perception of risk remains, affecting the customer relationship and the supplier's reputation.

Main causes of rework in structured cabling networks

Component compatibility: the invisible error

The performance of a structured cabling network does not depend solely on the individual quality of each component, but on the behaviour of the channel as a whole, including cables, connectors, patch panels and

patch cords.

Minor incompatibilities between these elements can compromise critical parameters such as NEXT or Return Loss, leading to certification failures, performance degradation and long-term instability. This type of issue is particularly difficult to detect at an early stage, as it does not always become immediately apparent.

This is precisely why solutions developed as a complete system tend to offer greater performance predictability. By balancing all elements of the permanent link, the manufacturer can optimise the electrical and mechanical behaviour of the channel, reducing variability and increasing certification margins.

When this balance is disrupted, for example by combining components from different manufacturers, the risk of inconsistent results increases. In multi-brand scenarios, an additional challenge arises: the difficulty of assigning technical responsibility. When certification margins are reduced or failures occur, identifying the root cause becomes complex, making resolution harder and prolonging rework.

Certification by independent laboratories

Validation by independent bodies is essential to ensure the reliability of a solution. Internationally recognised laboratories such as 3P, BASEC, Force Technology, UL, VDE or TÜV carry out rigorous tests that verify system compliance and performance.

These certifications ensure that products maintain performance levels aligned with standards over time. More than a formality, they provide external and impartial verification, reducing the risk of non-compliance on site and increasing result predictability.

Non-specialised execution

Even with a sound design and suitable materials, execution has a direct impact on the final result. Installations carried out by teams without specific training tend to show termination defects, failure to follow best practices and difficulties during certification.

By contrast, teams certified by the manufacturer follow validated procedures and understand the solution's specifications in detail. This results in a more consistent installation, a lower error rate and access to extended warranties, which can reach 25 years for complete systems.

Decisions based on initial cost

Pressure to reduce initial investment often leads to the selection of apparently more economical solutions. However, this approach ignores the impact over the infrastructure's life cycle.

Lower-cost solutions may present a higher probability of failure, require more maintenance and increase the risk of rework. When analysed from a total cost of ownership perspective, it becomes clear that the cheapest option is not always the most efficient.

How to avoid rework in network infrastructures

Avoiding rework begins at the design stage. A system-based approach, in which all components are designed to work together, helps ensure compatibility, stability and consistent performance over time. This approach also simplifies the certification process and significantly reduces operational risk on site.

The choice of installer is equally important. Qualified and certified teams ensure compliance with technical specifications and installation best practices, directly contributing to infrastructure reliability.

Another critical factor is alignment with standards from the outset. Certification should not be treated as a final step, but as a requirement that guides all technical decisions.

Finally, assessing the total cost of ownership enables a more realistic evaluation of the solution. Considering durability, maintenance and failure risk is essential to reduce hidden costs and ensure a sustainable investment.

Sustainability in structured cabling networks

Reducing rework is directly linked to reducing waste. Well-designed and correctly installed infrastructures offer greater durability, require fewer interventions and consume fewer resources over time.

In this context, sustainability is no longer an abstract concept, but a direct consequence of well-founded technical decisions.

Conclusion: avoiding rework is a design decision

Rework in structured cabling networks is not inevitable. In most cases, it results from decisions that could have been avoided at the design stage.

The combination of compatible solutions, validation by independent bodies and qualified execution significantly reduces risk and ensures infrastructure performance over time.

Ultimately, the real cost of a network does not lie in its installation, but in the corrections that become necessary when the initial decisions are not the most appropriate.

Talk to our team

If you are evaluating a new network infrastructure or want to reduce the risk of rework in structured cabling projects, it makes sense to analyse the solution as a complete system.

Talk to our technical team to assess the most suitable approach for your project and ensure an infrastructure prepared to meet performance, certification and reliability requirements from day one.