

AROONA is contributing to the latest digital transition of the armed forces



The client's issue

The DIRISI (French Joint-Forces Directorate of Infrastructure Networks and Defense Information Systems) is currently thoroughly revising its digital practices. Nevertheless, military LANs, which are primarily cabled in OM1 multimode fiber, are becoming obsolete. Consequently, cabling infrastructure is at the heart of this digital transition and must now carry bandwidths up to 10 Gb/s to support these new digital services.

The AROONA solution

The AROONA-STAR solution from Cailabs supports bandwidths up to 10 Gb/s using existing multimode fiber. Using a single piece of equipment installed within the heart of the network, multiple multimode connections to various remote sites can be simultaneously upgraded, thus avoiding re-cabling work on the military sites.

The benefits of the solution

- **40 independent** 10 Gb/s links between 19 remote buildings
- **Huge savings** compared with re-cabling of the site
- **5 days** to install **14 AROONA-STAR units**

At the heart of the digital transformation of the armed forces

DIRISI (French Joint-Forces Directorate of Infrastructure Networks and Defense Information Systems) is a joint-forces department that acts as the sole operator of the information and communication systems of the defense forces. Its responsibilities notably include the network infrastructure and security of information systems.

DIRISI endeavors to provide its users with the best possible tools and services.

When interrogating its users on their needs, an increase in bandwidth is a regularly recurring concept, indicated a genuine need within the LANs and intranet of the French Ministry of the Armed Forces (INTRADEF). The conclusion is indisputable, the digital transformation of the armed forces is essential to provide the combination of ultra-mobility and massive data transmission volumes.

Information and communication technology represent a

genuine operational lever as well as a remarkable performance amplifier for the French armed forces. Within the context of various modernization projects, DIRISI must pay particular attention to maintaining a continuous modernization dynamic, with a logical approach of end-to-end mastery and future-proofing of the information and communication technology of the infrastructure. It is within this context that the AROONA solution deployments have taken place.

"This AROONA solution installation, implemented quickly and without constraints, demonstrated a measurable clear improvement in terms of network fluidity, especially for INTRADEF navigation and our business applications."

I "The network is faster".

Military staff

3rd combat helicopter regiment

Extended military sites provide numerous challenges when upgrading cabling infrastructure



Since 2016 DIRISI has been carrying out experiments in the field to check the capacities of the innovative optical technologies contained in the AROONA solution which multiply the bandwidth of a multimode optical fiber by a factor of a 100.

A full deployment was implemented in November 2018, with an upgrade of the multimode optical cabling infrastructure of the Etain base being completed in 5 days. 19 remotely located buildings were identified on this site that would benefit from a bandwidth increase up to 10 Gb/s. In total, 14 AROONA-STAR units were deployed across the whole of the base to increase the bandwidth of 40 multimode optical links of lengths between 600m and 1850m. Deployment of the AROONA solution, likewise enabled the removal of intermediate active equipment that had been a source of operating costs and system failures. The users of this helicopter regiment were immediately able to identify the benefits of this installation.

Given the site topology and the inaccessibility of the cable ducts, traditional re-cabling solutions would have been highly complex and expensive, in particular involving a high civil engineering requirement. Use of the AROONA solution delivered significant economic savings. This project, flexibly controlled based on an initiative of the local management in Metz, illustrates the new tools that DIRISI offers as part of its transformation: an effective innovation that is easy to install and use, and which responds to user expectations. Notably, the DIRISI-Cailabs partnership was presented in November 2018 during the National Innovation Defense Forum.

After evaluations of the technology, conclusive experimental phases and positive feedback, the Ministry of the Armed Forces and the DIRISI are to continue with their digital transformation approach by proposing the use of the innovative solution AROONA to future-proof the cabling infrastructure of the military networks.

Cailabs: harness the full potential of optical fibers

Cailabs is a leading provider of innovative solutions designed to increase the capacity of optical fibers. We develop and manufacture a large range of light shaping components based on our patented, efficient and flexible Multi-Plane Light Conversion (MPLC) technology.

Worldwide telecommunication manufacturers and providers, such as Nokia, Cisco, Huawei, Tellabs and KDDI, trust our products to upgrade today's network infrastructure and create the networks of tomorrow.

At Cailabs, we help you make the most of your optical fibers!