



Wireless broadband connection for mission critical processes

KIXS is the innovative force behind the JIVC, the IT unit in the Dutch armed forces. It takes care of the IT infrastructure of all Dutch armed forces units and handles IT challenges that appear on a daily basis. To find the latest innovations that can give Dutch armed forces the most added value, KIXS also works with the private sector. Via the Dutch R&D institute TNO, KIXS got in touch with Trulifi by Signify. LiFi is a wireless broadband connection via light that is secure, fast and reliable. After implementing LiFi for secure rooms, ammunition bunkers and Fast Field Data Links, LiFi can grow to be a regular part of the Dutch Defense IT solution portfolio.

Connectivity challenges

A challenge with overseas missions is to set up secure and stable broadband connections in the least amount of time possible. Most of the time the location where data is processed and analyzed is far away from the fighter jet runway and helicopter landing pads. This means that the amount of network cabling that needs to be rolled out can run to several kilometers as they need to go around the runways and helicopter landing pads.

Other challenges are areas in the defense structure where radio-based signals such as HF, WiFi or 4G/5G are prohibited due to interference with sensitive equipment and explosive goods such as ammunition.

Besides air force and ammunition bunker applications, you will also find broadband networks in the field for mobile command posts. These so-called SCIF containers and mobile tents are supplied with data cables due to the prohibition of wireless networks. Hauling around and rolling out all these cables takes

considerable time and decreases operational efficiencies associated with deployment in the field. Also, every time defense personnel move from one post to the other, they need to log into the network again and frequently need to restart their applications, which is time consuming and tedious.

Finally, a new solution exists to answer these challenges while meeting stringent security demands for safeguarding data. When working in the most sensitive and volatile places in the world a data breach or radio interference are risks that need to be avoided at all times.

Secure, fast and reliable broadband connections via light

Trulifi by Signify provides wireless broadband connection and uses infrared and visible light to provide two-way wireless connectivity. Trulifi provides a major benefit in areas where radio-based connectivity is poor or prohibited.



LiFi for mobile command post

Signify and KIXS used Trulifi to create a Fast Field Data Link across runways and taxiways at Airbase Volkel, The Netherlands. The team was able to set up a broadband data connection within 10 minutes and reached a speed of 50 Mbps. As the connection itself is nothing more than a light beam, the runway remains unobstructed and safety rules are fully met. Running kilometers of cabling can be avoided.

As infrared light neither interferes with sensitive equipment nor triggers ammunition, it's a viable solution for ammunition maintenance. Replacing manual maintenance means saving time and preventing human errors.

An extra layer of physical security

LiFi cannot be intercepted, jammed or tracked outside the area of the infrared cone, providing an extra layer of physical security. Using LiFi in mobile command posts, only accessible with dedicated USB keys, means defense personnel can stay online safely and can roam more flexibly. Trulifi can be integrated in lighting fixtures that need to be installed anyway in the tents and containers. This means that time is saved on installation and working online becomes more efficient. Also, LiFi can free up congested wireless networks and critical communication networks during wartime.

Benefits

"The difficulty of bringing broadband connections to mission critical processes can't be underestimated. As LiFi works via light and does not cause radio interference I think we have proved its great value for the Dutch armed forces. We have successfully finished the proof of concept with LiFi and we will demonstrate our success to the Dutch armed forces to show the added value it has for our daily operations. The next step is to integrate LiFi into our IT standards and processes," says Lieutenant Colonel Harm De Jong, senior officer in KIXS.

Working with Signify

Lieutenant Colonel Harm De Jong on his experience with Signify: "we have worked with the most experienced LiFi professionals at Signify. The innovative teams know how to apply LiFi in different and new applications as stringent as the armed forces while showing great flexibility on these projects. Every set back or bump in the road we encountered, they met with speed and agility. Great team to work with!"

KIXS

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Lieutenant Colonel Harm De Jong,
senior officer in KIXS

Customer need

Broadband connections in situations where radio-based connections are not an option.

Our solution

Trulifi by Signify provides wireless broadband connection and uses infrared and visible light to provide two-way wireless connectivity.

The results

Trulifi brings broadband connections for Fast Field Data Links, mobile command posts and ammunition maintenance. Trulifi enabled time savings, efficiency and flexibility.