KATHREIN

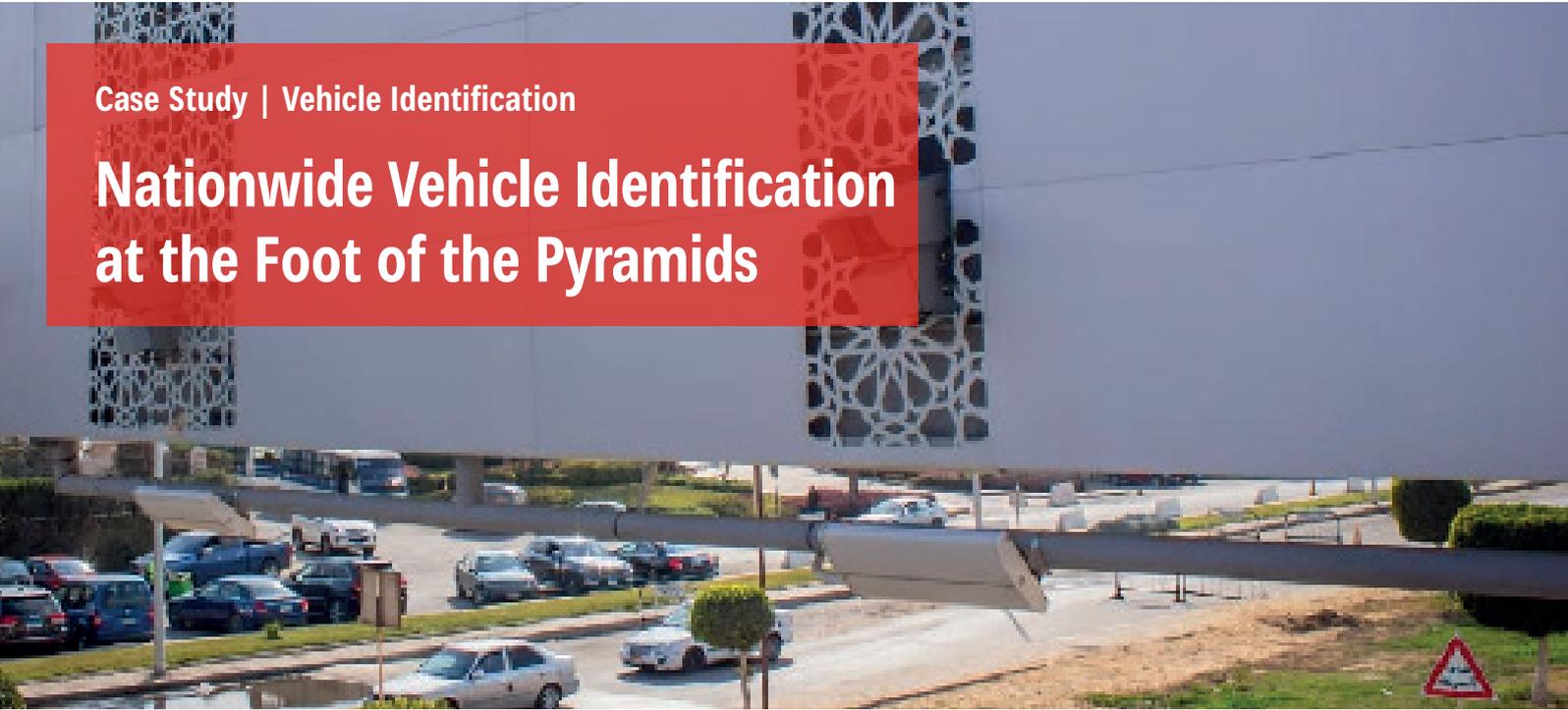**Case Study | Vehicle Identification**

Nationwide Vehicle Identification at the Foot of the Pyramids

Background

Egypt has around 100 million inhabitants, 20 million of which live in Cairo. There are about 20 million cars in the country, and there are more and more every single day. Many of these cars are very old and sometimes not registered. Unfortunately, the number of accidents per year is very high. Hence, there are many reasons to invest into a new, innovative and comprehensive solution for vehicle identification.

Solution

In order to meet the requirements of the entire country, strong local partners are required to drive the project on-site and meet the defined goals. Together with Go+, Kathrein Solutions was able to set up an end-to-end high-security solution for accurate identification of vehicles in multi-lane free flow.

The windscreen transponders and headlamp tags will be used throughout the country. They are based on NXP's GEN2V2 UCODE® DNA technology with 128 bit AES encryption. With its cutting-edge semiconductors, NXP offers the standard and the basis for the required high-security requirements. With an especially destructible antenna structure, various die cuts and a VOID surface, the tag offers extremely high protection against peel-off and re-use.

These transponders are encoded under governmental protection on-site by an Egypt-specifically developed personalisation machine.

In order to close the security chain, the Kathrein RAIN® RFID hardware includes the GEN2V2 standard and also supports UCODE® DNA. Kathrein's RRU 4500 reader together with the wide-range 30° antenna ensures a lane-selective identification of the vehicles.

Supported by an ANPR (Automated Number Plate Recognition) camera, visual data from the license plate is transmitted to the backend via an interface together with the RAIN® RFID data.

An external high-security module ensures secure communication from any highway bridge to the government backend.

Results

The contactless GS1 UHF RFID Gen2V2 technology offers end-to-end identification including 128-bit AES encryption for tag authentication, which provides best performance even at high speed. Egypt is setting a big exclamation mark with this project, as it is globally unique in this composition.

GO+ PLUS