



## Case Study

# Regesta PRO-ER: Ultramodern connected bicycles for Taipei City citizens

Regesta-PRO ER are industrial-grade routers that guarantee optimal execution and maximum security of communications between multiple IP services. In addition, the simultaneous use of 2G/3G/LTE interfaces, and ADSL and Ethernet links provides maximum communications reliability, which is ensured thanks to the full support of the management, monitoring and backup functionalities.



# Regesta PRO-ER: Ultramodern connected bicycles for Taipei City citizens



Challenge	Solution	Why Teldat
▶ Modernize existing device park to enhance services offered to users.	▶ Regesta PRO-ER: an industrial-grade router offering secure and reliable IP broadband connectivity.	▶ Quality, technical specifications and professionalism of the service.
▶ Large capacity device with greater potential, with support for LTE for real-time communication and Ethernet for connecting to the various station devices.	▶ The Regesta PRO-ER device comes with support for single or dual LTE modules and 4- or 6-port Ethernet.	▶ Devices are certified by the local operator.
▶ High security features, to prevent theft or hacker attacks.	▶ State-of-the-art security via ACLs, Firewall, 802.1X, IPSec (hardware encryption included), DMVPNs, etc.	▶ Positive assessments for similar devices in the area.
▶ Optimized hardware designed for outdoor environments: protected to withstand extreme temperatures, humidity and dust.	▶ Small sized housing with a high thermal dissipation capacity and wall and DIN-rail mounting options.	▶ Maintenance and repair service provided in the local language by Teldat's partner Youngtech.

## Client Summary

The client is a shared public bicycle service offered by the Taipei City Department of Transportation in Taiwan in collaboration with the local manufacturer. It was inaugurated to encourage citizens to use bicycles as a way of getting around for shorter trips, and thereby reduce pollution levels in Taipei City.



## Challenge

The initial project was initiated in 2009 with the aim of reducing car use, improving air quality and traffic, giving an added value to the city's tourism and fostering an eco-friendly image for Taipei.

When the service first started, communications technology was only used for less public facets, such as managing internal payments or locating bicycles on the part of administrators.

The challenge: the client wanted to modernize its service to include new features for users, such as secure card payments, self-service rental, bike returns to any station, web map showing station status and stock, and Lost & Found.

The incorporation of these additional services required modernizing the existing communications device pool by migrating to higher-potential devices with support for LTE.

The device needed to be small to be able to be installed in the stations. Furthermore, since these stations are located outside in the open air, the device had to meet two fundamental requirements:

- High performance in terms of security, requiring both software encryption security and physical security to protect against hacker attacks, theft, etc.
- Optimized hardware designed for use in outdoor environments, and certified against extreme temperatures, humidity and dust.

## Solution

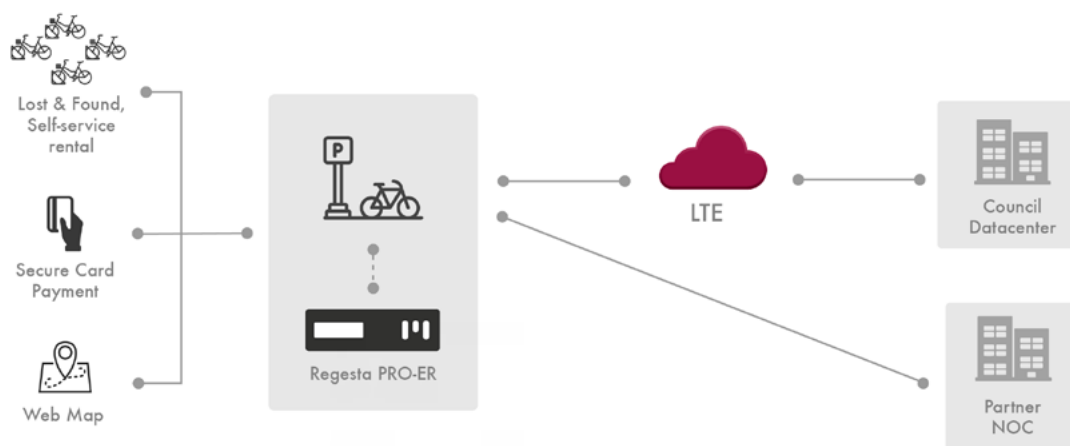
The device chosen by the client for the migration is the Teldat Regesta PRO-ER, with a single or dual LTE module for real-time communication with the central control system, and 4- or 6-port Ethernet for connecting to the various station devices.

The Regesta-PRO-ER are industrial-grade routers that deliver secure, reliable broadband IP connectivity. The integrated switch is capable of serving a large number of intelligent electronic devices at remote sites, and includes VLAN support and other advanced switching features.

In addition, the simultaneous use of 2G/3G/LTE interfaces, and ADSL and Ethernet links provides maximum communications reliability, which is ensured thanks to the full support of the management, monitoring and backup functionalities.

To overcome the extreme environmental conditions suffered outdoors, the Regesta PRO-ER housing provides a high thermal dissipation capacity, with wall and DIN-rail mounting options, guaranteeing operation between -10 °C and 60 °C and with humidity levels of up to 95%.

In terms of security, the Teldat device features state-of-the-art security via ACLs, Firewall, 802.1X, IPSec (hardware encryption included), DMVPNs, etc., thus permitting secure and easy-to-manage deployments. Teldat also designed the “Mapping Authentication” feature specifically for this project; this consisted in developing a special alarm system to alert the central system if one of the router’s Ethernet ports is disconnected. In this way, both data security and physical security are guaranteed.



## Results

The solution implemented by Teldat met all the client’s requirements and objectives:

- Renew equipment in order to enhance services offered to citizens: card payments, self-service rental, bike returns to any station, web map with current station status and stock, and Lost & Found.
- Increase quality of life for Taipei citizens.
- Reduce car use and improve city air quality and traffic.
- Increase Taipei City’s attraction as a place of interest for tourists, and as an international green and environmentally friendly city

## Why Teldat?

Teldat was the ideal manufacturer for this project for several reasons:

- The quality, technical specifications and professionalism of the service provided by Teldat.
- Teldat devices are certified by the local operator and there are positive assessments for similar devices.
- The maintenance and repair service provided by Teldat’s local partner allows the client to have local support in their own language.

# FLEXIBLE COMMUNICATIONS SOLUTIONS THAT GROW WITH YOU.

## Regesta PRO-ER

Rugged onboard communications platform for vehicles with LTE and Wi-Fi.



REGESTA-PRO ER are industrial-grade routers that provide secure and reliable IP broadband connectivity to SCADA telecontrol and telemetry network in smart grid deployments.

The built-in Ethernet switch can provide services to large number of intelligent electronic devices at remote locations, including VLAN support and other advanced switching features.

The router guarantees optimal execution and maximum security of communications between multiple IP services. In addition, the simultaneous use of 2G/3G/LTE interfaces and ADSL and Ethernet links provides maximum communications reliability, which is ensured thanks to the full support of the management, supervision and backup functionalities.

The Regesta PRO ER router incorporates the latest communications security technology with a comprehensive collection of VPN protocols and firewall techniques.

Use of multiple access networks guaranteeing continuous communication of critical services established with automatic backup methods based on link quality for each network.

- ▶ Multiple WAN (xDSL, 2G/3G/LTE, Ethernet)
- ▶ SCADA (Modbus, IEC-101/102, IEC-104 gateway)
- ▶ Multi-range power supply (100-240VAC and 40-75VDC)
- ▶ Extended temperature range (-10 to 60° C)
- ▶ Complies with electrical security & EMC regulation
- ▶ DMVPNs, VLANs and QoS for critical services
- ▶ Dual-SIM redundancy (optional double module)

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