



# The Smart City Protocol

TALQ Specification Version 2.0



- Common Language for Smart City Applications such as Outdoor Lighting Control, Waste Management and Parking
- Open Platform for Innovation
- Enabling Cross-departmental Cooperation
- Multi-vendor Choice
- Proven Global Standard

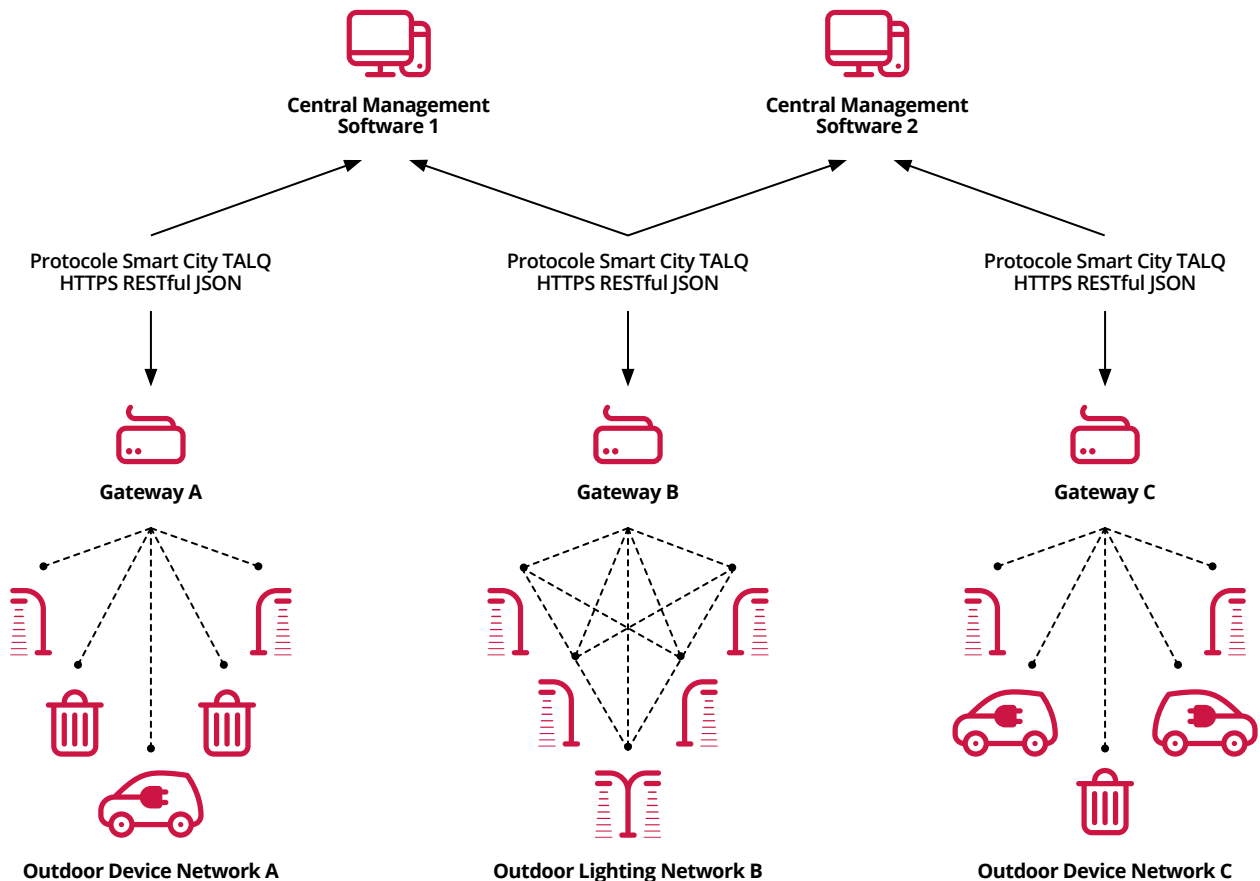
Flagship projects around the world are proving conclusively that Smart Cities will be delivered through effective collaboration between providers, enabled in part by the adoption of global standards, which enable interoperability and accelerate innovation.

The TALQ Consortium, founded by leading lighting industry players in 2012, has developed the leading global standard enabling interoperability between communication networks in the field and the software platforms managing applications via these networks. Achieving this required close cooperation between industry competitors to offer real benefits to cities and municipalities.



## Intelligent control through the Smart City Protocol

The TALQ Specification defines a management interface for outdoor device networks, where one or more Central Management Software (CMS) solutions can control different device networks for various applications in different parts of a city or region. It supports system monitoring and joint data collection, as well as simplified configuration and upgrades.

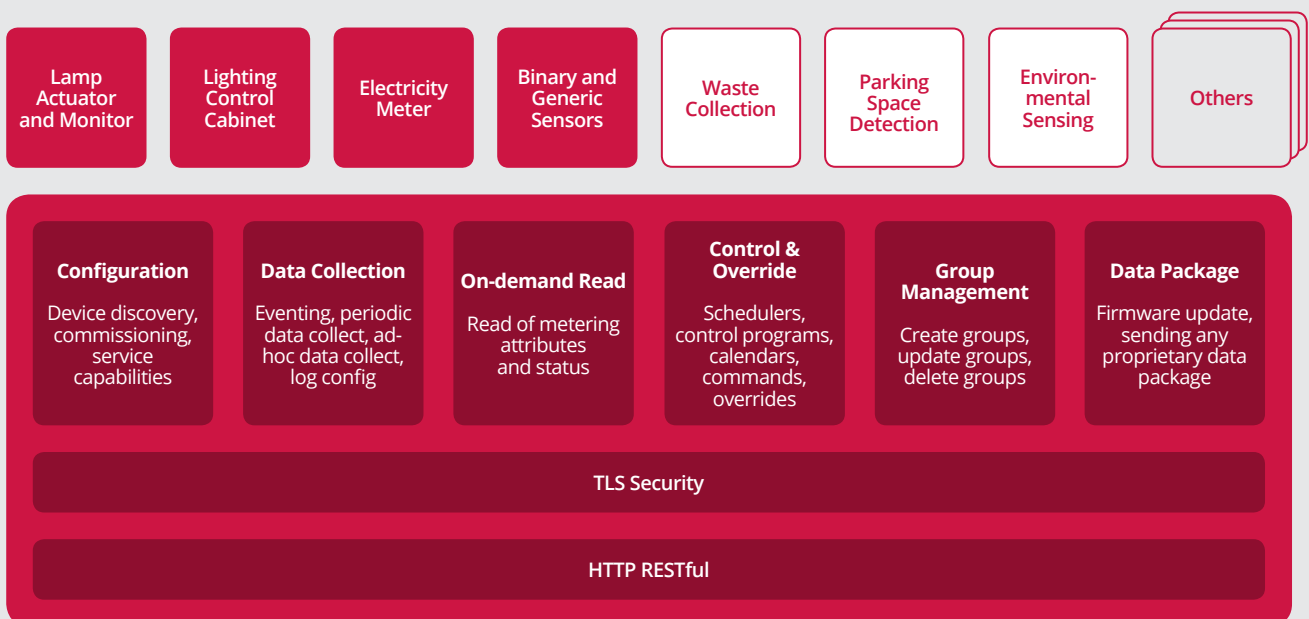


# Key benefits of the Smart City Protocol

- TALQ offers a **flexible data model** that is applicable to a wide range of sectors and use cases, such as outdoor lighting control, waste collection, parking space detection, environmental data collection, energy management and more. With TALQ, vendors are free to describe their devices using TALQ functions.
- TALQ covers a **broad set of services**, not only data collection but also configuration services, dynamic control programs and manual overrides, an on-demand data read service, group management and firmware updates.
- The standard RESTful approach adopted by TALQ makes it **easy to integrate** into both existing CMS and Gateways. To enable configuration, control, command and monitoring from a CMS, the TALQ Smart City Protocol provides secured HTTP REST GET, PUT, POST, PATCH and DELETE requests and associated JSON data payloads to describe the devices, their functions and attributes.
- TALQ provides a comprehensive **certification program** and associated test tools which are valuable both for vendors and for end-customers to make sure products are fully interoperable.

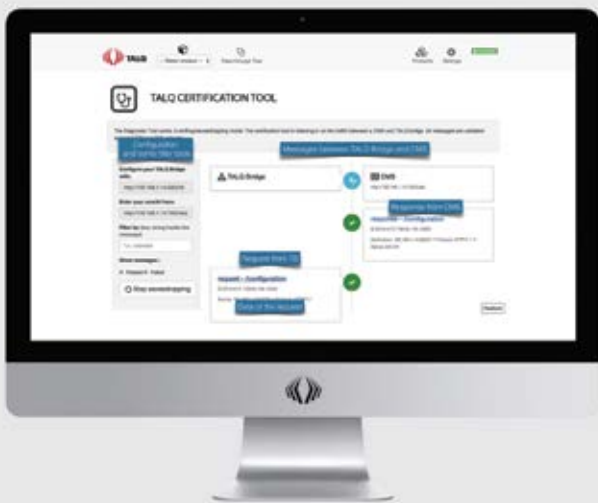
Experts in new smart city vertical segments are increasingly working with experts from the TALQ consortium to understand how their use cases and devices can map onto the TALQ device data model. In most cases this simply requires new functions with associated attributes and events. The set of services available in TALQ is comprehensive and designed in a flexible way to support many different use cases. New functions can remain vendor-specific or can be submitted for publication and wider use as the scope of use of the TALQ specification grows.

Thanks to its flexible device data model, TALQ can already be used to provide interoperability between Central Management Software and suppliers' Outdoor Device Networks in many smart city vertical markets, allowing them to cover multiple smart city applications within a single platform.



# A certified global standard

The TALQ Consortium has invested in a suite of intelligent testing tools to enable and underpin a robust Certification Program. The transparent procedures and automated testing ensure full interoperability between different certified systems, and make TALQ the lowest risk choice for cities.



Official certification of TALQ-compliance is awarded by the TALQ Certification Workgroup within a few days of companies submitting all of the necessary files and declarations for certification.

Certified TALQ compliant products are identified by the TALQ-certified logo and listed in a product registry on the TALQ website.



Member companies can challenge their own systems with the software-based test suite until they feel confident that their implementation of the TALQ Specification has been successful. Additional regular plug fest sessions allow the members to test their solution in collaboration with systems of other vendors.

Through the implementation of the TALQ Smart City Protocol municipalities, cities and other operators investing in smart city applications can benefit from a broad interoperable product choice. This way TALQ fosters competition and helps to achieve benefits for users, society and the environment.



## TALQ Consortium

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TALQ is an open consortium for industry members. As a non-profit organisation, the TALQ Consortium supports and educates cities and solution providers by, for example, publicising the use of the TALQ technical specifications, how to implement them and the benefits of their adoption.

All member companies can be found on our website.