REMOTELY CONTROLLED URBAN IRRIGATION SYSTEM

SUMMARY

The urban areas keep growing at an astounding rate. The landscape changes so fast that the microclimate within the city limits also alternates noticeably. A big city can affect temperature, rainfall, wind, air pressure and much more. Fog lingers around for longer, and the pollution gets more concentrated.

The dark tones of asphalt and roofing for offices and residential buildings absorb heat from the sunlight. Then, during the night, that heat is radiated out. Due to this, urban engineering is putting all efforts into combating these unwanted side effects. And it seems that one of the main ways to make things better is the green city movement.

CHALLENGE

A garden or a nice lawn set atop your apartment rooftop, a wall covered in green vines, or trees planted all along the sidewalks not only decrease the heat absorbed throughout the day but also help to clean the air. However, as many of you may know, plants need constant care and sufficient moisture to grow and flourish.

Since the greenery growing within the city will experience the drastic changes of the local microclimate, it needs the moisture to be just right. Having staff physically go around the city to check and take care of all the green spaces is highly inefficient. An irrigation system can eliminate such needs, making the watering process much faster. The irrigation system can be automated to increase such a solution's efficiency further. However, such a solution needs connectivity for all of its sensors and control options for the irrigation system.

PARTNERS

HB Water Technology has provided technological solutions for various water features for many years. They take care of the entire process, from advising and engineering the solution to its installation. Their expertise ranges from irrigation systems for roof gardens, vertical gardens and planters, to other high-quality green projects.
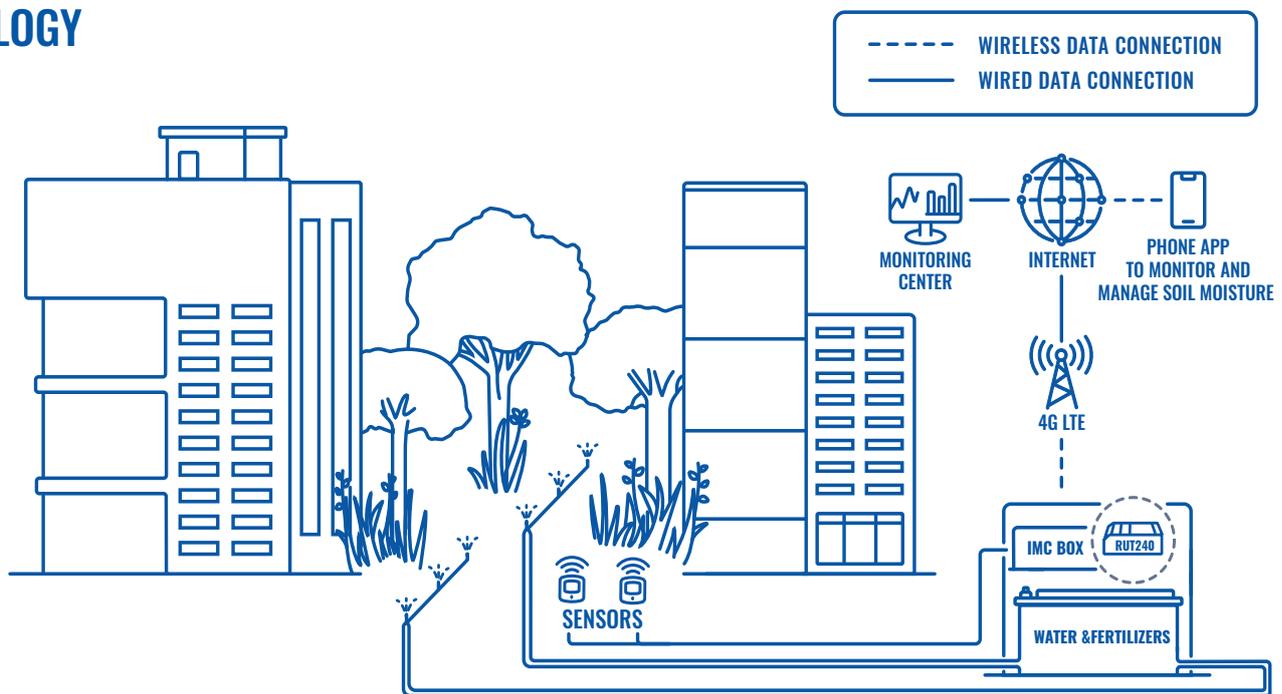
Comgate has been helping to provide wireless connectivity for IoT solutions since 2015. They specialize in supplying SIM cards with IoT bundles, offering Mobile Broadband and IoT subscriptions for your devices.

SOLUTION

Three companies have combined their expertise to provide remote irrigation system control for green city spaces. HB Water Technology has developed an IMC (Irrigation Moisture Control) box to track changes in weather conditions and active the irrigation system remotely when needed. The box monitors moisture in the soil, temperature, water pressure and flow. Based on this data, the irrigation can be set up to water the plants automatically, once all the requirements are met, or be remotely activated with an APP or via an internet browser.

Connectivity for this solution comes from Teltonika Networks RUT240 industrial cellular router housed within the IMC Box and featuring an eSIM data bundle provided by Comgate. Teltonika Networks router is a perfect fit for this scenario as it can withstand extreme environments, like heat, cold and moisture. The sensor can then relay the data to a monitoring center where the system can be adjusted accordingly and the information analyzed. This lets you take care of the city greenery without having trained staff on site.

TOPOLOGY

BENEFITS

• RUT240 can work in extreme environmental conditions, like heat and moisture, which the irrigation system encounters regularly.
• Multiple I/O connections allow for remote monitoring and control of connected elements.
• The industrial cellular router provides 4G LTE connectivity which allows transferring the gathered data from the sensors to the monitoring center.
• Remote management of connected elements via an APP or browser.

WHY TELTONIKA NETWORKS?

HB Water Technology has chosen Teltonika Networks due to our compact and sturdy products history. RutOS compatibility with various software was a great boon in this solution, letting them monitor every deployed device and gather data on their state. The client was also happy with the available support that Teltonika Networks provides for our customers.