



Bouygues Construction Matériel connects over 20 000 pieces of equipment in real time

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Bouygues Construction Matériel, offshoot of one of the biggest global construction groups Bouygues Construction, is implementing an innovative asset tracking solution for Smart Construction, offered by **Omniscient**, a startup incubated by Bouygues SA. This solution is connecting twenty thousand pieces of equipment for remote real-time management and optimization, using IoT network from Bouygues Telecom, the expertise of **Objenious** and intelligent sensors from **Actility**.

In charge of managing the group's entire fleet of equipment, **Bouygues Construction Matériel** must ensure that **each site is equipped with compliant equipment, in good working order, and that this is made available on time; as there are dozens of thousands of pieces of equipment to maintain and distribute every day on all construction sites in France.**

To solve this problem, Omniscient has designed a turnkey solution for Bouygues Construction Matériel, using the multi-technology trackers from **Abeeway**, a subsidiary of the French company Actility, specializing in ultra-low power geolocation solutions, using the expertise of Objenious by Bouygues Telecom for connectivity, and using Omniscient's site operations optimization platform for data collection and analysis.

IoT at the service of equipment fleet monitoring

Bouygues Construction Matériel is embarking on the deployment of a major IoT project supported by the operations and formwork departments. **Omniscient's solution is being deployed on its entire French fleet of bungalows and consoles, on the main components of the tower cranes and on the new B20 formwork.** This large-scale project involves around a hundred employees, assigned to **monitoring the equipment on more than a thousand sites, spread over 5 technical bases.** This represents the installation of Abeeway sensors on more than **20,000 pieces of equipment** and millions of GPS data to be processed by Omniscient.

In order to adapt to the constraints of volume, geographical perimeter and indoor or outdoor location, Omniscient has turned to a trusted partner:



- **Activity & Abeeway**, in charge of providing flexible geolocation sensors, optimized for LoRaWAN®. Abeeway devices **work perfectly outdoors as well as indoors** due to their multi-technology geolocation system, integrating GPS, Low-power GPS (patented), WiFi Sniffing and Bluetooth Low Energy. These sensors are offering years of battery life, intelligently configured multimodal behavior and advanced location resolution algorithms. Abeeway trackers provide geolocation intelligence for a wide range of use cases, in construction, industry or the supply chain.
- **Objenious**, for the support and IoT expertise. It enables to connect equipment even in isolated and difficult environments. LoRa technology offers many advantages: several years energy autonomy, bidirectional communications and a strong capacity of penetration inside buildings and deep basements.

Having a strong expertise in the construction industry, Omniscient has developed its platform to help the entire construction site ecosystem gain in productivity. Open to many technologies, Omniscient's platform allows the **digital management of an entire fleet**, from electro-portable to multi-ton cranes. **With one click, the fleet manager can navigate on a virtual map and view, in real time, the location and tracking sheet of each piece of equipment, including, among other things, the site configuration of the equipment, as well as links to the quality control sheets.** The in-house algorithms designed by this ConstrucTech start-up take the analysis one step further. The information sent by Abeeway's sensors allows Omniscient to calculate performance indicators, dedicated to fleet management, equipment turnover and utilization rates, inventory by technical base, inventory by worksite and number of billable days.

One of the unique major innovations of the solution is that, combining various geolocation technologies, it allows to **use the same devices for big and small objects and in all kind of construction environments**, instead of investing in different devices for each use case. *"Abeeway technology is adaptive as it can use Wi-Fi in dense urban environment, GPS in the countryside, and BLE indoors, to scan the environment and detect other BLE devices on some small equipment, for example with a tracker placed in a toolbox and BLE tags on each tool"* added **Stéphane Sisse, Global Geolocation Services Manager at Abeeway.**

Leveraging geolocation data to optimize the management of millions of euros of equipment

Bouygues Construction Matériel's commitment to more digitalized operations is bringing **significant benefits**. By adopting this new data-based approach, the equipment division of the construction giant is projecting direct **annual savings of 5 to 10% on maintenance and fleet management and a ROI of this technological solution over 3 years**. These results come from savings generated by the following items:



- **Easier billing process:** all information related to the entry/exit of equipment or the utilization rate is historically recorded on all worksites, which makes it possible to bill quicker and more easily.
- **Better allocation of resources:** the identification of unused equipment on worksites makes it possible to mobilize it, avoiding external rentals.
- **Precise and reliable monitoring of equipment life cycle:** prioritization of equipment reaching end of life cycle, to avoid upgrade costs and to guarantee regular maintenance of equipment for a better life cycle.
- **Reduction of inventory costs:** a better view of the global inventory allows to minimize inventory per depot.
- **Data-driven real-time management:** decisions are made quickly, information is at hand and up to date, freeing up time for operational staff to perform value-added tasks.

Construction and IoT: a huge potential for innovation

The partnership between the three companies is not limited to fleet management, with very good prospects in construction: measuring machine productivity, optimizing travel, worker safety, etc. IoT technologies are at the heart of the connected worksite and offer unprecedented prospects for efficiency gains.

In particular, [Abeeway sensors in badge format](#) can accelerate the adoption of social distancing through alerting, creating specific work zones or areas of limited density monitored in real time by the downstream system, warning workers when they enter forbidden areas or when occupancy density is too high.

*"Through this collaboration, I wanted the managers of Bouygues Construction Matériel to focus on their added value without spreading themselves too thin, i.e. to build the best operational specifications and determine the expected return on investment to make the approach profitable, while leaving the choice and the upgrading of the technological solutions best suited to the target to the Omniscient teams, whose recognized expertise and daily mastery of this ecosystem are key. The "IoTization" of our equipment enables us to achieve **two types of gains in parallel**, the first in the **optimization of intrinsic management performance** within the Matériel structure with traceability and visual indicators in real time, the second by providing the Travaux with **additional levers for action on their use on site***



thanks to configurable alerts. It is therefore a win-win situation in terms of productivity. » announced **Patrick N'Kodia, Director of Bouygues Construction Matériel**

“Optimizing the use and monitoring of site equipment is bringing significant operational and financial benefits to construction, and with our LoRaWAN-based smart sensors that last for years, the gain is clearly long-term for Bouygues Construction”, said **Olivier Hersent, CEO at Activity.**

“By connecting construction sites, the construction sector will considerably improve its performance thanks to a better visibility of the real situation on the field. By relying on the analysis and monitoring of its equipment, Bouygues Construction Matériel already benefits from a real-time inventory of all the equipment deployed on construction sites or in stock at all its technical bases in France. It's a game changer for their operational teams!” said **Nicolas Lemaire, co-founder at Omniscient**

“Tracking materials became popular thanks to the Internet of Things (IoT) and its benefits are much-publicized. We are happy to offer our technical expertise to assist Bouygues Construction Material” added **Bernardo Cabrera, Director of Objenious by Bouygues Telecom**

“With LoRaWAN, a variety of industries, including construction, will be able to deploy a long range, low power network that helps improve daily operations and develop flexible applications,” added **Marc Pegulu, Vice President of IoT Product Marketing for Semtech's Wireless and Sensing Products Group.**

About Omniscient

Omniscient, a product of Bouygues Construction's New Value intrapreneurship program, has developed a tool for optimizing construction site operations. Connected to IoT sensors placed on the building sites, the platform processes geolocation data and offers a range of productivity indicators on operations such as resource tracking and allocation, production cycles, equipment maintenance. A genuine management tool, Omniscient provides its services to construction and public works sites, equipment management and site logistics. www.myomniscient.com

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About Activity



Actility is a world leader in **Low-Power Wide-Area Networks (LPWAN) industrial-grade connectivity solutions** for the Internet of Things. Actility provides its **ThingPark™** platform and network technology to **deploy, operate and maintain public and private wireless IoT networks** within a unified, scalable and versatile network infrastructure. The vast majority of nationwide LoRaWAN® network service providers (over 50) and hundreds of companies trust ThingPark™ all over the world. Through its subsidiary Abeeway, Actility also provides **patented ultra-low power tracking solutions**. ThingPark Market offers the largest selection of interoperable IoT gateways, devices and applications to simplify and accelerate deployment of use cases. Contact us here: <https://www.actility.com/contact>



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About Abeeway

Abeeway is the **market leader in low-power indoor & outdoor fused geolocation** and a provider of disruptive IoT tracking solutions worldwide. Abeeway offers the most energy-efficient, reliable and flexible geolocation solutions using unique tracking devices and a smart Multi-technology location system optimized for long-range and low-power-consumption leveraging LoRaWAN™ connectivity. Abeeway devices are available on ThingPark Market. Abeeway is a member of the **LoRa Alliance™**

About Objenious

Objenious, a Bouygues Telecom brand dedicated to the Internet of Things, assists a full spectrum of businesses and local authorities with their digital transformation through offerings and services based on its LoRaWAN®, 2G, 3G, 4G and soon LTE-M and 5G networks. Objenious' experts help businesses to consider and implement their IoT project, drawing on a broad ecosystem of partners to offer solutions adapted to all industry sectors, such as electronic banking, automotive, energy, security, construction, retailing, maintenance, transport and logistics.

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