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To accelerate its on-site geolocation service, Omniscient has chosen Kuzzle after emerging from the Bouygues Construction group's intrapreneurship program

Montpellier, April 18th, 2019. The construction phase of a building is a crucial, continuously-evolving stage subject to exogenous constraints. The construction sector is increasingly facing new challenges: ever more complex projects, shorter construction deadlines, intervention in occupied sites, constrained environments, and so on. At the same time, on-site productivity has grown less in recent years than in other sectors, such as industry or logistics. To meet these efficiency requirements and provide a dynamic and real-time view of the site and its equipment, Nicolas Lemaire and Antonio Caselles—employees of the Bouygues Construction group—created Omniscient. This construction services company offers digital site management tools based on indoor and outdoor geolocation technologies. To quickly deploy its solution, Omniscient decided to implement the Kuzzle IoT backend. Today, two construction sites are currently equipped with the solution, both in France and Singapore.

Towards sites connected with Omniscient

Omniscient allows site teams to have access to anonymized key data, accessible in real time from the platform and application through connected chips installed on the teams' equipment or gears. These chips communicate outside like a GPS and inside the site with a network of connected and autonomous beacons, providing a real-time view of the site.

With a few clicks, teams can access information on resources (tools, equipment, materials). In particular, they can locate their equipment wherever it is located, access an inventory of all assets, measure their utilization rate, control the proper delivery of equipment, etc. Omniscient is also able to measure the number of staff required to complete a phase, identify logistical bottlenecks or time lost moving across the building. Depending on the site configuration, vertical flows can represent up to 20% of total working time.

The data from the connected objects provides information that was previously missing in order to improve production processes, site management and, more broadly, management control. It creates value.

As Nicolas Lemaire, co-founder of Omniscient explains, *"IoT is the feedback loop that has been missing until now in the management of worksites. When we launched Omniscient a year and a half ago, we immediately identified the challenge of incoming volumes of geolocation data and we were looking for a partner capable of processing and collecting a very large amount of heterogeneous data in real time. The Kuzzle backend proved to be the most successful solution. Dedicated to the IoT, it embeds advanced technological bricks, which has enabled us to quickly build our service on a solid foundation."*

Speed, efficiency, scalability and flexibility: a fourfold guarantee

Kuzzle is an open-source, secure, scalable and fully customizable IoT backend. It is capable of collecting, indexing and mass processing heterogeneous data from the Internet of Things in real time.

The advantages in terms of development speed are obvious for Nicolas Lemaire, *"Dedicated to IoT, the Kuzzle backend embeds advanced technological bricks such as geofencing, which allows us to transform the collected data into useful and actionable data for site teams. The first demonstrator carried out this summer showed Bouygues Construction teams that we could integrate different geolocation solutions, display them on a map and use the data in just one week! With Kuzzle development is no longer a matter of months, but week."*

The Kuzzle IoT backend offers within a single platform a multi-protocol API toolbox, advanced functionalities, powerful tools compatible with multiple devices, multiple platforms and to meet a wide range of usage cases, while guaranteeing a level of security and total control of the platform, essential for innovative digital projects. This complete and extensible environment reduces the time to market of digital innovations by up to 40%.

Other key assets are the open and agnostic side of the service, as Jacques Le Conte, CEO of Kuzzle, explains: *"When it comes to Omniscient, we are working on a cloud and multi-network deployment. The Kuzzle backend has been designed to aggregate data from sensors of different brands and operating via various communication protocols. Kuzzle is free from the silos of technologies used by devices, protocols or IoT networks. In addition, unlike some partitioned projects using proprietary frameworks, we do not charge the device, which would have been particularly counterproductive for Omniscient. We are on an economic scale. This is much more advantageous for customers and users, who thus have a maximum of data at their disposal."*

Finally, there is the scalable and progressive aspect of the Kuzzle platform, which, according to Jacques Le Conte, should also benefit Omniscient: *"our backend will automatically follow the scalability of the connected Omniscient sites. Thus, regardless of the number of parallel active worksites around the world, the same Kuzzle will be deployed."*

Two projects currently being deployed in France and Singapore

Omniscient services are currently being tested on two sites of the French construction group.

In Saint Ouen (93), Bouygues Construction—as a general contractor—was selected to build a 22,000 sqm R+8 office building, called "Evidence". The Omniscient service has been deployed there since November 2018 to locate tooling equipment, measure utilization rates and help calculate the volumes of waste generated per floor. In the coming weeks, Omniscient will also follow the finishing work phase.

On a site like this one, the tooling stock represents several tens of thousands of euros. Measuring the tooling utilization rate makes it possible to optimize resource sharing from one project to another.

In Singapore, Dragages Singapore is designing and building Glory, a new real estate complex in the city's business center. This future 51-storey building, culminating at 280 meters high, will house high-end offices on 29 floors, a residence with 299 apartments, restaurants, commercial spaces and five levels of parking.

The Omniscient service is tested for 3 months on a part of the building. At the end of this period, the solution could be deployed on a larger scale. On a site of this magnitude, operating 24 hours a day, 6 days a week with more than 1,000 workers at its maximum, safety, productivity and efficiency are crucial issues. Omniscient allows you to share the number of employees per floor in real time and to ensure that no one remains on site in the event of an evacuation. Omniscient also allows to measure the realization times by phase and thus ensure that the resources are sufficient to keep the schedule.

About Omniscient

Nicolas Lemaire and Antonio Caselles, who emerged from Bouygues Construction's intrapreneurship program, have developed a service solution based on asset management for the construction industry. Built around an application, the solution connects IoT sensors of various technologies in order to restore geolocation, inventory and monitored resources alerts.

Beyond that, the data collected allows the implementation of a range of productivity indicators. As a genuine management tool, Omniscient provides its services to building sites, public works, equipment fleet management and site logistics.

More information: www.myomniscient.com

About Kuzzle

Kuzzle is a French startup launched in 2015 that publishes an open source, installable backend and agnostic cloud to accelerate the development of digital applications. The solution integrates advanced functionalities for IoT and Mobile such as security and authentication, API and real-time data management, geolocation or geo-fencing. The Kuzzle solution has been deployed in France and internationally for the pharmaceutical company Biogen in the United States, the British media William Reed Business Media, the Crédit Agricole group's EKO mobile bank, the Institut de Santé Publique en France (INPES), the European search engine Qwant and, recently, the SNCF (French railway network).

More information: <https://kuzzle.io/>

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