The problem

On the face of it, the waste collection process is simple – deliver skips to the organisations and individuals that need them, then collect and empty them when they're full. But the team at PIN identified a big problem – much of the time, the waste operator doesn't know how many containers they have, or exactly where they are and most importantly what sort of return they are getting on a particular asset. This results in a loss of revenue, where skips are underused, forgotten about, and sometimes even lost.

PIN's solution is to add a combination of wireless technologies to every skip and the trucks that transport them, allowing waste management companies to have a clear operational view of where the skips are and how long they've been there.

The PIN team soon had a prototype up and running, but sought our help in transforming this into a robust, scalable platform.

The solution

We took the time to understand PIN's business and focused our development on the key areas for ROI, adopting a lean, agile methodology that allowed us to pivot to meet their clients' changing needs. Using a microservices architecture we built a message queue based system that is intuitive, fault-tolerant and easy to use across multiple platforms.

We built an Angualr front-end for the live operations view and the system uses Microsoft Power BI for reporting, providing powerful business intelligence reports and interactive visualisations to make sense of the data the platform captures, along with Row-Level Security, allowing data access to be restricted to given users.
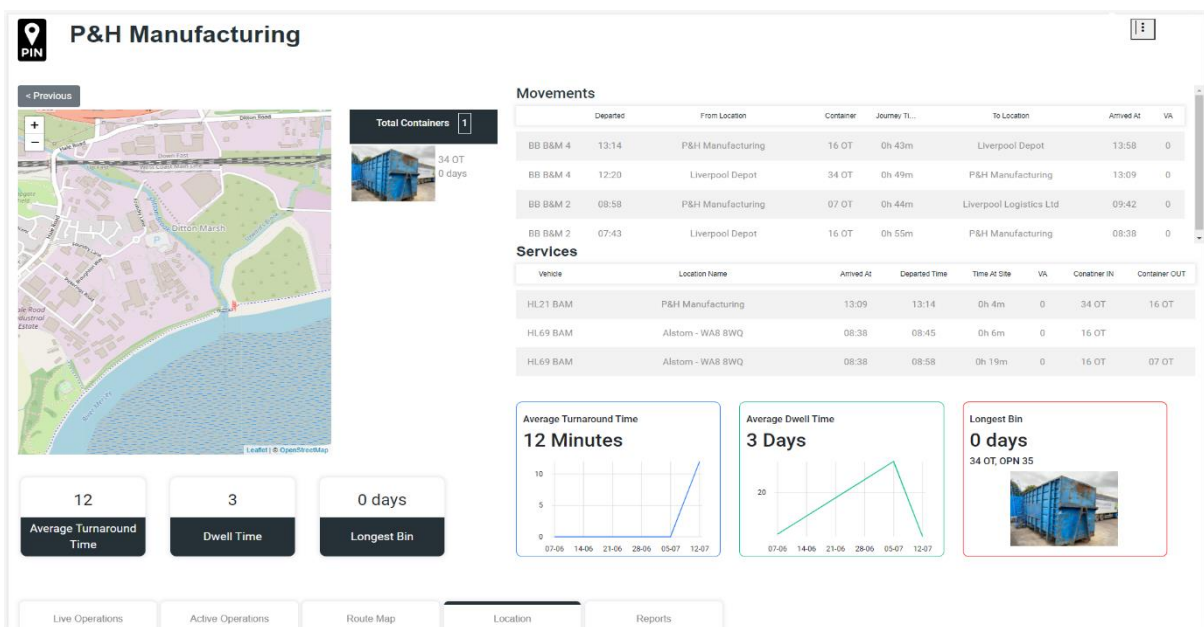
The results

PIN is now able to offer an intelligent, scalable platform that not only allows their clients to keep track of their skips but also to see at a glance the ROI for each of these assets. The platform can scale up and down as and when needed, and we also found significant savings in ongoing database costs.