

The client

Our client is an independent membership organisation promoting commerce throughout their city area and beyond. They are the beating heart of a metropolis of genuine scale, experience and opportunity, a diverse city with a rich heritage always seeking to renew and reinvent.

INDUSTRY:
Public Sector

SOLUTION:
Advanced Analytics

Data Factory

Understanding the context

As part of a larger programme of work, our client expressed a desire to adopt a data-led approach to support the recovery and future of the city centre. The desired end state is a new data intelligence platform, which is cost-effective, scalable, and robust enough to support current and future requirements. This will allow stakeholders to derive insight to make decisions through the timely availability of data and information.

- Utilise data sources in as 'real time' a format as possible
- Develop a digital platform to present, track and update key metrics for scenario planning and contingency measures
- Presented in a format that is easy to consume by non-technical analysts
- Priority dashboards and reports are made available to stakeholders

The solution

Forecast developed an Azure-based solution to integrate multiple data sources ranging from APIs to Files, which Forecast sources on behalf of the client. These were then loaded into a data lake, cleansed and transformed using Azure Functions, Azure Data Factory and Databricks.

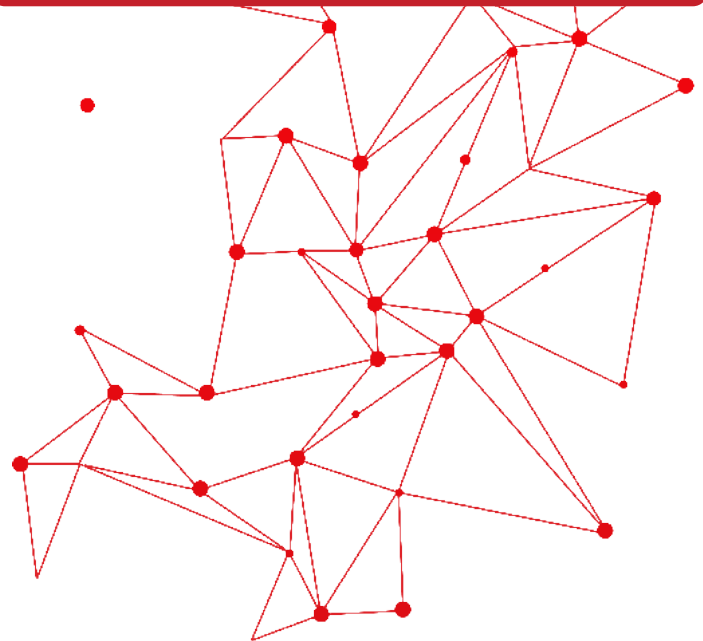
A hosted visualisation tool was also developed using PowerBI with Role-Based Access Control for a variety of stakeholders to access the information. The tool brings together footfall, commercial- and residential real estate, car parking, transportation, hospitality, tourism and detailed spend analytics, amongst others.

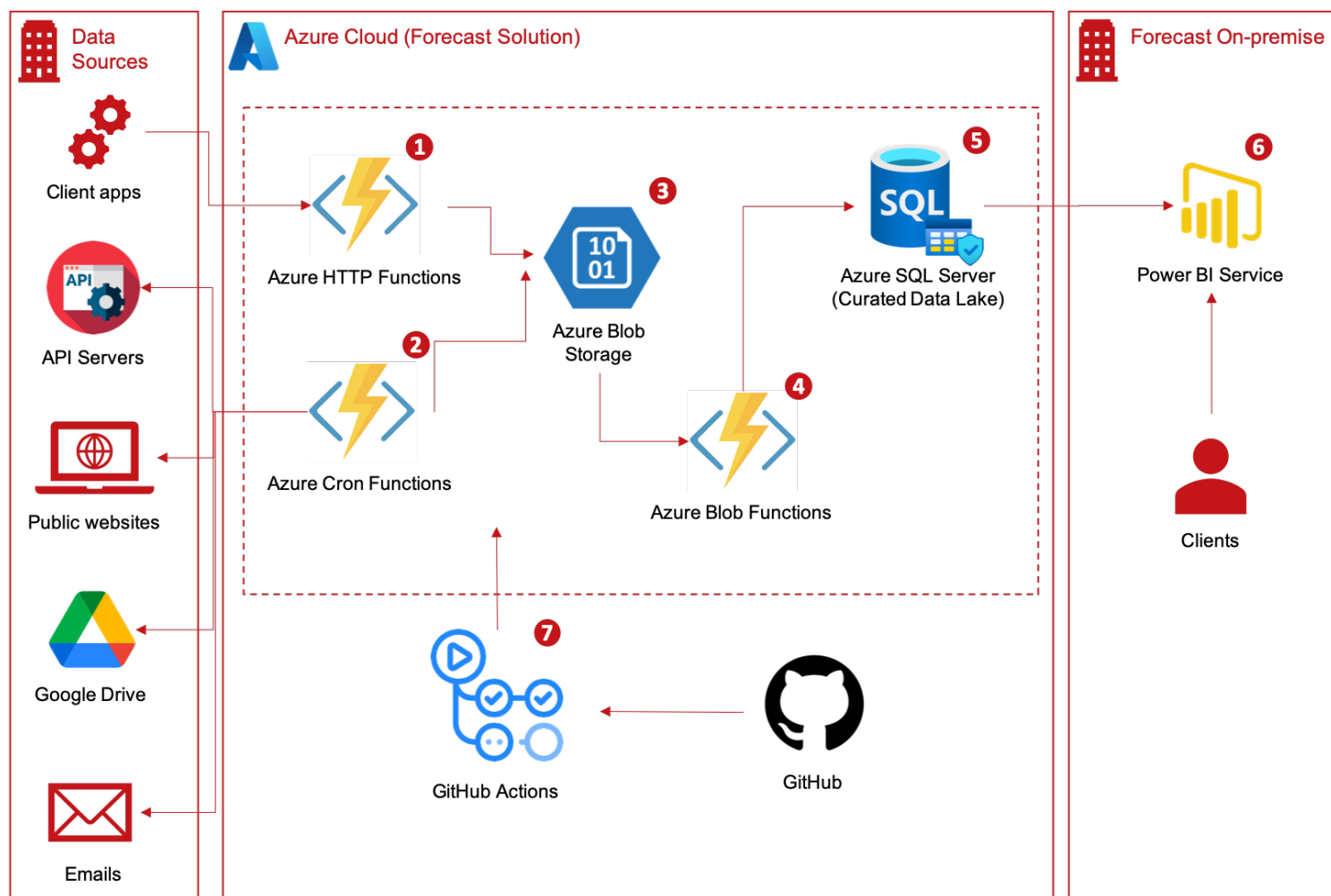
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The value of the solution

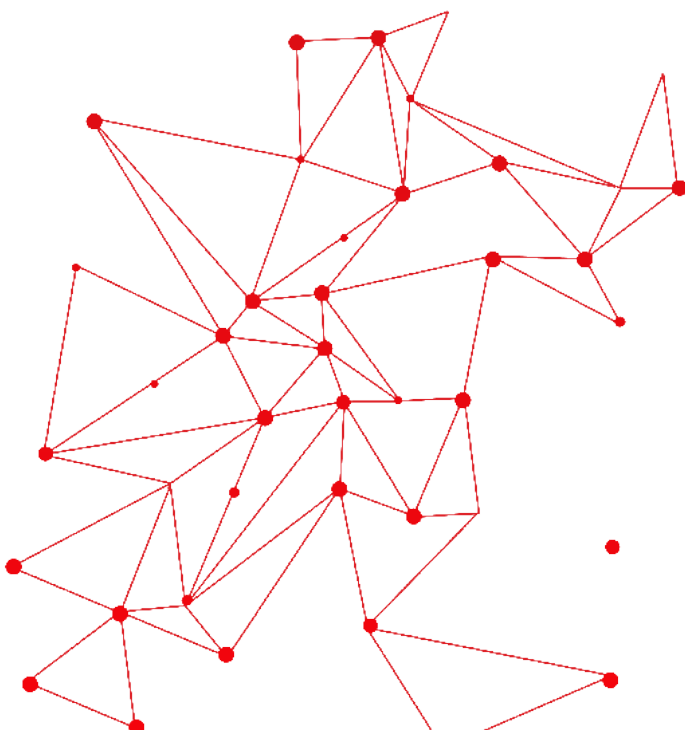
The end solution enabled the client and their stakeholders to gain access to real-time data and intelligence, which has helped them analyse changes in usage of the city centre. It powers not only decision-making capabilities but also allows technical analysts access to a variety of data sources for their own projects.

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1. We collect data from a lot of different Datasets. Some of them are pushed to our Azure HTTP functions.
2. Some datasets are being periodically fetched from API Servers, scrapped from publicly available websites, downloaded from Google Drive or received via Emails when data providers manually publish new datasets.
3. Blob storage is used as a Raw Data Lake to store unformatted data, so that we can reuse it later to gather additional insights.
4. Azure Blob functions are invoked when data is uploaded to the Raw Data Lake. The formatted data and store it in curated data lake for future processing
5. SQL Server is used as a Curated Data Lake to store formatted and ready for visualization data.
6. Power BI Service is issued to show dashboard to our clients.
7. We use GitHub and GitHub actions to store our code and update Staging and Production Azure infrastructure automatically on any code change





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