Winning company: Oak Consulting Pte Ltd
Award won: Big Data & Analytics
Winning project: Data analytics solutions to help Singapore Changi Airport better utilise its data assets

An uninterrupted stream of land transport to greet arriving passengers; organised flight arrival systems; interactive on-site screens to collate consumer feedback: these are some of the aspects that make passenger experience an enjoyable one at Singapore Changi Airport. After all, the airport was voted 'World's Best Airport' by airline and airport review site Skytrax eight years in a row. Such stellar success would not have been achieved without the great vision of the management of Singapore Changi Airport together with help of data management and analytics expert Oak Consulting.

From plane movement to ground-handling activities and passenger volume at the various terminals, airports hold a massive amount of data – let alone an international air hub that has connected over 60 million passengers in 2019.

To help Singapore Changi Airport manage the multiple sources and massive volumes of data, Oak Consulting derived a data analytics system capable of translating the different types of data into actionable insights.

The new system allows the airport to develop newfound analytical capabilities in the following areas:

- **Flight management analytics system**
  This system organises flight-related data, analyses it and produces insights on how processes can be streamlined and improved to raise productivity. It analyses flight, passenger, and cargo management activities.

- **Transport management analytics system**
  This system offers round-the-clock visibility of the number of available transport services at all four terminals, as well as the number of flights arriving hourly so that operational staff can always balance the demand and supply of land transport. An application that delivers information on queues and landing flights to service providers, was also developed to serve transport providers and passengers better.

- **Garden instant feedback analytics system**
  Horticulture plays a major role in the airport landscape. To better understand the aesthetic preferences of visitors and travellers, Oak Consulting analyses the data captured from the interactive screens that enable users to share their feedback on the design, colours and selection of plants and flowers they see at the airport.

- **Full enterprise data analytics platform**
  This platform gathers and analyses data from the myriad data sources across airport operations. With access to data insights on a holistic level, management can make more data-driven and timely decisions. Staff on the ground will also benefit from having better situational awareness when managing operations.

- **Improved data efficiency and security strategies**
  With such massive amounts of data on hand, the airport needed stronger security and more powerful processing capabilities to run analysis of the data. Oak Consulting devised and implemented strategies that helped the airport achieve these aims for on-premise and cloud hybrid platforms.

Since its implementation, the new system has helped to cultivate a data-driven culture within Singapore Changi Airport. For the game-changing tech solutions it provided to Singapore Changi Airport, Oak Consulting is conferred the Big Data & Analytics award.