

Microsoft Azure Customer Solution Case Study



Customer: XGear
Website: www.xgear.io
Customer size: 9 employees
Country: Pakistan
Industry: Fleet management

Customer profile

XGear is a rapidly growing Pakistani-based company that provides next-generation vehicle fleet management for a number of clients, including Nestlé and Pepsi.

Software and services

- Microsoft Azure
 - Azure Service Bus
 - Azure Machine Learning
 - Azure Table
 - Azure API Management
- Microsoft SQL Server
- Microsoft BizSpark Plus Program

Open source technologies

- Linux Server
- PHP
- MySQL
- Redis
- Java
- Node.js

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Next-generation vehicle fleet management delivered from the cloud

“XGear is essentially an Internet of Things technology and while it is certainly proving itself and becoming increasingly popular, we couldn’t have done it without Microsoft.”

Ahmed Khalid, CEO, XGear

XGear, a Microsoft-supported startup, uses the Microsoft Azure platform to drive its open source, next-generation vehicle fleet management platform to blue chip clients in Pakistan—including Reliance Distribution (Pepsi Distribution) and Nestlé. Supported by Microsoft, the technology is proving to be a big hit, and expansion into Europe and beyond now lies within XGear’s reach.

When Ahmed Khalid and his colleagues developed the technology for a next-generation vehicle fleet management platform, they knew they had something with great potential. Their technology wasn’t simply about tracking vehicles, it was about enhancing driver safety, reducing vehicle management and maintenance costs, and improving fleet productivity.

Next-generation fleet management

XGear is a data aggregation and predictive analysis platform for the connected vehicle of the future. It is also a technology that dovetails with and mirrors parallel

advancements in smart car development—enhancing the global potential of XGear.

While the XGear technology was a robust platform and rigorous in the data it collected, as a startup it still needed support. Specifically, the company was looking for business advice, networking contacts, and technology support to help it address some hardware issues relating to the product’s firmware. This support was provided by Microsoft.

Unrivalled support

Ahmed Khalid, CEO of XGear says, “In a sense, we grew a lot at the Microsoft Innovation Center in Lahore, which provided extensive incubation facilities. It’s

a great and comprehensive service that provides a physical office, business mentoring, and technical advice. XGear is an open source platform but this didn't make any difference to Microsoft, who supported us from the beginning."

Among other things, XGear monitors engine performance by using a small device that plugs into the vehicle. It tracks engine performance and flags potential issues before they become problems—thanks to near real-time data analysis. It also performs forensics analysis and provides alerts, reporting, and traffic monitoring.

Microsoft's support helped XGear optimize hardware and firmware, ensuring that the product was fully operational before it launched. XGear chose the Azure cloud platform to host its technology.

Azure support for open source

"Despite the support we received from Microsoft, we didn't feel pressured into using only Microsoft technology; in fact, it was the opposite. That said, we carried out a competitive analysis of hosting options and ultimately chose Microsoft Azure. Azure made much sense because of its support for open source, its unrivalled performance and availability, and its global coverage," explains Khalid.

XGear is mainly an Azure Stack product. The core engine is written in C# and it relies heavily on Microsoft technologies like Azure Service Bus, Azure Machine Learning, Microsoft SQL Server, Azure Table for core processing, and Azure API Management. However, for the front end and for pushing out services, it uses Java, PHP, MySQL, Redis, and Node.js.

The device itself pools all data in Buffer and relays it to a device server, which is a C# cloud service using cellular networks. The data is processed and forwarded to Service Bus to queue and store in SQL Cloud Service. The data from SQL is pushed to a Linux server running Java and Redis and passed to another web server that runs on

Linux. This relays real time analytics to customers using PHP and MySQL.

Some of the more robust consumer analytics panels are running on Node.js; Azure API management is used to handle requests coming from mobile and third-party devices to ensure coherent integration.

When the company launched, it became a member of the BizSpark Plus Program, a Microsoft initiative that provides free cloud services as well as access to free tools and software. The aim of the program is to provide startups with the support they need to develop and grow their business.

"It's an amazing program which enabled us to cost-effectively launch the business without being hampered by hosting costs. Just as importantly, Microsoft is a global company with global blue chip clients and a network of contacts which is deeply impressive," notes Khalid.

With a technology that delivers unparalleled real-time insights to drivers on what's really happening inside their vehicles, together with Microsoft's extensive contacts, XGear soon began to establish itself within the Pakistani market.

Blue chip customers

Today, XGear's customers include Nestlé—which uses XGear to manage a fleet of 300 vehicles, including 18-wheel heavy goods vehicles—and Reliance Distribution (Pepsi Distribution). Both companies have extensive presence within Pakistan.

The success of XGear is considerable, given that it only launched in 2014. As a fully scalable and cost-effective platform for fleet management that can host multiple web- and smartphone-based applications, it has a broad appeal for customers. Because it is an open platform, developers can easily create custom apps that solve specific problems for individual drivers and businesses alike.

XGear's customers are reaping the rewards with approximate cost savings of 10 percent on fuel consumption and maintenance. Khalid explains, "It enables customers to carry out journey analysis, which provides really good insight into supply chain operations, allowing them to optimize processes and save money.

Nestlé, for instance, has introduced new KPIs and improved KPIs after using XGear."

Tehman Lall, Transport Manager at Nestlé Pakistan, says, "Partnering with XGear has been one of the best decisions we've made in our logistics department. At any given time I can see exactly what's happening with any of our cars and drivers. It's incredibly powerful!"

Ali us Sajjad Khan, CEO, Reliance Distribution (Pepsi Distribution) agrees: "XGear has been a game-changer! We now save hundreds of hours previously spent on admin collecting logs from drivers auditing the logs for violations and compliance reporting. With XGear, all of that happens automatically."

Europe expansion

XGear presented its forensic analysis potential at Nestlé's Switzerland headquarters, and now Nestlé HQ is considering XGear to replace its existing fleet management platform in some regions, while the company is also driving into the consumer and car hire market.

"XGear is essentially an Internet of Things technology and while it is certainly proving itself and becoming increasingly popular, we couldn't have done it without Microsoft," asserts Ahmed Khalid. "Its approach is indicative of a forward-looking attitude to startups, while its support for open source software is significant and invaluable. Azure is the perfect cloud-hosting platform—and with its 99.9 percent availability and global reach, we have a strong and steady foundation for business expansion."