

DOUBLING DOWN ON THE CLOUD

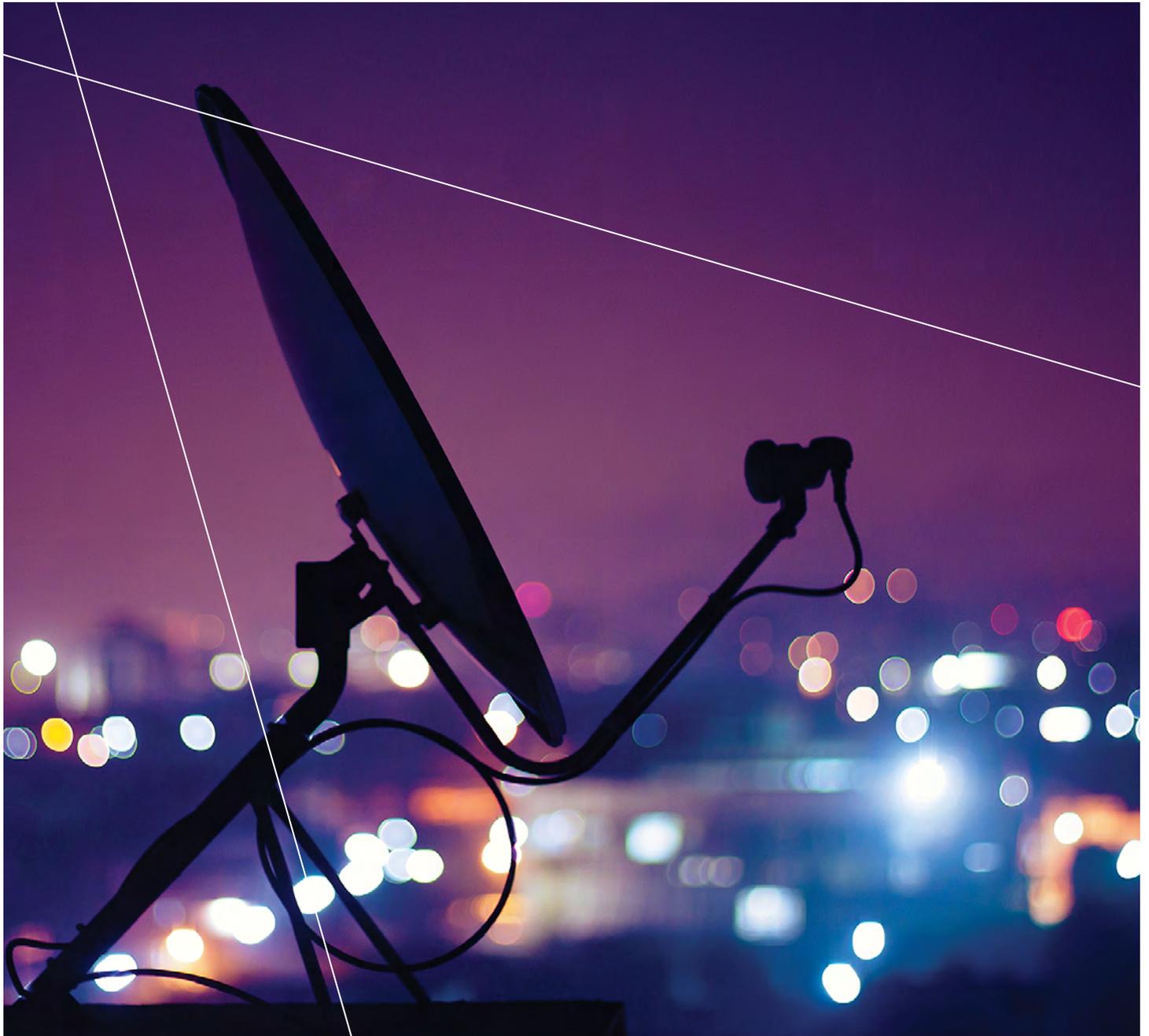
Industry

Cloud Services

Location

Global

—
SES's journey to become a cloud-native business secures its position as the leading provider of satellite-enabled cloud connectivity.



As the world's leading satellite operator, SES has long recognised the value of implementing cloud technologies.



BACKGROUND

Enterprise cloud adoption—which was on the rise before the COVID-19 pandemic—has accelerated rapidly over the last few years.

63%

businesses currently run over a quarter of workloads in the cloud

52%

increase from 2020

2025

predicted year that spending on cloud IT will overtake traditional IT



Businesses of all sizes need to address changes in how their customers, employees, and suppliers work and interact, driving them to leverage the flexibility and agility cloud-based infrastructures offer. According to Flexera's 2022 State of the Cloud survey, 63% of businesses currently run more than a quarter of their workloads in the cloud—up from 52% in 2020¹. Gartner predicts that enterprise IT spending on public cloud computing will overtake spending on traditional IT by 2025².

As the world's leading satellite operator, SES has long recognised the value of implementing cloud technologies. Over the past few years, it has watched customers embrace cloud technologies in growing numbers. Some of these companies were among the first organisations in their industry to adopt the cloud. Carnival Corporation's Ocean guest experience platform, for example, leverages edge and cloud technologies to process and analyse cruise ship sensor

data to optimise passenger experiences. Broadcasters in emerging TV markets such as Ethiopia have adopted cloud-based playout solutions that offer more agility and flexibility than on-premises alternatives. Others are just starting to explore the potential of the cloud, and how it can be used to streamline their operations and drive innovation within their business segments.

SES has played a critical role in supporting its customers' business needs by providing enterprises with SES Cloud Direct, a private, dedicated connectivity service that enables them to access the cloud from any location—whether at sea, on land, or in the air. The company's ability to assume this role is due to the foundational work done internally: a multi-year cloud-first transformation initiative focused on the adoption of the cloud services and applications needed to bring greater efficiency and agility to its own operations.

¹ <https://www.flexera.com/about-us/press-center/flexera-releases-2021-state-of-the-cloud-report>

² <https://www.gartner.com/en/newsroom/press-releases/2022-02-09-gartner-says-more-than-half-of-enterprise-it-spending>

STRATEGY

The SES Cloud initiative consists of three pillars:



PROVIDER

Developing new and innovative cloud products and solutions



OPERATOR

Using cloud native architectures as a flexible platform



ENTERPRISE

Adopting a cloud-first strategy for internal systems

SES began its own cloud transformation in 2020 when it established a corporate initiative—the SES Cloud—that unified various cloud-related activities across the company under a single programme. Developed with a governance framework and a measurable data-driven set of key performance indicators (KPIs) that ensure universal understanding of its roles and objectives, this initiative is comprised of multiple workstreams—each focused on a specific aspect of the cloud, that align to three overarching Cloud “pillars”:

- **SES as a provider of cloud-enabled solutions:** Developing new and innovative cloud products and solutions that provide customers with added value
- **SES as an operator:** Using cloud native architectures as a flexible platform for delivering services to customers
- **SES as an enterprise:** Using automated cloud services and applications to establish a “cloud first” business that operates more efficiently

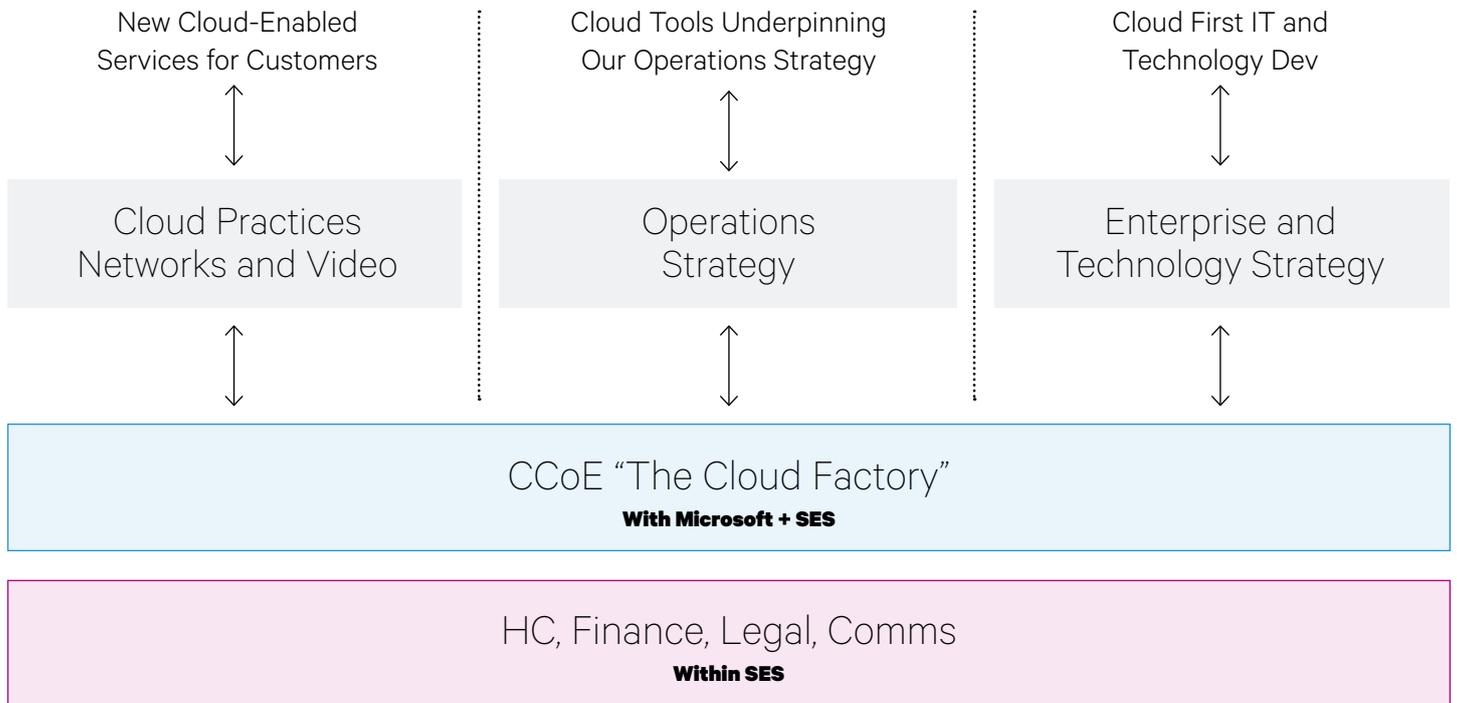
For SES, the third pillar—adopting a cloud-first strategy for its internal systems—is critical to its ability to partner with customers on their own cloud transformation journeys. Prior to the launch of this project, SES had in place an extensive on-premises infrastructure that, while robust, required substantial maintenance and effort to operate. SES recognised that moving its internal environments to the cloud would bring greater flexibility and scalability, allowing for innovation that its legacy on-premises data centres could not.

The first step was selecting Microsoft Azure as the cloud service provider (CSP) for SES’s internal transformation—not an unexpected decision, given the two companies’ extensive relationship. SES became a certified ExpressRoute partner in 2019, leveraging its geostationary Earth orbit (GEO) and medium Earth orbit (MEO) satellite networks to connect end users to Azure data centres. The company launched a managed cloud playout solution leveraging Microsoft Azure that same year, and became the founding MEO connectivity partner for Microsoft Azure Orbital in 2020.

The next phase of SES’s internal transformation, which started in April 2020, involved working with Microsoft to establish an in-house Cloud Centre of Excellence (CCoE). This centralised team was tasked with developing a framework and creating building blocks (a certified platform and products) that other SES teams could leverage to expedite the creation of both internal and customer-facing cloud-based solutions. After 18 months of collaboration with Microsoft, SES reached the maturity level needed to drive its cloud journey forward on its own.

In parallel to its CCoE activities, SES began working with Microsoft partner Fujitsu Luxembourg to migrate its legacy infrastructure to Azure. In 2021, SES doubled down on its initial migration plan and set an aggressive goal to migrate 1,000 workloads—including its internal accounting system, data warehouse, and business intelligence systems—that had been running at SES on-premises data centres to Azure by the end of the year.

How the cloud is implemented within SES



CASE STUDY

The first successful internal cloud-native deployment was referred to within SES as the SES Data Backbone—a highly scalable integration stack built on cloud-native technologies that supports event streaming, application programming interface (API), and file-based data exchanges. The Data Backbone middleware serves as the central nervous system for many critical applications, facilitating data exchanges for SES’s next-generation O3b mPOWER system, and high-throughput SES-17 satellite—as well applications commonly used within SES, including ServiceNOW and Dynamics 365.

Deployed using Infrastructure as Code (IaC), the system leverages cloud-native solutions such as Azure Kubernetes Service to achieve high availability and autoscaling to make this mission-critical middleware as robust as possible. The Data Backbone currently underpins SES’s migration toward an event-driven architecture that will enable highly responsive reactions to a range of applications, and access to data in real time to enable fast and effective decision making. In the future, this solution will support more advanced use cases that involve artificial intelligence (AI) and pattern recognition to automate event responses and optimise the services SES offers to customers.



BEYOND TECHNOLOGY

A successful cloud adoption strategy requires a workforce that is skilled in the latest cloud technologies and is comfortable adapting their ways of working to fully leverage these capabilities.

As SES embarked on its cloud transformation journey, it was clear that a critical part of this initiative would be shifting the culture and mindset of the company's teams. A successful cloud adoption strategy requires a workforce that is skilled in the latest cloud technologies and is comfortable adapting their ways of working to fully leverage these capabilities. Teams that promote the rapid introduction, testing, and modifying or discarding of new ideas to incorporate service agility and innovation in an organisation are vital to its success. This "fail fast" mindset represented a huge cultural shift for many SES team members, who had spent their careers in an environment with longer, more controlled development processes.

The first step toward making this shift was engaging the entire employee base with "Cloud Day." This company-wide virtual event and showcase of cloud-related content was held in early 2021, featuring a combination of live and on-demand sessions from both internal and external speakers. Presentations ranged

from high-level sessions on the value of the cloud, to in-depth discussions on how SES is implementing cloud technologies—and all materials were archived on a new Microsoft SharePoint site dedicated to all things cloud.

Once this foundational knowledge had been established, SES focused on upskilling its teams to be able to leverage these new cloud-native technologies. Access to Microsoft's Enterprise Skills Initiative (ESI) provided employees with hands-on training on cloud technology and the Microsoft Azure platform and solutions. All staff were encouraged to participate, regardless of their title or the time needed to complete these sessions, while the Human Capital team launched recruitment efforts to add greater cloud expertise to the company. SES's regularly published cloud newsletter kept all team members aware of cloud-related resources and events, including new sales collateral created by the marketing team, customer and partner updates, and company-wide online sessions that cover specific aspects of SES's cloud activities.

ACHIEVEMENTS

The work put into building a foundation for SES's cloud transformation paid off in 2021, as the company hit or exceeded KPIs set by the cloud team.



To become a fully cloud-native company, SES has developed this next phase of key enterprise goals:

- Modernising an additional 1,000 on-premises workloads to be migrated to the cloud
- Continuously improving by creating a cloud roadmap to help establish new cloud native technologies and “industrialise” cloud enablement through various internal teams
- Conducting regular cloud-related training for sales and commercial team members
- Maintaining an 80% rate of retention for employees with advanced Microsoft Azure certifications
- Establishing a core cloud team that is composed of at least 25% women
- Continuing the series of company-wide cloud awareness sessions, including Cloud Day 2022

Over 1,000 on-premises workloads were either migrated to the cloud or decommissioned. The company also achieved several KPIs focused on the critical task of improving employees' knowledge of the cloud, with more than 80% of the company's global workforce having engaged in cloud awareness sessions and training.

SES's IT teams rapidly built their cloud skills using the official Microsoft ESI training programme. Within the first year, the company's IT employees completed an average of two cloud training goals, and more than 70% applied their training toward earning Azure-specific certifications.

The year ahead will be focused on building further momentum. SES's core cloud team has developed an aggressive set of enterprise goals for 2022 to reach the objective of becoming a fully cloud-native company.

One such goal is an entirely new one intended to help overcome the culture challenges faced over the last few years. Building on the assumption that cross-functional teams should be at the forefront of the shift to the cloud, SES developed an “In It Together” KPI that recognises team members' contributions to fostering a cloud-first environment. Team members receive points for actively leading or contributing to a cloud-first activity that benefits SES as a whole—such as leveraging cloud-based tools to simplify workflows, or supporting knowledge-sharing initiatives related to the cloud—with the goal set to 100 points by year-end.

SES's vision is to be the premier provider of intelligent satellite connectivity that provides end-users everywhere with reliable access to the cloud at all times. The company is confident that the successful transformation of its own business will make this vision a reality, and allow it to implement simpler and more flexible ways to help its customers succeed.

To learn more about SES
and the cloud, visit [ses.com/insights/
future-satellite-and-cloud](https://ses.com/insights/future-satellite-and-cloud)

SES HEADQUARTERS

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