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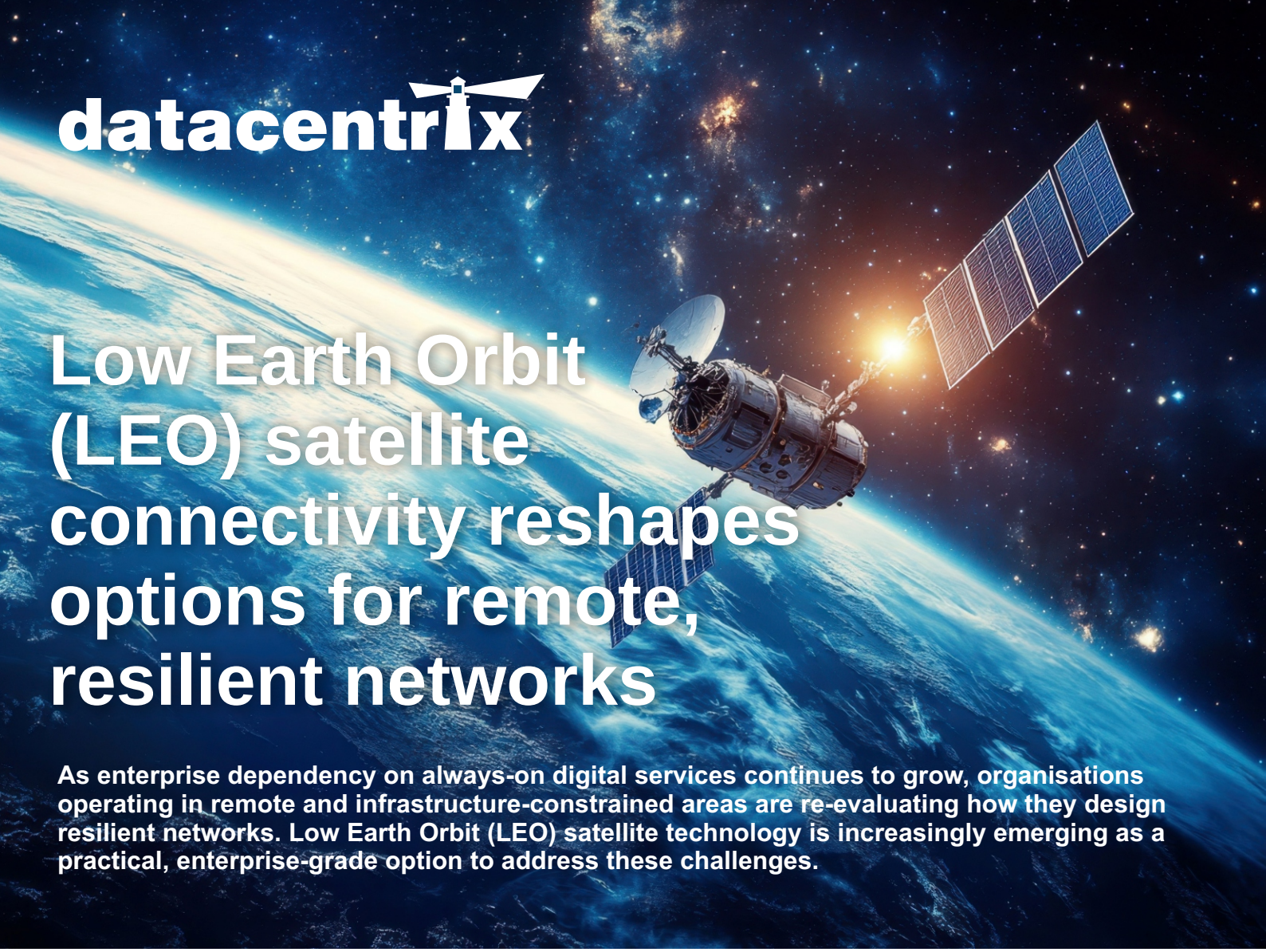

Low Earth Orbit (LEO) satellite connectivity reshapes options for remote, resilient networks

As enterprise dependency on always-on digital services continues to grow, organisations operating in remote and infrastructure-constrained areas are re-evaluating how they design resilient networks. Low Earth Orbit (LEO) satellite technology is increasingly emerging as a practical, enterprise-grade option to address these challenges.

Leading hybrid ICT systems integrator and digital transformation partner, Datacentrix, through its subsidiary eNetworks, incorporates LEO satellite connectivity into its enterprise connectivity portfolio, enabling greater flexibility in the design of resilient, high-availability environments.

According to David Erwee, Head of Architecture – Datacentrix Managed Services, many towns, particularly in outlying regions, still depend on a single fibre or microwave provider to service an area.

“This creates real operational risk for any business with operations in these areas,” he explains. “LEO satellite provides an enterprise-grade, last-mile redundancy option that can be deployed quickly and integrated cleanly into a broader managed network architecture.

“From an engineering perspective, this is a meaningful step forward. LEO satellite services differ significantly from traditional Medium Earth Orbit (MEO) and Geostationary Earth Orbit (GEO) satellite technologies in that the satellites operate much closer to earth, meaning that latency is dramatically lower and bandwidth is substantially higher.”

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The result, says Erwee, is a satellite service capable of supporting real-time workloads such as voice, video, cloud applications and interactive systems, without the stutter and delay historically associated with satellite connectivity.

“Just as importantly, this is now achievable at a cost point that makes sense for mainstream enterprise use – not only niche scenarios.

“Within the Datacentrix Managed Services division, we believe that LEO satellite can play two important roles. The first is as a resilient backup link for enterprise sites where only a single terrestrial provider is available. The second is as a primary connectivity option where no fixed infrastructure exists at all. Both models are fully supported under enterprise service levels, with monitoring, management and SLA-backed uptime.”

Erwee maintains that Datacentrix has seen strong success with LEO satellite technology in sectors such as agriculture, mining and tourism. “Typical deployments include farms, mines, lodges, game reserves and remote operational facilities,” he comments. “It is equally effective for temporary deployments such as disaster management or construction sites, and deployment can be done in less than an hour.”

Beyond these, he adds, there are several high-value enterprise use cases where LEO satellite technology could also be used. These include:

- Last-mile redundancy for branch and regional offices;
- Rapid turn-up of new sites and temporary facilities;
- Business continuity and disaster recovery links;
- Connectivity for remote energy, logistics and industrial sites;
- Retail and financial services locations in rural areas;
- Event, construction and project-based connectivity;
- Secure out-of-band management paths; and
- Border, security and environmental monitoring locations.

David Erwee
Head of Architecture –
Datacentrix Managed Services

“Datacentrix's objective is straightforward: to remove location as a constraint on reliable, high-performance enterprise connectivity. By including LEO satellite in our connectivity design toolkit, we can build more resilient networks, reduce single points of failure and deliver viable connectivity to places that previously had limited or no practical options,” Erwee concludes.

Datacentrix's LEO satellite services are available on consumption-based models, where hardware is bundled into the service, as well as lower recurring cost models where hardware is purchased upfront. This allows customers to balance capital and operational expenditure while still achieving enterprise-class connectivity outcomes.

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