

**Title: Existing and Emerging Use Cases for Micro Edge Data Centers (<1MW)**

**Sub-Title: Micro edge data centers are increasingly becoming integral to the infrastructure, enabling innovative applications and enhancing the performance, security, and efficiency of various services across different industries.**

*(Flashing on booth screen as independent bullets under title and sub-title)*

* **Existing Use Cases**
	+ **Content Delivery Networks (CDNs)**:
		- **Video Streaming**: CDNs cache content at edge locations to reduce latency and improve the quality of video streaming services.
		- **Web Content Acceleration**: Local caching of web content enhances user experience by reducing load times.
	+ **Retail**:
		- **Smart Stores**: Real-time data processing from IoT sensors, cameras, and other devices for inventory management, personalized customer experiences, and checkout-free shopping.
		- **Digital Signage**: Dynamic and targeted advertising based on real-time analytics.
	+ **Telecommunications**:
		- **5G Networks**: Edge data centers support the low-latency requirements of 5G applications, such as autonomous vehicles, augmented reality, and IoT devices.
		- **Network Function Virtualization (NFV)**: Deploying virtualized network services closer to end users for improved performance and flexibility.
	+ **Healthcare**:
		- **Remote Monitoring**: Processing data from wearable devices and sensors locally for real-time health monitoring and diagnostics.
		- **Medical Imaging**: Quick processing of medical images for faster diagnosis and treatment planning.
	+ **Manufacturing**:
		- **Predictive Maintenance**: Analyzing data from machinery and equipment to predict failures and schedule maintenance proactively.
		- **Quality Control**: Real-time inspection and analysis of products during the manufacturing process.
	+ **Smart Cities**:
		- **Traffic Management**: Real-time processing of data from traffic sensors and cameras to optimize traffic flow and reduce congestion.
	+ **Public Safety**: Enhancing surveillance and emergency response through local processing of data from cameras and IoT devices.
* **Emerging Use Cases**
	+ **Autonomous Vehicles**:
		- **Vehicle-to-Everything (V2X) Communication**: Local processing of data from vehicles and infrastructure to enable real-time decision-making and improve safety.
		- **Fleet Management**: Monitoring and managing fleets of autonomous vehicles with real-time data analytics.
	+ **Augmented Reality (AR) and Virtual Reality (VR)**:
		- **Gaming and Entertainment**: Enhancing AR/VR experiences with low-latency processing and rendering at the edge.
		- **Training and Simulation**: Real-time processing for immersive training environments in industries like defense, aviation, and healthcare.
	+ **Energy and Utilities**:
		- **Smart Grids**: Local processing of data from smart meters and sensors for efficient energy distribution and management.
		- **Renewable Energy Management**: Real-time monitoring and control of renewable energy sources like solar panels and wind turbines.
	+ **Agriculture**:
		- **Precision Farming**: Real-time analysis of data from drones, sensors, and IoT devices to optimize irrigation, fertilization, and pest control.
		- **Livestock Monitoring**: Local processing of data from sensors and cameras to monitor the health and behavior of livestock.
	+ **Logistics and Supply Chain**:
		- **Real-Time Tracking**: Monitoring the location and condition of goods in transit with edge data centers for improved supply chain visibility and management.
		- **Warehouse Automation**: Local processing for robotics and automated systems in warehouses for efficient inventory management and order fulfillment.
	+ **Financial Services**:
		- **Fraud Detection**: Real-time analysis of transactions at the edge to detect and prevent fraudulent activities.
		- **High-Frequency Trading**: Low-latency processing for financial trading applications to gain competitive advantages.
	+ **Education**:
		- **Interactive Learning**: Enhancing online and hybrid learning experiences with real-time content delivery and interaction.
		- **Campus Safety**: Local processing of data from security cameras and sensors for improved campus security.