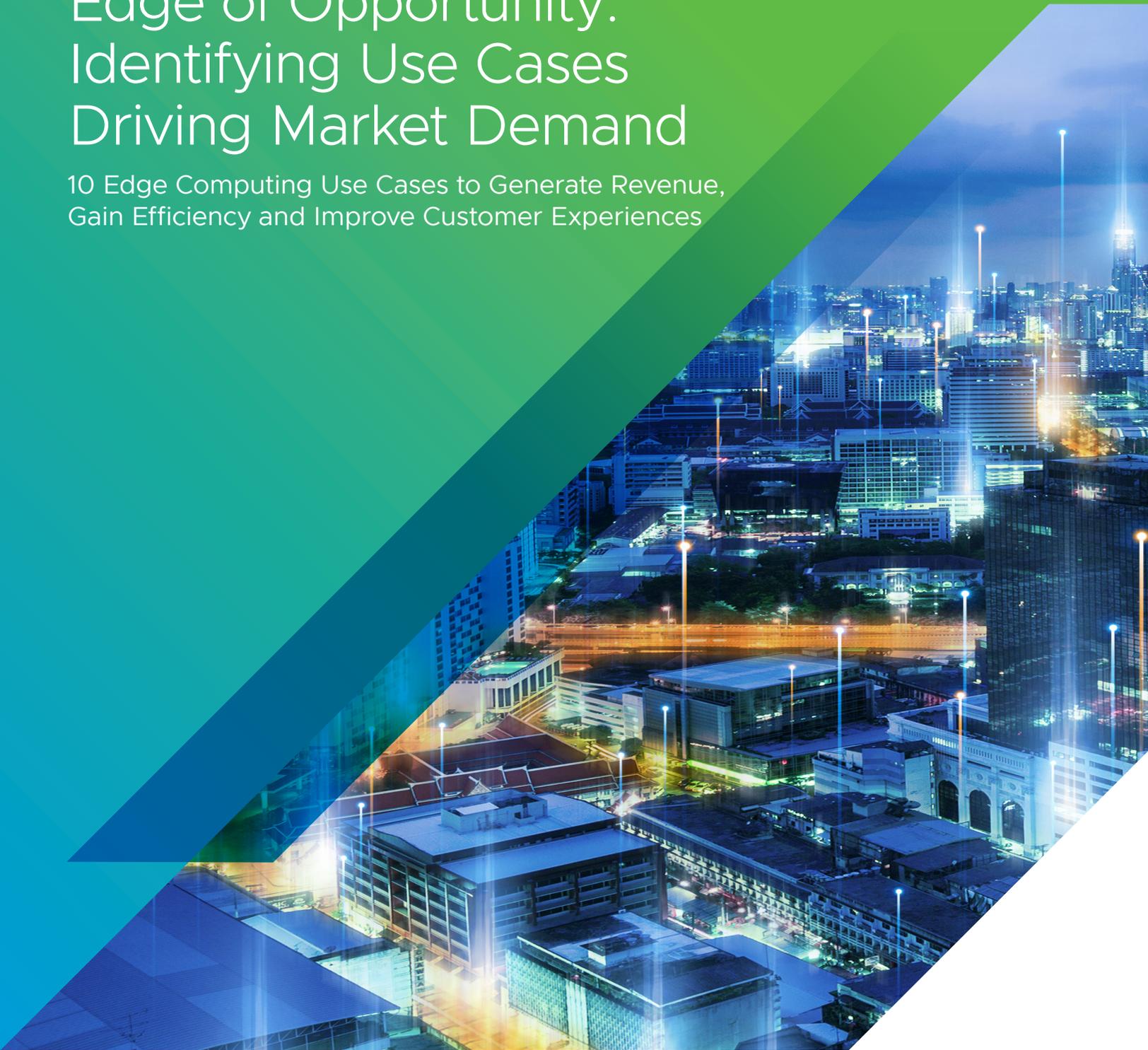


# Edge of Opportunity: Identifying Use Cases Driving Market Demand

10 Edge Computing Use Cases to Generate Revenue,  
Gain Efficiency and Improve Customer Experiences





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## \$543 Billion

The total edge computing addressable market will grow from \$10B in 2020 to \$543B in 2030 (Source: STL Partners)

## 49%

The compound annual growth rate (CAGR) for the edge computing market is estimated at 49% over the next 10 years (Source: STL Partners)

### 10 VIABLE USE CASES TO CAPITALIZE ON THE EDGE

- Advanced predictive maintenance
- Video analytics for security
- Cloud gaming
- In-hospital patient monitoring
- Environmental condition monitoring
- Live video and broadcasting
- In-store immersive experiences
- Smart city traffic management
- Digital twins
- Autonomous guided vehicles

## Executive Summary

Edge computing will be a significant new revenue opportunity for the technology and telecom worlds in the next ten years. It will bring compute and storage closer to the end user, either at the customer's premises or distributed sites in a telecom operator's network. Base stations, sites in the transport aggregation layer, and hyperscaler sites are all likely to play a role.

VMware Telco Cloud Platform Edge is well suited to support these ambitions. Its edge-to-cloud orchestration capabilities ensure that workloads are moved seamlessly to the right location, and its management tools empower telecom operators to manage distributed sites at scale.

Edge computing will likely comprise the following key elements:

- Device: Physical equipment with embedded software and SIM
- Connectivity: Connectivity from device to edge for processing
- Edge IaaS: Edge cloud infrastructure (compute and storage)
- Developer platform: Developer tools, application creation and monitoring and reporting
- Distributed edge PaaS: Resource management and orchestration from edge to cloud
- Solution software: End software application – some workloads hosted at the edge
- Integration and service: Installation and maintenance of the solution

This paper explores ten viable use cases that will leverage edge computing and, in most cases, 5G in the short to medium term.

These use cases deliver demonstrable benefits to the end customer, in terms of efficiency gains or revenue generation, and unlock better customer experiences.



“Low-latency applications and AI workloads at the edge are solving key challenges that would have not been possible before. Enabling the OT teams to manage edge infrastructure at scale is key to success. There is no other company better poised to seamlessly handle edge-to-multi-cloud workloads than VMware and its partner ecosystem.”

NIRANJAN MAKHA, CO-FOUNDER  
AND CHIEF EXECUTIVE OFFICER  
SMARTHUB.AI

## Opportunities at the Edge

### 10

There are 10 immediately viable edge use cases, according to research by STL Partners, a telecoms consultancy that worked with VMware to identify emerging opportunities at the edge.

## Video Ingest and Analysis

### 21%

Video ingest and analysis represents 21% of the edge computing market in 2021  
(Source: STL Partners)

## Manufacturing Sector

### 22%

In 2026, 22% of total edge computing addressable revenue will come from the manufacturing sector  
(Source: STL Partners)

## Transport Sector

### 8%

In 2026, 8% of total edge computing addressable revenue will come from the transport sector  
(Source: STL Partners)

# Viable Edge Use Cases

USE CASE	DESCRIPTION	INDUSTRY VERTICAL
Advanced predictive maintenance	Tracking of equipment assets to preemptively identify faults, maintenance	Multiple verticals
Video analytics for security	Connected smart cameras filming and processing data to inform security responses and strategy	Multiple verticals
In-hospital patient monitoring	Connected wearable devices monitor patient status for various metrics, such as glucose and heart rate	Single vertical
Environmental condition monitoring	Analysis of ambient metrics (e.g., temperature, pressure, vibration) to identify faults and need for maintenance	Multiple verticals
Live video and broadcasting	Remote production of live video sent to production and broadcast facilities	Single vertical
In-store immersive experiences	Use of mixed reality (AR/VR/MR) to create immersive experiences in the retail and advertising sectors	Multiple verticals
Smart city traffic management	Dynamic management and routing of traffic to optimize flow, improve safety, and reduce emissions	Single vertical
Digital twin	Creation of a copy of an environment from a spatial or data perspective to run risk-free scenario modeling and testing	Multiple verticals
Autonomous guided vehicles	Driverless vehicles moving raw materials and goods throughout a factory or site	Multiple verticals

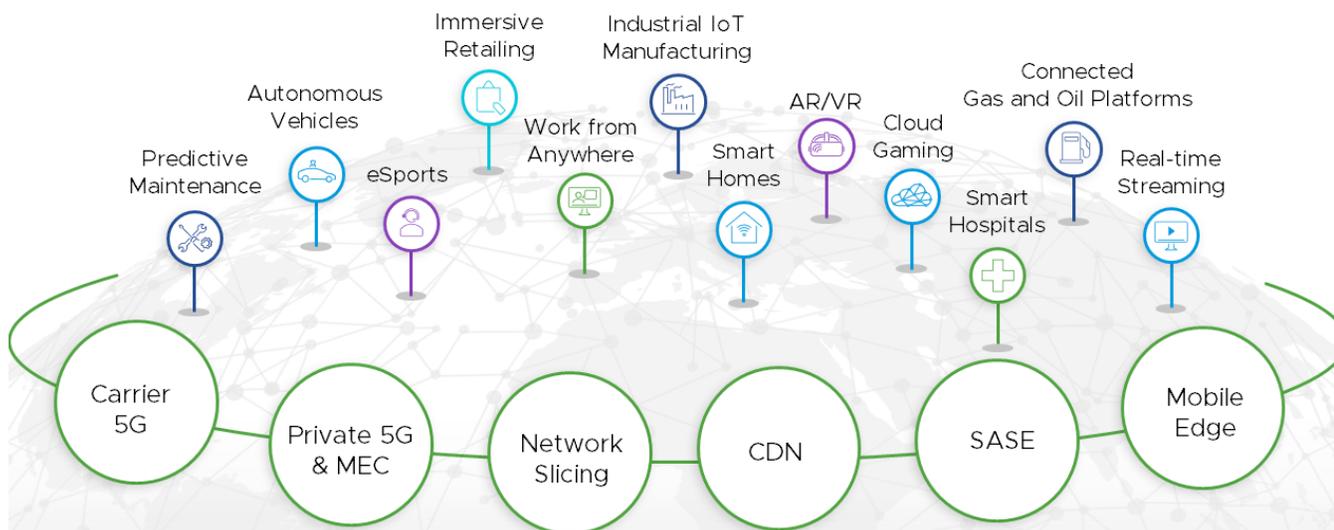


FIGURE 1: The new edge reality includes a variety of emerging use cases, many of which are shown in this diagram. This paper addresses the ten immediately viable use cases shown in the table on this page.

## PREDICTIONS FOR APM SOLUTIONS

- Today, APM solutions are primarily embedded in machinery.
- In 2025, APM solutions will take advantage of the enterprise edge, making them more flexible and scalable.
- On premises is the type of edge that will predominantly be used for advanced predictive maintenance.

## EXAMPLE ISVs WITH SOLUTIONS IN APM

- Atos
- Crosser
- PTC
- Senseye

# Advanced predictive maintenance

Advanced predictive maintenance (APM) monitors data from sensors on equipment to ensure it is in good condition and preemptively indicates faults and potential remedial repairs. APM can be used in all industries, including manufacturing and logistics, with expensive and complex machinery. There are three main reasons why enterprises are implementing APM solutions:

- To increase uptime: Proactively fixing faults before they create major issues reduces unscheduled downtime and increases return on investment for key assets.
- To reduce maintenance costs and increase asset lifetime: Proactively flagging when an asset needs maintenance can prolong its lifespan.
- To reduce risks to health, safety, and equipment damage: Catching issues before they cause machine malfunction helps keep assets and people safe.

## End customer benefits

- **Data analysis:** Equipment can be repaired preemptively to reduce downtime caused by unplanned maintenance, increasing the overall productivity of a machine line.
- **Security:** Since potentially sensitive operational data is being collected, it is important to keep it on premises.
- **Hardware agnostic:** The end user can use existing hardware to run the solution, eliminating vendor lock-in.

## Solution provider benefits

- **Data analysis:** Accurate and right-time data on machine performance is critical to enabling an advanced predictive maintenance solution to provide valuable insights for a manufacturer.
- **Security:** A highly secure solution increases the size of the solution addressable market as enterprises in certain industries like manufacturing would not adopt a cloud-based solution.
- **Hardware agnostic:** Being hardware agnostic enables a software-only solution play that can be used even where existing machinery is not being removed or replaced.



## PREDICTIONS FOR VIDEO ANALYTICS FOR SECURITY

- Today, workloads are primarily embedded in the cameras.
- In 2025, workloads will sit on the enterprise edge – making them more flexible and scalable while maintaining data security.
- On premises is the type of edge that will predominantly be used for advanced predictive maintenance.

## EXAMPLE ISVs WITH SOLUTIONS

- Fyma
- Honeywell
- IntelliVision

# Video analytics for security

CCTV cameras are used to aggregate and analyze video streams from multiple cameras, to filter footage at the edge, and to perform real-time facial recognition and incident detection. This use case spans many industries and scenarios, including smart cities, government, defense, facilities management, construction, and transport. There are two main reasons enterprises are implementing video analytics for security:

- **Asset and people protection:** Clear insights at speed bring quick decision making to enterprises and governments to help protect people or assets if a threat arises.
- **Automated feed aggregation and event correlation:** A video analytics platform consolidates feeds and tracks events, assets, and people in a smart, integrated way.

## End customer benefits

- **Low latency:** Real-time video analysis can be used for facial recognition or incident detection to improve security at the customer's site.
- **High bandwidth:** High bandwidth ensures that the customer will receive a fast and reliable service that will not degrade or lag in critical moments.
- **Data analysis:** Analyzing data at the edge instead of on the device can allow simpler and cheaper cameras to be used for smarter use cases.
- **Security:** Customers are assured that sensitive information about site security is always stored on the customer premises.

## Solution provider benefits

- **Low latency:** Low latency is required for real-time analysis and action — and providers can charge more for a premium service.
- **High bandwidth:** The volume of data is increasing with the number of cameras and the quality of the videos. High bandwidth is therefore needed.
- **Data analysis:** Running analysis at the edge reduces spending on cloud services. Data can be filtered at the edge to send only useful footage to the cloud, e.g., when movement is detected.
- **Security:** Solution providers can reassure customers that information sent to a centralized cloud for analysis is non-identifiable and aggregated.

## PREDICTIONS FOR CLOUD GAMING

- Today, workloads are primarily run in the cloud.
- In 2025, workloads will move toward the provider edge to reduce gaming lag, with some workloads remaining in a centralized cloud.
- Network is the type of edge that will predominantly be used for cloud gaming.

## EXAMPLE VENDORS WITH SOLUTIONS

- Amazon Luna
- Nvidia GeForce Now
- Shadow

# Cloud gaming

Games are processed in and rendered from the cloud and then streamed to an end-device. Edge computing reduces latency between the end-device and the edge site where the game is hosted. Reduced latency applies to consoles and mobile devices for single-player and multi-player games. There are three main reasons why developers are implementing cloud gaming:

- To reduce hardware lock in: Console agnostic cloud gaming services will mean that end users can use their existing smartphone, tablet or PC to play high-end games.
- To ease gaming on the go: Users can play high-end games on mobile devices.
- To eliminate storage requirements: When games are streamed from the cloud rather than stored on the end device, users can stop worrying about their storage limits.

## End customer benefits

- **Low latency:** Gamer inputs registered in near real-time ensure a good gaming experience and an even playing field for multiple players.
- **High bandwidth:** A better, more immersive experience with high-quality graphics.
- **Flexible and scalable:** Gamers don't need to buy expensive hardware to play high-end games because processing is largely done in the cloud.
- **Reliable connection:** Unreliable connections increase the risk of lag or even disconnection, which can ruin the in-game experience.

## Solution provider benefits

- **Low latency:** A better gaming experience is likely to unlock new potential customers and increase the amount of time current customers spend on the game.
- **High bandwidth:** Developers can use high-quality graphics without the potential for them to be degraded if the gamers' connection cannot handle the bandwidth.
- **Flexible and scalable:** Providers can better address casual gamers unwilling to invest in expensive hardware.
- **Reliable connection:** A better gaming experience is likely to unlock new potential customers and increase current users' engagement and time spent on the game.



## PREDICTIONS FOR IN-HOSPITAL PATIENT MONITORING

- Today, workloads are primarily embedded in devices.
- In 2025, workloads will sit at the enterprise edge to reduce latency while maintaining data security.
- On premises is the type of edge that will predominantly be used for in-hospital patient monitoring.

## EXAMPLE ISVs WITH SOLUTIONS

- care.ai
- DeepMind
- GE
- Zyter

# In-hospital patient monitoring

Patients are monitored using a range of different sensors for data like heart rates and blood glucose levels that inform health care providers of rapid or unexpected changes. There are three main reasons why enterprises are implementing in-hospital patient monitoring:

- To optimize patient outcomes: As insights are gathered from patient data, doctors can treat illnesses more effectively.
- To provide practitioner clarity: Multiple doctors look after each patient in a shift pattern. Clear logging of records and key patient data will help doctors obtain sufficient information to begin work with the patient quickly.
- For data-driven epidemiology: Where patients consent, aggregated data can be analyzed to improve treatment pathways across the population.

## End customer benefits

- **Data analysis:** Analysis of data from sensors means that patients are less likely to need to be disrupted (for example, during the middle of the night) to take readings and be asked about their current condition.
- **Security:** Patients can trust that their data is safely stored since it is not being sent to a centralized cloud but instead residing locally.
- **Mobility:** Moving computation from the devices to the edge will make the devices more lightweight, making them more comfortable for a patient to wear and giving them more flexibility to move around the hospital.

## Solution provider benefits

- **Data analysis:** Data analysis at the edge enables data from multiple sensors to be aggregated, which provides a more holistic picture of a patient's well being.
- **Security:** Data is processed locally and only encrypted data is sent to the cloud, improving security, which might increase the likelihood of solution adoption.
- **Mobility:** Processing at the edge means that the health care provider does not need to invest in many expensive monitoring devices. Edge processing can remove one barrier to adoption and make the ROI more compelling.



## PREDICTIONS FOR ENVIRONMENTAL CONDITION MONITORING

- Today, workloads are run from a centralized cloud.
- In 2025, workloads will sit on the enterprise edge, driving analysis at scale to accommodate the huge rise in sensors.
- Network is the type of edge that will predominantly be used for environmental condition monitoring.

### EXAMPLE ISVs WITH SOLUTIONS

- AVTECH
- Crosser
- Ellab
- FogHorn

# Environmental monitoring

Sensors can monitor the environmental condition of an asset (such as temperature and humidity) to assess its condition in real-time. This solution is applicable across industries like manufacturing and extractive industries, where assets like oil pipes can be monitored. Here is why environmental condition monitoring is being implemented:

- To maximize quality of product: Environmental conditions can significantly affect the quality of end products so optimizing the conditions around machinery is important.
- To reduce maintenance call outs: Understanding the conditions surrounding an asset in real-time helps enterprises call engineers out only when required.
- To trigger alerts for potential emergencies early: Remote assets are expensive to reach and issues can be disastrous (for example, an oil pipeline explosion). Environmental condition monitoring can ensure that unusual changes are flagged early to prevent incidents.

## End customer benefits

- **Data analysis:** Real-time dashboards of asset performance, combining data from many sensors, can be achieved when the information is aggregated at the edge.
- **High bandwidth:** Having a higher bandwidth capacity will enable video monitoring to be used where appropriate, so the asset owner gets a more holistic solution.
- **Reliable connection:** Ensures that the information on an asset is never partial, reducing expensive and slow physical site inspections.

## Solution provider benefits

- **Data analysis:** Most of the data that will be collected will not be useful, such as data indicating normal asset function. Only useful data can be sent to the cloud to reduce back-haul costs.
- **High bandwidth:** High bandwidth lets sensor data be shared rapidly and unlocks the option for video streams to be combined with this data for richer insights.
- **Reliable connection:** Enables the solution provider to connect even the most remote of assets, such as oil pipes. Because data processing happens closer to the asset, it reduces the chance that a network outage affects the solution's performance.



## PREDICTIONS FOR LIVE VIDEO AND BROADCASTING

- Today, workloads run on traditional on-premise equipment.
- In 2025, workloads will sit mainly at the provider edge, balancing speed and scale of compute power required.
- Network is the type of edge that will predominantly be used for live video and broadcasting.

## EXAMPLE ISVs WITH SOLUTIONS

- AVIWEST
- LiveU
- Open Broadcast Systems
- Zixi

# Live video and broadcasting

High quality live broadcast uses significant bandwidth and there is a need to optimize streams quickly, without transporting all raw data through the network. Optimizing these streams could also enable new customer experiences, such as the ability to switch camera views in real time. There are two main reasons why an enterprise will use edge computing and 5G for live video and broadcasting:

- To increase viewer engagement: Events like sports that are broadcast live bring an extra level of excitement to viewers, and their experience can be enhanced by features in a companion app.
- To bring viewers closer to the action: More mobile cameras bring viewers closer to the action, increasing engagement.

## End customer benefits

- **Low latency:** Latency is key for a viewer; it ensures a smooth image of live video. Live features (e.g., interactions with viewers) can augment viewing experiences.
- **High bandwidth:** It gives the viewers a higher quality image.
- **Reliable connection:** Streaming live broadcasts on 4G networks is often suboptimal and unreliable for the viewer. Using 5G connectivity and the network edge can improve reliability.
- **Data processing:** Processing data at the edge can optimize streams, allowing viewers (even those at the venue) to stream live video to see multiple views.

## Solution provider benefits

- **Low latency:** A better viewing experience is likely to attract more viewers. It opens up the possibility of extra monetizable live features, such as micro betting for sports.
- **High bandwidth:** A higher quality, smooth image is likely to attract more viewers, particularly if the experience can rival the experience of going to a live event.
- **Reliable connection:** It expands the potential viewer base since streaming live video using remote networks will suffice for mass adoption of on-the-go viewing.
- **Data processing:** Content like advertisements and statistics can be cached at the edge to reduce the broadcaster's backhaul costs.



## PREDICTIONS FOR IMMERSIVE EXPERIENCE SOLUTIONS

- Today, immersive experience solutions are primarily embedded in devices like AR headsets.
- In the future, immersive experience solutions will leverage the provider edge, making them not only flexible but also real-time applications.
- Network is the type of edge that will predominantly be used for immersive experience solutions.

## EXAMPLE ISVs WITH SOLUTIONS

- Memomi
- Modiface
- Tanishq

# In-store immersive experiences

The increased use of the internet for shopping and procuring services has left companies like shops and banks looking to deliver innovative experiences to draw people back into their stores. Immersive experiences, such as augmented reality changing rooms or personalized signs, can help attract shoppers to stores. There are two main reasons why enterprises are implementing immersive experience solutions:

- To increase conversion rates and time spent in a store: Innovative experiences keep customers in stores for longer and increase the likelihood of a purchase being made.
- To differentiate their experience from competitors: Providing a better in-store experience is a way beyond pricing to set a brand apart from competitors.

## End customer benefits

- **Low latency:** Customers can interact with applications in real time; e.g., they can be shown using AR lenses what the dress they're trying on looks like in another color. Inputs need to be registered immediately for an immersive experience.
- **High bandwidth:** Immersive, high-quality experiences require high-quality graphics.
- **Scalability:** New and different user experiences can be added flexibly, making repeat visits to the store more likely.
- **Mobility:** Experiences can be offered on mobile devices or tablets as customers move through the store.

## Solution provider benefits

- **Low latency:** The solution will only be truly immersive if it is highly responsive to customers' movements and inputs.
- **High bandwidth:** A higher quality image might increase sales. For example, if a customer is virtually trying on a piece of clothing and it looks better, the customer is more likely to buy it.
- **Scalability:** Immersive experience solution providers can innovate and update their application regularly without the need to go to individual sites.
- **Mobility:** Stores do not need to have a large communications room on site and can instead use the service provider edge.



## PREDICTIONS FOR SMART CITY TRAFFIC MANAGEMENT

- Today, traffic data is collected and stored on cameras and traffic lights.
- In 2025, smart city traffic management will take advantage of the RAN and provider edge, which will handle increasing amounts of data.
- Network is the type of edge that will predominantly be used for smart city solutions.

## EXAMPLE ISVs WITH SOLUTIONS

- Teledyne FLIR
- TRL Software
- Swarco
- Swim

# Smart city traffic management

Smart city traffic management uses inputs from a series of strategically placed cameras and sensors to optimize the flow of traffic, reduce emissions, maintain highway safety, and enforce compliance with speed limits. Here is why local governments are implementing smart city traffic management:

- To increase road safety: Real-time warnings to drivers and management of infrastructure (for example, diversions, opening up hard shoulders) can reduce the chances of road traffic incidents.
- To reduce congestion and air pollution: Less idling and traffic jams ensure better air quality, especially in urban areas.
- To incentivize greener modes of transport: Traffic lights can be automated to give buses smoother journeys than cars, and real-time routing can help buses meet demand dynamically.

## End customer benefits

- **Data analysis:** Effective data analysis is required to provide beneficial suggestions, e.g., diverting a driver only when it will reduce travel time. For the system to be effective, drivers need to trust it, so suggestions need to be accurate.
- **High bandwidth:** Large numbers of sensors will ensure that a rich overall picture of the road system is built, making the solution accurate and valuable for drivers.
- **Flexible and scalable:** The bandwidth capacity can be changed in response to demand to ensure the system runs smoothly during peak times like rush hour.

## Solution provider benefits

- **Data analysis:** Accurate and real-time data analysis is critical for effective traffic management, which will improve reputation and therefore lead to wider adoption.
- **High bandwidth:** Handling data from many data sources (connected traffic lights, roadside cameras, cars themselves) requires a high-bandwidth connection with processing at the edge.
- **Flexible and scalable:** Flexibility in the amount of bandwidth capacity, based on demand, will reduce costs by only paying for what you use.



## PREDICTIONS FOR DIGITAL TWINS

- Today, workloads primarily run in the centralized cloud.
- In 2025, workloads will sit on the enterprise edge to reduce latency while maintaining data security.
- On premise is the type of edge that will predominantly be used for digital twins solutions.

## EXAMPLE ISVs WITH SOLUTIONS

- Dassault Systems
- HumanDrive
- IOTICS
- QiO Technologies
- SmartHub.ai

# Digital twins

Digital twins are exact software copies of a physical environment — they can be used in almost all vertical industries. Telecom operators can tap this technology themselves (for example, to build a real-time digital twin of their own networks) or enable this use case for their customers. There are two main reasons why enterprises are implementing digital twins:

- To increase visibility of their assets and make data-driven decisions: Having a digital twin ensures that employees have a complete, up-to-date and searchable picture of what assets exist and how they interact.
- To run risk-free scenario modeling and testing: Tests can be run on the software environment to better understand the effects of changes made in the physical state.

## End customer benefits

- **Low latency:** Low-latency inputs from sensors and connected devices can be registered in real time to see the effects on the twin environment.
- **High bandwidth:** Large numbers of sensors are needed to make the digital twin accurate.
- **Security:** The use of a (potentially dedicated) 5G network and on-premise edge computing means business-critical information is secure and never has to leave the customer's premise.
- **Data processing:** Data processing can be done at the edge to extract valuable insights from modeling or testing without the expense of the centralized cloud.

## Solution provider benefits

- **Low latency:** Low latency is needed to provide the accurate, up-to-date mapping that the solution hinges on.
- **High bandwidth:** It makes realistic and in-depth modeling and testing feasible.
- **Security:** The solution is more likely to be adopted in highly security conscious industries like manufacturing if data security and sovereignty can be maintained.
- **Data processing:** Solution providers can ensure that the cost of the solution is not made prohibitively high through the cost of cloud services.



## PREDICTIONS FOR AUTONOMOUS GUIDED VEHICLES

- Today, workloads primarily run on software embedded into the AGVs.
- In 2025, although safety critical features will be embedded in the AGVs, routing optimization will occur at the enterprise edge.
- On premise is the type of edge that will predominantly be used for AGV.

## EXAMPLE ISVs WITH SOLUTIONS

- AutoGuide Mobile Robots
- Cerexio
- e.GO
- EK Automation

# Autonomous guided vehicles

Many industrial sites use vehicles operated by people for transportation of products, goods or raw materials. Autonomous guided vehicles (AGVs) can help reduce operational costs and improve efficiency.

There are three main reasons why enterprises are implementing AGVs:

- To improve site efficiency: AGVs can operate 24/7/365 helping to ensure a site can stay running continuously.
- To reduce costs: AGV solutions help reduce the costs associated with operating vehicles.
- To avoid human error: Materials and goods will always be in the right place at the right time.

## End customer benefits

- **Low latency:** The lower the latency, the more optimized the routing of the AGVs can be, which provides operational benefits for the AGV owner.
- **Data analysis:** Vehicles can be guided to the most efficient routes and these can be continuously optimized if data analysis occurs at the edge, increasing productivity.
- **Security:** Operational data collected and analyzed at the edge can help ensure that it is stored securely.

## Solution provider benefits

- **Low latency:** Ultra-low latency is needed to react to dynamic situations and ensure that, for example, the AGVs can navigate around each others' paths without collisions.
- **Data analysis:** Safety critical data is still kept on the AGVs themselves, but data analysis at the edge lets you aggregate data from the AGVs in operation.
- **Security:** Data will be processed at the edge and only encrypted data will be sent to a central cloud, reducing the risk of a data breach or issue.



# Telco Cloud Platform Edge

VMware Telco Cloud Platform Edge is a multi-cloud platform adapted for the edge to modernize the network and monetize 5G. The platform's automation centralizes management of distributed edge services. Operational consistency cost-effectively streamlines the deployment of edge services across common infrastructure. And access to a multi-vendor ecosystem helps you move in a predictable yet agile way.

Combined with 5G, the edge represents a major opportunity to reimagine communication services, build new compute capabilities, and monetize innovations. Here are the key benefits of VMware Telco Cloud Platform Edge:

- Deploy service provider and enterprise edge sites faster and manage them with less effort through automation and a unified management plane.
- Integrate edge sites into your network modernization efforts by using common, open standard interfaces (ETSI, TMF, and O-RAN).
- Accelerate edge revenues by rolling out differentiated communication services and new offerings through validated partner solutions.
- Keep control of your edge strategy by owning the platform that hosts the services and by having the freedom to select your vendors.

Composed of VMware vSphere, VMware Tanzu Standard, and VMware Telco Cloud Automation, VMware Telco Cloud Platform Edge is deployed on commercial off the shelf (COTS) hardware. The platform can be extended with add-ons like VMware vSAN and VMware SD-WAN and SASE to fulfill telco and enterprise edge use cases.

## MODERNIZE THE RAN TO MONETIZE THE EDGE

Virtualization and cloud-native technology can be extended to the radio access network, bringing efficiency, flexibility, and automation. A common platform can turn the RAN into a 5G multi-services hub that lets you deploy non-RAN CNFs alongside vRAN functions. As a result, you can monetize 5G by quickly introducing new edge services while streamlining operations.

## LEARN MORE

For more information about VMware Telco Cloud Platform Edge, call 1-877VMWARE (outside North America, dial +1-650-427-5000) or visit

<https://telco.vmware.com/>



FIGURE 2: The architecture of VMware Telco Cloud Platform Edge enables you to fulfill various edge use cases with ease and consistency.

## Gain a Cloud-Native Edge

"With network modernization efforts well underway, service providers are now focused on how to monetize 5G services. And how to do it fast. Thanks to cloud-native architectures, time to market for launching new services has moved from months and years to days and weeks."

SANJAY UPPAL, SENIOR VICE PRESIDENT  
AND GENERAL MANAGER,  
SERVICE PROVIDER AND EDGE, VMWARE

# The Edge Game: Monetization

The use cases covered in this paper demonstrate the potential value that edge computing can drive for various industry verticals. What is not yet clear is how significant a role telecom operators will play in delivering these solutions. Their existing capabilities and their level of commitment to invest in the edge market will be determining factors.

The roles that service providers are likely to consider include the following:

**Dedicated edge hosting:** The operator installs, runs and manages edge resources connected to their network. The operator would allow a customer or partner to run its software on top of edge-enabled hardware resources or provide co-location for edge sites. Customers of this sort of service could include those building a virtual content delivery network (CDN).

**Edge IaaS or PaaS:** The operator provides the virtualized infrastructure themselves. Using a portal interface, it can allow customers to access a range of services, such as compute, storage, APIs, and a platform for application development at the edge.

**System integration:** The operator offers turn-key solutions to enterprise customers with requirements that can be met by an edge computing solution.

**End-to-end solutions:** The operator acts as an end-to-end service provider for either enterprise customers or for the consumer market directly.

Whatever role telecom operators choose to play, they are likely to face strong competition. It will be crucial for telecom operators to enter the market early, begin identifying target use cases, and work with application developers to evaluate opportunities quickly.

The use cases in this paper can be enabled by using existing VMware technology.



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