Radisys Engage Media Analytics

Converging the power of Computer Vision, AI/ ML, Edge computing, and Programmable communications to accelerate Industry 4.0 application innovation

Voice and video play a critical part in our digital communications and interactions. The use of conversational assistants in ecommerce and customer care, smart speakers in cars or living rooms, video collaboration, and connected cameras to gain insights from real time streams on streets, factories, shopping malls, healthcare facilities, and farms is rapidly rising. The data volume is staggering, and enterprises are challenged to use this data promptly, effectively, and cost-efficiently.

Recent advances in Artificial Intelligence (AI) and Machine Learning (ML) technology, along with the "connected everything" potential of 5G IoT are game changers in enabling enterprises, service providers, and systems integrators to analyze live video and audio traffic in their networks and monetize it.

Opportunities and Challenges

Opportunities in real time media analytics are increasing rapidly. The growth of private and public 5G networks has made it easy for HD-video cameras to be connected wirelessly, allowing IP cameras to be placed in locations that don't need a wired connection and expanding the marketplace for media analytics (think remote sites like oil derricks and mines or connected drones). The fall in prices for video cameras, the maturing of analytics algorithms, and the rise in inexpensive processing power at the edge have combined to bring analytics to a broader audience cost-effectively. Those who get valuable data from ongoing audio and visual footage will be a step ahead of the competition, gaining valuable business insights, raising productivity, and improving safety.

> Video analytics market size expected to grow at CAGR of 22.7% to nearly
> **$22 billion by 2027**

> Voice analytics market will grow at CAGR of 20% and hit
> **$1.95 billion by 2026**

Traditionally, the challenge has been in the complexity of integrating media analytics and real time communications into existing and new business applications to help drive new business efficiencies. The **Radisys' Engage Media Analytics** solution enables computer vision and audio analytics in a scalable and cost-effective manner. It provides the programmable flexibility to configure, manage, understand, and act upon the events seen and heard on live and recorded audio and video streams. With this, enterprises, service providers, and SIs can use the Radisys platform to provide instruction on "what to look for" in an existing real time audio or video stream – without any upgrade to end point equipment.

Engage Media Analytics Simplifies Integration of Real-time and Non-real-time Audio and Video Analytics in Business Workflows

Engage Media Analytics, a subsystem of Radisys' acclaimed Engage Digital Platform, is all you need to use to gain new insights into your business and improve relationships with your customers. It analyzes real time voice and video and enables applications (and people) to act upon insights gathered, while providing easy-to-understand dashboards, and reports.

Engage Media Analytics is an all-in-one solution for gathering audio and video from media inputs, such as live camera feeds, audio from microphones, and is easy to incorporate into existing business and real-time communication workflows. Non-technical users can design the desired workflows with an intuitive, drag-and-drop, no-code interface, and ready-to-use widgets & templates. There are over 200+ analytics models to choose from, or you can bring your own. Access to developer resources to develop customized vision models is available, as is

Key Challenges Solved by Engage Media Analytics

- ✓ Cloud-based scalability
- ✓ Deployable in public cloud, private cloud, on-premises
- ✓ Ready-to-use Low Code/ No Code templates to create workflows
- ✓ Over 200 analytics models to provide analytics-as-a-service
- ✓ Integration with telecom networks
- ✓ Bring your own media analytics models
- ✓ Seamlessly integrated with real-time communications

enhanced programmability via Application Programming Interfaces (APIs) and client Software Development Kits (SDKs) for existing application integration.

The platform is open and expandable and regularly adds new analytics intelligence. It can be deployed in public and edge cloud as well as on-premises network deployments (including hybrid cloud and on-premises implementations). It is scalable, cost-effective, and uses edge processing to ensure that compute-intensive video applications meet latency, performance, and privacy expectations. It also accelerates time-to-market for new 5G-enabled digital engagement services and significantly reduces the cost of ownership compared to public cloud-based solutions. This deployment flexibility also reduces the cost of data communication, enabling local breakout for processing and transmission to central network or data processing only as needed.

A Single Solution for All Your Media Analysis

Engage Media Analytics is a comprehensive solution that cost-effectively provides you with tools to get strong, actionable intelligence from live and recorded media streams.

The AI-based media analytics systems can automatically detect and classify different sounds and track audio activity over time. It can also identify and classify speech, allowing for more accurate transcription and analysis of conversations. Furthermore, AI can detect anomalies in audio data and identify patterns, which can help with more precise and detailed insights. The system can also generate automated responses to audio data, enabling real-time audio analytics.

Likewise, the Engage Media Analytics platform can be used to automate the process of analyzing video. It detects and recognizes video patterns, such as people, objects, or activities. It can also automate the process of tracking and analyzing video data, such as facial recognition, motion detection, and object recognition. It can be used to identify trends and anomalies in videos, such as suspicious activity or security risks.

Engage Media Analytics uses five components, working together as a single solution, to analyze real-time media. The components include: **Media Endpoints, Media Pipeline, Media Visual Designer, Media Dashboard and Media Reports.**

MEDIA ENDPOINTS

An endpoint is a device that captures voice and/or video input—for example, an IP camera, a microphone, or an IoT device capable of streaming media. Endpoints can provide static or dynamic output (which supports Real Time Streaming Protocol (RTSP) and HTTP Live Streaming (HLS)).

MEDIA PIPELINE

Media Pipeline collects and analyzes media input and preserves them, associated metadata, and watermarked video streams for long-term storage. The Pipeline can watermark images on objects such as type (e.g., car, person, dog), characteristics (e.g., color, gender, age), and others from within a defined region of interest. Examples of supported events include:

- Face detection
- Face recognition
- Object detection
- Object recognition
- Object tracking
- Audio detection

The Pipeline generates events and sends them to the Engage Digital Platform for insight visualization and taking desired action such as notifying the stakeholder via message or voice call.

MEDIA VISUAL DESIGNER

The Engage Visual Design Studio is a simple, easy-to-use, drag-and-drop, flow design studio that supports a collection of media analytics widgets to create, configure, and manage the media endpoints.

The studio includes an editor, a GUI-based canvas area environment to create media pipeline flows, and a Widget Panel List. Media pipeline flows are designed using various objects in the canvas area where you drag and drop elements, link, and configure them.

Media Analytics widgets include:

- Object Detection
- Object Classification
- Audio Detection
- Face Recognition
- Parallel
- Sink
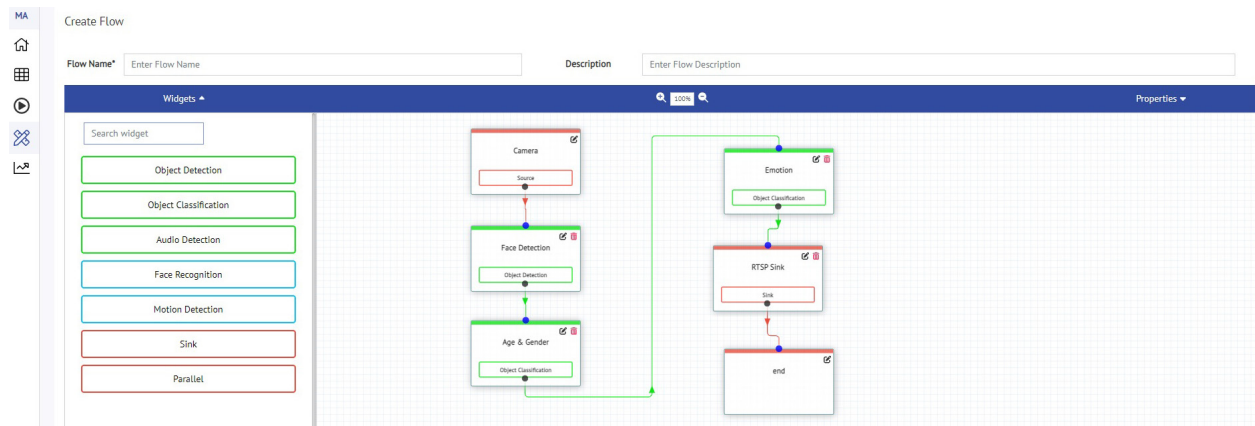
MEDIA REPORTS

Media Reports allows users to view and export reports based on location, endpoint, date, and other filters. Users can view live video feeds from cameras and pre-recorded clips.

MEDIA DASHBOARD

The Media Analytics Dashboard graphically represents trends, outliers, and patterns in your data on an interactive dashboard with charts, graphs, gauges, and more. The Dashboard lets users query and visualize the analysis of the data and graphically represent trends, outliers, and patterns. Users can track, analyze, and display real-time search, monitoring, and analysis of business and operational data for use cases such as application monitoring, log analytics, observability, and website search.
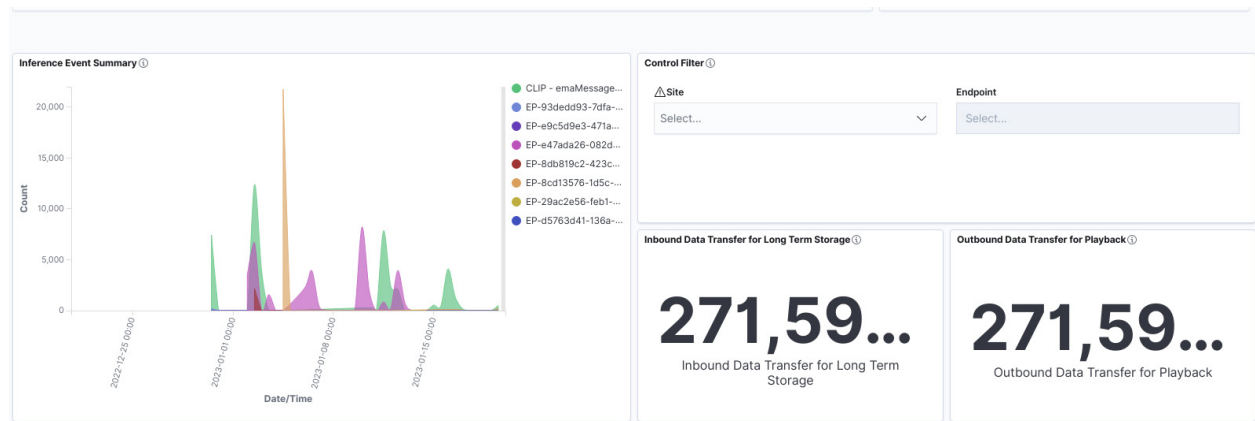
Use Cases for Engage Media Analytics

USE CASE 1
Increasing Productivity on the Farm

The agricultural community is using video analytics to:

- Improve operations with drones to track and count cattle and determine the best paths autonomous vehicles should take

- Count and identify the types of insects in the fields and weeds in the crops to determine proper pesticide usage, lowering costs

- Send alerts when anintruder enters restricted areas with perimeter checking

USE CASE 2
Enhancing Healthcare

The medical field is finding innovative ways to use video analytics:

- From at-home or nursing home patient monitoring to checking for falls to spotting anomalies with image diagnosis (e.g., x-rays, MRIs, CAT scans) that humans cannot see

- With cameras that can detect patients leaving their rooms when unsafe, spot abnormal behavior in psychiatric hospitals

- To send alerts when restricted areas are accessed

USE CASE 3
Improving Public Safety

Municipalities are using media analytics:

- To enhance public safety with microphones that hear a yell for help or the sound of a gunshot.

- Using IP cameras that monitor traffic to detect vehicles driving the wrong way on the street, pedestrians crossing a highway, and help police locate specific vehicle by searching for a license plate number or make and model

- To count the number of vehicles passing an intersection to improve traffic flow

- For crowd management in public places that can be monitored and send alerts when a pre-determined number is surpassed

USE CASE 4
Making Retail More Efficient

Retailers are harnessing the power of media analytics to enhance productivity:

- Use mobile cameras in grocery stores to inform staff when restocking shelves is needed and to make counting inventory a simpler, less time-consuming ordeal

- Count the number of people entering and exiting a store and correlate it with sales

- Use journey mapping to determine the routes shoppers take on-premises

- Use facial recognition to inform sales when a high-value shopper arrives and alert security when known shoplifters enter the store

Conclusion

The convergence of 5G, AI/ ML, edge computing, and programmable media analytics is a powerful tool that can be used to improve safety, detect fraud and security threats, improve customer relations, and raise productivity. There are endless possibilities for programmable media analytics to accelerate Industry 4.0 innovation across various verticals such as airports, seaports, manufacturing, warehouses, transportation, oil & gas, construction, and hospitality.

The Radisys Engage Media Analytics solution provides you with the easy-to-use tools and processes to create actionable intelligence that will help to differentiate your services, save time and money, and provide valuable business insights.

Why Choose Radisys?

- Transformative cloud based solutions that propel service providers towards becoming digital experience providers with programmable communication platforms and applications

- Reaching 2 billion users through 150+ telecom operators globally

- 30+ years of product and operational excellence

- An experienced team of experts collaborate with you to introduce a full suite of locally relevant digital applications

Radisys