NOKIA | room 40

Nokia and Room40

Machine-learning-based video, audio, IoT analytics

What is Nokia Scene Analytics?

Today's conventional technology is preprogrammed to tell a system what to look for. Over 99 percent of video, audio and sensor data records "normal" behavior. The Nokia Scene Analytics solution focuses on the future: it uses machine learning to "learn" what is normal, enabling it to recognize and record only the behavior that might be of interest for safety, security and other services. This reduces the amount of data needing to be processed and alerts personnel to incidents more quickly and efficiently.

Nokia Scene Analytics will alert personnel to an anomaly, but it will be up to them to make sense of it and determine what to do. This will save them time – they no longer have to watch screens or listen to recordings 24/7. It also provides decision-makers with information and alerts, including authorization workflows.

Nokia Scene Analytics can improve cost efficiency because it is capable of extracting information from older, low-resolution CCTV cameras.
Using an innovative real time stream

processing platform from Nokia Bell Labs, Nokia Scene Analytics has the ability to perform analytics on video, audio, social media and other connected streams.

Unlike many analytics solutions that must be preprogrammed to recognize security scenarios, Nokia Scene Analytics machine learning software reflects a transition from requiring action based on the detection of specific, predicted use cases to making a decision based on an unbiased, possible, unpredicted observation deduced by algorithms. Leveraging this unique capability, Room40, a Nokia partner (see below), selected this solution not only to benefit from Nokia video algorithms, but also train the system and develop and implement audio and their own algorithms in real time, taking minutes rather than months.

Nokia and Room40
Video, audio and IoT analytics
based on machine learning

Service stations along highways are an example application for the Nokia solution. Often used as rest stops by long-haul drivers, they are also the sites of vandalism, theft and coordinated drug and human traffic. Unfortunately, the problem of 24/7 video and audio monitoring by personnel directly, private companies, K9's or the use of software processing in the core cloud is prohibitively expensive. Room40 and VIAS, the Belgian knowledge center for road safety and security, are jointly tackling safety and security solutions on Belgian highways using the Nokia Scene Analytics solution. For more information about this solution visit:
www.spacetimeinsight.com/scene-analytics

Who is Room40?

Room40 is a Belgian start-up specialized in contextual solutions for information overload by using text, video, images, sound, social media and other inputs. These solutions are made by an experienced team of specialists. For more information, visit the Room40 website: www.roomfourzero.com
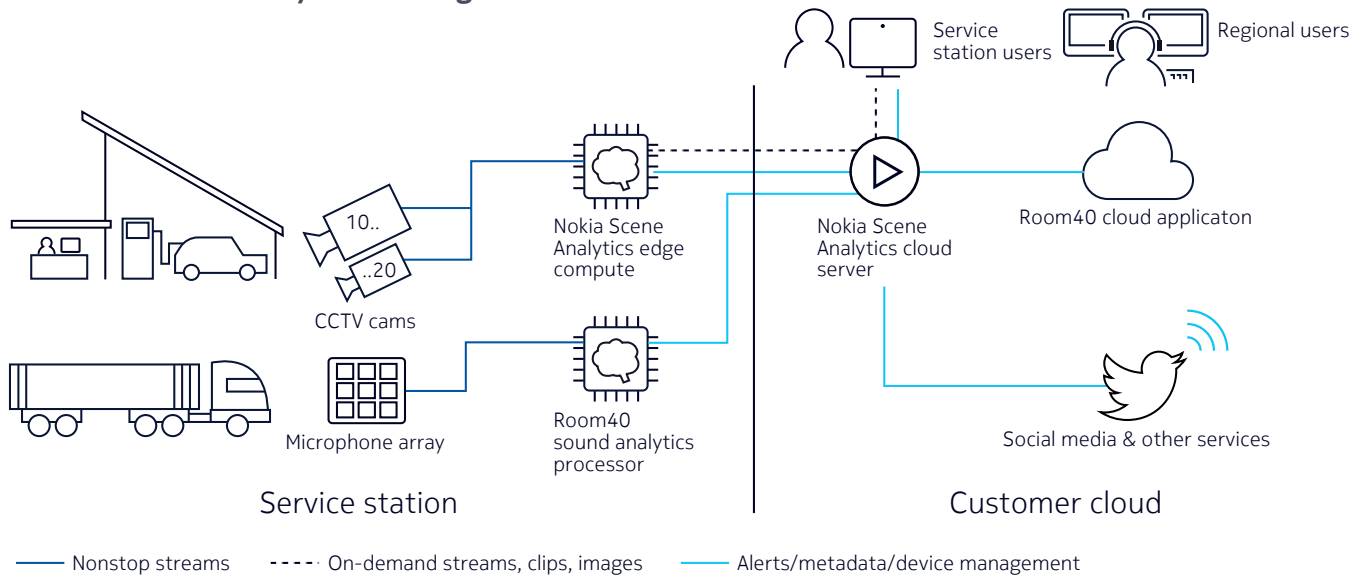
Nokia Smart city solutions

Our innovative 'city as a platform' approach, allows cities to maximize the outcomes they can generate from their digital transformation, for more livable cities and thriving communities.
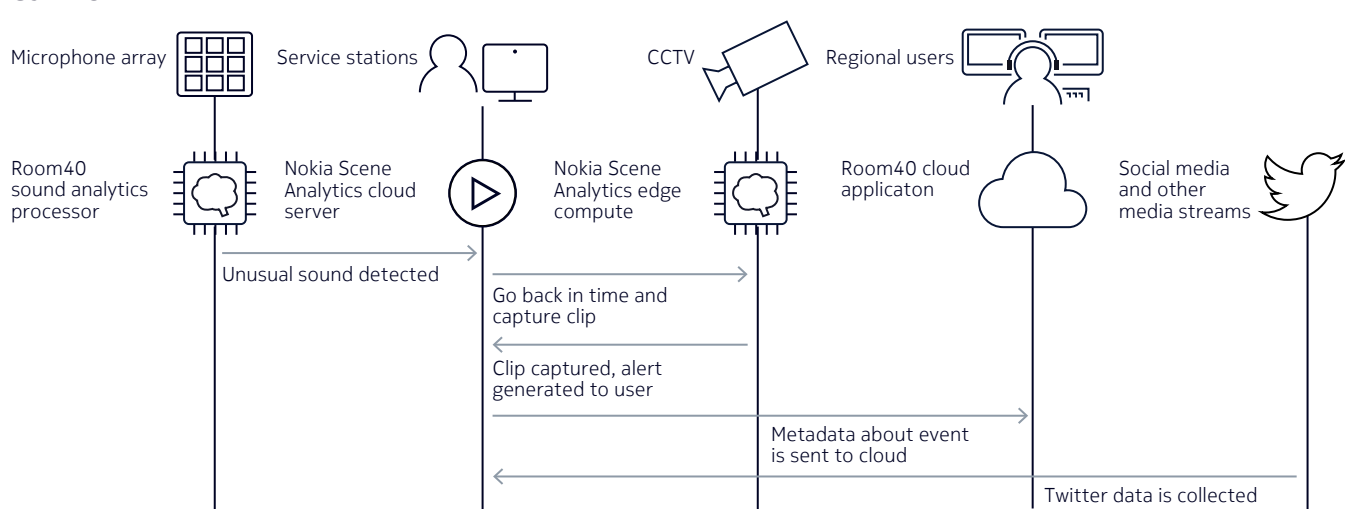www.nokia.com/networks/industries/smart-city

Nokia Scene Analytics high-level architecture

Sound and video analytics alerting

- Service station users
- Regional users
- Nokia Scene Analytics edge compute
- Nokia Scene Analytics cloud server
- Room40 cloud applicaton
- CCTV cams
- 10.. ..20
- Microphone array
- Room40 sound analytics processor
- Social media & other services
- Service station
- Customer cloud

—— Nonstop streams   ----- On-demand streams, clips, images   —— Alerts/metadata/device management

Nokia Scene Analytics high-level architecture

Call flow

- Microphone array
- Service stations
- CCTV
- Regional users
- Room40 sound analytics processor
- Nokia Scene Analytics cloud server
- Nokia Scene Analytics edge compute
- Room40 cloud applicaton
- Social media and other media streams
- Unusual sound detected
- Go back in time and capture clip
- Clip captured, alert generated to user
- Metadata about event is sent to cloud
- Twitter data is collected

NOKIA

About Nokia

We create the technology to connect the world. Powered by the research and innovation of Nokia Bell Labs, we serve communications service providers, governments, large enterprises and consumers, with the industry's most complete, end-to-end portfolio of products, services and licensing.

From the enabling infrastructure for 5G and the Internet of Things, to emerging applications in digital health, we are shaping the future of technology to transform the human experience. **networks.nokia.com**