Solution Brief

Interactive Media
Artificial Intelligence

Empowering Retailers to Create Engaging, Personalized Digital Signage Experiences With Broox Audience Analytics Suite

Broox partners with Intel to help system integrators bring new value to their retail customers through digital signage with AI-enabled audience measurement and interactivity.
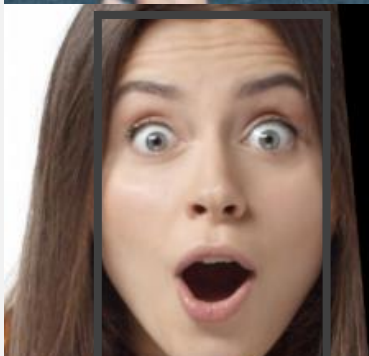
Broox
Intelligent Experiences

Broox Audience Measurement

Capture your audience's attention and emotions.

Gender: Man
Age: Old
% Attention: 100%
Emotion: Happy

Gender: Woman
Age: Young
% Attention: 100%
Emotion: Surprise

Transforming digital signage from traditional to impactful

Retailers have become experts at creating dynamic online campaigns that use personalized customer messaging to drive results. This became possible through enhanced audience measurement capabilities that allow retailers to gain a deeper understanding of their customers and even segment them by key characteristics like demographics and interests. Brick-and-mortar locations have struggled to replicate these efforts with their in-store campaigns, and in-person customers are disappointed with the gap in their experience:

- 51% of customers say that brands aren't personalizing their experiences enough because data is inaccurate or not up-to-date[1]

- 82 % of customers say most brands have significant room for improvement in delivering a consistently exceptional experience[1]

Experiences in physical stores also affect customers' digital spending: 65% of consumers say they are likely to spend more online with a brand if they have a positive in-location customer experience[2]. Additionally, not investing in personalized digital experiences leaves revenue on the table. Boston Consulting Group estimates that that the upgrade to more personalized digital in-store experiences will unlock over $100 billion in revenue for stores[3]. So why haven't more retailers jumped on board?

Systems that integrate enhanced capabilities like interactive storefronts can be complex to manage, and are not equipped with features that enable retailers to measure the business impact of their digital signage campaigns or understand their customers. Digital signage companies and system integrators (SIs) who work with retail customers are looking for solutions to overcome these challenges and maximize the value that they can bring to in-person stores. But can they find something that's easy to integrate, hardware agnostic, scalable, and trustworthy? Cue: Broox Audience Analytics Suite.

The Broox Audience Analytics Suite: Empowering Digital Signage Companies and SIs to drive better outcomes for their customers

The Broox Audience Analytics Suite is a plug and play video intelligence solution that can be embedded into any digital signage software and hardware, enabling analytics on top of the signage that retailers are already using. The key capabilities of Broox include:

- **Measurement and analytics:** Empowers retailers to understand their audience through actionable insights and measures campaign performance with personalized analytics reports.

- **Detection at the edge:** Detects demographic, emotion, dwell time, passers-by, and gestures and delivers personalized advertising accordingly.

- **Intelligence and interactivity:** Engages customers with interactive content that targets audience profiles and reacts to gestural motions.

The platform democratizes computer vision and IOT management using large networks of interactive systems based on digital signage supports. It runs on most common hardware and integrates with any digital signage system on the market. The Broox solution enables Digital Signage Companies to enhance the value of their offering with new capabilities and empowers SIs with a simple-to-integrate solution that will drive real results for their customers.
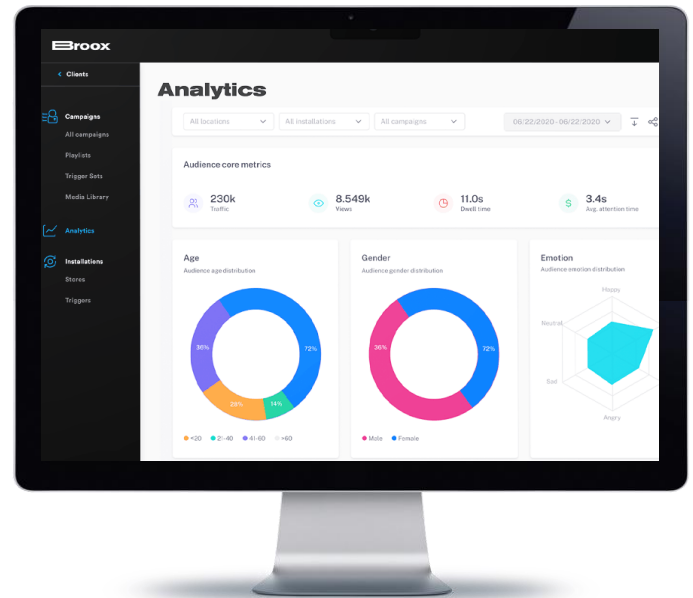

Figure 1: *Broox Studio Dashboard*

Benefits For System Integrators

Set up quickly: Leverage equipment and systems that retailers already have or easily integrate with new ones using flexible APIs.

Scale easily: By using the Intel® Distribution of OpenVINO™ Toolkit, the solution can seamlessly transition up and down across computing power needs. Ease of integration also enables SIs to scale seamlessly across a single customer's businesses or to multiple customers, enhancing profitability. In instances of large-scale rollouts, setting up monitoring and alerts is straightforward and easy to manage.

Customize capabilities: Set up the same system at different touch points to maximize value. For example, the same set up could be used for product identification at one touch point and demographic identification at another.

Benefits For Retailers

Increase revenue: Catalyze sales and brand awareness by increasing the rate at which customers choose to enter a store, their time in the store, and the amount of time they interact with the display.

Understand audiences: Get powerful customer insights to inform marketing strategy and approach to customer experience

Improve customer experiences: Use data to personalize each audience experience in a way that connects with their interests and desires

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Deployment & how it works

1. **Plug in a camera:** Plug any standard camera into your digital signage media player. Alternatively, Broox can help you deploy a solution from scratch.

2. **Install Broox software:** Install Broox software, also known as Broox Vision Node, in your media player and start capturing real-time events and gathering insights.

3. **Monitor and deploy your network of cameras:** Open Broox Studio to instantly start collecting data and insights on dashboards. Display reports, monitor camera statuses, and update your video analytics network through an easy-to-use web interface.

4. **Integrate Cloud API:** Merge the Broox Studio Dashboard with your existing CMS and see all dashboards with in one holistic view via API.

The Broox Platform is GDPR and CCPA compliant and doesn't collect any personal data. The software runs locally on the edge, where the incoming video signal is processed and analyzed. Because it runs in real time, every image is automatically deleted after being processed, meaning that no images or videos are sent to a Broox Server or through internet or any other network. Broox software detects and analyzes faces, but doesn't recognize them— the software can't identify a particular person. Audience data is generated from aggregate measurements of passers-by.

The Broox Platform functions as a Software as a Service, and can scale as customers scale. For each instance of the Broox Vision Node, there is a license fee per month and per player. Each node can handle a certain amount of camera streams. From the customer perspective, this breakdown is not visible and can instead be framed as an "add on" to digital signage software providers.

What sets Broox apart?

Small form factor: Empower the processing and inferencing performance needed to run detection capabilities without taking up significant space.

Customized detection models: Take advantage of Broox's constantly updated pre-trained library and work with Broox to create your own custom models to detect a new feature of an audience

Deploy and monitor cameras: Set up cameras without using code and be alerted instantly if one is having an issue so as not to miss out on valuable data.

Privacy and safety compliance: Maintain peace of mind knowing that Broox is GDPR and CCPA compliant by design, and all video signal is processed at the edge.

Technology agnostic set-up: Integrate seamlessly with any digital signage media player and OS, camera, and content management software.

Actionable audience insights: Measure the effectiveness of your campaign through vision intelligence and better understand your audience segments.

Interactive capabilities: Wow customers through digital interfaces that can react to human behavior, like raising a hand or smiling.

Large compute capability: Handle hundreds of detector instances simultaneously by running analytics in the cloud.

Seamless dashboard integration: Integrate with your digital signage and CMS dashboards so you can get all of your information from one place.

3rd Party DOOH Player

API

Broox Vision Node

PC

Broox Server

API

Broox Studio

CMS Platform
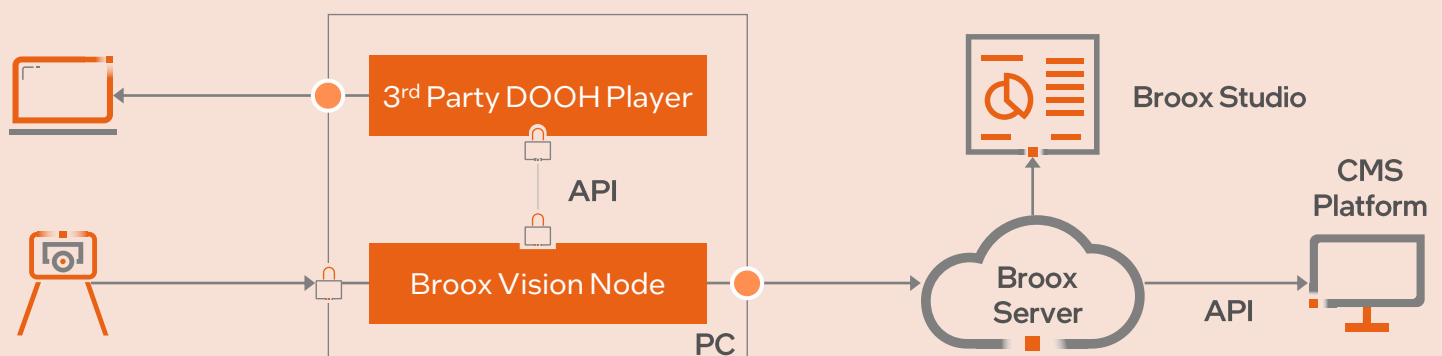
Broox leverages the capabilities of Intel® technology to deliver optimized performance

Intel® Distribution of OpenVINO™ toolkit: Intel® Distribution of OpenVINO™ toolkit is used by Broox to improve performance by expediting inference engine processing and optimizing AI for Intel platforms, so machine learning models can keep up with and process heavier loads of data. OpenVINO™ toolkit also provides the capability to deploy prebuilt modules to detect and track the video feed of any digital camera, as well as support multiple cameras. OpenVINO™ enables scaling up and down across compute power and is flexible across Intel hardware including Intel® Core™ Processors, Intel® Movidius™ VPUs, Intel® Iris® Xe MAX Graphics, and other processors.
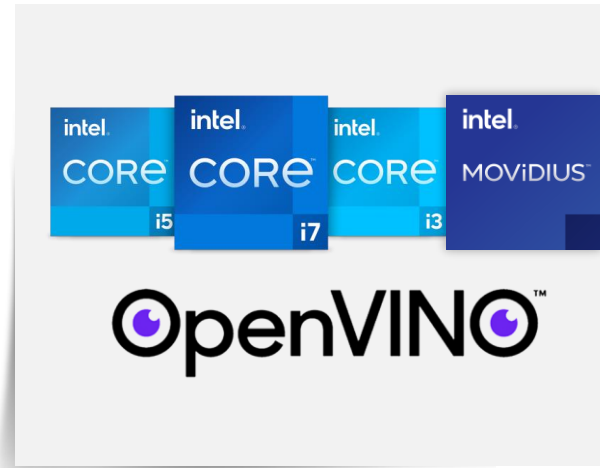
Intel® Movidius™ Myriad™ X Vision Processing Units: The Intel® Movidius™ Myriad™ X Vision Processing Units enable computer vision and deep neural networks in intelligent cameras. Using these VPUs empowers retailers to run AI across hundreds of devices with potentially different operating systems.

Intel® NUC: The Intel® NUC serves as a small form factor, inexpensive PC to run the necessary inferences at the edge. Its combination of high performance and small size means easier set up and more time to think about how the solution will work instead of where it will be housed. By using an Intel® NUC, Broox users can customize the PC experience for digital signage in a way that prioritizes quality, performance, and long-term reliability. The Broox Platform is runs on Intel® Core™ Processors and is optimized with the OpenVINO™ toolkit.

Intel® RealSense™ Cameras: If cameras are not currently installed on the premises, or if customers want to supplement their current infrastructure to add new capabilities, they can work with Broox to deploy Intel® RealSense™ cameras. These enable 3D depth-sensing capabilities to help with data collection, such as only collecting data on people who are a relevant depth away from the camera or are in the relevant areas of the store.

Broox in action: Perfumerias de Julia

Challenge

Perfumerias Júlia, an international perfume retailer, planned to launch a new luxury cosmetic brand called Júlia Bonet. To support the launch, Júlia Bonet developed a new store concept based on digital signage in order to boost brand awareness and interaction with consumers.

Solution

Júlia Bonet's system integrator deployed a solution using the Broox Platform as the command center for all digital installations in store, including smart digital signage, audience analytics, and a "place and learn" interactive table.

Results*

20%	**30%**	**40%**	**15%**	**50%**
store entrance increase	interactions increase	attention time to ads increase	in-store time increase	area traffic increase

*Data from internal tests results of Broox. Intel does not control or audit third-party data. Please review the content, consult other sources, and independently confirm if the data provided is accurate.

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In summary

The Broox Audience Analytics Platform boosts retail success through targeted marketing, personalized experiences, and data-driven insights. Are you interested in integrating vision intelligence into your digital signage displays? Talk to the experts at Broox to learn about the possibilities at https://broox.io/contact-us/.

Learn More

To learn more about the Broox Audience Analytics solution, visit:

- Broox Audience Analytics Suite Webpage
- Julia Bonet Case Study

To learn about Intel® technologies, visit:

- The Intel® Distribution of OpenVINO™ Product Page
- Intel® Core™ Processor Family Product Page
- Intel® Movidius™ Myriad™ X Vision Processing Units Product Page
- Intel® RealSense™ Product Page
- Intel® NUC Product Page

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About Broox

Broox is a technology company based in Europe whose platform transforms brand spaces into interactive, smart and memorable experiences. They proudly partner with creative agencies, retail marketers, spatial designers, system integrators, and manufacturers to collaborate on experiential solutions.

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Sources

1. Revisiting the Gaps in Customer Experience, Redpoint Global, 2021
2. How Retailers Can Leverage Digital Signage, Forbes, 2022
3. The $100 Billion Media Opportunity for Retailers, Boston Consulting Group, 2021

Notices & Disclaimers