

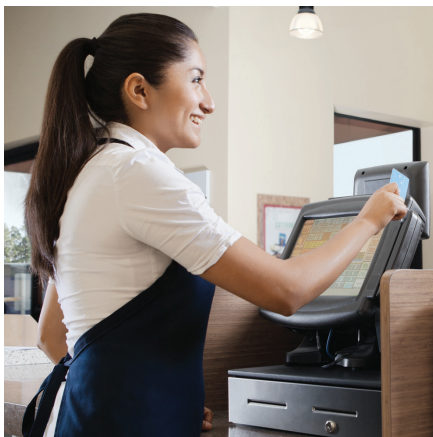
## SOLUTION BRIEF

Intel® Core™ i3 processor, Intel® NUC  
Retail



# Intel® Architecture Brings Real-Time Analytics to the Point of Pour

BarVision uses real-time, at-the-source analytics to help bars innovate with high-performance, low-power systems based on Intel® architecture



“Intel® architecture was chosen for this solution because BarVision needed to have enough horsepower in the devices to run the algorithms, even in a battery-operated, low-power environment.”

– Joe Casey, *Manufacturer Rep.*,  
Thom Luke Sales

Bars and other venues are beginning to collect data about the exact amount of liquid dispensed each time beer or liquor is poured. Carefully measuring the pour is one way to address the issue of lost revenue from over-pouring. These systems precisely monitor the amount of the pour, and they integrate with the bar's point-of-sale (POS) and inventory systems to access recipes, control costs, pinpoint trends, and more.

Beyond controlling pour costs, innovators in the bar industry are looking to mobile computing to help them expand into new areas such as kiosks, cart-based bars, and other mobile applications.

Phoenix-based BarVision supports bar innovation with a line of Intel® architecture-based products. These systems offer the low-power and high performance needed to monitor pours and also provide critical information to give the bar owner a competitive edge.

## The Pour Cost: An Important Piece of the Inventory Puzzle

Pour cost is an important measure of the cost of bar sales. Spillage, unrecorded complimentary drinks, incorrect sales data entered into the POS, and over- and under-pouring are all factors that

can affect this cost. Measuring the pour, which is essential not only in the bar, but in any location where beverages are served, such as off-site kiosks, mobile bar carts, and even at the server's tray, is one way to manage the pour cost.

Measuring the pour is important not only to get a handle on pour costs, but also as a way to provide an accurate picture of inventory. Because the volume of every pour is measured, bar owners and managers know exactly how many pours are left in every bottle.

In addition to ensuring that inventory is available to serve, accurate inventory management allows bar owners to develop projections and place orders without over- or under-ordering, and without costly rush orders. Automatically monitoring inventory depletion from pours and integrating that information with POS data gives bar managers an accurate, on-demand picture of inventory, all without having to go into the back room to count or weigh bottles.

## The BarVision System

BarVision addresses pour and inventory issues with their line of products: BarVision Lite\* for smaller bar operations (up to 100 bottles) and BarVision Platform\* for larger bar operations (up to 1,200 bottles). Each BarVision system starts with data-collection components at the



The BarVision pouring spout wirelessly sends data from its tilt and time sensors to the BarVision Controller.

pour and a controller that collates information and delivers it to the cloud to provide analytics and full bar inventory consulting capabilities.

For racked bottles or draft beer, the system may include a full pouring console that monitors the time and volume of each pour. In addition, the pour volume for un-racked bottles is monitored using individual pouring spouts that include time and tilt sensors.

These pour-monitoring components send collected data to the wirelessly connected BarVision Controller in real time, providing on-the-edge local analytics (see Figure 1). This capability allows for real-time data and feedback without requiring extensive bandwidth.

The BarVision Controller also accesses the bar's POS systems to collect transaction data, matching the pour data with each drink that was rung up. Using this data, the BarVision Controller can spot issues with the POS setup, ensure correct pours, and show any inaccurate entries made by the sales staff.

Small antennae receive the data from the spouts and then transmit it to converters which then send it to the BarVision Controller. The power behind the BarVision Controller is the small-footprint Intel® NUC computer with the Intel® Core™ i3 processor and built-in networking capability. This compact unit can sit in the back office or mount out of the way on a wall as it communicates the collected data to the bar's private BarVision HQ dashboard on the cloud.

The Intel NUC-based BarVision Controller has the multicore processing speed and integrated graphics power to provide real-time information in even the busiest retail settings. Even if a bar environment has gaps in Internet connectivity, the BarVision Controller monitors the access and securely transfers the data when it is online and alternatively can provide access to the data using a local display.

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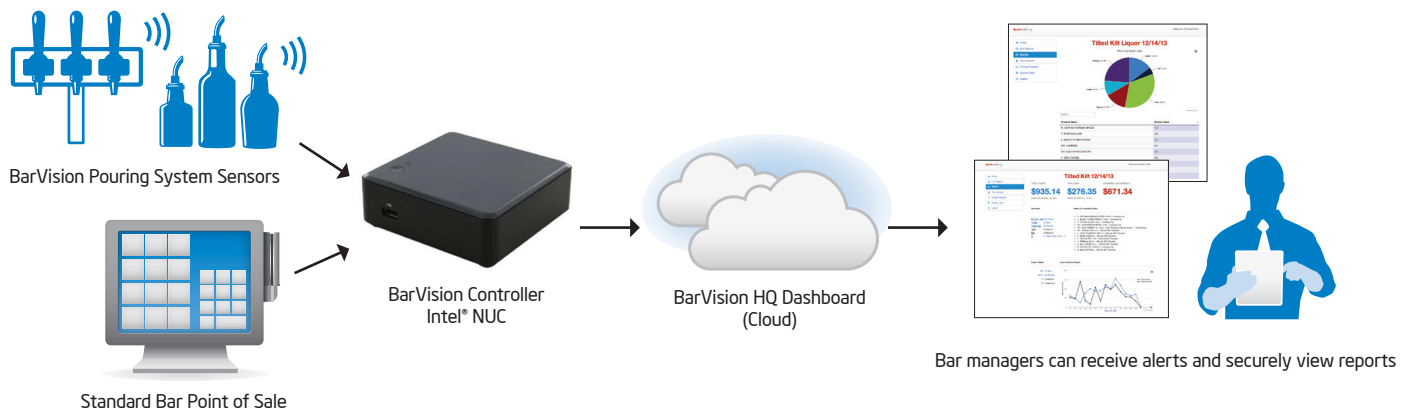


Figure 1. The BarVision system includes data-collection sensors at the point of pour, which wirelessly send data to the BarVision Controller using small antennae. The BarVision Controller correlates data with the point of sale and securely sends data to the bar's private BarVision HQ dashboard on the cloud.

## A Focus on the Data

The focus of the BarVision solution is the data. BarVision HQ is the bar managers' private online dashboard on the cloud that gives access to full pour and inventory analytics designed for ease of use and quick access. BarVision HQ provides secure access to the actionable information that the bar owner and manager needs—not just to raw data that must be imported into spreadsheets and analyzed in order to be useful. This information includes pour data as well as daily pour and inventory reports, and real-time alerts on empty kegs and bottles or other areas that need special attention.

## Going Mobile

Today's bar industry is on the move, getting off the barstool and heading outdoors. Outdoor bar operations include stalls at large events, kiosks at theme parks or other attractions, and even cart-based wet bars at golf courses and other venues with wide-open spaces.

Even in these mobile settings, BarVision allows for controlled beverage service with the same level of data collection and real-time feedback that bar owners expect inside their bar. This level of mobility is being made possible by BarVision with Intel architecture-based systems on carts or even in small backpacks that provide high performance with low power usage.

But it's not just the bar that's going mobile. Today's bar patrons are using their smartphones to choose their next venue,

and discriminating drinkers are using apps to pinpoint the bars that are serving their favorite craft spirits and microbrews.

BarVision is developing an API that will allow bar owners to automate the uploading of their daily or even hourly drink offerings. The company is working with the developers of more than 20 Android\* and iOS\* applications who plan to include the API in their applications.

## Beyond the Pour

In addition to controlling costs at the pour and automating inventory, the BarVision system helps provide data for customer analytics. BarVision partnered with a vendor to develop a system based on the Intel® Audience Impression Metrics Suite that uses anonymous video analytics to give bar managers visibility into demographic information about their patrons. The system uses in-bar cameras to collect video of the bar, then analyzes the video to collect anonymous, non-identifiable data about the patrons to identify the age group and gender of the individuals in the crowd. The system pairs this with real-time pour data to allow bar management to tailor drink offerings in real time and better understand its prime markets.

"Matching pour data with customer demographics gives you a very accurate picture of not only who your customers are, but also what they are drinking," said Aaron Post of BarVision. "This can help bars take their marketing to the next level—whether they are localizing their menus or just looking for the next promotion to offer."

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Measuring pour data and correlating it to data from the POS gives bars a wealth of information. They can correlate this information with a time of day to help them fine-tune happy hour or with bar food sales to see if certain foods are selling better based on the drinks being served. They can even use the data to assess bartender performance, helping strike a balance between bartender popularity, free drink giveaways, and overall bar sales.

## Intel Enables Innovation

BarVision chose Intel architecture for its system because it provides the high processing capabilities at the low power levels the company needs. Making this choice has expanded BarVision's opportunities. Reliable technology coupled with Intel's proven track record in powerful mobile technology has

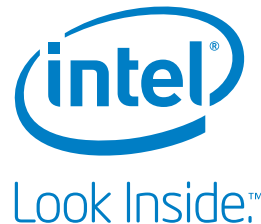
allowed BarVision to offer a larger application set and more sophisticated analytics to a broader customer base. The ease of setup and maintenance of Intel NUC also helped BarVision provide its system to bars with as little impact to operations as possible.

"A lot of solutions out there make you change the way you operate in order to gain any value," said Post. "We went about it the other way, by integrating our system into the way bars are already run, then automating everything as much as possible."

The Intel architecture-based BarVision system helps control costs and greatly improves planning and inventory capabilities for the bar owner, while providing detailed information on pours. These capabilities enable bar managers to more closely focus on the bar's bottom line while having more time to create new business opportunities.

For more information about BarVision, visit [Barvision.com](http://Barvision.com)

For more information about retail solutions from Intel, visit [Intel.com/retailsolutions](http://Intel.com/retailsolutions)



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