

# In-Store Analytics Merchandising Module

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Invented for life



- ▶ Intuitive dashboards with performance indicators and visualizations for merchandisers
- ▶ Reliable and anonymized person-level traffic data through advanced camera-based people-tracking, and cloud-based path analytics
- ▶ Hosted In-Store Analytics platform, operated, secured and maintained by Bosch
- ▶ Scales to the even the largest retail stores, with high camera counts
- ▶ Remote device and data monitoring service to ensure data quality

In-Store Analytics from Bosch is a hosted service solution that provides retailers with actionable insights into store traffic, and so helps to optimize merchandising and store operations.

As part of the solution, Bosch IP panoramic cameras are installed to provide detailed coverage of the retail floor.

The cameras use on-board Intelligent Video Analytics to track shoppers' movements, and their position data, anonymized, is sent to the Cloud where the movements are analyzed.

Actionable dashboards for both merchandisers and operations managers are shared with the retailer through customized web interfaces.

Unlike many systems that need on-site PCs to pre-process the video streams (thus limiting their capacity to a few cameras per site), In-Store Analytics easily scales to cover even the largest retail stores and multi-store chains, with high camera-counts.

The Merchandising Module helps merchandisers to understand how customers move through the store, and so better evaluate the effectiveness of fixtures, product placements and store layouts.

## System overview

In-Store Analytics from Bosch enables Retailers to build up traffic intelligence across multiple stores, with the following components:

- **Site setup service**  
Creation of a camera plan and remote system calibration tailored to the individual site, for the highest data accuracy.
- **Monitoring and storage service**  
Cloud data storage and constant monitoring of device health and data quality.
- **Merchandising Module**  
Browser-based application for merchandisers to gain actionable insights into traffic and customer engagement in any demarcated area within a connected store.

## Functions

### Site setup service

- Creation of a camera plan with camera positioning and orientation tailored to the intelligence requirements of the individual site.
- Remote calibration of all devices, and cloud-based algorithms to achieve high data reliability.

## Merchandising Module

- A browser-based application.
- Located at <base URL>/retail.
- Allows the selection of areas of interest via the **Organizer** menu, and understand the performance of areas of interest via the **Store Insights** menu.

## Traffic visualization

- Application:
  - Identify hot traffic zones ideal for the placement of high margin products and promotions.
  - Identify cold traffic zones to account for low product sales and reveal the need for optimization.
  - Understand what pulls traffic through your store.
- Configuration:
  - Demarcate areas of interest, for example a department within the floorplan, using a graphical tool.
  - Select date and time ranges for analysis.
- Insight:
  - Heat map of hot and cold traffic zones. Traffic counts are displayed in color-coded contour diagrams and legend tables.
  - Heat map comparison, for example of same department across multiple stores.

## Engagement funnel

- Application: Understand merchandising success in engaging customers with product ranges or displays.
- Configuration:
  - Demarcate areas of interest, for example a promotional display within the floorplan, using a graphical tool.
  - Select date and time ranges for analysis.
- Insight:
  - Data Visualization in data table form for analysis and outlier identification. Navigation from aggregated overview down to 15 min granularity.
  - Visualized Performance Indicators: Traffic (total number of passers-by), percentage and number of people dwelling, Mean and median dwell time, percentage and number of people engaging, mean and median engaged time.
  - CSV Export of analysis in 15 min or object level granularity.

## Flow analysis

- Application:
  - Understand how different store layouts and sizes affect customer flows.
  - Verify if store design is driving customer flow to the intended areas.
  - Identify flow-blocks that may be reducing product sales.
- Configuration:
  - Define counting gates at the start and end points of possible traffic flows, using a graphical tool.
  - Select date and time ranges for analysis.
- Insights:
  - Flow-map of the main arteries on the floor plan, for any date and timeframe. Includes color-coded percentage ranges of customer traffic counts.
  - Flow map comparison across different stores.

## Data export

- Scheduled (for example, daily) exports in CSV format to a secure S3 bucket of Engagement Funnel statistics.
- Use the RESTful data API to retrieve In-Store Analytics data and use it within your business intelligence tools.

## Monitoring and storage service

### Monitoring

- Traffic data is constantly monitored for quality and completeness.
- We correct irregularities remotely whenever possible, and provide notification whenever local actions are required.

### Cloud Storage

- Cloud storage of raw position-data, and processed Merchandising Module data, for 2 years.
- Storage of raw position data lets you compare current data with all the historical data for the same demarcated areas since the system was connected.

## Technical specifications

### Network

To connect the IP IVA Cameras to In-Store Analytics, an unrestricted connection from the store-network to the internet is needed. If firewall restrictions are in place, please refer to the In-Store Analytics Network Manual for further network specifications.

### Bandwidth

Bandwidth depends on store traffic. Typical values per camera are:

Peak upstream in Mbit/s	0.22
Average upload in MB per day (24 hrs)	900
Average upload in GB per month	27
Additional upload capacity per site for configuration and maintenance purposes, in Mbit/s	2



### Notice

**Wireless internet connections are not recommended and may lead to loss of position data due to lower availability caused by uncontrollable factors, such as the weather or the number of GSM users in the area.**

### Camera compatibility and settings

Bosch In-Store Analytics is optimized to work with FLEXIDOME IP panoramic 7000 MP IVA (Intelligent Video Analytics) using firmware version 6.30 and later.

### System Setup

- Setup for data availability: To enable recovery of position data, the system setup must allow for a minimum of 3 days' backup of local

recording. This can be achieved through the following local recording solutions capable of recording position data:

Memory Cards	Verify which memory cards are supported on the respective camera's datasheet. For example the FLEXIDOME IP panoramic 7000 MP supports cards from 32GB SDHC to 2TB SDXC . An SD card of Class 6 or higher is recommended for HD recording.
Digital Video Recorders	DIVAR IP 2000/6000 DIVAR IP 5000 DIVAR IP 7000 (including Bosch VMS)

- Setup for data quality:  
In order to track persons accurately Bosch provides a setup service for each new site, creating a camera plan which indicates all camera types and their positions. Only sites thus planned in partnership are supported. The cameras need to be installed exactly as per the camera plan, in accordance with In-Store Analytics Installer Manual.

#### Browsers

Compatibility of web applications has been tested with latest versions of the following browsers: Firefox, Firefox ESR (Extended Support Release), Internet Explorer, Chrome.

#### Ordering information

##### **CBS-INSA-SETUPL One time Site Setup Fee**

Site setup service for each new store.  
Order number **CBS-INSA-SETUPL**

##### **CBS-INSA-MERCHL Yearly Merchandising Module License**

One year license including Monitoring and two year storage service and Merchandising Module.  
Order number **CBS-INSA-MERCHL**

##### **CBS-INSA-COMBOL Yearly License Combo for two Modules**

One year license including Monitoring and two year storage service, as well as Merchandising and Operations Module.  
Order number **CBS-INSA-COMBOL**

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