Light Fixtures
as Active Infrastructure
for Data Collection

Retail stores
use case

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Current Challenges of Retail stores

Longer Customer Decision-Making Process
Customers tend to visit multiple sellers before making a decision, extending the sales cycle.

Efficient Use of Retail and Staff
Optimizing the usage of physical space and personnel resources remains a challenge.

Effectiveness of Marketing Efforts
Difficulty in measuring the impact of marketing activities and events.

High Operating Costs
Retail stores face significant operating expenses, with a need for cost optimization.

Growing Competition
Increased competition puts pressure on retail stores to enhance conversion rates.

PRESTIGE NANO NA2 4000 lm, 28 W, 143 m/W
- Specially designed for retail spaces
- Optical system for ideal light distribution
- Ideal for simply implementing data components without disturbing the design

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# How Does OMS Analytics Help?
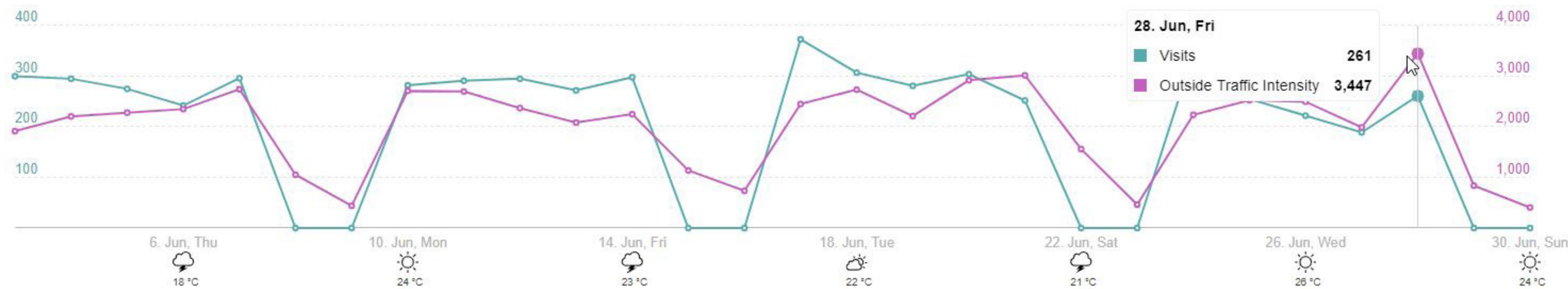
Understanding Customer Behavior
- Accurate Traffic Data: Insight into the number of visitors and their movement patterns.
- Time Analysis: Tracking time spent near specific products.
- Attractive Zones: Identifying the retail areas that attract the most attention

Optimizing Operations
- Staffing Efficiency: Personnel planning based on real attendance patterns.
- Space Utilization: Heatmaps to better allocate and design retail areas.
- Marketing ROI: Quantifiable results of marketing campaigns and activities.

Boosting Sales Performance
- Conversion Opportunities: Identifying areas to increase conversion rates.
- Optimized Layouts: Adjust product placements based on customer interest.
- Data-Driven Marketing: Making informed decisions supported by analytics.
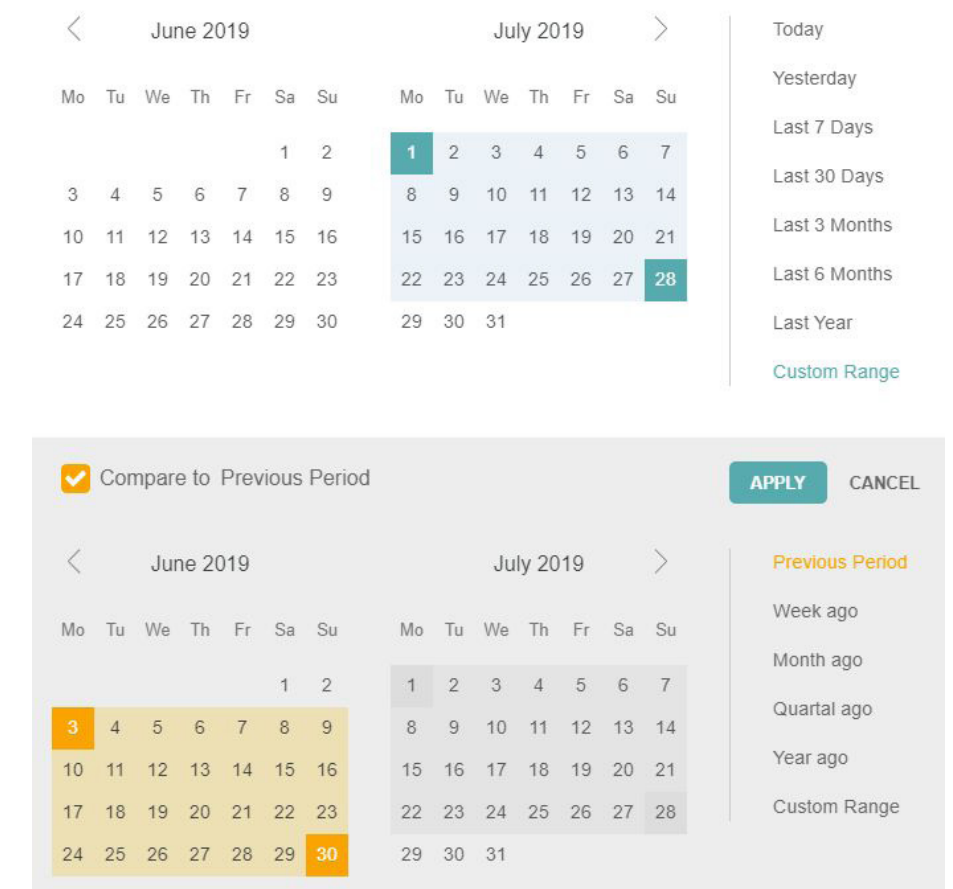
Solution Overview

We propose a comprehensive analytical solution integrating two advanced tools: Traffic Analytics and Journey Analytics. This solution provides a detailed understanding of customer behavior, from their entrance to their interactions within the retail space.

Traffic Analytics

- Accurate customer counting at entry/exit points.
- Population analysis over specific time intervals.
- Visitor demographics (e.g., gender).
- Group analysis (e.g., individuals, couples, larger groups).
- Filtered data excluding employee movement.

Journey Analytics

- Heatmaps showcasing customer movement throughout the retail space.
- Time analysis in different zones:
  - Welcome/reception zone
  - Product zone
  - Service zone
- Customer journey analysis:
  - Average visit duration
  - Common movement routes
  - Popular zones of interest
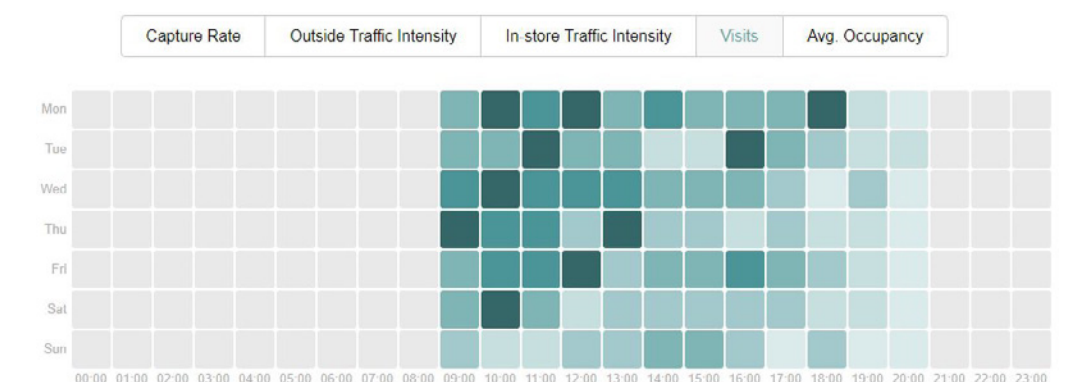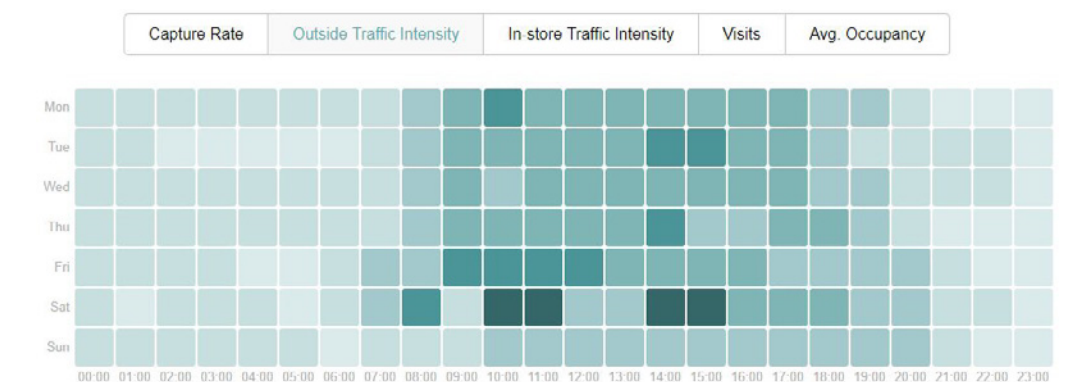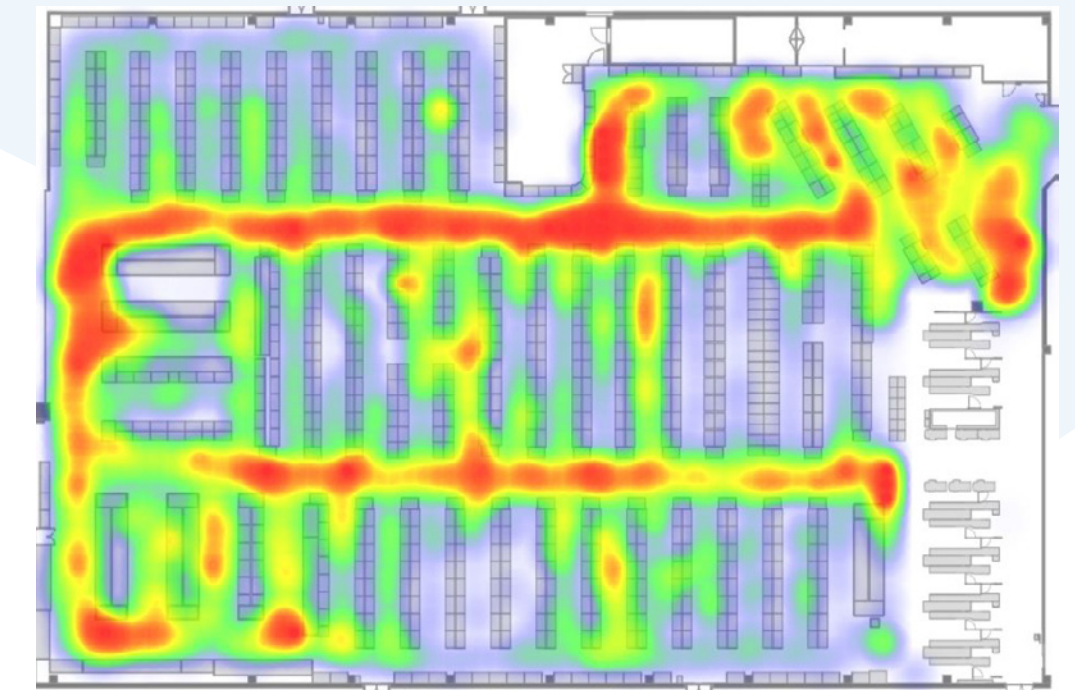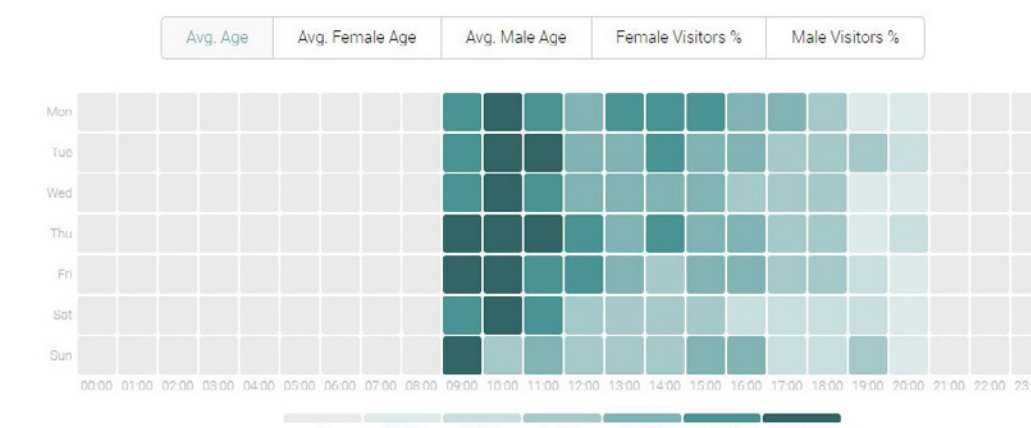
Technical Solution

Hardware

- 1x Advanced Sensor with AI for input/output traffic counting.
- 3x Wide-Angle Advanced Sensors with AI for motion tracking.
- Professional Installation and Configuration.

Software

- Access to the Analytics platform.
- Data and report export capabilities.
- Real-time monitoring and reporting.

Installation height	2,20 m - 6,00 m	6,00 m - 14,00 m	2,20 m - 3,50 m	2,20 m - 6,00 m	6,00 m - 9,00 m	9,00 m - 12,00 m	11,00 m - 14,00 m	14,00 m - 16,00 m	16,00 m - 20,00 m
Coverage at									
2,50 m	1,88 m x 1,06 m	-	2,63 m x 2,13 m	1,88 m x 1,06 m	-	-	-	-	-
3,00 m	3,75 m x 2,13 m	-	5,00 m x 4,00 m	3,75 m x 2,13 m	-	-	-	-	-
3,50 m	5,63 m x 3,19 m	-	7,00 m x 5,88 m	5,63 m x 3,19 m	-	-	-	-	-
4,00 m	7,00 m x 4,25 m	-	-	7,50 m x 4,25 m	-	-	-	-	-
4,50 m	7,00 m x 5,00 m	-	-	9,38 m x 5,31 m	-	-	-	-	-
5,00 m	7,00 m x 5,00 m	-	-	11,00 m x 6,38 m	-	-	-	-	-
5,50 m	7,00 m x 5,00 m	-	-	11,00 m x 7,44 m	-	-	-	-	-
6,00 m	7,00 m x 5,00 m	5,25 m x 4,50 m	-	11,00 m x 8,00 m	10,00 m x 7,25 m	-	-	-	-
7,00 m	-	6,88 m x 5,63 m	-	-	12,00 m x 9,00 m	-	-	-	-
8,00 m	-	8,00 m x 6,00 m	-	-	12,00 m x 9,00 m	-	-	-	-
9,00 m	-	8,00 m x 6,00 m	-	-	12,00 m x 9,00 m	9,88 m x 7,88 m	-	-	-
10,00 m	-	8,00 m x 6,00 m	-	-	-	11,50 m x 9,00 m	-	-	-
11,00 m	-	8,00 m x 6,00 m	-	-	-	12,00 m x 9,00 m	11,50 m x 8,38 m	-	-
12,00 m	-	8,00 m x 6,00 m	-	-	-	12,00 m x 9,00 m	12,00 m x 9,00 m	-	-
13,00 m	-	8,00 m x 6,00 m	-	-	-	-	12,00 m x 9,00 m	-	-
14,00 m	-	8,00 m x 6,00 m	-	-	-	-	12,00 m x 9,00 m	10,50 m x 7,75 m	-
15,00 m	-	-	-	-	-	-	-	11,50 m x 8,50 m	-
16,00 m	-	-	-	-	-	-	-	12,00 m x 9,00 m	9,00 m x 7,00 m
17,00 m	-	-	-	-	-	-	-	-	9,80 m x 7,50 m
18,00 m	-	-	-	-	-	-	-	-	10,50 m x 8,00 m
19,00 m	-	-	-	-	-	-	-	-	11,30 m x 8,50 m
20,00 m	-	-	-	-	-	-	-	-	12,00 m x 9,00 m

Firmware requirements	>5.1	>5.3	>5.1	>5.3	>5.3
Built-in WiFi/Bluetooth	No	2.4 GHz, IEEE 802.11b/g/n, Bluetooth Low Energy (BLE) 4.0, Internal antenna	No		
Function	No	WiFi communication (singlesensors only) or device monitoring	No		
Power consumption	max. 6 W			max. 5 W	
Weight	300 g		1100 g	1650 g	685 g
Size (LxWxH)	13.02 x 9.32 x 3.28 cm		15.45 x 10.29 x 8.3 cm	38.11 x 8.89 x 8.6 cm	34.42 x 6.56 x 3.61 cm
Required illumination	min. 2 lux		min. 9 lux	min. 2 lux	
Operation temperature	0° ... 45°C		-25° ... 40°C	0° ... 45°C	
Color of cover	white (RAL9003), suitable for being painted		grey (RAL9006)	white (RAL9003)	
IP Protection	IP40		IP65	IP40	
Accessories	PPA-PC2-FM, PA-PC2-SM, PA-PC-MPS, PA-PC-MB,PA-PC2-DP, PA-PC2-TA, PA-PC-PS, PA-PC2-C, PA-PC2-CB / See accessories brochure		PA-PC-PM	PA-PC-MPM, PA-PC-PM	
Ethernet	IEEE 802.3ab 1000Base-T		IEEE 802.3u, 100Base-TX		
Connection	RJ45				
Distance	100m, cat5e				
Power supply	PoE Class 0 (IEEE 802.3af)				
Storage temperature	5°C - 35° C for 6 months (shelf life)				
	-20°C - 70°C for transport/storage < 1 month				
Air humidity	20-80 % (non-condensing)				
Technology	3D Stereo Vision				
Installation angle	+/-15° in x-axis and +/-5° in y-axis				
Network	IPv4, IPv6, DHCP v4, 802.1x; HTTPS and password-protected configuration access				
Data delivery protocols	HTTP(S), FTP(S), SFTP, MQTT(S), TCP, UDP				
Data storage	Up to 3 years (depending on the number of counting elements)				
AI extensions available	Yes. See AI Extension Selection Guide				
Full remote access	Yes. Via HUB Device Control from any Web browser				
Fast setup	Yes. Setup wizard for quick configuration				
Privacy	ePrivacy seal, 4 privacy levels for GDPR-compliant operation				

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Benefits for the Retail Areas

- Enhanced retail space layout based on actionable data.

- Optimized staffing aligned with peak attendance times.

- Measurable marketing success rates.

- Insight into interest in specific products.

- Improved conversions through a better understanding of customer behavior.
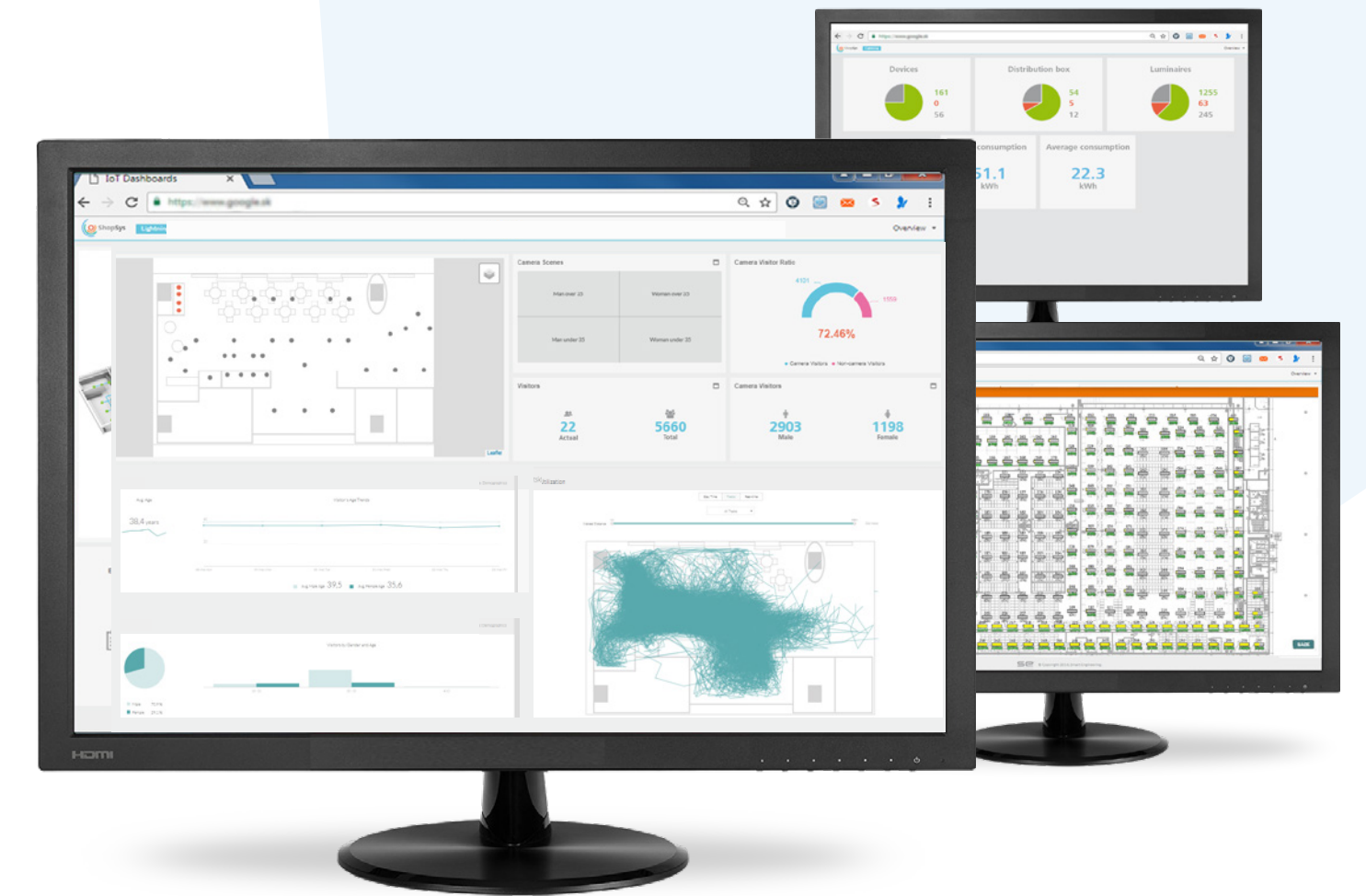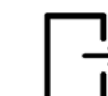

Browsing
AVERAGE
TIME OF STAY
18 min 05 s

Traffic monitoring
OUTSIDE TRAFFIC   IN-STORE TRAFFIC
INTENSITY   INTENSITY
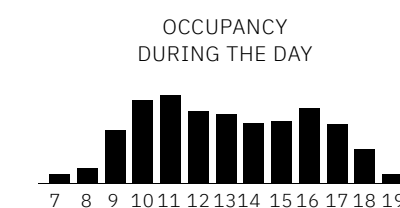56 750   6 863

Demographic monitoring
AVERAGE AGE   DEMOGRAPHY
OF VISITORS   OF VISITORS
38,4 years   Men: 70,3 %

OCCUPANCY
DURING THE DAY
7 8 9 10 11 12 13 14 15 16 17 18 19

RETURNING
VISITORS
26,8 %

TOTAL
VISITORS
5 664

Security monitoring
FIRE DETECTION
0 %

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Requirements for Operation & Implementation Schedule

- Internet-connected local network.

- Electrical connections for sensor hardware.

- Designated contact person for the retail shop.

- Support during installation and configuration.

Week 1
Solution proposal and preparation.

Week 2
Installation and configuration.

Weeks 3-12
Pilot operation.

Week 13
Evaluation of the pilot and planning for next steps.

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