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Rethinking People Flow

Rethinking
People
Flow

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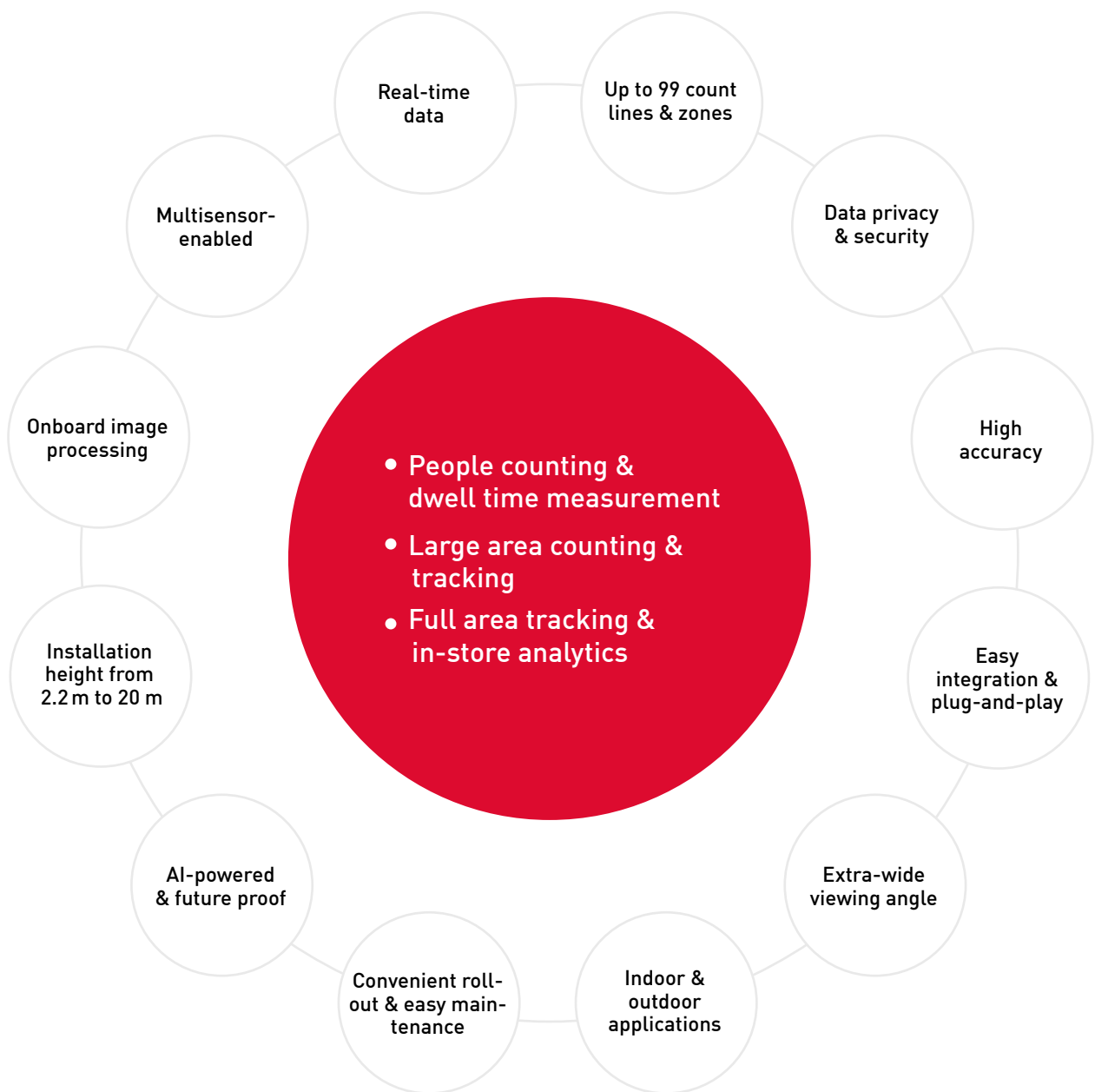Retail

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The Xovis 3D technology

XOVIS 3D TECHNOLOGY: UNDERSTAND YOUR PEOPLE FLOW

The Xovis PC-Series is one of the most complete portfolio of 3D Sensors on the market; it masters every people counting and people flow measurement challenge with high precision. The Xovis 3D Sensors and the Xovis SPIDER provide a reliable data base. This technology enables people counting, people flow measurement and complex in-store analytics applications. Xovis and its partners enable retailers to overcome the challenges of the IoT age.

Real-time data

Up to 99 count lines & zones

Multisensor-enabled

Data privacy & security

Onboard image processing

High accuracy

- People counting & dwell time measurement
- Large area counting & tracking
- Full area tracking & in-store analytics

Installation height from 2.2 m to 20 m

Easy integration & plug-and-play

AI-powered & future proof

Extra-wide viewing angle

Convenient roll-out & easy main-tenance

Indoor & outdoor applications

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HOW TO THRIVE IN THE IoT AGE

Competition in the retail industry is fierce. Online competitors threaten brick-and-mortar sales, raising internal and external pressure and forcing retailers to exploit the sales floor by capitalizing on in-store analytics and digitized business models.

THE FUTURE: 3D TECHNOLOGY AND AI

Xovis 3D Sensors feature a counting accuracy up to 99%, exceeding the performance of other technologies and setting new industry standards. The introduction of AI-based algorithms further improves the accuracy and flexibility of people counting and tracking.
Embrace progress and prepare your in-store analytics system with the AI-generation of Xovis Sensors; for example, for large and full area people flow monitoring with the unique Xovis Multisensor.

KNOW YOUR PEOPLE FLOW– AND GROW

System integrators around the globe count on Xovis 3D technology. Together with our partners in markets such as retail, smart buildings, and smart cities, we pave the way for moving people more smoothly through facilities, support resource planning optimization and boost customer satisfaction as well as revenue.

Exemplary Use Cases

PEOPLE COUNTING

A Xovis Partner in Germany enables customers in the fashion industry to meet the increasingly high industry and design standards. With various Xovis 3D Sensors mounted behind a custom-made mirrored ceiling, the Xovis Partner is able to cover large areas and gather highly accurate footfall-related data in dynamic and busy areas.

Based on the data from the Xovis 3D Sensors, the Xovis Partner provides fashion retailers with KPIs such as footfall, zone dwell time and conversions per customer and/or square meter.

As a result, Xovis and its partner enable retailers to keep track of all customers throughout the store and optimize product placement and store layout.

The insights have resulted in benefits such as:

- Increased counting accuracy by 35 %
- Improved sales conversion by 15 %-20 %
- Measurability of the success of set-up and layout changes

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IN-STORE ANALYTICS

Customers that do not buy anything can make up 85 % of all shoppers, and sales and loyalty data fail to provide strategic insights related to this vast potential. AI-powered Xovis 3D Sensors enable a Xovis Partner in the UK to deliver store and category concepts that also cater to potential customers who do not buy.

Using AI-powered Xovis 3D Sensors to track shopper movements through large areas the Xovis Partner is able to acquire essential data. Insights on staffing ratio, the profitability of promotions, queue times and queues layouts are just a few of the crucial operational KPIs

measured. Building on the high quality data gathered with Xovis, the Xovis Partner has been able to achieve excellent results, including:

Reduction of queue times by up to 64 %

- Identification of opportunities worth up to £12.5 million on service counter staffing
- Sales uplifts of up to 13 %
- Up to 50 % more registered shopper engagement
- Increased promotional effectiveness
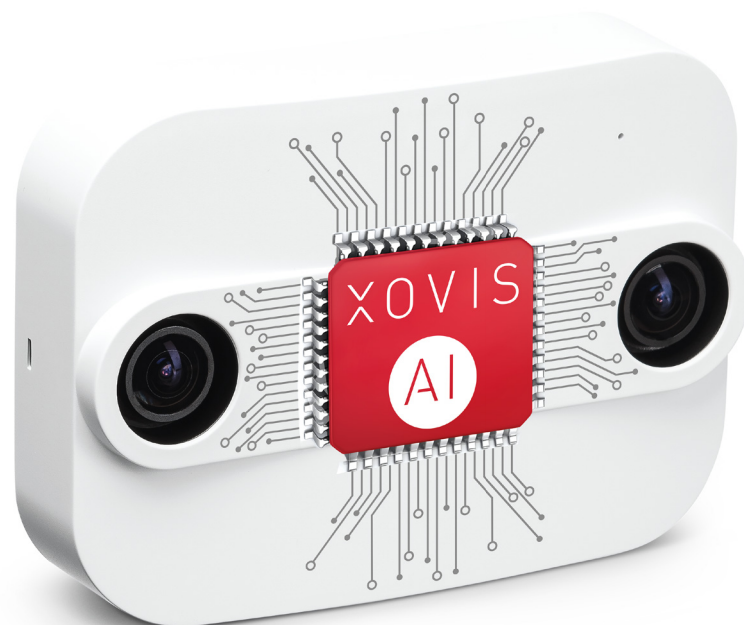
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The Xovis PC-Series

XOVIS PC-SERIES FOR INDOOR APPLICATIONS

The Xovis PC-Series sensors are the backbone of the Xovis product range. As embedded systems capable of communicating with each other, powerful solutions can be implemented with comparably low infrastructure requirements. With the data processed on the sensor itself, real-time data is available for immediate action and count lines and zones can be drawn on the sensor individually. Besides standard applications like traffic counting, zone occupancy, dwell/waiting times and heatmaps, live data push data is available for high-level analysis. This is how Xovis sets new industry standards when it comes to accuracy and usability.

OVERVIEW INDOOR

Sensor model	Mounting height	Connection / power supply	Additional technological features
PC2RE	2.2 m-6 m 8.20 ft.-19.68 ft.	RJ-45 Ethernet PoE Class 0	WiFi communication or WiFi/BT monitoring
PC2SE			-
PC3	6 m-20 m 19.68 ft.-65.62 ft.		-

XOVIS PC-SERIES FOR OUTDOOR APPLICATIONS

As people counting should not stop on the doorstep, the Xovis PC-Series includes sensor models that cater to customers with outdoor areas. The Xovis PC2SE Outdoor and the PC3 Outdoor combine the benefits of the standard Xovis 3D Sensors with tailor-made features:

Both models come pre-assembled, including pre-mounted casing and cabling in compliance with IP 65.

OVERVIEW OUTDOOR

| Sensor model	Mounting height	Connection / power supply	Outdoor portfolio
PC2SE-O	2.2 m-6 m / 8.20 ft.-19.68 ft.	RJ-45 Ethernet PoE Class 0	Pre-assembled Pre-mounted casing and cabling Compliance with IP 65
PC3-O	6 m-20 m / 19.68 ft.-65.62 ft.		

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Multisensor technology and Xovis Spider

THE XOVIS MULTISENSOR FOR LARGE AREA TRACKING

Connecting multiple Xovis sensors together to cover wide entrances and exits, or to seamlessly track people over large areas is one of Xovis' unique selling propositions. We call this technology the Xovis Multisensor.

The Multisensor allows, as the name suggests, to combine the overlapping tracking areas of single sensors to a large logical sensor. This even works if the sensors are mounted on different ceiling heights.

With a maximum of 9 sensors, the Multisensor can automatically be configured on the sensor Web UI. Large areas, covered with many sensors, can be analyzed by using the Xovis SPIDER.
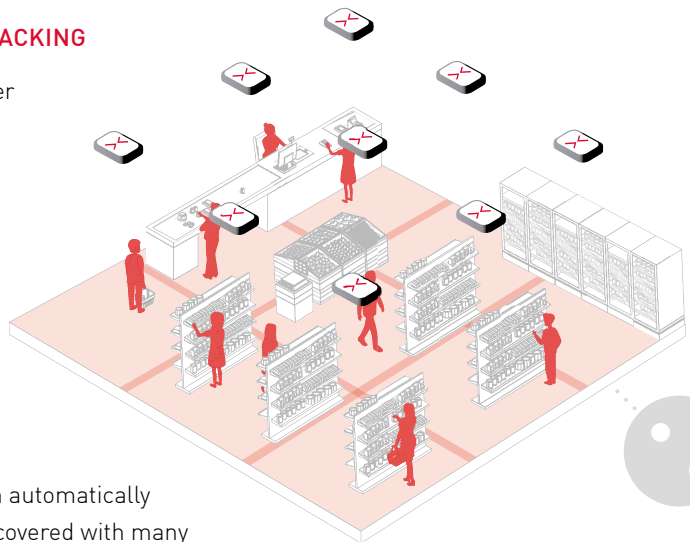
THE XOVIS SPIDER

The Xovis SPIDER is an edge processing device designed to build large Multisensors to cover even larger areas and wider spaces. It connects 10 or more sensors to a Multisensor. The Xovis SPIDER combines images and data streams from single sensors. This allows seamless visitor tracking throughout a large area, while you have to deal with only one parent device. SPIDER takes care of the rest. The data can be received via data push to be integrated into a complete application.

COUNTING LINES AND ZONES

Counting lines and zones can be configured anywhere in the Multisensor scene to provide specific events and KPIs.

FOUNDATION FOR IN-STORE ANALYTICS

In combination with the Xovis PC Sensors, the Xovis SPIDER offers the perfect foundation for advanced in-store analytics, enabling various use cases such as:

- Frequency calculations
- Distribution visualization
- Product placement evaluation
- Path analysis and visualization
- Control of specific processes (opening gates etc.)
- Optimized staff planning

INTEGRATION

Access SPIDER remotely, add counting lines, zones and new logics or add new push agents to cover your use cases. The Xovis SPIDER supports IPv4 and IPv6 networks. It comes with the highest security standards and supports data pushing via HTTPS, SFTP or MQTTS.

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AI extensions

FACE MASK DETECTION

Covid-19 has changed our daily life and brought us some new regulations. A basic provision is to compel customers and/or visitors to wear face masks and the accompanying obligation to check for customer/visitor compliance. Xovis sensors count all people and recognize whether a person is wearing a face mask or not.

	PC2SE-UL / PC2RE-UL	PC2SE-L / PC2RE-L	PC2SE / PC2RE
Mounting Height Range [m]	2.4 – 3.25	3.0 – 4.0	3.0 – 4.0
Mounting Height Range [ft]	7.1 – 10.8	9.8 – 13.1	9.8 – 13.1

VIEW DIRECTION

Is your advertising getting seen? Want to find out what your customers attention is focused on? Merchandising and placing an advertisement at the right place is crucial for maximum brand impact. Having the right data for optimization is the challenge. Xovis sensors count all people and provide a view direction vector.

	PC2SE-UL / PC2RE-UL	PC2SE-L / PC2RE-L	PC2SE / PC2RE
Mounting Height Range [m]	2.4 – 3.25	2.5 – 4.0	2.4 – 4.0
Mounting Height Range [ft]	7.1 – 10.8	8.2 - 13.1	7.1 – 13.1

GENDER STATISTICS*

Target group definition is nothing new – in fact, it is a well-established discipline for customer service, advertising, store layout, etc. Correct identification of the audience affects the planning, creation and implementation of all activities. With the Gender Statistics extension, Xovis sensors allow you to identify male and female target groups.

	PC2SE-UL / PC2RE-UL	PC2SE-L / PC2RE-L	PC2SE / PC2RE
Mounting Height Range [m]	2.4 – 3.25	2.5 – 4.0	2.4 – 4.0
Mounting Height Range [ft]	7.8 – 10.6	8.2 - 13.1	7.8 – 13.1

GROUP COUNTING

People in groups (buying units) often show different shopping behavior than individuals. They do their shopping together and often one person pays for the group. Understand the relation between the number of buying units that enter a facility and actual sales figures with Xovis' built-in Group Counting function.

	PC2SE-UL / PC2RE-UL	PC2SE-L / PC2RE-L	PC2SE / PC2RE
Mounting Height Range [m]	2.3 – 3.5	2.4 – 6.0	2.4 – 6.0
Mounting Height Range [ft]	7.5 – 11.4	7.8 – 19.6	7.8 – 19.6

STAFF EXCLUSION

When running a business of any kind, one of the most necessary bits of basic information is the number of customers/visitors. But in practice numbers are easily distorted when staff are also counted. Equip staff with specially designed tags, all with the same standardized Xovis pattern and use the Staff Exclusion extension. This way, staff gets visible for Xovis sensors and can be excluded from the customer counts.

|	PC2SE-UL / PC2RE-UL	PC2SE-L / PC2RE-L	PC2SE / PC2RE
Mounting Height Range [m]	2.4 – 3.25	2.5 – 3.25	3.0 – 3.5
Mounting Height Range [ft]	7.8 – 10.6	8.2 – 10.6	9.8 – 11.4

* Statement regarding the term gender: Xovis respects and embraces all dimensions of diversity, including gender identity anywhere along or beyond the spectrum of gender expression. For technical reasons, the algorithm in the Xovis Gender Statistics feature recognizes only easily discernible, visual indications when determining whether a person is more likely to be female or male. A reliable detection of the biological sex of a person is neither possible nor intended. We intend no disrespect to the gender with which a person identifies. The counts are merely a statistical measurement of a large number of people.

PC-Series Accessories

In addition to our sensors, we have adjunct hardware available for whatever space you need to cover – outdoor or indoor, high or higher, there is almost no terrain that these little powerhouses cannot handle. Our accessories help ensure the perfect angle, outfit and nest for the sensors you need at your unique location. Find more information in our accessories brochure.
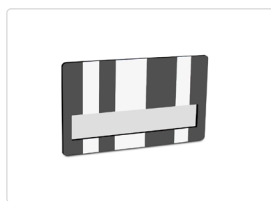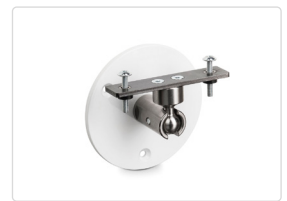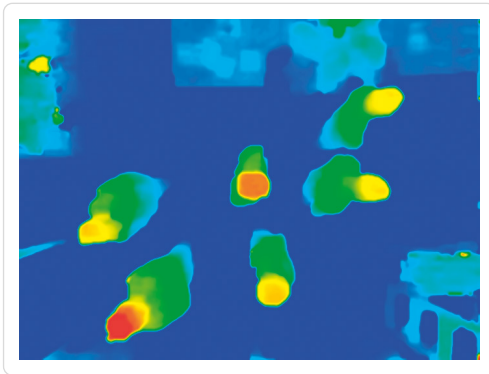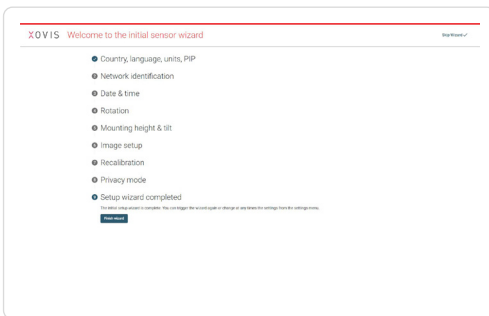
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Why rely on Xovis?
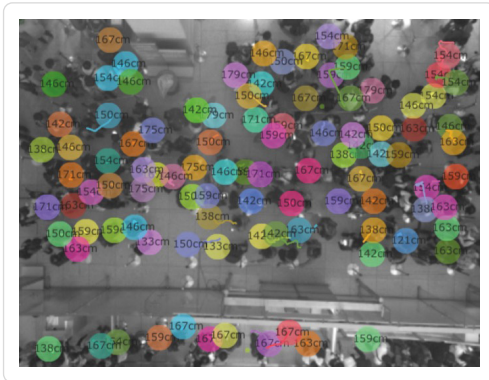
HIGH ACCURACY

The Xovis PC-Series comprises sensor models with installation heights from 2.2 m to 20 m (7.5 ft to 65.62 ft), covering up to 100 m² (1,080 ft²) per sensor. A counting accuracy up to 99% guarantees the most precise insights. People are individually recognized and continuously tracked, even if they are standing shoulder to shoulder.


ROBUST OPERATION

The Xovis 3D sensors are highly robust and resistant to all kinds of external influences, such as shadow and heat emission. Lighting changes are not an issue; a minimum of only 2 lux is required. Besides, local data storage for offline operations is available for up to 3 years.

PLUG-AND-PLAY & EASE OF USE

All Xovis sensors have an integrated setup wizard and an intuitive WebGUI that allows easy and fast initial setup. The configuration, including the designation of up to 99 counting lines and dwell zones, and the set-up of a Multisensor with up to nine sensors can be done quickly in the WebGUI. The plug-and-play firmware also offers basic analysis and visualization functions such as counting statistics and heat maps.
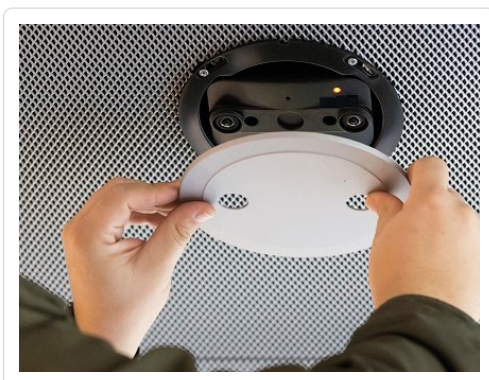

CONVENIENT ROLL OUT AND CONFIGURATION

Xovis goes the extra mile to optimize the customer user experience. In addition to the functionalities of the WebGUI, various features and services ensure a convenient roll-out and configuration. The sensors can be ordered pre-configured and mounting accessories to fit a multitude of infrastructures are available. Remote access management is available to optimize the configuration process and handle any modifications smoothly.

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EASY INTEGRATION

API or data push allow an easy integration of the data into third-party software environments. The Xovis system combined with other data sources delivers valuable insights on conversion rates, development of key figures and other KPIs.
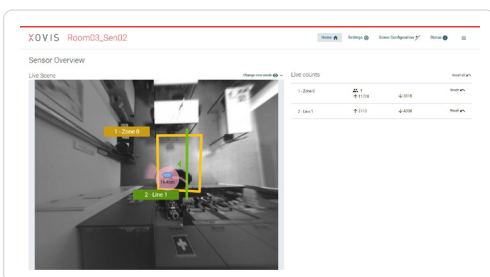
REAL TIME

Since data processing takes place on the sensor itself, no additional data hosting is required. The data processing occurs in real time and enables retailers to take immediate action.
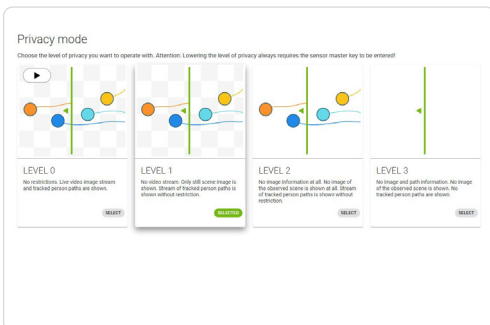
DATA PRIVACY AND SECURITY

Image processing takes place directly on the sensor. No video stream leaves the sensor and data privacy is guaranteed. Additionally, the Xovis sensors include a setting to define up to four privacy protection levels, meeting every possible data privacy requirement. For an even more secure application, password protection and port and SSL certificate management are available.

FUTURE-PROOF INVESTMENT IN SWISS QUALITY

Power over Ethernet (PoE), which combines the connection with the power supply in one cable, and a 32-year Mean Time Between Failure (MTBF) keep the total cost of ownership low and enable long-term, future-proof projects.
PC2RE singlesensors can even comminicate over WiFi, which makes installation faster and keeps TCO even lower. For more stability, multiple SSIDs can be configured as fallback options.

Xovis Retail Services

A broad range of Xovis Retail Services enables our partners to get the most from their Xovis products. The Xovis Retail Team is happy to advise our partners on how to expedite, simplify and customize the installation, configuration and use of our products. Please, do not hesitate to contact your sales representative for a non-binding consultation.

TRAINING MODULES

Tailor-made training modules are the fastest and easiest way to become familiar with the Xovis technology and its applications. Experienced Xovis experts provide in-depth knowledge both remotely and on-site. The number of participants is limited to 10 per training module.

REMOTE SETUP AND VERIFICATION/ XOVIS CLOUD

With the Xovis Device Control, Xovis experts are available to perform remote configuration and validation of already installed Xovis 3D Sensors in order to set up and/or verify the desired sensor settings. The Xovis Device Control can be installed on a server at the customer's premises or used as a hosted service via the Xovis Cloud.

ONLINE SUPPORT PORTAL

The Xovis Customer Portal includes comprehensive product information and the option to submit support and RMA requests for all Xovis customers. System integrators can also share product development suggestions and ideas with Xovis the Product Management.

CUSTOMIZATION

Upon request, Xovis 3D Sensors arrive at the customer site with preconfigured settings. Additionally, customers can have their company logo, a favicon and a customized tab text incorporated in the WebGUI of their Xovis 3D Sensors.
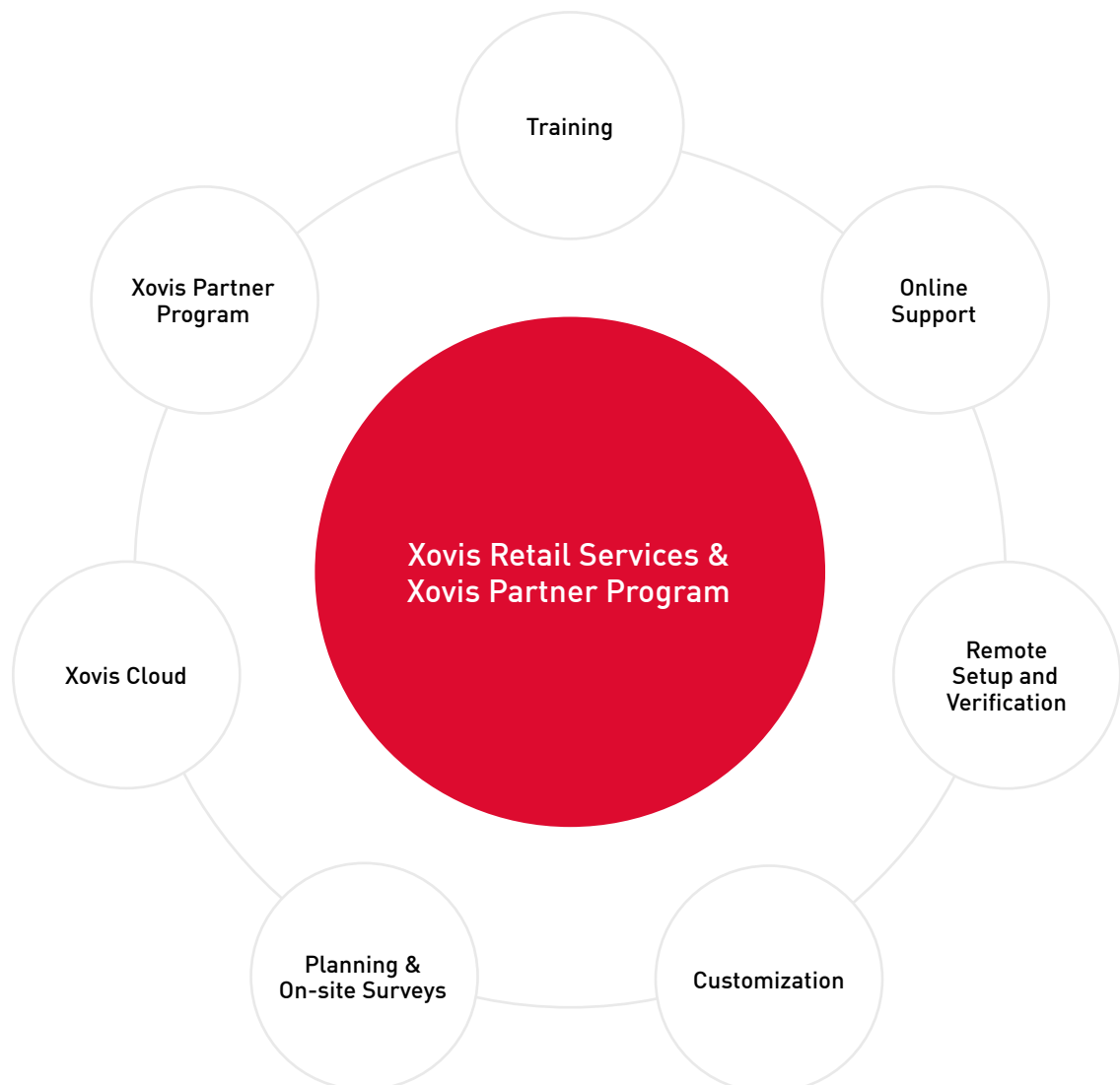
PLANNING AND ON-SITE SURVEYS

Based on information, plans and images shared by our system integrators, Xovis experts provide a first planning draft for installation. For projects that require an on-site inspection, an on-site survey provides a final planning document that includes the positions of all sensors with detailed installation recommendations.

XOVIS PARTNER PROGRAM

The Xovis Partner Program is a sales and marketing program for value-added resellers of Xovis PC-Series Sensors and software solutions. Participants benefit from special service rates, joint special marketing initiatives, sales tools and technical support. Read the Xovis Retail Services and Xovis Partner Program for detailed information.

Training

Online Support

Xovis Partner Program

Xovis Retail Services & Xovis Partner Program

Remote Setup and Verification

Xovis Cloud

Customization

Planning & On-site Surveys

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Rethinking People Flow

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