



LONIX SOLUTION CATALOGUE

Forefront solutions for intelligent buildings

■ FOREFRONT SOLUTIONS

for intelligent buildings

Lonix provides versatile systems and solutions for intelligent buildings. The cutting-edge Lonix Systems offer you the perfect solution for indoor comfort, energy efficiency and security, optimal for all types and sizes of buildings. Fostering the values of sustainable development, we help you to create simply better built environments - lasting for future generations to come.

LONIX SOLUTION CATALOGUE

Lonix Solutions	6
Integrated Systems	8
Lonix Software	10
Lonix Automation	12
Lonix Security	14
Efficient Service Provisioning	16
System Architecture	18

LONIX SOLUTIONS

comfort, security and
sustainable development



■ EFFICIENT ENVIRONMENT FOR BUSINESS

Efficiency, security, indoor comfort – high-quality premises require several criteria to be fulfilled. Our integrated solution combines the most advanced, open technologies in the fields of automation and security into a complete solution for intelligent buildings. The solution guarantees an efficient yet economical environment for your business.



■ COMFORT FOR YOUR VALUABLE GUESTS

Our ecological solution for hotels combines guest comfort with energy savings and undisturbed operations. Satisfied guests enjoy the premium comfort and luxury in guest rooms, while the smoothly integrated, robust systems cut down the operating costs. You can make your guests feel at home with Lonix Solutions.



■ HOME OF YOUR DREAMS

It is never too hot, never too cold. The air is always fresh. Security is strictly taken care of at all times. Convenient lighting to suit the occasion is there exactly when you need it. The complete solution reduces energy consumption and allows for significant cost savings. The home of your dreams is brought to you by Lonix Solutions.



■ FLEXIBLE SOLUTIONS

The state-of-the-art Lonix Systems allow for flexible solutions for a wide range of needs – scaling from offices, business centers, airports, hotels and residential towers to palaces, private villas and mobile base stations. Whatever your special challenge is, we will be honored to use our comprehensive expertise to solve it with our multi-functional technology platform.



■ FOREFRONT SERVICES

Undisturbed conditions, minimized energy consumption and your utmost security are taken care of twenty-four hours a day, seven days a week. The forefront services for maintenance, facility management and security are enabled by Lonix Software.

INTEGRATED SYSTEMS

the complete solution

Lonix provides the systems and products for intelligent building automation, smart security and integrated building management systems. Our product portfolio includes the key enablers for intelligent integration, sustainable development and Green Buildings.

CUTTING-EDGE LONIX SOFTWARE

The cutting-edge Lonix Software products create the comprehensive foundation for integrated building systems. The generic software platform, COBA Building Operating System, facilitates integration and interoperability of all building systems – thus creating IBMS (Integrated Building Management System) and SMS (Security Management System). With our wide range of sophisticated applications you can take advantage of the real-time control and monitoring, dynamic graphics, and multi-vendor integration capabilities on the hardware of your choice. Multiple user interface types are easily suited for professional users and tenants alike. The essence of integration is brought to you by Lonix Software.



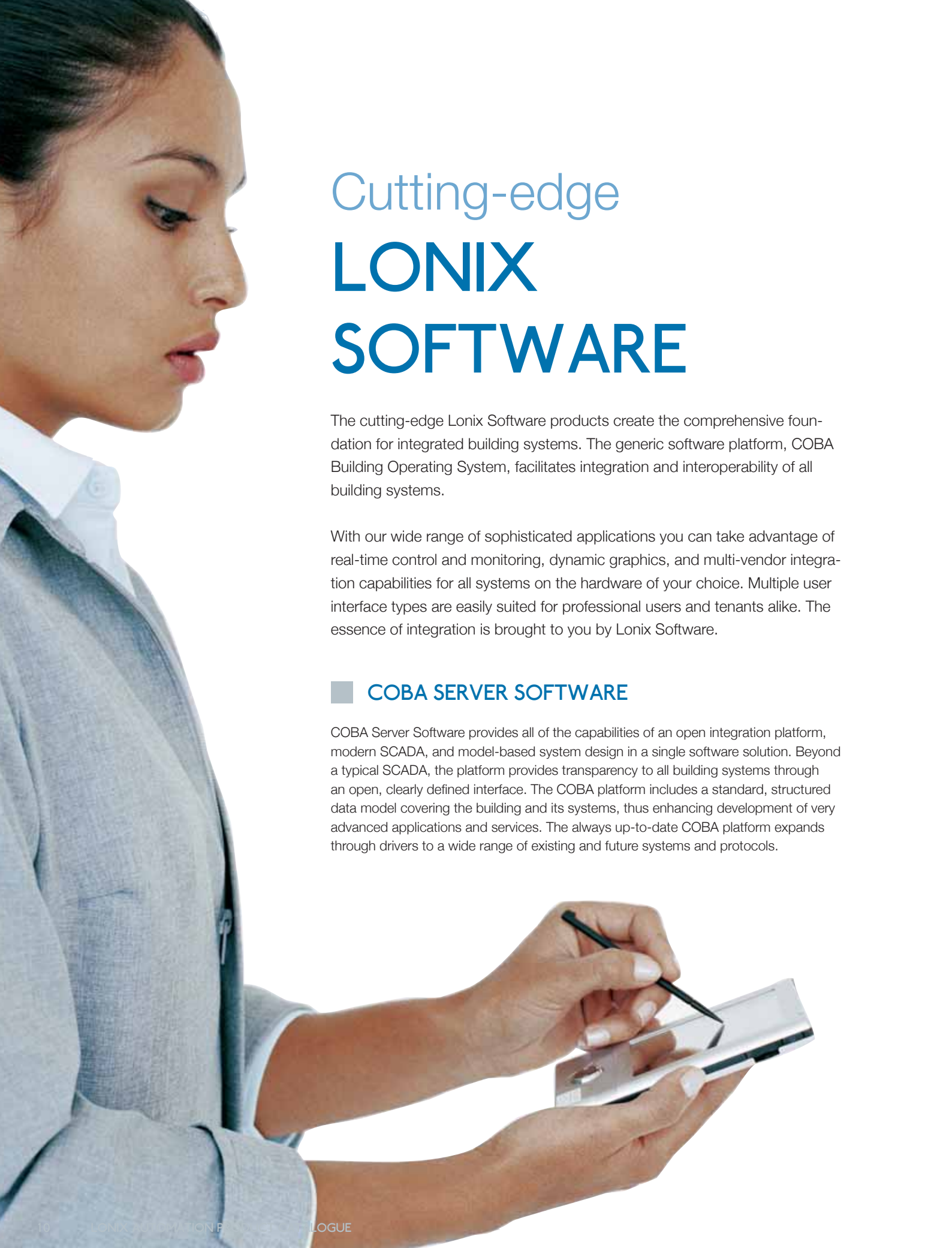
■ FOREFRONT LONIX AUTOMATION

The forefront Lonix Automation ensures robust functionality of building systems. Proven hardware/firmware and world-class software allow for intelligent controls, flexible distribution and advanced integration of all building systems. The multi-functional Lonix Controllers include the intelligence of the automation solution in compact size. Integrating smoothly with security systems, Lonix Automation is the premium choice for any building.



■ STATE-OF-THE-ART LONIX SECURITY

The state-of-the-art Lonix Security provides the integrated solution for outstanding security. The complete and fully featured infrastructure for access control and intruder alarm systems is efficiently combined with the advanced video surveillance system and a wide range of cameras. The solution allows for smooth integration with automation and building management systems – creating the fully unified solution for Intelligent Buildings.



Cutting-edge **LONIX SOFTWARE**

The cutting-edge Lonix Software products create the comprehensive foundation for integrated building systems. The generic software platform, COBA Building Operating System, facilitates integration and interoperability of all building systems.

With our wide range of sophisticated applications you can take advantage of real-time control and monitoring, dynamic graphics, and multi-vendor integration capabilities for all systems on the hardware of your choice. Multiple user interface types are easily suited for professional users and tenants alike. The essence of integration is brought to you by Lonix Software.

■ **COBA SERVER SOFTWARE**

COBA Server Software provides all of the capabilities of an open integration platform, modern SCADA, and model-based system design in a single software solution. Beyond a typical SCADA, the platform provides transparency to all building systems through an open, clearly defined interface. The COBA platform includes a standard, structured data model covering the building and its systems, thus enhancing development of very advanced applications and services. The always up-to-date COBA platform expands through drivers to a wide range of existing and future systems and protocols.



COBA CLIENT SOFTWARE

COBA Client Software is the professional monitoring application for all COBA connected systems, from building automation and room controls to demanding security systems of all types. Using the same application you can easily manage one or multiple sites in real time, locally and remotely. COBA Client Software is the perfect choice for demanding professional users of monitoring applications.

COBA WEBVIEW

COBA WebView is the user-friendly extension to professional monitoring applications. All COBA connected systems are easy to access using a standard web browser, without any additional software installations. COBA WebView provides significant advantages in terms of flexibility and ease of use.



COBA WEBPANEL

COBA WebPanel, optimized for touch enabled devices, offers convenient, browser-based user interfaces for occupants especially in homes, hotel rooms or office rooms. COBA WebPanel supports a variety of devices, such as Touch Screen Panel PC, Tablet PC, PDA, mobile phone, iPhone, IPTV and PC.

COBA SERVICE CENTER SOFTWARE

COBA platform supports efficient implementation of applications for centralized remote monitoring, alarm and fault detection of connected building management and security systems. Sites with COBA Server Software are connected to the central COBA SC server enabling front services for maintenance, facility management and security.



SYSTEM INTEGRATOR'S TOOLS

Easy and efficient commissioning of Lonix Systems is achieved with the user-friendly **Lonix Project Creation Tool (PCT)** software. The PCT supports System Integrators in configuration and commissioning of Lonix Systems.

The convenient **COBA Editor** supports easy implementation of COBA connected systems. COBA Editor includes a selection of libraries and templates for fast and easy graphics creation to different systems.



Forefront LONIX AUTOMATION



The forefront Lonix Automation ensures robust functionality of building systems. Proven hardware/firmware and world-class software are the key enablers for advanced controls and versatile functionality, all included in a robust single-piece design. The multi-functional Lonix Controllers include the intelligence of the automation solution in compact size. Lonix Automation integrates smoothly with security systems.

The multi-functional FLEX Series Controllers allow for extremely flexible use of I/O with universal inputs and outputs. The system can be easily expanded through the plug-in feature available in each controller, allowing controllers to be easily plugged straight into the next controller without any external wiring. Having the intelligence for complex controls as embedded in the controllers, FLEX Series Controllers support distributed intelligence and centralized system designs alike.

Lonix Controllers form an intelligent system by communicating in real time over Local Operating Network (LON) using standard network variables (SNVT). Efficient commissioning is achieved with the user-friendly Project Creation Tool (PCT) software.

■ FLEX SERIES CONTROLLERS



The FLEX Series comprises two controller types. The FLEX Series MultiController M10 is perfectly suited for any type of sophisticated controls, such as HVAC systems and other demanding processes. The FLEX Series UnitController U10 is dedicated for room automation and unit controls.

– MultiController LX-BMS-M10

The FLEX Series MultiController M10 is all you need for advanced controls. The intelligent MultiController M10 includes 10 flexible I/O points with versatile software functionality. The embedded software is easy to configure to any desired functionality.

- 5 UI (Universal Inputs)
- 5 DI/VO (Digital Inputs/Universal Outputs)
- 2 Controllers

– UnitController LX-BMS-U10

The FLEX Series UnitController, dedicated for room automation and unit controls, is especially suited for controls of hotel guest rooms, office rooms and business spaces as well as fan coil units and split units. The UnitController U10 includes 10 flexible I/O points with a selection of built-in applications.

- 5 UI (Universal Inputs)
- 2 UO (Universal Outputs)
- 3 DO (Digital Outputs)
- Application specific controllers

■ SPECIAL APPLICATIONS



Special applications and modules are designed for application specific solutions. Features of remote control, consumption measurements or time schedules complement the full building management system, but are also applied in specialized niche solutions, such as the Water Consumption Metering system or the Remote Control Solution.

– Counter Module LX-BMS-M10-C

10 counters for consumption metering

– Duty Cycle Module LX-BMS-U10-DCM

Scheduling logic for load balancing, e.g. pump sequencing

– Control Panel LX-LCD

Local operating panel with LCD display

– Control Panel LX-LCD-CTR

Local operating panel with LCD display for counter values

– Time Scheduler Module LX-TSM

Time schedules

– Remote Control Module LX-RCM

Remote controls and alarms

– Lonix Network Interface LX-LNI

LON-TCP/IP gateway

State-of-the art LONIX SECURITY

The state-of-the-art Lonix Security provides the integrated solution for outstanding security. The complete and fully featured infrastructure for access control and intruder alarm systems is efficiently combined with advanced video surveillance systems and a wide range of cameras. Lonix Security integrates smoothly with automation and building management systems.

The flexible, easily expandable access control and intruder alarm system consists of independent network controllers and a comprehensive range of interface panels. The advanced video surveillance system consists of independent network video recorders and a full range of compatible IP cameras. The system supports a wide variety of peripherals from different manufacturers. The integrated user interface supports easy and effective monitoring of all connected systems.

Security system components – readers, sensors, cameras – are available according to specific needs of each solution type.



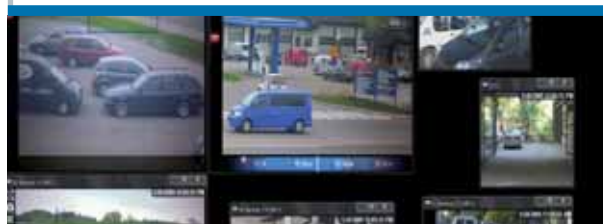
■ ACCESS CONTROL AND INTRUDER ALARMS



The core of the access control system consists of network controllers and interface panels. The system supports a wide variety of readers and other peripherals from different manufacturers.

- **Network Controller**
LX-SEC-V1000
TCP/IP interface for server connectivity and access control processing for up to 32 interface panels
- **Door Interface Panel**
LX-SEC-V100
Connects two access control card readers via Wiegand interface controlling one or two doors
- **Input Monitor Interface Panel**
LX-SEC-V200
Alarm input processing for up to 16 supervised input circuits, monitors and reports normal, off-normal and tamper states
- **Output Control Interface Panel**
LX-SEC-V300
Output control processing for up to 12 outputs
- **Network Controller with Door Interface Panel**
LX-SEC-V2000
TCP/IP interface for server connectivity and integrated access control processing for two readers/doors
- **Door Controller**
LX-SEC-V-IP
A single-door controller with TCP/IP connectivity

■ VIDEO SURVEILLANCE AND CAMERAS



Lonix Security integrates a selection of leading Video Surveillance systems with the full-scale solution. User-friendly interfaces and advanced capabilities are available for the solution of your choice.

VIDEO MONITORING

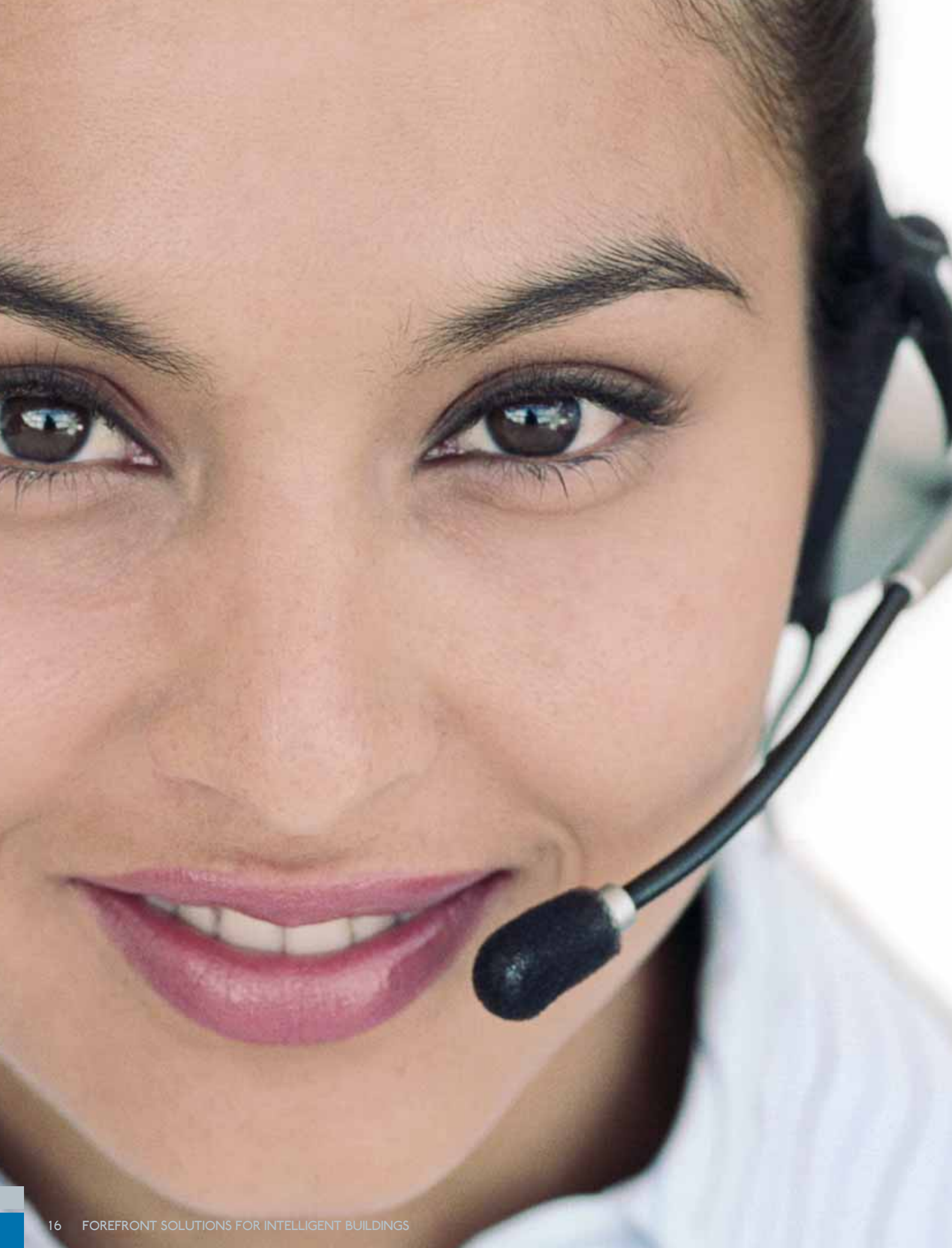
Video surveillance can be implemented with Digital Video Recording (DVR) or a fully IP based Network Video Recording (NVR) system or any combination of these. The video surveillance system is integrated with the BOS platform to enable advanced features provided by the combination of all the connected systems. For example, system can start recording video stream and/or turn PTZ camera to a preset position upon triggering from intruder alarm system, access control, fire alarm or any other system integrated with the BOS platform.

The video monitoring system supports both analog and IP cameras. Cameras and recorders can be operated both via video monitoring system's own user interface (live viewing of cameras) and the integrated user interface of the BOS (viewing cameras from floor plans). Cameras will be used not only by security operators, but also by safety and maintenance operators and all occupants.

Video Content Analysis (VCA) functionalities enable implementing many advanced features, such as left object detection, people counting and crowd monitoring, for example.

CAMERAS

A wide range of high quality cameras are available as part of the Lonix solution. Dome cameras, box cameras, bullet cameras, vandal dome cameras, PTZ cameras - our selection covers all of the most commonly required types and features.



EFFICIENT SERVICE

provisioning

The cornerstone of Lonix Software, COBA Building Operating System platform, allows for efficient system maintenance and full-scale service provisioning. Easy access to building systems ensures that everything is in perfect condition and functions in the optimal way at all times. Should anything disturbing happen, immediate response is available. Fore-front services guarantee not only undisturbed conditions but also sustainable development through minimized energy consumption, first-class security and significantly lower life cycle costs.



ALARM MONITORING

- Intruder alarms
- Fire alarms
- Maintenance alarms
- Video monitoring alarms
- Immediate alarm response



REMOTE DIAGNOSTICS

- Preventive maintenance
- Immediate response from all devices
- Quick replacement of malfunctioning field devices



ENERGY OPTIMIZATION AND TRENDING

- Set point adjustment
- Control optimization
- Trending and reporting
- Consumption based billing
- Peak load management



HELP DESK AND SUPPORT

- Remote assistance
- Online troubleshooting
- 24/7 service

SYSTEM ARCHITECTURE

The Lonix Solution is open, integrated and clearly layered. Systems and functionalities are implemented using distributed control techniques and standard communication networks and protocols. The solution is completely modular in structure and freely expandable at any stage. Being fully consistent with the latest industry standards, the solution enables remote connectivity and efficient service provisioning through the standard Building Operating System (BOS) interface.

1. SERVICE LAYER

The Service Layer allows the systems on the sites to be connected without additional software to one or several Service Centers, for providing centralized remote monitoring, alarm and fault detection of connected systems.

The BOS platform allows for accessing the systems remotely through a uniform interface. The standard connectivity enables provisioning of advanced maintenance and security services, including security alarm monitoring, maintenance alarm monitoring, remote diagnostics, main user capability, remote control and optimization of all systems, energy optimization, trending and reporting services.

2. MANAGEMENT LAYER

The Management Layer provides a uniform view to all systems through the open Building Operating System (BOS) platform. The connected systems are integrated with the BOS platform using simple interface drivers. The BOS software offers common services for all connected systems, including the following:

- Alarms
- Historical trending
- Logs and reporting
- User profile and role management

To ensure fault-tolerant system functionality, the Management Layer should not be responsible for any controls. The critical control functionality is taken care of by the intelligence on the Control Layer. The Management Layer provides standard connectivity through the BOS platform with the Service Layer, with capability to support very advanced maintenance and security services. The BOS software can also act as a gateway between systems conveying messages, for example, from IP or Modbus devices to LON devices and vice versa.

3. CONTROL LAYER

The Control Layer consists of a distributed network of smart controllers, which communicate to each other using a commonly known field bus. Connectivity towards the Management Layer utilizes standard TCP/IP protocol.

The controllers include all the intelligence of the system. All communication is event based, real-time peer-to-peer communication. All controllers are capable of operating autonomously independently of Management Layer. For example, all systems react to alarms on the Control Layer without interference from upper layers.

Each automation controller is capable of handling several different systems in parallel through flexible distribution of I/O points. Automation controllers function as autonomous units and form an intelligent system by communicating in real time over the free topology Local Operating Network (LON) using standard network variables (SNVT). Security controllers utilize RS-485 connection between the network controller and the interface panels.

4. FIELD LAYER

To guarantee openness, flexibility and easy maintenance, Field Layer devices do not include too much intelligence. Field devices comply with industry standards, such as PT-1000 for temperature, 0-10 V for other sensors and actuators, potential free contacts for ON/OFF indications and control buttons, 24 V relays for ON/OFF controls and standard Wiegand protocol for readers.

