



Open connectivity SCADA software platform

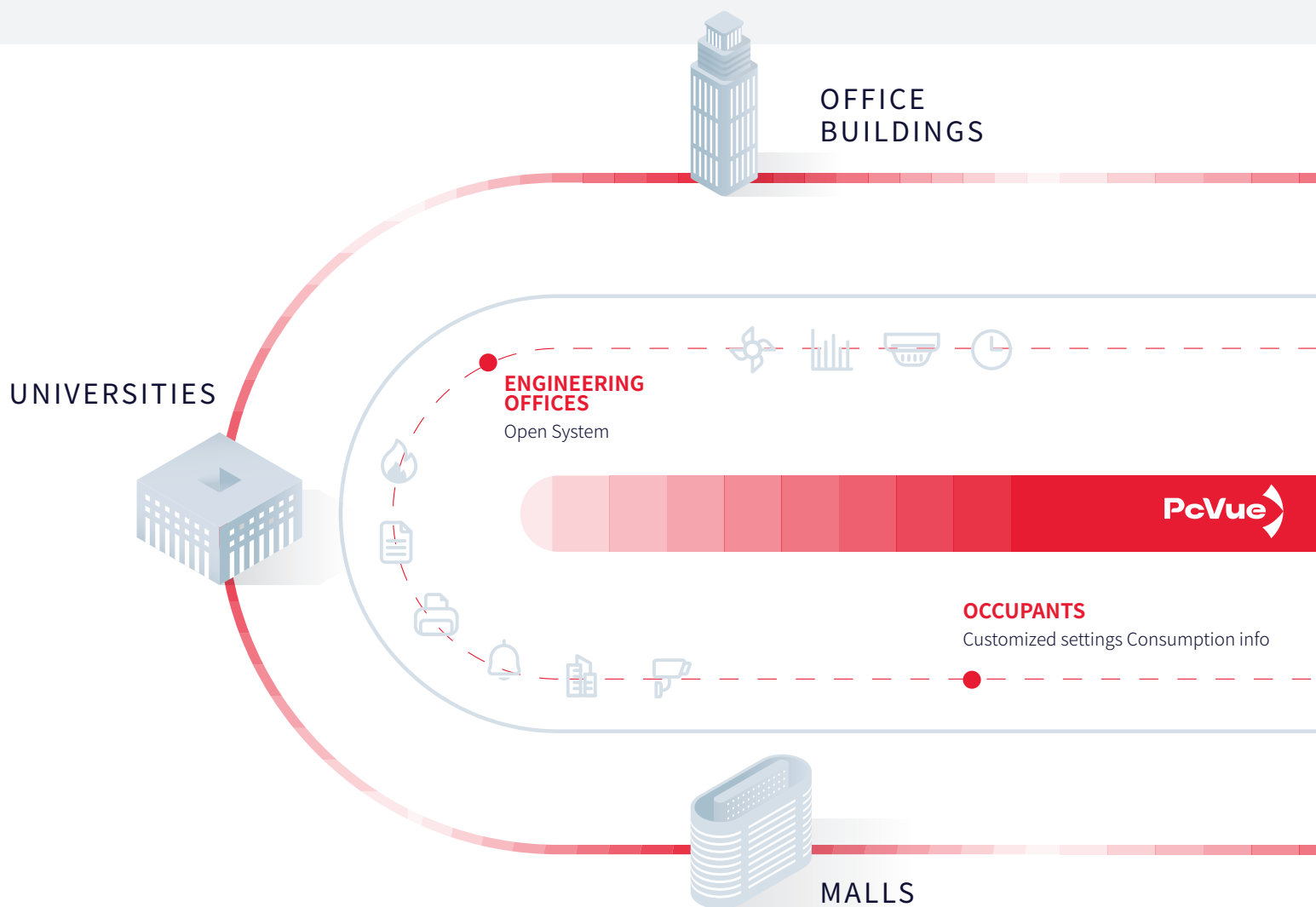
SOLUTIONS FOR SMART BUILDING



Industrial Facilities, Data Centers, Office Buildings,
Universities, Hospitals, Malls

FEATURES

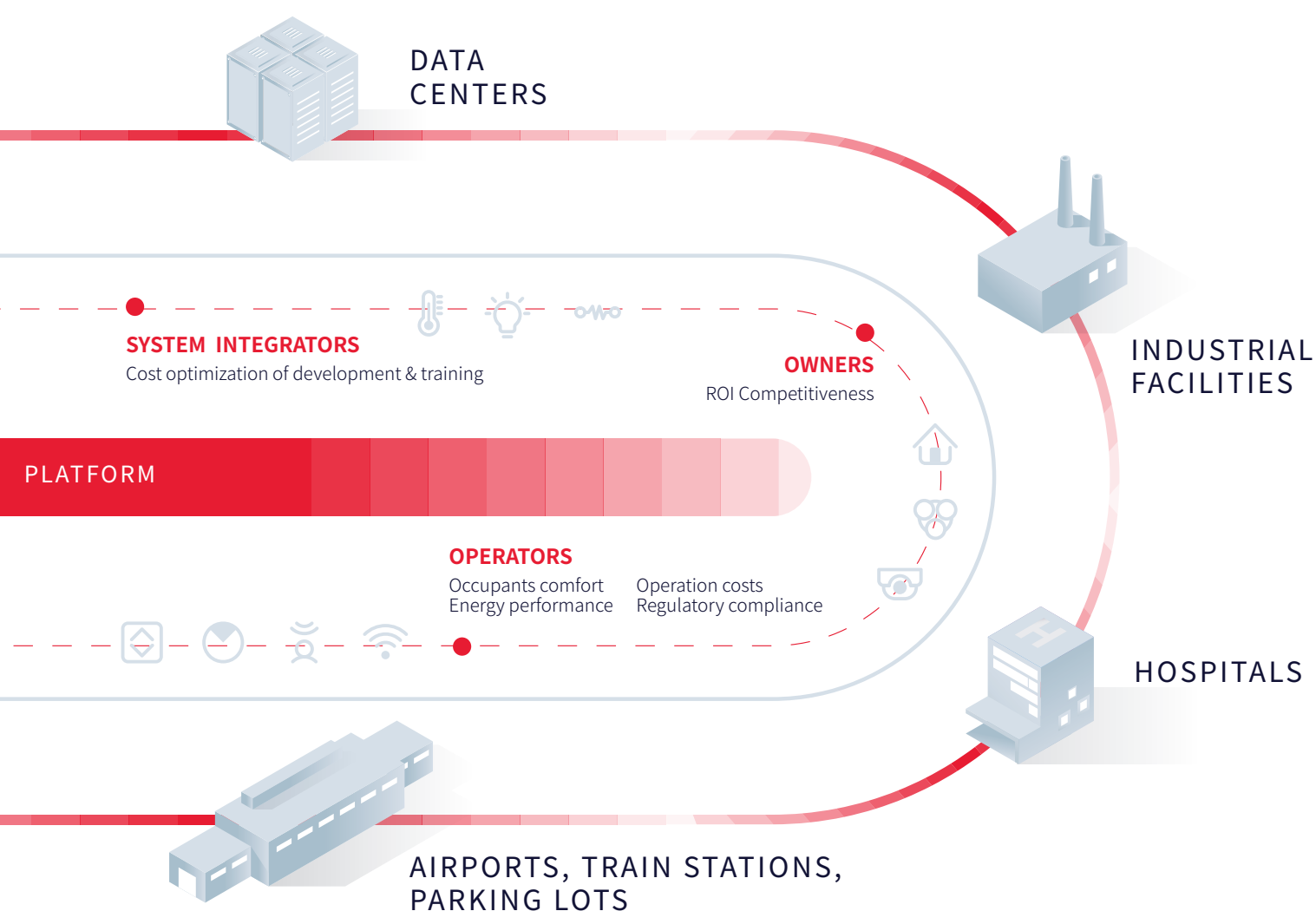
- Monitoring solutions for all technical aspects of the building
- Intuitive graphical interface for monitoring and control of facilities, locally or remotely
- Monitoring and analysis of real-time performance
- Native support for standard protocols BACnet™, LonWorks®, KNX, Modbus®, SNMP, OPC®...
- Optimized management of alarms and events
- Data archiving locally or in the cloud in DSaaS mode
- Advanced data analysis & Reports
- Single development platform featuring an intuitive configuration environment
- Interoperability with all building management services



BENEFITS

- Manage one or several buildings in a centralized and cohesive manner
- Ensure occupants' comfort and safety in all circumstances
- Guarantee proper functioning and durability through efficient maintenance
- Optimize the return on investment while ensuring regulatory compliance
- Run an open and scalable system that adapts to changes at lower cost
- Connect all BMS components (Technical Management, Billing, CMMS, Occupancy...)

The ability to analyze archived data and real-time events can help maintain user comfort and improve performance.



To answer the need of performance, maintenance, energy saving and optimization in BMS, PcVue converge stakeholders' objectives using a common monitoring system.

WHY PCVUE IS WORTH A LOOK?

PcVue at the center of the Smart Building and SmartCities opportunities

To avoid the extension of systems and applications that meet the needs of performance, savings, energy optimization and building maintenance, PcVue converge the objectives of stakeholders through a common system of centralized supervision.

The design of a Smart Building Ready application allow users to be involved in reducing the environmental impact through the quality of information transmitted automatically via Smart mobile applications.

To address the critical issues of the coming years, the historical data analysis capability and real-time events of **PcVue will help contribute to the maintenance of user comfort and improved performance while reducing costs and ensuring regulatory compliance.**

By its ability to interface with heterogeneous systems, PcVue ensures interoperability between disparate technical aspects with one simple application, easy to implement and maintain through its modeling tools.



PcVue makes available its 20 year-expertise in Building Management enabling partners to develop new applications and support the migration of older systems by taking advantage of the latest technological innovations.





PcVue Mobile app automatically adjusts the display of information depending on the identity of the user and its position

PCVUE INNOVATES TO CONNECT HUMANS, SYSTEMS AND IIOT

The constant and rapid changing of technology continuously brings new ways that complement current methods and change the practices used for monitoring installations.

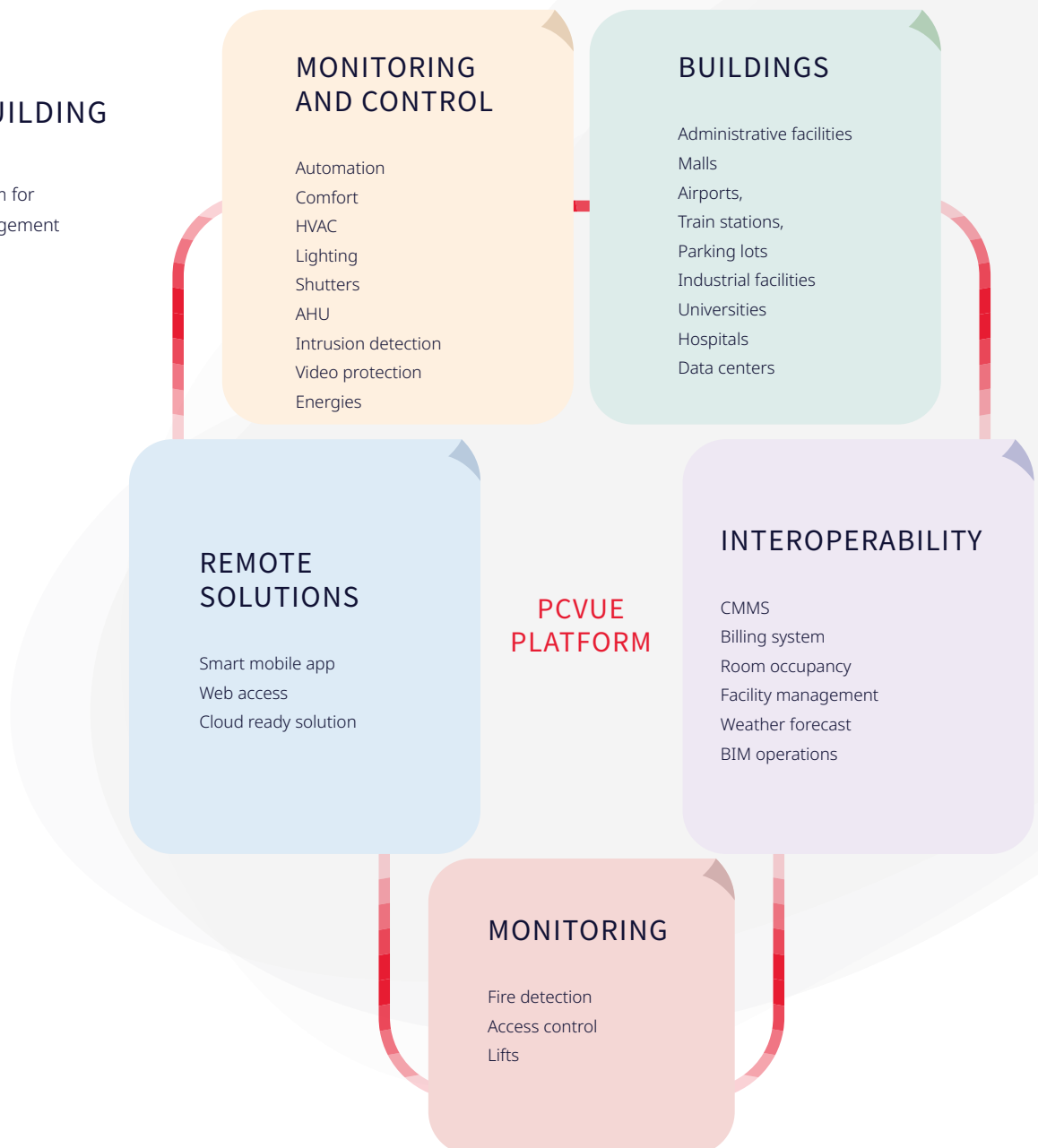
The advent of mobile applications such as proactive transmission of information depending on users, dynamic and contextual information display (and the disappearance of static navigation menus) are some examples.

In an increasingly communicating universe, PcVue innovates with solutions that facilitate exchanges between people, connected objects and the SCADA system by taking advantage of the latest mobile and geolocation technologies (NFC, Beacons, QRcodes, GPS).

A worker can therefore be informed in real time, depending on his position and level of responsibility, of actions he may realize from his smartphone. At the same time, to ensure safety, the control room is able to know the position (inside or outside) of the workers.

SMART BUILDING READY

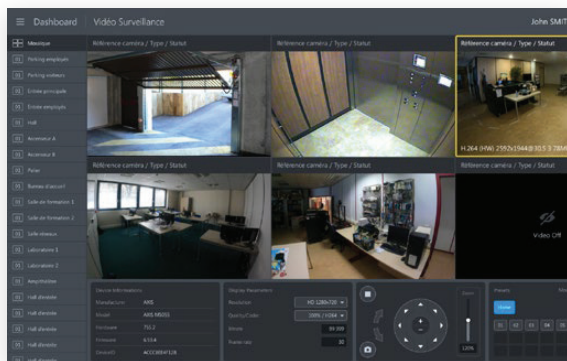
A common system for centralized management of buildings



PCVUE FACILITATES THE BUILDING MANAGER LIFE

ENSURE THE COMFORT OF OCCUPANTS WITH AN EFFICIENT AND EFFECTIVE OPERATION

Monitoring and control facilities
anywhere, at any time

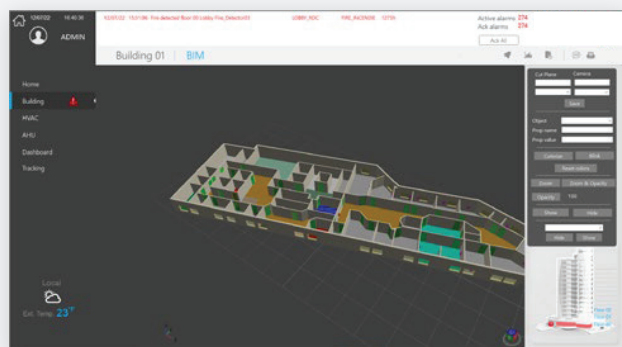


DISPLAY & CONTROL

- ✓ Customizable modern and intuitive graphical interface
- ✓ Display asset status in real time
- ✓ Supervisory and control the equipments
- ✓ Management of comfort settings based on time slots defined through a web interface
- ✓ Remote control from smartphone or tablet
- ✓ Display and control of video surveillance systems
- ✓ Video interfaces (RTSP, ONVIF)

ADVANCED FEATURES FOR DATA DISPLAY

- ✓ Data display by zone, equipment, use ...
- ✓ Real time and historical data trends
- ✓ Comparative trends
- ✓ Threshold display
- ✓ Data trend export to Excel
- ✓ BIM 3D viewer





MONITORING AND ANALYSIS OF ENERGY PERFORMANCE

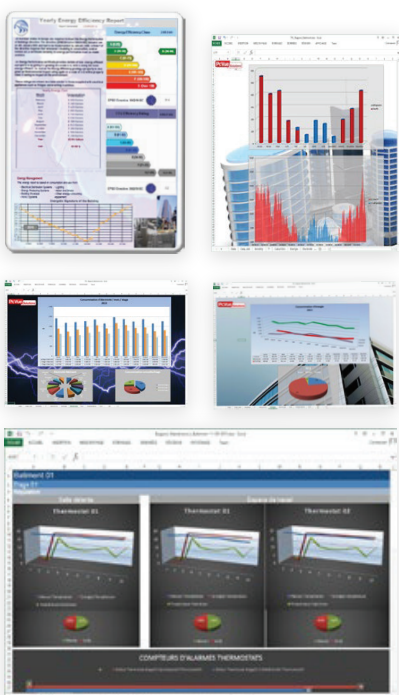
- ✓ Customizable Dashboard
- ✓ KPI – Key Performance Indicators
- ✓ Consumption balance sheets by period
- ✓ Archiving data in a local database or in the cloud in DSaaS mode (Amazon, Microsoft® Azure,...)

ENSURING SYSTEM AVAILABILITY AND OPERATIONAL MAINTENANCE WHILE CONTROLLING OPERATING COSTS

Preventive and operational maintenance of installations

ALARMS & EVENTS MANAGEMENT

- ✓ Advanced visualization of real-time alarms
- ✓ Alarm notification via sms, smart mobile application, emails
- ✓ Lists of historical time-stamped events
- ✓ On-call module for effective incident management



OPTIMIZE THE RETURN ON INVESTMENT WHILE ENSURING REGULATORY COMPLIANCE

Control of performance, operating costs, and regulatory compliance

OPERATING DATA PROCESSING

- ✓ Generating of dynamic reports (consumption balance sheets, ...) from archived data
- ✓ Automatic distribution of reports by email
- ✓ Web Interface to generate and visualize reports on demand

PcVue PLATFORM

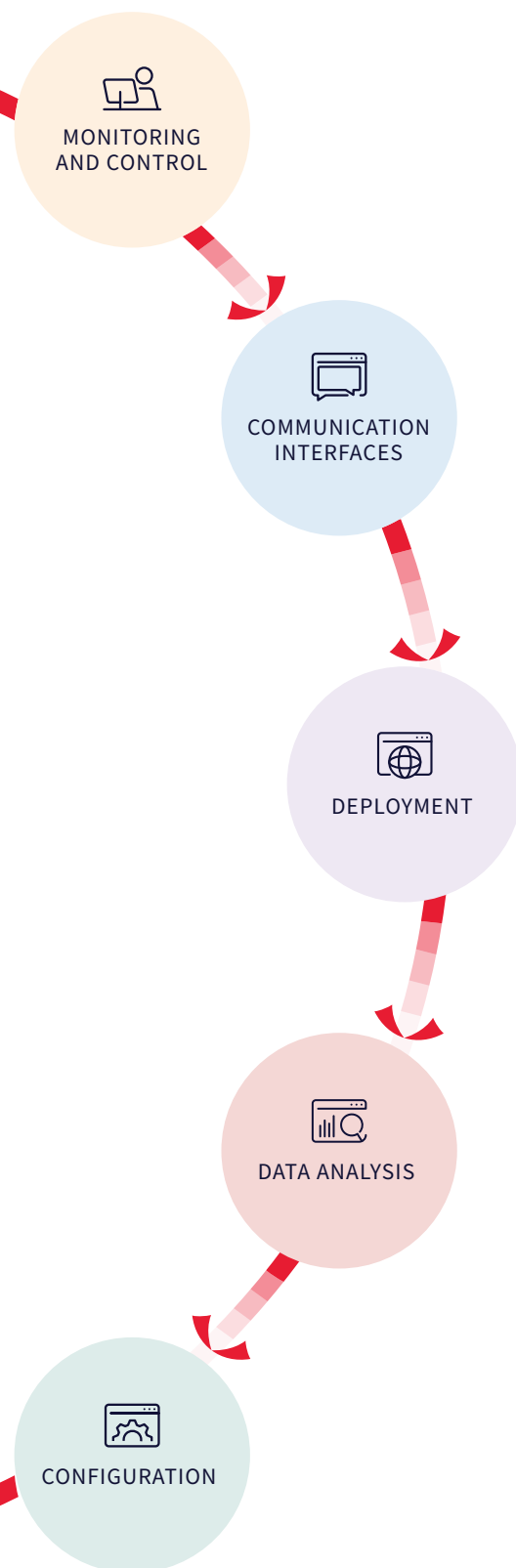
PCVUE FACILITATES THE WORK OF THE SYSTEM INTEGRATOR

Reduction of development costs with an application platform that is easy to implement and maintain

Flexible and scalable deployment

from simple local station to multi-sites architectures compatible with Cloud solutions in SaaS mode

Interoperability from the data field to the building management services (billing, CMMS, booking space, facilities management ...)



PcVue PLATFORM

MONITORING AND CONTROL	<p>Graphical Interface</p> <ul style="list-style-type: none"> - Intuitive - 2D/3D object oriented libraries - 60+ predefined animations - Multilingual texts - SIG Map Control - BIM 3D viewer - Video streaming/control (RTSP, ONVIF) 	<p>Advanced alarm and event management</p> <p>Configurable alarm and event viewers</p> <p>Filter, sorting, mask by status, priority and/or attribute – modifiable on line</p> <p>Contextual alarms management</p> <p>Alarm counters</p>	<p>Trends</p> <p>Simultaneous display of real time and historical trends</p> <p>Customizable interface</p> <p>Comparative trends</p> <p>Data trend export to Excel</p>
COMMUNICATION INTERFACES	<p>Wide range of protocols</p> <ul style="list-style-type: none"> - BACnet™ - DALI - KNX - LonWorks® - Modbus IP 	<ul style="list-style-type: none"> - SIEMENS OPC MK8000 IP - SNMP Manager/Agent - POSM - IEC 61850 - OCPP CSMS 	<p>Interoperability</p> <ul style="list-style-type: none"> - OPC (DA/UA) - Web services (RESTful) - Cloud
DEPLOYMENT	<p>Flexible architectures</p> <ul style="list-style-type: none"> - Single station - Client-Server - Distributed 	<p>Mobile solutions</p> <ul style="list-style-type: none"> - Smart mobile application - HTML5 web client - Remote access 	<p>Safety and security</p> <ul style="list-style-type: none"> - Centralized management of rights with Windows Active Directory authentication - HTTPS secure connections <p>Centralized project management</p>
DATA ANALYSIS	<p>Archiving</p> <p>Local or centralized archiving</p> <p>SQLServer Universal data connector : SQL bridge to connect any ADO.net providers - ERP - MES - GMAO - ...</p>	<p>Energy performances</p> <ul style="list-style-type: none"> - KPI - Dashboard 	<p>Reports</p> <ul style="list-style-type: none"> - Generation of dynamic reports available in several formats - Distribution on demand or automatically by email - Accessible via a configurable web interface
CONFIGURATION	<p>Smart Generators</p> <p>Import tool for mass configuration from third party software or external configuration platform (PLC platforms, CAD software, 3rd party SCADA, proprietary software).</p>	<p>AUTOCAD®</p> <p>BACnet™</p> <p>DALIWAGO®</p> <p>LNS®</p> <p>Schneider Unity®</p> <p>Siemens STEP 7</p> <p>WAGO®</p> <p>Saia Burgess Controls</p>	<p>Application Explorer</p> <p>Configuration tool « All in One » for configuration and diagnostic</p> <p>Application Architect</p> <p>Modelization and project generation</p>

SUCCESS STORY

PCVUE AT THE HEART OF TELECITYGROUP FRANCE DATACENTER

Supervision of a datacenter

THE COMPANY

TelecityGroup is the European leader in independent data center operators.

The company, headquartered in London, designs, develops and manages secure and highly connected environments, enabling the accommodation of technical infrastructure (web and IT) safely. TelecityGroup manages 24 data centers located in the main European business centers.



We chose PcVue for two main reasons. The first is to provide our customer, TeleciteyGroup, an open, multi-protocol and scalable system up with the market standards and independent of BMS constructor and PLCs. The second reason is that with PcVue there are only two protocol conversion points: Direct LON or MODBUS communication gateways collect information, and then the PLCs are directly accessible on the IP network. This simple hierarchical architecture is much more reliable and faster in processing than other solutions in the market that can have up to four conversion layers before reaching an SQL type database.

Hélène GAURY

Bouygues Energies & Services



SUCCESS STORY

PCVUE AT THE HEART OF TELECITYGROUP FRANCE DATACENTER

Supervision of a datacenter

THE PROJECT

The system integrator Bouygues Energy & Services selected PcVue to monitor power distribution and cooling infrastructures of all the facilities of the new TelecityGroup data center in Paris.

The communication architecture (open and without many hierarchical layers) were determining factors in this choice. **PcVue generates, amongst others, power consumption reports of the servers operated by TelecityGroup Vision customers.**

Its new building named Condorcet, with a customer area of 3400 m2, ideally meets the needs of businesses looking to locate their critical infrastructure in a data center. The building notably received the trophy for «Europe's Best Data Center" at Data Center Europe 2010. The new site was designed in conformity with international standards ISO27001: 2005 for information security, and ISO 14001: 2004 which ensures effective environmental management system.

Energy efficient design principles have been used to construct the building, as well as air conditioning technologies using free cooling and intelligent and sophisticated systems to reduce energy consumption. In addition, the multiple connectivity options available on site are enhanced by connectivity to PANAP and SFINX, which offers customers quality options of national and international peerage and Internet connectivity.

The building includes a monitoring center, a NOC (Network Operations Center), which holds an Image Wall featuring 12 screens (52 inches), each dedicated to different systems: 6 screens for security and video-surveillance, 1 screen for fire detection, 3 screens for operating installations applications, and two PcVue workstations. The first station is dedicated to electrical distribution infrastructure, the second supervises air conditioning. Each station has three screens: one screen with mimics (air conditioning and electrical supply) on the Image Wall and two other screens on the operator stations. A screen for the display of installations in detail, and another remote screen with a general mimic for PC Security supervision.

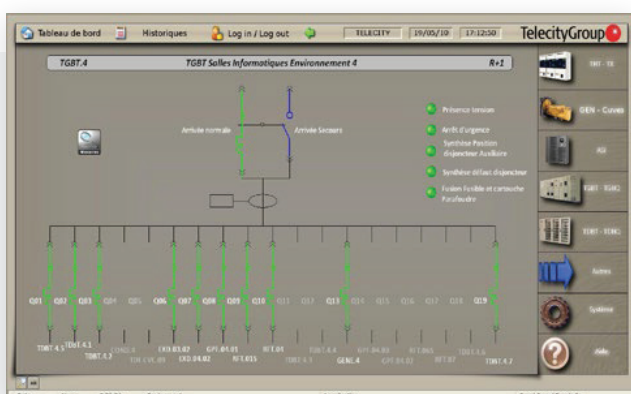
In terms of electrical distribution, PcVue supervises the whole installation, from transformer stations, to inverters, distribution boards and electric meters at each of the server cabinets.

For air conditioning, PcVue integrates the monitoring for the entire chain from the chillers, the pumps and the roof top units, to the air conditioning cabinets in the accommodation rooms.

The Dream Report software, an integral part of the **PcVue offer, allows TelecityGroup to provide comprehensive reports of facilities,** particularly for the power consumption of each customer.

BUSINESS CHALLENGES

- ✓ Centralized monitoring and control of the electrical distribution and cooling infrastructures
- ✓ Easily interface systems and various types of equipment

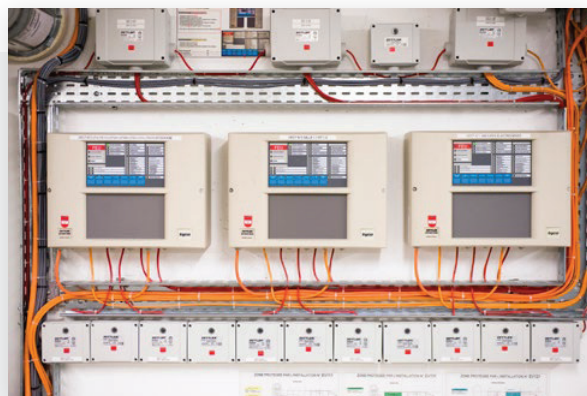


SUCCESS KEYS

- ✓ Multi-protocol, open and scalable system
- ✓ Reliability of the system
- ✓ Ability of providing comprehensive reports dynamically

MAIN TECHNICAL FEATURES

- ✓ Data center surface area: 3 400 m2
- ✓ Site conforms to ISO 27001: 2005 for information safety and ISO14001: 2004 for environmental management
- ✓ 2 PcVue stations
- ✓ Visualization on an image wall comprising 12 screens



RESULTS

- ✓ A single centralized system for the supervision of the data center infrastructure
- ✓ Reduction of development costs thanks to an easily scalable system
- ✓ The ability to know the electrical consumption of each client with comprehensive and dynamic reports



REFERENCES

SOME SNAPSHOTS OF A FEW OF OUR INTERNATIONAL REFERENCES

COEUR DÉFENSE / Courbevoie - France

Revamping the BMS of Coeur Defense

DESCRIPTION

Coeur Défense office complex is located in the business district of La Défense.

With 160,000 m2 of offices in five HRB listed buildings (high-rise building) including 2 buildings of 40 floors superstructure (160m high) and three 9-story buildings (41m high)

- 75 air handling units
- 8,000 fan coil units
- 59 elevators and 18 lifts
- 6 levels of parking infrastructure
- 2,880 parking spaces

Beyond the traditional building management features, the system was designed as a real tool for management and optimization. It supervises zones occupancy and the regulation of heating and lighting.

The tailor made solution guarantees the performance of eco-construction, eco-management, and comfort of the operating structure, which ensures the operator is rewarded for the quality of its renovation.

CERN / France - Switzerland

CSAM Project (Cern Safety Alarm monitoring) - Renovation of the safety alarms monitoring system

DESCRIPTION

This project was conducted as part of works related to the implementation of the new LHC accelerator. The entire monitoring system of the CSAM safety alarms has been renovated.

The objectives of this system are:

- Ensure the future LHC safety of people and goods (about 12 billion. CHF)
- Emergency alert in case of incident
- Ensure the provision of information to external users (Web server, OPC)
- Be aware at any time of the availability and failure rate of equipment
- Provide operators with information on the safety alarms (fire, lack of O2, etc.) for the entire site to alert firefighters when necessary.

This system also provides diagnostic functions on equipment that compose it, in order to prevent possible failure of the system itself (monitoring the availability of CSAM).

Built on the basis of high availability PLCs, the CSAM system must perform the monitoring of 33 security zones 24/7, for the 10 years of LHC operation. The project is conducted according to operational safety regulations (IEC 61508): High Availability System - SIL2.

FUSIONOPOLIS PHASE 2A / Singapore

BMS of a building complex

DESCRIPTION

Fusionopolis is a research and development complex located in the business park One-North. Consisting of two towers of 11 and 18 floors, it houses various research organizations, high-tech companies, government agencies, retail outlets and apartments.

Fusionopolis Phase 2A is a part of the complex including a business center, research laboratories and offices with an area of 84,000 m².

BANCO DE PORTUGAL / Lisbon - Portugal

BMS of the emergency building

DESCRIPTION

To anticipate disasters such as earthquake, fire or terrorist attack, the bank has an alternative emergency building consuming a minimum of energy: The "Disaster Recovery Center", 5-story building, equipped with all the necessary infrastructure to operate under normal conditions (lighting, air conditioning, water production, backup power, ...)

The three basic functions of the BMS are:

- Supervision and building control: power distribution, HVAC, lighting circuits, energy consumption analysis, emergency generator groups
- Real-time and deferred reports on energy consumption parameters and CVC
- Remote access and interconnection between the different buildings

AIRBUS / Toulouse - France

BMS of the buildings used for the Airbus A380 assembly line

DESCRIPTION

The site mainly contains the static test building and the final assembly hall, whose dimensions reach 490m long, 250m wide and 46m high. This building also houses 34,000 m² of offices on six levels.

The BMS is based on the PcVue SCADA software that monitors the fire alarm systems, air conditioning, and electrical distribution for all the 200 buildings on the site. Each station is a server for the other network stations and a client for the building information. This architecture allows the operating and maintenance personnel to have access to all information regardless of where they are located on site.

CHINESE CHANNEL TELEVISION / Beijing - China

Supervision of the electrical network of the building of the Chinese TV channel (CCTV)

DESCRIPTION

This 234m high building houses the offices of Chinese television, with a surface area of approximately 550,000 m².

PcVue is used for the following functions:

- Acquisition of 3,200 TOR and measurement points of the installation
- Logging and archiving of events and faults with a time discrimination better than 100ms, managed by end timestamp
- Operator remote management
- Balance sheets for power (daily, monthly, quarterly and annual)

HÔPITAL EDOUARD HERRIOT / Lyon - France

BMS of the Hospital

DESCRIPTION

The Edouard Herriot Hospital is the largest hospital in Lyon. Built from 1913 to 1933, it has 32 wings able to accommodate more than 1,000 beds. The BMS encompasses several constructors: Honeywell, Johnson, Schneider and Siemens and covers the HVAC, electrical distribution and elevators with on-call management.

PARIS AREA AEROPORTS / Paris - France

BMS of one of the Paris airport Terminals

DESCRIPTION

The BMS of the second largest air hub in Europe with around 63 million passengers per year covers the following technical equipment: The Low Voltage zones (one by building), the Climate zones (one per building), electromechanical zones, walkways and guidance patterns, the 400Hz network, the video surveillance system.

COLUN / Chile

BMS of the COLUN factory

DESCRIPTION

Founded in 1949, Colum is the largest dairy cooperative in Chile, with an annual throughput of over 500 million liters, and an average growth of 7% per year for ten years. Annual output of finished products reaches 220 million tons per year. PcVue supervises ventilation and air production.

HÔTEL RITZ / Paris - France

BMS of the hotel

DESCRIPTION

PcVue covers alarms, ventilation and temperature management and lights of the famous Place Vendôme hotel.

FINANCIAL CENTER TAIPEI 101 / Taipei - Taiwan

Energy management system of the TAIPEI 101 tower

DESCRIPTION

The Taipei 101 tower, which is 518 meters high, holds 3 impressive statistics: it is the 4th tallest building in the world, it contains one of the highest restaurants in the world, and it has the fastest elevator with 37 seconds between the ground floor and the 89th floor. The tower offers a total surface area of nearly 200,000 m² of office space. The PcVue BMS supervises mainly values related to the generator, the power output and interruptions and shutdowns

OPEN CONNECTIVITY SCADA SOFTWARE PLATFORM

In business for over 40 years, ARC Informatique is a forward-thinking industrial software editor with 16 offices worldwide. Using the latest technologies, ARC Informatique develops PcVue, a reliable, secure, and robust SCADA platform, dedicated to monitoring and control applications.

To answer the need of maintenance, energy saving and performance optimization in BMS, PcVue converges stakeholders' objectives using a common system of centralized supervision. The ability to analyze archived data and real-time events, coupled with advanced contextual mobility solutions, PcVue improves overall building efficiency and increase maintenance team responsiveness, ensuring optimal user comfort.

With 160+ dynamic team members, we are both physically very close and culturally compatible with our user base, thereby facilitating responsive customer care. Our ISO 9001, 14001 and 27001 certifications ensure quality, sustainability, and security in our development processes from design to delivery.



A CUSTOMER-ORIENTED APPROACH

Listen to and answer our customers
Develop and adapt our solutions via R&D
Responsive technical support.

GLOBAL PLAYER LOCAL APPROACH



CONTINUOUS QUALITY IMPROVEMENT



ARC Informatique is ISO 9001,
ISO 14001 and 27001 certified





Solutions for
#Smart Buildings

Industrial Facilities,
Data Centers, Office Buildings,
Universities,
Hospitals, Malls

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