about
BonC Innovators

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⬡ Company Profile

▮ Company Name	BonC Innovator Co., Ltd
▮ Date of Establishment	March 28, 2006
▮ Telephone	+82 70-4763-4730
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▮ E-mail	rnd@bonc.co.kr
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▮ Head office&Development center	909, 685, Bitgaram-ro, Naju-si, Jeollanam-do, Korea (58217)
▮ Factory	108, Home Robot Support Center, GwangjuTechnopark, 333, Chemdangwagi-ro, Buk-gu, Gwangju, Korea (61008)

⬡ Business Areas

SI·NI

Differentiated
System&Network Integration

- Specialized field SI(public sector)
- System analysis, design and development
- Package S/W based system development
- System management, operation and maintenance
- H/W, S/W integrated construction and management
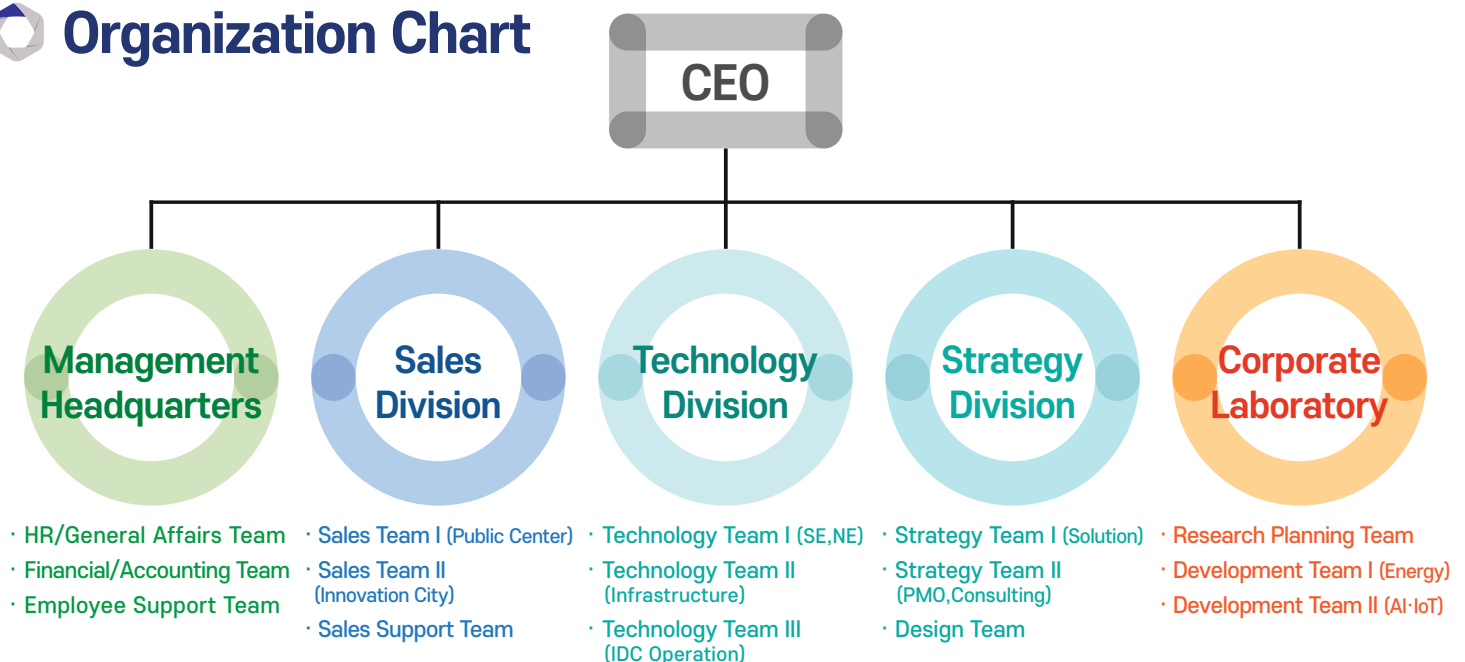
ITO

Effective
IT Outsourcing

- IT outsourcing consulting
- Network infrastructure operation service
- Application service
- Disaster recovery service
- Security management service

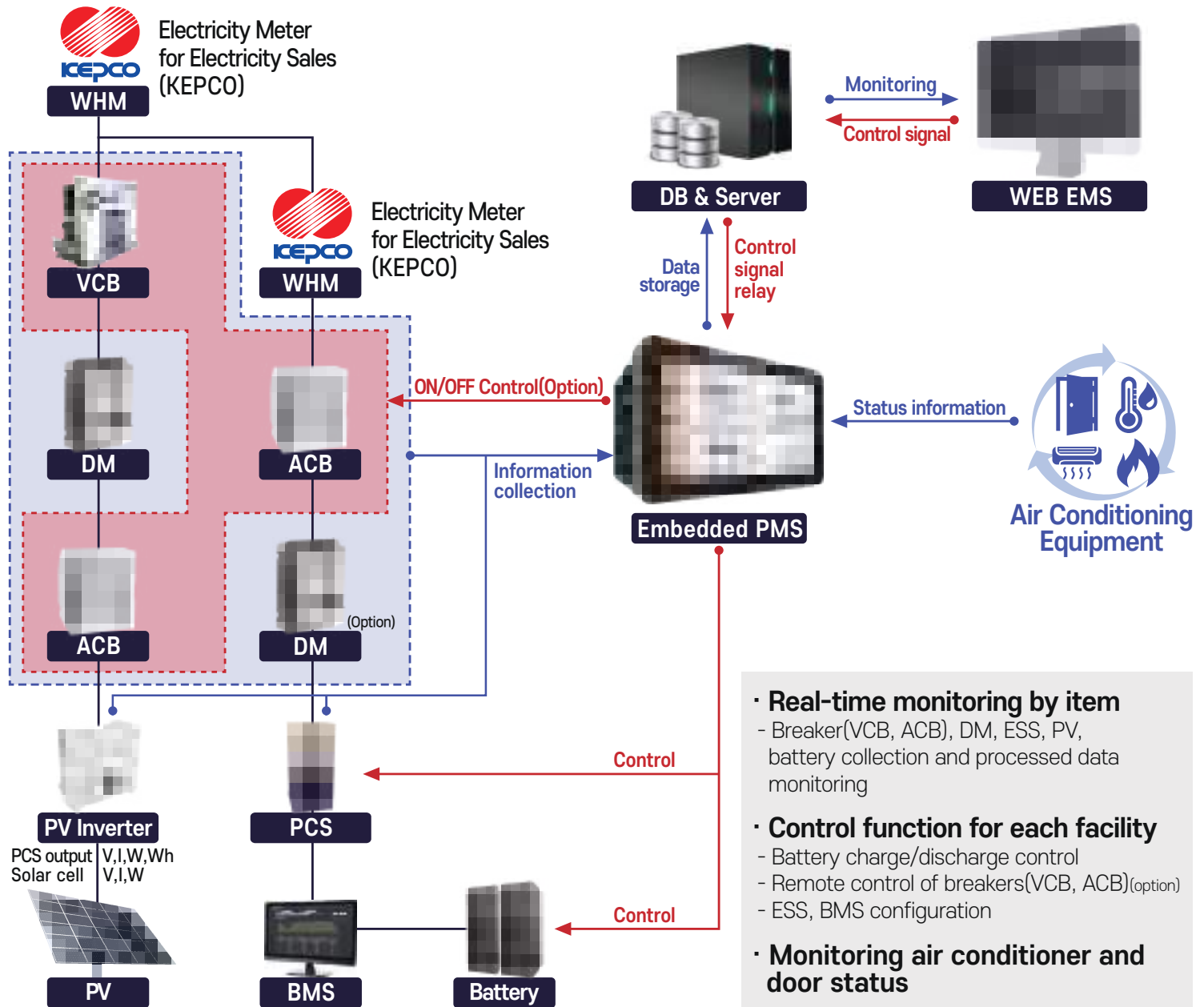## Biz Development

Leading
e-Biz Development

- Big data solution
- Open source-based solution development
- Smart device related development
- Mobile tablet PC based solution development

⬡ Organization Chart

CEO

- **Management Headquarters**
  - · HR/General Affairs Team
  - · Financial/Accounting Team
  - · Employee Support Team

- **Sales Division**
  - · Sales Team I (Public Center)
  - · Sales Team II (Innovation City)
  - · Sales Support Team

- **Technology Division**
  - · Technology Team I (SE,NE)
  - · Technology Team II (Infrastructure)
  - · Technology Team III (IDC Operation)

- **Strategy Division**
  - · Strategy Team I (Solution)
  - · Strategy Team II (PMO,Consulting)
  - · Design Team

- **Corporate Laboratory**
  - · Research Planning Team
  - · Development Team I (Energy)
  - · Development Team II (AI·IoT)

Configuration Diagram

- Electricity Meter for Electricity Sales (KEPCO)
- **WHM**
- **VCB**
- **DM**
- **ACB**
- Electricity Meter for Electricity Sales (KEPCO)
- **WHM**
- **ACB**
- **DM** (Option)
- **PV Inverter**
  - PCS output — V,I,W,Wh
  - Solar cell — V,I,W
- **PV**
- **PCS**
- **BMS**
- **Battery**
- **DB & Server**
  - Monitoring
  - Control signal
- **WEB EMS**
- Data storage
- Control signal relay
- ON/OFF Control(Option)
- Information collection
- **Embedded PMS**
- Status information
- **Air Conditioning Equipment**
- Control
- Control

- **Real-time monitoring by item**
  - Breaker(VCB, ACB), DM, ESS, PV, battery collection and processed data monitoring

- **Control function for each facility**
  - Battery charge/discharge control
  - Remote control of breakers(VCB, ACB)(option)
  - ESS, BMS configuration

- **Monitoring air conditioner and door status**

Applications

● EMS applied to new and renewable energy power plant

| Real-time element facility monitoring and error notification | + | Schedule-based power generating battery charge/discharge | + | Power charge control to power-generating quantity | + | REC and SMP revenue management |

● EMS applied to buildings, shopping malls, factories

| Real-time element facility monitoring and error notification | + | Schedule based power generation electric charge/discharge | + | Saved power and efficiency analysis | + | Power control based on demand response |

PCS/battery control monitoring

Battery charge/discharge
and state monitoring
PCS charge/discharge state monitoring
PCS charge/discharge schedule
and control
Emergency operation mode

Communication (interlocking) and security management

Communication and protocol
analysis/development
Communication and complementary
PMS connection technology

Data collection/storage /management

BMS, PCS state data management
ESS operational effect analysis
Charge/discharge schedule
/control and history data
Error and configuration information
Notification Service EVENT like SMS, etc.

Power Facility Monitoring

Real-time monitoring of load and GRID
Relay, Air Conditioning Equipment
Monitoring
Present State of Error and Analysis

Real-time facility viewing

- ESS operation status
- Battery charging/discharging status
- Solar power generation status
- Electricity sales status

PCS status inquiry

- PCS status
- Grid status
- Real time error code and error history inquiry
- Operation history inquiry

Battery status and error inquiry

- Battery status inquiry
- Battery protection system inquiry

PMS environment configuration

- System configuration
- Battery configuration
- PCS Control configuration
- PCS SET configuration

Power Management System "ON" of BonC Innovators Co., Ltd. provides with different functions required to manage and operate ESS associated to battery and new renewable energy such as photovoltaics, wind power, etc. Based on much research and experience, "ON" is compatible with PCS, batteries and instruments for measurement from different manufacturers. Power control is possible under different ESS environment. In addition, it supports demand response associated with DR protocol and peak control through schedule control. It can be utilized under various ESS application environments.

Main Page Details

Failure history by facility / Real time sales / PCS status / BSC/BMS status

Statistics Page Details

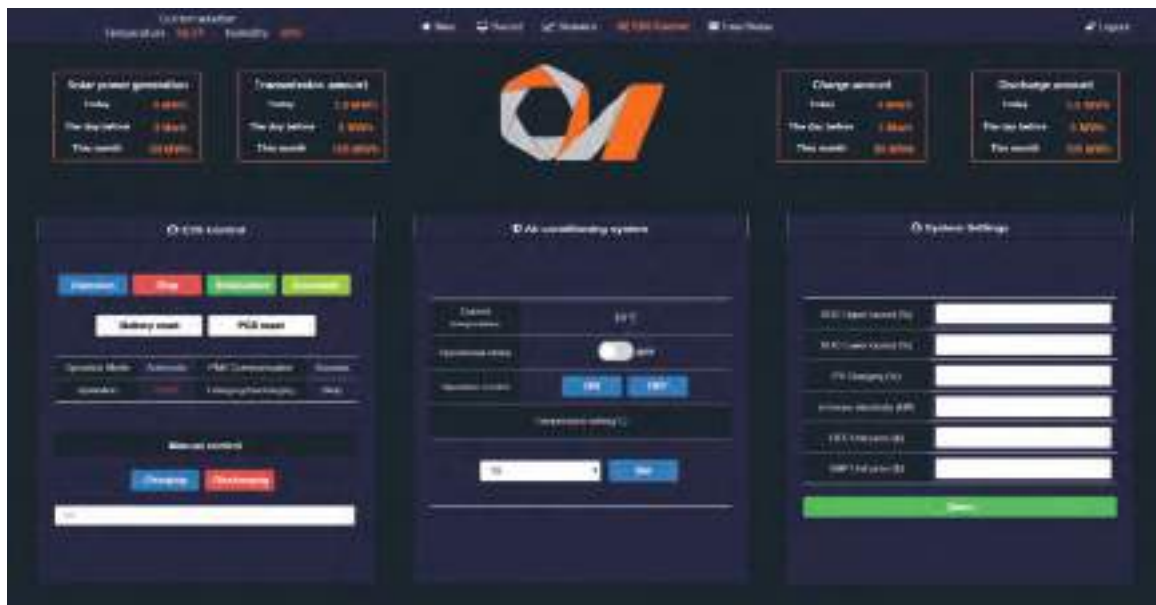Monthly data history inquiry / Daily detailed data inquiry

Remote EMS service support

- Users can check present state of operation anytime and anywhere by accessing remote PC on server and MOBILE.
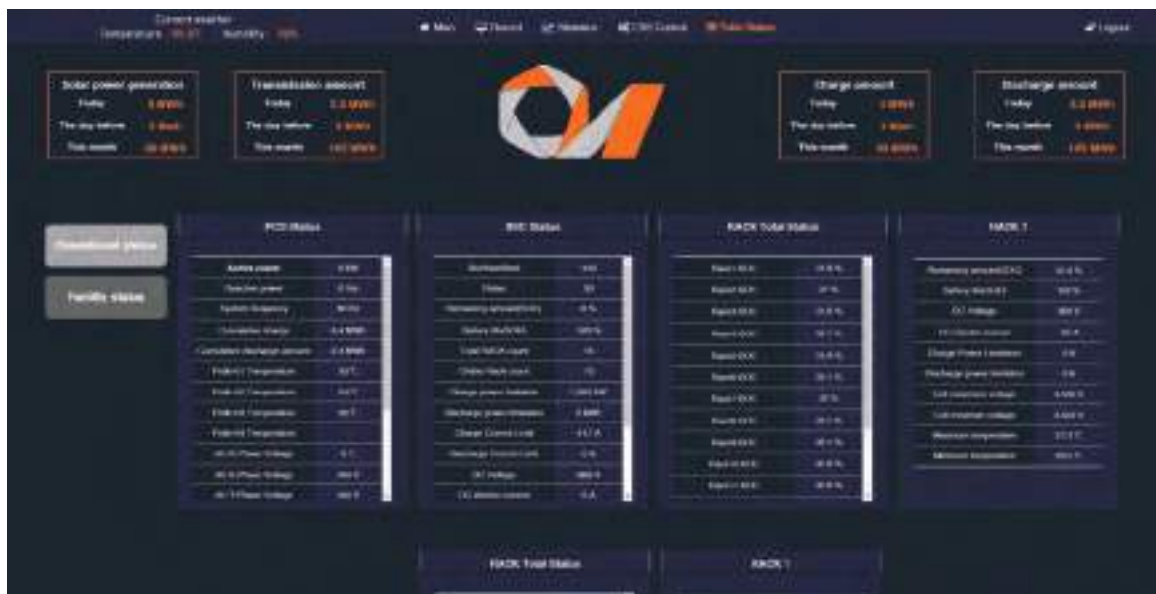- SMS notification and system notification service issue for ESS failure.

Optimization of LOCAL EMS/PMS

- Set trial run time for each ESS operation scenario and operate ESS to sense error in current ESS state.
- Calculate accurate profitability considering actual PCS output efficiency and ESS conversion efficiency.

ESS Control Page Details

ESS operation status check / ESS operation status control
/ air conditioning facility configuration / system configuration

Total Status Page Details

Overall status / PCS status / BSC status / RACK status / ESS-Meter status / PV-Meter status

Main Page Details

All services provided by ON EMS such as real time operation monitoring, statistics, facility information, events and facility control are supported by mobile platform of Android / IOS.

This provides an optimal layout in response to the display of the mobile device.
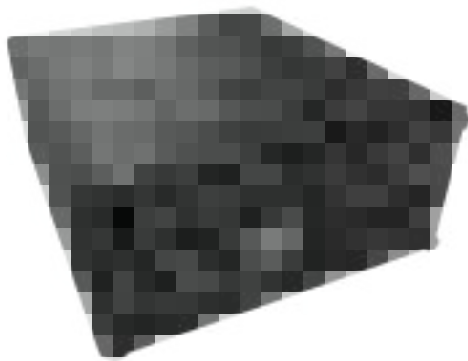

Record Page Details

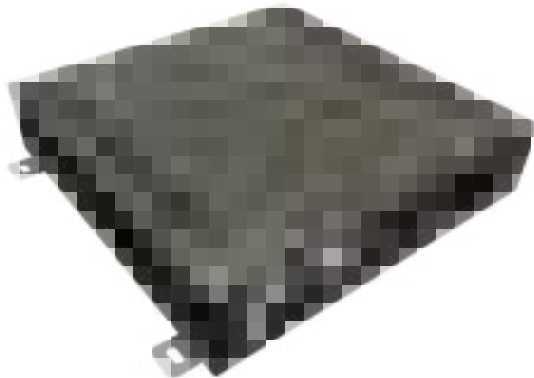**ESS Control** Page Details

Statistics Page Details

Product Specification

ONPMS100

CPU	ARM Coretex-A9 1.0GHz
HDD	eMMC 32GB
RAM	DDR3 2GB
Display	HDMI × 1
USB	2.0 × 2
Serial	COM port × 2
Network	RJ-45 LAN × 1
Power	Input DC 5V
Case	STEEL(110mm × 50mm × 124mm)

ONPMS300

CPU	Celeron 3955 2.0GHz dual core
HDD	SSD 2.5" 120G
RAM	DDR3 4GB
Display	HDMI × 1, D-SUB × 1
USB	2.0 × 2
Serial	COM port × 2
Network	RJ-45 LAN × 1
Power	12V 5A DC
Case	STEEL (200mm × 200mm × 45mm)

ONPMS500

CPU	Xeon Processor 3.5GHz
HDD	500GB
RAM	DDR4 8GB
Display	D-SUB × 1
USB	3.0 × 5
Network	RJ-45 LAN × 1
Power	460W
Case	STEEL, Case Nut Type Server Rack
All specifications can be negotiated.	