



# TATUNG

## Smart Building / Smart Energy Solutions

2016



# Company Profile

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<b>Established</b>	1918
<b>Capital</b>	US\$1.5 billion
<b>Revenue</b>	US\$3.64 Billion in 2014
<b>Employee</b>	Over 30,000 worldwide
<b>Headquarters</b>	Taipei, Taiwan



## Power BG

- › Industry Appliance BU
- › Motor BU

## System BG

- › **Smart Solution BU**
- › System Integration BU

## Consumer BG

- › Consumer Electronics BU
- › Advanced Electronics BU

# Tatung Group Global Investment Division



- Electronics & Information Business    • Optoelectronics    • Energy Solutions Business    • Telecommunication
- Retail Channel Business    • Industrial Appliance Business and System    • Chemical Engineering Business
- Asset Development Business    • Home Appliance Business    • Moto Business    • Others



## Taiwan Tatung Co.

- Power Business Group
- Consumer Business Group
- System Business Group
- Real Estate Asset Management Division

## Investments

- Chunghwa Picture Tubes, Ltd.
- Forward Electronics Co., Ltd.
- Shan Chih Semiconductor Co., Ltd. (Reinvest GET)
- Shan Chih Asset Development Co., Ltd.
- Tatung Consumer Products (Taiwan) Co., Ltd.
- Chunghwa Electronics Development Co., Ltd.
- Tatung System Technologies Inc.
- Tatung Fine Chemicals Co., Ltd.
- Toes Opto-Mechatronics Co., Ltd.
- Tatung Medical & Healthcare Technologies Co., Ltd.
- Shan Chih Investment Co., Ltd.
- Chih Sheng Investment Co., Ltd.
- Elitegroup Computer Systems Co., Ltd.
- Others

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# *Smart Residential Building Solution*



# Content

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1. SBMS Solutions Overview
  - 1.1 Smart Residential Building
  - 1.2 Smart Commercial Building
2. Tatung SBMS Architecture
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4. Demo Video

# 1. Tatung SBMS Solutions Overview

## TATUNG Cloud

- Data Collection
- Data Analysis & Storage
- Data Access & Computing



## Tatung Smart Building Management System

- Demand Management
- Scheduling Management
- Electricity Sharing
- Predictable Maintenance
- Power Analysis

## Smart Residential Building Solution



Smart Energy Saving

Smart Healthcare

Smart Security

Smart Living

## Tatung Intelligent Gateway

## Smart Commercial Building Solution



Smart Office

Smart Conference Room

Smart Parking

Smart Renewable Energy

# 1.1 Smart Residential Building Successful Projects – on going in Taiwan

Tatung Smart Manor, 5S Green Community, was awarded the Design Award (TIBA Gold) in Aug, 2015.

Our goal is to obtain the certification in “Diamond Intelligent Building” and “Golden Green Building.”



## Features

### Smart Community

- Centered on green building, the community is going to be built into a microclimate regulated park featuring ecology, energy efficiency, CO2 reduction.

### Smart Energy Saving

- Energy Management System can record the electricity consumption of home appliances.
- Energy Visualization

### Smart Living and HealthCare

- Scenario control and home appliances control
- Save on energy bills.
- Provide physiological data to keep track of resident’s health and medical adoption records.
- Help in the prevention of diseases and accidents.

### Smart Safety and Security

- Send notifications and alerts to mobile devices when accidents happen.
- Accidents prevention
- License Plate Recognition(LPR)

### Smart Property Management

- The electronic butler works 24-7.
- With an APP, the vast community is at your finger tip.
- One access card

# 1.1 Smart Residential Building Solution Providers



# 1.1 Tatung Smart Manor Estimated Benefit

## Energy Saving Estimated Benefit

### Environmental goals

**Water saving 30%**



- ⑩ Estimated water usage of three public facilities is around 15,000 m<sup>3</sup> /Y
- ⑩ Rainwater recycling save 5000 m<sup>3</sup> /Y

**CO<sub>2</sub> Reduction 40%**



- ⑩ Estimated power usage of three public facilities is 1,860,000 kWh / Y  
(CO<sub>2</sub>: 1153 tons)
- ⑩ Carbon reduction :466 tons

### Energy Saving goals

**Energy Saving 30%**



- ⑩ Estimated power usage of three public facilities is around 1,860,000 kWh /Y
- ⑩ Power generation of solar power 66,000 kWh/Y
- ⑩ Energy-saving elevator save 12 million kWh/Y
- ⑩ Swimming pool heat pump save 360,000 kWh /Y

## 1.2 Smart Commercial Building Successful Projects - Taiwan

The ECS building located in Neihu is an existing building that has in all its infrastructure intelligence systems with different functionalities such as Smart Office, Smart Conference Room, Smart Parking and Smart Renewable Energy.



### Features

#### Smart Office

- employee clock-ins and clock-outs directly affects office area lighting and air conditioning.
- Air quality control automatically.

#### Smart Conference Room

- Upon visitor arrival all equipment adapt to suit various conference schemes according to the designated settings.
- On-site adjustments can also be made by handheld devices.

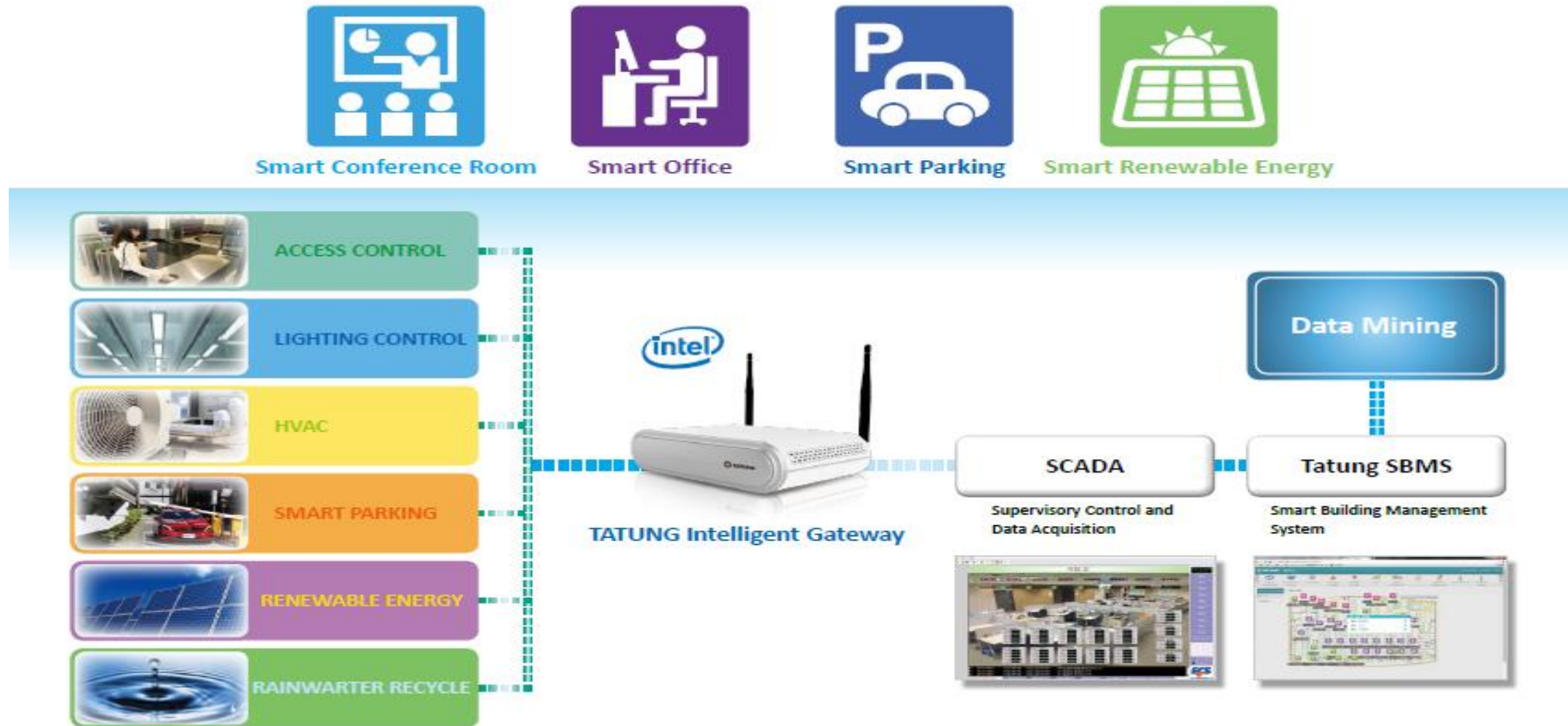
#### Smart Parking

- VIP parking space reservation and indication
- Real time parking space management and license plate recognition(LPR)

#### Smart Renewable Energy

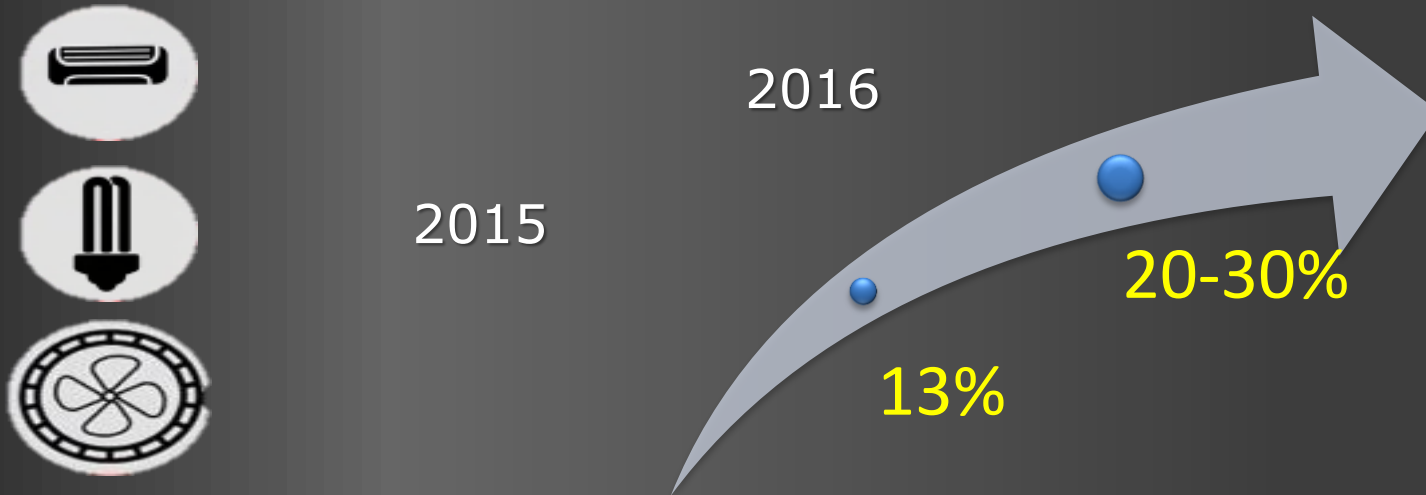
- Grid-Connected Operation with renewable energy
- Reuse rainwater

## 1.2 Smart Commercial Building Solution Providers



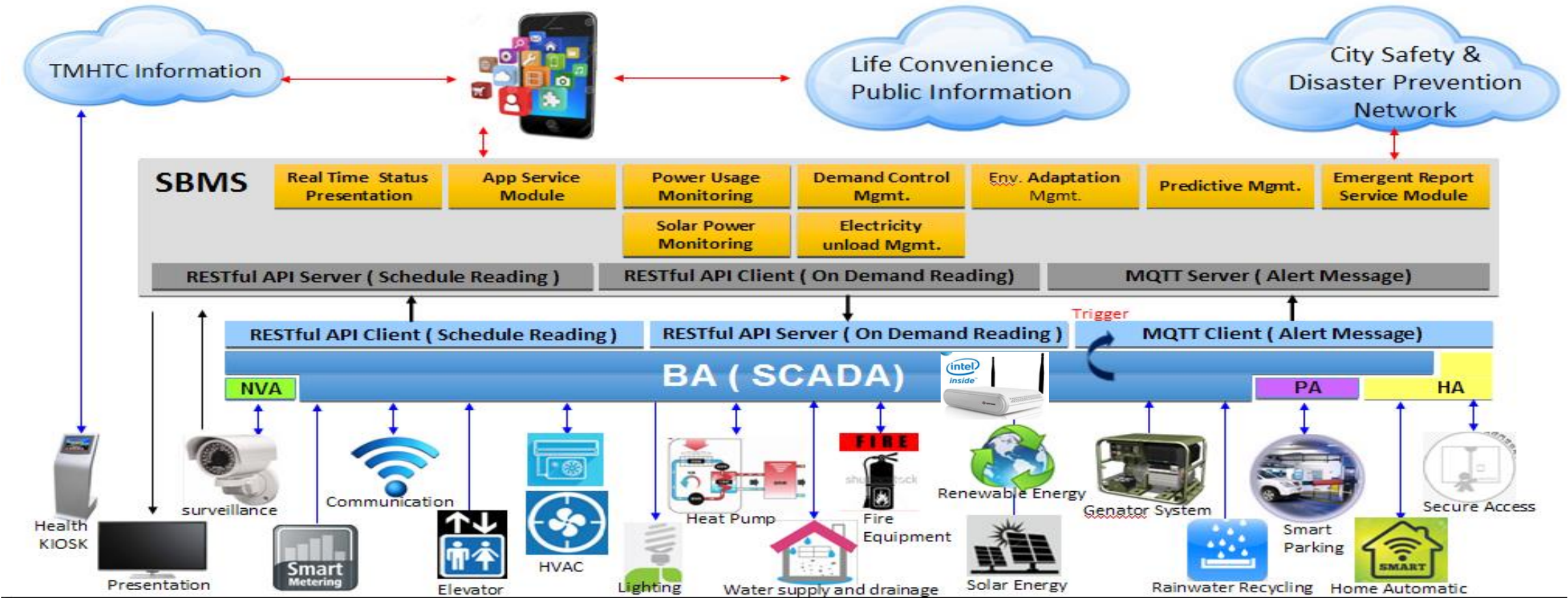
## 1.2 ECS Smart Building Estimated Benefit

### Energy Saving from ECS Smart Building



- With the deployment of Smart Building Management Solutions with ECS Intelligent Gateways, ECS expect to save about 13% in power usage for the 1<sup>st</sup> year.
- As the solution continues to enhance and operate, we would expect to save approximately 20-30% in 2016.

## 2. Tatung SBMS Architecture

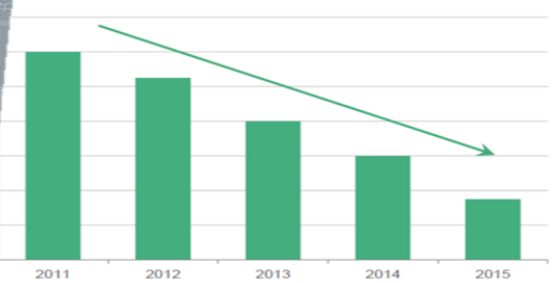
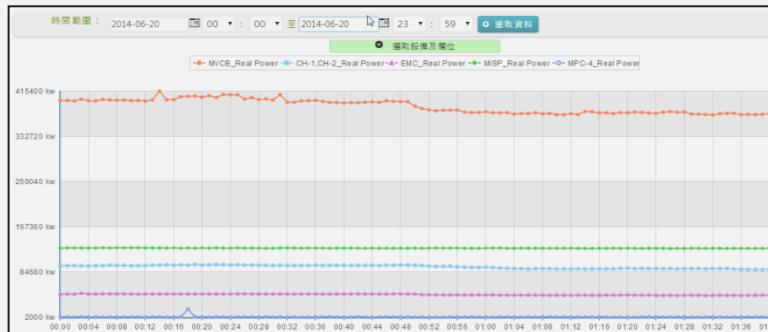
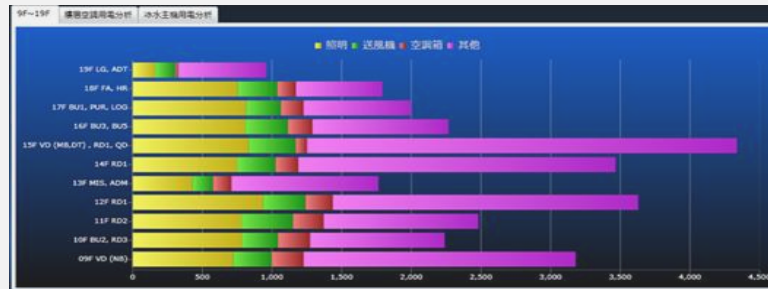


# Power Usage/Demand Control/ Electricity Unload

According the power usage report, building manager can understand distribution of electricity using, easily manage energy use



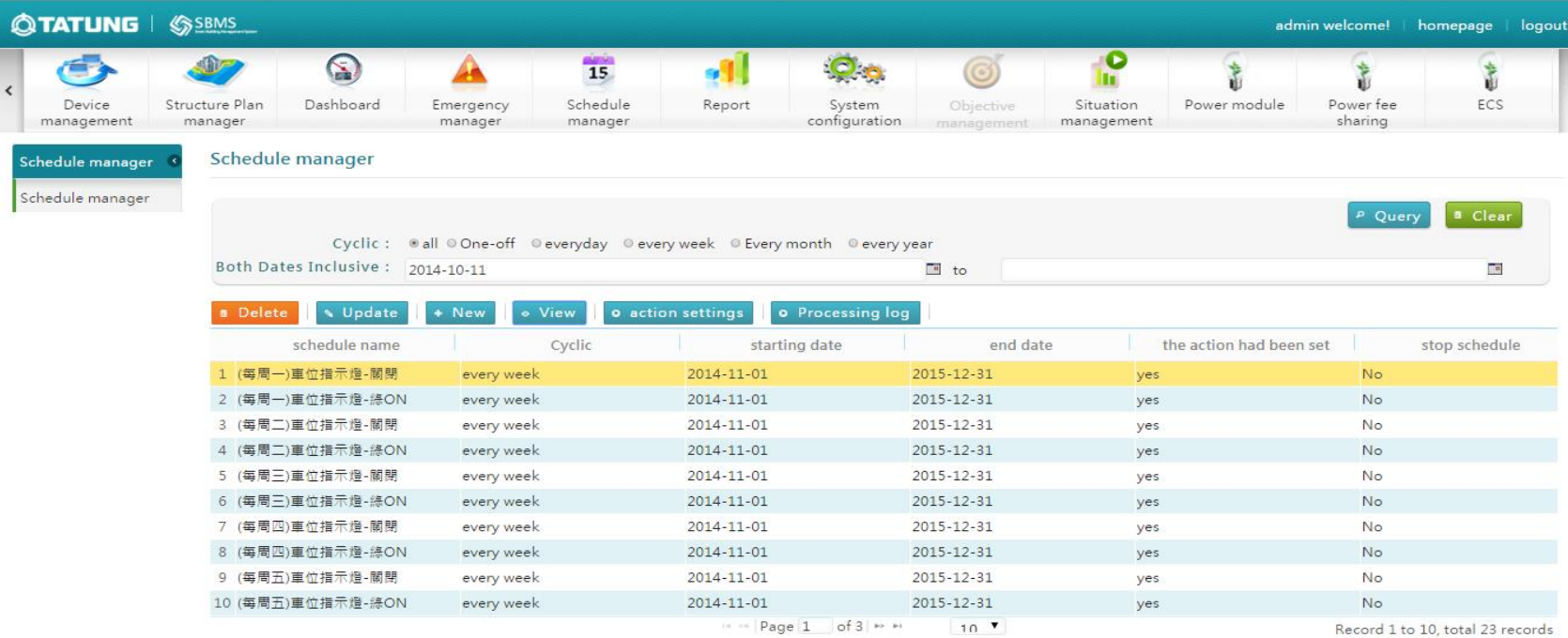
Each devices/ floors/ department power visualization



1. Release company new regulations
2. Setting SBMS(environment control ) to help reduce building energy waste
3. Setting SBMS(power target management )and (unload standard) to help control the power usage

# Schedule Management

Reduce human error/ Improve the energy usage efficiency  
 ( Suitable integrate into schools and commercial buildings)



**Schedule manager**

Cyclic :  all  One-off  everyday  every week  Every month  every year

Both Dates Inclusive : 2014-10-11 to

[Delete](#) [Update](#) [New](#) [View](#) [action settings](#) [Processing log](#)

schedule name	Cyclic	starting date	end date	the action had been set	stop schedule
1 (每周一)車位指示燈-關閉	every week	2014-11-01	2015-12-31	yes	No
2 (每周一)車位指示燈-綠ON	every week	2014-11-01	2015-12-31	yes	No
3 (每周二)車位指示燈-關閉	every week	2014-11-01	2015-12-31	yes	No
4 (每周二)車位指示燈-綠ON	every week	2014-11-01	2015-12-31	yes	No
5 (每周三)車位指示燈-關閉	every week	2014-11-01	2015-12-31	yes	No
6 (每周三)車位指示燈-綠ON	every week	2014-11-01	2015-12-31	yes	No
7 (每周四)車位指示燈-關閉	every week	2014-11-01	2015-12-31	yes	No
8 (每周四)車位指示燈-綠ON	every week	2014-11-01	2015-12-31	yes	No
9 (每周五)車位指示燈-關閉	every week	2014-11-01	2015-12-31	yes	No
10 (每周五)車位指示燈-綠ON	every week	2014-11-01	2015-12-31	yes	No

Page 1 of 3 | Record 1 to 10, total 23 records

1. Scheduling (daily, weekly, monthly)
2. Data Records

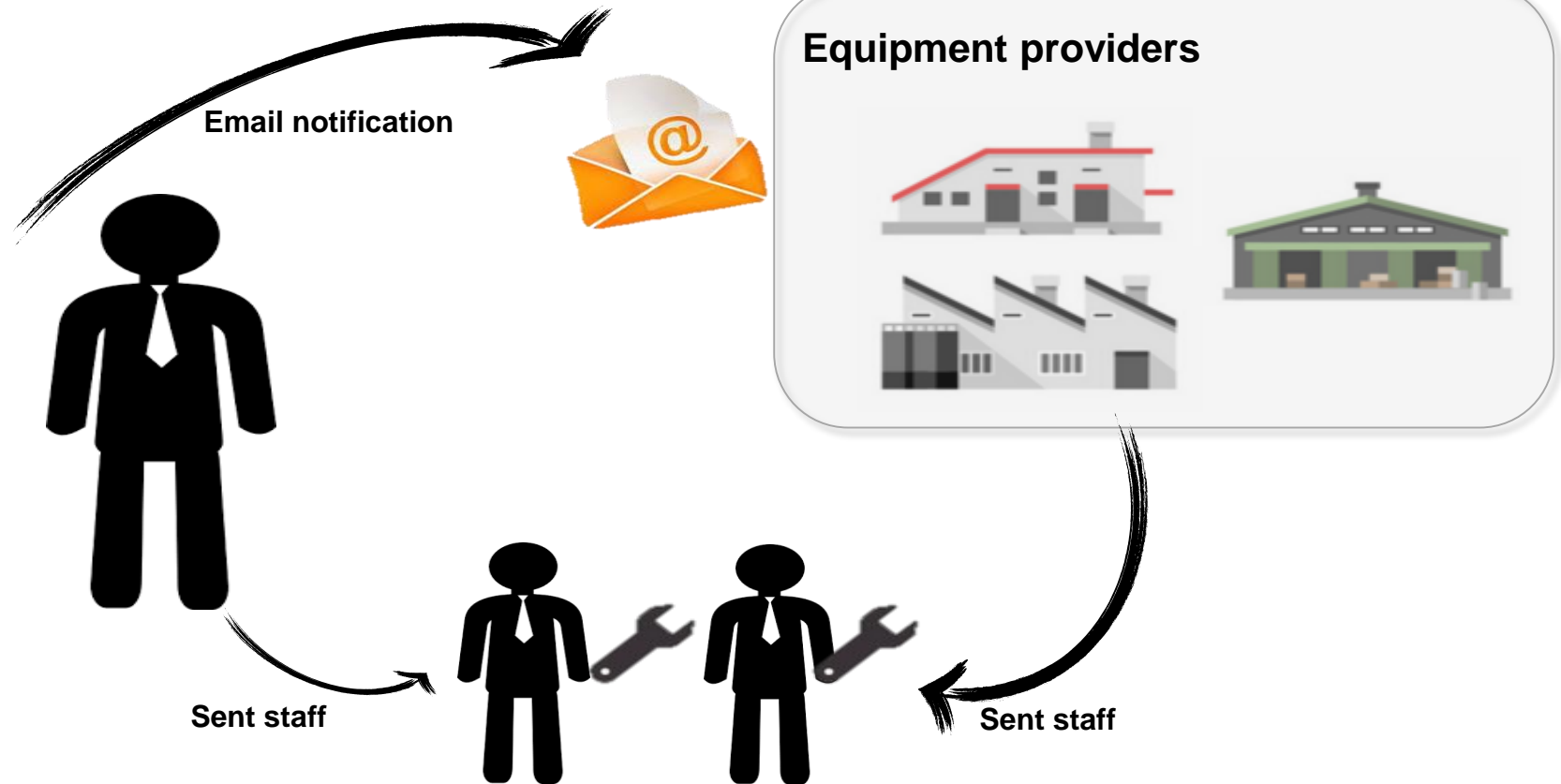
# Emergent Report Management

Avoiding the accidents and reducing the time of aberrant/ malfunction exclude

1. Equipment's aberrant notification
2. Equipment's malfunction notification



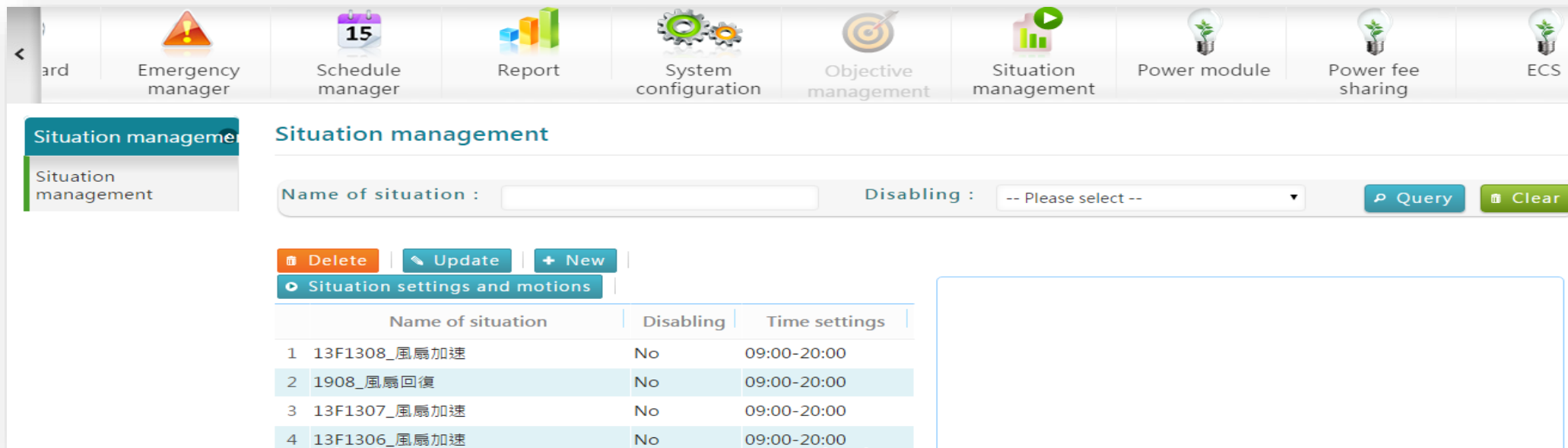
设备名称	设备地址	报警	报警时间	报警清除
16F_1602_送纸器				
02F_201_输送带_3m1	精筑大楼_2F_2F-福莱	●		
02F_201_送纸器		●		
02F_202_输送带_3m1	精筑大楼_2F_2F-福莱	●		
02F_202_送纸器		●		
02F_203_输送带_3m1	精筑大楼_2F_2F-福莱	●		
02F_203_送纸器		●		
02F_204_输送带_3m1	精筑大楼_2F_2F-福莱	●		
02F_204_送纸器		●		
02F_205_输送带_3m1	精筑大楼_2F_2F-福莱	●		
02F_212_输送带_3m1	精筑大楼_2F_2F-福莱	●		
02F_212_送纸器		●		
02F_213_输送带_3m1	精筑大楼_2F_2F-福莱	●		
02F_213_送纸器		●		
02F_214_输送带_3m1	精筑大楼_2F_2F-福莱	●		
02F_214_送纸器		●		
02F_215_输送带_3m1	精筑大楼_2F_2F-福莱	●		
02F_215_送纸器		●		



Equipment's aberrant/ malfunction exclude

# EV. Adaption Management

By Setting different building's situation, it'll makes working environment more convenient



**Situation management**

Name of situation :  Disabling : -- Please select -- Query Clear

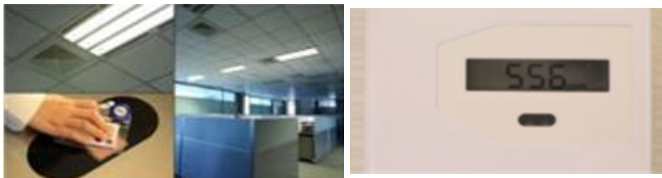
Delete Update + New

**Situation settings and motions**

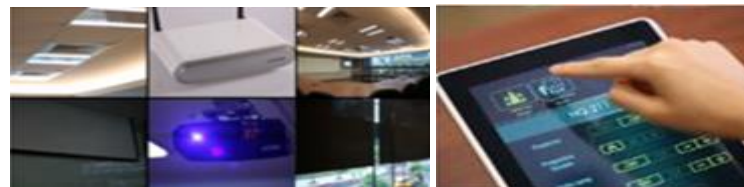
	Name of situation	Disabling	Time settings
1	13F1308_風扇加速	No	09:00-20:00
2	1908_風扇回復	No	09:00-20:00
3	13F1307_風扇加速	No	09:00-20:00
4	13F1306_風扇加速	No	09:00-20:00



## Smart meeting room










## Smart office



## Smart parking



### 3. Tatung SBMS Functions

Electricity	Lighting	Air Con.	Water-saving	Environmental Control	Heat Pump	Renewable Energy
						
<ul style="list-style-type: none"> <li>●power consumption data collecting</li> </ul>	<ul style="list-style-type: none"> <li>●digital lighting circuit control</li> </ul>	<ul style="list-style-type: none"> <li>●liquid chiller monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●water metering</li> </ul>	<ul style="list-style-type: none"> <li>●temperature and humidity monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●monitoring and test</li> </ul>	<ul style="list-style-type: none"> <li>●PV</li> <li>●wind turbine</li> </ul>
<ul style="list-style-type: none"> <li>●power quality monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●sensor monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●packaged air conditioner monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●water usage monitoring and stat. analysis</li> </ul>	<ul style="list-style-type: none"> <li>●air quality detection</li> </ul>	<ul style="list-style-type: none"> <li>●hot water temperature monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●power conversion system</li> </ul>
<ul style="list-style-type: none"> <li>●switchgear monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●scheduling</li> </ul>	<ul style="list-style-type: none"> <li>●multi-split air conditioner monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●event report</li> </ul>	<ul style="list-style-type: none"> <li>●fire warning</li> </ul>	<ul style="list-style-type: none"> <li>●temperature adjustment</li> </ul>	<ul style="list-style-type: none"> <li>●wind direction and speed monitoring</li> </ul>
<ul style="list-style-type: none"> <li>●transformer temperature monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●two-wire lighting</li> </ul>	<ul style="list-style-type: none"> <li>●remote power monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●water-level monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●steam detection</li> <li>●gas detection</li> </ul>	<ul style="list-style-type: none"> <li>●operating control</li> </ul>	<ul style="list-style-type: none"> <li>●grid-connected system</li> </ul>
<ul style="list-style-type: none"> <li>●power consumption analysis</li> <li>●billing</li> </ul>		<ul style="list-style-type: none"> <li>●off-load circuit monitoring</li> </ul>	<ul style="list-style-type: none"> <li>●pump monitoring</li> </ul>		<ul style="list-style-type: none"> <li>●fault warning</li> </ul>	<ul style="list-style-type: none"> <li>●fault warning</li> </ul>
<ul style="list-style-type: none"> <li>●Motor monitoring</li> </ul>		<ul style="list-style-type: none"> <li>●sensor monitoring</li> </ul>				

Gray color = Developing project

*Smart solutions (Video)*



***Thank you***

**Contact**

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