



Smart City

Health Energy Transportation Environment



**Institute for Information Industry
Republic of China (Taiwan)**

April 03, 2017



1. e-Registration System for Hospital Network

- **Proven solution in Vysocina, Czech Republic and Asia**
 - Czech Republic successful e-Registration system implementation and operation in Vysocina Regional Hospitals with +57,000 users
“2011 Best e-Government Service” prize awarded in Nov. 2011
 - (1) Jihlava Hospital, system operation started in June 2011
 - (2) Pelhrimov Hospital, system operation started in Feb 2012
 - (3) 3 hospitals, system operation started in June 2012



Registration System
The Best e-Government Service 2011 Award in Czech Republic
A Corporate Project of Vysocina Region, Czech Republic and
Institute for Information Industry (III), Taiwan



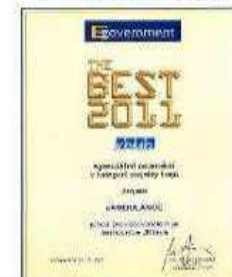
- **More than 30 hospitals with e-Registration System, Integrated Hospital Information System implemented in Taiwan, China, Vietnam**



More than 57,000 Users

2011 Best e-Government Award, Czech

Registration System
The Best e-Government Service 2011 Award (Czech Republic)
A Cooperation Project of Strategy Region, Czech Republic and
Institute for Information Industry (III), Taiwan



Kraj Vysočina | Titulní stránka - Windows Internet Explorer

http://www.kr-vysocina.cz/

Soubor Úpravy Zobrazit Obíbené položky Nástroje Nápověda

Kraj Vysočina | Titulní stránka

Přesíst Vypnout grafiku Vytisknout Telefonní seznam Mapa stránek Hledat

Kraj Vysočina

OFICIÁLNÍ INTERNETOVÉ STRÁNKY KRAJE VYSOČINA

česky | english | français

Cesta: Titulní stránka


- Servis pro
 - novináře
 - obce
 - podnikatele
 - příspěvkové organizace
 - samosprávu kraje
 - turistů
- Téma
 - analytické a statistické služby
 - bezpečnost a mimořádné situace
 - doprava
 - dopravní informace
 - eHealth
 - finance
 - GIS a mapy
 - informační technologie
 - integrovaný systém nakládání s odpady Vysočina
 - kancelář kraje Vysočina v Bruselu
 - koncepční, strategické a

Tiskové zprávy Vybíráme Poslední dokumenty

- Soutěž pro středoškoláky: S Vysočinou do Evropy po prvních dvou kolech (6.11.2010)**

Průběžná část vědomostní soutěže S Vysočinou do Evropy úspěšně odstartovala. Soutěžící z řad středoškoláků ze 34 středních škol v kraji mají za sebou dvě kola, která proběhla začátkem a koncem října. Stejně jako loni hledají přihlášení studenti v každém z pěti kol odpovědi na sedm různých náročných otázek, které postupně prověří jejich znalosti a povědomí o našem regionu.
- Avízo mezinárodní konference k Využití a výhodě open source softwaru ve veřejné správě (6.11.2010)**

Ve dnech 1. – 2. prosince 2010 se ve španělském městě Badajoz uskuteční konference věnovaná využití open source softwaru (OSS) ve veřejné správě (www.osepa.eu/conferencia/en/).
- Krajský seminář na téma prevence internetové kriminality (5.11.2010)**

 Tým Individuálního projektu „Podpora systému primární prevence sociálně patologických jevů“ vedený Mgr. Dominikou Štěrbovou uspořádal dne 3. listopadu 2010 v sídle Krajského úřadu kraje Vysočina odbornou konferenci na téma „Prevence internetové kriminality“ pro pracovníky ze školství, policie i z dalších odborných institucí a organizací a pro účastníky z řad veřejnosti. Seminář proběhl za účasti radních kraje Petra Krčáka, radního oblast sociálních záležitostí, multikulturní spolupráci a sociálně patologických jevů, Zdeňka Ryšavého informatiky, životního prostředí, územního plánování a Marie Kružíkové, radní pro oblast školství.
- V regionu Jihovýchod už se opět schvalují evropské projekty (3.11.2010)**

Regionální rada Jihovýchod dnes uvolnila přidělování dotací z Regionálního operačního programu Jihovýchod. Peníze

Hotovo

Internet 100%



Hospital Internet-Registration/System Benefits

1. Citizens

Make appointment any time, places, devices via Internet

Know doctor expertise, schedule and hospital news easily

Reminding appointment

No more long waiting for diagnosis or treatment

Make appointment to multiple city hospitals

Referring from Clinic/GP system

2. Doctors / Nurses

Know up-to-date patient appointment list and symptoms

Flexible setting session maximum registration number

Make patient next appointment in hospital

Know patient visiting pattern by gender, age,.. etc.

Know attended, canceled, no show patient number

3. Government / Hospital Executives

Offer versatile appointment services to citizens

Know patient visiting pattern by age, gender, area, profession ,etc.

Know patient service loading number by hospital, unit, doctor, time interval, etc.

4. Hospital Counter Staff

No need to re-type patient demographic data, etc.

No need to generate patient visiting statistic report manually



Benefits: Citizens



Vysocina Region E@mbulance

Cesky | English

Path: Home Page >> eAmbulance System >> Registration by Ambulance

Registration
Inquiry/Canceling
Registration by Ambulance
Registration by Physician
Patient Data Maintenance

Registration by Ambulance

Current Ambulance : Ambulance botest

Appointment Date	Session	Physician	Current No.	Max.No.	Usage Rate
11.02.2015 (Wednesday)	13:00 - 14:00		0	1	0.00%
18.02.2015 (Wednesday)	13:00 - 14:00		0	1	0.00%
25.02.2015 (Wednesday)	13:00 - 14:00		0	1	0.00%
04.03.2015 (Wednesday)	13:00 - 14:00		0	1	0.00%
11.03.2015 (Wednesday)	13:00 - 14:00		0	1	0.00%
18.03.2015 (Wednesday)	13:00 - 14:00		0	1	0.00%
25.03.2015 (Wednesday)	13:00 - 14:00		0	1	0.00%
01.04.2015 (Wednesday)	13:00 - 14:00		0	1	0.00%

Make appointment

- ◆ any time
- ◆ any places
- ◆ any devices





Benefits: Citizens

e-Registration system



Your Appointment Information :

1. Appointment Date/Session: 27.03.2013(Wednesday)15:00 - 16:00
2. Ambulance: Test Ambulance
3. Physician: Dubán Štefan
4. Sequence: 1
5. Max.No.: 11

No more long waiting:

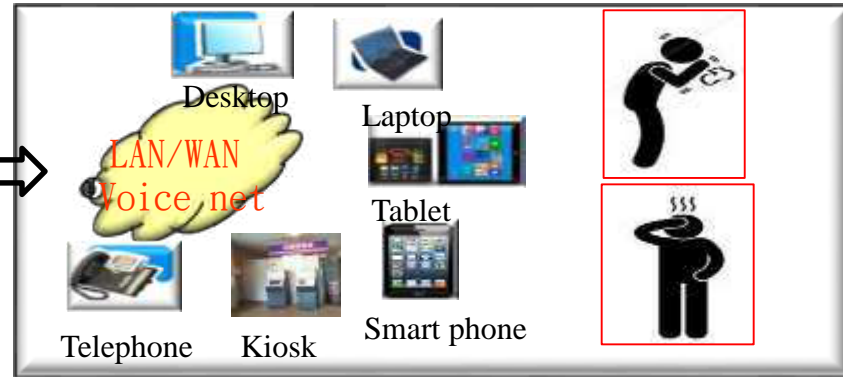
- ◆ Know the visiting time





Benefits: Citizens

e-Registration system

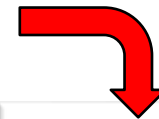


Department	Testovací ambulance, Test Ambulance, Kožní Ambulance	
Name	Dubán Štefan	
Education		
Experience		
Speciality		
Additional Description		

Close

Know :

- ◆ Doctor expertise,
- ◆ Doctor schedules
- ◆ Hospital News



Make appointment to expected:

- ◆ Doctor
- ◆ Schedule

Vysocina Region E@mbulance

Registration by Physician

Appointment Date	Session	Ambulance	Current No.	Max.No.	Usage Rate
28.01.2015 (Wednesday)	10:00 - 11:00	Kožní ambulance - MUDr. Dubán	4	4	100.00%
04.02.2015 (Wednesday)	10:00 - 11:00	Kožní ambulance - MUDr. Dubán	4	4	100.00%
11.02.2015 (Wednesday)	10:00 - 11:00	Kožní ambulance - MUDr. Dubán	2	4	50.00%
18.02.2015 (Wednesday)	10:00 - 11:00	Kožní ambulance - MUDr. Dubán	1	4	25.00%
25.02.2015 (Wednesday)	10:00 - 11:00	Kožní ambulance - MUDr. Dubán	0	4	0.00%
04.03.2015 (Wednesday)	10:00 - 11:00	Kožní ambulance - MUDr. Dubán	0	4	0.00%
11.03.2015 (Wednesday)	10:00 - 11:00	Kožní ambulance - MUDr. Dubán	0	4	0.00%
18.03.2015 (Wednesday)	10:00 - 11:00	Kožní ambulance - MUDr. Dubán	1	4	25.00%
25.03.2015 (Wednesday)	10:00 - 11:00	Kožní ambulance - MUDr. Dubán	0	4	0.00%

Vysocina Region eAmbulance System

User Login

Hospital: Hospital Jihlava

Birthday Number:

PIN Number:

Verification Number:

Log In

Hospital News

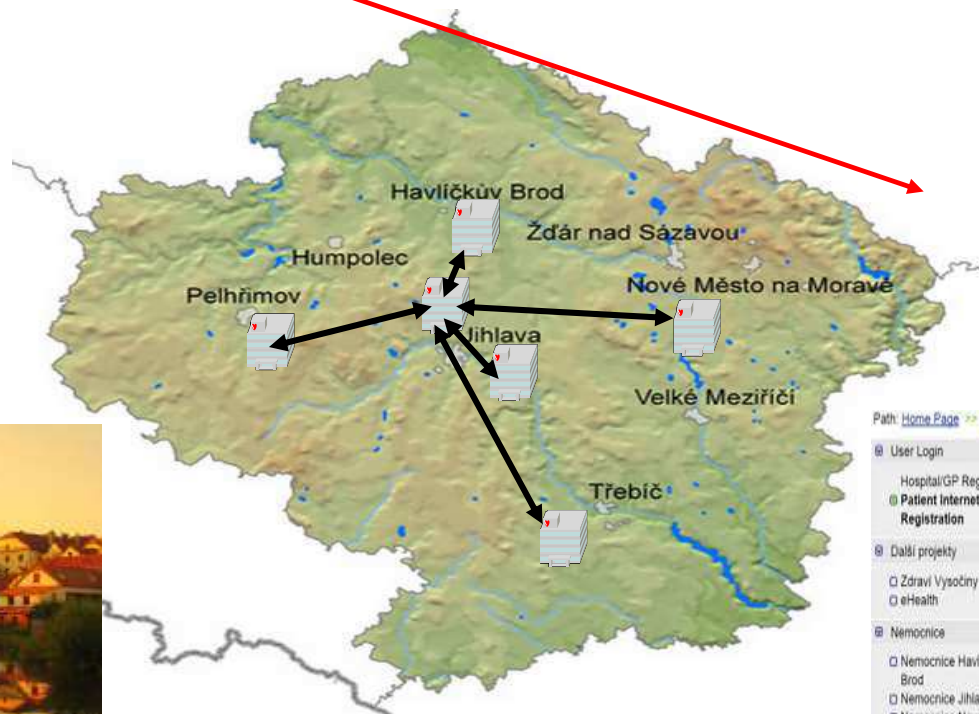
- [2010-09-21] Vítejte v novém registračním systému e@mbulance
- [2010-07-10] ahoj ahoj ahoj ahoj ahoj ahoj
- [2010-07-10] Successful Treatment of a Newborn with Congenital Hip Diseases
- [2010-07-08] Update on the management of Thyroid-associated ophthalmopathy

Hospital group or multi-location support for City and Region



1. Karlovarský	8. Královéhradecký
2. Plzeňský	9. Pardubický
3. Ústecký	10. <u>Vysočina</u>
4. Středočeský	11. Olomoucký
5. Praha	12. Jihomoravský
6. Jihočeský	13. Moravskoslezský
7. Liberecký	14. Zlínský

- Hospital group
 - ◆ Hospital Jihlava
 - ◆ ...
- Multi-location
- Integrate with local GP system



Path: [Home Page](#) >> [Ambulance System](#) >> [User Login](#)

- User Login
- Hospital/GP Registration
- Patient Internet Registration
- Další projekty
 - Zdraví Vysočiny
 - eHealth
- Nemocnice
 - Nemocnice Havlíčkův Brod
 - Nemocnice Jihlava
 - Nemocnice Nové Město na Moravě
 - Nemocnice Pelhřimov
 - Nemocnice Třebíč

Patient Internet Registration

User Login

Hospital: Hospital Jihlava

Birthday Number:

PIN: Hospital Jihlava

Verification Number: Hospital Pelhřimov

Note: "*" means required fields. [Login](#)



2. Intelligent Energy Management System (IEMS) Cloud-based In-Snergy Provides 4+1 Solutions

Global Services

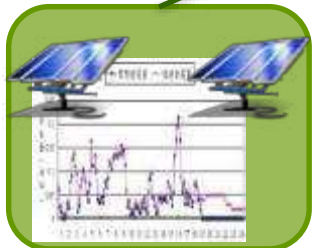


Green IOT Cloud Services

API
SDK

Strtaus

Green IOT Applications



In-Solar

Renewable Energy Solutions



Ectuary

Enterprise Energy Management Solutions



iFamily

Smart/Green Home Solutions



In-Light

Smart Lighting Management Solutions



Cloud-Based Intelligent Energy Management System (IEMS)

World 2011 R&D 100 Awards – More than 45 International Patents

In-Snergy (Internet Smart energy):



- Green IOT(Internet of Things) Platform
- Internet-based cloud technology offers always-on 24 hours a day year-round service in monitoring and optimizing electricity usage environment to raise power usage efficiency and help to ensure comfortable outdoor and indoor environments
- Simple, adaptable, ready-to-use energy monitoring and management solution, applicable in various environments
- A scalable cloud platform, that is easily installed to offer the desired features based on end-customers' needs
- Capable to interact with and manage large-scale sensor equipment
- Based on Open data communication interface (JSON/ SOAP) that can easily integrate with commercially available sensor devices, electric meters, and others
- **More than 370 users worldwide in Europe, Africa, Asia**



2.1 Successful 12% Power / Cost Saving through Demand Power Management and Energy Efficiency Implementation in Factory in the Philippines - 2014



高雄市立圖書館左新分館運表 (H12HKPL-000101010113) 2014-10-29 Daily demand

	Energy Consumpt(kWh)	Maximum Demand(kW)
Full period	1,370.59	111.02
Peak	887.42	111.02
Semi-peak	40.17	22.02



The chart shows the power consumption and the power demand are not matching. It indicates some equipment are powered-on in the same time.

Hour	0-15	15-30	30-45	45-60	kWh	Hour	0-15	15-30	30-45	45-60	kWh
0-1	1.92	3.84	2.96	3.20	2.88	12-13	102.10	105.26	101.80	103.04	103.05
1-2	3.20	2.66	2.88	2.90	2.88	13-14	102.40	103.04	103.98	102.06	102.87
2-3	1.92	3.84	2.96	2.96	2.72	14-15	103.08	104.62	103.88	108.30	104.17
3-4	3.20	2.86	3.54	4.48	3.52	15-16	109.12	108.80	106.88	108.80	108.15
4-5	3.50	2.90	2.86	2.26	2.88	16-17	105.98	109.14	106.16	109.44	108.41
5-6	2.66	3.84	9.26	11.52	6.79	17-18	111.02	108.50	106.46	106.50	109.12
6-7	12.12	18.24	15.40	22.02	16.47	18-19	110.95	107.81	107.81	107.23	108.45
7-8	21.12	20.82	12.20	11.48	16.41	19-20	106.16	107.17	106.16	107.52	107.75
8-9	10.88	18.86	21.42	73.13	31.00	20-21	107.52	106.94	106.18	55.58	94.55
9-10	106.54	108.28	104.26	104.02	105.28	21-22	31.36	28.16	17.06	2.85	19.88
10-11	104.92	103.38	104.32	104.36	104.25	22-23	3.20	2.91	2.56	3.20	2.97
11-12	104.26	103.88	103.38	102.36	103.42	23-24	2.85	2.27	2.85	2.91	2.72

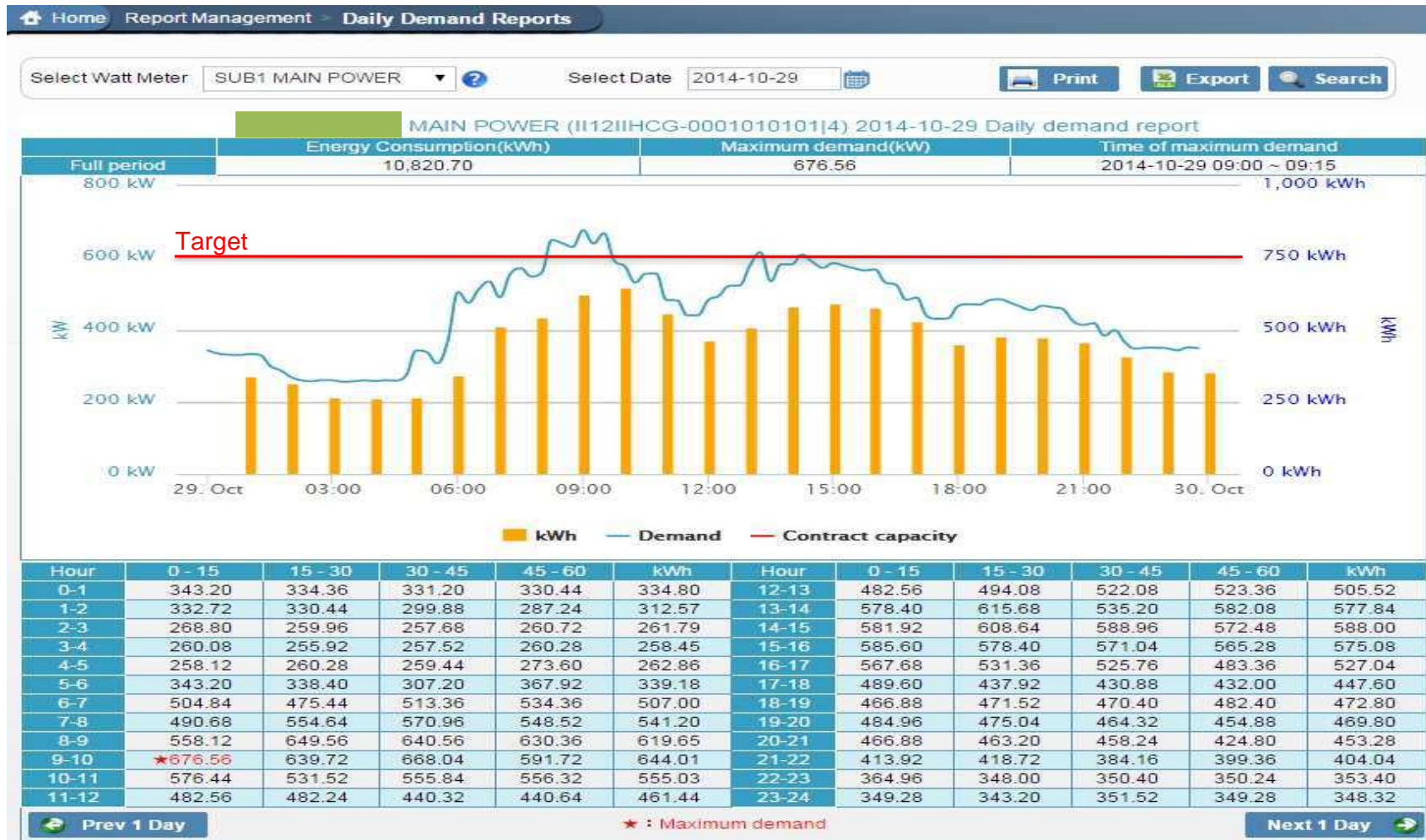


The peak demand power was caused by the power-on of the waste water treatment plant WWTP



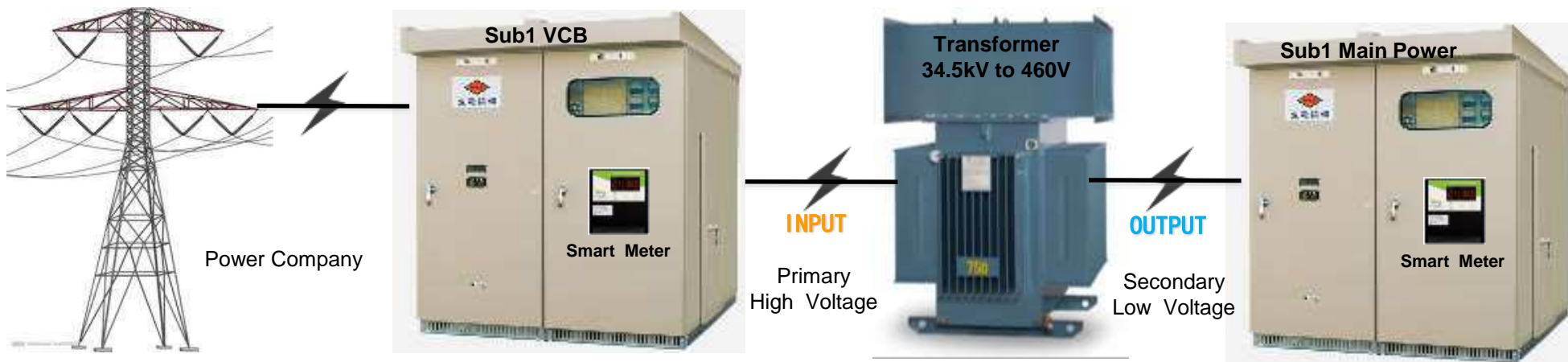
IEMS System Display – Report Management (Sample)

- Daily power demand report: Hourly records of power consumption and time of *maximum demand, with trend diagrams





Transformer Efficiency Diagnosis and Analysis (Sample)



- Input=587.32 kW
- Output=415.27 kW
- System Loss=587.32-415.27=172.05kW
- $172.05/587.32*100\%=29\%$

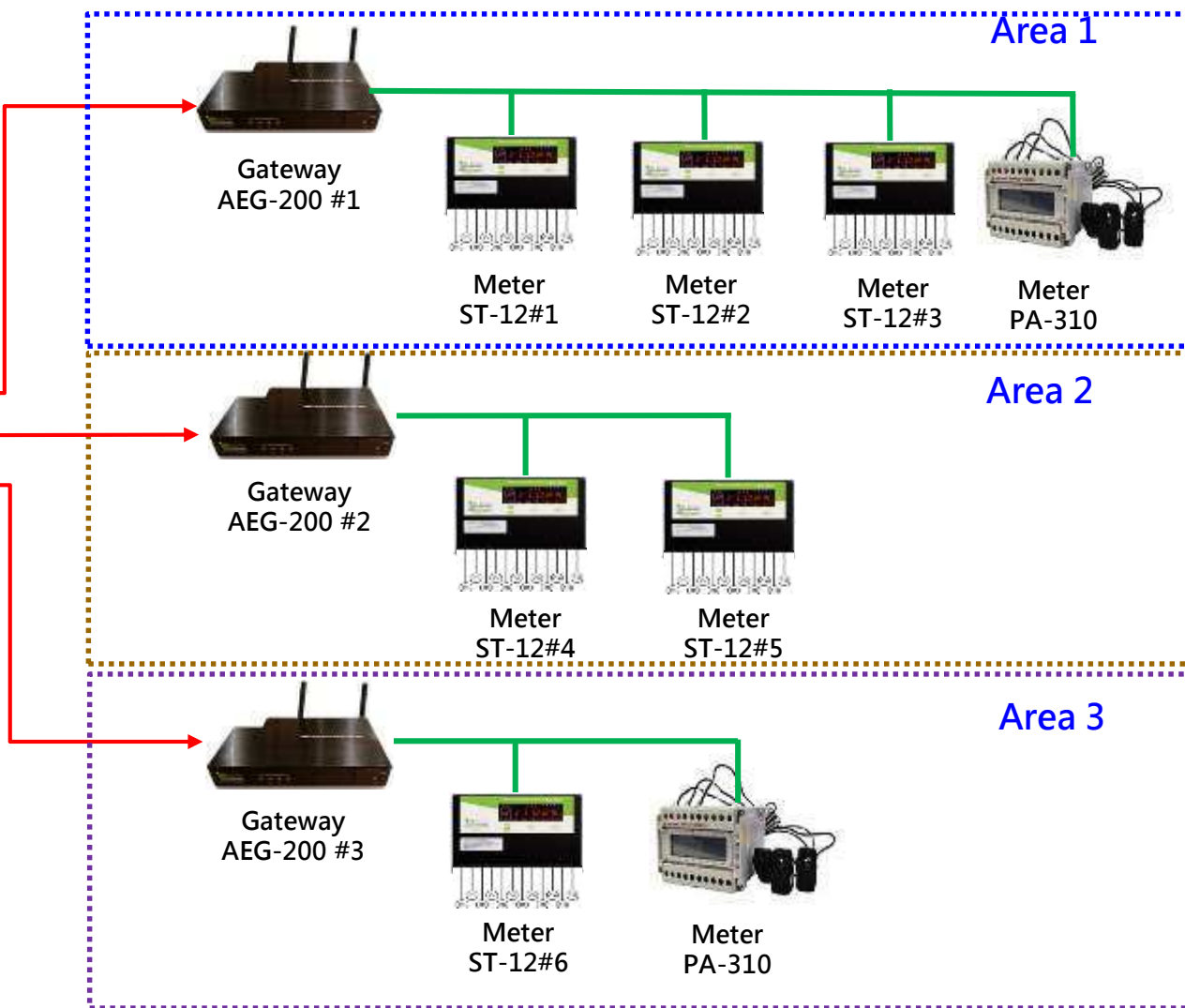
Transformer Loss
29%





IEMS System Architecture

- Signal line
- RS485
- ↔ Internet





3. e-Ticketing of City Bus, Metro and Other Applications

(1) Smart EasyCard for Taipei MRT





(2) Bus





(3) Smart EASYCARD

- A contactless IC card with an embedded chip and wired antenna. Its functions include data storage, logical operations, security, and more.
- Usage area: MRT, buses, trains, parking lots and merchants, etc.





EASYCARD Milestones

2000

- EasyCard Corporation established

2002

- EasyCard launched on public transport systems

2006

- Co-brand cards issued with auto top-up service

2007

- More than 10 million cards issued

2010

- Small-value purchase service launched

2012

- Second-Generation EasyCard launched

2016

- More than 65 million cards issued



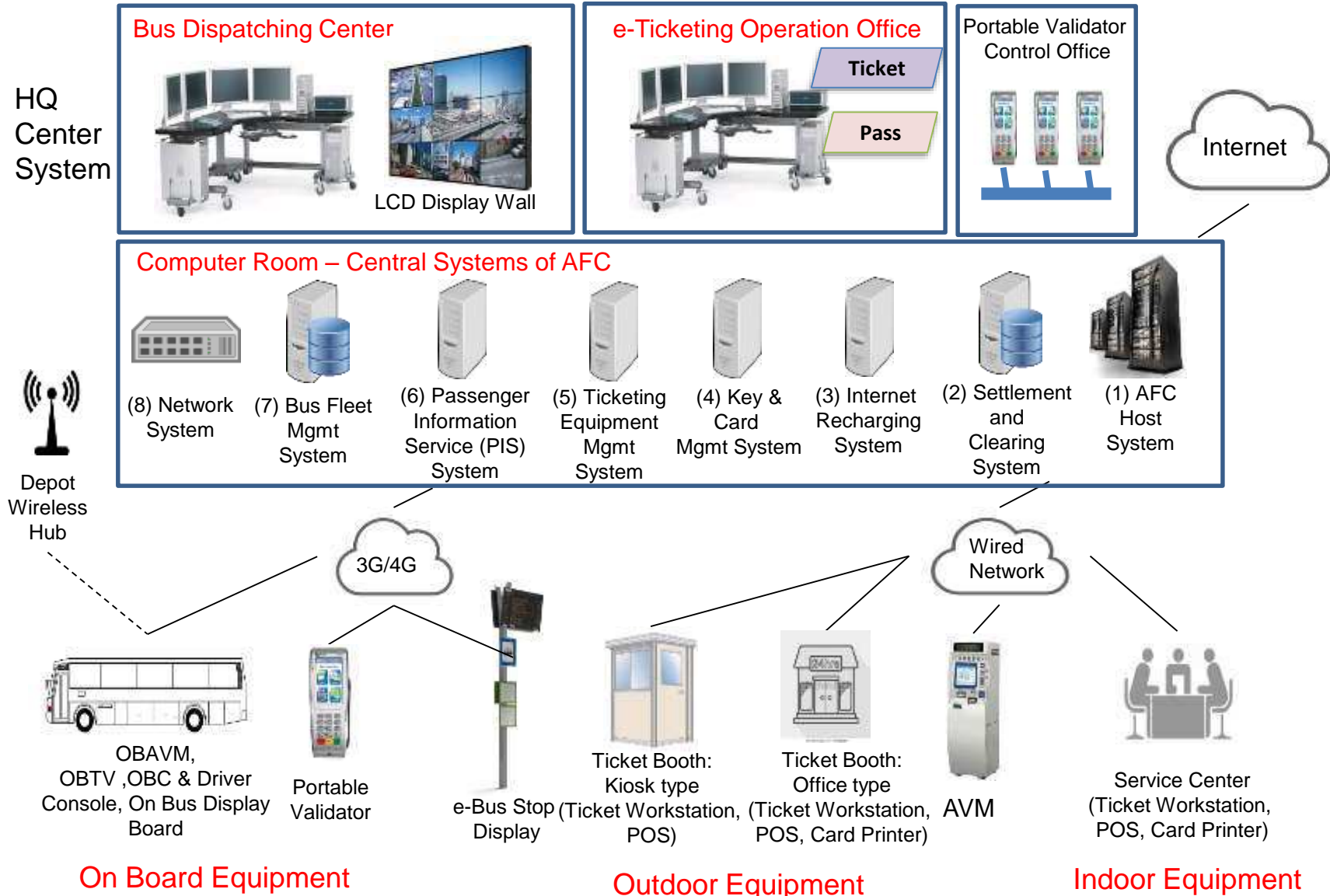
(4) Best Practice of Taiwan for EBRD project – AFC System for Pitesti City Bus, Romania



- A. The European Bank for Reconstruction and Development (EBRD) is helping to modernize public bus transport in the Romanian City of Pitesti with 13 million EURO loan to the City.
- B. The EBRD loan will allow the city to upgrade its aging fleet with the purchase of 70 new environmentally friendly buses. The loan will also be used to introduce an **Automated Fare Collection System (AFC), using Contactless Smart Card.**
- C. Through EBRD tendering processing, III consortium, integrating the members of e-Ticketing experts, has awarded the contract in 2015 to contribute the successful best practice of Taiwan for the City of Pitesti for city bus transportation.



(5) AFC System Architecture for Bus





(6) Expected Benefit of the AFC System

1. Benefit for Client
 - (1) Reducing the usage of paper tickets and passes, environmental friendly
 - (2) Facilitating transportation planning
 - (3) Enhancing the customer's service quality
 - (4) Increasing operation revenue
 - (5) Supporting tariff changes
 - (6) Supporting future operation expansion
2. Benefit for passengers
 - (1) Efficient validating and reloading
 - (2) Flexible tariff
3. Benefit for city government
4. Other transportation operators and service providers in the future



(7) AFC System Financial Analysis - Cost and ROI

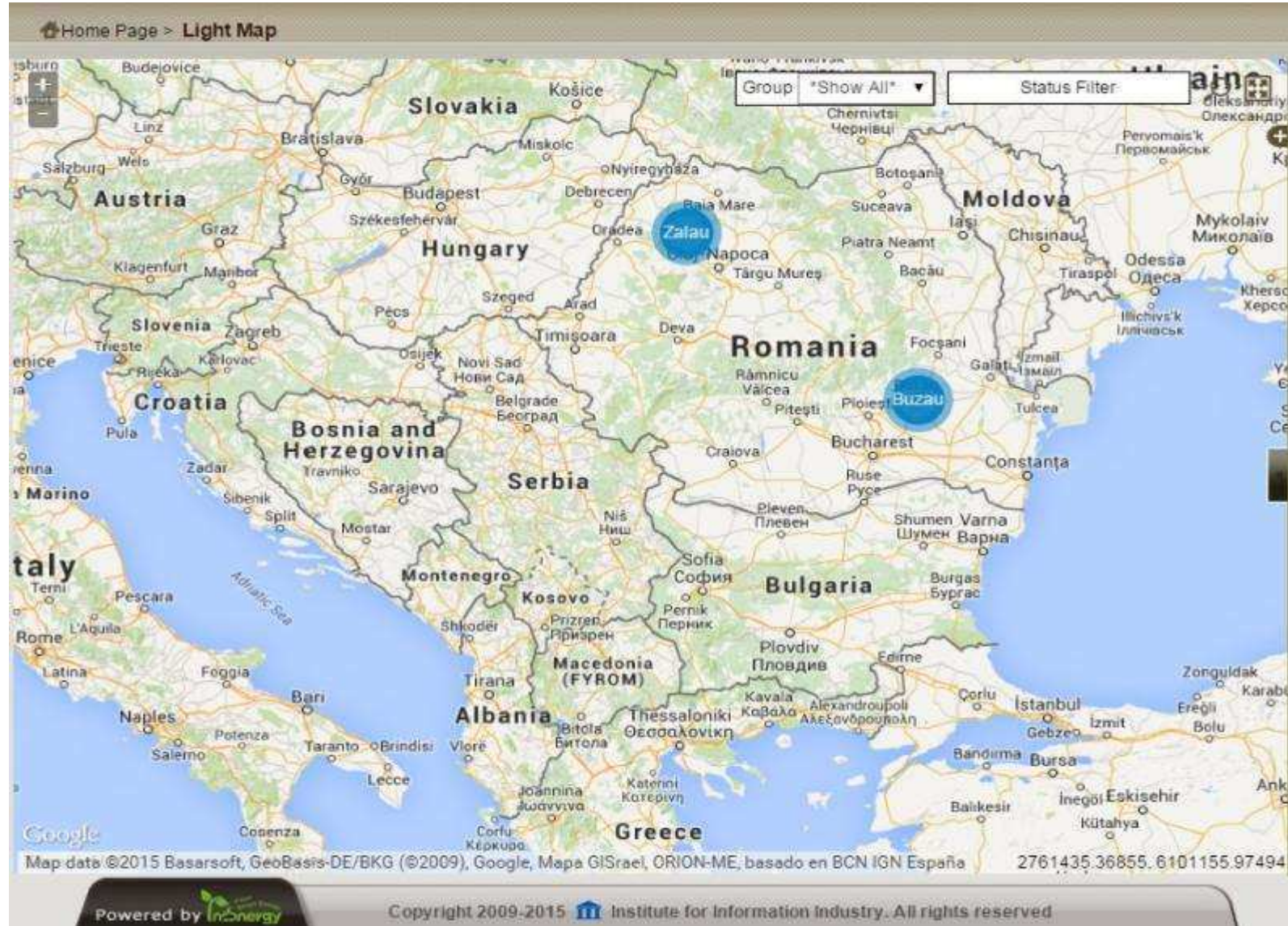
1. Investment Cost : 3,600,000 Euro (System equipment and installation, 70 Buses)
2. Operational Cost Before AFC System : 33,700 Euro/month
3. Operational Cost with AFC System : 52,500 Euro/month,
4. Monthly Operational Cost increase after the implementation of AFC system, mainly for the system maintenance and operation:18,800 Euro
5. Revenues from sales of tickets: 3,360,000 Euro/year, 280,000 Euro/Month
6. Subsidy of ticket selling from City Government will be 90% of total revenue $3,360,000 \times 0.9 = 3,024,000$ /year, annual contribution to the AFC system= $3,024,000 \times 20\% = 604,800$, 50,400 monthly

	A. The additional monthly expenses incurred with the implementation of AFC system	B. Reduction of the cash leakage rate	C. Revenue increase with the reduction of the cash leakage rate 280,000x leakage rate	D. Monthly profit and loss after adding the revenue from the reduction of the cash leakage rate C-A	E. Annual profit and loss after adding the revenue from the reduction of the cash leakage Rate Dx12(Month)	F. ROI by year Investment Cost : 3,600,000 Euro /E	G. ROI by year including subsidy from City Government $3,600,000 / (E + 604,800)$
1	18,800Euro	6.714%	18,800Euro	0	0	-----	5.95 year
2	18,800Euro	10%*	28,000Euro	9,200Euro	110,400Euro	32.6 year	5.03 year
3	18,800Euro	20%*	56,000Euro	37,200Euro	446,400Euro	8.06 year	3.42 year
4	18,800Euro	30%*	72,000Euro	53,200Euro	638,400Euro	5.64 year	2.90 year

*The estimated reduction of the cash leakage rate will be ranged from 15~30% after the implementation of AFC.



4. Intelligent Lighting Monitoring and Control - System Lighting Map, Romania, 2015





(1) Lighting Photos Buzau , Romania



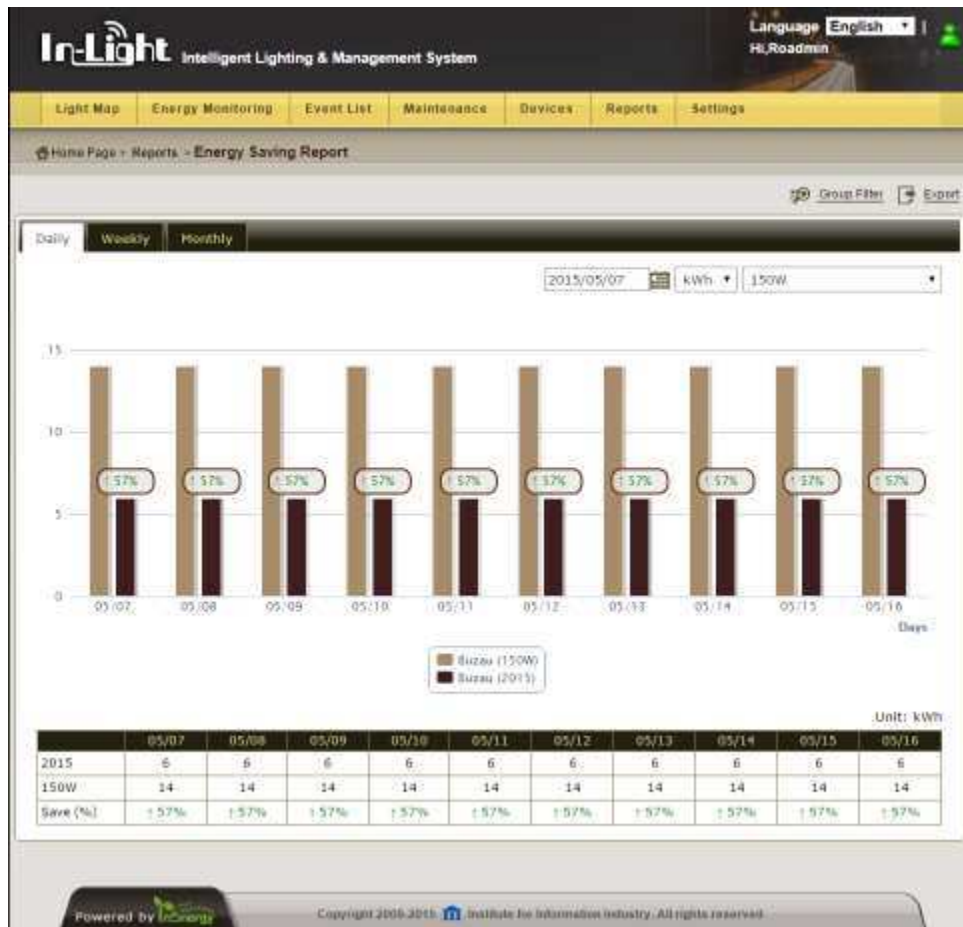
Before the replacement of LED lighting,
the lighting was High Pressure Sodium/HPS).
The HPS lights were not bright, and the road
were not bright either.



After the Installation of LED Lighting,
The brightness of road has improved
Substantially.



(2) Power Saving Statistics – Buzau



1. 7 100W LED street lights replaced 150W HPS lights
2. 2015-5-7 to 26 , the daily total power consumption of LED lights was 6 kWh. Comparing to the original 150W HPS lights with daily total power consumption 14 kWh ,
Power Saving = $(14 - 6 = 8) / 14 \text{ kWh} = 57\%$

(3) Thanks from the Deputy Mayor for the Successful Implementation of the LED Lighting and Intelligent Monitoring System

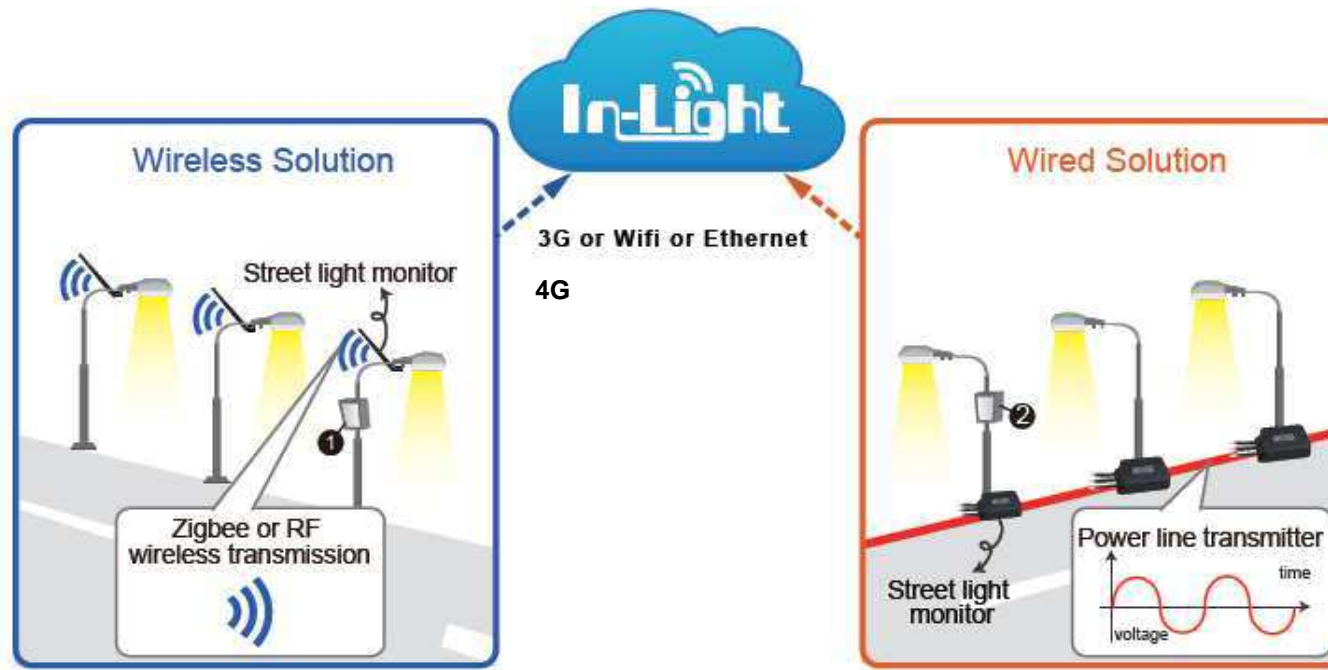


(4) LED Lighting Photos Zalau





(6) LED Street Lighting Single Control



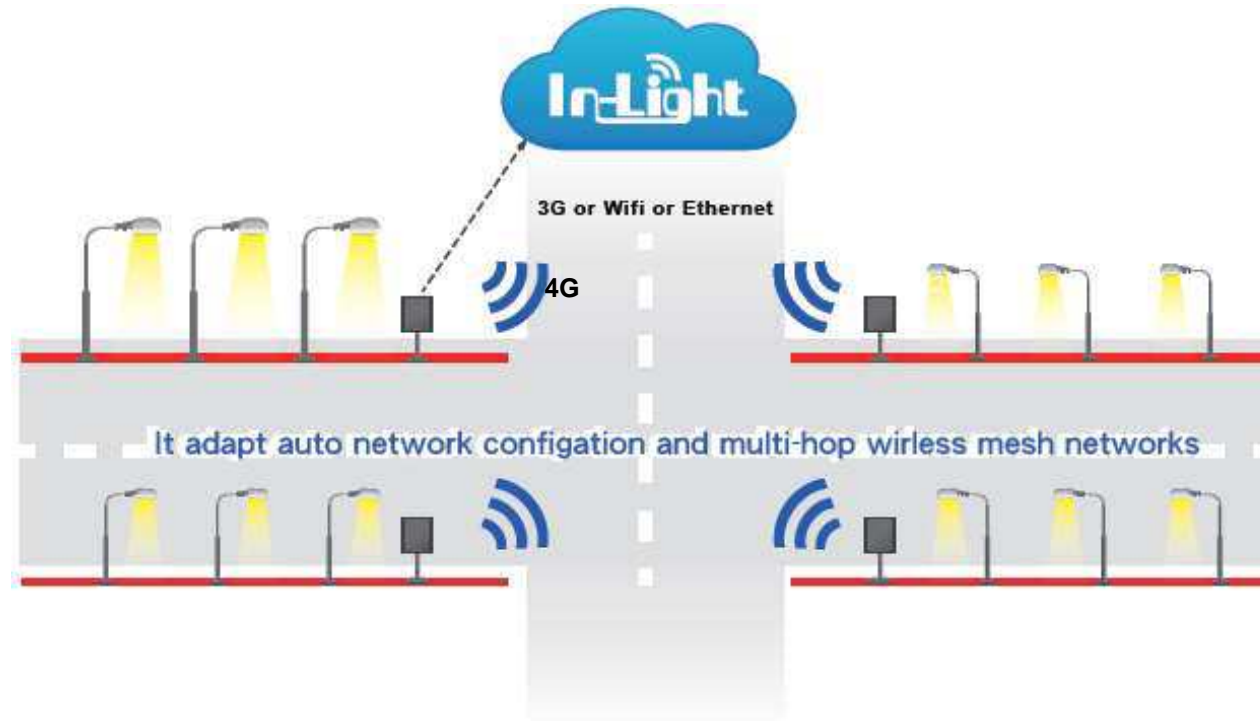
PS1: Street Light Data Collect Box: Contains the communication module and wireless gateway

PS2: Street Light Data Collect Box: Contains the communication module and PLC gateway

This version offers control for individual lights. Each light can be 100% controlled for activation, deactivation, dimming, and scheduling. It also offers both wired and wireless communication solutions and is suitable for control required of individual light.



(7) Circuit Monitoring and Control



Based on electric circuits, this version's street light monitoring control has the ability to remotely control or schedule the operation of street lights of entire circuits. Compared with the single-light control, this version significantly reduces equipment and installation costs and is more suitable for circuit-based with control required field.



(8) Functions / Features




Map management

- Street light information
- Real-time power consumption monitoring
- Error event management
- Supported maps: Google Map, ArcGIS, Bing Map, Open Layer



Street light curriculum vitae

- Health status of devices
- Error event history
- Analysis of possible reasons of errors
- Suggestions for trouble shooting




Intelligent diagnostics

- Big data analysis
- Green expert rule engine
- Historical profile




Repair management

- Management of repairing notification
- Maintenance of the service personal lists of warranty company
- Repair history management



System Statistics

- Statistics of power consumption
- Statistics of street light life hour
- Statistics of error reasons
- Statistics of cumulative carbon emissions



Intelligent control

- Single street light management
- Street lights group management
- Scheduled on-off time, light sensing management



(9) Sample Display – Front Page

In-Light Intelligent Lighting & Management System

Language: English | H6,lparkadmin

Light Map | Energy Monitoring | Light Control | Event List | Maintenance | Devices | Reports | Logs

Home Page

Timezone: GMT+08:00

Turn Off Time: 06:18 AM | 2017/03/09 Thursday | Turn On Time: 05:50 PM

03:02:53 PM

Connection Status

Gateway: All devices connected

Under: All devices connected

Light Circuit Status

Total: 14

On	Off	Fault (Automatic)	Fault (Manually)	Standby
0	14	0	0	0

Power Consumption

Today's Statistics: 32.8 kWh

This month's Statistics: 614.8 kWh

Abnormal List

- Maintenance: Good job! There are no devices in the recognition list.
- Wait for maintenance: Good job! All devices are working normally.

Lux sensor

2020	2020
北區北區光感器 ID: 11845N-0105010201 2017-03-09 15:02	東區東區光感器 ID: 11845N-0105010101 2017-03-09 15:02

In-Light Intelligent Lighting & Management System

Language: English | H6,lparkadmin

Light Map | Energy Monitoring | Light Control | Event List | Maintenance | Devices | Reports | Logs

Home Page > Light Map

Group: T-park | Status Filter

Group List

- T-park(14)
- Status
 - Standby x 0
 - On x 0
 - Off x 14
 - Fault (Automatic) x 0
 - Fault (Manually) x 0
- Working x 14
- Group
 - ICS1045N-0105..... (14)
 - LAA-1
 - LAA-2
 - LAA-5
 - LAA-7
 - LAA-11
 - LAA-3
 - LAA-4
 - LAA-6
 - LAA-13
 - LAA-8
 - LAA-9
 - LAA-10
 - LAA-13
 - LAA-14

- System operation status diagnose for Internet and networking, Light on-off time, and power



ISSS 2017, Hradec Kralove

