Stephen Gould

Introduces

The Smart City Solution
**BE SEEN - BE CONNECTED - BE SAFE**

The *GigaTera IT Convergence /Smart Street Lamp technology* which is revolutionizing the entire LED Street Lighting Industry.

The new and *Patented Convergence LED Street Lighting System* combines high quality Samsung LED chips with WIFI, HD 360° Cameras and 5G small cell / RF telecommunication nodes, All-In-One.

This revolutionary technology is transforming the traditional LED street lamp into a *Public Safety and Security Guardian* which will install security and safety on the roads for our citizens, communities, neighborhoods, airports, college campuses, law enforcement and fire department.

*The Best Smart Street Light Awards*

*Granted for the GigaTera Convergence Technology by US Department of Energy.*
SPES-X SECURITY STREET LIGHT
60GHz Backhaul (1Km, 1Gbps)

Internet

Lighting control

Public WiFi /CCTV

Public WiFi /CCTV

Lighting With Alert signal

Command and Control Centre

Police

Fire and Rescue

Ambulance

Civil Defence
Alert service to reduce and prevent crime in crime ridden areas

**Event Occur**
- Emergency bell at the site

**Alert Activate**
- Alert Activation
  - Blinking RED

**Police dispatch**
- Action by police

**Discern (Control center)**
- Discern with CCTV
  - Location of emergency bell
Road Safety / Security / Energy Savings / Internet-Public WIFI

Safety Solution
- Alert for Accidents
- Natural Disasters
- Secure Pathway to sites

Security Solution
- CCTV with LED
- Bright for Surveillance
- Clear view at Night

Internet
- Public WiFi Service
- Better Signal

Energy Saving
- Eco-Friendly
- Energy saving
- Less carbon emission

META-Whistle
SPES-Seta
SPES-X
Varieties of color combinations used in emergency situations

Transmit video data of the site.
Viewing the data
Emergency Alert

Flooded road
Foggy
Road construction

Rock slide
Roadway / Bridge
Tunnel

GigaTera® by KMW
A lifesaving service through visually alert systems

- **Receive**
  - Status received at control center

- **Discern**
  - Assign emergency vehicle
  - Display event information on a sign board

- **React**
  - Activate GPS device
  - Shows the optimal route to the site
  - Alert activates
  - Shows the location of the vehicle on map.

- **Emergency Mobilization**
  - Rescue (grasp patient status)
  - Inform to a hospital

- **Evacuation**
  - Activate GPS device (Input hospital location)
  - Shows the optimal route to the hospital
  - Alert activates (activate ahead, Deactivate rear)
  - Shows the location of the vehicle on map.

- **Arrive at site**
  - Transfer patient to the hospital

- **Event Ends**
### Component Functions

<table>
<thead>
<tr>
<th>Component</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPES-X LED</td>
<td>• Minimum 70% energy saving compared to conventional lights</td>
</tr>
<tr>
<td>CCTV Camera</td>
<td>• 10 X Optical Zoom, Full HD resolution for 360° fisheye for better recognition of objects</td>
</tr>
<tr>
<td>Various Sensors</td>
<td>• Customized sensor can be applied for various functionalities</td>
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<tr>
<td>Wireless AP</td>
<td>• Live streaming of video to control center using wireless technology</td>
</tr>
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- Flexibility on choosing LED luminary for light with SPES-X
- High efficiency (125lm/W)
- High performance Full HD PTZ IP Camera (10X optical) & fisheye camera for 360° view.
- Supports wire and wireless communication
- Smart monitoring with VMS (Video Management System)
<table>
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<tr>
<td>SPES SETA LED</td>
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- Converged with CCTV, LED street light and AP
- ICT AWARDS
  - High efficiency (125lm/W)
  - High performance Full HD PTZ IP Camera (10X optical zoom)
  - Supports wire and wireless communication
  - Smart monitoring with VMS (Video Management System)
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| META LED Street Light with Whistle | • High-efficiency LED Street Light measuring 130 lm/w  
                                    • Minimum 70% energy saving compared to conventional lights |
| Whistle System                  | • Four color ALERT functions for different safety announcements          |

- Reduced glare  
- No light pollution  
- High efficiency (130 Lm/W)  
- Input voltage: 100~277V  
- IP66 rate  
- Four different color ALERTS for safety
City Surveillance System Diagram

> Central control system

> Roadway

> Stadium

> Port

> City Facility

> Industrial Complex

> Building
Case Study Toshkent Project

> Toshkent Project

This project consists of a road situation monitoring system where after installing 4 units of SPES-SETA to the main road stretching from the city center to the airport, they were grouped together into a network. The installation models include the SPES-SETA 100W products, and are equipped with a 125 lm/W luminous efficiency streetlight and PTZ dome network camera function, and the filmed video data is transmitted via Wi-Fi transmission in real time to the control center.

> Toshkent Project System Diagram

* NVR: Network Video Recorder
** SAL: SPES Air Link
*** D: Distance

> Installation and Monitoring Images

![Installation](Image)
![Monitoring (Daytime)](Image)
![Monitoring (Nighttime)](Image)
CASE STUDIES – SUPPLEMENTAL DOCUMENTS

- USA Round Rock City Texas
- USA Yankee Stadium NY
- USA Mariner Stadium Washington
- USA Seahawks Washington
- Malaysia Duke Highway
- Malaysia NPE Highway
- Korea Centum City Highway

VIDEO LINKS

Round Rock Texas
https://vimeo.com/144466749

Yankee Stadium
https://youtu.be/zn2jER6kUfl

Seattle Mariners
https://youtu.be/Kic2CFXqyb8

Around the world
https://drive.google.com/file/d/0B4YV6cZ93CSdd05XU0xhYUNVdFk/view