

## APEC Policy Partnership on Women and the Economy (PPWE) Meeting Port Moresby, Papua New Guinea, 3rd - 5th May 2015

### INNOVATION FOR WOMEN AND

- Proposed by **PPWE Chinese Taipei**, Co-sponsored by **14 APEC economies**, **SMEWG** and **ABAC Women Forum**.
- First phase (2013-2014) → Second phase (2015) → Third phase (2016)
  - 2013 APEC Conference: Innovation and ICTs for Women Business
  - A study report "How ICT economically Empower Women Entrepreneurs"
  - 2014 APEC Conference: Utilizing ICTs to Empower Women Entrepreneurs
  - An online learning research, a toolkit to implement gender program and a women-friendly ICT application
  - **"2015 APEC Seminar of Empowering Women through ICT for Inclusive Growth" is coming up!**
- Echo to PPWE 5 Pillars and SMEWG Strategic Plan

## FUTURE PLAN: SEMINAR IN MANILA 16, Sept 2015



### Game-Based Mobile App

- An inclusive learning tool
- Learning without time, internet and money limit
- Inspiring entrepreneurship

### Toolkit

- Women's demands and unfavorable factors in the business environment
- The possibility of benefiting female entrepreneurs with the fusion of innovative ICT and educational training

Google Anita Borg Scholars Community **TAIWAN**

## 2015 Girls Make Games Workshop

喚醒妳與生俱來的 俏皮點子 @ 台灣

“ **SISTERS** ♀ 自己的遊戲自己做 ”

時間: 4/25-26 (六、日) 10:00-16:30  
 場地: 台北科技大學 (光華館405電腦教室)  
 主要對象: 7-14歲女生  
 使用語言: Stencyl/Scratch  
 報名網址: <https://www.accupass.com/go/smg>

由具有Scratch/ Stencyl遊戲教學經驗的導師帶領入門，  
 激發「數理分析」、「美學設計」、「創意思考」。

贊助單位: **IXD** **HEX** **瑞德感知** **Humble Bundle**

Games Workshop 最新推出 3D 模型的 挑戰!

Video: #hackGirlsRights | Gallery

**IGNITE** WOMEN FUELING SCIENCE & TECHNOLOGY  
 A Global Fund for Women Project

EXPLORE ENGAGE INSPIRE IMPACT



In this video, co-produced by Global Fund for Women and GlobalGirl Media, we follow girls in five international cities as they hackgirlrights by creating innovative mobile- and web-based solutions to a critical challenge facing women and girls — access to safe spaces.

**W**orking with our collaborators in each city we show the potential for girls to change our world and shape our future.

Special thanks go to the filmmakers and photographers who made this video possible: Dorian Chermak and Elizabeth Wells in Cleveland, USA; Angel Gorman in Islamabad, Pakistan; Jane and Gene of Assembly in New York, USA; Rika Retamal in Porto Alegre, Brazil; and Xiumei in Taipei, Taiwan.

The IGNITE International Girls Hackathon #hackgirlrights was produced by Global Fund for Women and was

**Google**

## The Google Anita Borg Memorial Scholarship 2015: APAC

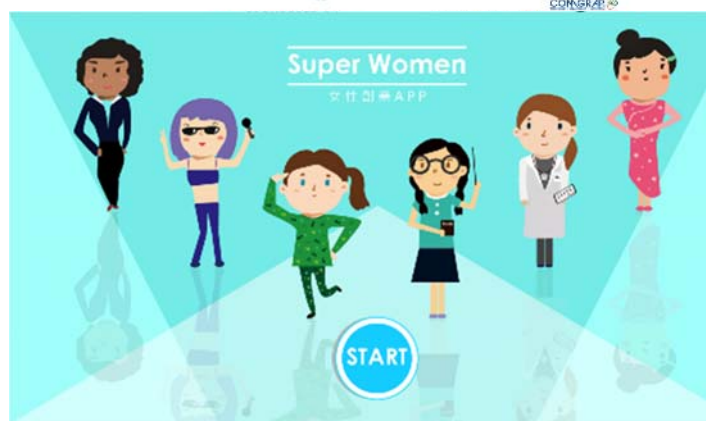
Dr. Anita Borg (1943-2003) devoted her life to revolutionizing the way we think about technology and dismantling the barriers that keep minorities and women from entering the computing and technology fields.

2015 Girls Make Games Workshop 喚醒妳與生俱來的 俏皮點子 @ 台灣

**GIRLS MAKE GAMES**  
 INTERNATIONAL WORKSHOPS  
 APRIL 25-26 2015

**SISTERS** ♀ 自己的遊戲自己做

ASU DHABI U.A.E.  
 CHITTAGONG BANGLADESH  
 SANTIAGO CHILE  
 MONTEVIDEO URUGUAY  
 TAIPEI TAIWAN



## 《加州大地震》 (San Andreas)



### 道格庫普「生命三角」理論的分析

地震來時請先保護頭部，並躲在堅固的家具下面或旁邊

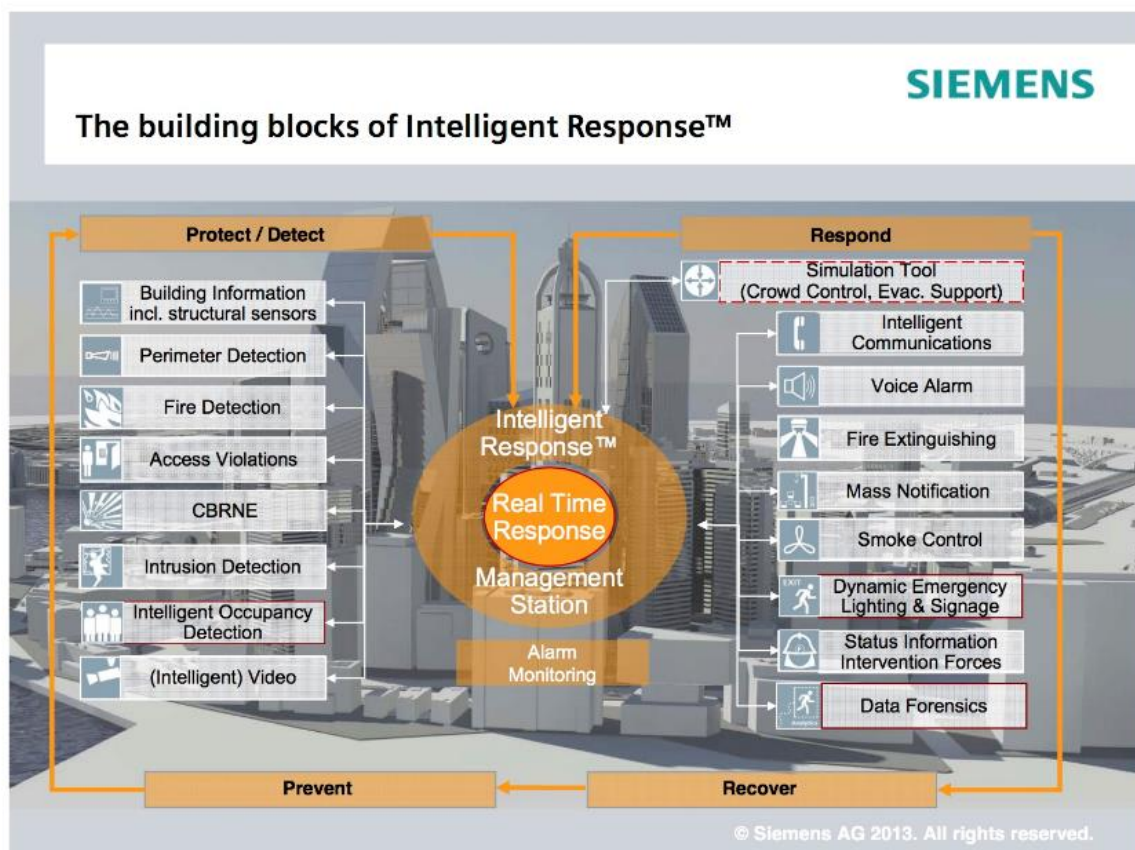


## Study on the risk factors of post-earthquake fire for constructions

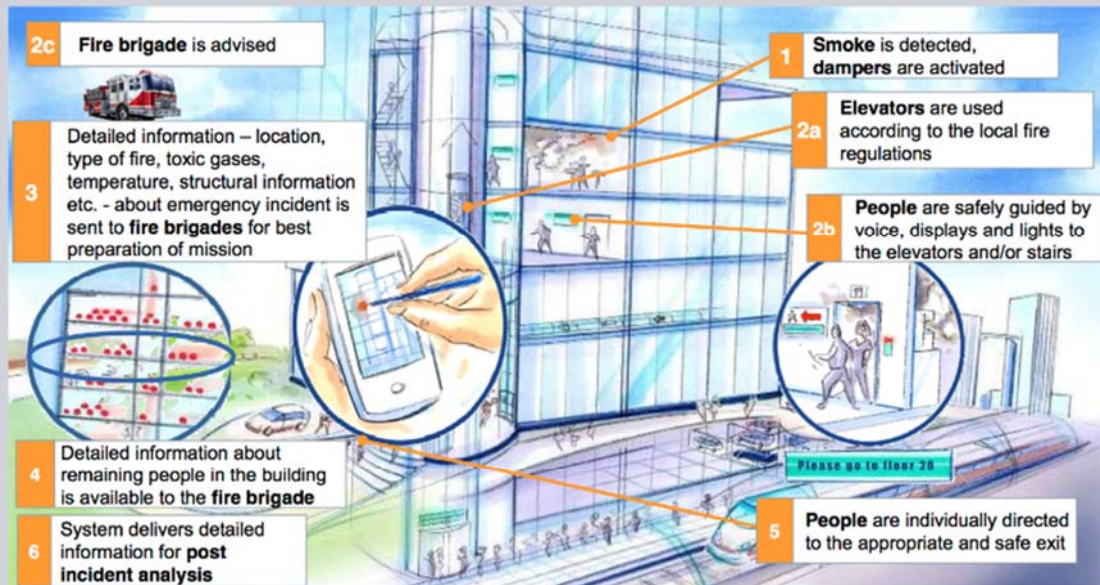


# OUTLINE

1. Major earthquake disaster in the world
2. Research: Study on the risk factors of post-earthquake fire for construction
3. Research by AHP
4. Definition and scales for AHP
5. Questionnaire results of the research by AHP
6. The results of gender in fire scene
7. Conclusions



## Intelligent Response™ at work



## GETAWAY之分析





Passive signage cannot indicate **non viable exits**



- Increase passenger awareness of viable exits
- Improve responders situation awareness
- Reduce evacuation time
- Reduce casualties

西班牙－巴塞隆納車站

Activate DSS to indicate

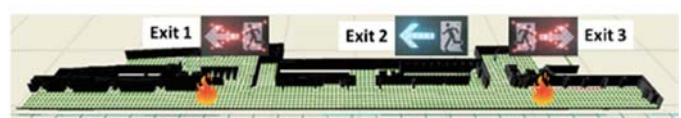
viable exits



non viable exits



Generating simulations to Enable Testing of Alternative routes to improve WAYfinding in evacuation of over-ground and underground terminals



英國格林威治大學於2009年發表：標示號誌在被注意的情況下可以有效運作，可是目前僅有38%人在緊急時會注意到傳統靜態逃生號誌。

Research carried out by the University of Greenwich (Xie et al., 2009) suggests that emergency signage systems can be extremely effective: since people follow them if they see them. However, only 38% of people see the present standard passive signage (Figure 1) in emergency situations. Therefore, there is a need to update the present (passive) emergency signage with one that is more detectable by passengers. Moreover, a new signage system should be intelligent and adaptable to the changing environment in order to assess and direct occupants to an optimal egress route, based on insight into the shortest route to safety coupled with the provision of minimum exposure to incident hazards such as heat, smoke and toxic gases.



11 資料來源：The GETAWAY Project – improving passenger evacuation techniques in railway stations

1. Significantly improve the detectability of signage systems by 50%.  
(大幅提升50%的群眾注意力)
2. The DSS also helped people to reduce their decision times.  
(動態導引可有效減少逃生者避難決策時間)
3. Make use of evacuation simulations involving 100s of people which  
can be performed at least 3 times faster than real time.  
(經模擬測試，逃生速度比以往快三倍)

In addition, the intelligent nature of the signage system will mean that the signs will provide situation specific directional information. This may mean that the signage system will identify different routes as the incident evolves and congestion, fire and its products, dictate alternatives. The emergency signage system will be integrated to work in harmony with the terminal's existing fire safety systems.

GETAWAY is expected to achieve all its objectives and improve pedestrian wayfinding in complex structures. In the first half of the project, work has already demonstrated that:

- Use of the DSS with the same visual characteristics with the standard sign (including size, colour and depiction) can improve detectability of emergency signage by 103%.
- Use of new image analysis techniques can improve accuracy of crowd counting by more than 90% even in challenging situations including complex structures and varying lighting conditions (Loy et al., 2013; Loy, Gong & Tiang, 2013; Chen et al., 2013).
- Simulations of evacuation scenarios can be performed three times faster than real time.

The GETAWAY system will make use of real time environmental information, such as temperature and smoke, to perform evacuation simulations and derive an optimal evacuation route. This information will be available to the Incident Manager in order to be able to make decision about the best possible course of action.



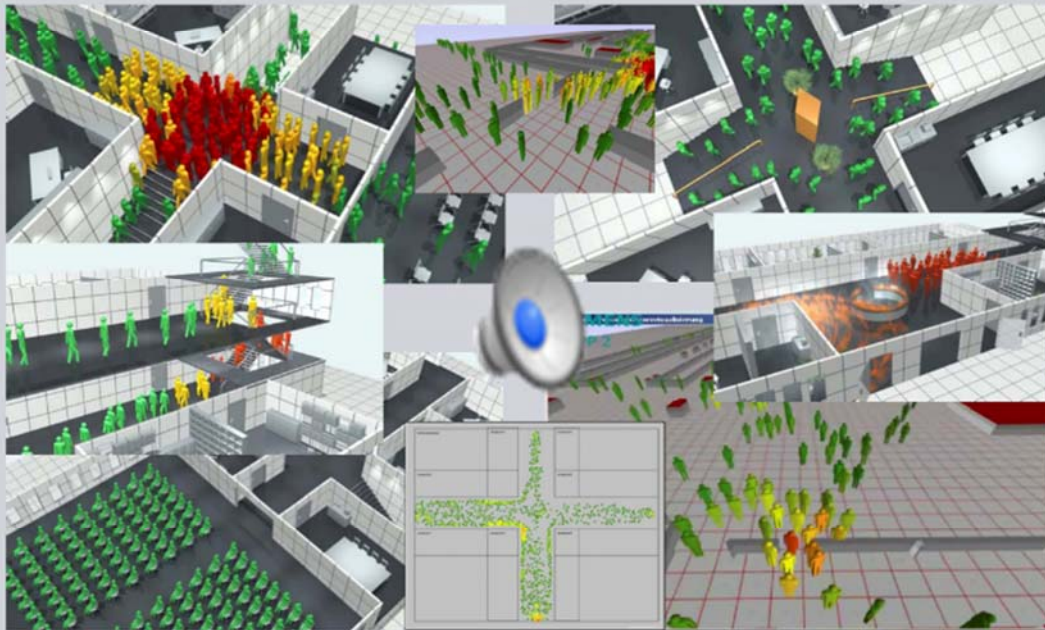
Paul Rogers and Andrew Edwards/Transport Research Board TRL, 2009

One of the key elements of the project is the development of the active signage system. This signage was developed to address current detectability and decision making issues that people face when evacuating complex structures. While different designs were considered, the most effective ones were the progressively illuminated green arrow indicating a viable route (Figure 4a) and the illuminated red cross over the 'emergency exit' sign indicating a non-viable route (Figure 4b).



12 資料來源：The GETAWAY Project – improving passenger evacuation techniques in railway stations

# Crowd & evacuation simulation

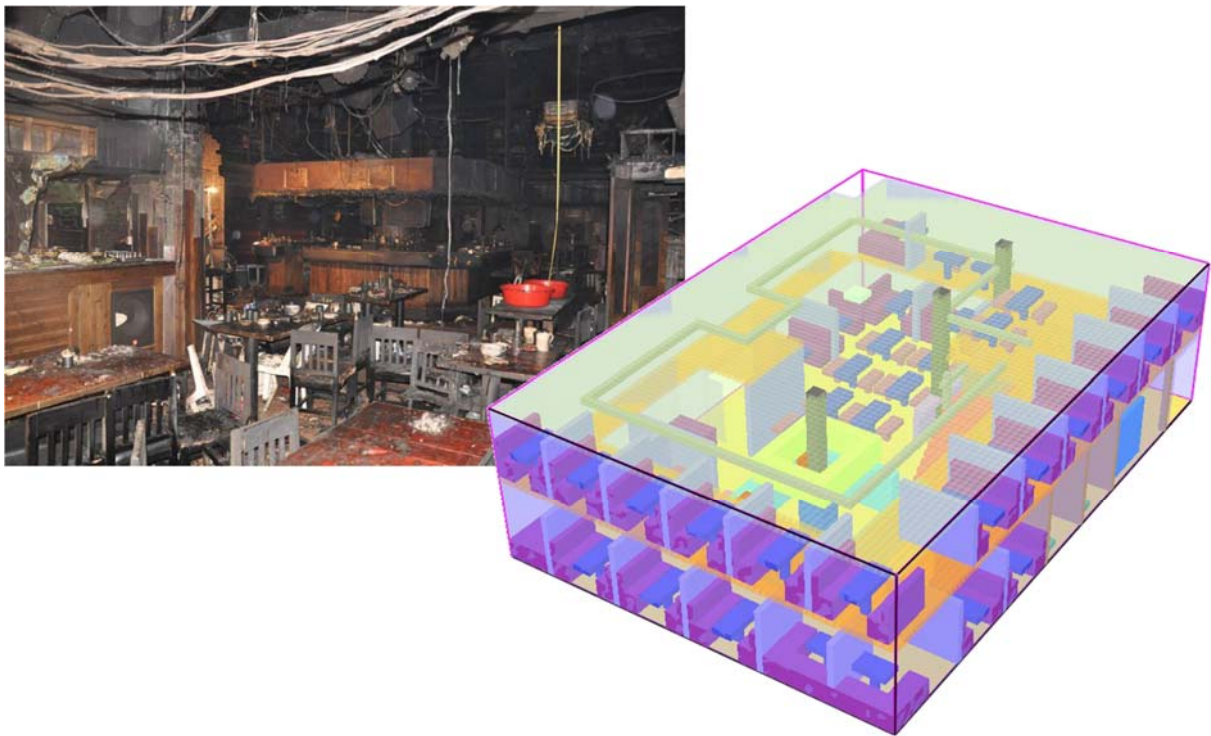


期待毒化物與瓦斯管線分布圖開放



人有旦夕禍福

# NIST Fire Dynamics Simulator (FDS)



**HEX**  
瑞德感知

## Major Earthquake Disaster



## Post-earthquake fire



2010

2011

2014

2015

Damage in Casualty  
and Economy



## Post-earthquake fire

- Study on the risk factors of post-earthquake fire for construction
  - Great damage in both casualty and economy
  - Kyodo, Japan: research area to discuss 8 types of inland earthquake
  - Focus on the risk factors of having post-earthquake fire in constructions
  - Analyzed by Analytic Hierarchy Process (AHP)
    - The Weight in different risk factors
    - Reduce the damage or prevent it

Fire-fighting  
equipment

Status of automatic  
sprinkler equipment

Weight: 0.119/ Sequence 1

Fire preventing  
devices

Application of fire  
resistance materials

Weight: 0.112/ Sequence 2

No blocked toward  
fire preventing zone

Weight: 0.106/ Sequence 3

Closing of fire door  
(Emergency exit)

Weight: 0.101/ Sequence 4

The results of gender in fire scene



Fire Scene



Too much time on  
process the  
images & finding  
the directions



Better process  
with images and  
directions



**Men Escape Twice Faster Than Women**

Table 1 The first evacuation directions

Item		First evacuation directions								
		To the left			Straightforward			To the right		
		Count	Individual %	Percentage to Overall	Count	Individual %	Percentage to Overall	Count	Individual %	Percentage to Overall
Overall	M	129	79.6	79.2	6	3.7	3.9	27	16.7	16.9
	F	54	78.3		3	4.3		12	17.4	
Scenario I	M	51	63.0	67.5	6	7.4	7.5	24	29.6	25.0
	F	30	76.9		3	7.7		6	15.4	
Scenario II	M	78	96.3	91.9	0	0.0	0.0	3	3.7	8.1
	F	24	80.0		0	0.0		6	20.0	

Note: **Overall** is the sum of the two scenarios.



(圖一) HEX™-IADSS (HEX™ - 智慧型疏散系統) 之動態避難方向指示燈(ADS)及動態出口標示燈(ADS-EX)。於日常模式(Normal Mode)時，(左圖)避難方向指示燈及(右圖)出口標示燈之右方的TFT-LCD面版會顯示多種便利、舒適的生活資訊及感測到的環境資訊。

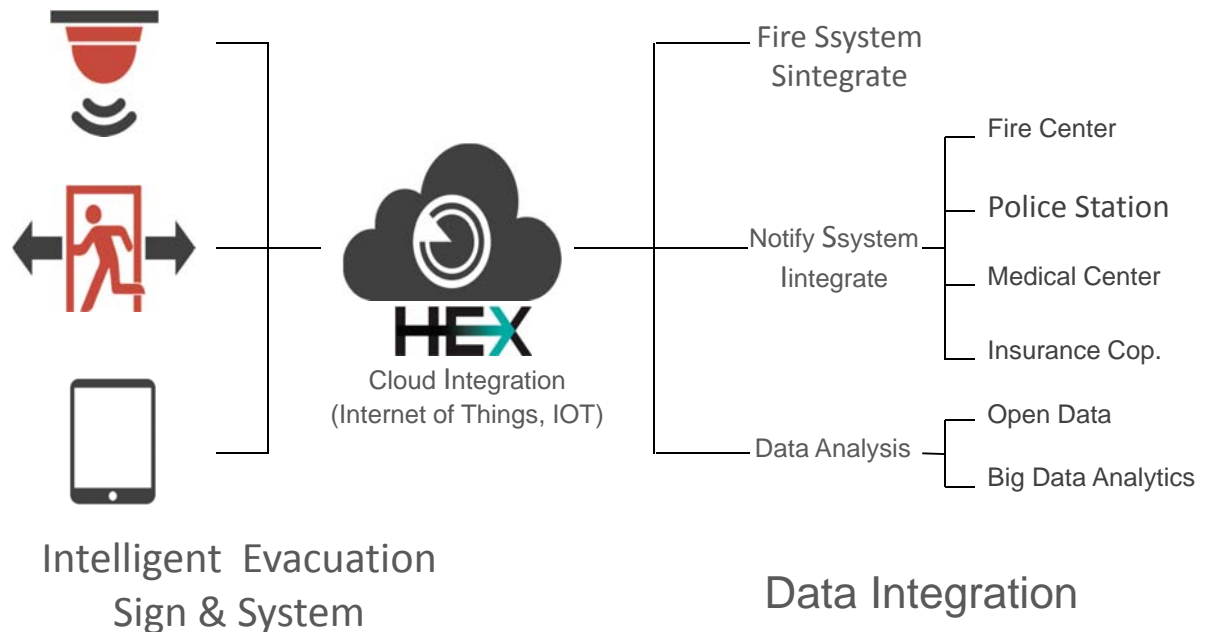


(圖二) HEX™-IADSS (HEX™ - 智慧型疏散系統) 之動態避難方向指示燈(ADS)及動態出口標示燈(ADS-EX)。於緊急模式(Emergency Mode)時，(左圖)避難方向指示燈右方的TFT-LCD面版會顯示危險資訊及建議的安全避難路徑(此情境指向較安全的左方)。(右圖)出口標示燈的TFT-LCD面版會顯示門後危險資訊及不建議打開門後的直通樓梯。

### 預警、分析、安全、效率



## Future Development



## EML-L1 Emergency Light



### Emergency Light

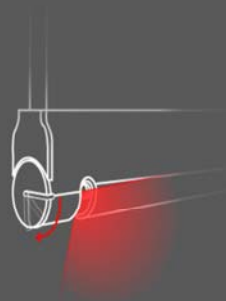


The EML-L1 Emergency Light uses not only the LED to save power but the Light Guide Plate technology to transform point light into the flat light. This slim design blends with contemporary styles, retaining the aesthetic and harmony of a space. It has a beam angle of over 160 degrees to provide the optimum emergency illumination. The EML-L1 automatically illuminates during the power cut. With the adjustable laser module, it can be used in dark or smoky conditions for easier discrimination to increase the chance of escape.

## EML-L1 Emergency Light



Including laser module



90 degree rotation



The best distance: 3M

## EML-P1 Portable Emergency Light



Portable Emergency Light



The EML-P1 automatically illuminates with a flat LED light during a power cut. 3W LED is used to save power and prolong the usage time. It can be removed from the power socket and used as a portable emergency light. This temporary light source can be placed on a table with the included stand, or hung up with the provided hook. In an emergency it can be switched to the SOS mode, and the flashing red light makes it clearer for rescuers to see. Also, a built-in siren makes it easier for rescuers to hear.

## Aurora C-2010 Auto Electricity Generate Guiding Sprinkler Head





## Conclusions

