

• • • Presentation for the 7<sup>th</sup> EGM • • •

Theme: Disaster Risk Reduction

株式会社 E - SYSTEM

### Company Profile

**N a m e** E-SYSTEM  
**Establish** October 1996  
**H Q** Hakataku-, Fukuoka City  
**C a p i t a l** 0.18mil yen (平成27年11月現在)  
**Employe** 52名 (平成27年11月現在)  
**President** Hisanobu Fujimoto  
**O f f i c e** HQ(Fukuoka)、Hiroshima, Analysis Center, Okinawa

### Business Departments

**Disaster Reduction** Survey, analysis and inspections of slopes, topography, mudslides, GIS NBM underground dam sludge survey

**Environment Business** Planning and design of waste and incineration facilities, EIA assessments, alternative energy facilities,

**Analysis Div.** Environmental analysis, work environment analysis, asbestos analysis

**Measurement Div.** Monitoring, sales of various water level measures, weather measures

**Construction Div** Removal of dioxide, removal of asbestos



1. Basic surveys and studies based on  
Landslide Disaster Prevention Act

2. Expendable water level indicators functional in  
severe environment conditions

3. Image Transfer Systems

1. Basic surveys and studies based on  
Landslide Disaster Prevention Act

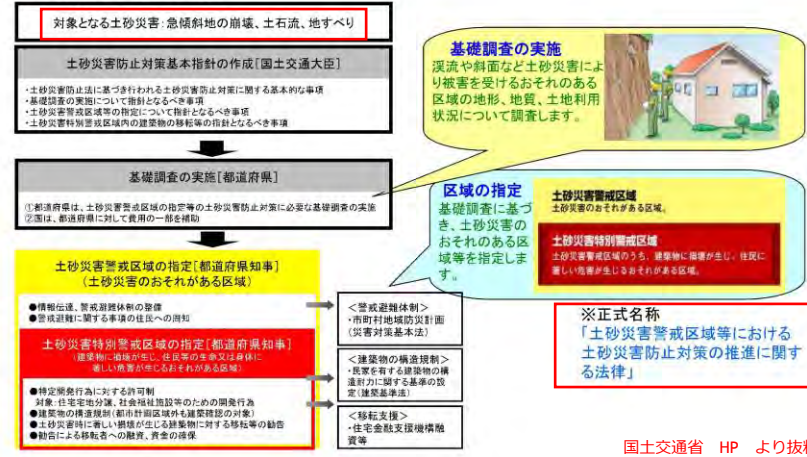
Destruction of steep slopes

Mud slides

Land slides

## Landslide Disaster Prevention Act

The Landslide Prevention Act was established for the objective of saving the lives of people from landslide disasters; by alerting danger, preparing evacuation, regulating building of new houses, and relocation of settlements in landslide prone designated areas.



## Types of Landslide Disasters and landslide designated alert zones



**For Collapsing Steel Slopes**

(From Fukuoka Prefecture government manual)

**1. Pre Survey for designation of alert zone**

地形図データと既存資料を利用して、調査対象となる急傾斜地の範囲を把握するとともに、調査に必要な断面図作成と断面図による下端・上端の設定(現地調査後の修正設定を含む)を行う。

*Check loction of designated area, review of data/information*  
*Survey on land shape*  
*Topography survey*  
*Survey on constructed materials*  
*Study on past disaster records*  
*height and length of landslides, estimation of debris volume*

**2. Site Survey for designation of alert zones**

事前調査で把握した急傾斜地の地形条件などを現地で確認と調査を実施するとともに、斜面の地質状況、対策施設状況等を把握する

*Check horizontal length and bottom location*  
*Site topography survey*  
*Survey on constructed materials*  
*Survey on state of damage/slides*  
*site survey on land sahpe with risk of landslides*

**3. Designation of Disaster Alert Zone**

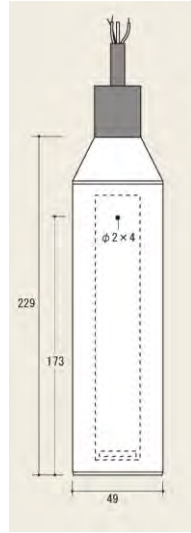
事前調査結果と現地調査結果により、危害のおそれのある土地などの範囲設定を行う。

**4. Survey on Land Use**

事前調査や現地調査、区域設定結果等で把握した事項をとりまとめ、設定区域等に関する土地利用状況等を調査する。

## 2. Expendable water level indicators functional in severe environment conditions

## ➤ Expendable water level indicators (型番 : HD 8300)



Dual line precision 0.10% F.S. High precision type

- ✓ a expendable water level indicator, using high precision semiconductor pressure sensor for detection of water levels
- ✓ It has an amplifier built in so does not require an converter (※with built in lightning protector)

### ◆ specifications ◆

- measurabel range(m) : 0~1.0~3.0~5.0~10.0~30.0~50
- Use : fresh water·sea water·sew water
- accuracy (%F.S) :  $\pm 0.10$
- generating power (mA) : 4~20 (2線式)
- power supply : DC17~28V
- usable temperature range (°C) : -30~60
- length of cable: by the 10m (max200m)

### ◆ materials ◆

- outside: dyaphragm: SUS316L
- protection materials: duracon
- cables: Ep rubber sheath

## Placement of sensors (outside water levels)



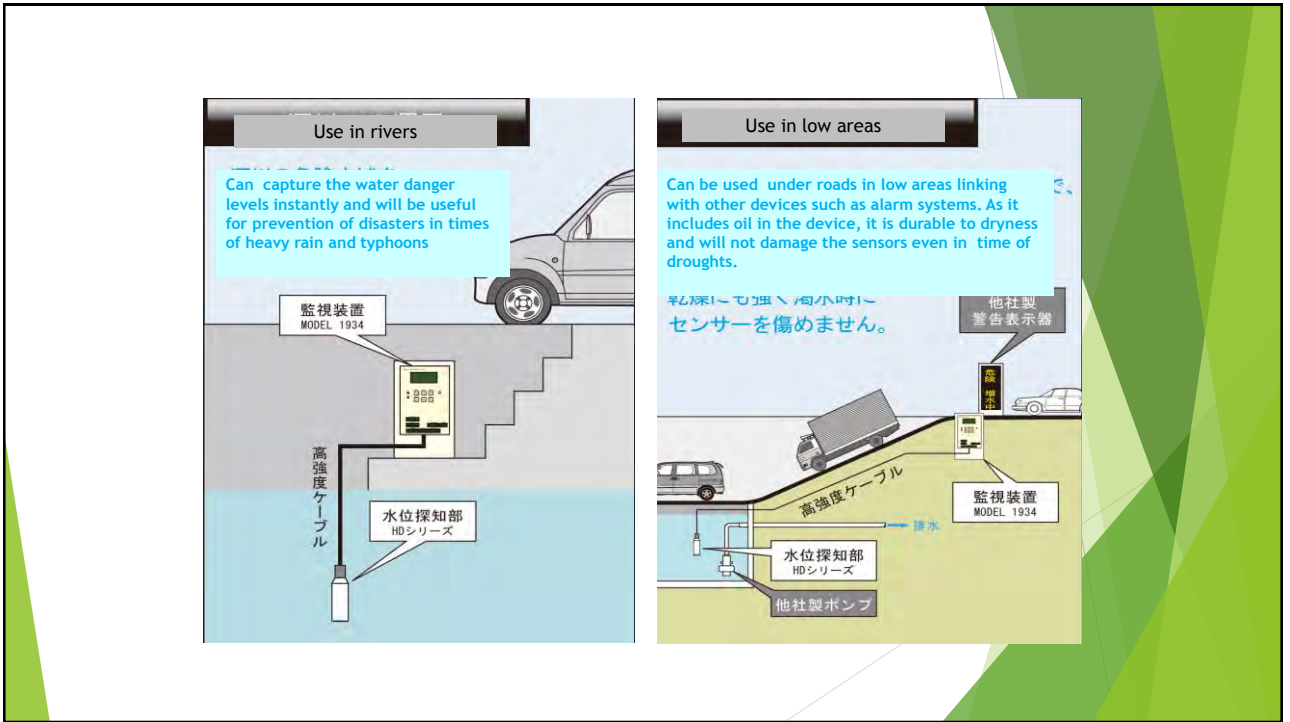
## Placement of sensors (Outside/side water levels)



※ possible to set on slopes  
※ not to be place horizontally

## Placement of sensors (Inside/side water levels)





### 3. Image Transfer Systems

## Functions and Special Features

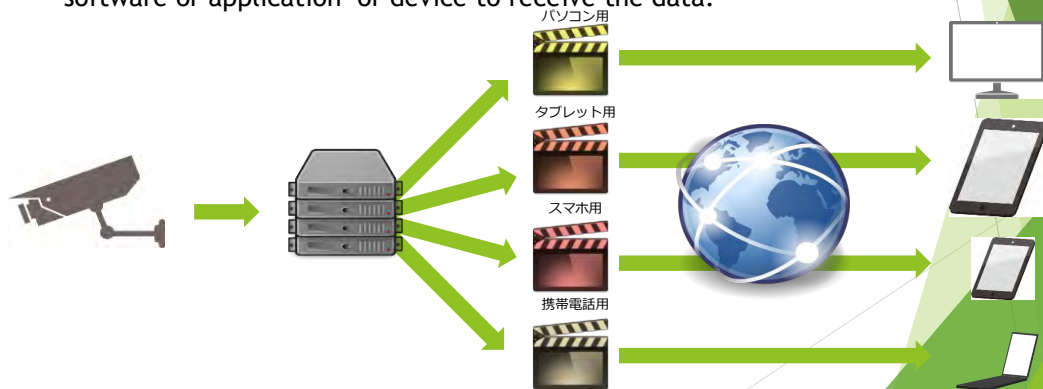
- Possible to be played on any terminal
- Access and image projection is easy
- High resolution, high compression
- Secure system development

### ■ Can be replayed on any device

Can be played on any device; your mobile phone, smart phone, tablet; if you have a internet browser.

The image data is processed in the server and will be converted in to the most suitable data for your PC, tablet, smartphone, or mobile phone.

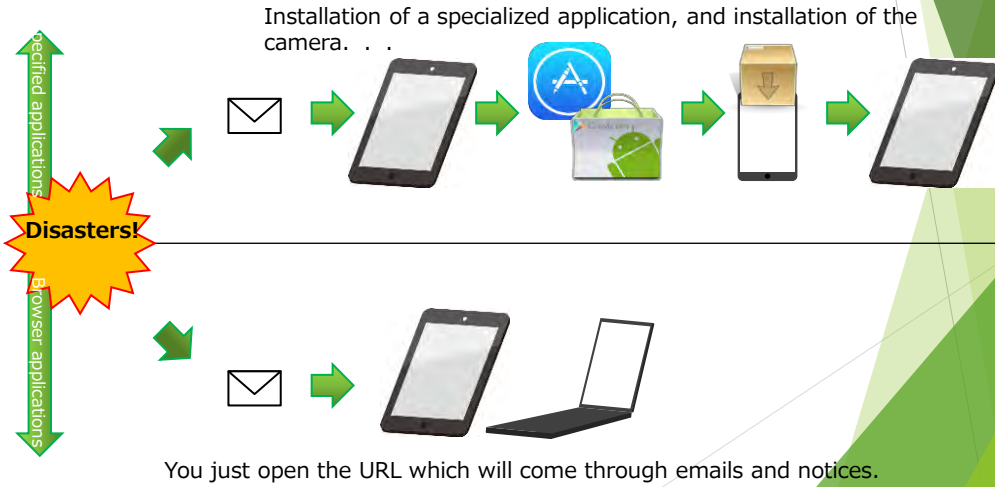
The server automatically transfers the most suitable image data according to the device accessed; therefore there is no need to have additional software or application or device to receive the data.





## Easy to access/derive to image projection

The image can be viewed through standard internet browsers; therefore it is possible to link with other devices. An URL for view of the data will be sent by email and by clicking the URL, the image will come through. By using this function, community residents can view such image data regardless of the types of device they have.



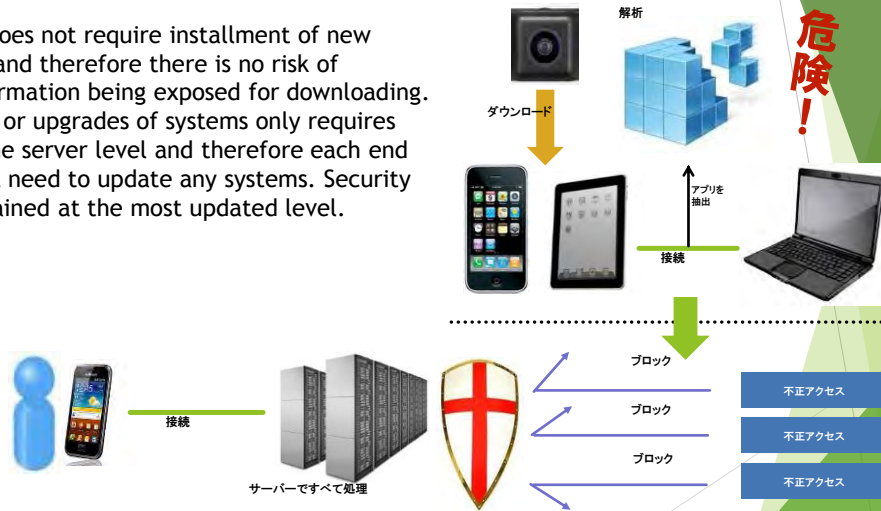
## High resolution, high compression

The image transferred in this system is high compression, 300 MB per hour; and compared to ordinary DVD image file systems, it compresses 7.8 times higher, and 1.4 times higher than ordinary files. While the files are highly compressed, it can store them at FPS30, therefore the images are very clear and smooth.



## ■ Secure system development

The system does not require installment of new applications and therefore there is no risk of personal information being exposed for downloading. Any revisions or upgrades of systems only requires changes at the server level and therefore each end user does not need to update any systems. Security is also maintained at the most updated level.



## ■ Proposed use; Live image transfer using mobile terminal

A 'mobile live broadcast of image' is possible by using mobile systems of battery and cigarette outlets in automobiles.

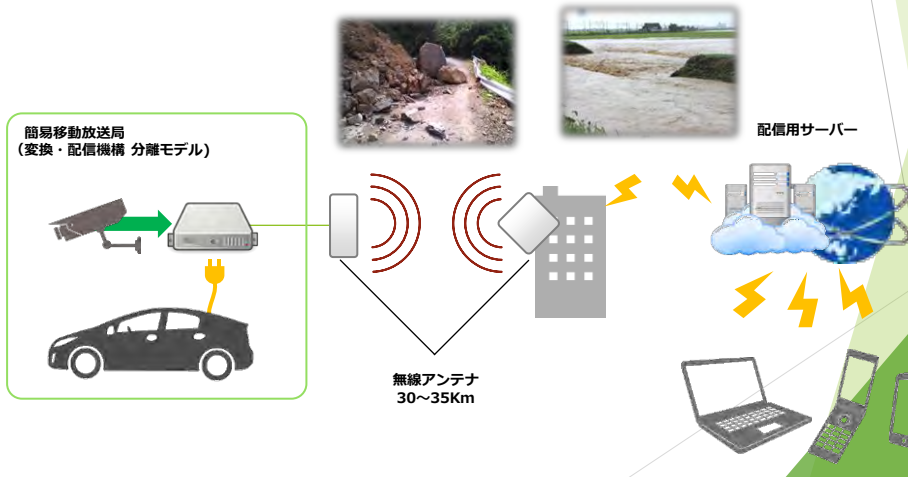
For videotaping of locations without permanent cameras or if it becomes unusable due to disasters, such mobile systems can be utilized and any live and update image of the disaster location can be transferred live.

While this is a simplified system, it still uses the same high resolution, high compression data transfer and is able to maintain the same quality of images. This system can be used anywhere a mobile phone service area.



## ■ Proposed use : Emergency image transfer using wireless antenna

In locations where there is no mobile phone or internet connection, it is still possible to transfer image data using long distance wireless antenna. The image can be transferred to the nearest office and then sent to the media server via internet, for the residents or the clients to view. This technology has great potential to expand in the near future, and it will become possible to send live images from the remote mountainous areas.



Thank you for your attention



株式会社 E-SYSTEM  
<http://www.esys1996.com>