

# Establishing post-environmental investigation using mobile application

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# 1. EIA Overview

§ **EIA (Environment Impact Assessment)** : Analysis and estimation of future negative environment impact led by proposed development plans.

## § Types of environment assessment

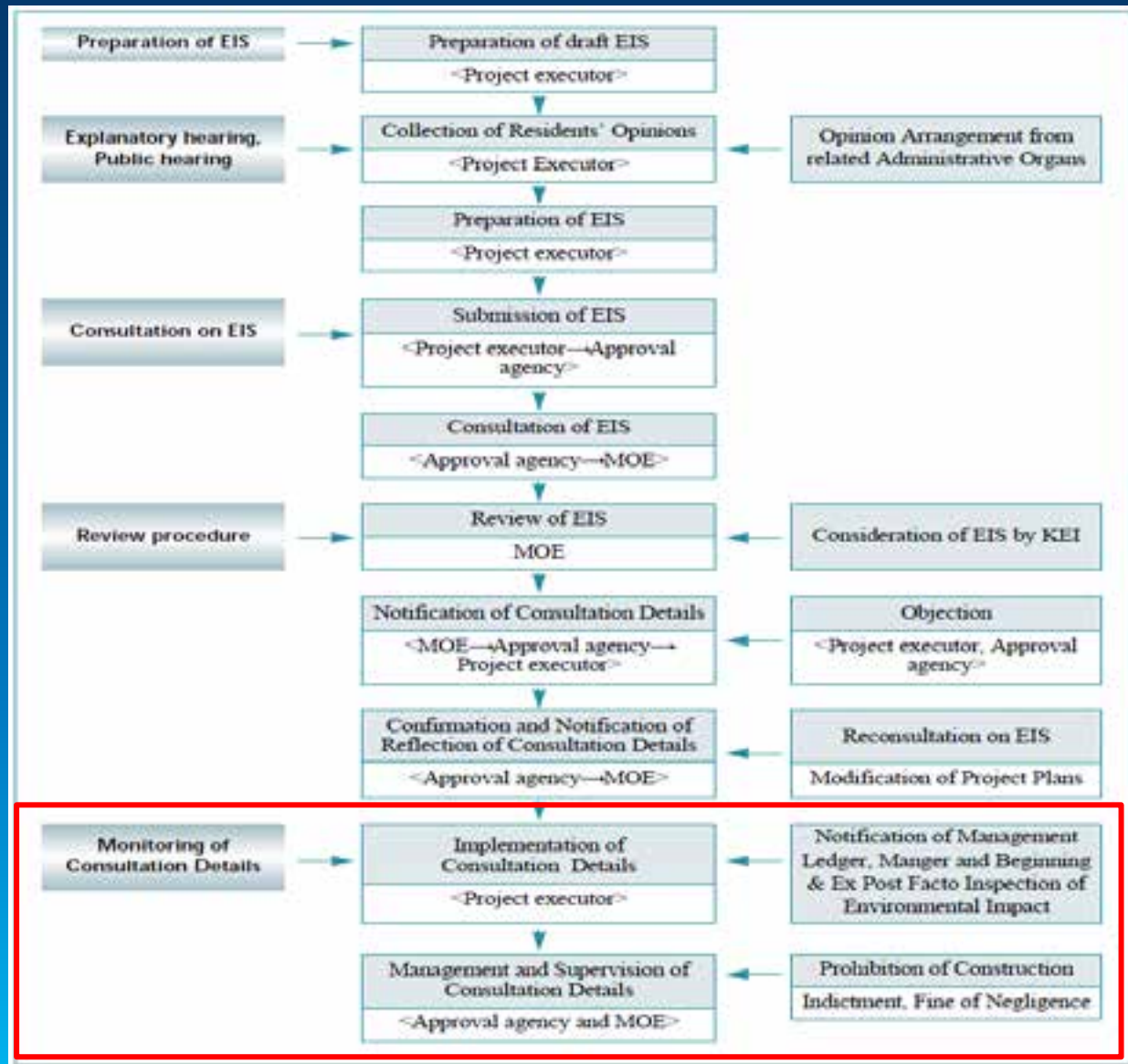
Types of environment assessment	Manor targets
Strategic Environment Assessment(SEA)	§ Policy master plan
Environment Impact Assessment(EIA)	§ Large scale development project
Small Scale Environmental Impact Assessment	§ Small scale development project

## 2. Project subject to EIA

### § Assessment subject?

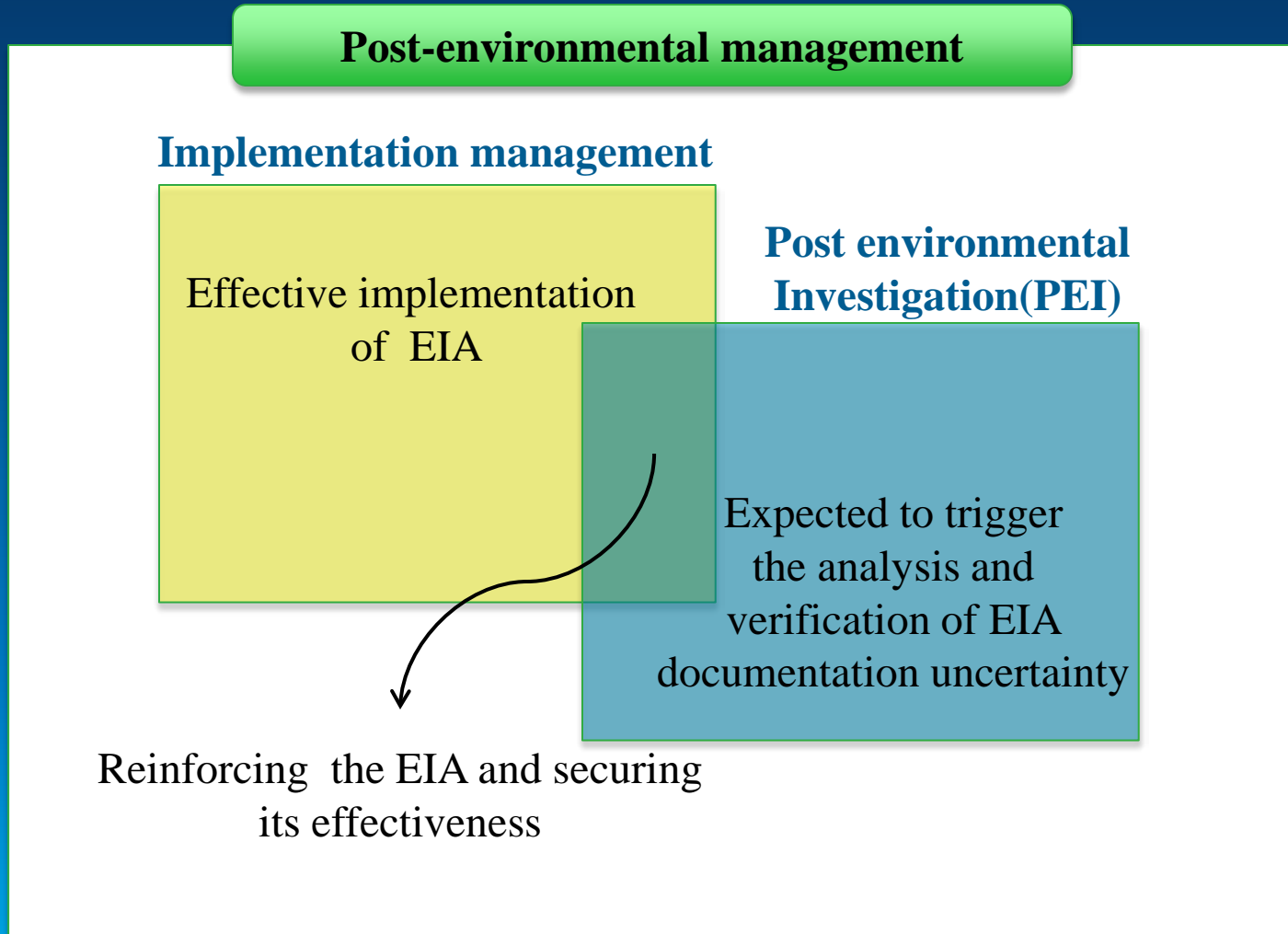
Area	Assessment subjects
Natural Ecological Environment	Animal, plant, natural environment asset
Air Environment	Meteorology, air quality, odor, green gas
Water Environment	Water quality(surface and ground) Hydraulic and hydrology, marine environment
Soil Environment	Land use, soil, topography, geology
Living Environment	Environment friendly resource, noise and vibration, recreation and landscape, sanitary and public health, electromagnetic interference, sunlight shadow
Social & Economic Environment	Population, housing, industry

### 3. The procedure of EIA



Post EIA stage  
(Study area)

## 4. Post-Environmental Investigation



# 1. Purposes of EIASS

§ EIASS(Environment Impact Assessment Support System) : Web based support system for helping administrative procedures and for disseminating assessment information to publics.

## § Purposes of EIASS :

- Systematic management of EIA information
- Establishment of effective EIA audit Systems as in the United States and United Kingdom
- Improvement of administrative fairness and provision of the right to know to public.

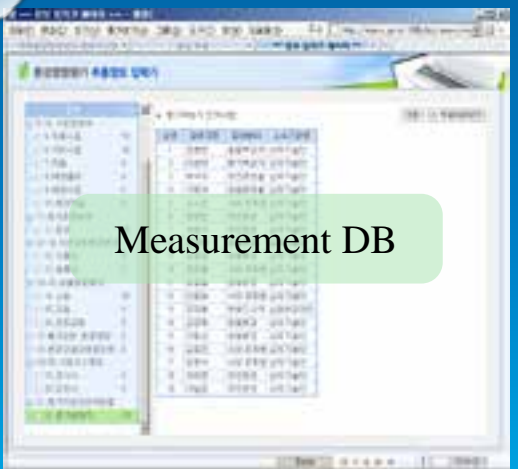
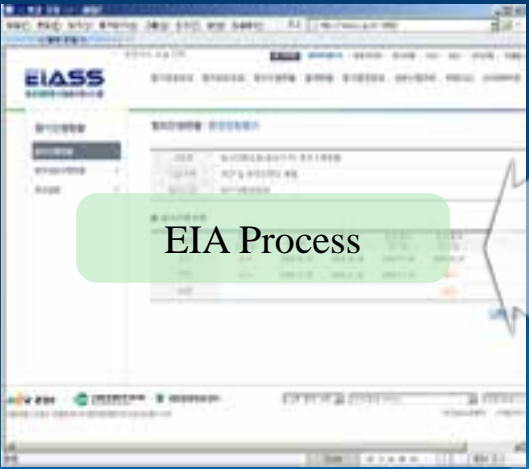


## 2. Progress of EIASS

<b>3<sup>rd</sup></b>	2009~	Expanding EIASS(2009~2010) Building Post-EIA DB(2011) Start building Mobile service infra(2012)	<b>Utilize</b>
<b>2<sup>nd</sup></b>	2006~ 2008	Building of EIA & EIA audit DB EIA Portal & Stakeholder opinion hearing by internet	<b>DB</b>
<b>1<sup>st</sup></b>	2004~ 2005	Start building of EIS full text & agreement results DB Building of GIS DB basis for EIA Project Site	<b>Infra</b>
<b>Prelim.</b>	2002	'02 Establishment of BPR-ISP for EIA Support System Basic design for EIA informatization	<b>Plan</b>



# 3. Main function of EIASS



## **4. Role of GIS**

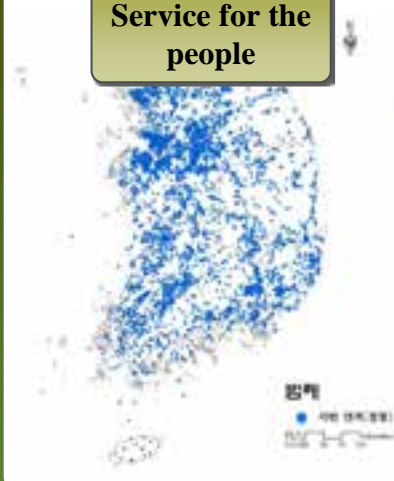
- § **Construct spatial information of environment assessment data and related spatial info**
- § **Provide accurate sample sites and environment quality measurement information**
- § **Manage and store environment data efficiently**
- § **Review previous environment impact assessment sites for current and future assessment**

<b>Name of layer</b>	
1. EIA project site	8. Points of air quality
2. Location of mines	9. Points of surface water quality
3. Points of endangered fauna	10. Points of groundwater quality
4. Points of endangered flora	11. Points of soil quality
5. Points of protected & aged trees	12. Points of noise
6. Points of seawater quality	13. Points of vibration
7. Points of seafloor quality	14. Location of cultural heritage

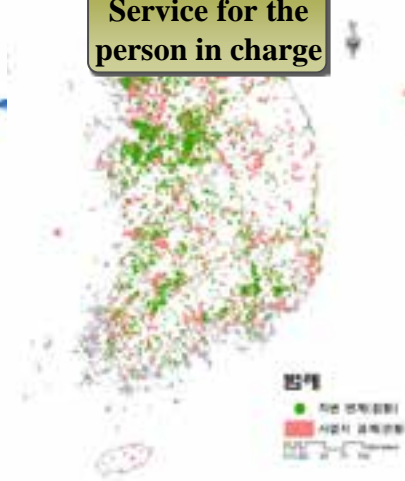
## 5. Using GIS in EIASS

### SEA and SSEA information GIS DB

Service for the people



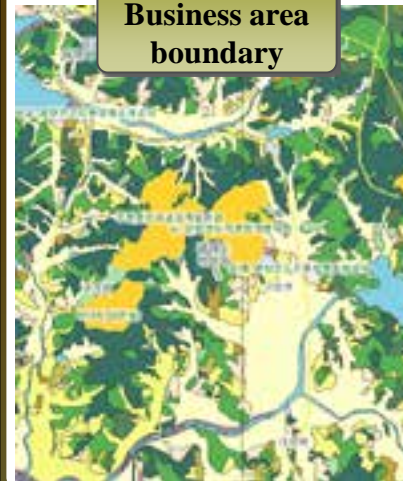
Service for the person in charge



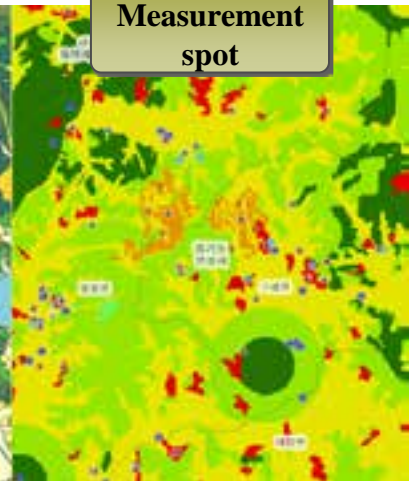
- Build prior environment review business boundary of environment impact assessment business area (500 cases)
- Build the space information of business boundary using address number (20,000 cases)
- Simplify business boundary and scale using icon in public service
- Person in charge service creates buffer considered area when build business boundary and address connection

### EIA information GIS DB

Business area boundary

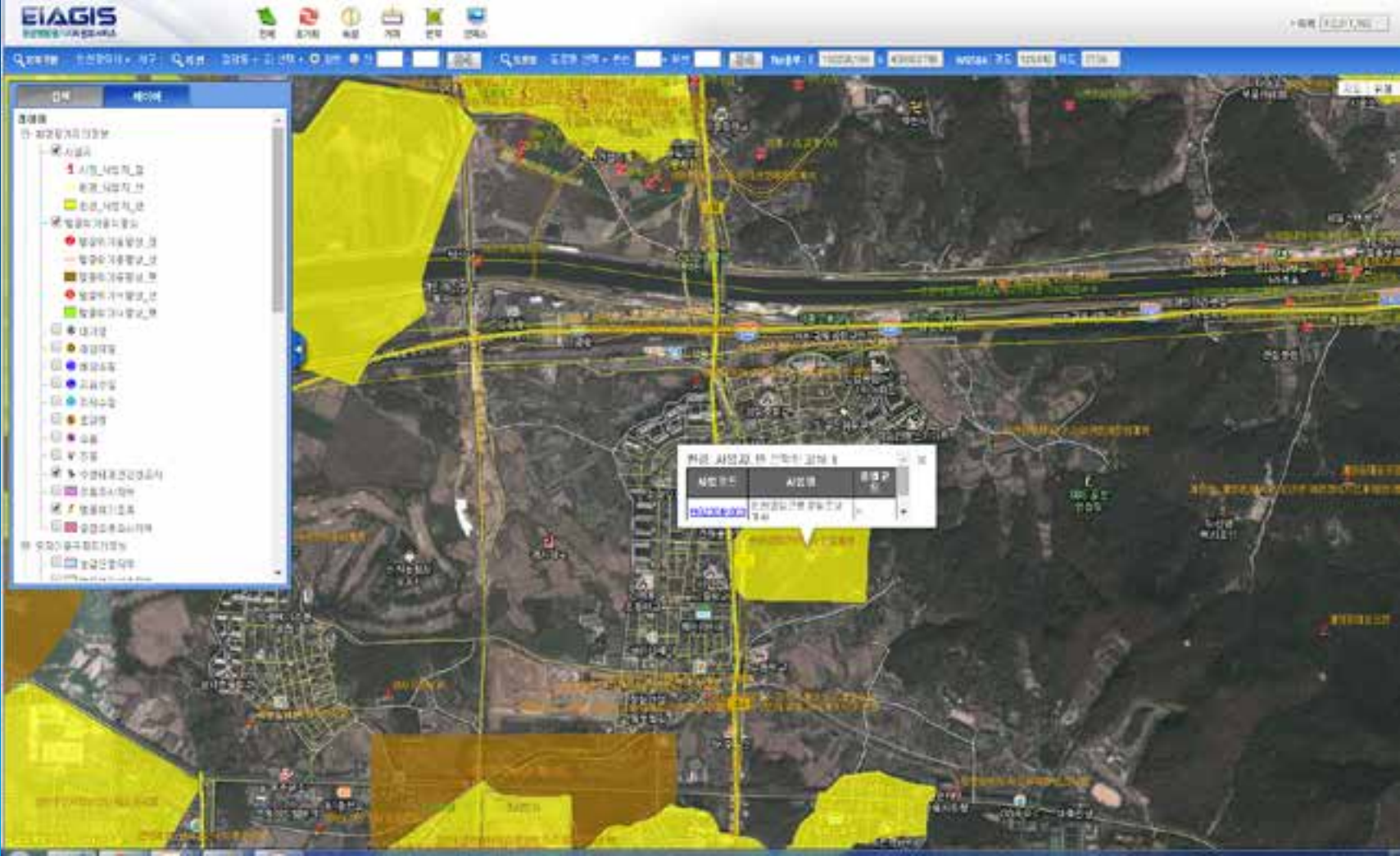


Measurement spot



- Build space DB boundary of excepted business area from the past information process (500 cases)
- Build various kinds of measurement points and measurement attribute information (500 cases, 19 layers)
- When build measurement information, minimize the corrupt using attribute information input device V3.0
- Correction and check using ArcGIS

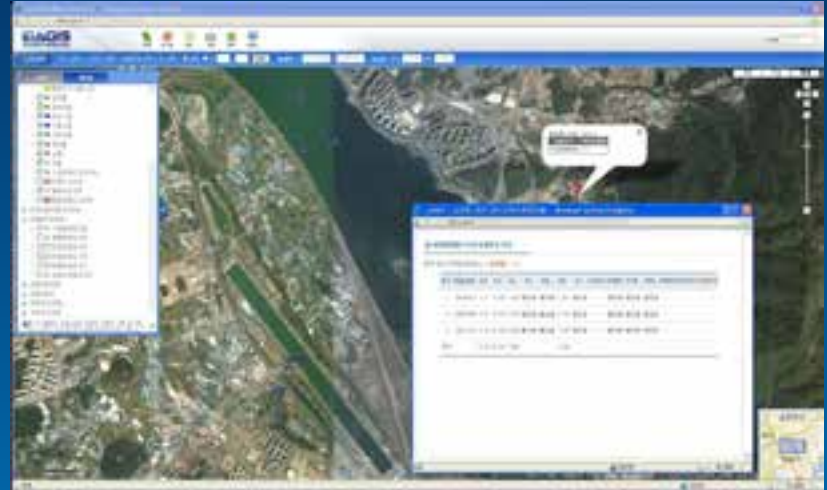
# 6. Sample image of EIASS



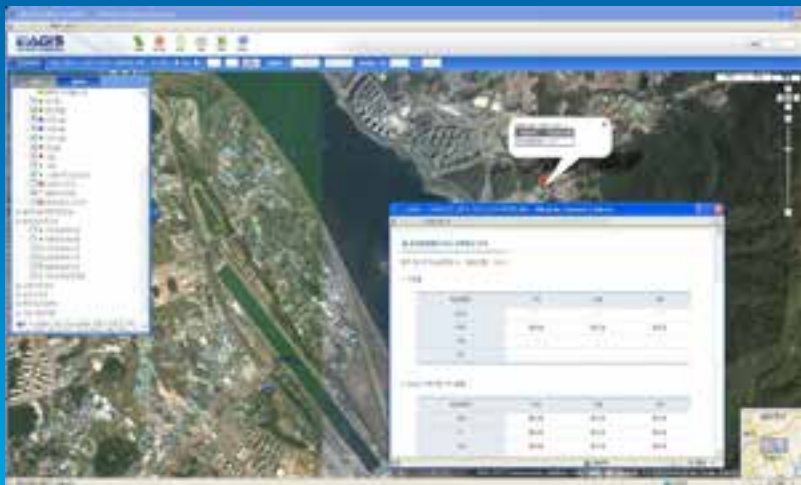
# 7. Environmental quality mapping



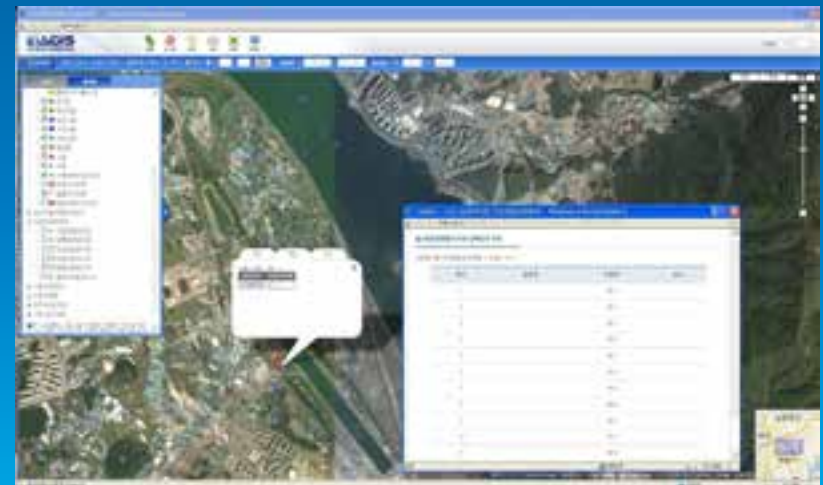
Marine water quality



Soil quality



Underwater quality



Noise

*. Using mobile application*

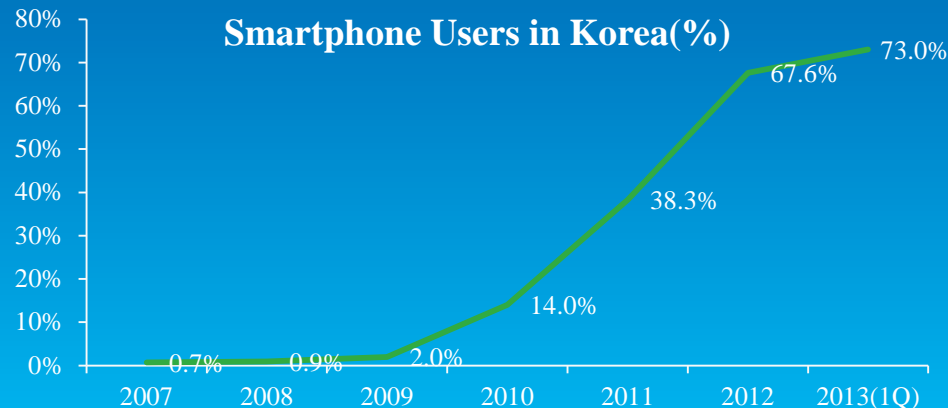
# 1. Smartphone User

## § Smartphone users and penetration worldwide, 2012-2018

	2012	2013	2014	2015	2016	2017	2018
Smartphone Users (billions)	1.06	1.40	1.76	2.04	2.29	2.52	2.73
- % change	58.7%	32.3%	25.1%	16.3%	12.2%	10.2%	8.1%
- % of mobile users	25.8%	31.9%	37.8%	41.8%	45.0%	47.7%	49.8%
- % of population	15.2%	19.8%	24.5%	28.2%	31.3%	34.2%	36.5%

**Source : eMarketer, June 2014**

§ Korea is the world leader in terms of smartphone penetration, and these devices were in the hands of more than half its residents as early as 2012.



## 2. Why do you need the mobile App.

§ **Insufficient mention of site situation on analysis**

§ **No analysis of reduction facility's effect**

§ **No analysis based on comparison between the environmental impact predictive value and its results**



Soundproof



Pedestrian & Bicycle Road



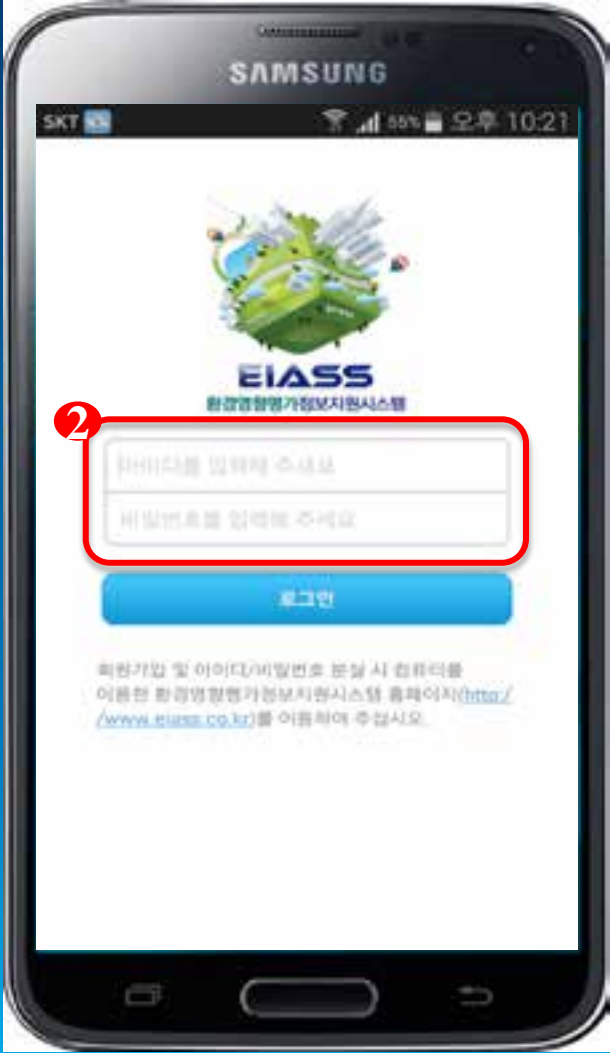
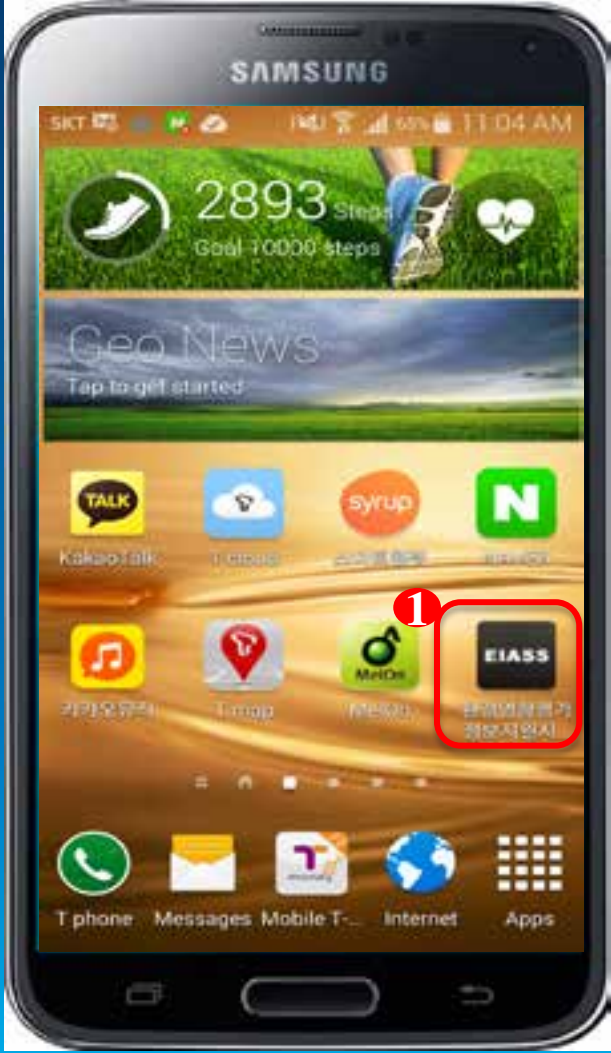
waste water processing facilities



Sprinkler truck

. Using mobile application

### 3. Mobile application of EIASS

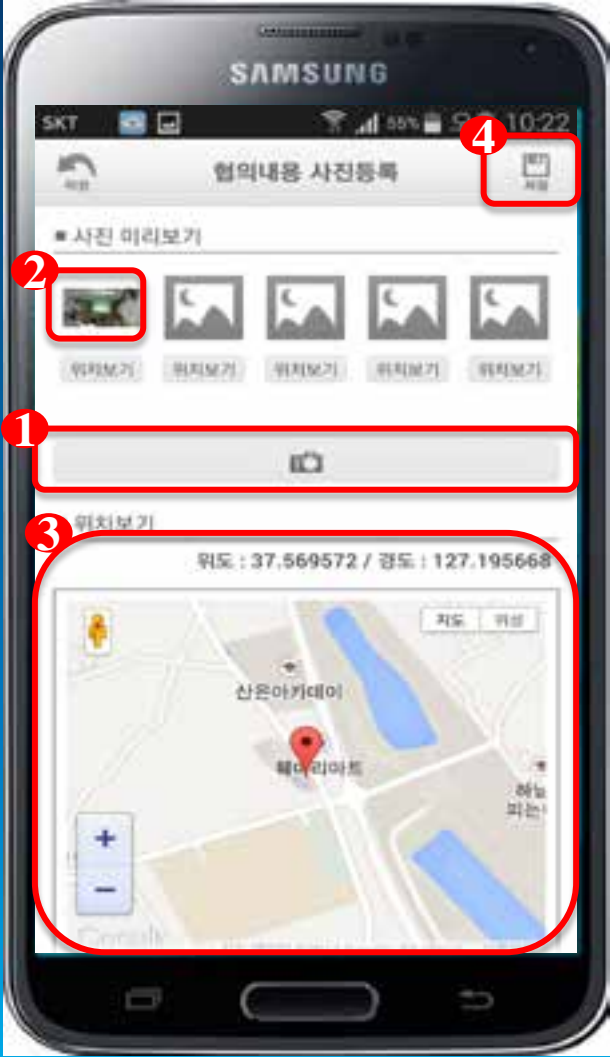
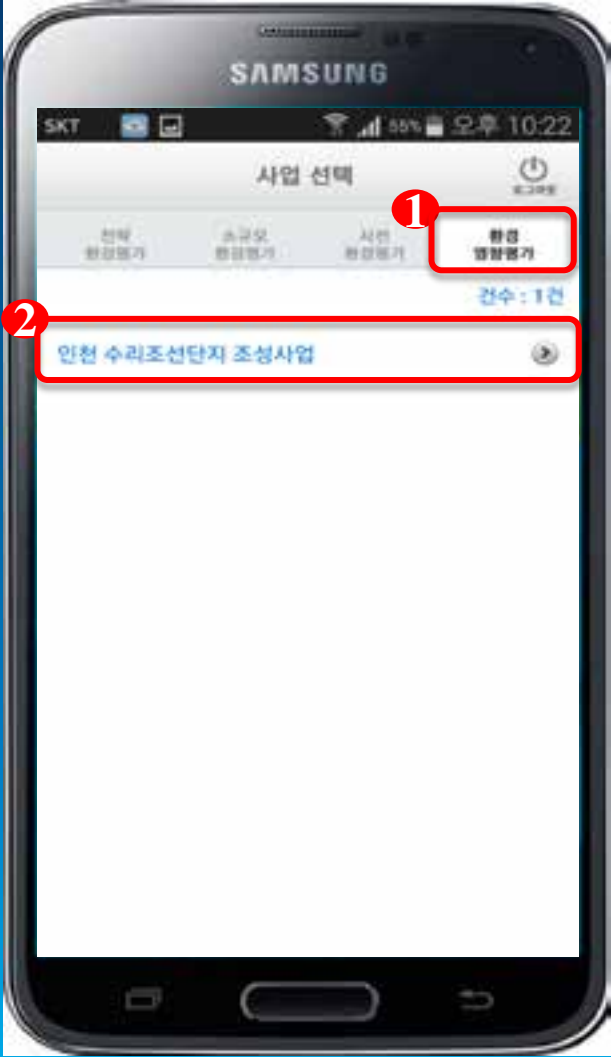


Location consent.



. Using mobile application

# 4. Mobile application of EIASS



# 5. Mobile application of EIASS

## Implementation data of registration in EIASS

The screenshot shows the registration process in the EIASS mobile application, divided into four numbered steps:

- Step 1:** Registration details form. Fields include:
  - 단체/단위: 공통
  - 이행주체: 한국도로공사
  - 이행방법: 보 설치
  - 현의내용: 보를 설치 계획함
- Step 2:** Confirmation of registration data. A '확인' (Confirm) button is highlighted.
- Step 3:** Confirmation of registration data. A '확인' (Confirm) button is highlighted. A pop-up window titled '보 파일 등록 시작 검색' (Start Search for Registration of Guardrail Files) is shown, containing a table of files:

순번	번호	이름	구분	등록일
1	1	2012015_120205.jpg		2012-10-09
2	2	2012015_120206.jpg		2012-10-09
3	3	2012015_120207.jpg		2012-10-09
4	4	2012015_120208.jpg		2012-10-09
5	5	2012015_120209.jpg		2012-10-09
6	6	2012015_120210.jpg		2012-10-09

- Step 4:** Confirmation of registration data. A '확인' (Confirm) button is highlighted. A '찾아보기' (Find) button is also visible.

# 6. Mobile application of EIASS

## Implementation of approved in EIASS

1

<b>일반현황</b>	
사업자	한국도로공사
사업장 소재지	충남아산
업의일	2012.10.18
착공일	20121018
준공(예정)일	20121018
승인기관	국토해양부
권리책임자	책임
조사/확인 결과	조사
<b>업의내용 이면계획</b>	
연계/합계	CM01
이면주체	한국도로공사
이면방법	보 설치
업의내용	보물 설치 계획함
<b>업의내용 이면현황</b>	
공정률(%)	100
이면(소재) 내용	보 설치 완료
이면(소재) 파일명	20121015_120000.jpg
<b>세구이면 상황</b>	
관련자료	

2

3

- § **Reflecting on improvement through consultation during implementation(real time)**
- § **Simplifying consultation procedures to make changes**
- § **Applied in the EIA process due to the development of mobile application and GIS/remote sensing**
- § **Enhancement of post environmental impact report**
- § **Information management and availability**

# Thank you!

Web address : [www.eiass.go.kr](http://www.eiass.go.kr)