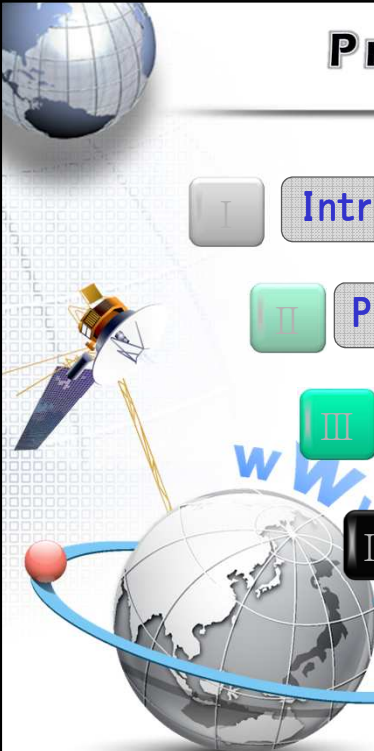


**2015 FIG Working Week in Sofia, Bulgaria**

Realization and Operations of 3D Data  
acquired by Terrestrial Laser Scanner  
on web browsers


2015. 5.

LX KCSC  
LEE HYUN KEE




### Presentation Order

- I Introduction
- II Process of Laser Scanning
- III Demonstration Video
- IV Application Plan
- V Conclusion

 **1** Introduction

Cheong-ryeong-po (historical site)



 **1** Introduction

Two main devices of this project

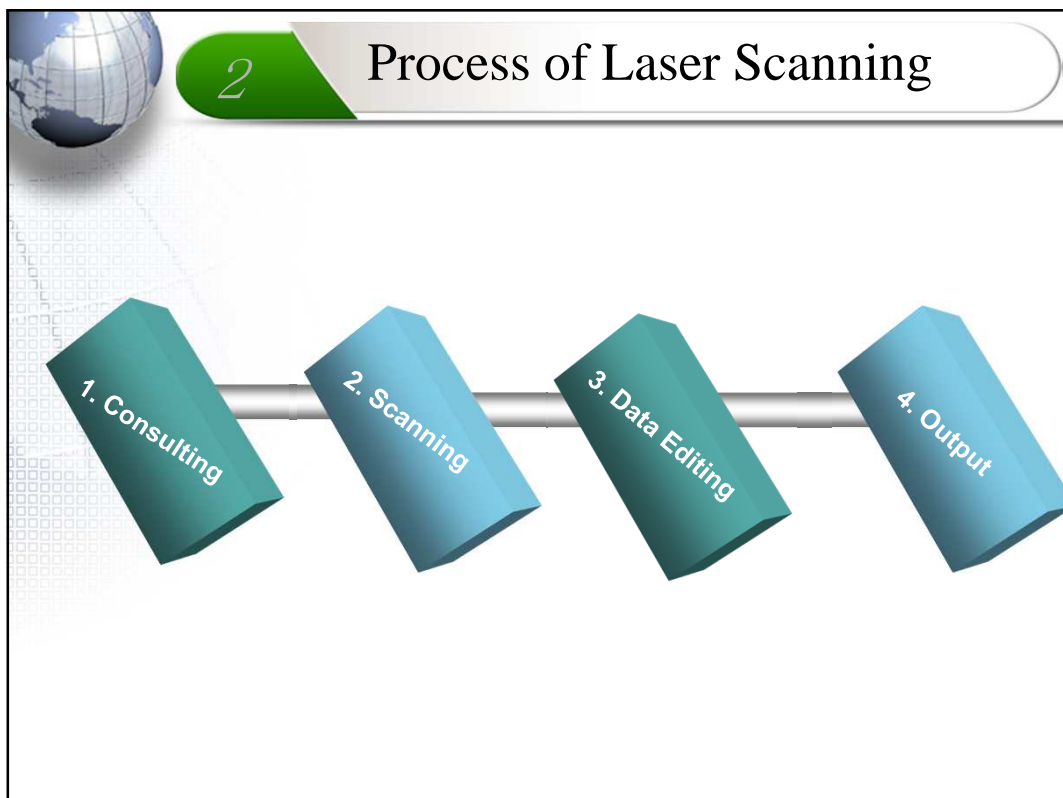
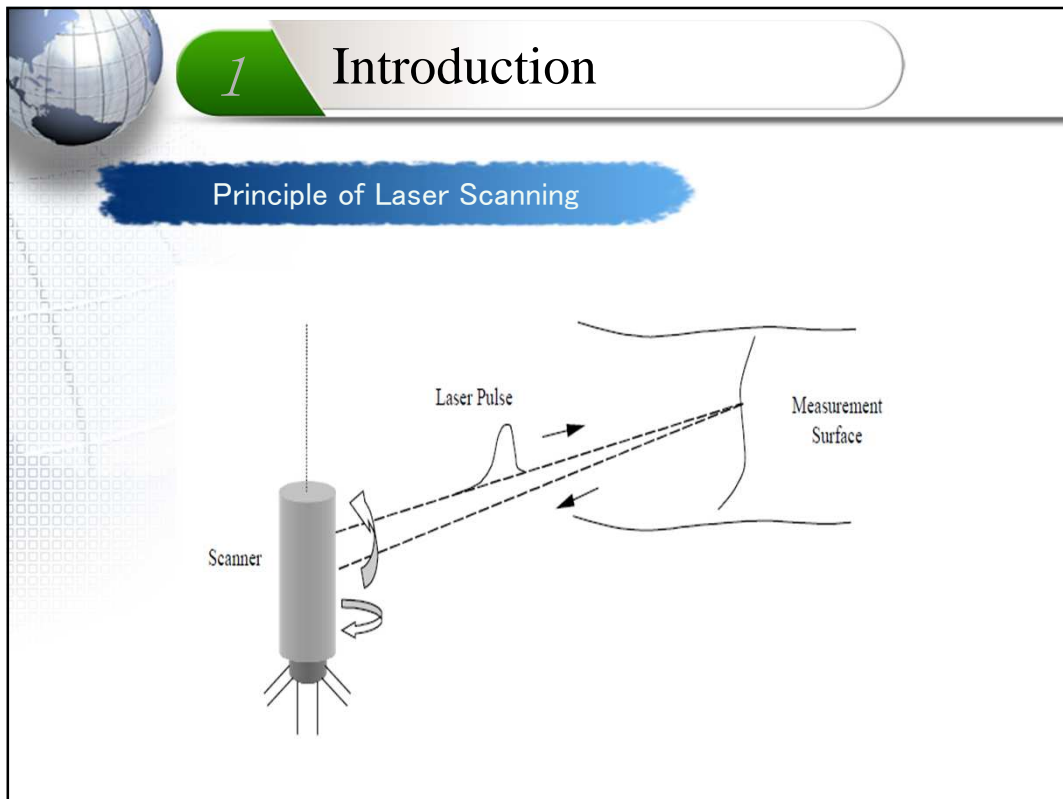
**Terrestrial Laser Scanner**

**GPS**

Leica ScanStation C10  
The All-in-One Laser Scanner  
for Any Application

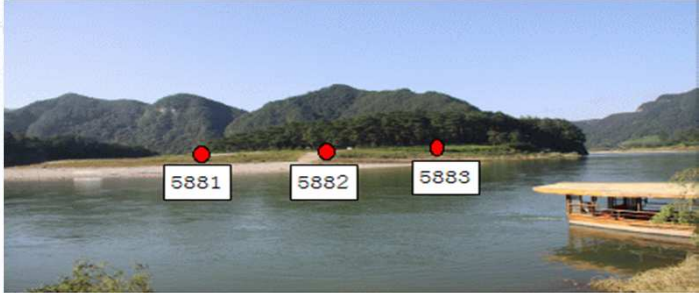
See also ScanStation C10 brochure!





## 2 Process of Laser Scanning

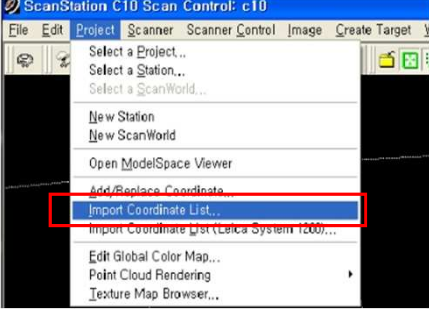
### Control Points Installation by GPS



CP No.	X	Y	Z	unit
5881	408281.95	150717.99	191.14	m
5882	408353.86	150690.16	192.90	m
5883	408386.54	150636.10	192.40	m

## 2 Process of Laser Scanning

### Import Control Points Coordinates



```

csp.txt - 메모장
파일(F) 편집(E) 서식(O) 보기(V) 도움말(H)
5881,408281.95,150717.99,191.141
5882,408353.86,150690.16,192.904
5883,408386.54,150636.10,192.400
    
```


## 2 Process of Laser Scanning

3D laser scanning in historical site



## 2 Process of Laser Scanning

Getting mapping sources



Canon D50

mapping source

## 2 Process of Laser Scanning

Points Cloud Editing

How to reduce the size of Points Cloud?

Modelling

## 2 Process of Laser Scanning

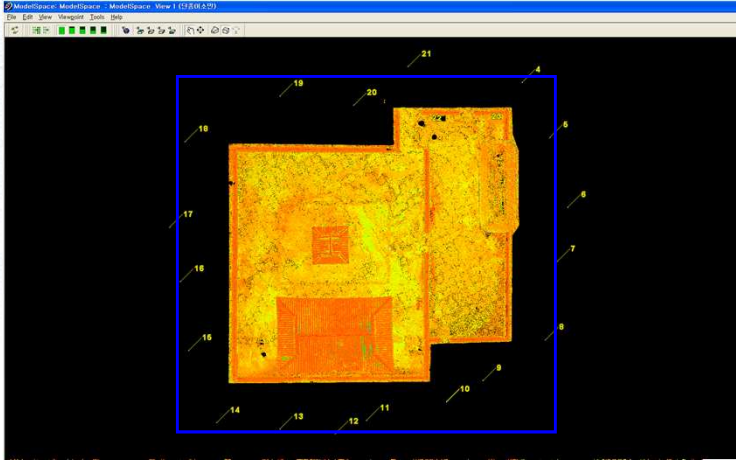
Registration

Free Method

Traverse Method

## 2 Process of Laser Scanning

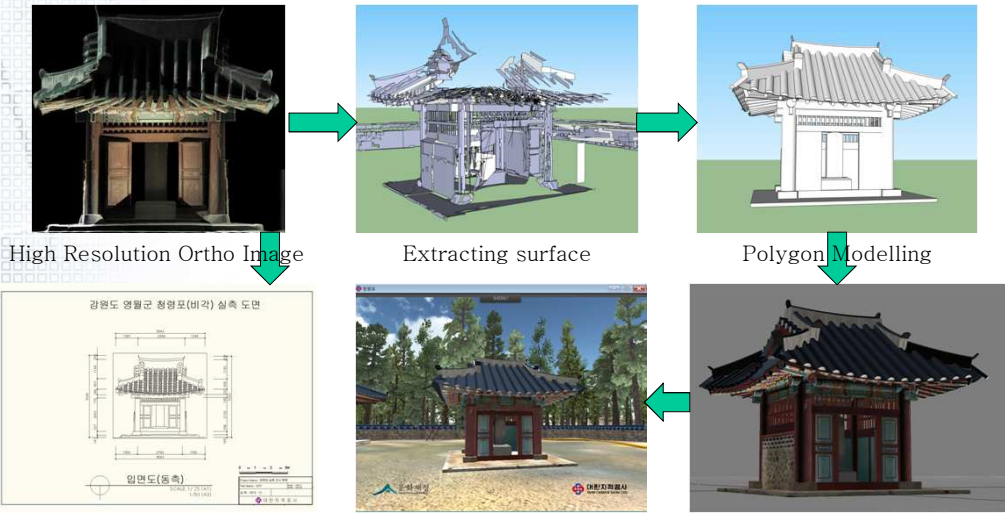
### Filtering



Before & After Filtering

## 2 Process of Laser Scanning

### Building Modelling & Reverse Engineering drawing



High Resolution Ortho Image

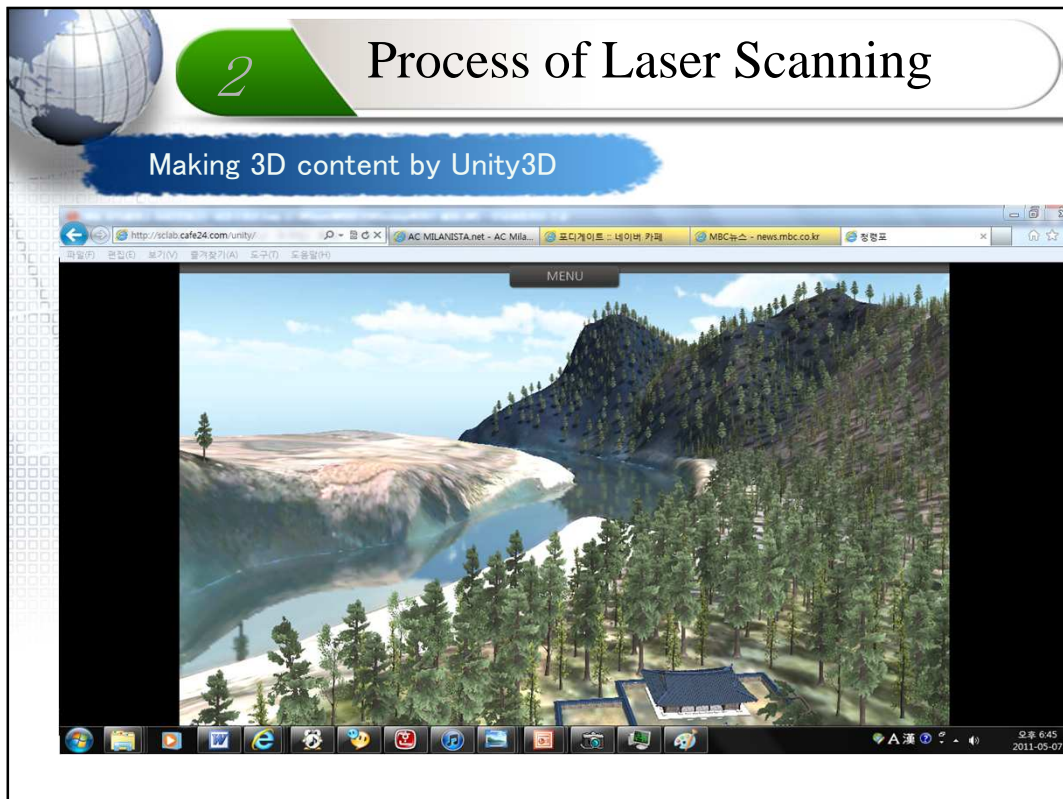
Extracting surface

Polygon Modelling

Texture Mapping

Import on Unity3D Engine

Drawing





# 4 Application Plan

Play on web browser

스카이 뷰    전체화면    행랑채  
로드 뷰    단종아소    비각  
대한지적공사    금표비    단묘비  
Korea Cadastral Survey Corp.

현재 애니메이션 뷰 모드입니다.  
마우스 스크롤 : 확대  
마우스 스크롤 : 축소  
Space : 회전 On/Off

MENU

# 4 Application Plan

Travel Guide Application on Mobile platform


장소

9장의 사진

Facebook    Twitter    ...


# 4 Application Plan

Demo Video Clip



# 4 Application Plan

Available contents



스카이 뷰, 로드 뷰, 전채화면, 단종어소, 금표비, 행랑채, 비라, 단묘비

현재 애니메이션 부 모드입니다.  
마우스 스크롤 : 확대  
마우스 스크롤 : 축소  
Space : 회전 On/Off

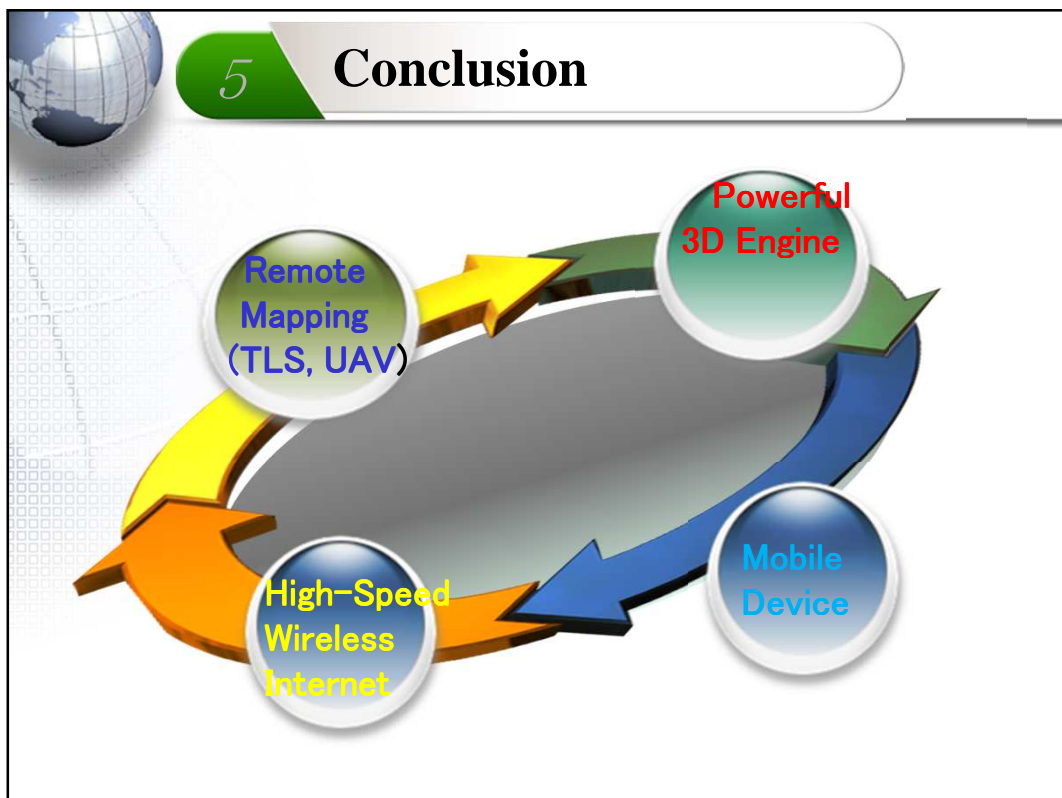
MENU

다음 중 사육신이 아닌 사람은 누구일까요?  
1. 성삼문  
2. 신숙주  
3. 박팽년  
4. 아뢰지

정답 : 2. 신숙주  
사육신은 성삼문, 박팽년, 아뢰지, 어계, 유성원, 유충부 총 6명입니다.  
(1982년에 김문기가 추가되었습니다.)

**5 Conclusion**

1. Reverse engineering drawing of culture assets by using laser scanning is available to 1mm in maximum. Also it is more faster and accurate than the survey with tapeline.
2. When the modelling data and digital elevation model(DEM) based on points could are combined with 3D engine, we can make the 3D contents related with relevant area and that contents is loaded well on web browser.
3. If this project get a support from rapidly developing wireless network, circulation and demand of 3D contents would be accelerated.





*“Total Solution Provider  
LX KCSC”*

**Thank you for**

**Listening!!**

**plzonesec@naver.com**  
**www.facebook.com/plzonesec**

We Have Been Dreaming the Advanced Future,  
It is Time to make it Real by our hand.