

3<sup>rd</sup> India-Japan Workshop on Disaster Risk Reduction 2019

# **“shamen-net” Satellite & Cloud based Displacement Monitoring System**

March 18, 2019

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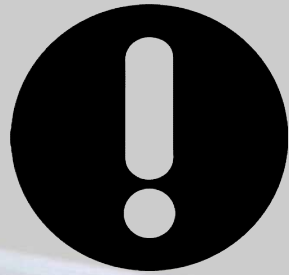
Sales Engineer

International Development Department

Kokusai Kogyo Co., Ltd.



# Kokusai Kogyo: Our identity



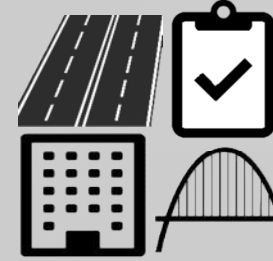
Pioneer in  
Japan since  
1947



Geospatial  
|  
Centric



Climate  
Change  
Solution



Infrastructure  
Engineering



Renewable  
Energy



2,800  
People



6,000+  
Projects



\$440M  
Revenue

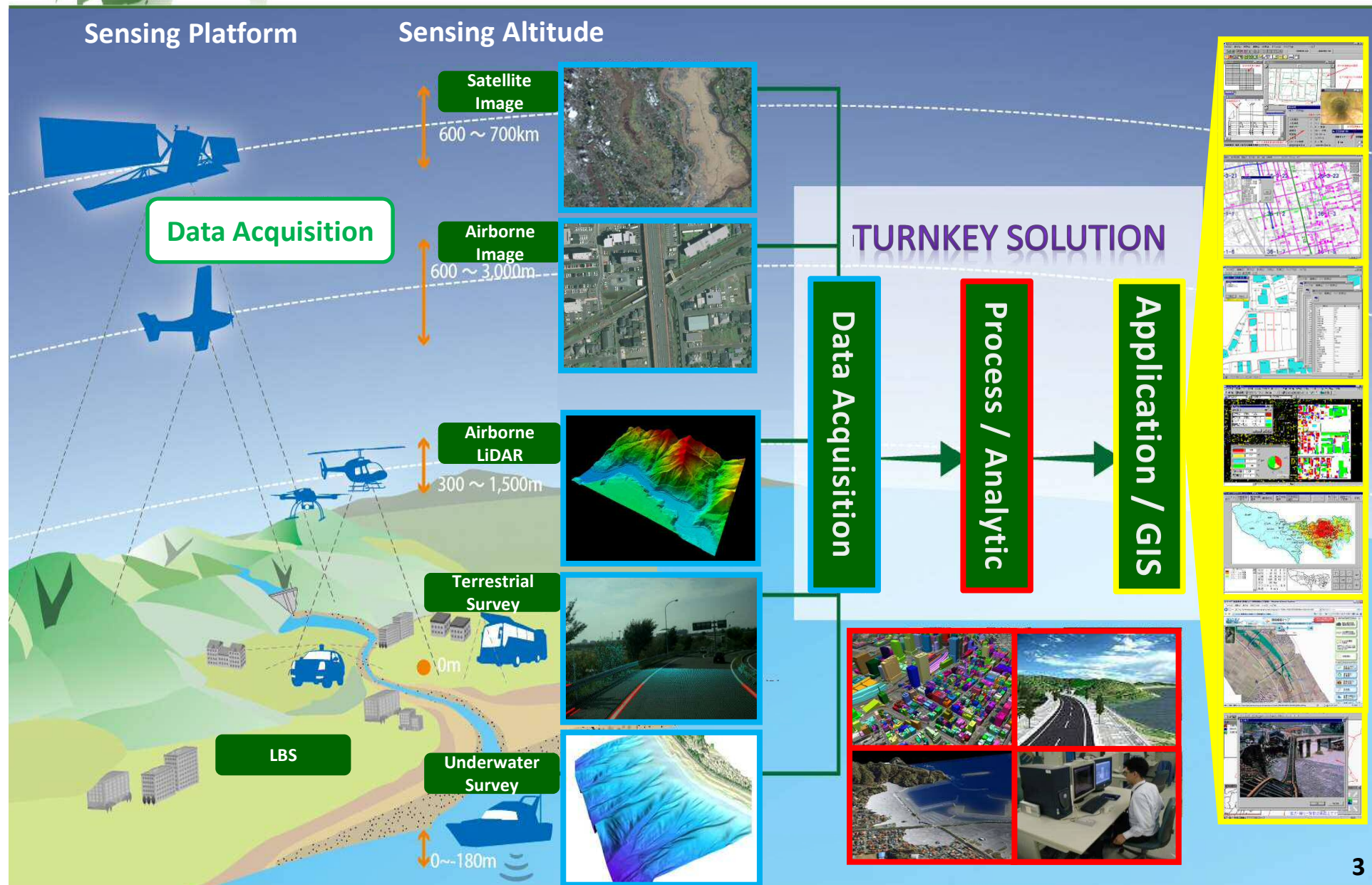


10+  
Affiliate  
Firms



5  
Global  
Offices

# Our technology





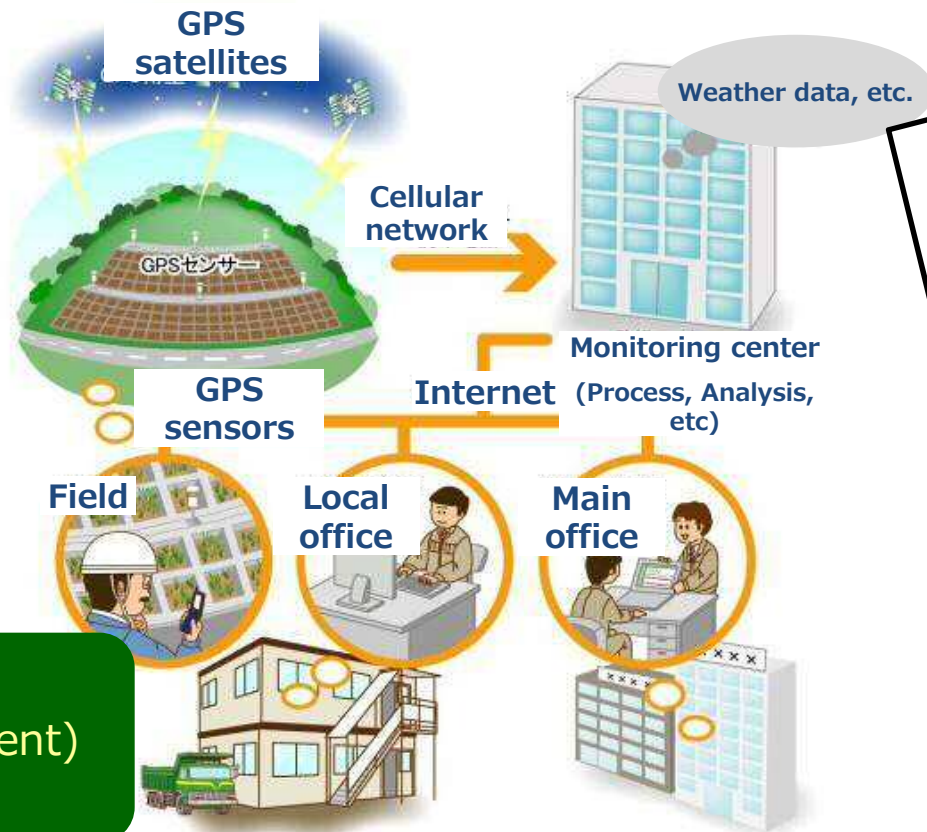
# shamen-net: Our proposal

## Satellite & Cloud Based Displacement Monitoring System



GPS Sensor

- High Precision  
(Up to 1mm displacement)
- Monitoring 24/7



Data Graph



Displacement vector

**Real-time Monitoring, Analytics, Warning, Report**



# Video: On-site Installation

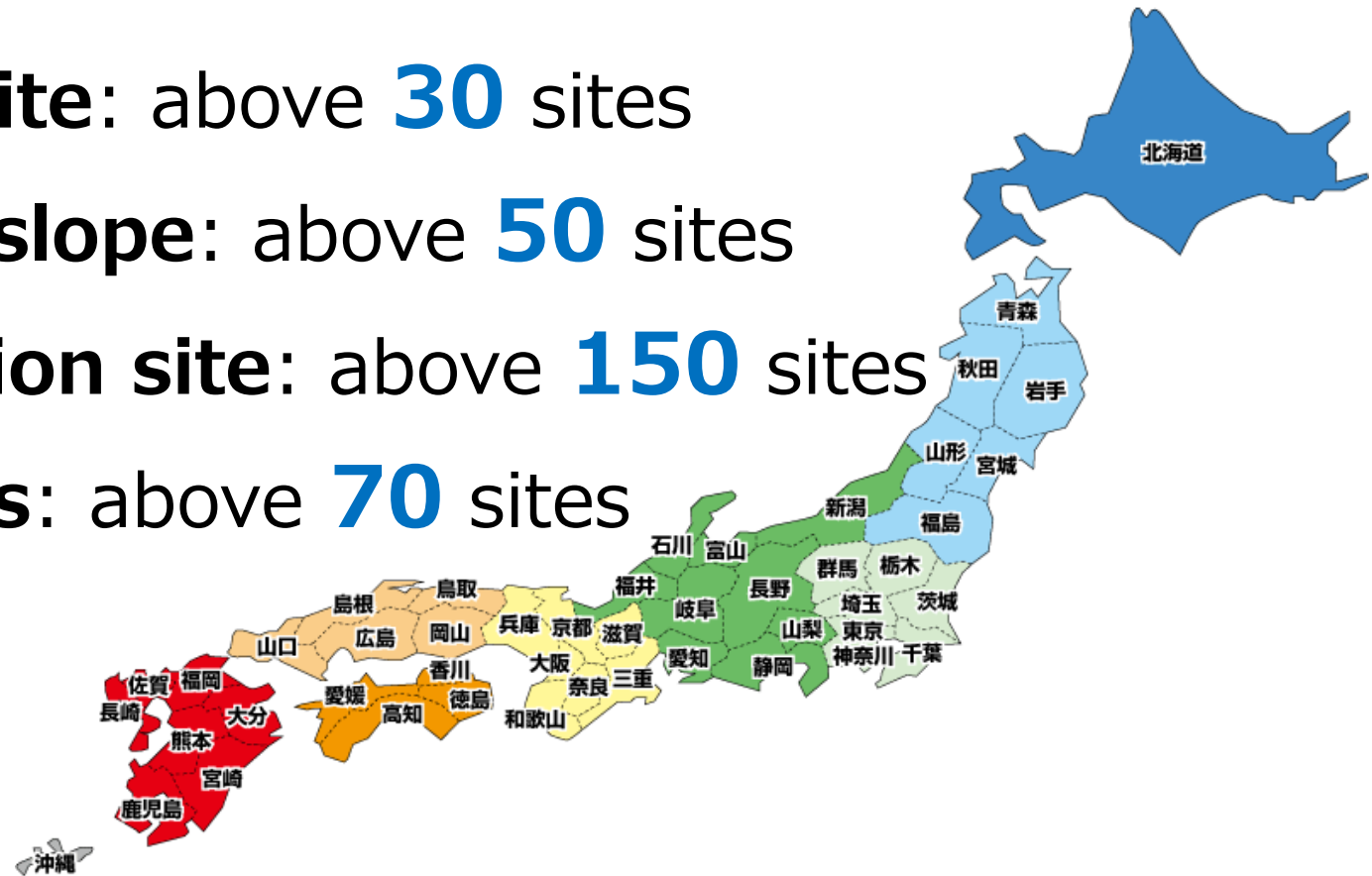




# Case studies in Japan

## “shamen-net” in Japan

- ✓ **Dam sites:** above **30** sites
- ✓ **Disaster site:** above **30** sites
- ✓ **Roadside slope:** above **50** sites
- ✓ **Construction site:** above **150** sites
- ✓ **Other uses:** above **70** sites







# Potential Partners/ Clients



**Roadside slope**



**Landslide**



**Avalanche**



**Land collapse**



**River dyke**



**Rock fill dam**



**Concrete dam**



**Electricity Tower**



**Mining**



**Disposal site**



**Tunnel**



**Bridge**



**Railroad**



**Airport**



**Seaport**



# Deployment Planning in India

Phase  
0

- Partnership/ JV with domestic company

Phase  
1

- Implementation of Proof of Concept

Approx. 1 year period

Phase  
2

- Deployment in nationwide





# In the end...

- ◆ 24/7 Displacement Monitoring
- ◆ High Precision Up to 1mm Detection
- ◆ Cloud Based Automated Service
- ◆ Intuitive Dashboard
- ◆ Robust and non moving hardware



# Thank you for your kind attention.

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