

Development of ocean disaster prevention technologies & integrated management system



Introduction to NRC for D-SOC at Dong-A University

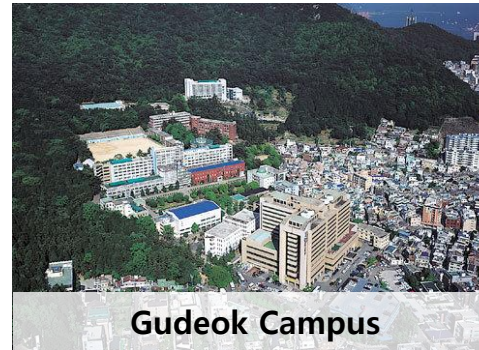
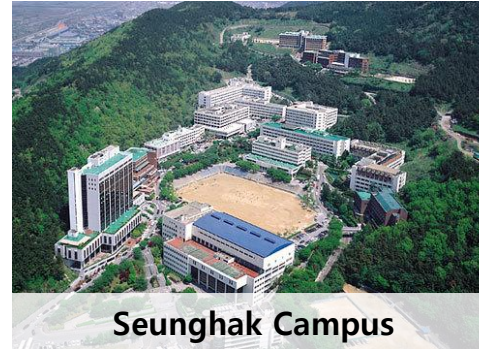
National Research Center for Disaster-free & Safe Ocean City (NRC for D-SOC)



• Dong-A University at Busan, South Korea



Multi-campuses in Busan city



Established 1946

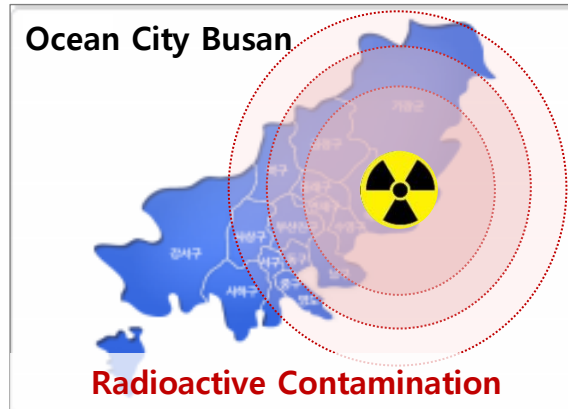
Undergraduates students: 20,000

Graduate students: 2,500

www.donga.ac.kr

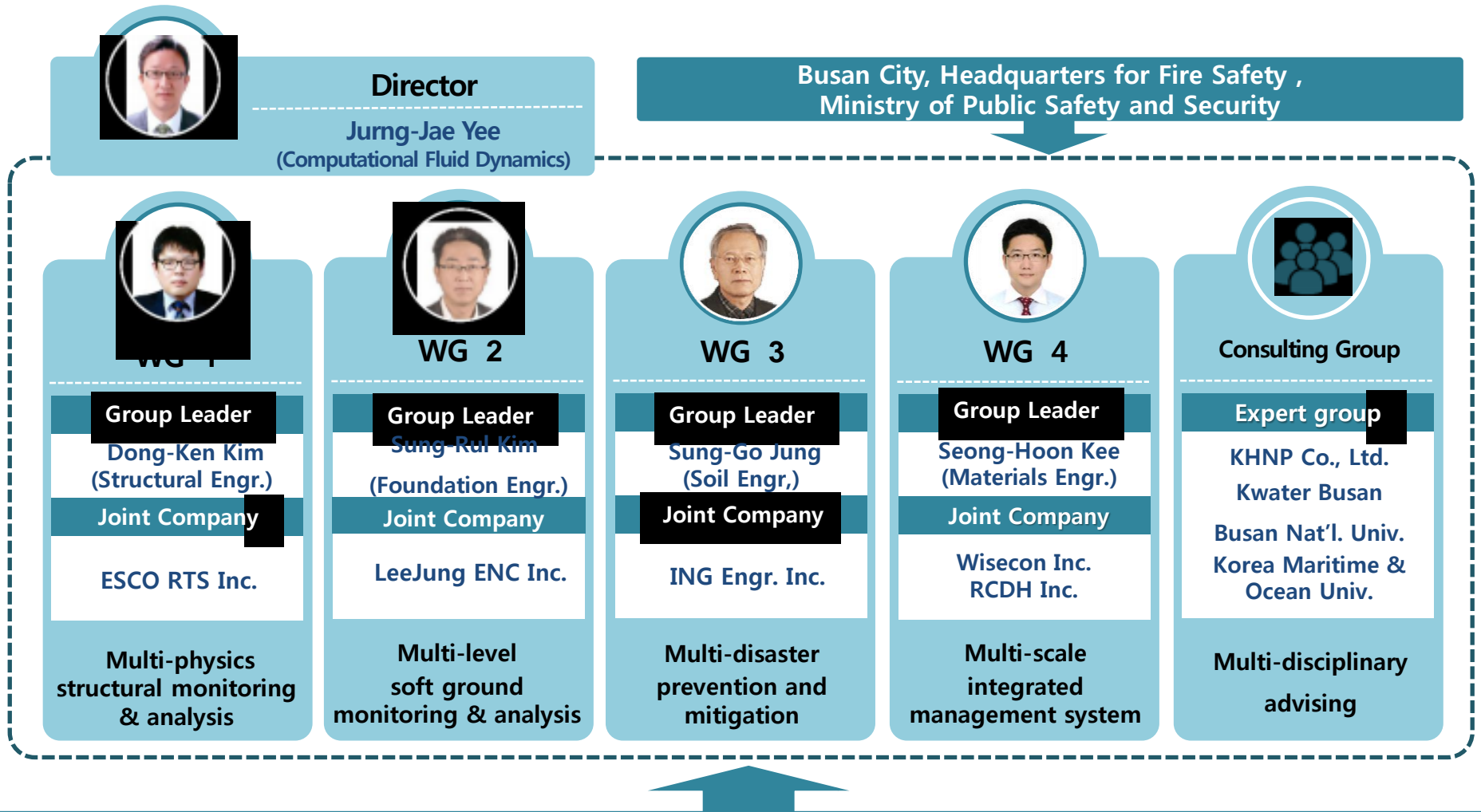
- **Best private University in Busan, 2nd largest** [REDACTED] **Korea**
 - Multi-campuses, education and research university
 - One of the 20 universities in Korea having both medical & law school
 - Big Engineering School with 12 departments → Many research collaboration opportunities

- Risks from various sources in Oceanfront cities



Necessary to develop innovative technologies and integrated management system for disaster prevention and mitigation in oceanfront cities

• Research groups and team leaders



Multi-disciplinary collaboration research from Architectural, Civil, Urban, Chemical and Electronical Engineering
 Research network with Busan city and public institute for disaster management

Research topics

Idea

Multi-physics structural monitoring & analysis

Multi-level soft ground monitoring & analysis

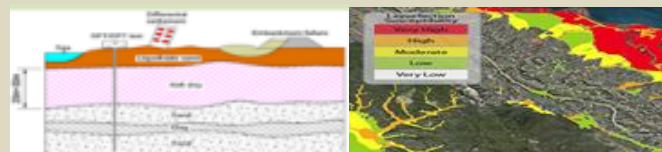
Multi-disaster prevention & mitigation

Innovation

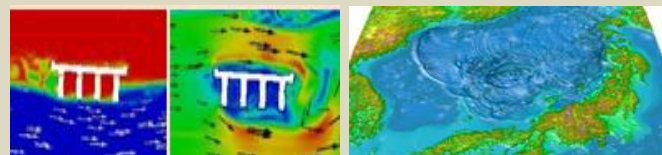
- Multi-physics NDE
- Data fusion algorithm
- Multi-physics analyses



- Soft ground monitoring
- WSN-based stability monitoring
- Soil liquefaction hazard mapping



- Evaluation of multi-disaster potential
- Multi-disaster Hazard mapping
- Disaster-structure interaction



Integration

Multi-scale Integrated management system

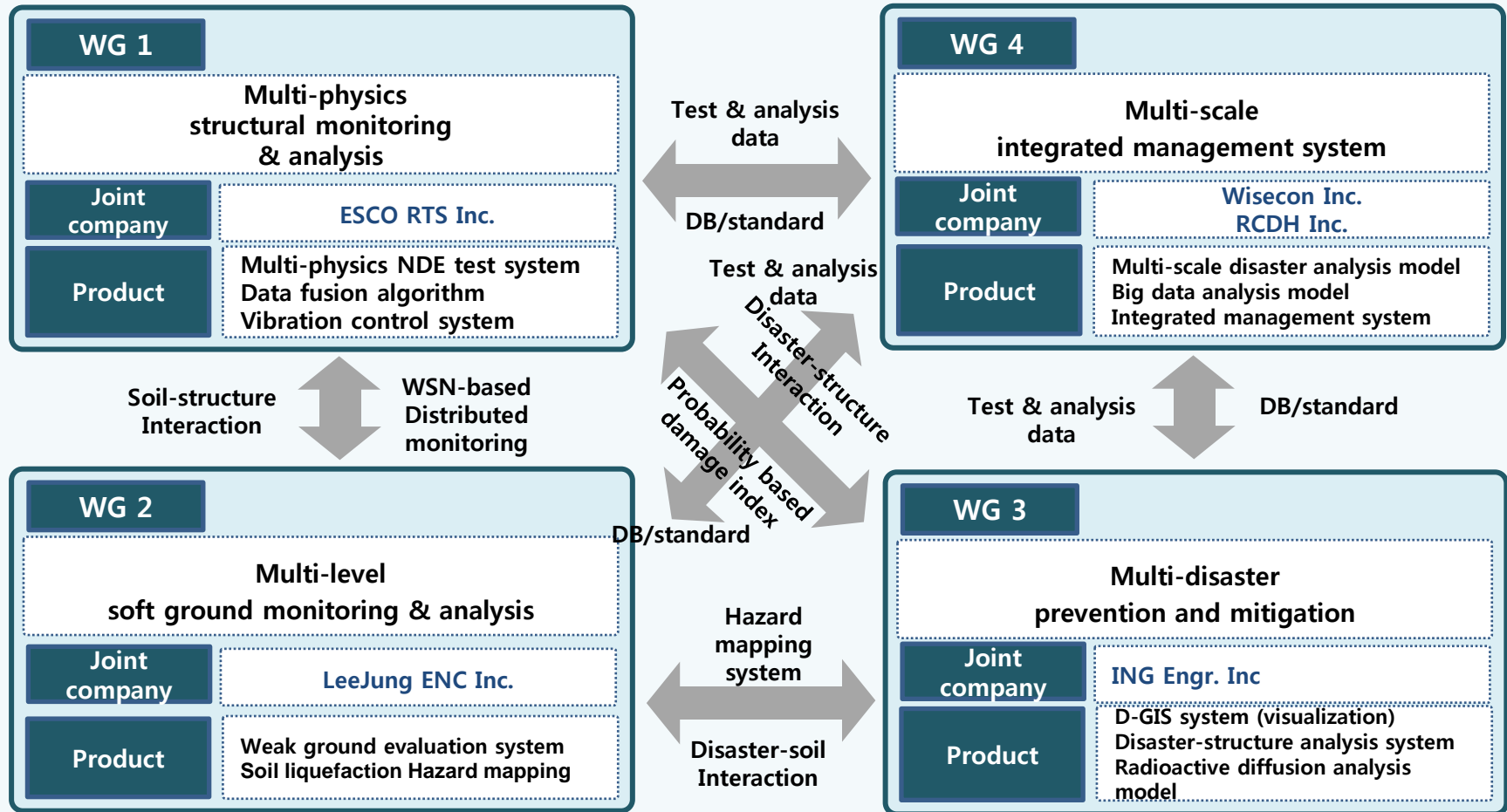
- Multi-scale disaster model
- Big data analysis
- Disaster GIS (D-GIS)



Solution to multi-disaster management in oceanfront cities based on 3I (Idea-Innovation-Integration)

Innovative technologies for disaster prevention & mitigation Integrated management system

• Inter-disciplinary research collaboration



The Korea first integrated system for construction and disaster management in oceanfront cities





Thank you very much for your attentions!

Questions ?

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