



# Sapgyo Grand Bridge

- Long term monitoring of a bridge structure  
South Korea, July 2008





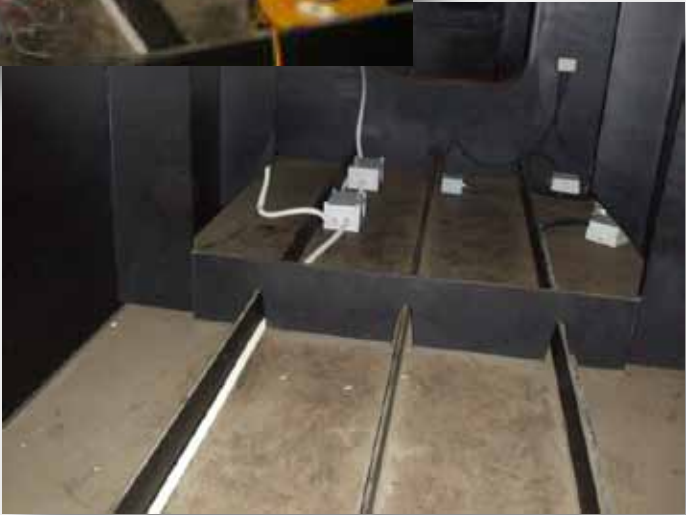
<b>Aim</b>	Building of test bed for the continuous remote health monitoring system for bridge structures employing FBG sensors to provide real-time quantitative information on a bridge's response to live loading and environmental changes, and fast prediction of the structure's integrity. FBG sensors installed to monitor the behavior of a bridge under live loading and environmental changes
<b>Location</b>	Shinpyeong-myun, Dangjin-shi, Chungnam, Korea
<b>System Integrator</b>	Ki-Tae Park (ktpark@kict.re.kr)
<b>Customer</b>	Korea Institute of Construction Technology
<b>Date</b>	July 2008
<b>Instrumentation</b>	Micron Optics sp130-500 Sensing process module Micron Optics sm130 Optical sensing interrogator
<b>Sensors</b>	(12) Micron Optics, os310 0 FBG Optical strain gage (2) Micron Optics, os410 FBG Optical temperature compensation sensor
<b>Software</b>	Customer designed
<b>FBG Technology Benefit</b>	FBG sensors to provide real-time quantitative information.

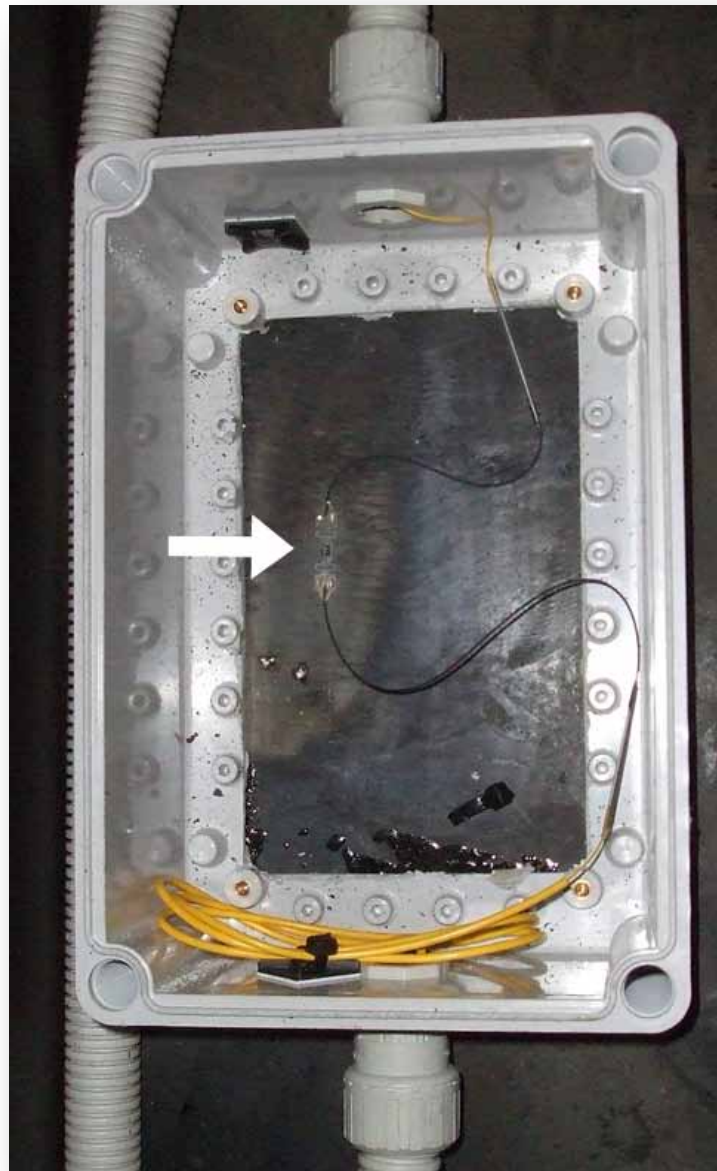
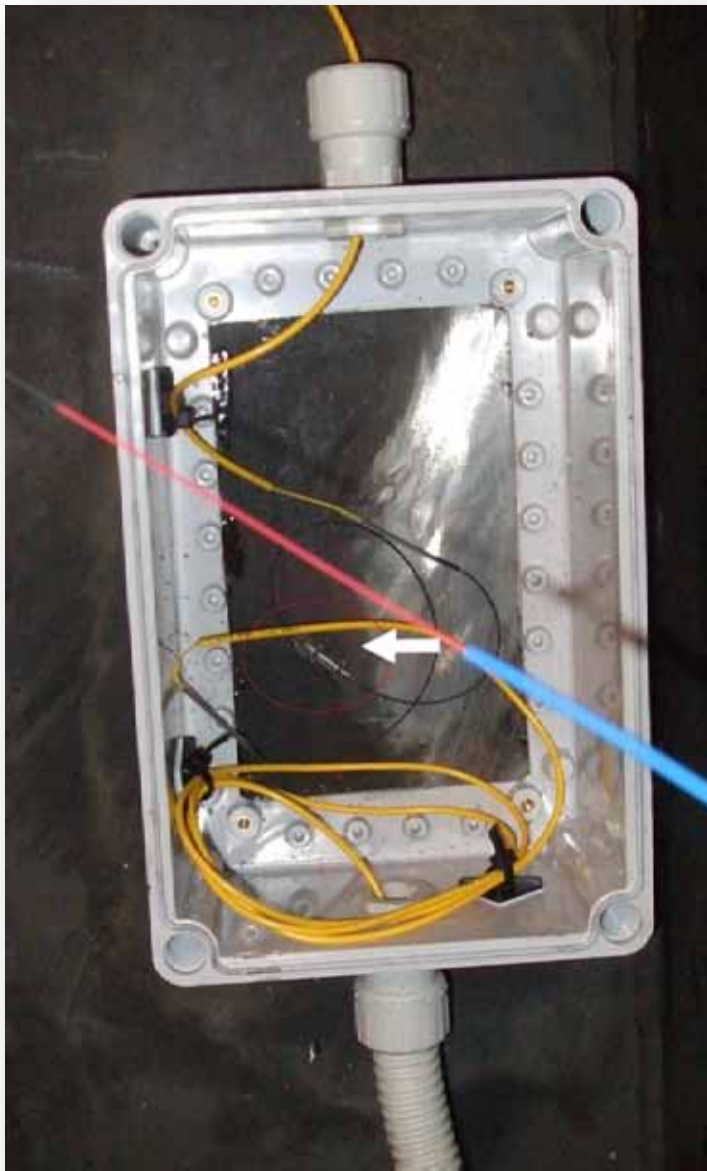
# Long-term health monitoring of a bridge structure



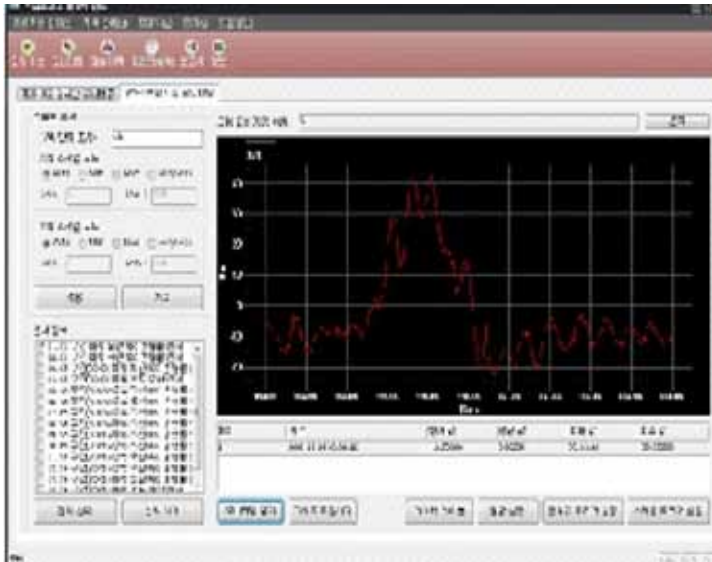


# Sensor installation on a steel box girder











- Results

- § Strain and temperature measurements by the attached FBG sensors placed in conduits to be protected from the environment were transmitted to the data acquisition system.
- § Continuous measurements were performed to monitor the long-term structural behavior of the bridge under live loading and environmental changes
- § The data acquisition system connected through a fiber optic cable to the internet transmitted the data, and remote web-based monitoring of the structure was then carried out based on the measurements of the FBG sensors

- Acknowledgements

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- § We thank Mr. Ki-Tae Park (ktpark@kict.re.kr), KICT (Korea Institute of Construction Technology)
- § We also thank Mr. KyuWan Lee.
- § Micron Optics, Inc, USA
  - Tel: 404-325-0005, email: info@micronoptics.com, web: www.micronoptics.com