



# MSP RAPID™ ADMS

ENHANCING SAFETY THROUGH  
MONITORING SOLUTIONS



SINCE 2002

MONITORING SOLUTION PROVIDERS PTE. LTD.  
[WWW.MPSYSTEM.COM](http://WWW.MPSYSTEM.COM)



Singapore



## **We are Singapore based company**

specialize in different types of deformation monitoring services



## **Established since 2002**

MSP has an extensive experience on structural monitoring since  
Locally and globally



## **Our Services**

We develop and customize system and software and provide  
solution for different requirements for different types of monitoring

**PRECISION AND TIMELINESS**

**ARE THE BASIS OF MSP**

**COMPETENCE**

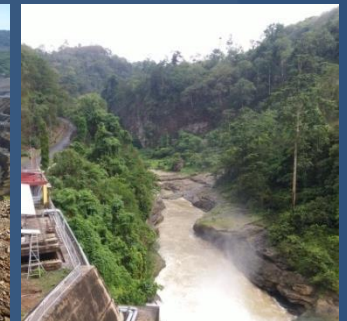
# What is structural monitoring?



Monitoring is used to determine the movement & Deformation of any natural or man-made structure due to construction, environmental and structural preservatory. Early detection of such movement and deformation will serve as a warning to call for risk and disaster management

# MONITORING IS ONE OF THE ESSENTIAL APPLICATION IN SAFETY ENGINEERING PRACTICES

Engineers and surveyors require highly precise and real-time deformation monitoring data in order to effectively analyze every engineering project. To meet such need, Monitoring Solution Providers (MSP) developed a complete package for monitoring different types of monitoring.

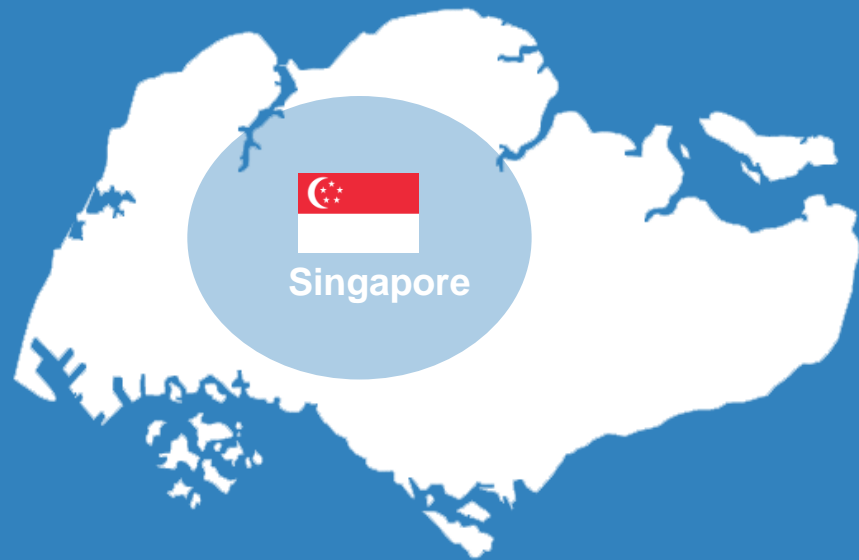




The collapse of the Hotel New World occurred on 15 March 1986, and was Singapore's deadliest civil disaster since the Spyros disaster on 12 October 1978



On April 20, 2004, a cave-in at the then Circle Line worksite caused a section of the Nicoll Highway to collapse.



## Ch. 26 Building and Construction Law

### A. Building Control Act (Chapter 29)

#### (1) Standards of safety and good building practices

The Building Control Act is a prescriptive code. It prescribes standards of safety and good building practice. The legislation provides a blueprint to control legally the construction of building works, the monitoring of existing structures with powers to deal with them where safety is in issue. It is well known that the current legislation was a direct consequence of the Hotel New World collapse.

## OUR SOLUTION

To provide a comprehensive solutions for high accuracy and reliable monitoring; MSP developed a full monitoring solution system



# MSP RAPID™ ADMS

*Remote Automatic Precise Intelligent Detector*

*Automated Deformation Monitoring System*

MSP's products monitors the safety of various civil engineering projects in a wide variety of application





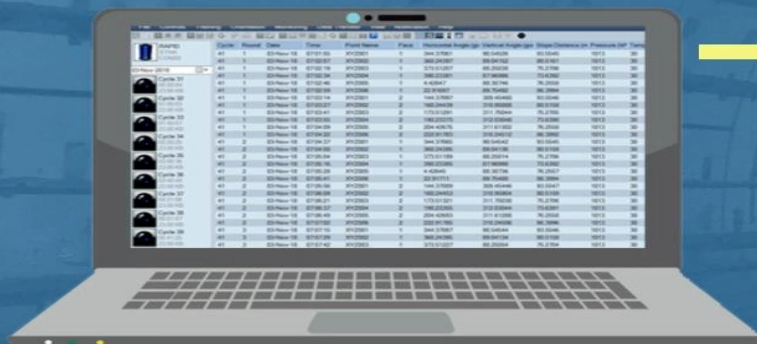
# MSP RAPID™ ADMS



**SPECIALIZED SYSTEM  
COMPOSED OF SOFTWARE AND HARDWARE**



# MSP RAPID™ ADMS



MSP RAPID™ PC  
MSP RAPID™ MOBILE +

SOFTWARE

RS232  
TCP IP  
BLUETOOTH



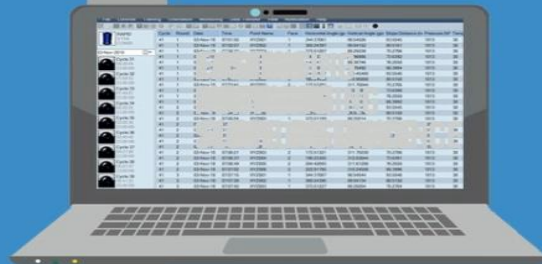
ROBOTIC  
TOTAL  
STATION  
AND  
SENSORS

HARDWARE



# MSP RAPID™ ADMS

MONITORING ZONE



## MSP RAPID™ ADMS PRECISE ROBOTIC MONITORING SOLUTION

MSP RAPID™ ADMS FEATURES REMOTE, AUTOMATED, PRECISELY AND INTELLIGENT DETECTION OF ANY DISPLACEMENT OF ANY MEASURED POINTS



# MSP RAPID™ ADMS

SAMPLE SYSTEM COMPONENTS



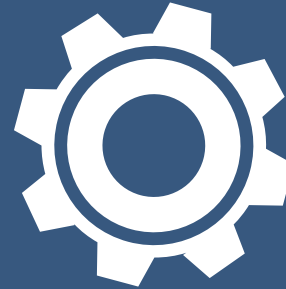
## TARGET PRISMS / REFLECTORLESS

Target prisms are installed within the monitoring zone. And Reference prisms are required to be installed on a uninfluenced zone.



## ROBOTIC TOTAL STATION

Measures the target prisms and gather data such as the Angle and Distance.



## MSP IU Control Unit

Hardware components and control box which contains:

- Cabling system
- Communication system (routers)
- Security system (locks and cage)
- Power source

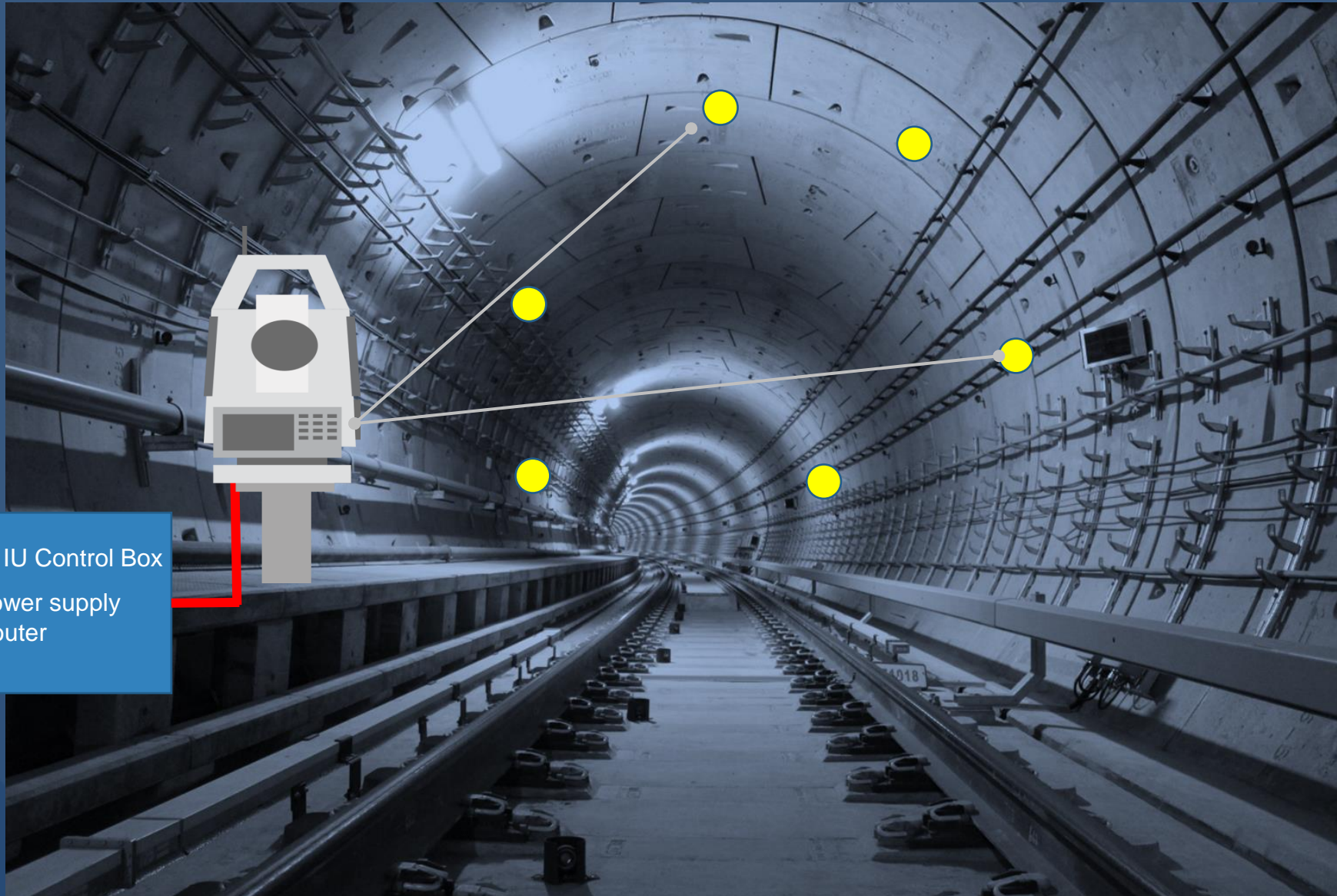


## MSP RAPID ADMS

Acts as the data collector and takes control of the Robotic Total Station.

Transmit the data over the Cloud for automatic data processing

## SAMPLE OF MONITORING SETUP



### MSP IU Control Box

- Power supply
- Router

### Total Station and Prisms

Are mounted and secured into a fixed position

### MSP IU Control Box

Will house the power supply, converters, routers and PC (optional)

### Data Collection

The total Station will measure the prisms and collect the measurement data (Angle and Distance)

**SITE MONITORING**

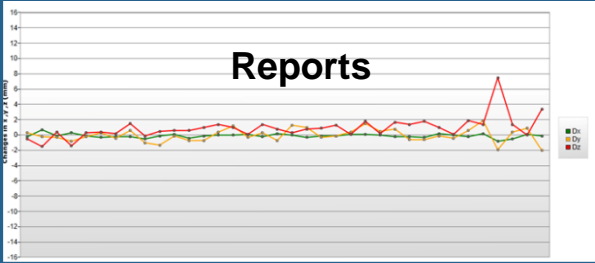


**MSP IU Control  
Box**



**PROCESSING SERVER**

**Data Processing**



**Alarms**

**SMS**

**Email**

# SYSTEM WORKFLOW



## DATA COLLECTION

MSP RAPID act as the data collector and takes control of the Robotic Total Station.

Transmit the data over the Cloud for automatic data processing



## DATA CHECKING

Quality analyse the data automatically, filter out the false reading



## DATA PROCESSING

Least square adjustment of the measurements. Automatically generate reports and alarm (SMS / email)

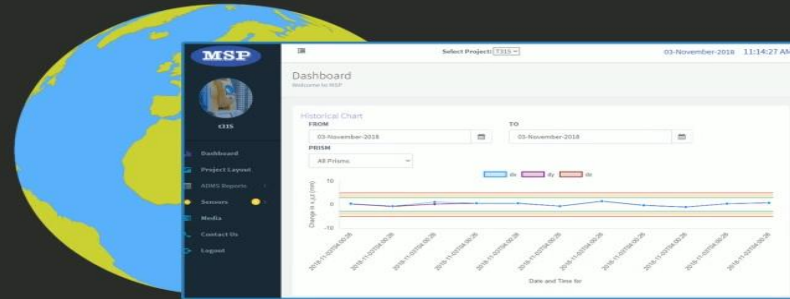


# MSP RAPID™ ADMS



**DATA COLLECTION SOFTWARE:**

**MSP RAPID™ PC  
MSP RAPID™ MOBILE +**



**ONLINE REPORTING:**

**MSP WEBPRO  
WEBPRO.MSPSYSTEM.COM**





## AUTOMATIC SMS ALARM NOTIFICATIONS

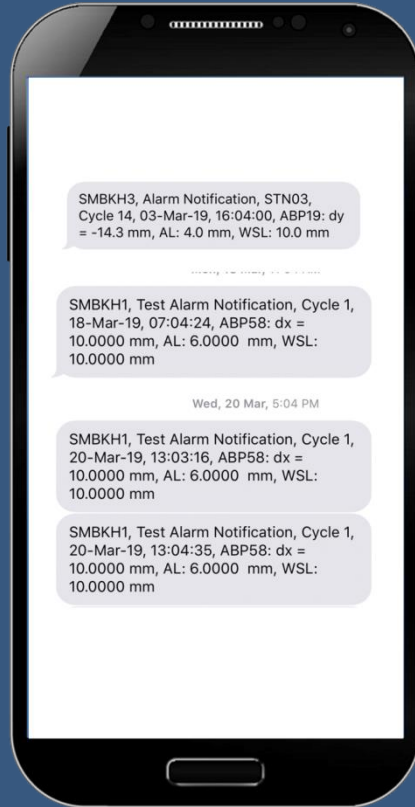
---



## AUTOMATIC EMAIL ALARM NOTIFICATIONS

---





## SAMPLE SMS ALARM CONTENT

PROJECTNAME, Level 1 Alarm, STN1, Cycle 03, 03-May-2019,16:00. TARGET01: dZ: -15.00mm, AL: 10:00mm, WSL: 20.00mm



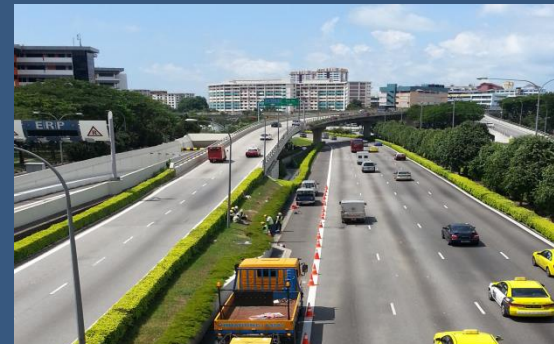
# MSP RAPID™ ADMS



**Tunnel Monitoring**



**Building Monitoring**



**Roads & Highway**



**Slope/Mining monitoring**



**Bridge Monitoring**



**Dam Monitoring**