



Presented at the FIG Working Week 2023,
28 May - 1 June 2023 in Orlando, Florida, USA

FIG WORKING WEEK 2023

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Protecting
Our World,
Conquering
New Frontiers

Development of Landslide Monitoring System by RTK Survey

Experimentation and application in Mae Moh Mine, Thailand

Puttipol DUMRONGCHAI, Chawis SRIMANEE,
Boonyarit KEAWARAM, Thanatepol BOONPRAKOB
and Teeradon THONGKAM, Thailand



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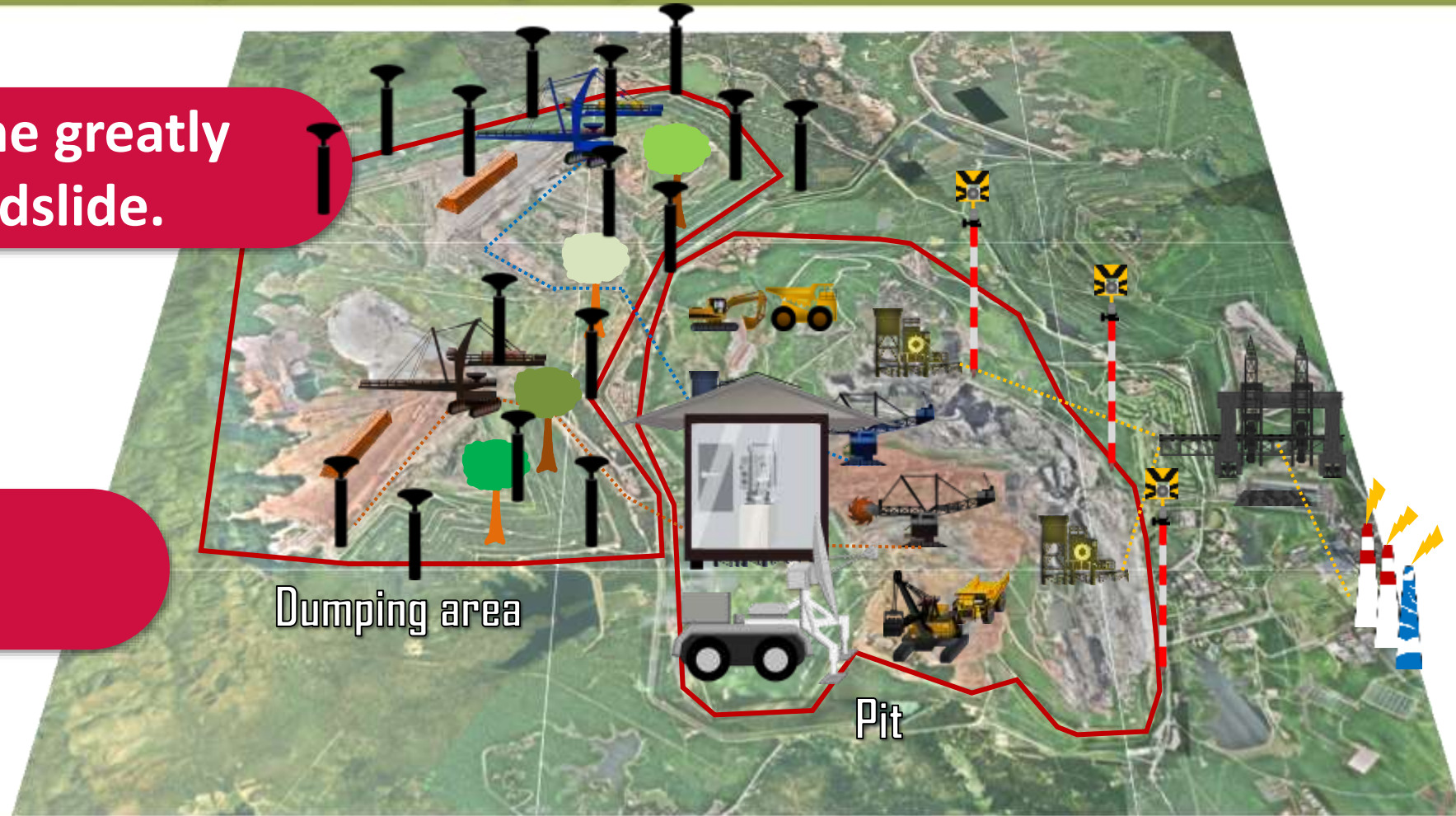
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We can reduce the greatly damage from landslide.

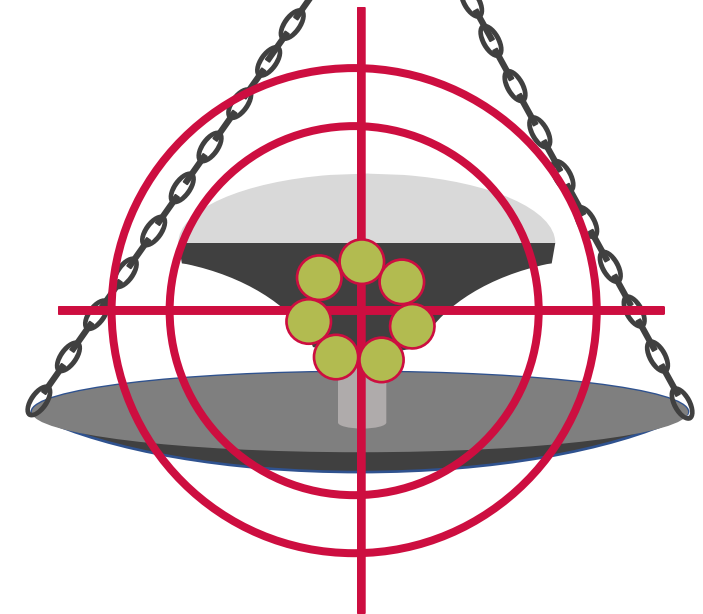
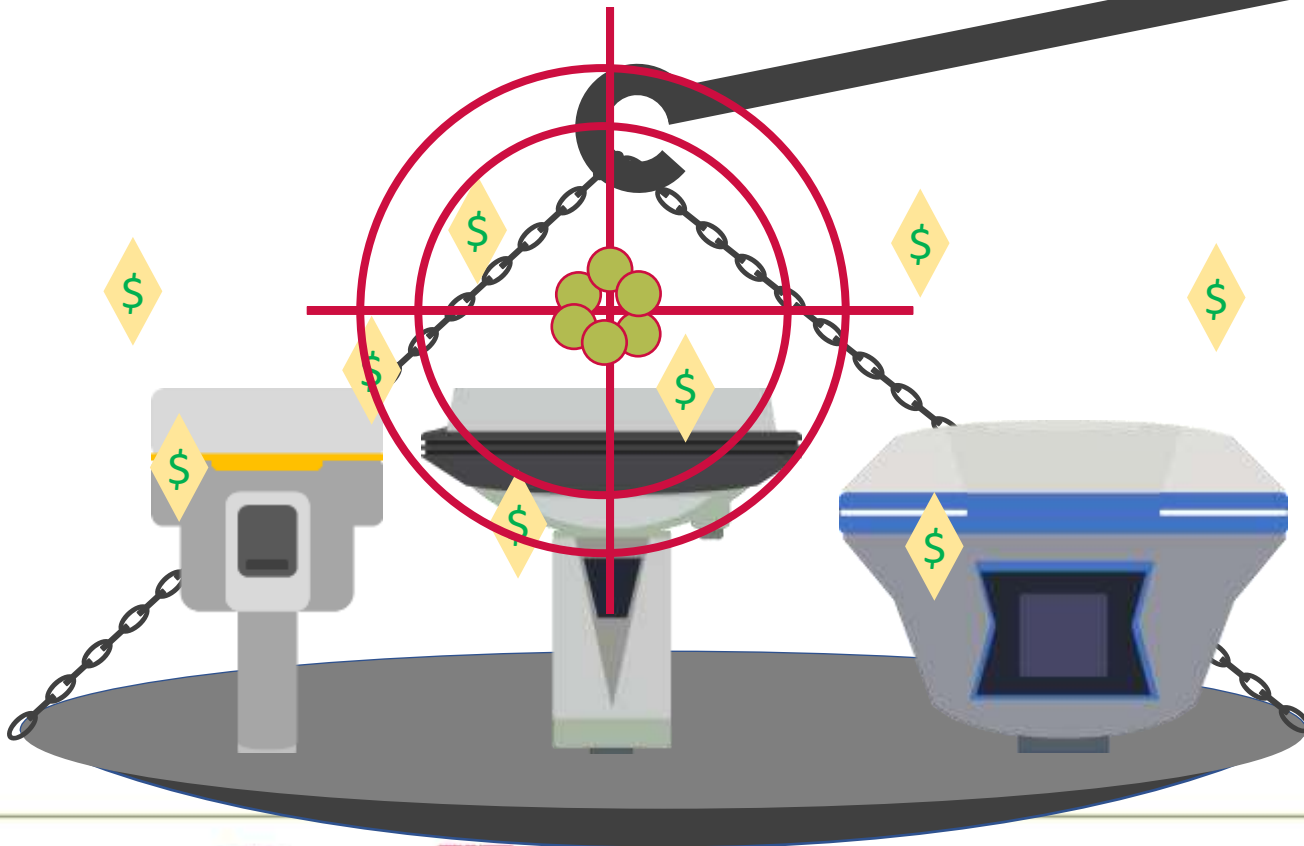
No life lost.

No machine serious damaged



High-end GNSS receiver

Low-cost GNSS receiver



5cm Accuracy

Low-cost RTK GNSS unit

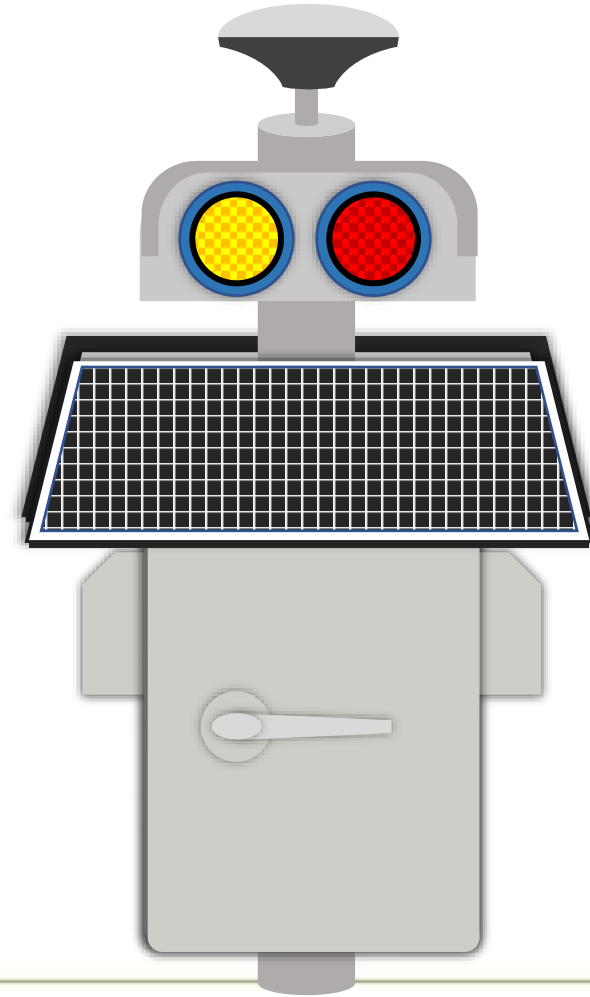
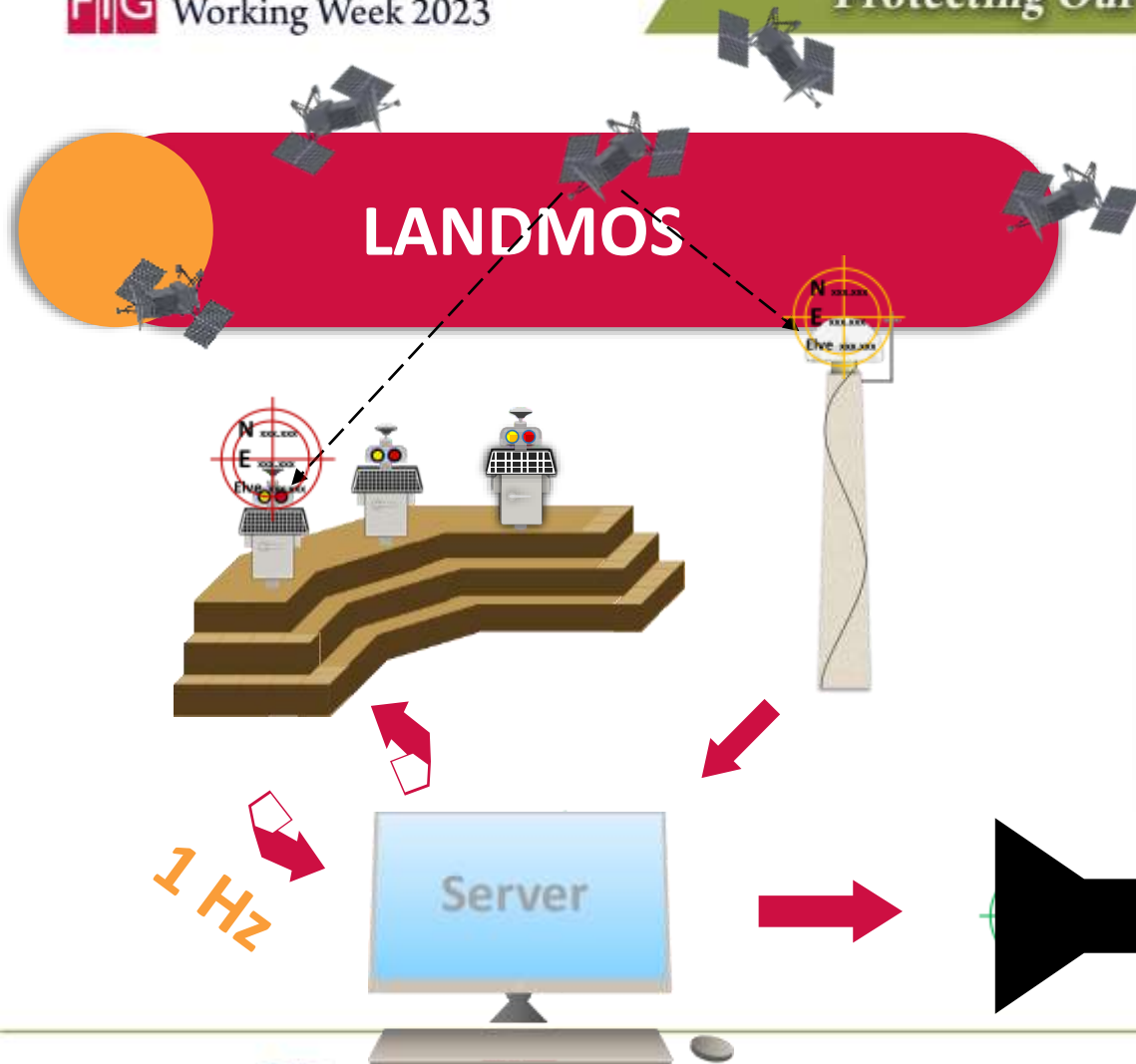


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The screenshot shows the web application interface. On the left is a satellite map of a landscape with several green and yellow markers. On the right is a vertical grid of data graphs for different stations, labeled RTK01 through RTK09. Each graph shows a line plot of data over time. At the top of the interface, there is a header with Thai text: "โครงการวิจัย ระบบติดตามและแจ้งเตือนภัยพิบัติทางธรณีวิทยาด้วยเทคโนโลยี GNSS สำหรับพื้นที่ลาดชัน (RTK-LANDMOS) สำหรับพื้นที่ลาดชัน (EGAT-EMU)".

Web application

The screenshot shows a mobile messaging app interface. At the top, it says "RTK-LANDMOS". Below are several notification bubbles in Thai, each with a globe icon and a timestamp. The notifications describe landslide movements: "มีการเคลื่อนตัวของสถานี 07 ในระยะ ค่อนข้างสูง (>30 cm)" and "มีการเคลื่อนตัวของสถานี 10 ในระยะ ค่อนข้างสูง (>30 cm)". At the bottom of the app, there are three icons: "Register" (a document with a pencil), "Map" (a map with a location pin), and "Admin" (a gear with a person icon).

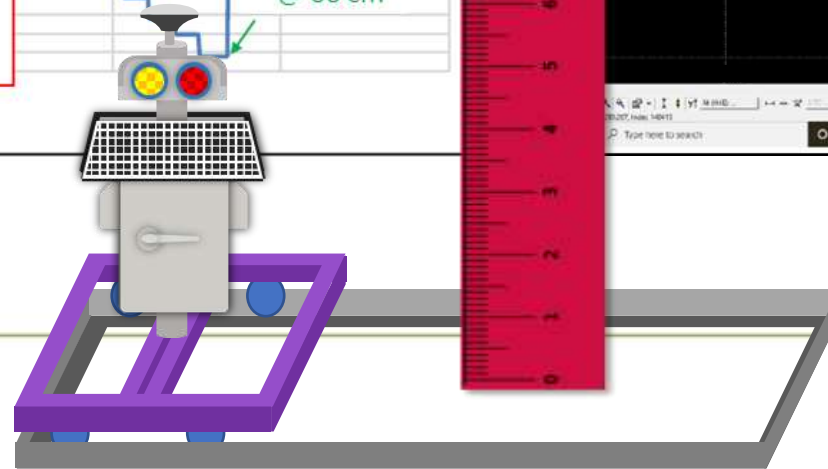
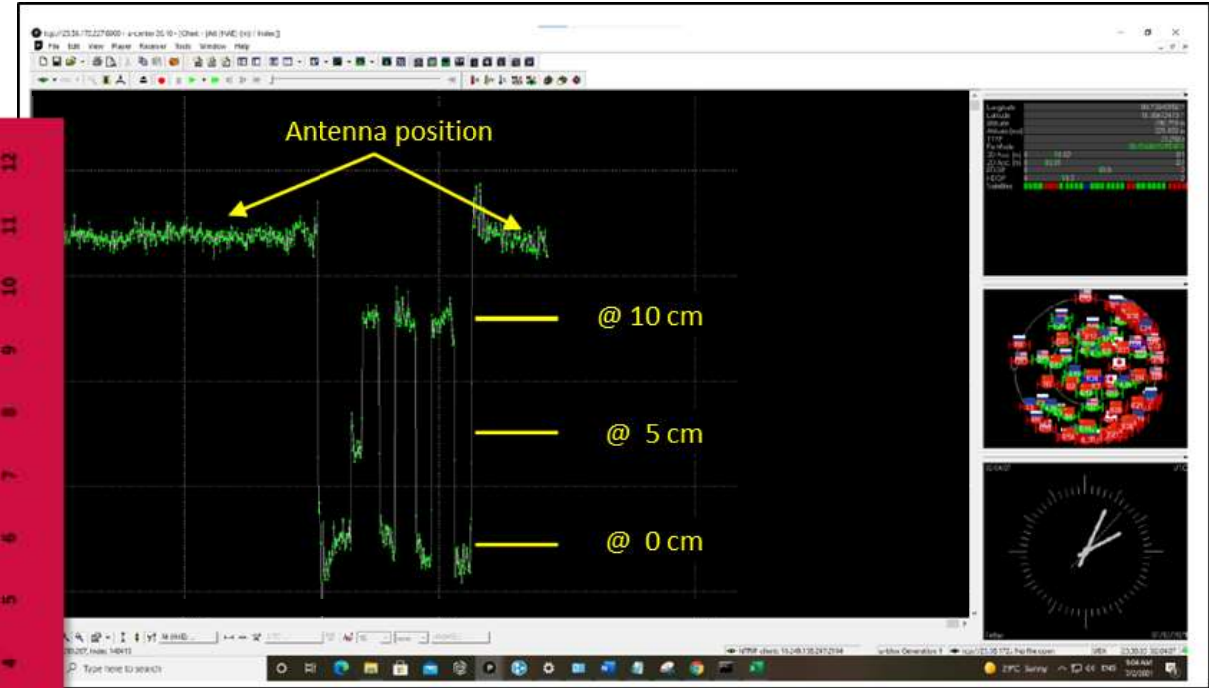
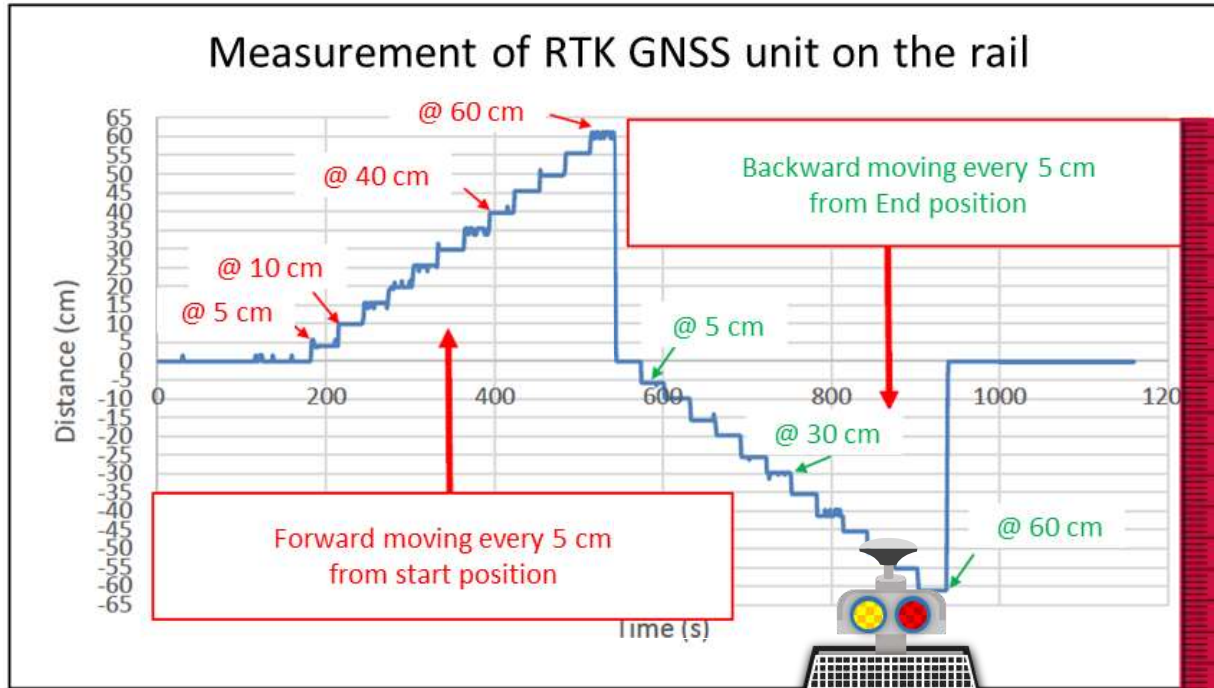
Mobile Messaging Apps

System testing



Horizontal accuracy

Vertical accuracy



Real situation usability



Conclusion

Sufficient accuracy and reliability

Reduce injury, death, damage,
and property loss

New version : more compact

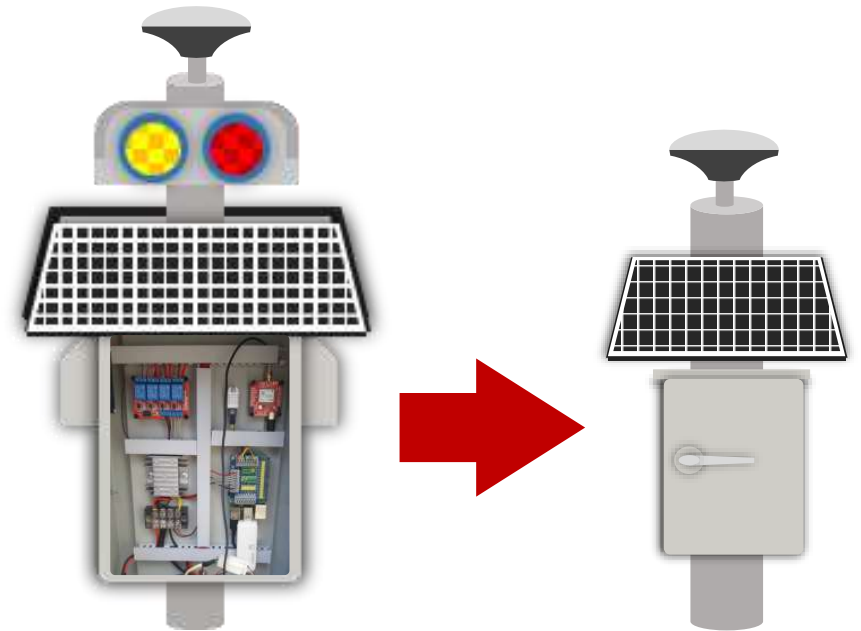


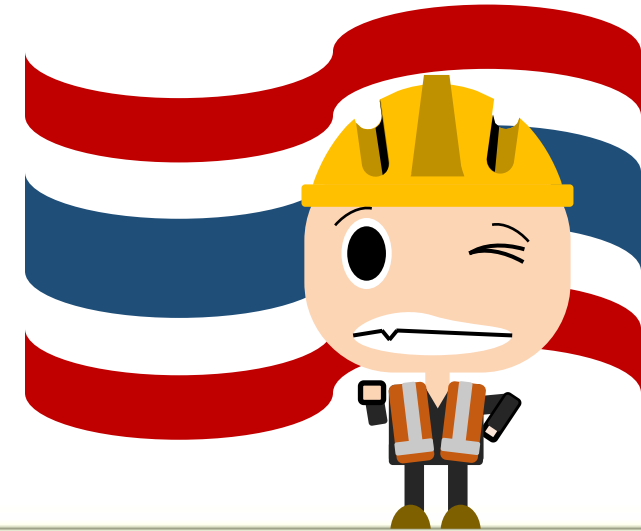


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