

塑造智慧变革



HEXAGON

海克斯康



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徕卡GeoMoS监测解决方案

GeoMoS Monitoring Solution

Michael Rutschmann,

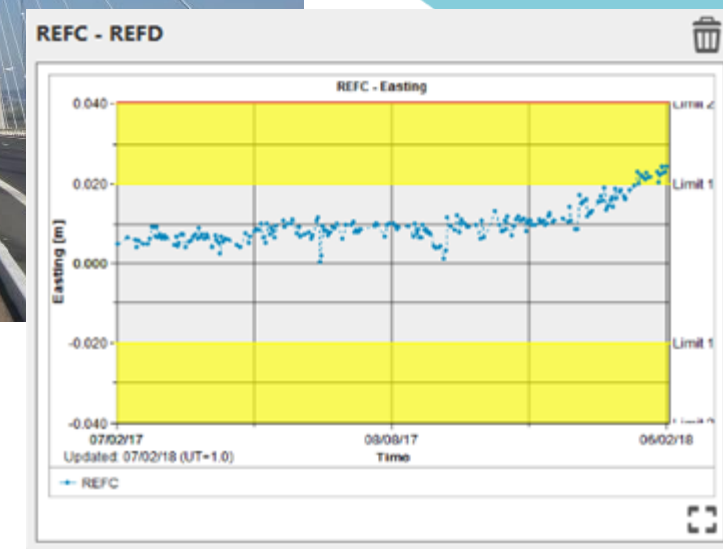
高级产品经理 /Senior Product Manager

17, 07, 2018



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GeoMoS-监测解决方案 为什么要进行监测？

GeoMoS – Monitoring Solutions Why monitoring?

“监测拯救生命”

- 控制风险
- 提升安全
- 实时信息
- 预处理
- 降低成本
- 保存数据

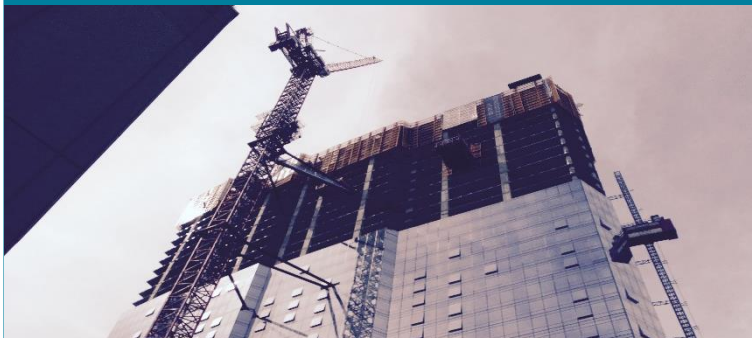
“Monitoring saves lives”

- Controlled risk
- Increased safety
- Real-time information
- Early actions
- Cost reduction
- Preservation of evidence



监测解决方案 市场细分 Monitoring Solutions Market Segments

基础设施 Infrastructure



已存在的, 周边附属, 建设中, 维护
Existing, nearby, ongoing construction, maintenance

- | | | | |
|--------|-------------|------|---------------|
| ▪ 建筑 | ▪ Buildings | ▪ 大坝 | ▪ Dams |
| ▪ 铁路 | ▪ Railway | ▪ 施工 | ▪ Excavations |
| ▪ 桥梁 | ▪ Bridges | ▪ 能源 | ▪ Energy |
| ▪ 高层 | ▪ High Rise | ▪ 机场 | ▪ Airports |
| ▪ 隧道 | ▪ Tunnels | ▪ 电力 | ▪ Cable car |
| ▪ 公共事业 | ▪ Utilities | ▪ 交通 | |

自然灾害 Natural Hazard



- | | |
|--------|--------------|
| • 滑坡 | • Landslides |
| • 泥石流 | • Rock falls |
| • 沉降 | • Subsidence |
| ▪ 地震 | ▪ Seismic |
| ▪ 火山爆发 | ▪ Volcanoes |
| ▪ 洪涝 | ▪ Flooding |

矿产&自然资源 Mining & Natural Recourses



- | | |
|--------|----------------|
| ▪ 露天矿 | ▪ Open pit |
| ▪ 地下开采 | ▪ Underground |
| ▪ 边坡 | ▪ Highwall |
| ▪ 垃圾场 | ▪ Waste dam |
| ▪ 钻井平台 | ▪ Oil platform |
| ▪ 管道 | ▪ Pipelines |

GeoMoS-监测解决方案

灵活的监测解决方案

GeoMoS – Monitoring Solutions

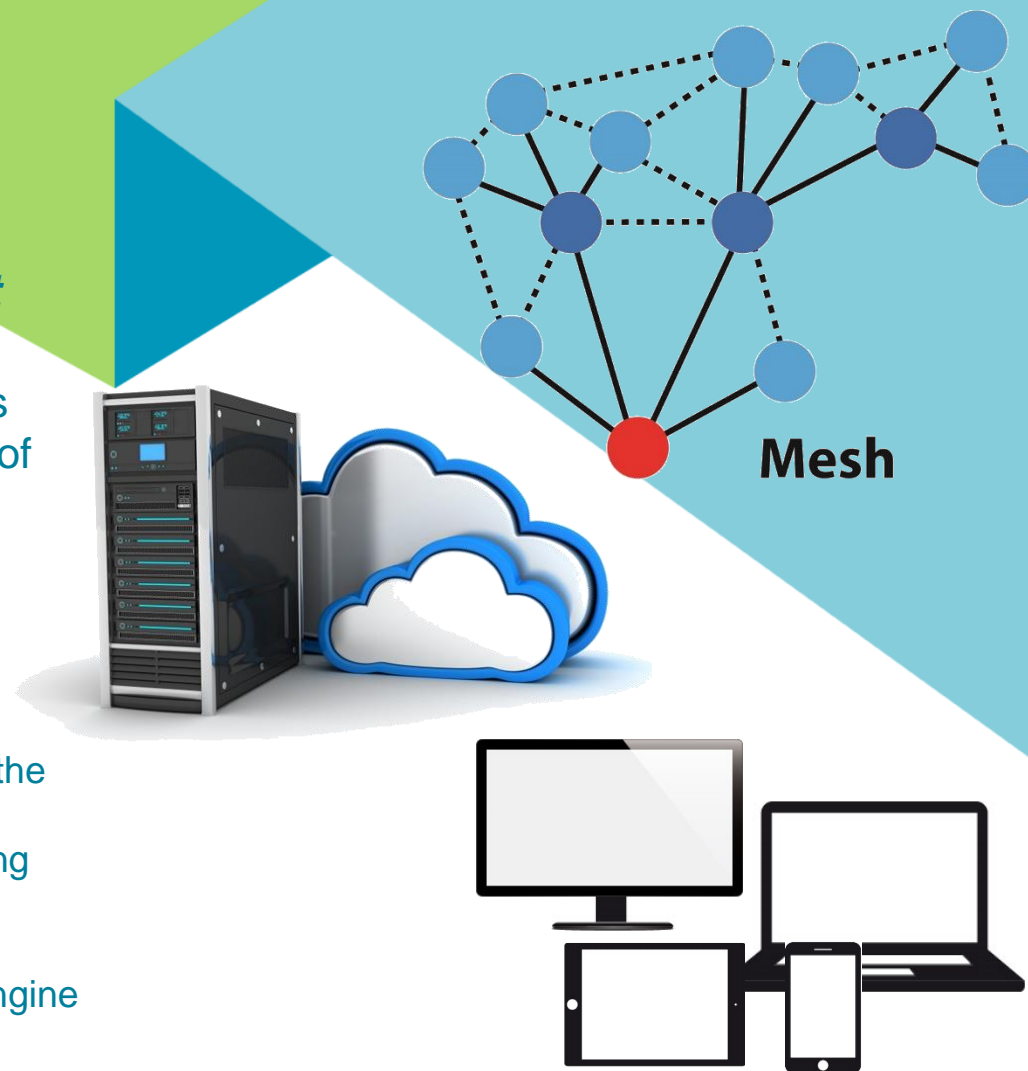
Flexible monitoring solution

传感器到云服务浏览的概念

- GeoMoS监控解决方案提供了硬件和软件的无缝集成
- 概念包括三个部分：
 - **传感器**-易于安装在现场，智能物联网通信和自成型网
 - **GeoMoS**核心——处理引擎
 - **云服务浏览**-视觉化平台提供用户从任何网络设备访问

Sensor to browser concept

- GeoMoS Monitoring Solutions provide seamless integration of hardware and software
- The concept consists of 3 segments:
 - **Sensors** – simple to install in the field, intelligent IoT communication and self-forming mesh
 - **GeoMoS** core – processing engine
 - **Browser** – visualisation platform offering user access from any web-enabled device



GeoMoS-监测解决方案

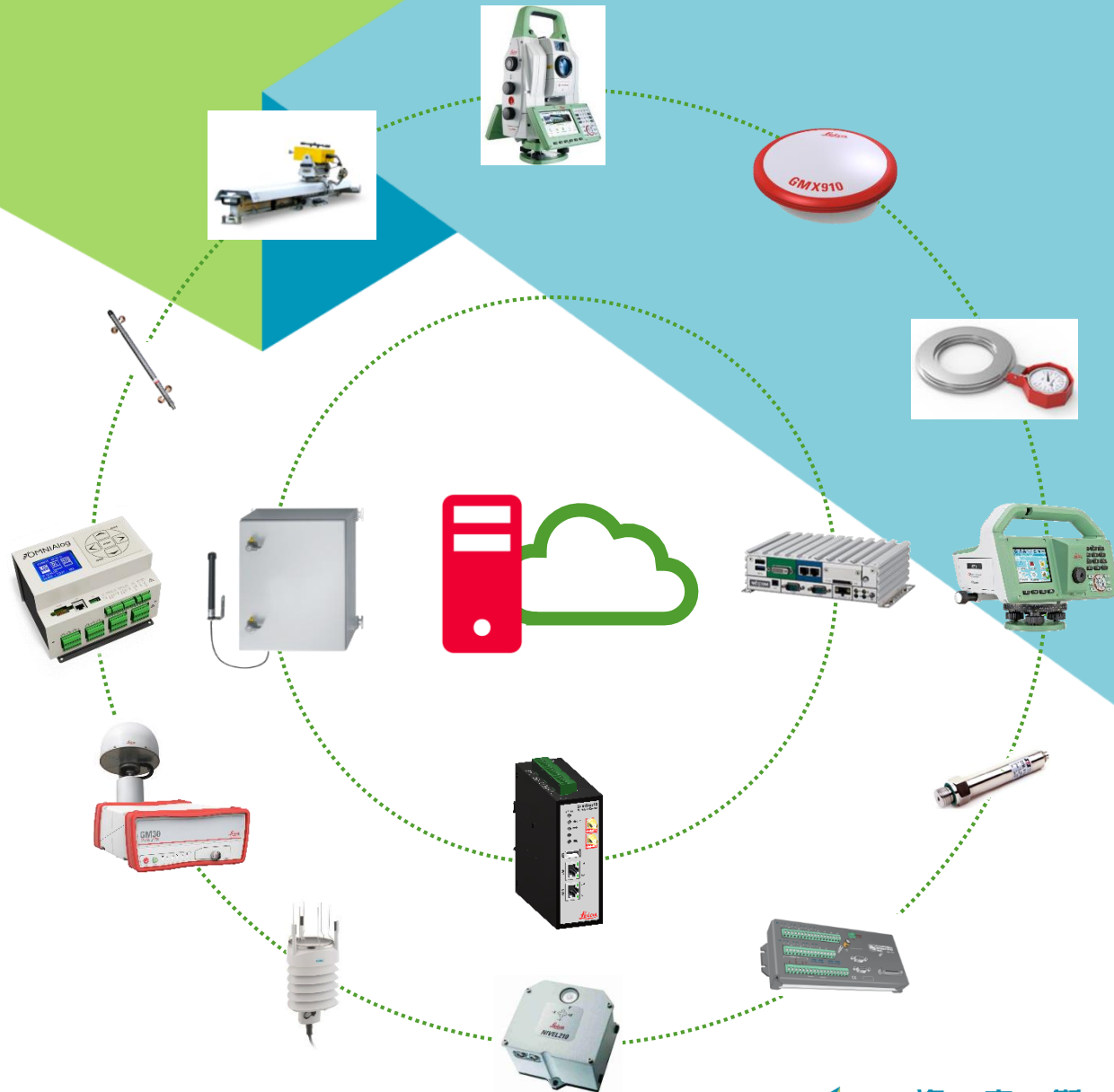
灵活的监测解决方案

适应每个项目的需求

- 徠卡测量系统的高端大地测量传感器
- 所有的第三方岩土传感器和雷达
- 通过物联网即插即用通信平台连接
- 系统的核心是GeoMoS中央服务器

Adapting to every project's requirements

- High-end geodetic sensors by Leica Geosystems
- All 3rd party geotechnical sensors and radar
- Connecting by IoT Plug&Play communication platform
- The core of the system is GeoMoS centralised server



GeoMoS-监测解决方案

灵活的监测解决方案

GeoMoS – Monitoring Solutions

Flexible monitoring solution

GeoMoS集成式服务器

- 从传感器数据**采集**
- 数据**质量**检查
- 通过结合来自不同传感器的观察结果的高级**计算**
- 全面的**数据库**结构
- 自动**通知**有关的事件
- 双重解决方案:**云**和**现场**

GeoMoS centralized server

- Data **acquisition** from sensors
- Data **quality** check
- Advanced **computation** of results by combining observations from different sensors
- Comprehensive **database** structure
- Automatically **informing** about events
- Dual solution: **cloud** and **on-premises**



GeoMoS – Monitoring Solutions

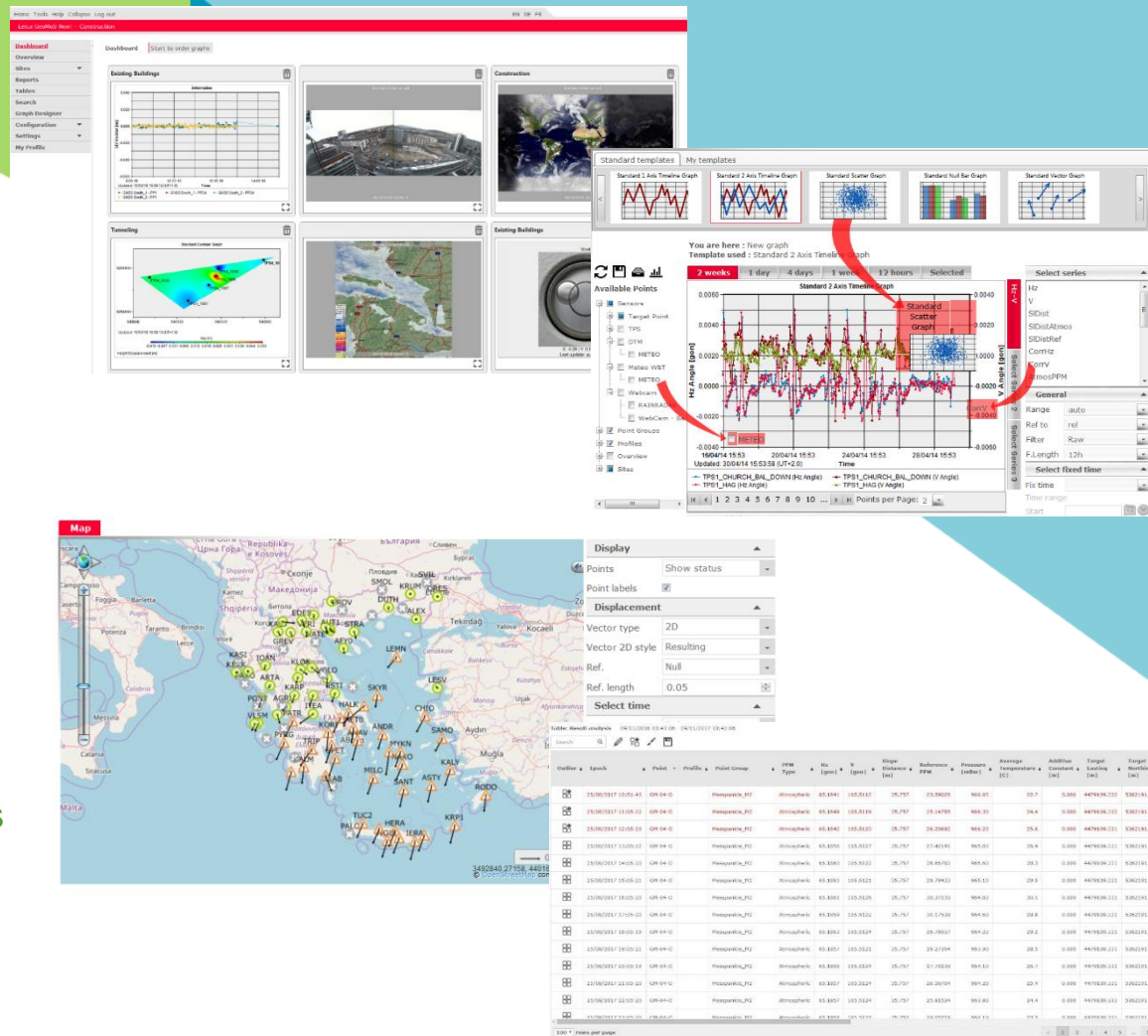
Web-based visualisation

实时可视化

- 网络浏览器中的结果的全面可视化
- 用户管理对用户组访问权限和授权级别的提供完整的控制
- 仪表盘实时更新自定义的关键信息
- 可自动和手动进行数字和图形数据分析的异常值检测
- 易于使用的用户自定义的图表和图形导出功能

Visualisation in real-time

- Comprehensive visualisation of results available from the web-browser
- User management provides full control over the user group access rights and authorization levels
- Dashboard with customized key information, always in real-time
- Numeric and graphic data analysis with automatic and manual outlier detection
- Easy-to-use and user tailored tables and graphs with export function



GeoMoS-监测解决方案 基于网络可视化 GeoMoS – Monitoring Solutions Web-based visualisation

实时可视化

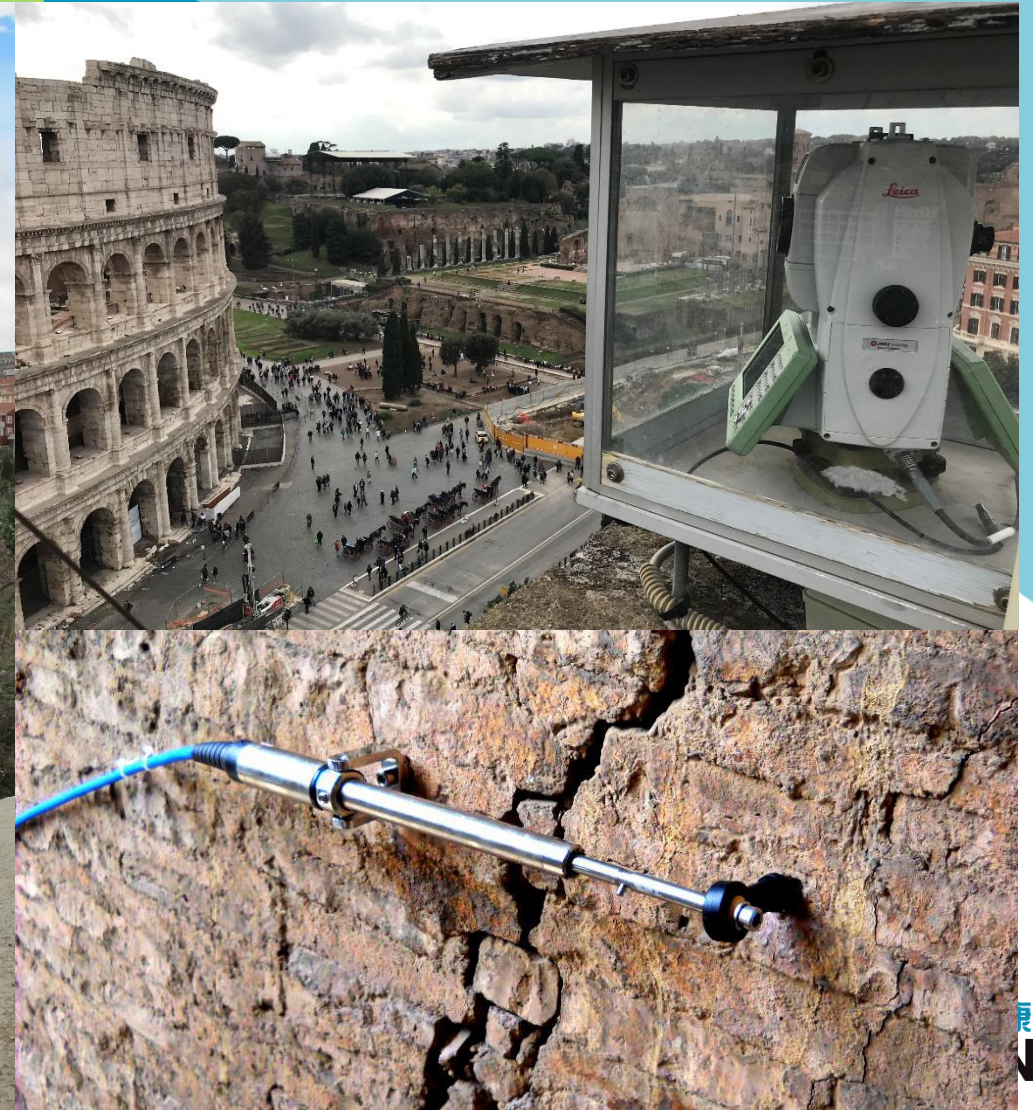
- 包含栅格和GIS图形层地理参考地图
- 以PDF格式将监控结果报告给不同的用户组
- 包含位移和速度可视化的3D浏览器-优秀的解决方案扫描，雷达和棱镜监测

Visualisation in real-time

- Geo-referenced maps with raster and GIS shape layers
- Scheduled distribution of monitoring results as PDF reports to different user groups
- 3D viewer with displacement and velocity visualisation – excellent solution for scanning, radar and prism monitoring



GeoMoS-监测解决方案 应用于各个行业领域... GeoMoS – Monitoring Solutions From the field...



GeoMoS-监测解决方案 应用于各个行业领域... GeoMoS – Monitoring Solutions From the field...



爱尔兰
Ireland



美国
USA



GeoMoS-监测解决方案
应用于各个行业领域...
GeoMoS – Monitoring Solutions
From the field...



GeoMoS-监测解决方案 应用于各个行业领域... GeoMoS – Monitoring Solutions From the field...



GeoMoS-监测解决方案

为什么选择GeoMoS监测解决方案?

GeoMoS – Monitoring Solutions

Why GeoMoS Monitoring Solutions?

GeoMoS - 行业领先

GeoMoS - One step ahead



使用摄像机的视频流远程设置全站仪。



从徕卡测量系统的高端大地测量传感器和所有第三方岩土传感器获取数据



基于实时变形分析一体化监测系统的自动扫描与雷达解决方案。



Setup of total stations from remote using video stream from the camera.



Data acquisition from high-end geodetic sensors from Leica Geosystems and all 3rd party geotechnical sensors



Automatic scanning and radar solution in an integrated monitoring system with real-time deformation analysis.



市场上最简单、最直接的动态监测解决方案



自动网络平差和变形分析是监测位移最准确、可靠的方法



开放接口允许第三方软件访问数据库



The simplest and most straight forward solution in the market for campaign monitoring



Automatic network adjustment and deformation analysis as the most accurate and reliable method for detecting movements



Open interface allowing to read from the database from any third-party software

—— 谢 谢 ——

