

塑造智慧变革



HEXAGON

海克斯康



北京
国家会议中心

2018年

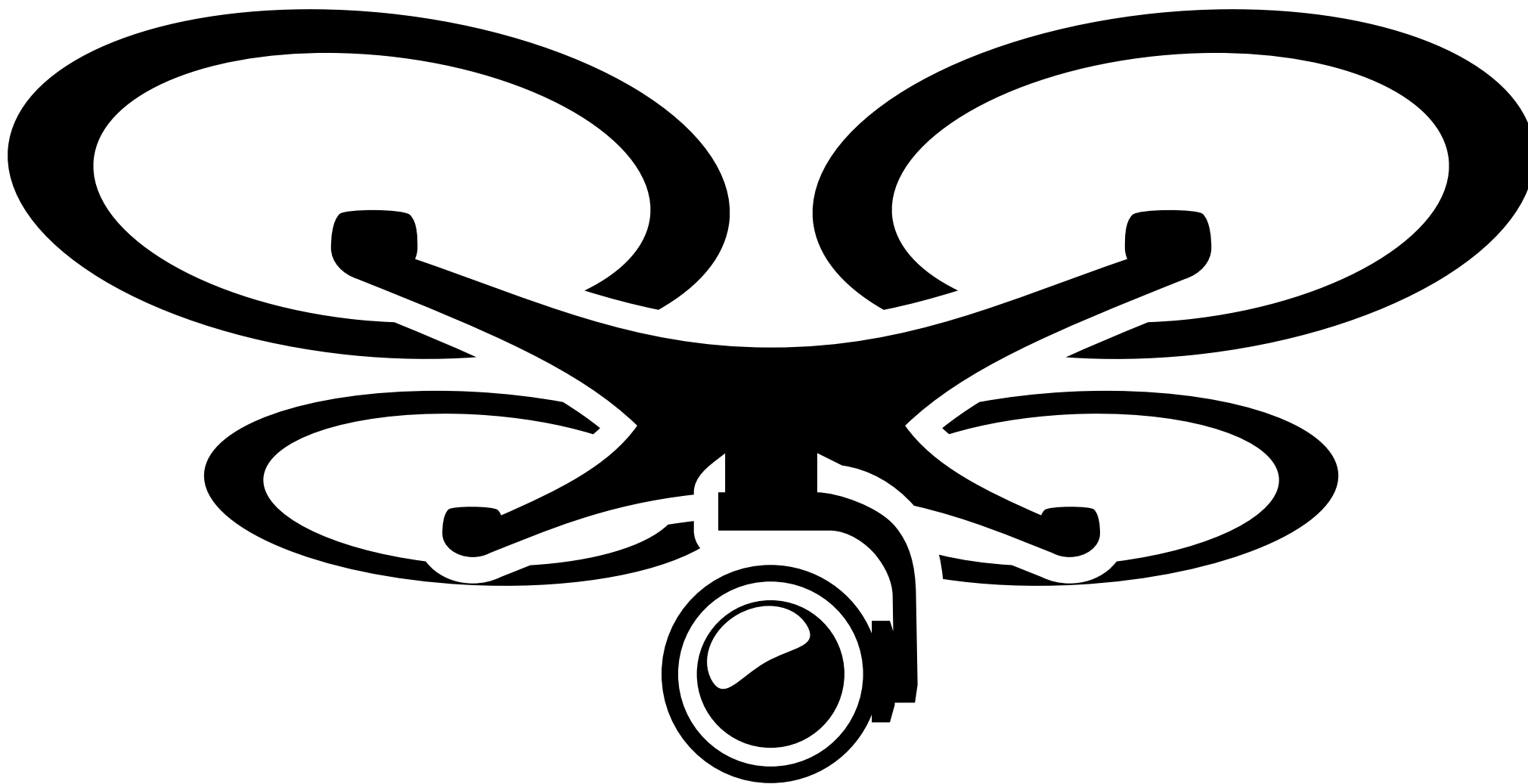
9月10-12日

2018.hexagonchina.com.cn

New Leica UAV portfolio with integrated Infinity workflow

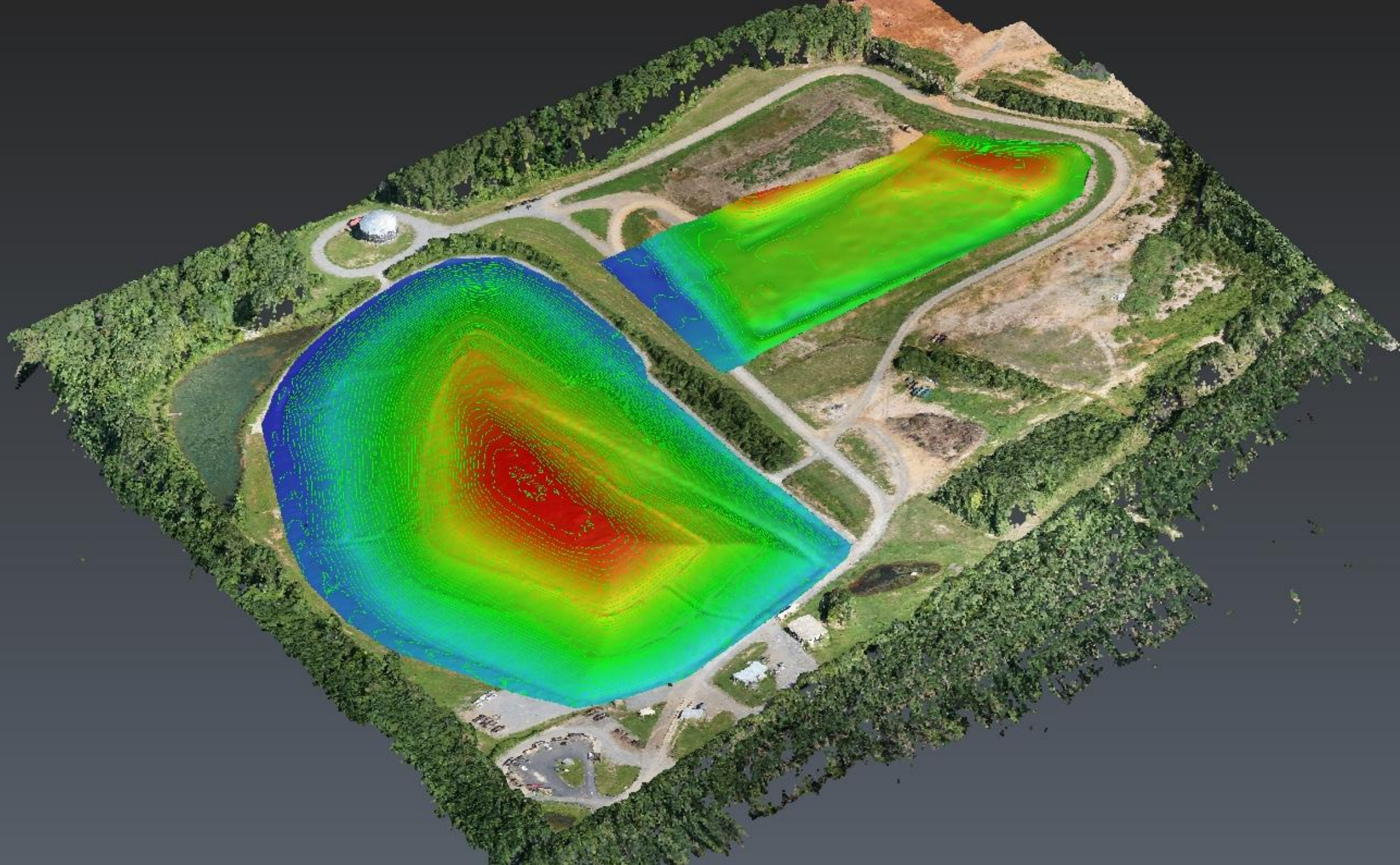
全新的徠卡无人机组合 无缝集成Infinity工作流

Valentin Fuchs, Product Manager UAV
Valentin Fuchs, 无人机产品经理
12th Sep, 2018

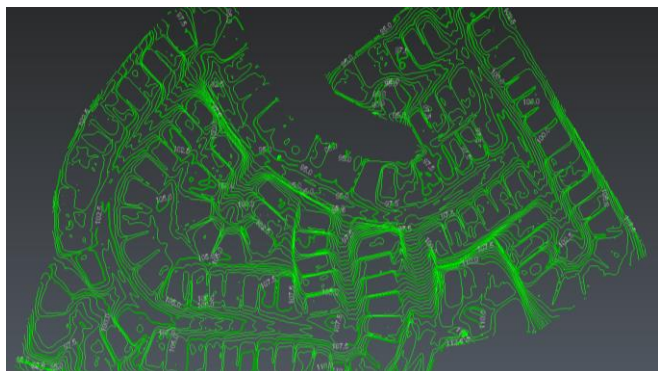
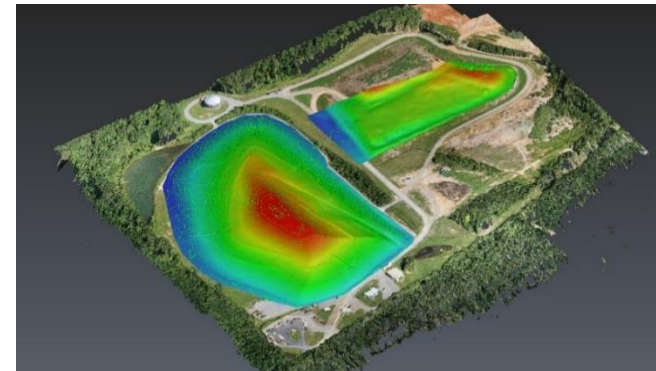








All of it matters 相关产品



Agenda

主要内容

- Solutions for industries
 - Shifting thinking from hardware to results and value
 - Workflow
- Leica Aibot UAV
- Real applications
- Power of Infinity
- 行业解决方案
 - 将思维从硬件转向结果和价值
 - workflow
- Leica Aibot无人机
- 实际应用
- Infinity的作用



Real value from projects – Example of building a business park in Kassel

项目的实际价值——例如在卡塞尔建立一个商业园区

Need

- Clear view on progress over a large construction project to stay on schedule
 - Without disturbing the construction

Response

- Detailed preparation and standardisation
 - Minimal time spent on the actual flights
- Complete and accurate condition survey with UAV every week
 - More than 50 surveys in total
- Integration to existing workflows
 - Data available for decisions already three hours after flight

客户需求

- 对一个大型建设项目的进展情况有清晰的了解，以确保项目按期进行
 - 无需打断建设进程

对应方案

- 详细的准备和标准化
 - 最少化实际飞行时间
- 每周用无人机进行全面、准确的情况调查
 - 总共有50多项调查
- 集成到现有的工作流程
 - 飞行三小时后就可以得到决策用的数据



We want to continue making this possible for all our customers.
我们希望继续为我们所有的客户提供这样的服务

Data to action on 数据决定行动

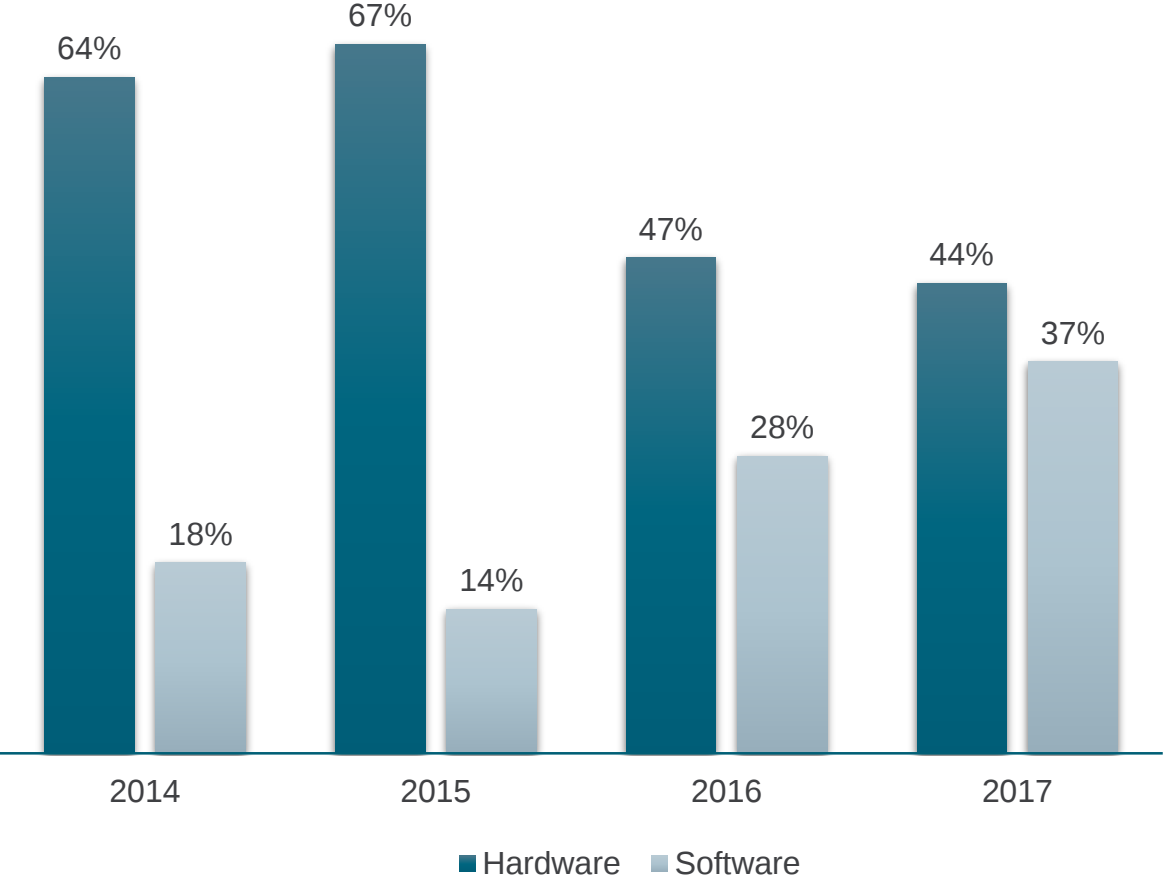
End-to-end workflow

端到端工作流

Complete solution

完整的解决方案

Industry is changing 行业变化



[Read more at uav.leica-geosystems.com](http://uav.leica-geosystems.com)

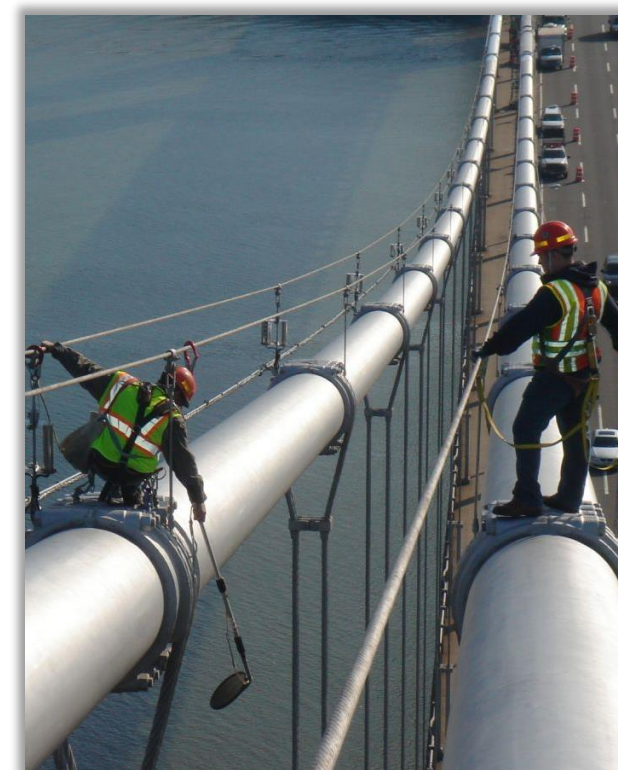
This is the beginning
这只是一个开始



Surveying
工程测量



Heavy construction
重型建筑



Inspection
工业检测

Surveying & Engineering 测量与工程

- Get a complete data set **faster**
 - Ties well into **existing workflows**
 - Create **new business opportunities**
-
- 更快地获得完整的数据集
 - 与现有 workflow 紧密联系
 - 创造新的商业机会



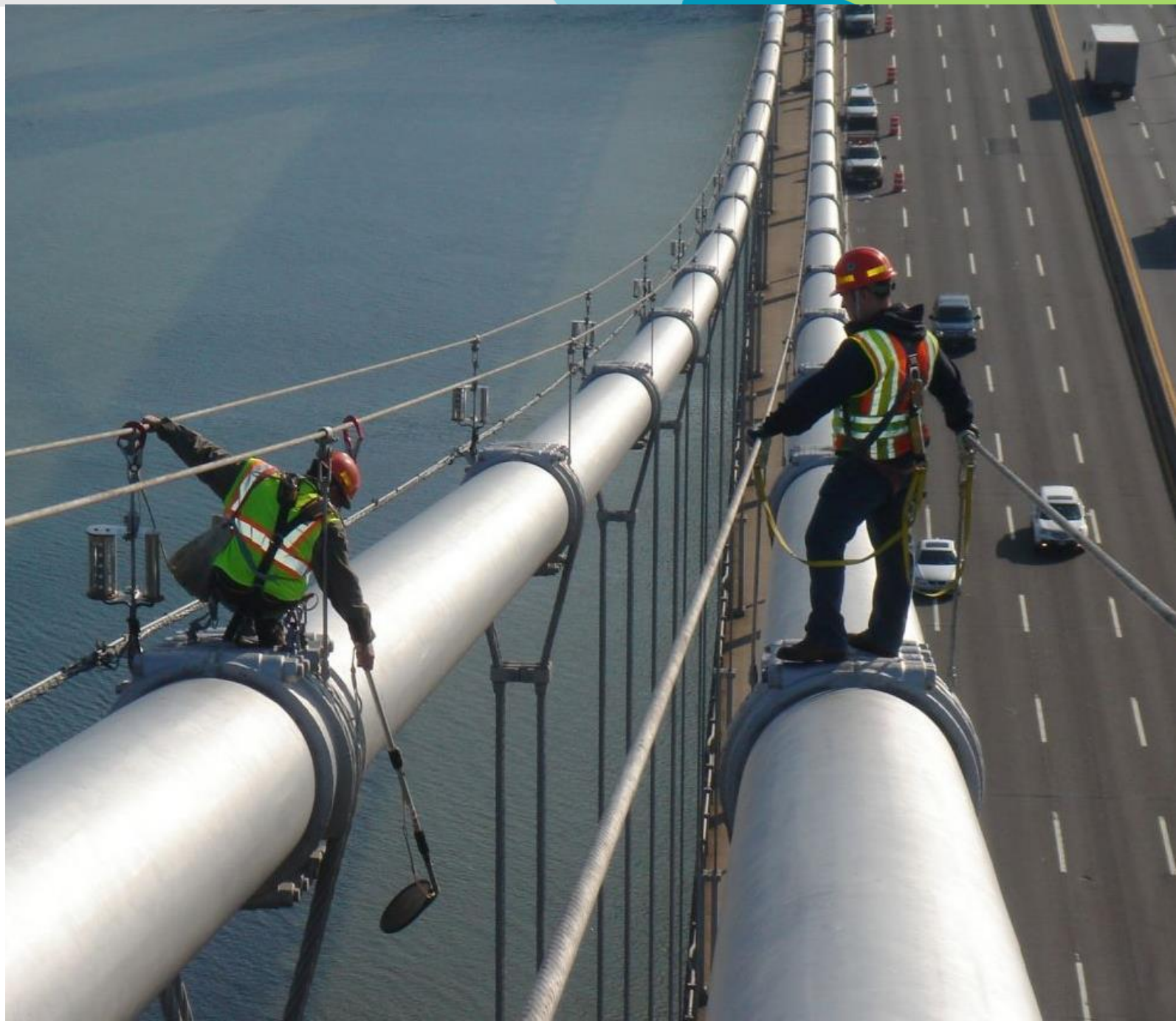
Heavy Construction 重型建筑

- Transparent views of **site progression** monitoring
- **Easier comparisons** (design vs. actual)
- **Volume** calculations
- **Safer** operations
- 现场进度监控的透明视图
- 对比简便 (设计与实际)
- 体积计算
- 操作安全



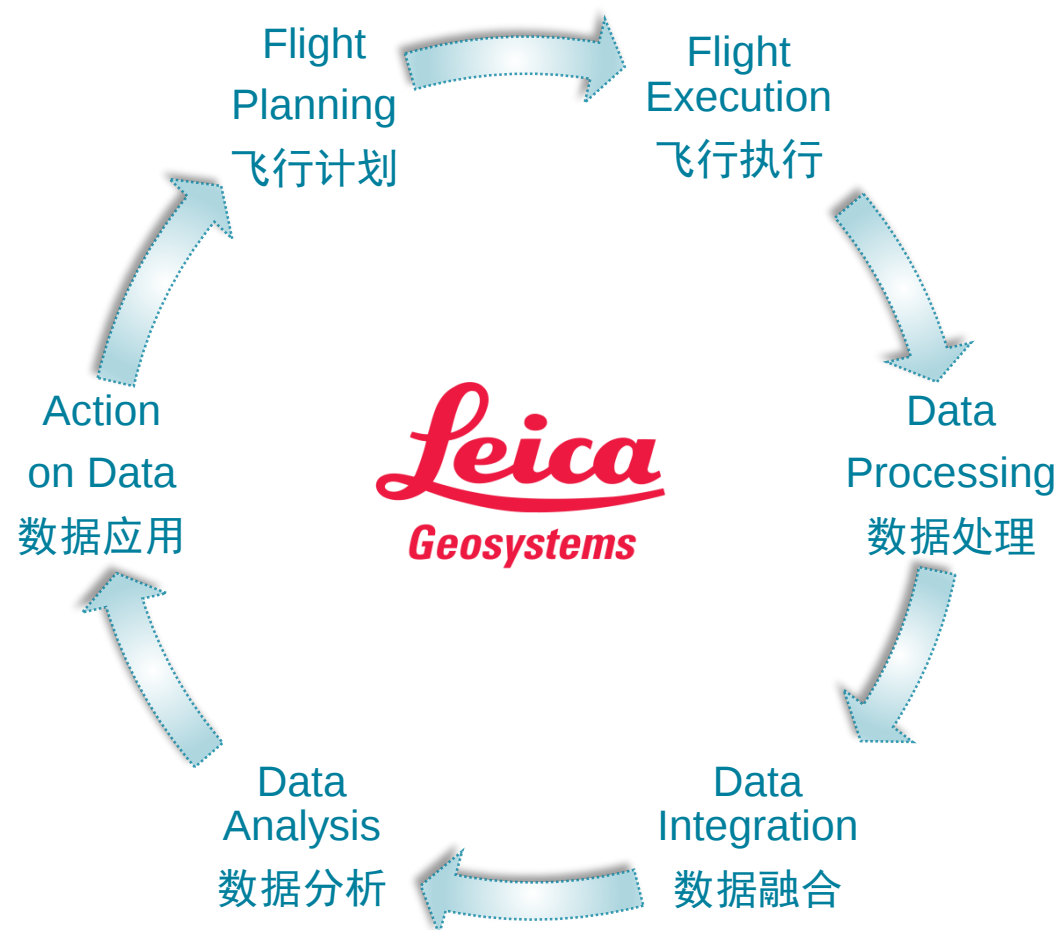
Inspection 工业检测

- Capture, visualise and analyse data **safer, easier and quicker**
- **Reduce downtime**, closures and outages
- **Efficient and reliable** operations
- 获取，可视化和分析数据**更安全，更容易和更快**
- **减少停机、关闭和中断**
- **高效可靠的操作**



Leica Aibot ecosystem – Workflow

Leica Aibot 无人机生态系统 – 工作流

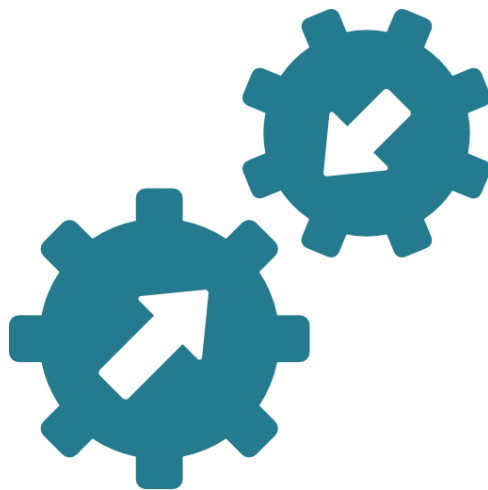


To achieve the solution, we need a strong partner
强强联手，造就完美解决方案



Actionable Data 可操作性数据
Workflow workflow
UI 用户界面

Sensor payload 负载传感器
GNSS & RTK/PP
Data processing 数据处理
Domain Knowledge 专业知识
User Interactions 用户交互



UAV copter 无人机

Flying vehicle 飞行器
Flight control 飞行控制器
Battery management 电池管理

Solution
解决方案





Aibot

Leica Geosystems'
intelligent UAV
solution for
surveying, mapping
and construction.

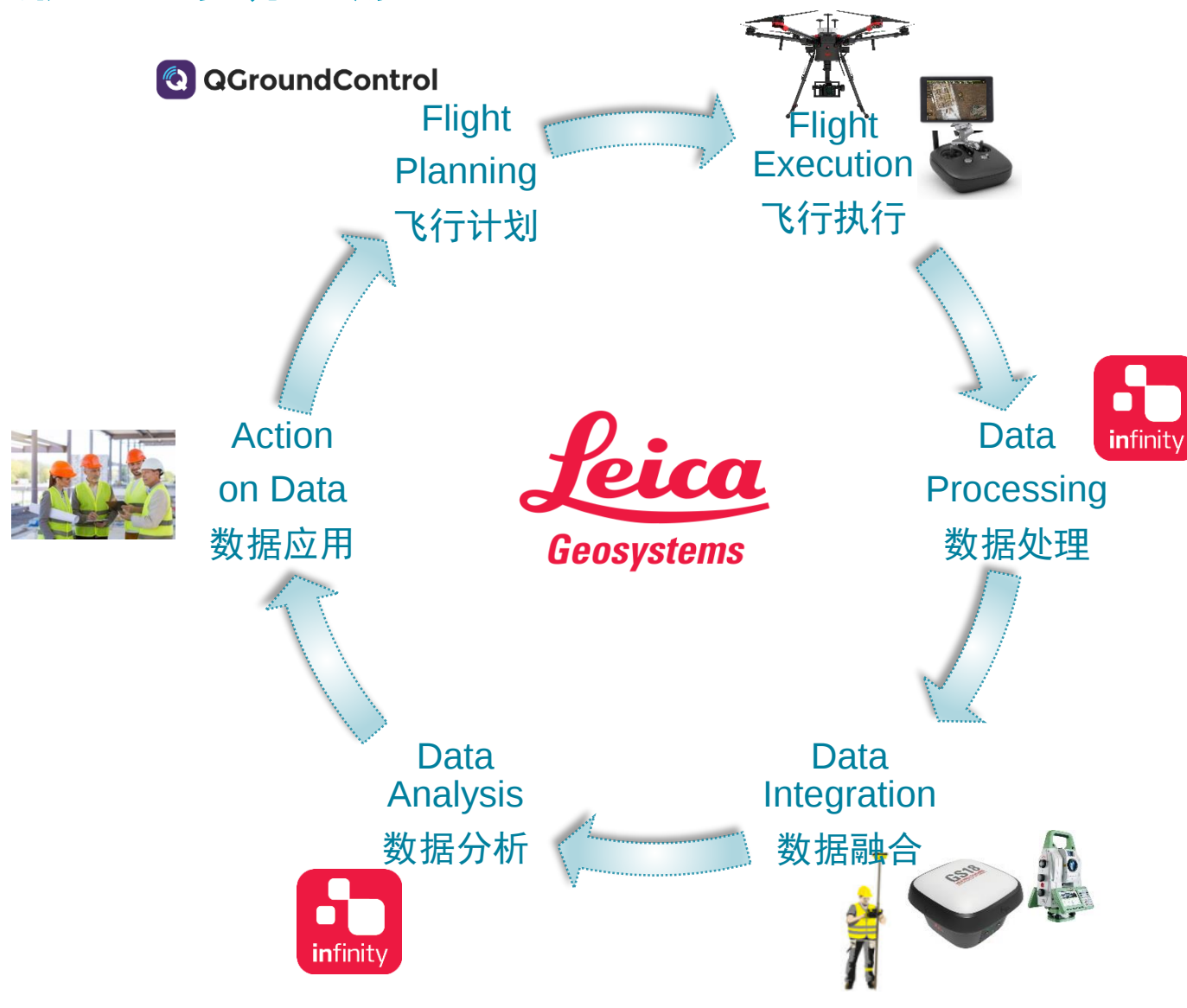


Leica
Geosystems

Leica
Aibot

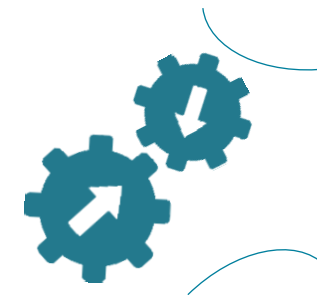
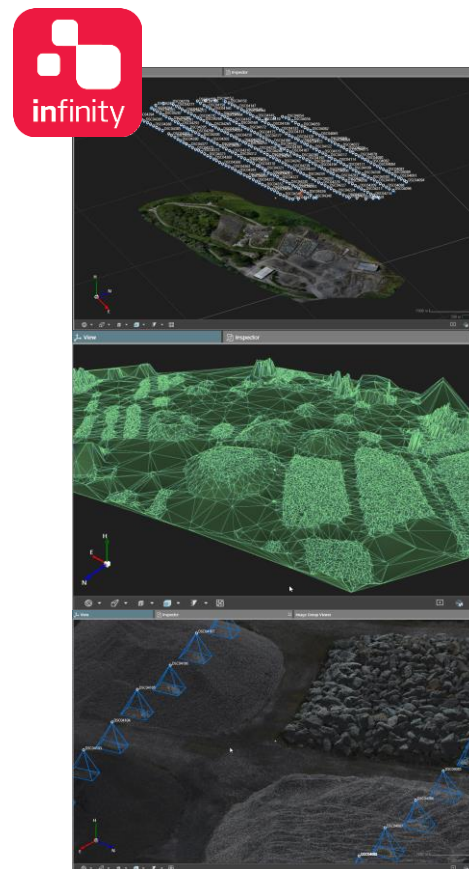
Leica Aibot ecosystem – Surveying

Leica Aibot无人机生态系统 – 测量



The power of Aibot + Infinity

Aibot + Infinity 的强大功能



RESHAPER®
The 3D scanner software



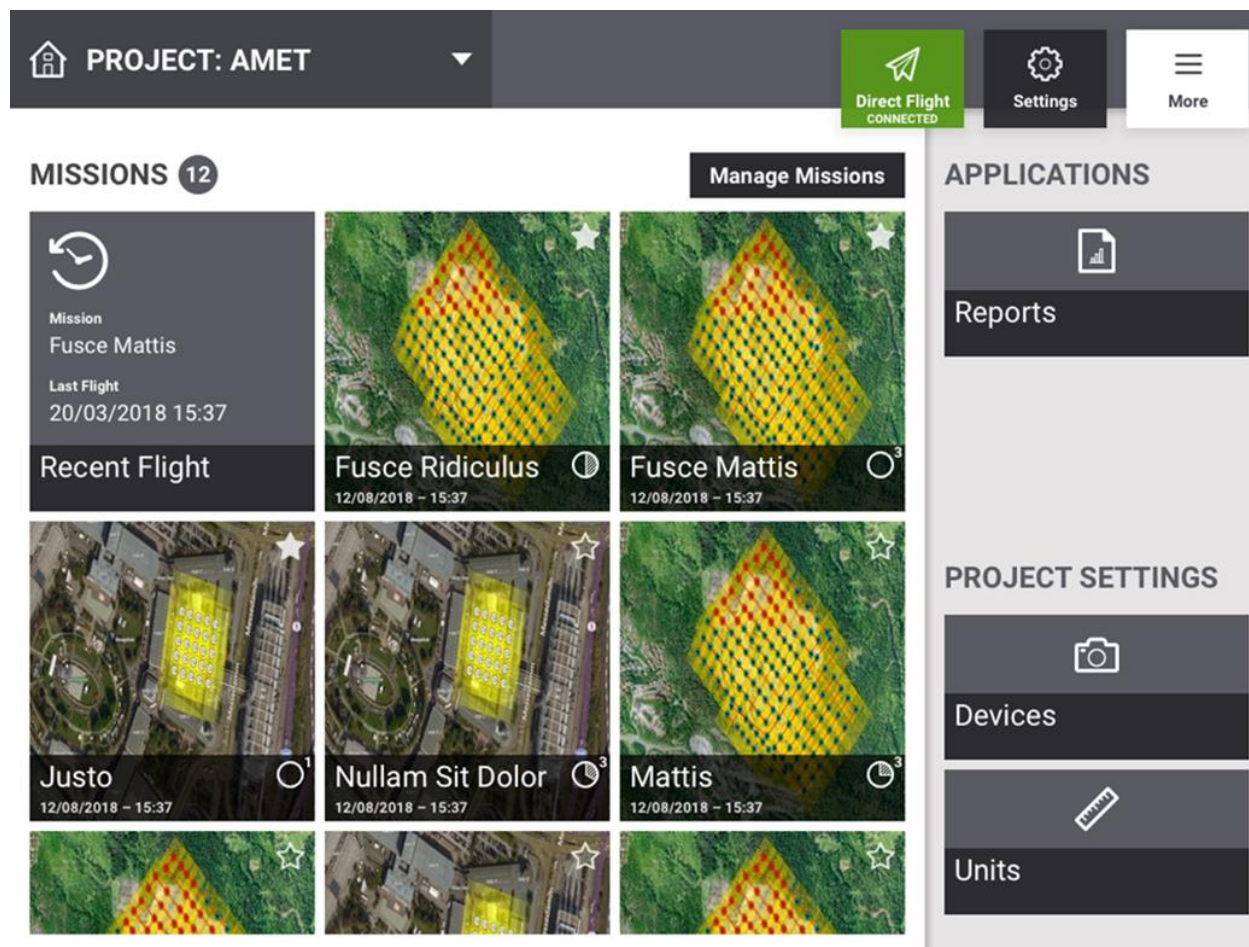
icon
Intelligent Construction



Leica Aibot skyCAPP makes managing field work easier

Leica Aibot skyCAPP 使管理现场工作更加容易

- Easy to use interface for execution
 - Direct and planned flights
 - Projects and missions for management
- Designed
 - to for professionals
 - be the platform to grow
- 轻松通过接口执行
 - 直接或计划飞行任务
 - 管理项目和任务
- 设计主旨
 - 为专业人士设计
 - 作为成长平台



Leica Aibot skyCAPP

Battery bar
电池电量状态栏

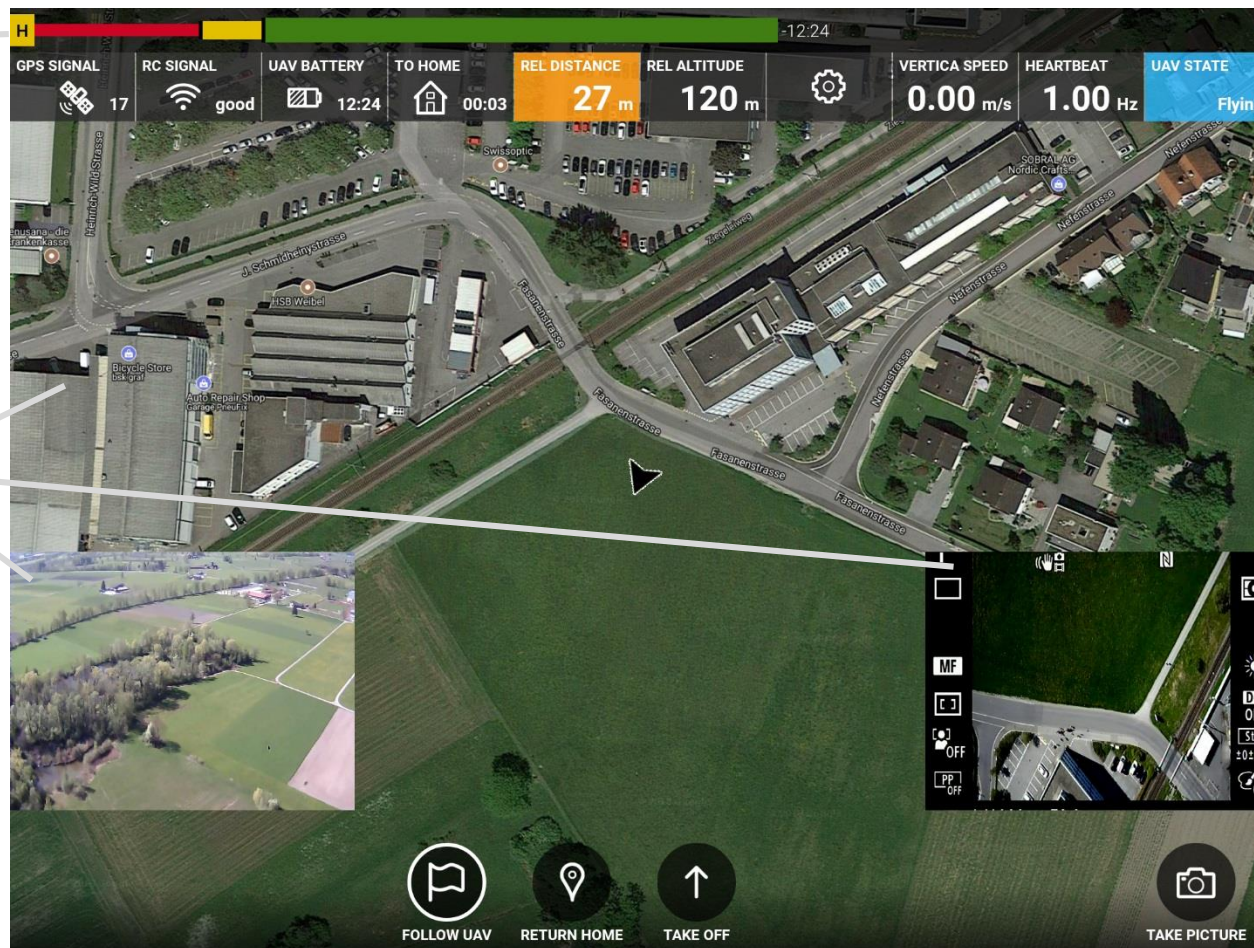
Info panel 信息面板
(configurable) (可配置)

Main view + 2 sub views
(Map, Sensor, FPV)

主视图+ 2个子视图
(地图, 传感器, 飞行轨迹)

Tool bar
(active actions)

工具栏
(主动操作)



Leica AX20

Survey-grade Leica GNSS Technology

测量级徕卡GNSS技术

Modular payload

负载模块

High-performing stable UAV platform

高效稳定的无人机平台

Smart data capturing

智能数据捕获





Grow your productivity
提升作业效率

Typical flight time

24 min (18 - 33 min)

Typical coverage

32 ha / 80 acres @ 10 mm GSD (max 64 ha)
(α7R II, 28mm lens, flight height 120m)

Leica Survey Grade GNSS and GNSS Antenna

RTK-enabled for SmartNet and local base

Scalable: L1 → Multifrequency PP →
Multifrequency RTK

标准飞行时间

24 分钟 (18 - 33 分钟)

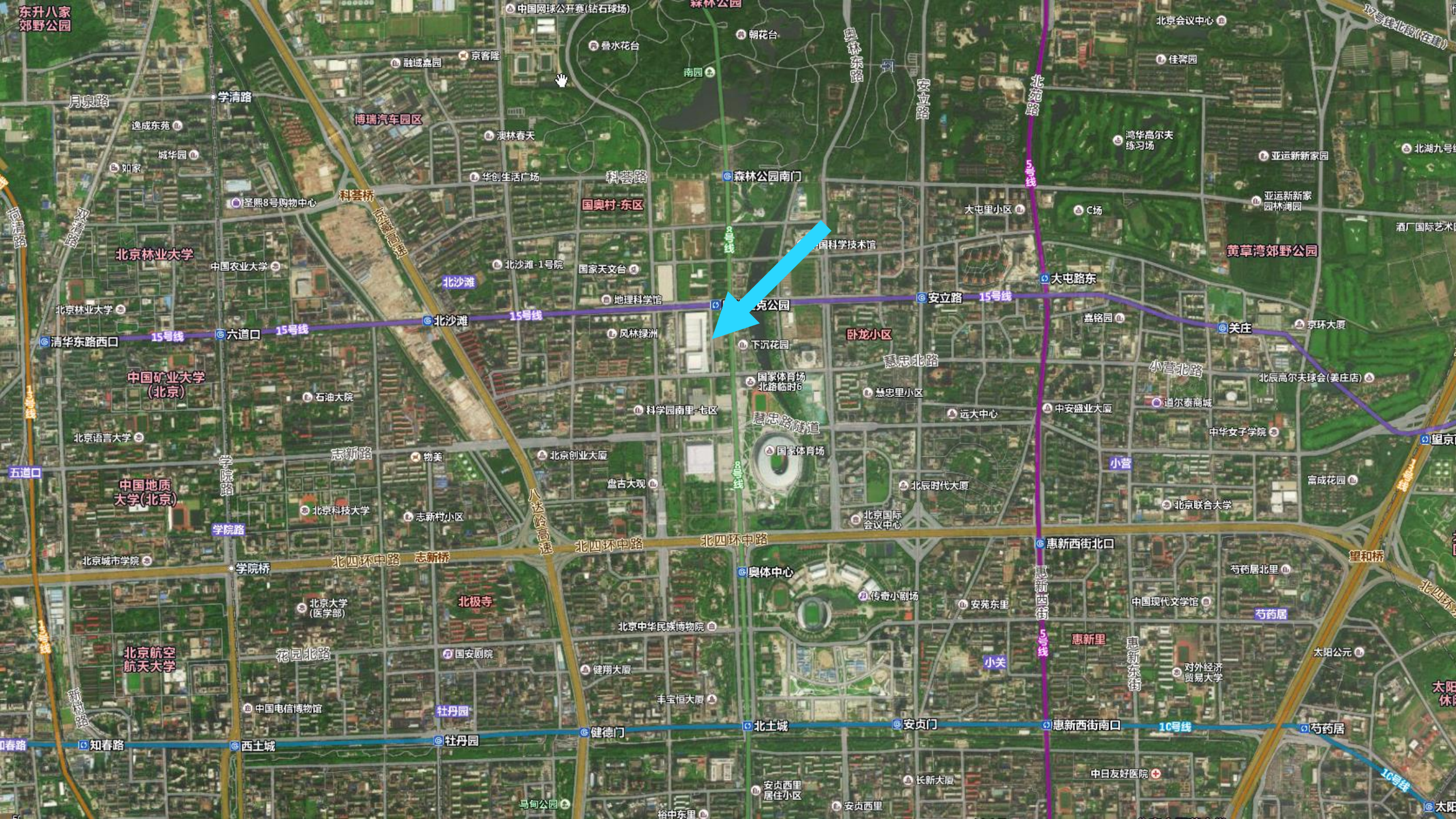
标准飞行面积

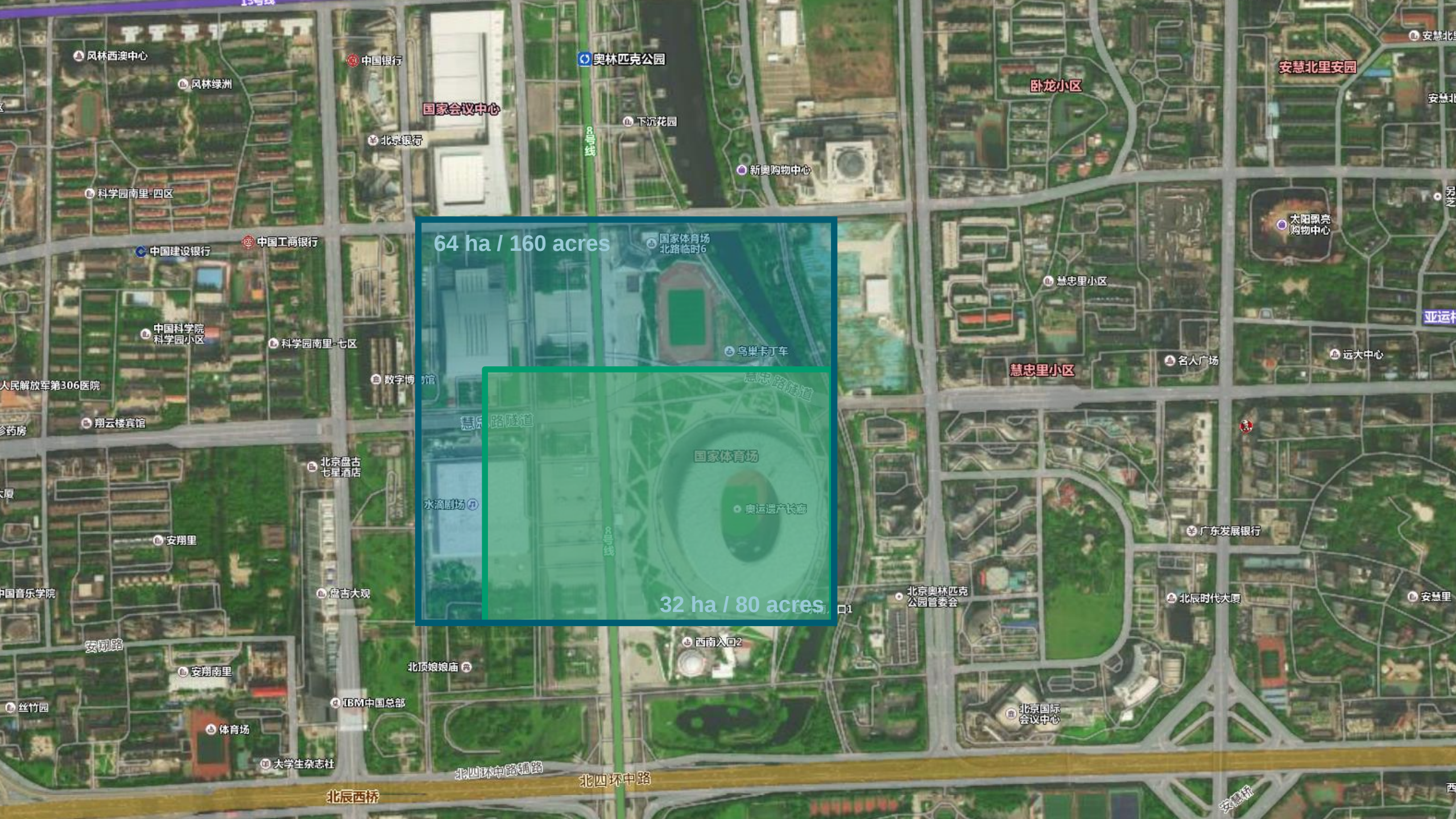
0.32 km² / 80 英亩 @ 10 mm GSD (最大 0.64 km²)
(α7R II, 28mm 镜头, 飞行高度120m)

徕卡测量级GNSS技术和天线

可使用RTK连接徕卡SmartNet和本地基站

可升级: L1 → 多频后处理 → 多频 RTK





64 ha / 160 acres

32 ha / 80 acres

Leica Aibot is a solution – Choose the payload that serves your needs

Leica Aibot是一套解决方案 – 选择适合需求的负载

Entry(入门级): Sony α6300



16 – 50 mm 28mm F2.0

- 28mm – Great mapping coverage
测图面积大
- Zoom – Inspection
工业检测

Mid Range(中档次): Sony α7R II



28mm F2.0 55mm F1.8

- 28mm – Great mapping coverage and density
测图面积大、像素高
- 55mm – Mapping and inspection
测图和检测

Lens is the key for high quality image

- ✓ Better feature detection
- ✓ Higher point density
- ✓ Higher accuracy

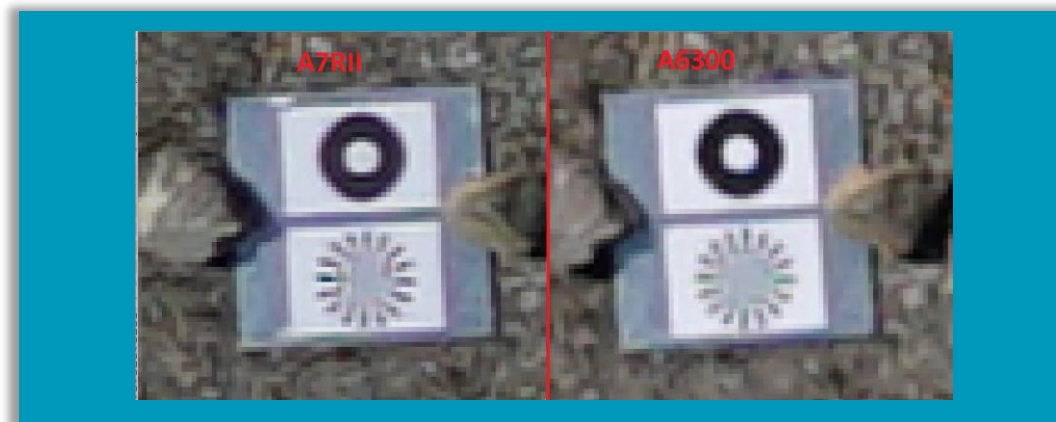
镜头选择是获取高质量影像的关键

- ✓ 更好的特征检测
- ✓ 更高的点云密度
- ✓ 更高的精度

Lens selection is the key

镜头选择是关键

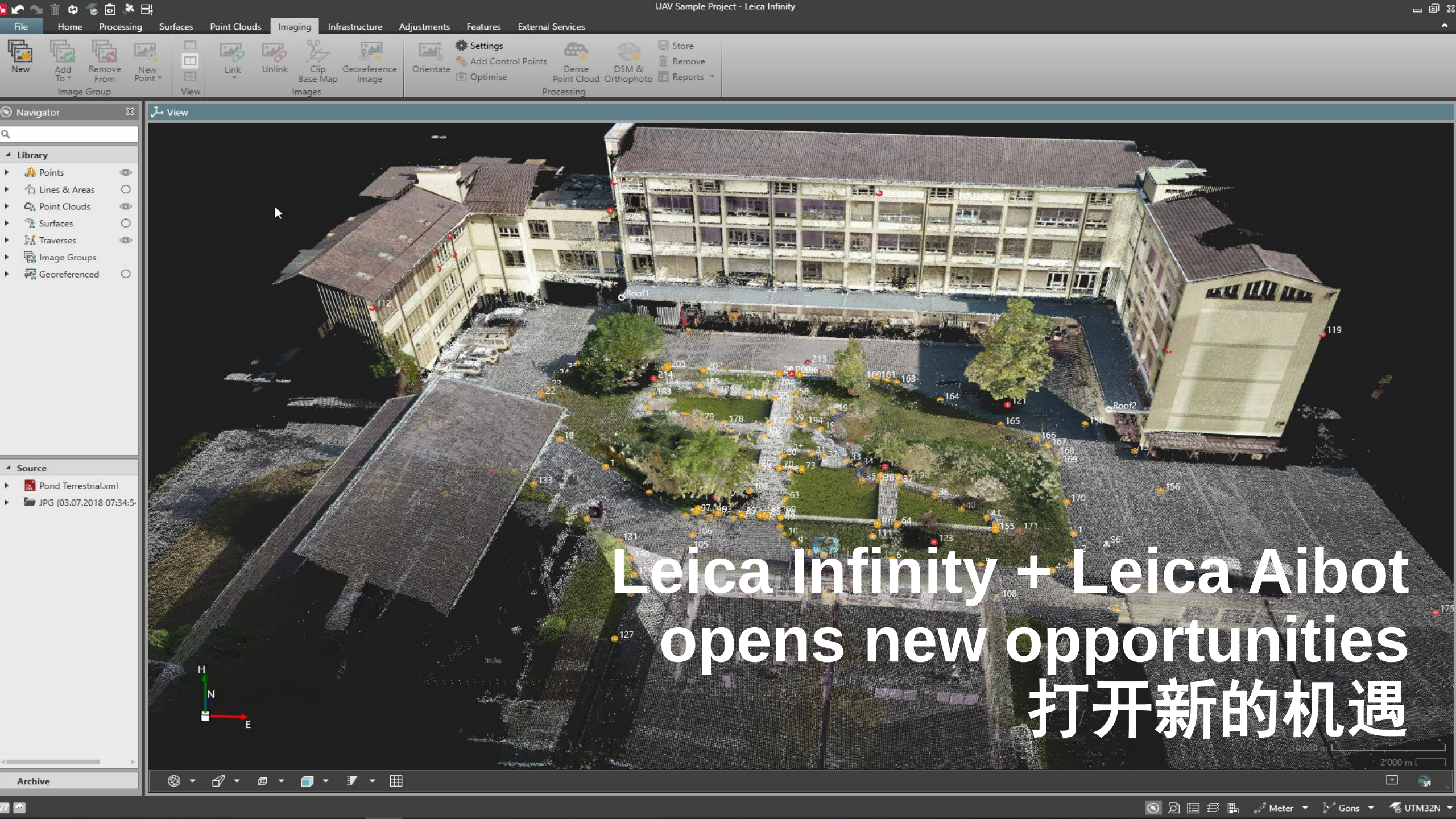
28mm lens



Why ?
为什么？



Would you get a good point cloud of this picture?
从这张影像你可以得到好的点云吗？



Leica Infinity + Leica Aibot
opens new opportunities
打开新的机遇

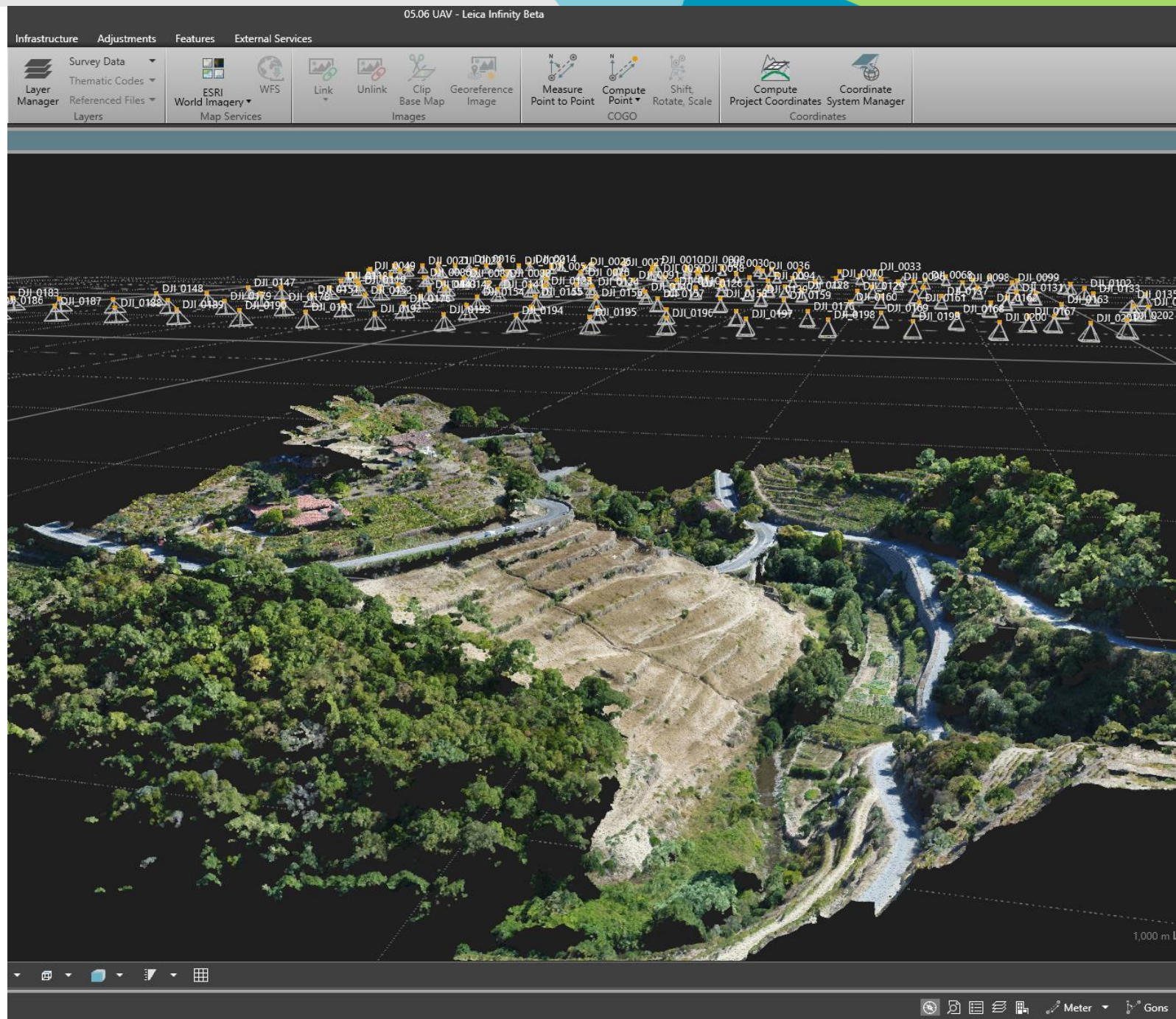
Deliver more data 提供更多的数据

UAV data integration

- Capture the moment with images
- Pre-calibrated
- Generate the data you
 - 3D data
 - Surface model
 - Orthophoto

无人机数据集成

- 捕捉瞬间的影像
- 预检校
- 生成你做需要的数据
 - 3D数据
 - 表面模型
 - 正射影像



Accurate and reliable 准确可靠

Data you can rely on

- Control points with checks for reporting
- Point clouds filtered by quality
- ASPRS standards applied

值得信赖的数据

- 检查报告的控制点
- 按质量过滤的点云
- 应用ASPRS标准



Accurate and reliable 准确可靠

Reliable survey grade point cloud
to trust

可靠的测量级点云值得信赖



Infinity
point cloud

Infinity 点云



3rd party
point cloud

第三方 点云

Fully integrated 完全集成

Easily combine data sources

- Terrestrial data including MS60 scan data
- GNSS RTK
- GNSS post-processing
- Precise heights

Produce data and share

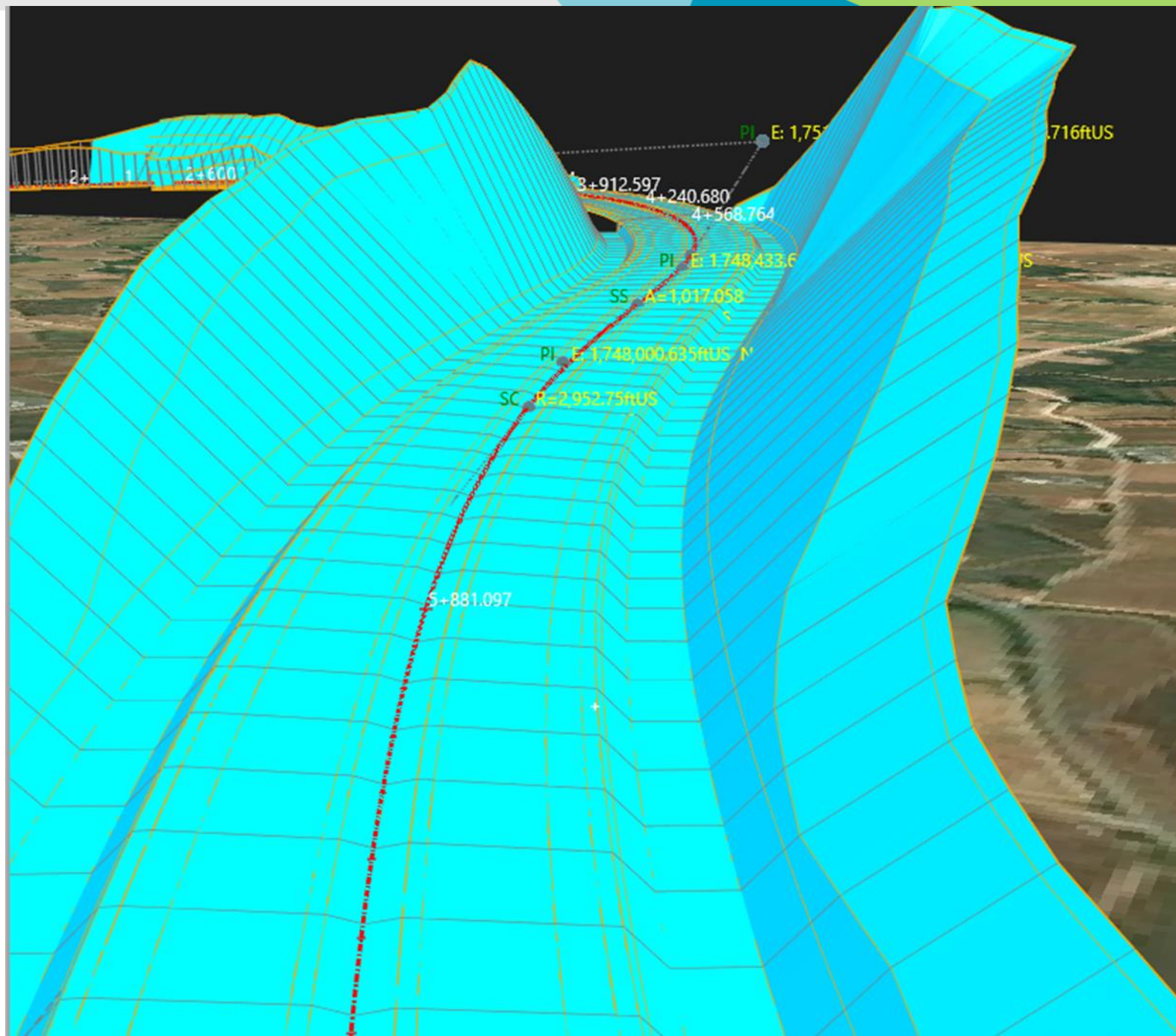
- Leica ConX
- Leica JetStream (v3.1)

多源数据轻松集成处理

- 地面数据，例如MS60扫描数据
- GNSS RTK
- GNSS后处理数据
- 精确高程点

生产数据和共享

- Leica ConX
- Leica JetStream (v3.1)



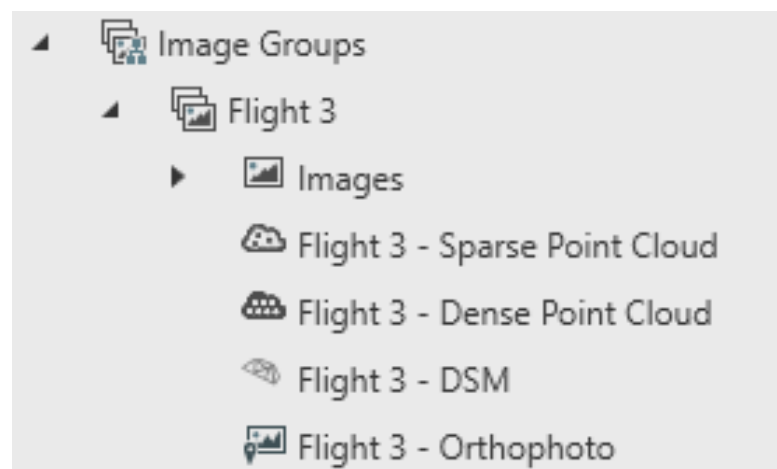
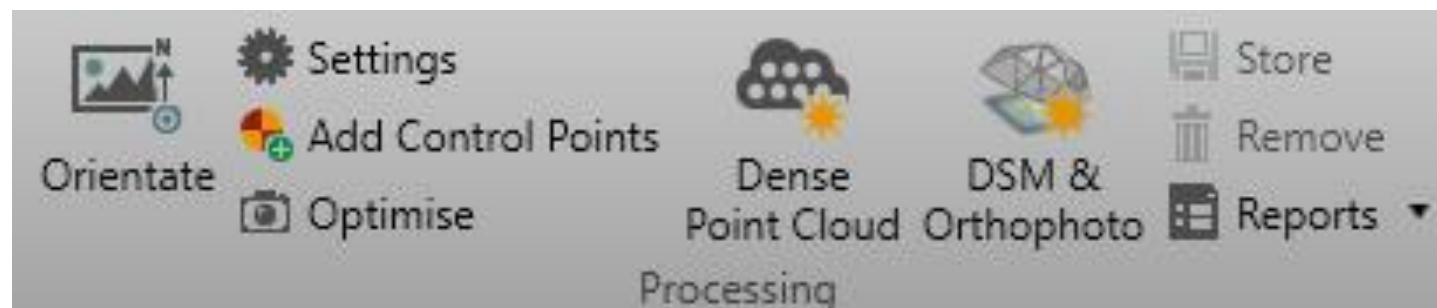
Easy to use 操作简便

Working in image groups

- Easy steps to get the quality outputs
- Multiple flights supported
- Data deliverables are organised matching to the workflow

影像分组处理

- 一键输出成果
- 支持多架次数据同时处理
- 交付数据根据工作流程有序存放显示



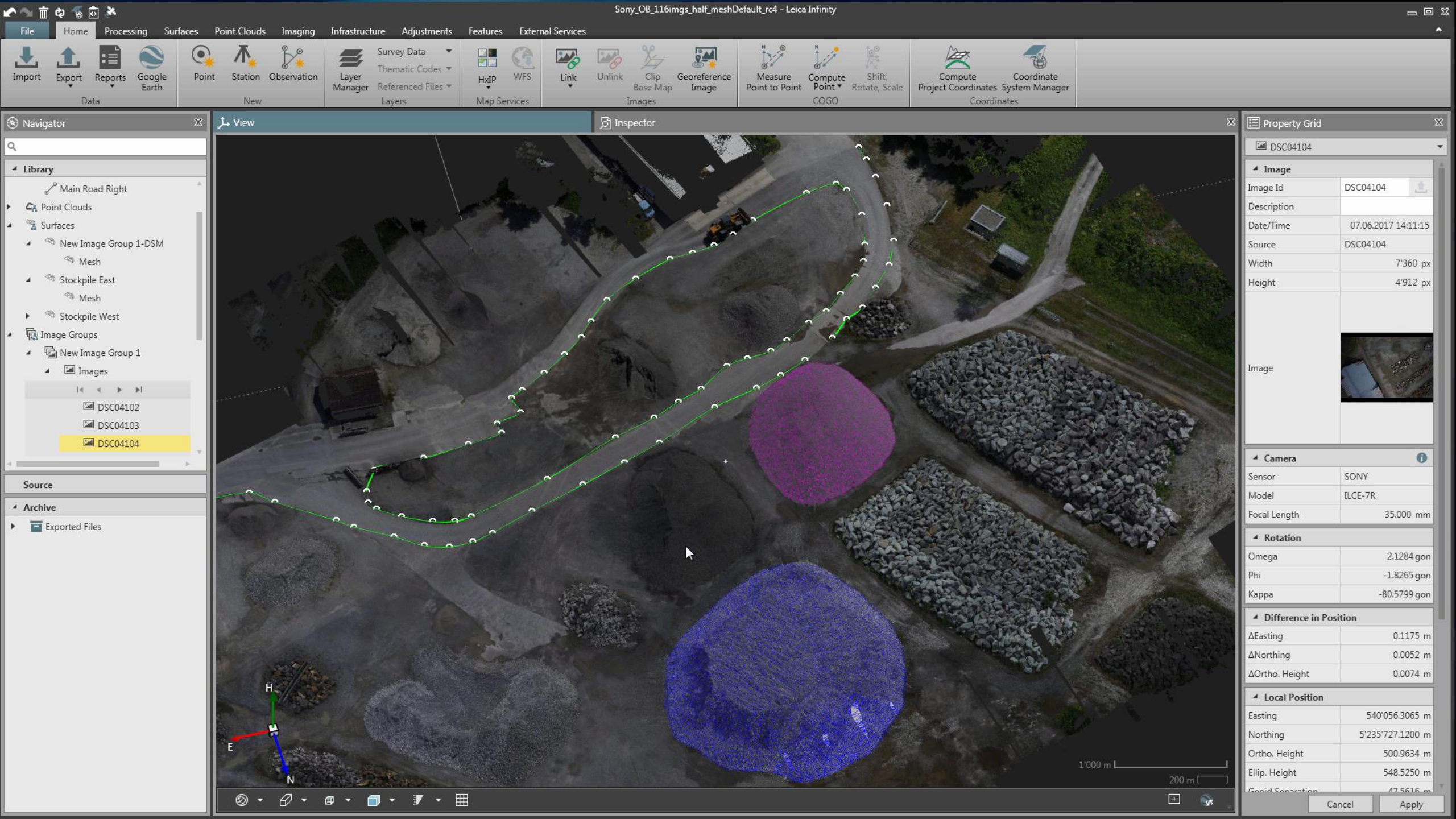


Real applications
实际应用









Leica Aibot is all about shaping change for data and workflow

Leica Aibot致力于为数据和 workflow 做出改变

- Collect, combine and use **data** for better decisions
- Leica provides end-to-end **solution** that completes existing **workflows**
- Aibot + Infinity opens new opportunities
- 采集、组合和使用**数据**以做出更好的决策
- 徕卡提供端到端的**解决方案**，完善现有的**工作流**
- Aibot+Infinity打开新的机遇



—— 谢 谢 ——





如果您对此篇PPT感兴趣，请扫描二维码
