



HEXAGON  
海克斯康



北京  
国家会议中心  
**2018年**  
**9月10-12日**

2018.hexagonchina.com.cn

# 塑造智慧变革





# **Construction Tools**

## 全景透视 -- 徕卡建筑测量产品介绍

---

Roman Brueschweiler

Business Director Construction Tools & Services

September 2018





**Beautiful Architecture - High Complex Buildings**  
漂亮的建筑设计- 高层异形建筑

# Building Construction unique Solution portfolio

Provide geometry data accurately and turn it into flexible, reliable, meaningful information for our customers

海克斯康建筑施工方案全景透视- 提供精确的数据并将其转化为灵活、可靠、有意义的信息，供客户使用

应用场景

Applications



**Set Reference**  
设置参考



**Reality Checks**  
现场检查



**Actionable Visualization**  
可视化操作流程

Unique Hexagon Offering



海克斯康解决方案

- ✓ 作业效率高
- ✓ 数据可靠精确
- ✓ 成果报告输出



**Application / Solution**  
行业应用 / 解决方案

---

# End User / Building construction application

Do end users have pains to do their job?

建筑施工传统作业方式-有何痛点？

传统作业方式痛点

End user Pains



More than one person needed

需要多人配合操作



Manually measured, inaccuracy, wrong grade

人工测量精度低，易出错



No documentation

无成果报告

Unique Hexagon Offering



1. Efficiency (for people)
2. Reliability (accurate data)
3. Availability (documentation)

海克斯康解决方案

- ✓ 作业效率高
- ✓ 数据可靠精确
- ✓ 成果报告输出

# Unique solution offering / Building construction application

Construction  
Tools

Provide geometry data accurately and turn it into flexible, reliable, meaningful information for our customers.

海克斯康建筑施工方案-提供精确的数据并将其转化为灵活、可靠、有意义的信息，供客户使用

建筑施工应用

Building  
construction  
applications



Set Reference  
设置参考



Reality Checks  
现场检查



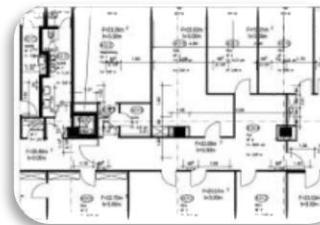
Actionable Visualization  
可视化操作流程



One Person  
单人操作



Auto Measurement  
自动测量



Documented  
成果报告

海克斯康建筑测量工具

Unique Construction Tools Offering



Unique Hexagon Offering  
海克斯康产品与解决方案

1. Efficiency (for people)
2. Reliability (accurate data)
3. Availability (documentation)



海克斯康  
**HEXAGON**

# End User / Road & Rail application

Do end users have pains to do their job?

## 公路&铁路行业传统作业方式-有何痛点？

传统作业方式痛点

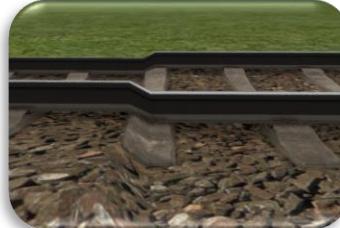


**Manual Height calculation**  
手动计算高程数据

$$\begin{aligned} \ddot{x}_n &= -\frac{\rho}{2 \cdot m} \frac{S}{\dot{x}_n^2 + \dot{y}_n^2} (c_D \cdot \cos(\alpha) + c_L \cdot \sin(\alpha)) \\ x_{n+1} &= x_n + \dot{x}_n \cdot dt + \frac{1}{2} \ddot{x}_n \cdot dt^2 \\ \dot{x}_{n+1} &= \dot{x}_n + \ddot{x}_n \cdot dt \\ \ddot{y}_n &= \frac{\rho}{2 \cdot m} \frac{S}{\dot{x}_n^2 + \dot{y}_n^2} (c_L \cdot \cos(\alpha) - c_D \cdot \sin(\alpha)) - g \\ y_{n+1} &= y_n + \dot{y}_n \cdot dt + \frac{1}{2} \ddot{y}_n \cdot dt^2 \\ \dot{y}_{n+1} &= \dot{y}_n + \ddot{y}_n \cdot dt \end{aligned}$$



**Manually measured, inaccuracy, Height mistake**  
人工测量，精度低，高程易错



**No documentation**  
无成果报告

Unique Hexagon Offering



海克斯康解决方案

- ✓ 作业效率高
- ✓ 数据可靠精确
- ✓ 成果报告输出

# Unique solution offering / Road & Rail application

Provide geometry data accurately and turn it into flexible, reliable, meaningful information for our customers

海克斯康公路&铁路行业解决方案-提供精确的数据并将其转化为灵活、可靠、有意义的信息，供客户使用

公路/铁路施工应用

Road/Rail  
construction  
applications



|                        |                                     |
|------------------------|-------------------------------------|
| BFFB BFFB BFFB BFFB 菜单 | 2 <sup>nd</sup> Order Line leveling |
| FBBF FBF FBF FBF 菜单    |                                     |
| BFFB BFFB BFFB BFFB 菜单 | 3 <sup>rd</sup> Order Line Leveling |
| BBFF BBFF BBFF BBFF 菜单 | 4 <sup>th</sup> Order Line Leveling |

Set Reference  
设置参考

Reality Checks  
现场检查

Actionable Visualization  
可视化操作流程



Leica Sprinter  
350M 电子水准仪

Auto calculation  
自动计算

Auto Measurement  
自动测量

| Data Listing Report |      |            |              |           |         |           |           |               |          |
|---------------------|------|------------|--------------|-----------|---------|-----------|-----------|---------------|----------|
| ArrayNo             | PtNo | Height [m] | Distance [m] | StaffType | ReferNo | Meas_Type | IsReferNo | Elevation [m] | D.Ev [m] |
| 1                   | 1    | 1.4729     | 29.843       | Upright   | -       | -         | 0         | 0.0000        |          |
| 2                   | 2    | 1.6924     | 30.328       | Upright   | -       | -         | 0         | 0.0000        | 1.4729   |
| 3                   | 3    | 1.4753     | 29.833       | Upright   | -       | -         | 0         | 0.0000        | 1.4753   |
| 4                   | 4    | 1.6947     | 30.342       | Upright   | -       | -         | 0         | 0.0000        | 1.4796   |
| 5                   | 5    | 1.4796     | 29.839       | Upright   | -       | -         | 0         | 0.0000        | 1.4810   |
| 6                   | 6    | 1.6990     | 30.331       | Upright   | -       | -         | 0         | 0.0000        | 1.4804   |
| 7                   | 7    | 1.4817     | 29.845       | Upright   | -       | -         | 0         | 0.0000        | 1.4817   |

海克斯康建筑测量工具

Unique Construction Tools Offering



Unique Hexagon Offering  
海克斯康产品与解决方案

- 1. Efficiency (for people)
- 2. Reliability (accurate data)
- 3. Availability (documentation)



海克斯康  
HEXAGON

# End User / Agriculture & Land Leveling application

Do end users have pains to do their job?

Construction  
Tools

## 传统土地平整方式-有何痛点？



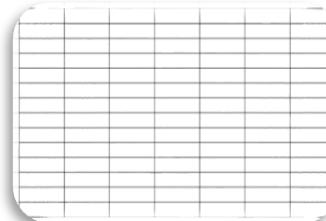
Highly time intensive manual work  
长时间人工作业



1. Efficiency (for people)
2. Reliability (accurate data)
3. Availability (documentation)



Inaccurate leveling  
平整精度低



No documentation  
无成果报告

传统作业方式痛点  
End user Pains

Unique Hexagon Offering

## 海克斯康解决方案

- ✓ 作业效率高
- ✓ 数据可靠精确
- ✓ 成果报告输出

# Unique solution offering / Agriculture & Land Leveling application

Provide geometry data accurately and turn it into flexible, reliable, meaningful information for our customers

海克斯康土地平整解决方案-提供精确数据，并将其转化为灵活、可靠、有意义的信息，供客户使用

土地平整应用

Agriculture Land leveling applications



Set Reference  
设置参考



Reality Checks  
现场检查

Rugby laser receiver&sensors

Leica Rugby laser, receiver&sensors



Auto controlled  
自动机械控制



Perfectly leveled  
精确的平整度



Documented  
成果报告输出

海克斯康建筑测量工具  
Unique Construction Tools Offering



Unique Hexagon Offering  
海克斯康产品与解决方案





**Beautiful Architecture - High Complex Buildings**

漂亮的建筑设计- 高层异形建筑

**Construction Tools / HEXAGON provides a solution**  
**建筑测量工具/ 海克斯康 解决方案**

Thank you for your attention  
谢谢关注

---

谢 谢

---

