

## Product Presentation

Applicant Name: Builtinfo Company Limited

Product Name: GreenValley DGC50

Specification:



### •Core Functions:

- Obtain geo-referenced high-resolution panoramic image and high-precision 3D point cloud data even with high accuracy ( $\leq 3\text{cm}$ )

### •Technology Used:

- LiDAR, Panoramic camera, GNSS & SLAM technology

### •Construction Process involved:

- Scanning for as-built information
- Provide high resolution and accuracy 3D point cloud result

### •Key Improvement in Construction Process:

- Productivity
- Quality
- Safety
- Environment

## Innovative Features

- Core Technology: LiDAR, GNSS, SLAM & 360 Camera
- Comparison with current practice and popular models: Terrestrial Laser Scanners
  - Benefits including cost benefits: more time efficient than TLS
- Comparison with similar Pre-approved list products and competitors:

Specifications			
		DGC50	C50
<b>System</b>	Weight (incl. camera)	8.6kg	7.1kg
	Relative Accuracy	3cm	3cm
	Absolute Accuracy	5-10cm	N/A
	Power Consumption	50W	40W
<b>LiDAR</b>	LiDAR Sensors	2	1
	Num of Channels	16 channels	16 channels
	Scan Range	100m@20%reflectance	100m@20%reflectance
	FOV (degree)	Vertical(-90~90) Horizontal 360	Vertical(-15~15) Horizontal 360
	Scan Rate (single return)	600,000 p/sec	300,000 p/sec
		DGC50	C50
<b>GNSS Module</b>	Channels	GPS: L1 C/A, L1C, L2C, L2P, L5. GLONASS: L1, C/A, N/A L2C, L2P, L3, L5 BEIDOU: B1, B2	N/A
	Accuracy	1cm+1ppm	N/A
<b>Working Mode</b>		Backpack	Backpack+Handheld
<b>Camera</b>	Resolution	3840*1920	3840*1920
	Frame Rate	30	30
	FOV (degree)	360	360
	Pixel	18 MP	18 MP

- First Launch Date: 13/05/2020

## Adoption Example 1

- Project for illustration: (Road Inspection of cycling track, Yuen Long and Sheung Shui, 2020)
- Work Process: Collect and process the Point Cloud for Cycling Track from Yuen Long to Sheung Shui
- Use/ function in project: Collect Colourised Point Cloud data



Point Cloud of pedestrian and bicycle tunnel near Sheung Shui

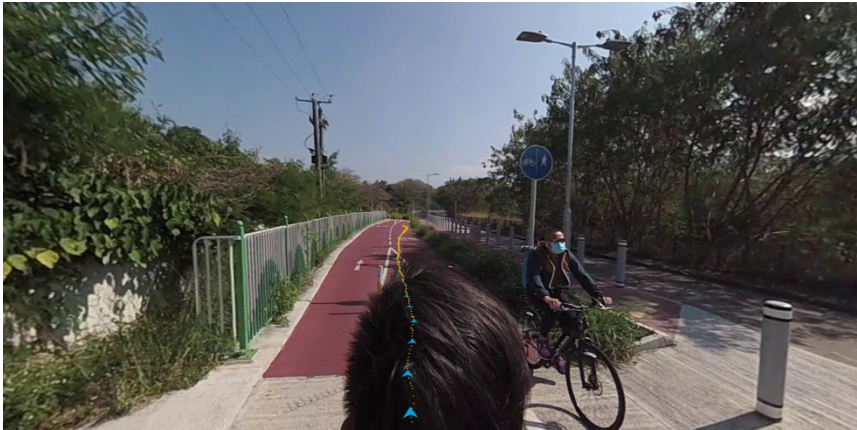


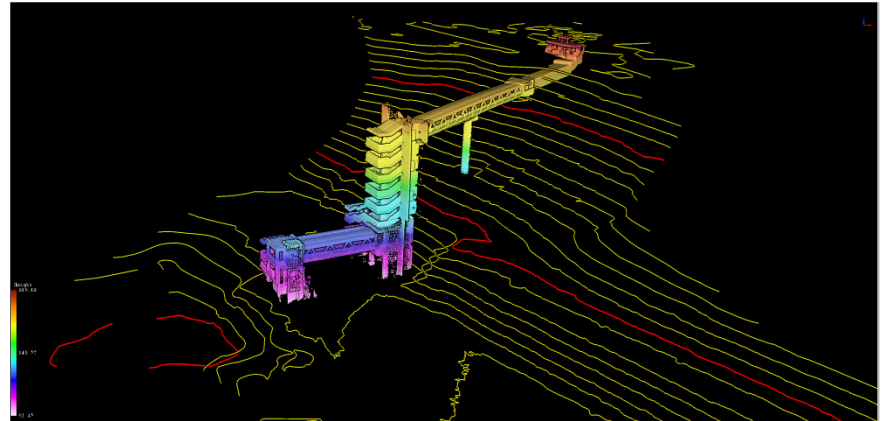
Photo captured from the video recorded by DGC50



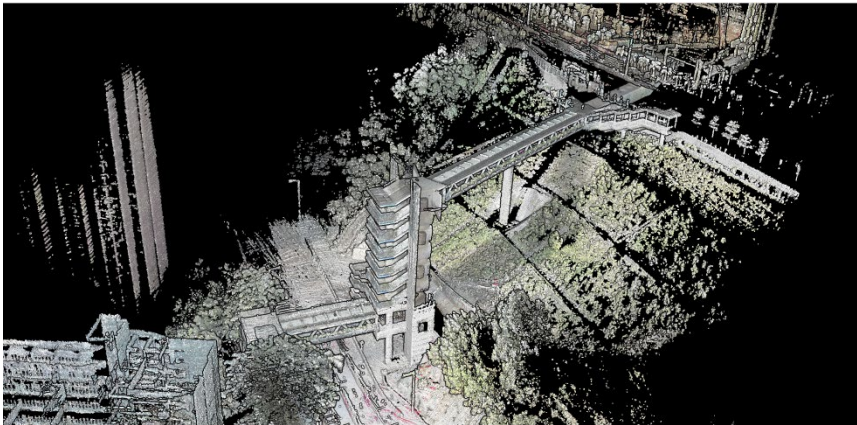
Point Cloud of pedestrian area and bicycle track near Sheung Shui

## Adoption Example 2

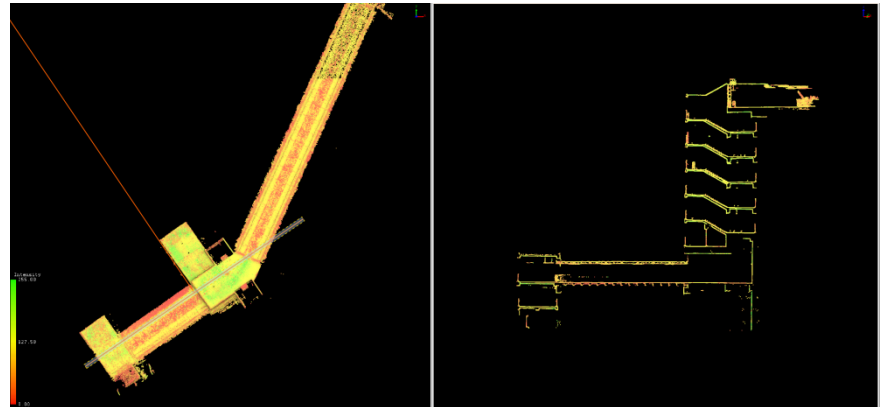
- Project for illustration: (Asset management of On Tat Estate Pedestrian Link, Sau Mau Ping, 2020)
- Work Process: Collect and process the Point Cloud for On Tat Estate Pedestrian Link
- Use/ function in project: Collect Colourised Point Cloud data



Point Cloud of the Pedestrian Link and Contours generated by ground points



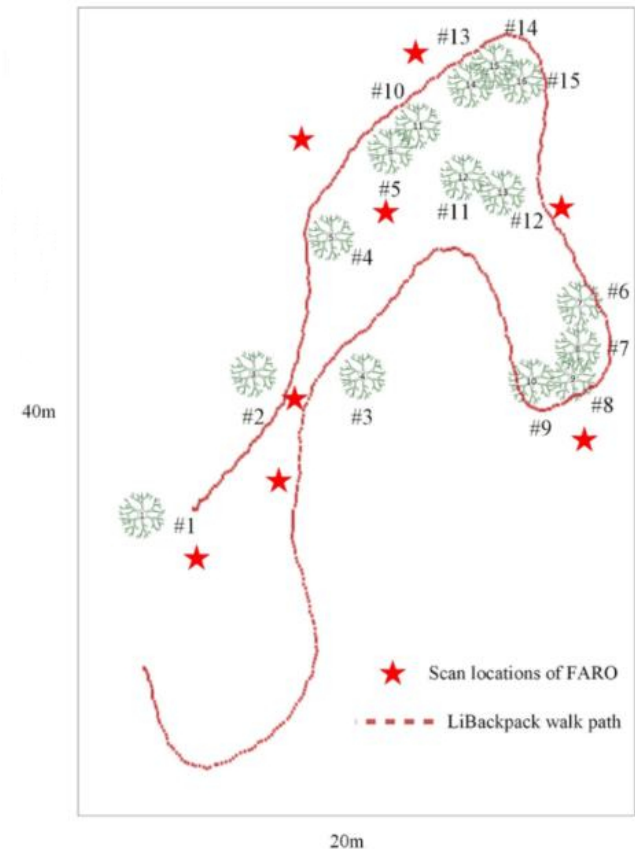
Point Cloud of On Tat Estate Pedestrian Link and nearby environment



Cross section of the Pedestrian Link in intensity mode

# Benefits – Productivity

- Easy and user-friendly operation, what you see is what you get in the point cloud data
- Real-Time Point Cloud Display and trajectory to assure the required data is captured
- More angles of the same object is obtained while walking around, it is not required to analysis the overlapping and geometry among the scan stations
- Automated data processing, no registration required with GNSS data
- With adequate GNSS signals, close loop is not necessary, no duplicated data or data out of the survey area is collected
- High Efficiency:
  - Data collection time required by Terrestrial Laser Scanner: 120 minutes
  - Data collection time required by LiBackpack DGC50: 2 minutes 7 seconds



# Benefits – Quality

- Multi-sensor Integrated, denser point clouds with laser emitted in different angles
- High-flexibility Operation: suitable for indoor and outdoor Mapping (Scan range 100m)
- High Precision (Relative accuracy  $\leq 3\text{cm}$ )
- Strong Post-processing Software Support, provide solutions for Terrain Models, Tree Surveys and Geological analysis
- Easy and comfortable to carry around: lightweight with cushioning and adjustable straps