

3D Scanning of the Minto Island Bicycle and Pedestrian Bridge – Salem, Oregon

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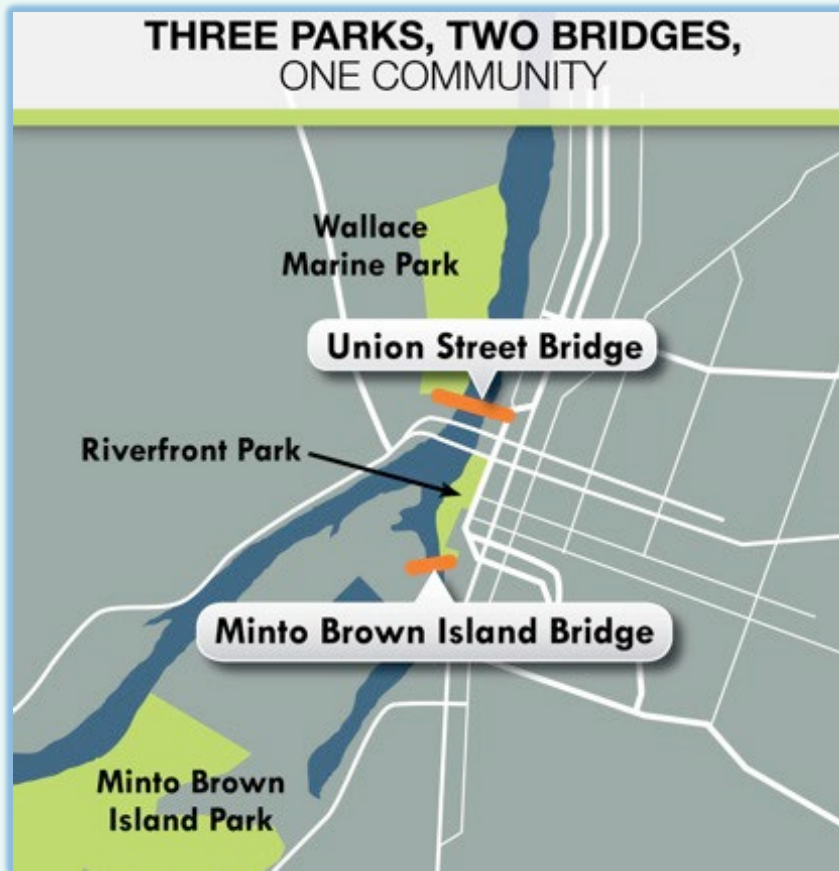
A DOWL LLC Company

Objectives and Topics

- Project Overview
- Bridge Configuration
- Fabrication Scanning
- Construction Scanning



Project Overview



Union Street Bridge



Minto Island Bridge



Project Overview

Riverfront Park Development Over the Decades



Project Overview

- Steel tied arch
- Post-tensioned concrete approaches



Project Overview



- Variable radius
- 25-degree tilt



- Unique plate orientations
- Radial suspenders

3D Scanning



Fabrication Scan

- Partnership with local provider
- Point cloud output
- CADD visualization
- Shipping after verification

Field Verification

- Verification of alignment before welding



Arch Placement

- Coordinate collection with total scan
- Position verification by engineers
- Scan the final location of the arches.

Arch Sections in Place



Basic Types of 3D Scanners for Surveying

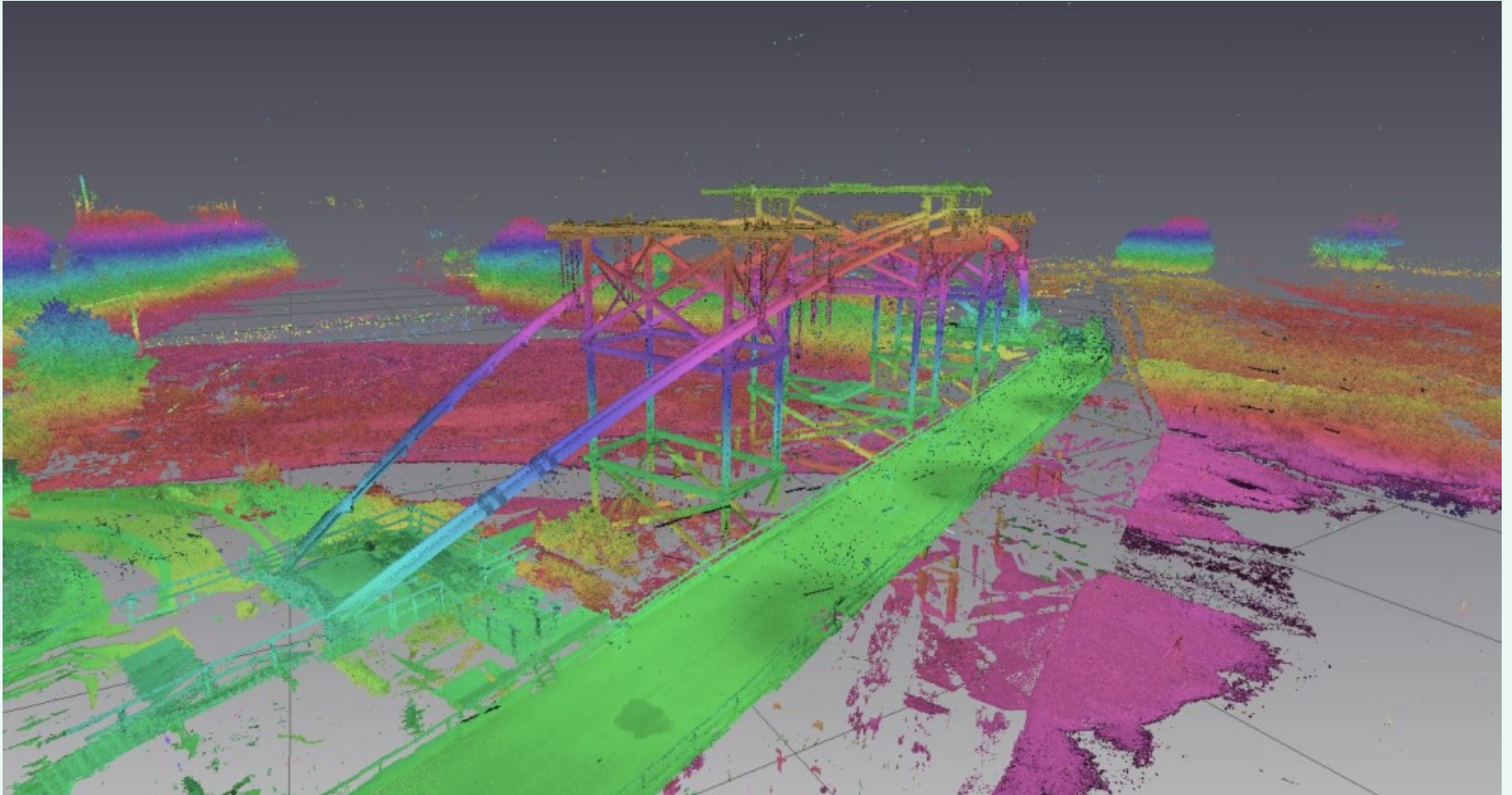
- Phase Based
- Time of Flight

Topcon GLS 2000 3D Laser Scanner

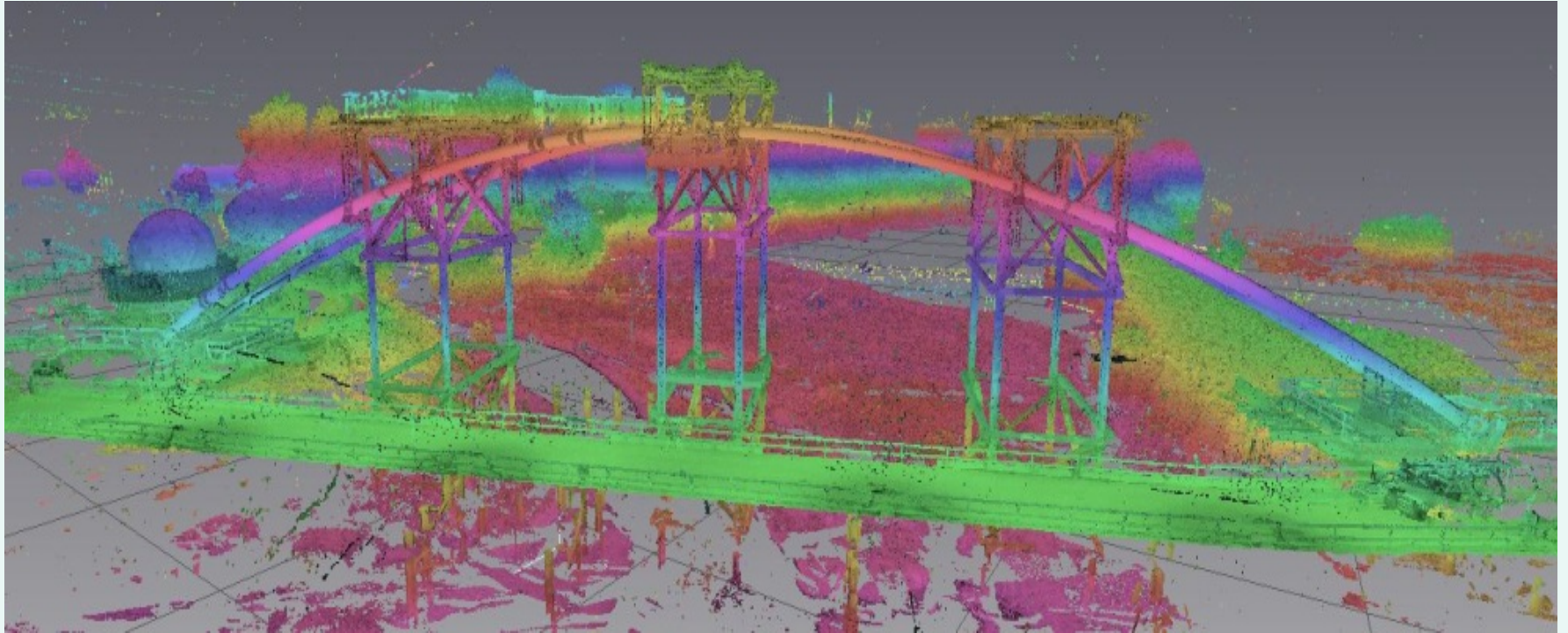
- 5MP color camera
- Set the field of view vs. 360° scan horizontally
- 270° field view vertically
- Scanning times vary



First Scan



First Scan



Questions?

