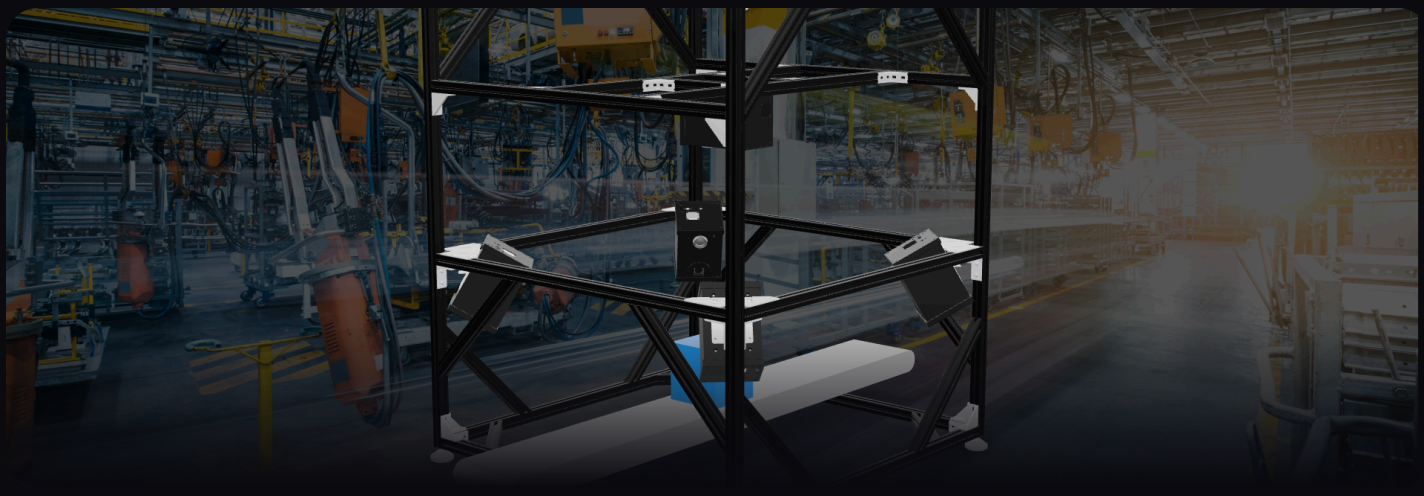

SPECIFICATION SHEET

DepthScan Inspection Cells

Five cell configurations. One software platform. From metrology lab to inline production. Choose the cell that fits the inspection problem; run the same recipes across any configuration.

5	30kg	6-axis
CELL CONFIGURATIONS	TURNTABLE PAYLOAD	ROBOT INTEGRATION

CELL TYPES OVERVIEW

CELL TYPE	CAMERAS	MOTION	DEPLOYMENT
Single DepthScan	1	Fixed mount	Inline / beside-line
Multi-DepthScan	2+	Fixed, multi-angle	Inline / beside-line
Turntable	1-2+	Automated rotation	Offline / lab
Robot-Mounted	1	6-axis robot	Beside-line / offline
Robot + Turntable	1 + TT	Robot + rotation	Beside-line / inline

CELL CONFIGURATIONS

Five Cells, One Platform

Single DepthScan

Recommended: High Speed FF | **Deployment:** Inline

Fixed-mount camera above or beside the production line. Part-optimized FOV at factory-calibrated working distance. One example setup: photoelectric trigger for conveyor synchronization with pass/fail signal to a diverter for automatic sorting - other trigger sources and downstream actions are supported.

- **Simplest integration, single-angle coverage**

Multi-DepthScan

Recommended: Fixed Focus or Auto Focus | **Cameras:** 2+

Multiple cameras at different angles for simultaneous capture. Extensible to any number of cameras through the Ajile software suite. Hardware or software triggering. Per-camera configuration (exposure, patterns, ROI). Point cloud stitching for 360 degree 3D model.

- **Full surface coverage without part repositioning**

Turntable

Recommended: Fixed Focus or Auto Focus | **Motion:** Automated rotation

Automated rotation with configurable positions. Single or multi-camera. Projector-based part fixturing (no physical fixtures required for some applications). 360 degree point cloud with full GD&T measurement capability.

- **CMM-like measurement capability at production speed**

Robot-Mounted

Recommended: Auto Focus | **Robot:** Rainbow RB10-1300

DepthScan mounted on a 6-axis robot end-of-arm. Auto Focus recommended for variable WD as the robot moves. CAD-based scan path planning. Coverage analysis for complex geometry. Wide low-res overview plus close-up high-res overlay on the same part.

- **Handles large parts and undercuts fixed cameras cannot reach**

Robot + Turntable

Recommended: Auto Focus | **Coverage:** 99%+

Coordinated 6-axis robot plus turntable rotation. Maximum surface coverage. All cell differentiators combined. Complex aerospace and medical geometries.

- **Most capable configuration for complex parts**

TURNTABLE SPECIFICATIONS

Two Platform Sizes

PARAMETER	LARGE PLATFORM	MEDIUM PLATFORM
Platform size	6 ft × 3 ft	30 in diameter
Max payload	30 kg	30 kg
Encoding accuracy	0.006°	0.006°
Fixture system	Reconfigurable fixture plates	Single fixture plate
Rotation positions	Configurable	Configurable

AJILE INSPECT SOFTWARE

Setup Mode. Execution Mode. Two Roles, Two Interfaces.

SETUP MODE

Metrology Engineer

- CAD-based inspection: import CAD model, define GD&T, save recipe
- Golden-model inspection: capture reference part, define measurements, save recipe
- Measurement tools: PolyWorks (bidirectional) or Ajile Analysis
- Recipe management: create, save, load, edit, delete
- Test inspection validates recipe before production release

EXECUTION MODE

Operator

- Simple interface: start, stop, pause, reset, status
- Serial number entry
- Optional PLC integration for fully automated operation (available as an integration service)
- Automated capture → measurement → pass/fail
- Per-feature pass/fail display with tolerances
- Batch workflow: next part, iterate, complete batch

REPORTING

Single-Part Report

Complete inspection report per part with all features, measurements, tolerances, pass/fail.

Batch Report

Per-part results plus Cp, Cpk, mean, and σ statistics across the batch.

Database Upload

Measurement data and reports uploaded to customer database for traceability and long-term storage. Available as an integration service.

INTEGRATION INTERFACES

INTERFACE	DESCRIPTION
PolyWorks	Full bidirectional - native DepthScan plugin + PolyWorks full control
PLC I/O	Start trigger, pass/fail output, busy status (configurable digital I/O). Available as an integration service.
Database	Measurement data and report upload. Available as an integration service.
Export formats	.ajpcd, .pcd, .ply, .stl, .txt, .pif
CAD import	CAD models supported
Projector	3D-registered reprojection directly onto the physical part - deviation maps, depth maps, and extracted feature measurements, perfectly aligned in 3D to the scanned surface

SERVICES

Onboarding
Initial setup and first recipe creation.

Custom Inspection Setup
Recipe creation for customer parts.

Recalibration
WD changes or additional WDs added to AF models.

Training
Operator, metrology engineer, and admin levels.

Custom Integration
PLC / MES / QMS, robot integration, custom workflows.

Custom Development
Bespoke ProcessFlow nodes and measurement routines.

GR&R Study
AIAG MSA 4th Edition measurement system analysis.

Annual Maintenance
Calibration verification and software updates.

COMPLIANCE & STANDARDS

AREA	STATUS
Accuracy verification	Verified per VDI/VDE 2634 Part 2 at 500 mm WD (FF). Additional certificates per camera / WD on request.
Traceability	Serial tracking, measurement data logging, batch reporting - designed for QMS integration
GR&R readiness	AIAG MSA 4th Edition study framework defined
CE marking	Component-level compliance. System CE on roadmap.

PARTNERSHIP PATH

DepthScan cells are deployed with customers directly, through channel partners, and as service capabilities at accredited metrology labs. Contact Ajile to scope the configuration, deployment model, and integration path that fits your operation.