



GUIDE



From 2D Drawings
to 3D Metrology



Click. Connect. Inspect.

Inspection planning doesn't struggle because teams lack experience.
It struggles because the process is disconnected.

The drawing lives in one place. The inspection plan in another.
Metrology builds something again downstream.
And every time that handoff happens, interpretation creeps in.

That's the problem High QA + PolyWorks was designed to solve, not by adding another layer, but by **connecting the process around structured, validated quality data from the start.**



It starts with structure, not files

At the center of this approach is a simple idea:
If your data isn't structured, nothing downstream can be consistent.
High QA takes the 2D drawing or 3D model and turns it into a structured inspection plan, not a reference, not a document... a working data set.

- Auto-ballooning happens in a single click
- GD&T, nominal values, and tolerances are extracted directly
- Requirements are captured into a **Bill of Characteristics (BoC)**

This isn't about speeding up ballooning alone. It's about ensuring that what's defined at the start is **exactly what carries forward.**
No spreadsheets. No re-entry. No reinterpretation. Once validated, that plan becomes the **single source of truth** across the entire workflow.



Remove the disconnect between quality and metrology

This is where most processes break. The same requirements get rebuilt in a different system, introducing risk without adding value.

With High QA Connect for PolyWorks, that step disappears.

- Characteristics transfer directly
- GD&T and tolerances move with them
- No manual transcription
- Discrepancies between 2D and 3D are flagged early

Metrology isn't recreating intent, they're working from it.

And inside PolyWorks:

- Feature-based prompts guide setup
- Datums are defined once and reused
- Patterned features are generated consistently

Everything stays aligned because it's all coming from the same structured foundation.



Build and execute without adding complexity

PolyWorks enable teams to move from plan to execution without introducing another layer of effort.

- Measurement strategies are defined visually
- Probing paths are generated automatically
- Simulation and collision detection are built in

No-code here isn't about simplifying capability, it's about removing unnecessary steps.

And with support across CMMs, portable arms, laser trackers, and scanning systems, the same plan moves across devices without needing to be rebuilt.



Revisions stay controlled, not reactive

Design changes don't need to trigger a reset.
Within High QA:

- Changes are clearly identified
- Updated tolerances and features are captured
- The BoC updates automatically

Those updates carry forward into PolyWorks:

- Existing features adjust
- New features are introduced where needed
- Sequences update without full rework

Because everything is connected through structured data, changes propagate cleanly – not manually.



Keep the digital thread intact

Inspection results don't sit in isolation.
They flow back into High QA and remain tied to the original design and inspection plan.

- SPC
- Nonconformance
- Reporting
- PPAP

This is what creates a true **digital quality thread** – where every step is connected, traceable, and consistent.





What this approach enables

- Upto **5× faster inspection planning**
- Elimination of manual transcription and interpretation
- A **single, validated source of truth**
- Built-in revision control
- Alignment across quality, engineering, and metrology

Not by adding more tools – but by ensuring everything works from the same foundation



Who this is for

Teams that need precision, traceability, and repeatability built into their process:

- Aerospace & Defense
- Automotive
- Medical device
- Industrial and precision manufacturing

Or any organization ready to move away from disconnected workflows.



The takeaway

Speed alone doesn't solve quality challenges.

Structure does.

When design, planning, and inspection are connected through structured data, everything downstream becomes more consistent, more accurate, and easier to manage.

That's what HighQA+ PolyWorks delivers.

Click. Connect. Inspect.