

Pragma3D

Next-Generation Software for Advanced Nondestructive Testing

Probe Design, Scan Planning, Ray Tracing, Visualization, Data Fusion, Analysis and Reporting

Pragma3D is the result of more than 25 years of experience in NDT. It creates a pathway to become the “SolidWorks® of NDT”, combining the ease of use of a modern CAD software GUI with advanced 3D features. The goal is to empower the entire NDT community, from NDT trainees to the most experienced Level IIIs.

Pragma3D makes data fusion a reality accessible to everyone, and spearheads the convergence of NDT with metrology, thanks to PRAGMA's strategic partnership with Hexagon®.

- **Simple, Intuitive GUI**

Workflow toolbars, tree structure, 3D workspace, integrated help and agent support.

- **CAD File Import/Export**

Import and export files in various formats like DXF, STEP, IGES, STL, OBJ, XYZ.

- **Pipe & Weld Wizard**

Create plates, pipes and welds simply with real-time parametric 3D view.

- **Meshing**

High-quality meshes can be created from any volumetric or surface primitive. Meshes can also be imported directly.

- **Data Mapping**

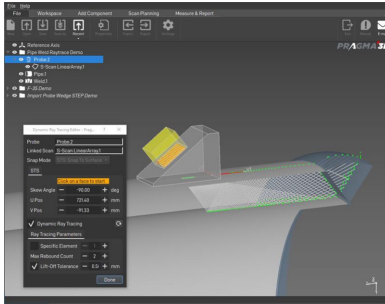
Gate Data and Volumetric Data can be mapped on meshes, surfaces or in the volume.

- **Analysis**

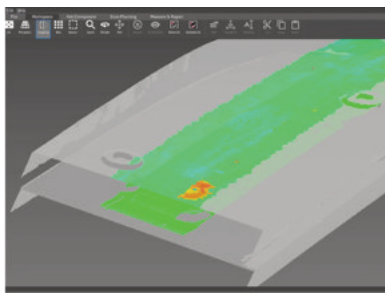
Moving cursors straight in 3D and synchronized with 2D traditional views. And vice-versa.

- **Reporting**

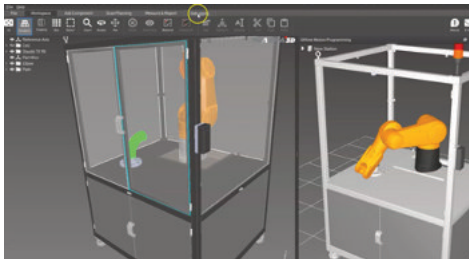
Template editing and saving reports in PDF, HTML. Also possible to connect with databases.



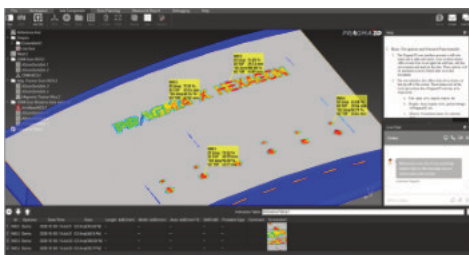
Our powerful 3D analytical engine allows for high-precision ray tracing simulations of UT/PAUT beams, focal law computation, coverage, etc. This is ideal for procedure and inspection development.



Pragma3D supports laser scans and meshing imports from various vendors, and point cloud can be imported/exported and even extracted from NDT data.



You can prepare your probe scanning on guides, then proceed with offline motion programming and execution with a robot or scanner.



Pragma3D allows for direct 3D measurements and tagging, just like in metrology software. A Table of Indications is automatically filled in as you go, ready for review and reporting at any time.

Computer Requirements

	Minimal	Recommended
Processor	Intel Core i3-7100 AMD Ryzen 5 1400	Intel Core i7-9700K AMD Ryzen 9 3900XT
RAM	2 GBytes, DDR3	64 GBytes, DDR4
Graphics	GPU with support for OpenGL 4.0 or above, with 1 GBytes memory	GPU with support for OpenGL 4.0 or above, with 4GBytes memory
Storage	10 GBytes Hard Disk (HDD)	1 TBytes Solid State (SSD)
Video Display	HD, 1920 x 1080 pixels 15 in. diagonal	8K UHD, 7680 x 4320 pixels >40 in. diagonal
Mouse/Trackpad	3-button	3-button with Scrollwheel
Touch	--	Multi-point gesture
Operating System	Windows 10 Home 64-bits Linux UBUNTU 18 LTS 64-bits	Windows 10 Pro 64-bit Linux UBUNTU 18 LTS 64-bits
Network for Remote File Access	WiFi 802.11a/g/n	1000BaseT or 10GBaseT
License	Node-locked Or Internet-based	Multi-User, Floating, Internet-Based
Max Data File Size	Limited by RAM or Windows 10 64-bits (16 TBytes)	

Import/Export File Formats

	Import	Export
CAD	STEP, IGES, DXF	STEP, IGES, DXF
Meshes	STL, OBJ	STL
Point Cloud	XYZ (SSV), PCD LAS (LIDAR)	XYZ (SSV), PCD LAS (LIDAR)
NDT Data	UT/PAUT: PragmaVu PGDAT ECT/ ECA: PragmaVu PGDAT FMC: Univ. of Bristol MFMC	
Other Inspection Data	Photographs (JPG, PNG) Videos (MP4, MOV, AVI) Procedures (PDF, HTML)	Reports (PDF, HTML)

Meshing Engine

Mesh Types	Supports meshing of 2D surfaces and 3D volumes Edge Base, Triangle or Quadrangle
Edge Length	User Adjustable, as small as 0.0001mm
Fineness	User Adjustable, very coarse to very fine
Other Parameters	Growth Rate, Nb.Segs per Edge, Nb.Segs per Radius, Optimize & Refine options

Data Mapping

Mapping	On Mesh, On Surface (CAD or Wizard), or Volumetric
UT/PAUT	TOF and Amplitude of all gates, absolute or relative Volume-Corrected Projections
ECT/ECA	Amplitude, Phase or Modulus
Data Fusion	No Limit, only limited by computer memory

3D Position Input Devices

Quadrature	1- or 2- axis quadrature encoders
Vision Tracker	NDI Polaris and Vega
CMM Arm	Hexagon (Romer) Arm, RA8 Series, 83xx, 85xx, 87xx
Laser Tracker	Hexagon (Leica) Tracker, AT960 with T-Mac or T-Probe
Laser Scanner	Hexagon (Leica) T-Scan, LAS or LAS+
Robot	KUKA, all models with KRC4 controller Stäubli, all models with CS8C (2nd generation) controller Stäubli, all models with CS9 controller Other models possibly supported – Contact us.
Cobot	Supported with custom effort – Contact us.