

Artec Leo

The world's first wireless,
AI-powered 3D scanner



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See your object in 3D directly on the HD display

Artec Leo makes 3D scanning as easy as shooting a video. See your 3D replica being built in real time on Leo's touch panel screen, and easily fill in any parts you may have missed.



Breakthrough speed, no targets needed

An 80 fps 3D reconstruction rate makes Artec Leo the fastest handheld 3D scanner on the market, while a wide field of view allows easy capture of large objects and scenes.

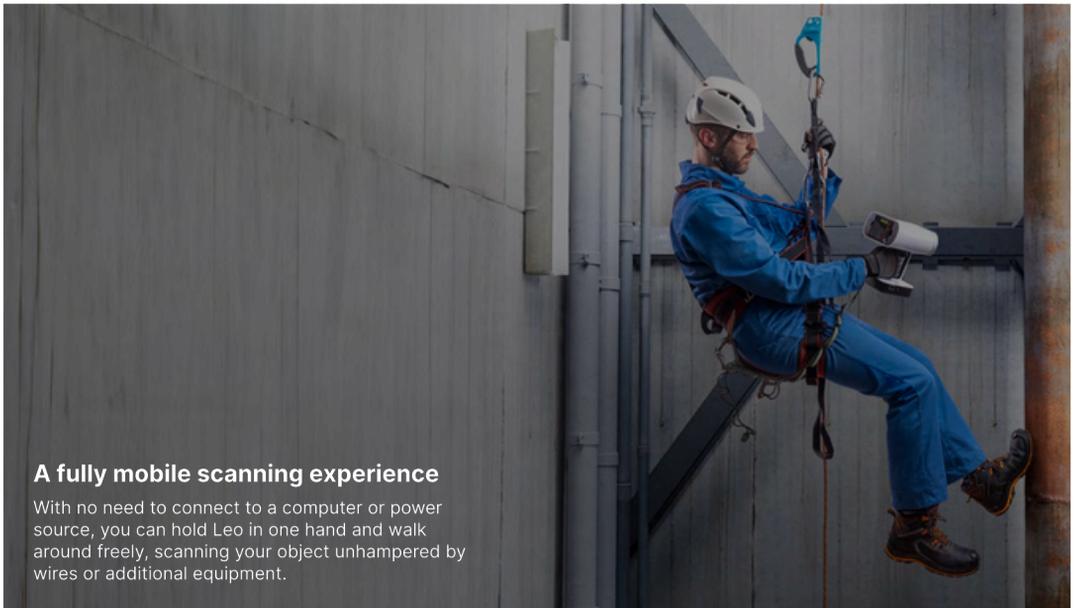


The smartest 3D scanner on the market

The AI-powered Artec Leo contains its own internal computer, the NVIDIA® Jetson™ TX2 platform, featuring Quad-core ARM® Cortex®-A57 MPCore CPU and NVIDIA Maxwell™ 1 TFLOPS GPU with 256 NVIDIA® CUDA® Cores, and a built-in 9 DoF inertial system.

A fully mobile scanning experience

With no need to connect to a computer or power source, you can hold Leo in one hand and walk around freely, scanning your object unhampered by wires or additional equipment.



Artec Leo

Processing

AI-powered HD Mode

Level up your Leo with HD Mode – powered by AI to allow deeper analyses of your data, your scanner provides high-quality, high-resolution capture of sharp edges and hard-to-reach surfaces.



Phototexture for true-to-life texture

For hyper realistic texture for your 3D model, you can combine high-accuracy data from your scanner with high-resolution DSLR images and get the best of both.



Scan a wide range of object sizes

With Artec Leo, you can scan anything from a car's full exterior to specific parts, a whole room or the machines it holds, a conveyor belt or the parts being produced.



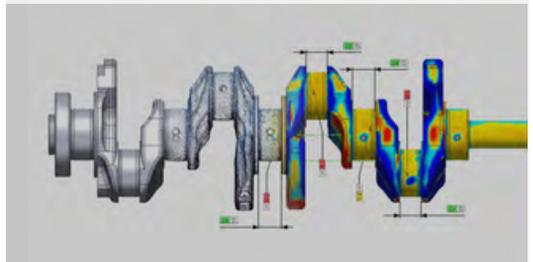
Unparalleled texture-to-geometry mapping

Leo features a unique optical system developed by Artec 3D, with the 3D camera and color camera combined for excellent texture and advanced texture-to-geometry mapping.



Applications

Leo's wireless functionality and internal processor allow for a wealth of integration possibilities and applications such as industrial manufacturing and quality control, healthcare, forensics, VR, and e-commerce.



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Specifications

Field of view

Working distance	0.35 – 1.2 m
Volume capture zone	160,000 cm ³
Linear field of view, H×W @ closest range	244 × 142 mm
Linear field of view, H×W @ furthest range	838 × 488 mm
Angular field of view, H×W	38.5 × 23°

Accuracy & resolution

3D resolution, up to	0.2 mm
3D point accuracy, up to	0.1 mm
3D accuracy over distance, up to	0.1 mm + 0.3 mm/m

Algorithms

HD Mode	Yes
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Texture

Texture resolution	2.3 mp
Colors	24 bpp

Capture rate

3D reconstruction rate for real-time fusion, up to	22 fps
3D reconstruction rate for 3D video recording, up to	44 fps
3D reconstruction rate for 3D video streaming, up to	80 fps
Data acquisition speed, up to	35 mln points/s
3D exposure time	0.0002 s
2D exposure time	0.0002 s

Light source

3D light source	VCSEL
2D light source	White 12 LED array

Hardware

Position sensors	Built-in 9 DoF inertial system
Display / touchscreen	Integrated 5.5" half HD, CTP. Optional Wi-Fi / Ethernet video streaming to external device
Multi-core processing	Embedded processors: NVIDIA® Jetson™ TX2Quad-core ARM® Cortex®-A57 MPCore Processor NVIDIA Maxwell™ 1 TFLOPS GPU with 256 NVIDIA® CUDA® Cores
Interface	Wi-Fi, Ethernet, SD card
Internal hard drive	512 GB SSD

Computer requirements

Supported OS	Scanning: No computer required Processing: Windows 8.1, 10 (x64), Windows 11
Recommended computer requirements	Intel Core i7 or i9, 64+ GB RAM, NVIDIA GPU with CUDA 6.0+ and 8+ GB VRAM
Minimum computer requirements (Please refer to www.artec3d.com for detailed hardware requirements.)	HD: Intel Core i7 or i9, 32 GB RAM, NVIDIA GPU with CUDA 6.0+ and at least 4 GB VRAM SD: Intel Core i5, i7 or i9, 32 GB RAM, GPU with 2 GB RAM
	Computer is needed only for data processing. Scanning does not require a computer.

Output formats

3D mesh formats	OBJ, PLY, WRL, STL, AOP, ASC, Disney PTX (PTEX), E57, XYZRGB
CAD formats	STEP, IGES, X_T
Formats for measurements	CSV, DXF, XML

Power source & dimensions

Power source	Built-in exchangeable battery, optional AC power
Dimensions, H×D×W	231 × 162 × 230 mm
Weight	2.6 kg (5.7 lb)