

# Artec Ray II

## Lightning-fast long-range 3D scanner for accurate digital twins



### Speed

Capture a full dome at highest resolution in 1 min 42 sec.



### Accuracy

Expect data with an uncompromising 3D point accuracy of 1.9 mm from 10 meters.



### Resolution

No details missed at a resolution of 3 mm at 10 meters.

## Brilliant texture

Detect even the smallest surface irregularities with Ray II's 36 MP 3-camera system, with brilliant HDR texture.



## Lifelike replicas

In heritage preservation, Ray II enables the recreation of every detail in true-to-life color.



## For critical evidence

In forensic applications, enhanced color accuracy facilitates identifying crucial evidence such as bloodstains.



## Portable and quick to set up

At just 5 kg including the tripod, Ray II 3D scanners need no targets and are ready for full setup in mere seconds.



## Onboard control

Fuss-free scanning is ensured with the intuitive Ray II – with basic features accessible on board, it's as simple as pressing a button, with no computer or other device needed.



## Automatic removal of moving objects

Forget about objects that enter or exit the scene – Ray II's smart auto-removal of moving objects keeps your data capture focused on exactly what you need.



## Continuous supply battery system

The 3D laser scanner Ray II comes with four hot-swappable batteries, so you can change the Li-Ion batteries and be good to go for up to four hours more, all without any downtime.



## Water and dust protection: IP54 (IEC 60529)

Your scanner is protected and your work kept safe with Ray II's water and dust protection, which ensures no particles or humidity get into your device.



## Remote scanning

When scanning something large, in an inaccessible location, or at a height you can't safely be on, control your scanner easily and from a distance with the Artec Remote App.

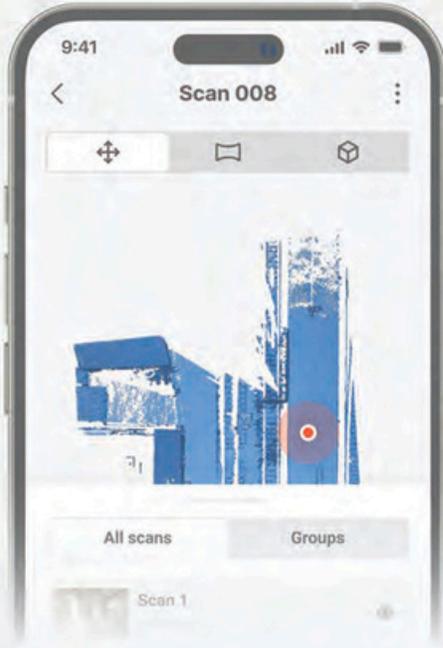


## Real-time registration on board

Track the scanner's movement in real time with feature tracking and advanced algorithms for intuitive 3D-space navigation including Ray II's Visual Inertial System (VIS), altimeter, compass, and Global Navigation Satellite System.

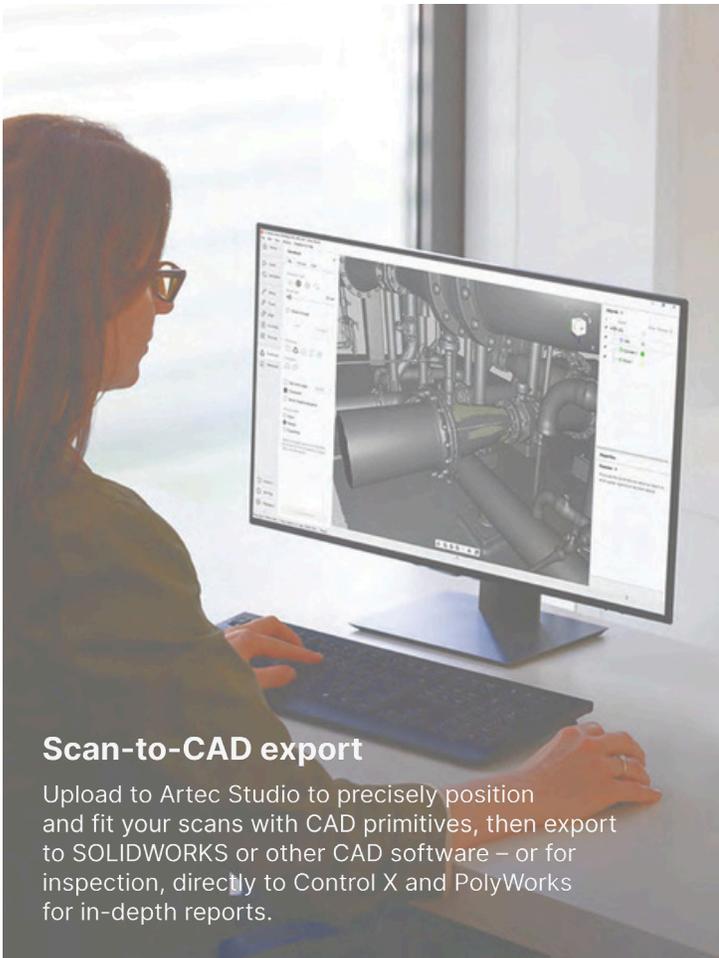
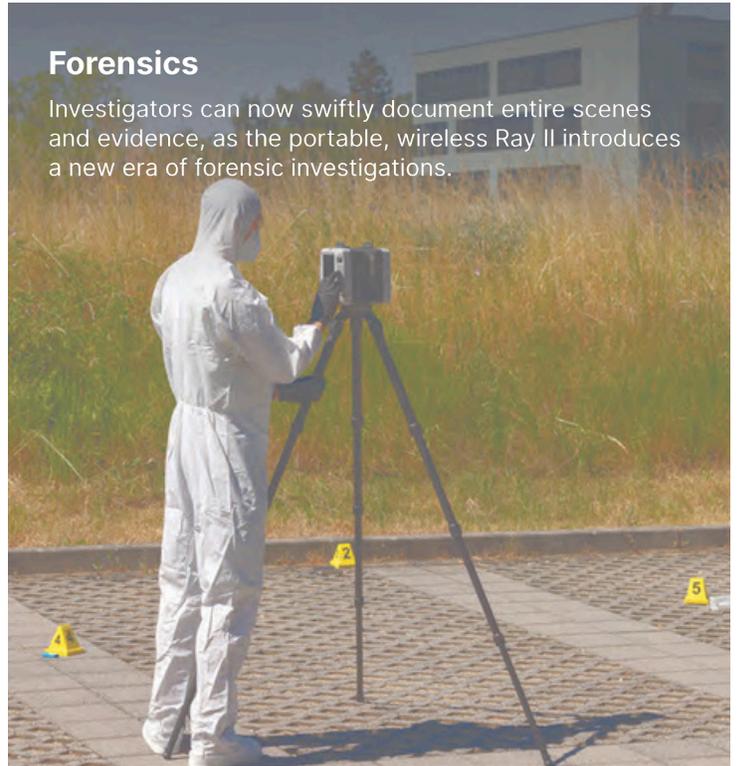
## Control remotely

With the Artec Remote App, scanning with Ray II couldn't be easier. Tap to scan using your tablet or smartphone, seamlessly manage your projects, connect directly with tech support, and more.



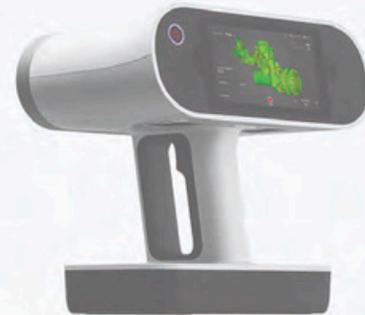
## Forensics

Investigators can now swiftly document entire scenes and evidence, as the portable, wireless Ray II introduces a new era of forensic investigations.



## Scan-to-CAD export

Upload to Artec Studio to precisely position and fit your scans with CAD primitives, then export to SOLIDWORKS or other CAD software – or for inspection, directly to Control X and PolyWorks for in-depth reports.



## Perfect match for Leo

Exceptionally well-suited for use with the wireless powerhouse Artec Leo, the duo can quickly capture large or even massive objects with rigorous accuracy and full coverage.



# Artec Studio

An all-in-one software for capturing, editing, and analyzing incredibly detailed digital twins

## Intuitive data capture

Artec Studio gives real-time scan feedback, so even newcomers can capture complete, detail-rich 3D models.

## Fast, automated processing

Ask Autopilot to process your data, or set up custom, automatic workflows that meet your exact needs.

## Built-in 3D modeling toolkit

Expert tools make it easy to align & fuse different datasets, then make essential edits for polished results.

## Top-class software integration

Seamlessly export to third-party software for access to more advanced reverse engineering and inspection tools.

## Convert point clouds to meshes

Quickly, easily turn Ray II point clouds into meshes for measurement, visualization, and integration into BIM workflows.

## Work with huge datasets

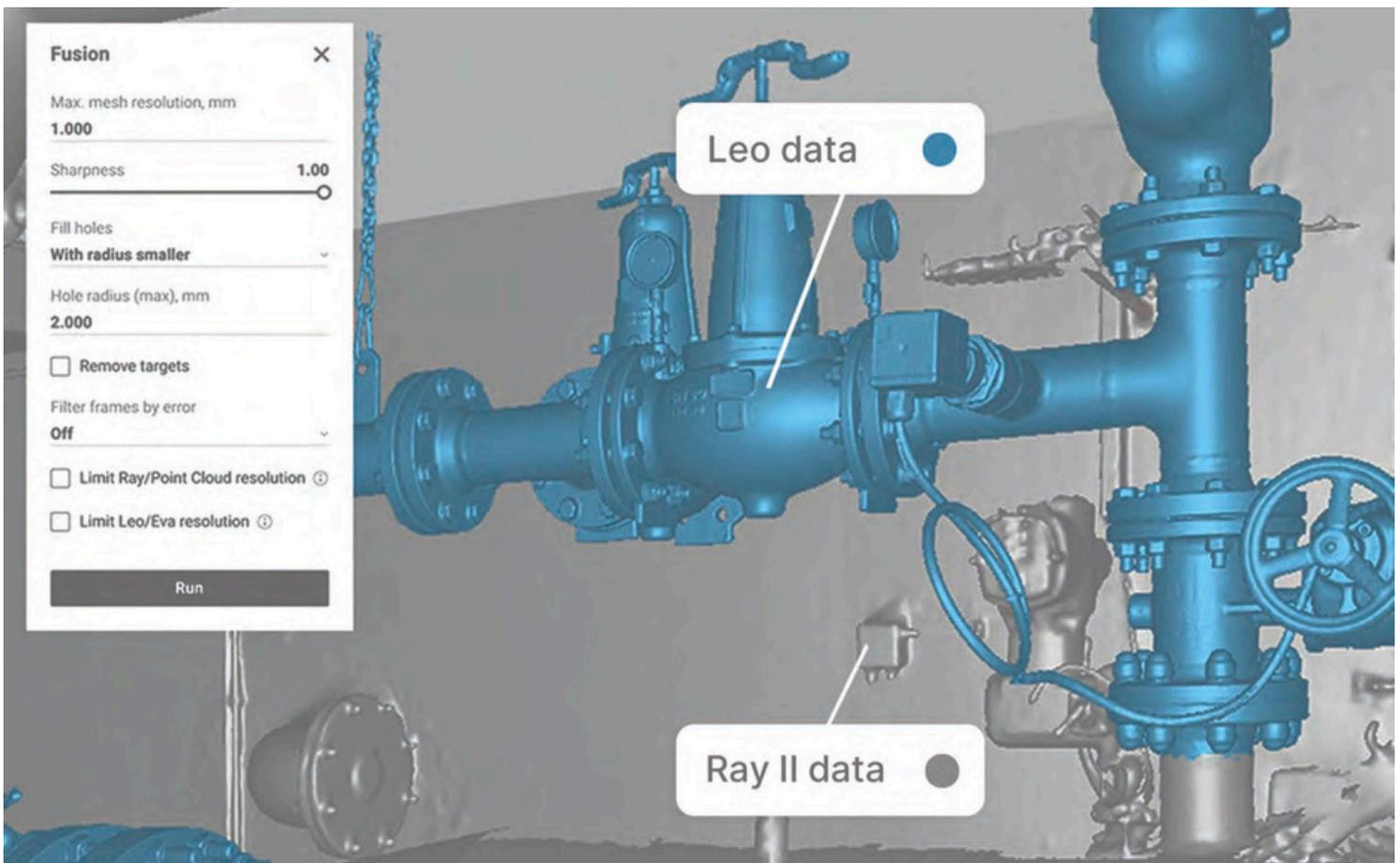
Artec Studio's advanced alignment & fusion tools make merging huge scans into 3D models incredibly easy.

## Combine different data types

Merge different types of scan & photogrammetry data for detailed 3D models on an unprecedented scale.

## Export industry-ready data

Seamlessly export captured data in industry-relevant file formats, ideal for use cases like BIM in construction.



# Artec Ray II

## Specifications

### Accuracy & resolution

3D point accuracy	1.9 mm @ 10 m 2.9 mm @ 20 m 5.3 mm @ 40 m
Angular accuracy	18" (0.87 mm @ 10 m)
Range accuracy	1.0 mm + 10 ppm
Resolution	3 / 6 / 12 mm @ 10 m
Range noise* **	0.4 mm @ 10 m 0.5 mm @ 20 m

### Field of view & range

Field of view	360° (horizontal) / 300° (vertical)
Range	0.5 - 130 m

### Speed

3D capture rate	Up to 2,000,000 pts/sec
Scanning time without texture @ 10 m	1 min 42 sec @ 3 mm resolution 51 sec @ 6 mm resolution 26 sec @ 12 mm resolution
Scanning time with texture @ 10 m	2 min 42 sec @ 3 mm resolution 1 min 51 sec @ 6 mm resolution 1 min 26 sec @ 12 mm resolution

### Color capture

Camera	36 MP 3-camera system captures 432 MPx raw data for calibrated 360° × 300° spherical image
HDR	Automatic, 5 brackets

### Operation

On scanner	Touchscreen control with finger touch, full-color WVGA graphic display 480 × 800 pixels
Mobile devices	Artec Remote app for iOS and Android tablets and smartphones including: <ul style="list-style-type: none"> <li>• Remote control of scan functions</li> <li>• Settings selection</li> <li>• Launch scanning</li> </ul>

### Algorithms

Real-time registration	Automatic point cloud alignment based on real time tracking of scanner movement between setups based on Visual Inertial System (VIS) by video enhanced inertial measurement unit
Automatic removal of moving objects	Delete captured data of moving objects using Double Scan
Check & Adjust	Field procedure for targetless checking of angular parameters

### Navigation sensors

Visual inertial systems	Video-enhanced inertial measuring system to track movement of the scanner position relative to the previous setup in real time
Tilt	IMU based, Accuracy: 18" (for upright and upside down setups with +/- 10° inclination)
Geolocation sensors	Altimeter, Compass, Global Navigation Satellite System

### Interfaces

Wireless	Integrated wireless LAN (802.11 b/g/n)
Data storage	AS256, 256 GB exchangeable USB 3.0 flash drive

### Hardware specifications

Scanning technology	Time of flight enhanced by Waveform Digitizing (WFD) technology
Laser class	1 (in accordance with IEC 60825-1:2014), 1550 nm (invisible)
Dimensions	120 mm × 240 mm × 230 mm / 4.7" × 9.4" × 9.1"
Weight	5.35 kg / 11.7 lbs, nominal (without batteries)
Mounting mechanism	Quick mounting on 5/8" stub on lightweight carbon tripod or tripod adapter

### Power

Internal battery	2 × AEB364 internal, rechargeable Li-Ion batteries Duration: Typically up to 4 hours. Weight: 340 gr. per battery
External	GEV282 AC adapter

### Environmental

Operating temperature	-5° to +40°C
Storage temperature	-40° to +70°C
Operating low temperatures***	-10° to +40°C
Dust/Humidity****	Solid particle/liquid ingress protection IP54 (IEC 60529)