

ART – ALWAYS THE RIGHT SOLUTION.

ART ▶



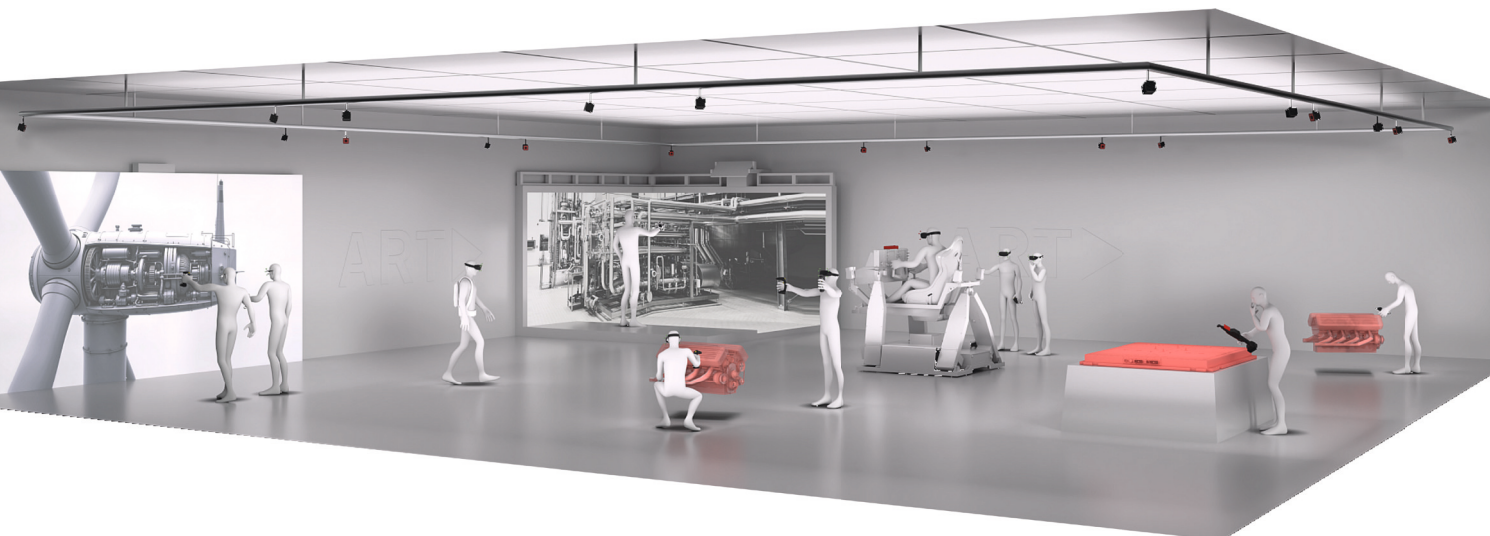
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Professional tracking technologies

DTRACK

VERPOSE®

CORE APPLICATION FIELDS



At ART, we deliver more than optical tracking - We turn complex 3D data into real-world value.

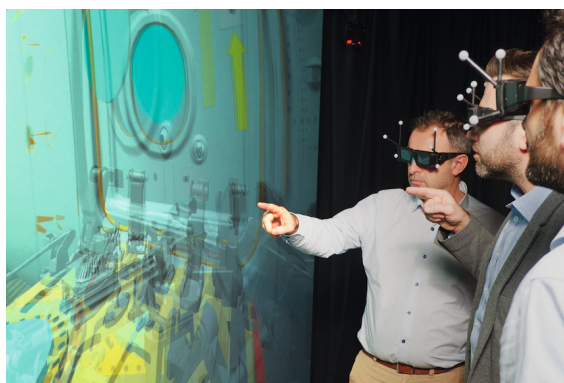
For 25+ years, we've helped leaders in automotive, aerospace, defense, and R&D bridge the gap between physical and digital worlds.

Our customers use our solutions across design, development, research, production, training, simulation, collaborative XR - and beyond.

Why not benefit from our expertise as well?

By combining the right technologies, we deliver a solution precisely tailored to your needs.

Learn about our main application fields!



Engineering

Industrial product design & prototyping

- | concept visualization & ideation
- | interior & cockpit development
- | virtual driving tests
- | HMI, UX & acceptance testing
- | autonomous driving (handover & trust)
- | automotive development: ergonomics, interior design, HMI

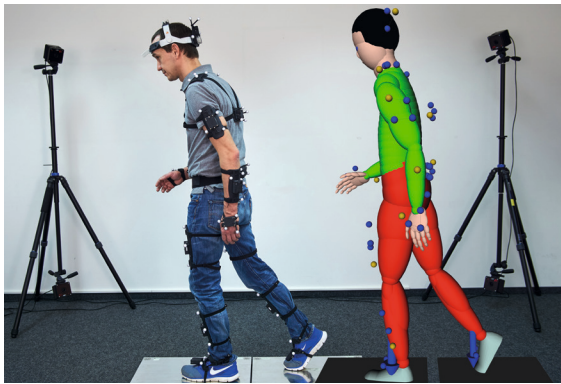


Simulation & Training

Immersive learning of skills and behaviour

- | technical & vocational training
- | safety training
- | soft skills training
- | virtual laboratories
- | employee training, single or in group

CORE APPLICATION FIELDS



Ergonomics

Half- or full-body tracking for Motion Analysis

- | workplace ergonomics assessment
- | reachability and accessibility studies
- | posture analysis and correction
- | human-robot collaboration
- | warehouse and logistics ergonomics



Building & Construction

Architecture, construction & real estate

- | construction planning and sequencing
- | virtual building walkthroughs
- | design reviews
- | interior design & lighting simulation
- | safety & evacuation scenarios
- | sales & Marketing presentations



Tool Tracking Technologies

Increase efficiency of assembly processes with robust and easy-to-use solutions:

- | avoid assembly mistakes
- | recognize critical positions
- | monitor assembly sequences

Manufacturing



Customized Solutions

Didn't find what you were looking for? Talk to us! We can customize products to fit many applications.



Contact us

PRODUCT PROGRAM

All solutions presented in this overview are built upon one of our two core technology platforms, **DTRACK** or **VERPOSE®**, which serve as the foundation for delivering precise, reliable, and immersive applications.

For selected applications, the strengths of **both technologies can be seamlessly combined**, enabling us to deliver enhanced performance, greater flexibility, and maximum value for our customers.



DTRACK

DTRACK is our central tracking software, the heart of any marker based optical ART tracking system. Compatible with DTRACK, ART offers a broad range of optical tracking cameras, interaction devices, markers, targets and complementary software. These products have been continuously developed and refined for more than 25 years, and installed in over 3000 systems all over the world.

VERPOSE®

VERPOSE® is a camera-based system for hand-held assembly tools. Its intelligent image analysis software detects predefined assembly positions. Even more: in connection with VERPOSE, the production software can ensure that assembly sequences will be correctly performed.



PRODUCTS IN CONNECTION WITH THE SOFTWARE DTRACK

Optical tracking is our original business: for more than 25 years now, ART is a leading manufacturer of high-end optical tracking cameras, interaction devices, markers and targets as well as backend and frontend software, sold and installed in many systems all over the world.

For a long time Virtual, Augmented and Extended Reality (VR/ AR/XR) have been the main application areas, but ART

tracking systems can do more than that: wherever precise and reliable tracking of objects or human beings is needed, ART optical tracking technology can be helpful in many parts of the product developing process, in analysis and research as well as in various other professional scenarios.

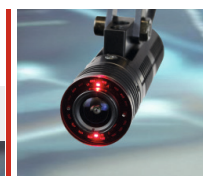
Main industry fields such as the automotive, aerospace or shipbuilding industry have been profiting from those for many years.

Tracking Software

DTRACK4

for Windows 10/11

- | running directly on your **Windows 10/11** based computer, no extra Controller needed
- | streamlined for **simplicity, speed** and significant **cost savings**
- | fully optimized for ARTTRACK6/M, AT7-50 and AT7-80 cameras
- | many functionalities - for professional users, e.g. **3D monitor** and **room co-ordinate transformation**
- | **USE CASES:** dedicated to marker-based tracking applications



Tracking Cameras

AT7-80

High precision tracking camera for large scale tracking

- | **larger tracking volume** – fewer cameras per volume needed
- | **very long tracking range** – up to 21m larger areas without overhead camera mounting
- | **enhanced flash intensity** – allows **tracking of smaller targets**
- | **precise and reliable tracking** in proven ART quality
- | **USE CASES:** large scale, immersive tracking areas, e.g. HMD arenas, car clinics, virtual film productions, Powerwalls, precise measuring tasks, simulation & training ...



AT7-80 – optimized for HMD arenas, large Powerwalls, training and maintenance simulation as well as for precise measuring tasks.



PRODUCTS IN CONNECTION WITH THE SOFTWARE DTRACK

AT7-50

Powerful performance. Compact Design. Smart Price.

- | **ideal for** Powerwalls, CAVEs, or HMD arenas
- | **long tracking range** – up to 17 m
- | **ultra-smooth performance** – 270 Hz (up to 500 Hz max)
- | can be used as **complements in existing AT7-80 systems** – to enhance coverage in occluded areas and room corners
- | **USE CASES:** Powerwalls, CAVEs, HMD arenas, combination with AT7-80 systems, training & simulation, seating bucks, robotics, drone tracking ...



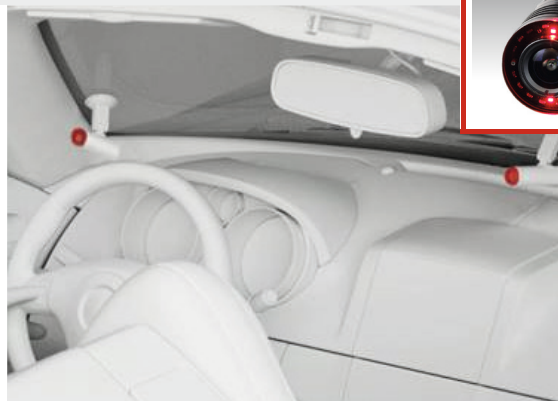
AT7-50 – precise, efficient, and budget-friendly



ARTTRACK6/M

is one of the **world's smallest** and also **very fast** and **accurate** optical motion tracking cameras.

- | **compact size** ideal for in car tracking or aircraft cockpits
- | **high speed** – high frame rate for tracking of fast moving objects, up to 500 Hz
- | **low latency** – for increased interactivity and improved VR experience
- | **tracks from very short to long distances** – under 30 cm up to 4 meter
- | **super-wide field of view** for integration in constricted areas
- | **USE CASES:** for tracking in restricted compartments, e.g. cockpits, incar, vehicle interior mockups



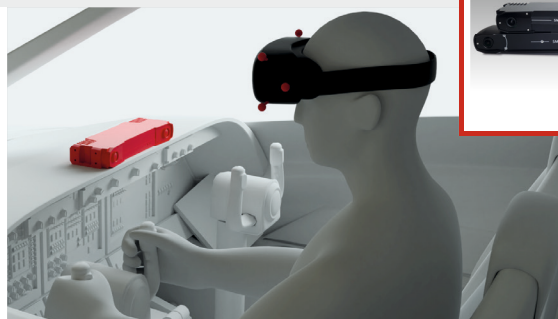
ARTTRACK6/M – the **ideal camera** for medium sized tracking volumes and **tracking inside limited spaces**



SMARTTRACK3 & SMARTTRACK3/M

Plug & play tracking solution for small volumes

- | **2 cameras and integrated controller** – no separate controller needed
- | **plug & play** – already precalibrated
- | **mobile system** – easily transportable
- | **precise in small tracking areas** up to 2x2 meters
- | **cascading possible** – combine two SMARTTRACKs
- | **small and quick** – with up to 240 Hz, and low latency <10 ms
- | **SMARTTRACK3/M:** compact size – for restricted building space
- | **USE CASES:** headtracking, small tracking areas, incar applications, staff training in front of a stereo TV or with HMDs



SMARTTRACK3 – largest field of view of any compact tracking solution



PRODUCTS IN CONNECTION WITH THE SOFTWARE DTRACK

Peripherals

Head Mounted Displays (HMDs)

Enhance the immersive and intuitive visualization devices with high-precision outside-in tracking

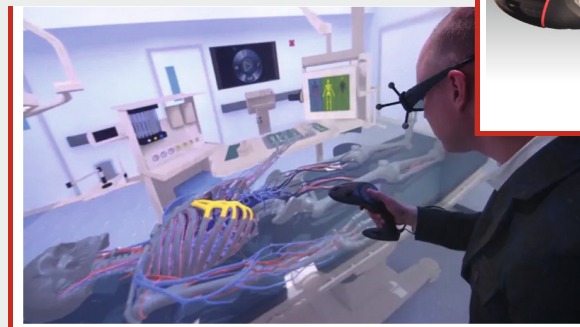
- | **more precision** and **lower latency** provide a noticeably more realistic user experience
- | **multi-users** can interact across the world
- | each user has his/her **own perspective**
- | combine **HMD with IMU** for an even advanced performance (e.g. LPVR)
- | **interfaces to many HMD models** available



Flystick2+

Your PLUS for interaction

- | **audio-** and **vibro-tactile feedback**
- | **joystick** & easy **trigger** via button
- | easily replaceable and exchangeable cones – **for different applications**
- | **USB type C** charging support



Fingertracking

With the world's highest fingertip accuracy

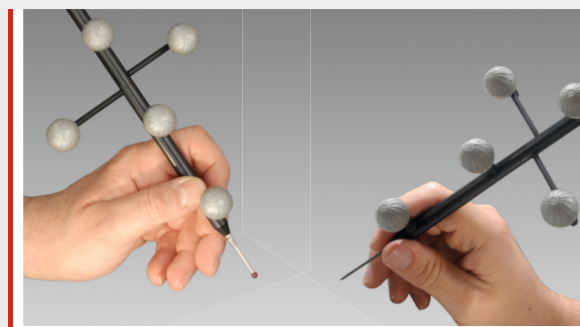
- | **wireless**
- | for one or two hands (4 hands with 2 users)
- | 5finger pure / or 3finger with tactile feedback
- | **LEDs on fingertip** – unique ART feature
- | **numerous third-party software** supported



Measurement Tool

For high-precise point measurements

- | can be equipped with **different measurement tips**
- | the tip position is **measured in the room coordinate system**
- | optionally the tool can calculate the position relative to a **“reference body”**



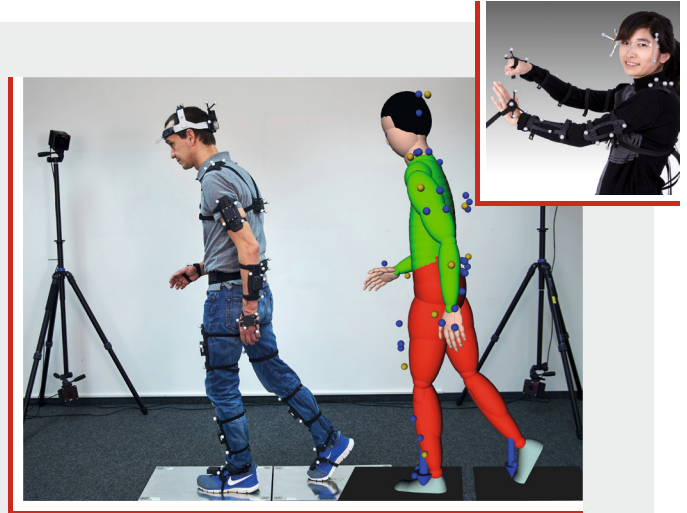
PRODUCTS IN CONNECTION WITH THE SOFTWARE DTRACK

Markers & Targets

Motion Capture

Digitizing of movements

- | no lycra body suit needed – **worn over normal clothes**
- | **move freely** – when wearing the targets
- | very robust – with tough, coated markers
- | adaptable – to all human body sizes
- | **optical and hybrid solution** available
- | ideal for **ergonomic analysis**
- | add accurate tracking of fingers – with the ART Fingertracking system

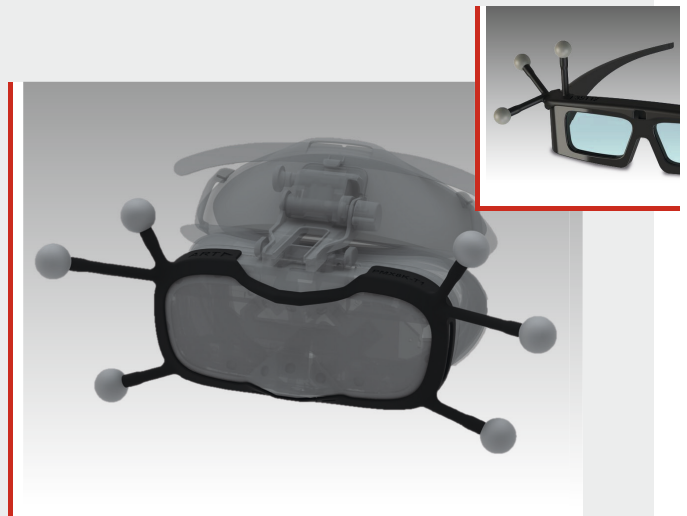


Targets

Many geometries, also customized

Targets consists of several markers (minimum 4), and provide 6DOF (degrees of freedom) data. We offer passive and active types, standard and also customized geometries.

- | passive reflective
 - | glasses targets
 - | one size fits all (generic targets)
 - | hand & tree targets
- | active LED
 - | call us to discuss your custom requirement
 - | evaluation kit available



Markers

Active and passive versions available

- | spherical
- | coated spherical
- | flat (i.e. stickers)
- | single LED markers:
 - | short range



PRODUCTS IN CONNECTION WITH THE SOFTWARE DTRACK

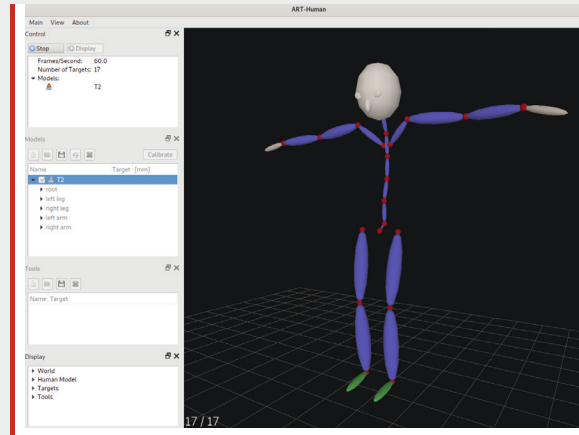
Add-Ons

ART-Human

Motion capture assistance tool

- | full inverse kinematics of human skeleton model
- | simple calibration procedure with fast automatic bone length calibration (<1 min)
- | use of 6DOF optical tracking targets

ART-Human can deliver both, real-time and recorded motion data for various application software.



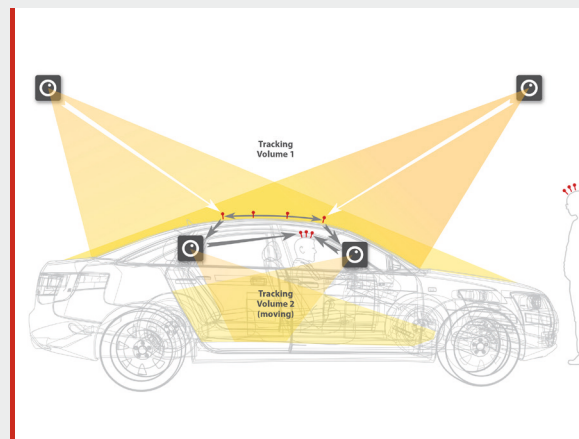
ART Satellite Merger

Tracking inside occluded compartments

The ART Satellite Merger combines two tracking systems:

- | a primary system covering the entire tracking volume
- | a sub system tracking inside the compartment

Both data streams are seamlessly merged, providing all tracking data in a single global coordinate system.



SDK & Interfaces

Connectivity of ART software products

ART tracking systems integrate easily with VR and AR applications via the DTRACK SDK. Direct interfaces are available for many VR platforms.

- | free DTRACK plugins for Unity and Unreal Engine
- | Dedicated VERPOSE API for TCP/IP-based communication with VERPOSE
- | Free downloads and developer resources available from ART



Unity Asset Store



Open UPM



ART GitHub



ART compatibilities

TOOL TRACKING SOLUTIONS



Always the right position.

Do you already benefit from **Tool Tracking systems** in your production process? Are you aware of how valuable they can be, because they can **optimize your assembly sequences** and thus **save you time and money**?

Depending on the customer's requirements we offer the appropriate and most successful solution for your assembly processes:

TOOL TRACKING

WITH DTRACK

Marker-based tool tracking

- | for table-like assembly situations
- | identifies critical tool positions
- | very variable as target can be mounted easily on any tool
- | even the workpiece can be moved
- | several devices can be tracked in the same area



Main integrated product: SMARTTRACK3

DTRACK localization systems offer a passive way to track hand held tools. SMARTTRACK3 identifies critical positions of screws and enables data driven decisions to optimize the quality and the workflow.

Key features

- | IR based passive tags, no energy or charging time required
- | multiple tools can be tracked with one SMARTTRACK device
- | standard real-time output with configurable tolerances
- | can be expanded to bigger areas with multiple cameras
- | automatic detection of tool bit length

TOOL TRACKING

WITH VERPOSE

The Smart Localization

- | camera on the tool detects critical positions
- | system enables monitoring of correct sequences
- | no line-of-sight problems
- | AI software recognizes (screw) positions accurately and robustly



Main integrated product: SMARTTRACK3

VERPOSE is a camera-based system for hand-held assembly tools (electrical screw-drivers, riveting tools, clinching pliers, filling devices and other special tools).

Key features

- | tool-mounted design: no line-of-sight constraints
- | adaptable to any tool
- | fast setup & short training time
- | cableless VERPOSE/TI is also available



VERPOSE®/TI

TOOL TRACKING SOLUTIONS

Application Fields



Manual assembly station

- | stable parts position (no stop during assembly)
- | table arrangement
- | direct view onto the assembly areas



Table top assembly

- | parts stop during assembly or
- | parts move slowly
- | table arrangement
- | direct view onto the assembly areas



Production Line

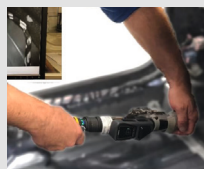
- | continuous flow or stop/go process line
- | overhead position
- | inside car assembly
- | no direct view onto the assembly areas

DTRACK

VERPOSE

Optimize your production process by localizing tools, documenting work steps and avoiding errors

- | optimally suited for critical fixations in series assembly, e.g.
 - | assembly and installation of battery modules
 - | safeguarding the critical electrical screw connections
 - | seat pre-assembly and installation
- | usable with any manual tool in production



Mountable on any kind of hand-held tool



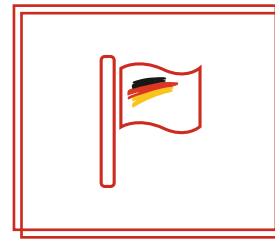
Watch Tool Tracking video

Your expert for optical tracking and innovative object localization

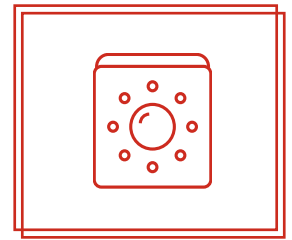
Founded in 1999, Advanced Realtime Tracking GmbH & Co. KG is a **leading provider of premium optical motion tracking systems** for Virtual and Extended Reality (VR/XR). ART solutions are trusted by global industrial leaders - including companies in the automotive and aviation sectors - as well as by research institutes and universities worldwide.

We address the growing demand for optimized manufacturing and assembly processes with our advanced localization technology for Tool Tracking. Highly adaptable and efficient, our solutions help customers streamline workflows, increase productivity, and reduce both time and operational costs.

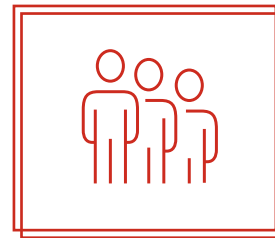
All ART products are highly precise, reliable in use and can be customized.



Made in Germany



> 11,000 cameras sold



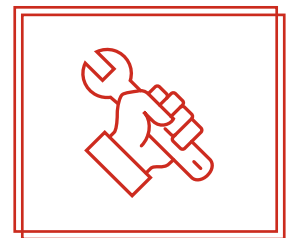
26 employees



>100 partners
in our network



> 450 clients in
> 42 countries



> 3,000 installations

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