



# THE GLOBAL MEASUREMENT LEADER

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European Standards

  
German Craftsmanship

  
Professional Team

  
Service System



# A

## About PMT

TOP1

Customer Response Rate

28%

R&D Investment

45%

R&D Personnel



## Company

PMT is a high-tech company specialized in measurement technology. With fully independent capabilities in research, development, and production, PMT has gained abundant experience in different fields for years, including portable measurement, optical measurement and encoder. We follow European standards in research, development and production, and always act on the idea of cutting-edge technologies. We carry forward the spirit of craftsmanship from Germany, and control the product quality to the best of our ability.

PMT has been promoting a high quality development with innovation and technologies in global measurement field. For the past 20 years, PMT has been deeply rooted in this field, and obtained many patents for its core technologies. PMT prioritizes its commitment to research and development, and keeps investing huge amount of money in pursuing long-term cooperation with world-class research institutes and expanding its technology bases. With support from the Darmstadt University of Technology, PMT has achieved product authentications by European standards.

PMT has set up research centers in China, Germany and Japan. In China, we have production bases in Suzhou. We have also broadened our sales service network to cover China's major industrial cities with the aim at providing prompt and professional technical support.

Looking ahead, spearheaded by technological innovation, PMT will stay committed to the mission of making measurement more accurate and professional. Together, we will step up efforts to create values, make progress, and beat customer's expectation. All these efforts are aimed at fulfilling our strategic goals and social values in the long run.





## Our Vision

The Global Measurement Leader



## Our Mission

Make Measurement More Accurate and Professional



## Our Value

Customer First,  
Full Commitment and Sustainable Innovation

**Perfect** Measurement Technology is not only  
**Precise** Measurement Technology, but also  
**Professional** Measurement Technology.

## Culture

The logo simply but powerfully depicts the meaning of PMT. P means Precise, Professional and Perfect. The dot on the P can be precisely embedded in the center of the T, which shows our unremitting pursuit of precision technology.



The T consists of three rulers, which means we work in the field of 3D metrology. PMT uses vigorous orange and tranquil blue in logo to express its strong determination on precision and portable measurement technology.

# Honor

## Patent Certificates



- Protective Structure for Circular Grating
- Maintenance Equipment for 6-Axis Measuring Arm
- Fixture for Circular Grating
- A Spring-type 3mm Contact Probe
- A Stable Mounted Base for 6-Axis Measuring Arm
- Articulated Arm-measuring Machine Based on Laser Scanning (PMT ScanArm)
- A Self-weight Balancing Mechanism of a Measuring Arm Using Electromagnetic Spring
- A Lightweight Wearable Measuring Arm Based on the Principle of Laser Tracking
- Balance Mechanism and Measuring Equipment
- A Cross-line 3D Camera and Modeling Method
- A Test Bench for Single Degree-of-freedom Articulated Arm Motion
- A Fixture for Testing the Number of Fatigue Fractures of Torsional Springs
- Method of Determining the 3D Coordinates of Measured Objects
- An Ultra-low-power Device Impact Detection Method
- A Tooling for Fixing Special-shaped Structural Parts
- Calibration Method and System of Measuring Device
- A Tooling for Fixing Non-magnetic Materials
- .....



ISO Certificate

Contact Measurement (Arm):  
In accordance with ISO 10360-12;  
Non-Contact Measurement (ScanArm):  
In accordance with ISO 10360-8.



Complies with the following EC Directives

2014/53/EU Radio Equipment Directive;  
2014/32/EU Measuring Instruments Directive;  
Shock and Vibrations Testing per International Electrotechnical Commission (IEC) Standard: IEC 60068-2-6;  
Extreme Temperature Cycling (-20°C to 60°C ).  
Based on: IEC 60068-2-1.



RoHS

Complies with the RoHS Directive 2011/65/EU Annex II amending Annex (EU) 2015/863 of CE Directive.



IP5X Dust proof: PASS; IPX4 Water proof: PASS



CAM3 Metrology Software

## High-Growth and Achievements



Leading Talent Corporation

Potential Unicorn Enterprise(2024)

Gazelle Enterprise(2023)

National High-Tech Enterprise

Suzhou Multi-Axis Laser Flexible Articulated Arm System Engineering Technology Research Institute (according to the Suzhou Science and Technology Bureau)

|                |      |            |       |       |      |               |         |            |        |
|----------------|------|------------|-------|-------|------|---------------|---------|------------|--------|
| China ARCHIVES | AVIC | AECC       | CASC  | CASIC | CNNC | Taiyuan Metro | LiuGong | BaoWu      | CETC   |
| BYD            | GAC  | Great Wall | Geely | SAIC  | FAW  | Dongfeng      | Autoliv | BorgWarner | CATARC |

### ▲ Major Customers

# Worldwide

PMT has expanded its business into more than 50 countries in six continents



Statistics as of November 2024

## Five Solution Centers

PMT China (Operating Headquarters)  
South China Solution Center  
North China Solution Center  
Northeast China Solution Center  
Korea Solution Center

## Three R&D Centers

PMT CHINA R&D Center  
PMT GERMANY (R&D Center)  
PMT JAPAN (R&D Center)

**1000+**  
Customers

**200+**  
Distributors

**50+**  
Countries and Regions

# B Product



- 

Portable  
Measuring ARM
- 

Coordinate  
Measuring Machine
- 

3D  
Software
- 

High  
Accuracy Encoder

# Portable Measuring ARM

## PMT GAMMA

With independent technology at its core, PMT portable arm features portability, easy operation, and detection anytime and anywhere.

The PMT GAMMA series arm is regarded as the revolutionary benchmark in the field of portable measurement. With the simple dual suspension support structure design, this series boasts higher precision, greater stability and smarter functions. Designed with the world's first external decoupling and built-in balancing mechanism, GAMMA portable arm features high performance, great flexibility and reduced joint loads, bringing users the perfect measurement experience. Its smart sensing probe system can meet diverse inspection needs.



GAMMA<sup>P</sup> Series



GAMMA<sup>M</sup> Series



GAMMA<sup>E</sup> Series

### World's First



### Test and Accuracy Verification

Each PMT's arm has passed rigorous tests such as Extreme Temperature Cycling (−20°C~60°C) and Shock and Vibration Testing per International Electrotechnical Commission (IEC) Standard. In accordance with ISO10360, PMT measuring arm has passed strict accuracy verification, ensuring the consistency of precision and reliability of the measurements in various environments.



### GAMMA P 6/7/8 AXES+GH/GS Series

#### Ultra-high Precision and Premium Performance

The Flagship PMT GAMMA P is available in 6-axis and 7-axis models. It has 7 specifications with the measuring range covering 1.5 to 4.5 meters. It supports an 8-axis rotary worktable and both 7-axis and 8-axis can be installed with GH/GS scanning head, providing the best consistency and reliability in measurements in any working environment. With the premium accuracy and excellent performance, GAMMA P helps ensure customer's leading position in quality control.

### GAMMA M 6/7/8 AXES+GH/GS Series

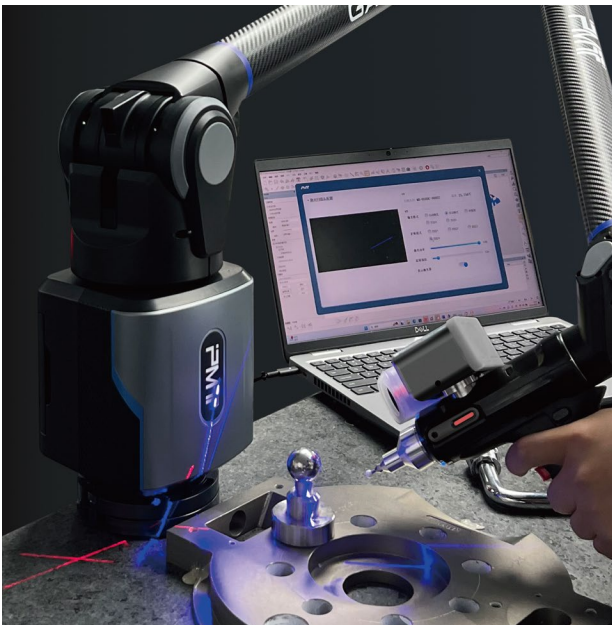
#### High-tech and Cost-effective Solution

The Standard PMT GAMMA M is available in 6-axis and 7-axis models, featuring enhanced flexibility and efficiency. The 7-axis model can be installed with GH/GS scanning head and is compatible with an 8-axis rotary worktable. It is the best choice for customers who seek stable, reliable and reasonably priced inspection solution at shop floor.

### GAMMA E 6/7/8 AXES+GH/GS Series

#### The Most Economic Choice for Measurement

The Economic PMT GAMMA E is the value-for-money choice for companies who are looking for cost-effective solutions. It is reliable and easy to operate, providing guarantee for high-quality production.





GAMMA<sup>P</sup> 6/7/8 AXES+GH/GS Series  
GAMMA<sup>M</sup> 6/7/8 AXES+GH/GS Series  
GAMMA<sup>E</sup> 6/7/8 AXES+GH/GS Series

Temp Monitor

Simulated Mouse

Tilt Diagnosis

External Synchronization Mode

Device Drivers

New Features

External Decoupling and Internal Balancing System

- Greater 「Stability」
- Better 「Balance」
- Lighter 「Weight」
- Lower 「Deformation and Cost」



Dual Suspension Support Structure

Greater 「Stability」

8-Axis Rotary Worktable

Increase Efficiency by 「40%」  
Reduce Measuring Dead Zone



Smart Sensing Probe System

Integrated Smart Probe, Quick Installation Without Recalibration  
Compatible with Versatile Probe System

Four-jaw Quick-Mount Base Collar

「Double Handle」  
Easier Installation and Dismantling



GAMMA SCANNER

- ◆ New Force-Isolation Design
- ◆ Optimized Structural Design
- ◆ Optimized Optical Design
- ◆ Eye-protection Mode
- ◆ 90-degree Elevated Scanning
- ◆ Advanced Thermal Management System
- ◆ Multiple Scanning Modes



Choose your GAMMA blue laser scanner for your GAMMA series arm.

PMT's GAMMA SCANNER features an optimized optical design that ensures more stable scanning accuracy. The scanning mode can easily cope with various complex usage scenarios and cover all required features. It helps solve the bottlenecks that traditional contact probes face, such as being unable to precisely measure the dimensions of massive special-shaped workpieces, while maintaining optimal function.

PMT Portable Measurement Arm has shown significant advantages in the field of tooling inspection and adjustment. Its high-precision measurement capability and excellent stability ensure the accurate positioning and adjustment of tooling equipment, effectively enhancing production efficiency and product quality. Therefore, it has become an indispensable and efficient tool in such field.

Portable Measuring ARM

PMT ALPHA

Internal Counterbalance System

Equi-arm Design

Temperature Compensation System

Dual High Performance Batteries

High-speed Wi-Fi Performance

Retractable Lifting Handle

ALPHA<sup>EDU</sup> 6/7 AXES+HD/SD Series

Best Choice for the Education Sector

PMT ALPHA<sup>EDU</sup> is designed for educational institutions, aiming to provide colleges with optimized teaching methods at affordable prices. There are different measuring ranges and machine models available for students to choose. PMT ALPHA<sup>EDU</sup> series is available in 6-axis and 7-axis models and 7-axis model can be installed with HD/SD scanning head, enabling students to fully understand the theory and application of portable measurement technology and improving their competitiveness outside the campus. At present, PMT has joined hands with top universities and vocational schools to embark on a new journey of bringing together firms, universities, and research institutes to engage in cross-field and in-depth cooperation.



# Coordinate Measuring Machine

- ▶ FUTURE Series Bridge CMM
- ▶ PRIME Bridge CMM
- ▶ SPACE Series Shop Floor CMM
- ▶ LOONG Gantry CMM

PMT CMM is a new series of products launched by PMT Technologies, including four series: Bridge CMM FUTURE, PRIME, Shop Floor CMM SPACE and Gantry CMM LOONG. The CMM machine is used to define the coordinate of measured object and digitize the size, shape and position. The high-performance CMM provides high-precision, high-stability and high-efficiency measurement solutions for shop floor, R&D centers and metrology labs, and is widely used in automotive, mold, machining, precision manufacturing, metrology institutes, aerospace and other fields.

### FUTURE Series Bridge CMM

#### High-precision Measurement Solution

The FUTURE Series Bridge CMM is designed to meet ultra-high-precision inspection needs for complex parts. It features high efficiency and good stability, and is the best tool for measuring small and medium-sized precision workpieces.

| Model | FUTURE 55 |     | FUTURE 87 |      |      | FUTURE 108 |       |       |       | FUTURE 1210 |        |        |        | FUTURE 1512 |        |        |        |
|-------|-----------|-----|-----------|------|------|------------|-------|-------|-------|-------------|--------|--------|--------|-------------|--------|--------|--------|
| Type  | 655       | 855 | 1087      | 1587 | 2087 | 12108      | 15108 | 20108 | 25108 | 151210      | 201210 | 251210 | 301210 | 201512      | 251512 | 301512 | 401512 |

### PRIME Bridge CMM

#### High-speed Mobile Bridge Design

The PRIME Bridge CMM adopts the structure of equilateral triangle beam, reducing the total weight of the machine while maintaining high measurement accuracy. It effectively reduces the cost of transportation and maintenance, and is the best choice for customers who are pursuing high precision and cost-effective solutions.

| Model | PRIME |      |      |       |       |       |
|-------|-------|------|------|-------|-------|-------|
| Type  | 866   | 1086 | 1286 | 12108 | 15108 | 20108 |

### SPACE Series Shop Floor CMM

#### Designed for Shop Floor

SPACE is an innovative CMM featuring a compact, robust and ergonomic structure without the need for air source, and is an ideal machine to control product quality at the shop floor.

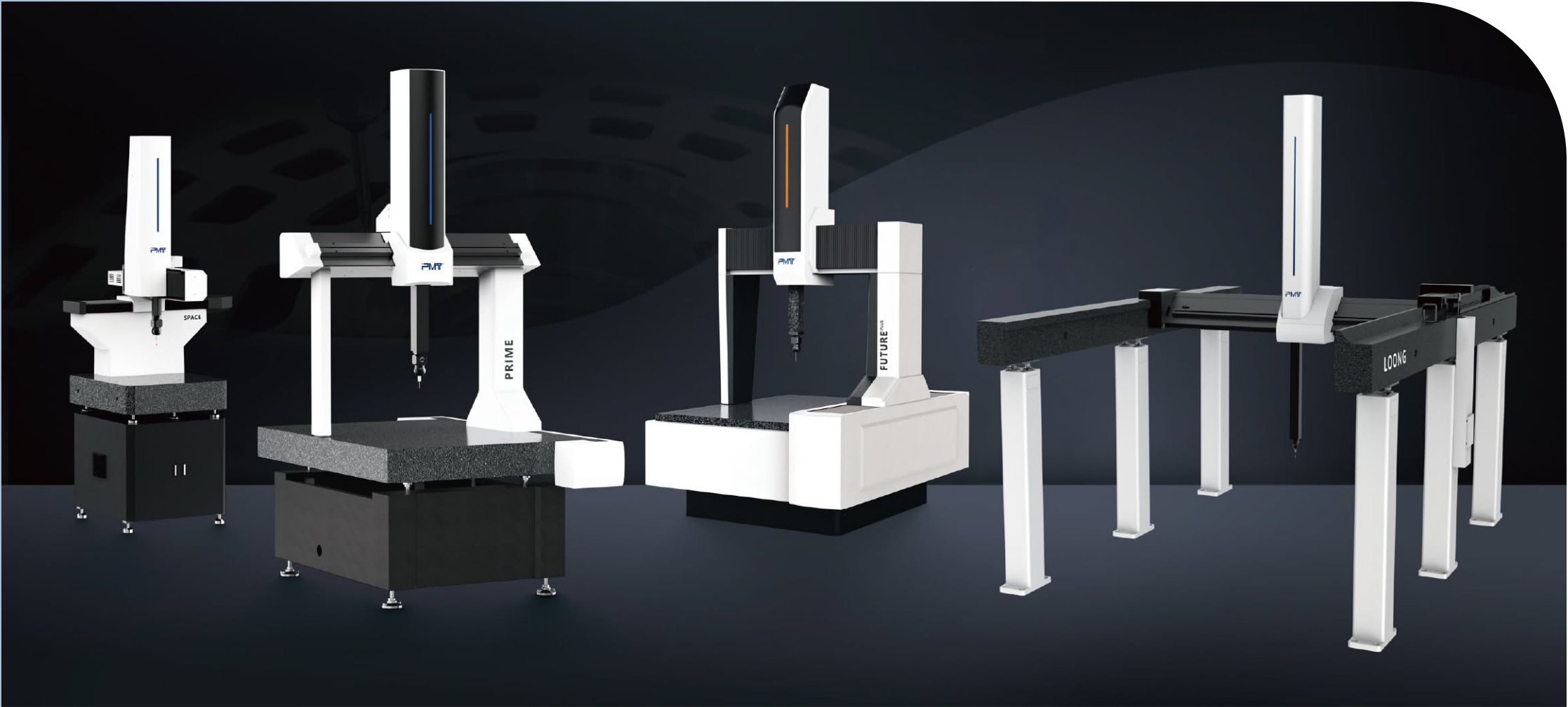
| Model | SAPCE <sup>PLUS</sup> |     | SAPCE |     |
|-------|-----------------------|-----|-------|-----|
| Type  | 655                   | 855 | 655   | 855 |

### LOONG Gantry CMM

#### High-precision Solution for Large Complex Parts

The LOONG gantry CMM is reliable and needs low maintenance cost. It features easy material loading and unloading, large measuring space and high automation, and can work at any open shop floor.

| Model | LOONG  |        |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|--------|--------|
| Type  | 203310 | 203315 | 205015 | 253315 | 255015 | 253318 | 255018 |



#### FUTURE - Features

- 3-Axis Rectangular Guideway
- Separated Gas Circuit Breaker with Independent Operation
- Drive Technology of Dynamic Movement
- Surrounding Air-bearing Structure
- Quick Response to Balanced Pulley of Air Cylinder
- Dust Protection Design

#### PRIME - Features

- Structure of Equilateral Triangle Beam
- Flexible Pneumatic Balance Technology
- Aviation Aluminum Alloy Frame Structure
- Flexible Synchronous Belt Drive
- Overall Lightweight and High-strength Structure
- Superior Granite

#### SPACE - Features

- No Need for Air Source
- Eco-friendly
- Small Size
- Adapt to Various Temperatures
- Friction Drive

- Aviation Carbon Fiber
- Strong Vibration Resistance
- Three Directions of Material Loading and Unloading
- Open System

#### LOONG - Features

- Structure of Triangular Beam
- Motor Drive Technology

- Aluminum Alloy Materials
- Totally-enclosed Structure

# Measuring Accessories

## Folding Tripod

Suitable for all models of laser trackers and articulated arms.

| Items             | Technical Specifications |
|-------------------|--------------------------|
| Minimum Height    | 730mm                    |
| Overall Height    | 1200mm                   |
| Lifting Height    | 470mm                    |
| Movable Tolerance | 300kg                    |
| Operating Temp    | -15°C-55°C               |
| Net Weight        | 18kg                     |



## Electric Vacuum Mount

Suitable for all PMTArm, and can be firmly mounted to the granite surface quickly.



## Magnetic Mount

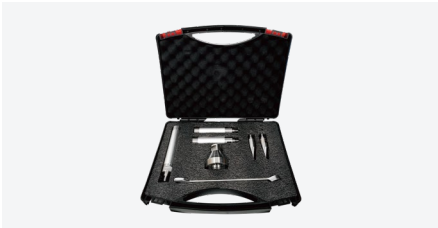
Firmly attached to the metal plate or curved surface and keeps the portable arm stable.

|          |       |        |      |
|----------|-------|--------|------|
| Diameter | 150mm | Height | 76mm |
| Weight   | 7.5kg |        |      |



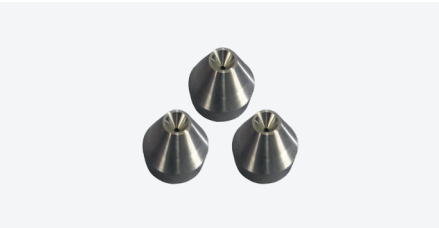
## Probe Extension Kit

Two 3" straight | One 4" straight  
One 3mm extended ball probe  
One 6mm extended ball probe  
One 12" wrench and probe adapter



## Magnetic Cone

A single cone with an adjustable magnetic base which is used for leap frog command. Can increase measuring volume of the arm. Includes: 3 cones. Suitable for all PMTArms.



## Stand Extension

High-strength aluminum alloy materials. Can add height to tripod, magnetic mount or flat panel mount. Available in 200mm, 300mm, 500mm, 600mm and other customized sizes.



## Lithium Battery Packs

Lithium Battery: voltage 14.4V, battery capacity 3.45Ah, suitable for all PMTArms;

Battery Charger: Suitable for all PMTArms.



## Magnetic Sphere

A sphere cone with an adjustable magnetic base which is used for leap frog command. Can increase measuring volume of the arm. Includes: 3 spheres. Suitable for all PMTArms.

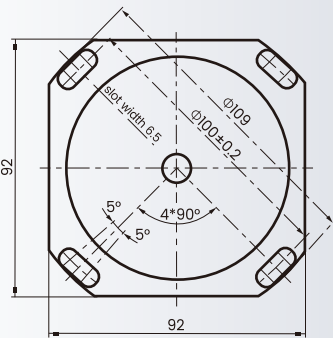
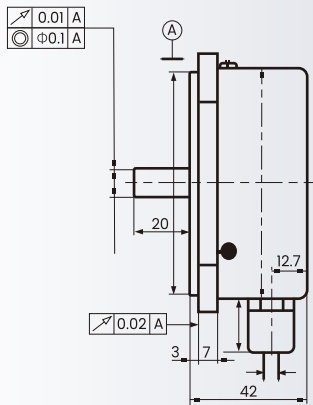


PMT's high-precision encoder is mainly used in many fields such as machine tool rotary tables, machine tool diagonal joints, coordinate measuring machines, printing devices, and telescopes. Join with PMT technicians to explore solutions and tailor your high accuracy encoder for special application scenarios.

|                              |                |                                   |                                         |
|------------------------------|----------------|-----------------------------------|-----------------------------------------|
| Number of Output Lines (L/R) | 90000,180000   | Allowable Electric Rotating Speed | 120 rpm                                 |
| Measuring Step               | 0.001°,0.0005° | Output Signal Frequency           | Highest 200KHz                          |
| Reference Point              | 1              | Cable Length                      | 1.5m (special length can be customized) |
| Accuracy                     | ±5",±8",±15"   | Interface                         | Nine-pin Plug                           |
| Operating Voltage            | 5V±5%, 210mA   | Output Signal                     | TTL Signal, RS-422 Signal               |

|                                     |                                            |
|-------------------------------------|--------------------------------------------|
| Allowable Mechanical Rotating Speed | ≤10000                                     |
| Starting Torque                     | ≤0.01 Nm (20°C/h)                          |
| Inertia Moment                      | 20×10 <sup>-6</sup> kgm <sup>2</sup>       |
| Allowable Axis Load                 | Axial Direction: 10N; Radial Direction:10N |
| Vibration Resistance (50-2000Hz)    | ≤100m/s <sup>2</sup> (IEC 60068-2-6)       |
| Impact Resistance (6ms)             | ≤1000m/s <sup>2</sup> (IEC 60068-2-27)     |
| Protection Grade IEC 60529          | IP54                                       |
| Operating Temp                      | 0~50°C                                     |

- ◆ Split Design - Customized encoders with different specifications.
- ◆ High-resolution Subdivision Algorithm - Absolute positioning accuracy up to 1 arcsecond under a high-resolution subdivision algorithm and high output resolution.
- ◆ Best Practices for Encoder Mounting - Ensure coaxiality of the major shaft and code disc through both mechanical and electrical concentricity adjusting methods.
- ◆ Multiple Encoder Output Signal Types - Support output including TTL, RS-422 and other customized types.



# High Accuracy Encoder

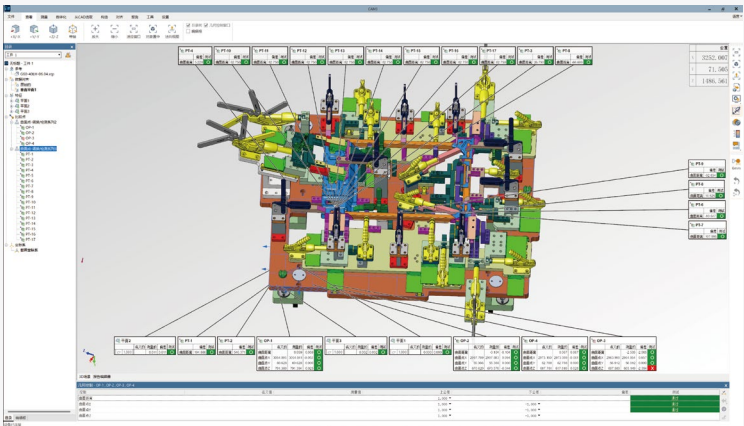
# CAM3

## 3D Software

A comprehensive 3D measurement platform that offers multiple application scenarios and meets various measurement requirements.



CAM3 (Computer Aided Measuring 3D), is a powerful industrial measurement software, which helps digitize measurements accurately within any manufacturing environment. It serves as a multi-dimensional control system that helps check different dimensions of parts and fixtures, and execute real-time adjustment, ensuring good quality of fitting components. CAM3 gives users a seamless measuring experience, and allows them to get fully accurate data without the need for training or professional knowledge. The automated measurement workflow also enables users to easily obtain the measurements and complete inspection tasks quickly.



### Alignment Tools and Coordinate Systems

CAM3 provides various alignment tools and flexible methods on how to create coordinate systems, meeting the needs of different measurement application and giving accurate and reliable data.

### GD&T Measurements

CAM3 helps digitize the geometric dimensioning and tolerancing for different workpieces and provide accurate data.

### Build/Inspect

The Build/Inspect mode assists with a quick and accurate assembly and verification of parts.

### Working with Multiple Device Positions

In CAM3, the measured targets are matched automatically and the measuring range is expanded to achieve perfect inspection results of large workpieces.

### Virtual Probe

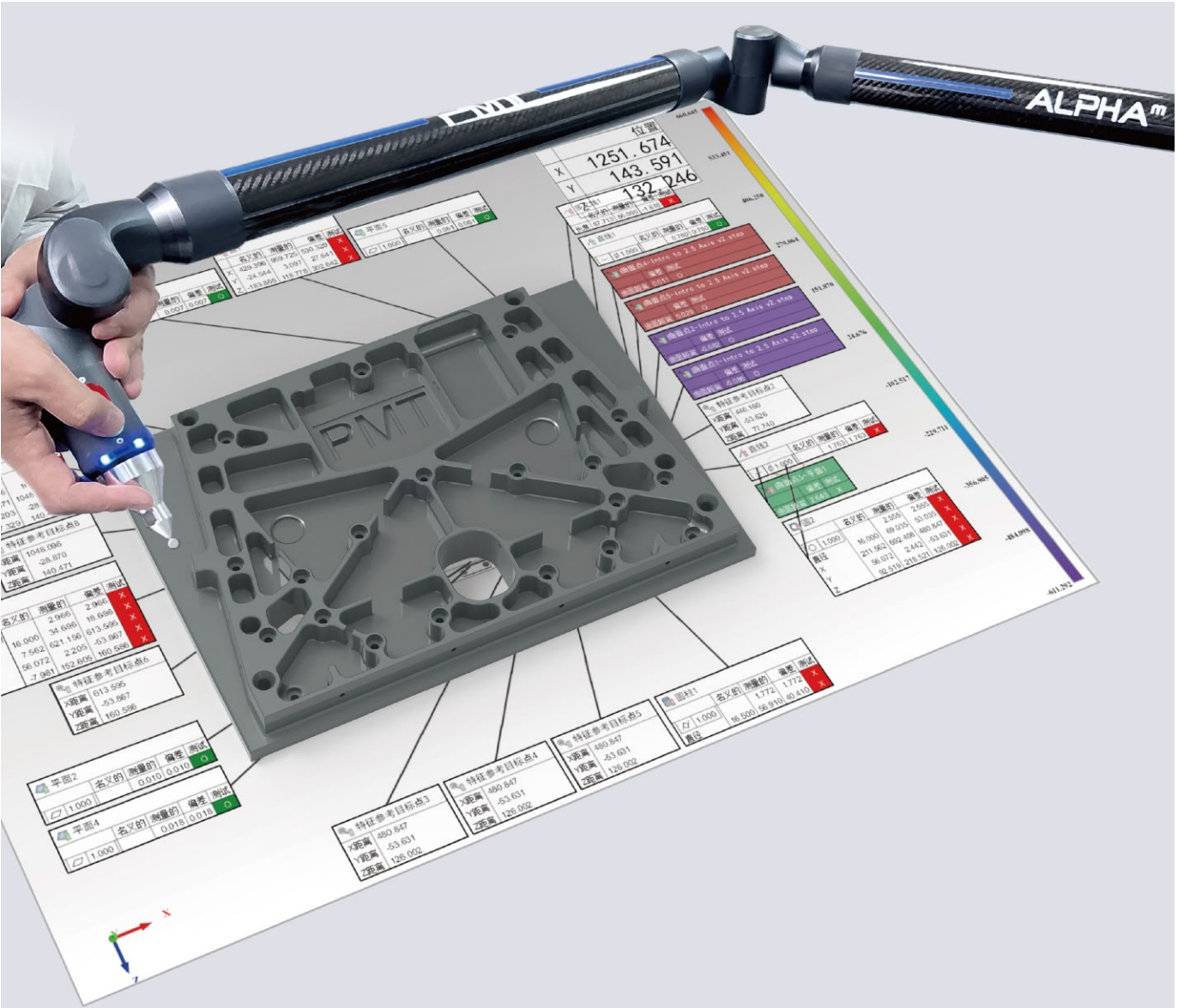
The Virtual Probe allows users to perform simulated data acquisition without using a physical device. It is often used in measurement program planning, measurement accuracy evaluation and other application scenarios, greatly improving the work efficiency.

#### FUNCTION

**Enhancing Productivity:** Virtual Probe allows users to program and refine the workflow quickly without using a physical device, greatly saving the time and improving the work efficiency;

**Reducing Measurement Costs:** The simulation mode allows users to reduce errors and avoid repeated inspection, reducing the measurement costs and increasing the efficiency;

**Improving Work Flexibility:** Virtual Probe allows users to perform simulated data acquisition and analysis any time, any place, regardless of the location and working status of a physical device, providing users greater flexibility and convenience while measuring.



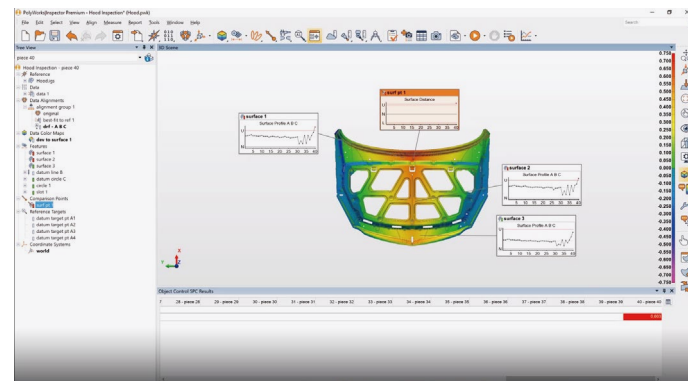
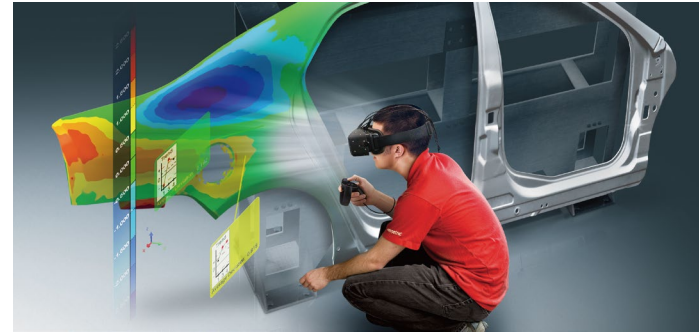
## Advantages

- ◆ **Clean Interface:** The simple and uncluttered interface makes it a pleasure to use even for new users.
- ◆ **Versatility:** Functions such as geometric dimension measurement, GD&T, build/inspect mode meet most needs of industrial application. It is widely used in industries including construction machinery, automotive, energy, machining and education.
- ◆ **Reliable Algorithm:** It has achieved the world-recognized metrology certification – PTB certification.
- ◆ **Automation:** Multi-part inspection and quick export of custom reports greatly improve work efficiency.



# PolyWorks

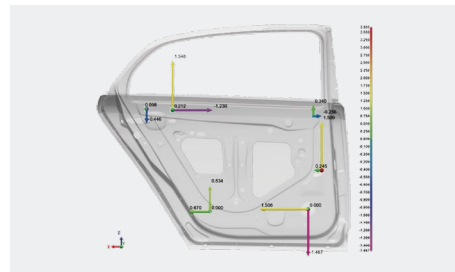
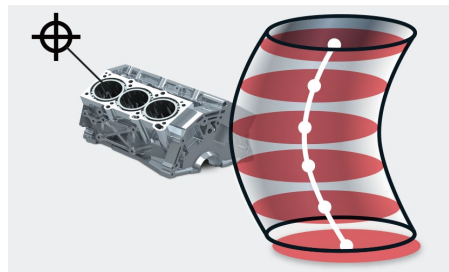
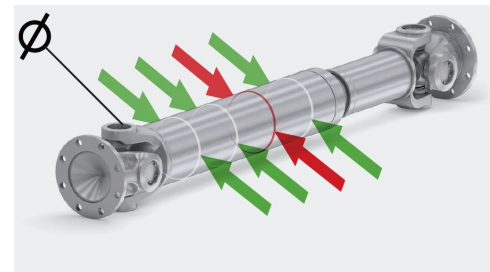
## 3D Software



PolyWorks | Inspector™ is a universal 3D measurement software in Canada that is used for dimensional analysis and quality control. Combined with portable measuring arm, CNC or CMM, it can control the size of the measured target through real-time measurement, detect and avoid issues in production and assembly process, ensuring the quality of the assembled parts.

## Inspect Based on GD&T Requirements

A more comprehensive inspection can be performed with the enhanced PolyWorks GD&T toolkit, which complies with the latest revisions of ISO GPS and ASME GD&T standards. It helps control the quality of components such as automotive engine holes and driveshafts by using the new median line and 2-point dimension calculation and other relevant quality control methods.

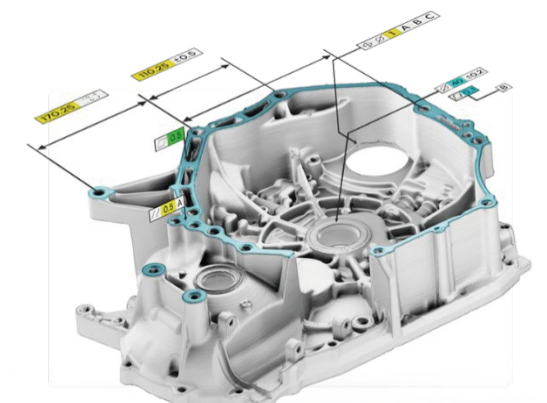
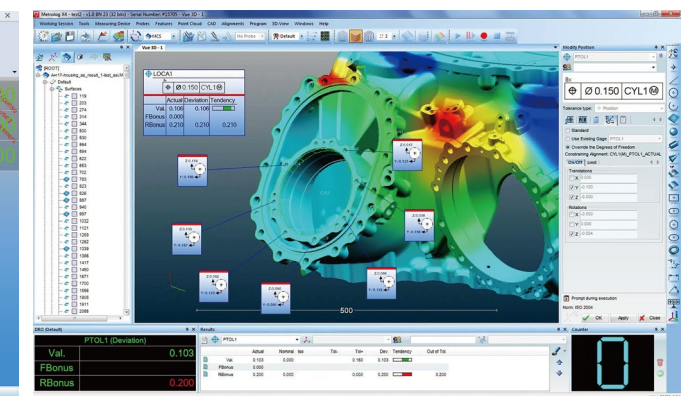
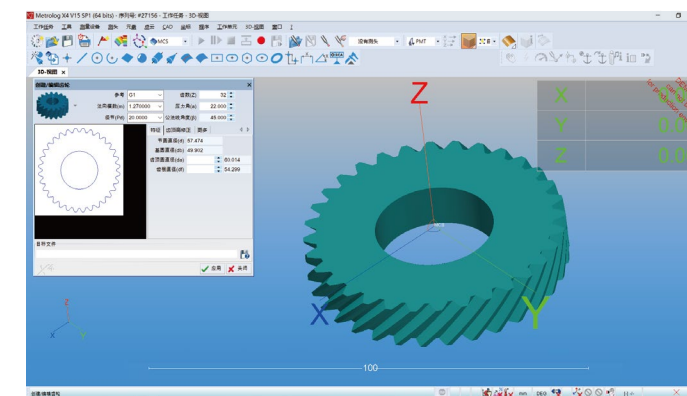
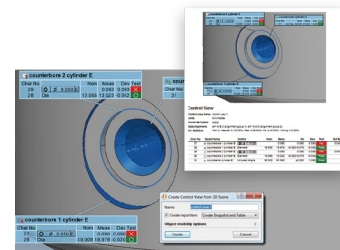


## Detailed Analysis of Features and Deviations

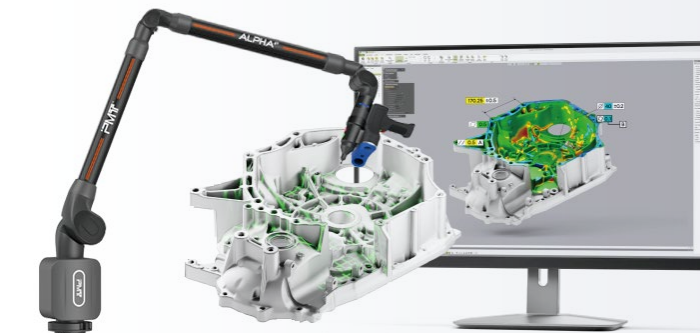
Analyze the measurements more efficiently by comparing the max and min deviations of features, as well as the direction and magnitude of the center point deviation.

## Easily Create and Edit Control Views

Display the desired objects and their annotations in a 3D scene to visually create control views, and use the improved Control Browser to edit and enhance the Control View.

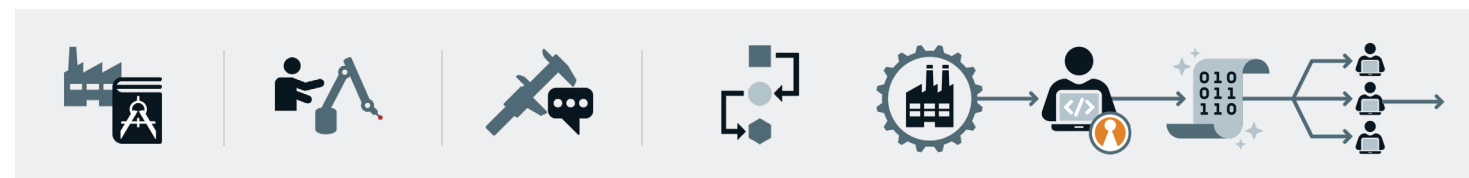


**Geomagic**  
**3D Software**



Geomagic Control X is a professional 3D software for quality control and dimensional inspection. Combined with Control X, the PMT CMM offers a more accurate and faster measurement experience.

- ◆ Compatible with diverse 3D metrology hardware
- ◆ Built on top of the CAD kernel
- ◆ Easy-to-use automation tool
- ◆ Smart measurement and feature digitization





# C Application

# Industry

## Global Perspective

PMT continues to provide more comprehensive 3D dimensional measurement solutions for customers across all fields throughout China and indeed the world



### Auto Industry

PMT 3D measurement solutions help customers to control product quality in the automotive manufacturing and assembly process. The easy-to-use machine offers accurate measurements for different sizes and shapes, which is of great significance for improving product quality and production efficiency. Furthermore, PMT also customizes measurement solutions to meet diverse needs for automotive inspection and modeling, from dimensional inspection to CAD model comparison to tooling adjustment.



### Aerospace

For parts with complex structures, PMT high-precision portable arm and coordinate measuring machine as well as software that can conduct large space analysis help solve accuracy issues, ensuring the quality of key aerospace components. PMT helps customers to digitize the assembly process and provides calibration solutions, improving their productivity and automation by leveraging real-world measurement data in aviation design and production process.



### National Defense and Military

In the defense industry, PMT CMM and portable arm can be used to inspect the quality of parts to ensure the size, shape, and tolerances meet design requirements. Other function include: inspect in the assembly process to ensure accurate position between each component; online inspection and analysis can assist product improvements and designs and help improve product performance and reliability. PMT remains committed to contributing its part in the development of national defense .



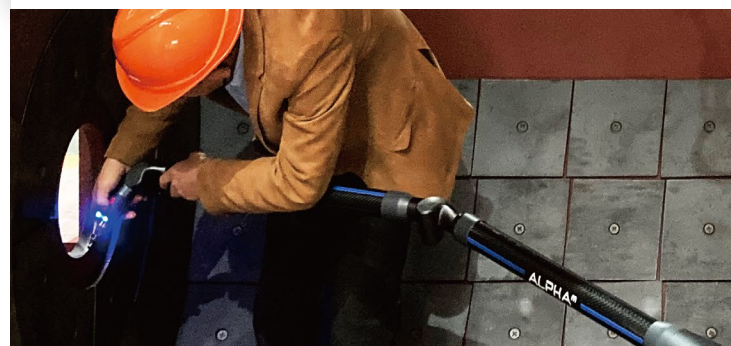
### Wind Energy

In the wind power industry, PMT 3D measurement technology can help inspect key components of wind turbines, such as blades, towers, flanges, etc. Customers can monitor the actual condition of the components and make adjustments in real time when accuracy issues are detected. By inspecting large components, checking alignments, and creating data report, customers can complete measurement work quickly, which significantly increases the work efficiency.



### Engineering Machinery

PMT CMM features high precision, powerful function and good versatility, and is the standard measurement choice for most machine tools and mold enterprises in the quality inspection process. It can detect the diameter and position of the specified point, assembly and positioning hole, etc., and is often used to measure the contour of plane and line. The machine can be mounted directly on a large mold base or mold base plate for measurement, thus avoiding using hoisting equipment and fixed CMMs.



### Machine Tool and Mold

The PMT CMM features high precision, robust capabilities, and good versatility, making it the preferred measuring machine for the quality inspection of most machine tool and mold enterprises. It can detect the specified points, the diameter of assembly and positioning holes, as well as the profile of surface and line contours. The PMT portable arm can be directly installed on large mold blanks or mold frame plates for measurement, thereby saving the cost of lifting and the fixed CMMs.



### Medical Devices

The high-precision remote medical devices must comply with international standards to ensure the quality and performance. Therefore, the verification of accuracy has been emphasized in the development stage. To this end, the PMT portable arm and CMM are used to digitize the motion coordinates, compare with the automatic control system, and feed the results back to the simulation. The machine can also optimize the performance of the robotic system, helping produce high-quality medical robots.



### Education

The PMT coordinate measuring machine can improve the teaching process of mechanical majors, making the comprehensive and innovative experiments the focus of colleges while carrying out experimental teaching program. Furthermore, the PMT portable measuring arm can help educational institutions to offer relevant courses without needing to invest a special facility. This will help students sharpen their competitive edge in the manufacturing sector and scientific research fields.



# Solution



## Tooling Testing and Adjustment

**Assist in precise tooling checking, optimize positioning, and ensure a smooth production process.**

The main purpose of tooling inspection and adjustment is to ensure the accuracy and stability of tooling to meet production requirements. Use the PMT portable arm to timely detect the problems, such as insufficient positioning accuracy, surface deformation or wear, etc., so as to make adjustments accordingly. This helps to improve the assembly quality and production efficiency of the product, reducing production costs and scrap rates.



## Manufacturing and Assembly

**Achieve precise positioning and verification to improve production efficiency and accuracy.**

Assembly is one of the key links in manufacturing, which undergoes strict process and quality control. For example, aluminum alloy materials are often used to make battery shells to make the battery lighter and enhance heat dissipation. However, aluminum parts are susceptible to thermal deformation in production and assembly, resulting in deviations in the accuracy of mounting hole position, frame structure and battery module. To solve the problem, PMT portable arm can inspect the battery case and give feedback to production by real-time data acquisition, facilitating manufacturing and assembly process and improving product quality and production efficiency.



## Quality Control and Inspection

**Precision measurement seen to improve quality control and make sure product performance meet standards.**

In the production process, to judge whether the product meets the quality standards, manufacturers need to monitor and record data and solve the quality issues accordingly. In terms of quality control, PMT provides high-precision guarantee for many fields such as automotive industry, aerospace, medical equipment, shipbuilding, and construction machinery. It also plays an essential role in guaranteeing the product quality and performance especially for high-precision parts that must be certified under the first-class international quality control standards.



## Data Capture and Modeling

**Efficient data capture and accurate modeling lay a solid foundation for product design and management.**

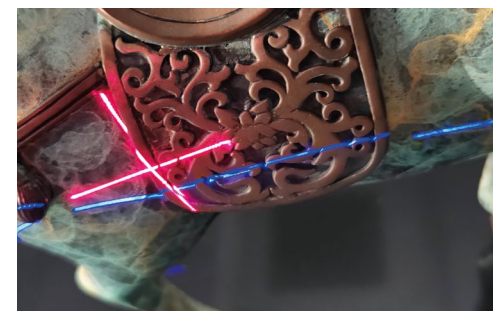
In design, analysis and production, PMT Laser ScanArm provides reverse data in the prototype phase and helps with product design and verification in the sampling stage. Even in the mass production, the machine can do rapid sampling with its detection function, ensuring the consistency of design and production process. Reverse engineering is the processes of extracting design information from anything man-made and re-producing it based on the extracted information. Through reverse analysis, we get to know the key information of the product so as to judge whether the product is qualified or not.



## Product Design and Engineering

**The captured data facilitates product design and accuracy verification, promoting engineering upgrading and optimization.**

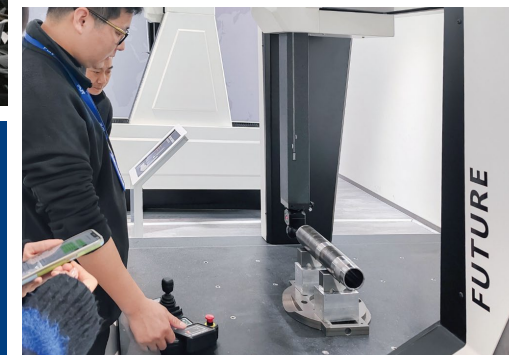
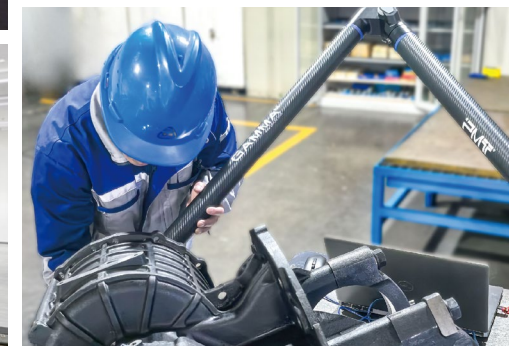
The product design process is essential before product processing and production. However, during the production process, it is often to see poor quality archived design drawings, product mismatch, or lack of physical part or CAD file. To solve the problem, PMT provides 3D measurement solutions that quickly digitize complex parts, helping with sample making in the design process and dealing with after-sales issues.



## Conservation and Restoration of Cultural Relics

**The exact record of measurements dedicated to the digital protection of cultural relics.**

Due to the special properties of cultural relics, it is very necessary to take strict measures to prevent secondary damage to them during restoration. We can use the PMT laser scan arm to sample the current cultural relics. This high-precision machine can quickly obtain the 1:1 exterior measurements of cultural relics, and the point cloud spacing is more dense and compact so we can get distinct characteristics of relics.



### Comprehensive 3D Measurement Solutions

Meet the diversified needs of customers  
Develop personalized products  
Provide long-lasting competitiveness for customers