

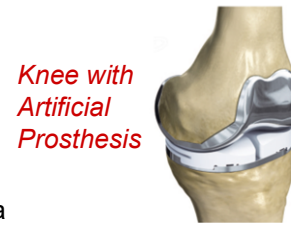
# Application Story

## Knee Prosthesis

### The Challenge

Creating a Knee Prosthesis involves the precise manufacturing of three parts: a femoral, a polyethylene femur tibia, and a tibia base. The geometry of these mechanical parts is critical in enabling comfort for a patient's knee to provide a normal function and improve quality of life.

For measurement, all critical angles must be checked to ensure the parts will have proper fit and form. All data must be output to a computer for statistical analysis.



*Knee with Artificial Prosthesis*



*Critical Angles*



*Tibia Base*

### The Solution

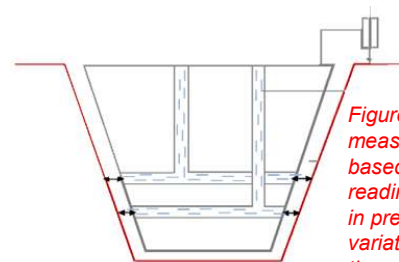
The Solartron Orbit® Network can be used to network multiple sensors and output to an SPC Software program. Also, the Solartron Digital Orbit probes can be used to check critical dimensions of the structure.

- A Flowmeter can be used to check the angle via the principle shown in Figure A. The Flowmeter is then connected into the Orbit network using an Analogue Converter Module.
- Digital Probes can also be used to check other features of the component.
- All data is output to an SPC software manufactured by Solex Metrology. Full traceability is also maintained.



*Solartron Digital Probes*

*Flowmeter that checks the angle of the Tibia Base.*



*Figure A: The micro-measuring principle is based on taking a direct reading of the fall or rise in pressure following any variation in a flow of air through an orifice*



*Data on software screen*

*Hip Prosthesis Application*



*Analog Interface Module for connecting into Orbit*

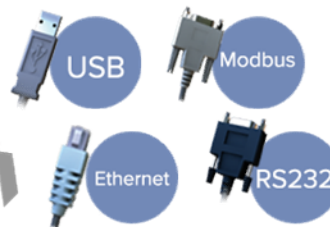
## Orbit® 3 – The Total Measurement System from Solartron Metrology

The Solartron Orbit® 3 Digital Measurement System, in conjunction with Solartron's wide range of transducers, including both contact and non-contact linear measuring transducers (gauging probes), specialist transducers and third party transducer interfaces, provides a limitless set of measuring system solutions, with numerous different interfaces to computers and PLC's, making Orbit® 3 completely flexible.

Supports all Solartron Sensors



Interface via USB, RS232, Ethernet and Modbus Output



Interface to various sensors and readouts



Up to 150 Sensors

