

## SA's TransTrack Dynamic 6D Control

Trans-Track extends SA's metrology integration to support dynamic 6D tracking of assembly components with multiple online measurement instrument technologies. Often in assembly applications, it is necessary to track the position and orientations (i.e., transformation) of one object relative to another in real-time. Trans-Track monitors a network of measurement systems inputs against nominal references and uses the delta to guide an assembly process or verify that a final assembly configuration meets the required tolerances. The assembly process is shown in real-time within SA's graphical environment.

Individual point(s) relationships (or geometries) on the moving object are continuously evaluated relative to other non-moving objects so that individual sub-component assembly may be controlled. This is particularly useful for aligning bolt holes, pipe interfaces, and other mating components.



### Overview

- ▶ Ease of use – just locate Instruments and Go!
- ▶ Automatic Beam Recovery
- ▶ Path Prediction Algorithm
- ▶ Measurement Technologies
  - Non-ADM Trackers
  - ADM
  - Laser Radar, e.g., MV-200
  - Local GPS Systems, e.g., Arcsecond
- ▶ Keeps System Costs Down

**SA TRANSTTrack**  
by New River Kinematics



## Real Time 6D Relationship Analysis and Control

- ▶ Frame to Frame
- ▶ Points to Surfaces
- ▶ Object to Objects...
- ▶ Points to Objects, i.e., Planes, Lines, Curves ...
- ▶ and many more



## Dynamic 6D Control with SA's TransTrack

- ▶ Unified User Interface
- ▶ Displays System 'Health' (Real Time)
- ▶ Geometric variance detection
- ▶ Inter-Point Distance Deviations
- ▶ Monitors Temporal Sampling Delay

## TransTrack – Applications

- ▶ 6D Machine Control
- ▶ Assembly Automation
- ▶ Measurement Synchronization
  - 3 trackers, Arcsecond Local GPS System
  - Multi-Lateration Interface

