

## **ALTERNATIVE PATHS OF TRACEABILITY IN DIMENSIONAL MEASUREMENTS**

Speaker/Author: Dennis A. Swyt  
Precision Engineering Division  
100 Bureau Drive, Stop 8210  
National Institute of Standards and Technology  
Gaithersburg, MD 20899-8210  
Phone: 301-975-3463  
Email: dennis.swyt@nist.gov

### **Abstract**

Within the scope of the definition of the meter as the international-standard unit of length, there are alternative methods for its practical realization. For each method, there are alternative technologies by which the method may be implemented. And between a particular end-use dimensional measurement and a method-and-technology-specific realization, there are alternative routes for a chain of comparisons. A different combinations of a method, technology, and route constitutes an alternative path from a dimensional measurement to the definition of the meter. This paper examines alternative paths of traceability in dimensional measurements and the degree of their support by documentary standards, international and U.S. national.