



WS 13 Washington Business Centre  
2 Turbine Way  
Washington  
Tyne & Wear  
England  
SR5 3NZ  
Tel: +44 191 338 9089  
info@dontyngears.com  
www.dontyngears.com

## **Gears 2021 Abstract - Integrated Gear Measuring Techniques For Improved Production**

### **Integrated Gear Measuring Techniques For Improved Production**

**by Kieran Brothwood, Jonathan Brothwood (Dontyne Gears)**

Accurate gear production is an essential to enable high performance applications. In the last 100 years there have been advances in gear inspection from simple manual tools, through mechanical hand driven machines, to digital machines with compensation systems for alignment, thermal changes, and mechanical deflection. It remains difficult to maintain high standards and stable product in high volumes such as in automotive as there are often compromises to inspection needed for production rates. This presentation will describe four forms of digital machine inspection; 1) long established Gear Checking system for evaluating accuracy of individual parameters of a gear 2) Coordinate Measuring Machines 3) gauging for in-process evaluation 4) on-board inspection on machines tools. The presentation will define the differences in the four forms of inspection, highlight advantages and disadvantages of each, and discuss integrated solutions for more effective and efficient production. The presentation will then discuss the potential improved production efficiency as a result of modern techniques such as rapid data acquisition for more complete analysis and reduced waste, and digital twins for consistent production across multiple sites.