## James Walker

## **Intelligent Bolting Solutions**



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The 'Nut and Bolts of it' is often referenced in conversations when attempting to breakdown a complex issue into a more basic format that is then easier for people to understand who might not need the broader understanding of all the details.

Nut and Bolts (or more generally referred to as Fasteners) play any important role in all our everyday lives – whether it's in our motor vehicles, domestic appliances, buildings etc., fasteners keep things working. Fasteners in our Industrialised sectors such as Power Generation, Hydrocarbon processing, Oil & Gas and Renewables all involve bolted flange connections that are subjected to the extremes of pressure, temperature and aggressive media and it's the 'Nut and Bolts of it' that help keep these connections safe, reliable and leak free.

My presentation will focus on the application of fasteners in these Industrial sectors and how the basic principles of mechanical engineering and design can be applied to upgrade the simple Nut & Bolt to an Intelligent Fastener.

- 1. Introduction
- 2. How do fasteners work
- 3. What holds fasteners back
- 4. Intelligent Fastener concepts
- 5. Typical applications in the Industrial sectors

