

# MITIGATING THE PROJECT RISK ARISING FROM THE CURRENT LACK OF EXPERIENCE ENGINEERING RESOURCES IN THE UK

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## What's it about?

How many times have we heard the statement: Established in 1890, over 150 years of experience in the field of .....??

Unfortunately, company experience is held by its employees at that current moment in time, based on employee experience, qualifications and company infrastructure. Sadly, due to the UK's declining industrial base there is currently a lack of experience. In this article, we consider the impact of this and suggest ways to mitigate the project risk caused by this deficit.

## How does it happen?

Due to the UK's industrial decline, starting back in the mid 1980's, experienced engineering resources have diminished significantly.

The first casualties of a decline are apprenticeships, which are feeders into the engineering profession through mature entry into university.

Due to the loss of apprenticeships, subsequent reduction in engineering degrees and with an aging engineer population, there is a significant shortfall of experienced engineers within the UK.

## Why does it matter?

The consequences are that young, inexperienced engineers, with minimal exposure to industrial sites or lessons learnt, are re-inventing the wheel and starting from scratch.

Engineering standards provide guidance, but engineers need to use them as a support tool and possess the ability to interpret the requirements, rather than try to use them as a tick box guide.

Standards (and vocational training) can support the young engineer, but the knowledge of experienced engineers is vital for design which is safe, fit for purpose and right first time. Lack of experience and lessons learnt has an effect on project success with respect to safety, environmental impact, schedules and commercial profitability.

## The way forward

ISO 9000, previously BS 5750, which covers quality control and IEC 61511 covering design of industrial safety related systems, go a long way in formalising structured procedures for engineering companies. However, the procedures need to be specific to the services offered, easy to read and not generic.

IEC 61511 is generally a subset of the corporate ISO 9000 procedures and is fully supported by the UK Health & Safety Executive (HSE) for the design, build, test, install and commissioning of safety related systems.

Companies should produce clear and concise procedures, written by experienced, qualified engineers. This should be carried out before engineers retire, or retired engineers should be called in to support the production of such procedures.

The procedures should cover the development of a design from concept through build, installation and testing.

The procedures should include a step by step guide of all deliverables for that specific industry, including verification and validation procedures necessary to meet the system integrity requirements and functionality.

The procedures should be supported by engineering standards and training, to ensure that the young engineer is not left alone to develop a design from little or no experience in the design process or the industry it supplies.

The need for well written procedures, prepared by experienced resources, is applicable to any sector, be it private sector, petrochemical, oil & gas, building, transport or public sector services.

## Who to contact

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