## Why is the UK lagging behind Germany in Smart Manufacturing and what can be done to improve the situation?

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## Abstract

This Dissertation investigated why the UK is trailing behind Germany in its adoption of Smart Manufacturing, as opined by industry proponents, but hitherto unconfirmed, due to a lack of prior academic research. The objective was to evaluate to what extent Smart Manufacturing (according to Industry 4.0 processes), had been implemented in a prestigious UK fabrication company, compared with an analogous German firm and validate which one prevails.

Case study research was initiated (also using secondary data), by conducting structured interviews with high-ranking professionals representing two organizations. Two theoretical disparities emerged during the literature review: the first postulation was that Germany excelled in incremental rather than radical innovation, whereas the reverse was confirmed through this Study's Smart Manufacturing empirical findings. The second revealed, to date, only economics-oriented analyses had been conducted on the effect of machines impacting jobs; and organizational level studies remained unexplored.

Further, this Research's empirical findings revealed that despite having an evolving Industry 4.0 status, the UK company examined was still lagging behind its German equivalent, but was considered the exception with respect to other UK companies which had either not embarked on this journey, or were considerably less prepared. Moreover, the German firm excelled in its overall Industry 4.0 deployment maturity. On this basis, the UK is still behind Germany with respect to Smart Manufacturing adoption.