

U.K. EXECUTIVES – ENGINEERS TRAINED VIA APPRENTICESHIP

Executive Summary

This report on *U.K. Executives – Engineers Trained via Apprenticeships* highlights the growing concern for the scarcity of a highly skilled workforce that is technically inept in the United Kingdom (U.K.), and the resounding demand for a “call to action” resolution.

Seven executives from varying backgrounds whose careers began as higher engineering apprentices in the 1960’s through the 1980’s were interviewed using the questions provided in Appendix A. All seven had significant first hand experience and knowledge of the traditional “old” 5 year UK engineering apprenticeship training system. After initial research and conducting the interviews, it was clear that the traditional engineering apprenticeship system had the ability to create deep theoretical and practical competencies that provide unmatched real world exposure to young engineers and students of other technical fields of study. However, in the current educational system of internship programs, short apprenticeships, comparative competency and practical exposure is not witnessed. Changes in societal viewpoints (looking down on apprenticeships and engineering in general), inward facing professional engineering institutions, lack of industry / university collaboration, and desertion by successive UK governments has fostered a divide between the academic aspect, and the practical aspect of engineering. This divide has contributed to a growing concern for a lack of ‘Applied Engineers’, and an unmet demand of highly specialised and technically competent engineers.

Resolution to this growing crisis must be tackled beginning with the primary and secondary classroom where a foundation and awareness in engineering practises is developed. The participating executives all agree that reform is needed in the UK engineering education system if a more competent, valued, and prestigious profession is to be realised. The entire batch of executives interviewed stated that they contribute the foundation of their own success as senior engineer / executives to the traditional rigorous apprenticeship system they went through between the ages of 16-22. They also underline the apprenticeship program in its vast impact on their ability to outperform expectations and its contribution to their success within their respective industries. Subsequently, most went on to emphasize the importance of ensuing university education to refine and focus their capabilities mastered through apprenticeship.

A “call to action” driven by the government, a united engineering profession and industry is required to align with engineering educators and student development. Curriculum must be revised to reflect a structure based on an “Open University” flexible model that offers day release, evening and weekend courses in parallel with industry apprenticeships. This provides a balance between gaining practical industry experience & fundamental academic theoretical knowledge. It is in fact returning to the proven traditional apprenticeship model of the 1950’s through 1980’s. It is also advised that universities incorporate further studies in the humanities,

liberal arts, and business to develop engineers who are able to ascend into positions of not only technical, but also of social and strategic leadership. This approach is a “win-win” situation for graduate engineers, technicians and industry, whereby the student is provided a career while obtaining training and education, while industry develops talent directly correlated to their requirements. And government achieves its goal of rebalancing the UK economy. It will also return the status of UK engineering from its current low status to the very high status enjoyed by European, North American, Latin America and Asian counterparts. It is noted than in the past 5-7 years growing collaboration between industry, government, universities, further education colleges and government is evident.