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Paper

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## Blueprint Network75 - The Way Forward (Changing Perceptions of Engineering and Broadening Access).

Globally, 'skilled engineering graduates' are in short supply. Being an engineer is simply NOT 'en vogue' - a fact with potentially disastrous consequences upon the world economy. Since the 'construction' of the very first wheel - the world always has, and always will, need engineers. Unfortunately, skilled engineering graduates do not materialise out of 'thin-air'

Network75 is an initiative run by the University of Glamorgan addressing the global challenge faced by H.E. and Industry - i.e., the recruitment of new talent. Replacement demand alone means that an 'engineering skills shortage' is set to exist well into the foreseeable future (IER, 2000). Network75 recognises that a significant supply-side problem exists especially since the Tertiary Sector is frequently ignored in the process of undergraduate recruitment. A disproportionate effort is required to attract/retain prospective engineers thus ensuring the continuance of flagship 'accredited' courses.

Network75 has formed a 'triangular network' between H.E. - the Tertiary Sector - local SMEs, in the drive to recruit, sponsor and train 'fresh blood'. Part-time degree study is combined with five-years of bursaried, work-placement. Undergraduates in Engineering/Technology receive specific skills training, with work-based projects designed especially for them. The bursaries are provided by ESF funding and SME sponsorship. Nearly 70% of students enrolled in Engineering courses come from within a 25 mile radius - predominantly a working class catchment (Akram, 2001). Students from working class backgrounds are particularly reluctant to enter H.E. to avoid incurring large debts (Arnot, 2001). Many work over 20 hours weekly in jobs that are not relevant to their degree. Fortunately, Network75's 'waged' vocational training IS highly relevant to the development of a student's PDP. The UUK-SCoP-QAA has challenged all H.E. institutions to produce PDP initiatives by 2005. To date, very few have taken up this challenge. An electronic PDP, accessible on the world-wide-web is a step in the direction of changing both employers' perceptions of graduates and graduates' perceptions of themselves. Many employers hold negative perceptions of graduates - e.g., they lack personal/generic skills (Curricula for Innovation, ESF). In a concerted attempt to address employers' concerns, Network75 is piloting the use of electronic PDPs to encourage student self-reflection, goal setting and the development of work-related 'key skills'. The Network75 PDP is based on an initiative developed at the University of Loughborough (Civil Engineering - RAPID). However, Network75 is unique in the amount of time that students spend in highly relevant work-placement. The potential for logging personal/ career development on an on-going basis is highly significant. It is anticipated that with support and guidance undergraduates will track and self-assess changing perceptions of Engineering - as well as their changing self-perceptions.

Parallels exist between personal and professional development. The later rarely follows a smooth track - setbacks and dead ends often face us. We learn in a series of jagged steps (upwards & downwards). Undergraduates often have unrealistic perceptions that careers (& life!) progresses in forward-motion. 'Logging' progress and setbacks helps to produce self-aware graduates who are flexible and able to face global challenges. Both students and employers welcome the Network75 initiative (with some 80% of SMEs agreeing to interview a prospective student & more student applications than available places in September 2001). The scheme was key in retaining accreditation for its 'flagship Mechanical Engineering award. Success has meant that the university is keen to expand the scheme across all Schools (especially the Business School). Network75 has been designed to meet the global challenge facing engineering today - to attract/recruit engineers, but also to help change the preconceived attitudes and mindsets of all those in the Network75 triangle.