School of Engineering

Corporate Plan 2014 – 2019

Executive Summary

The School of Engineering has been transforming since its inception in 2010. This has come about partly due to the VSER scheme in 2010-11 where there was realignment of priority areas, but also from significant reinvestment in leadership posts by the University and College in the areas of Biomedical Engineering, Mechanical Engineering and Aerospace Sciences pre-REF2014. Also during this time, the School of Engineering has been at the forefront of Trans-National Education (TNE) for the University, leading the way in both Singapore and in China with 5 degree programmes being taught overseas in Mechanical Engineering, Aerospace Engineering and Electronics and Electrical Engineering.

The School continues to have ambitious plans for its future; these are to continue to be world-leading in research, to strive towards an excellent student experience both at home and overseas, and to seek support from the University to enable the future-proofing of the infrastructural environment in which the School operates.

In terms of research, the School wishes to invest in themes that support the University Strategy and explore new technological possibilities through collaborations between advanced multidisciplinary science and cutting-edge engineering. The School has identified two broad themes for further development that map into existing Research Divisions, as well as crossing a number of divisional boundaries. Additionally, these themes underpin strategic research programmes that cross the College and University. These areas are

- Energy and Environment, including energy generation, water and environment, transportation engineering, materials engineering and aerospace engineering
- Future and Emerging Technologies including rehabilitation engineering, synthetic biology, nanoscale engineering, sensor systems and quantum technologies.

Many of these research areas would also underpin the future provision of research-led teaching.

The core of the School’s teaching strategy is to develop an excellent teaching experience and environment for students in Glasgow, Singapore and China. The student experience is critical to the reputation of the School of Engineering as well as the College and the University. The School currently has 1600 undergraduate students at the Glasgow Campus, while in the steady-state there will be an essentially equal number of approximately 1600 students on existing TNE programmes in Singapore and China. A major concern of the School is that TNE has put extreme pressure on the academic and administrative workload which in turn impacts on the student experience in Glasgow as well as overseas.

At present, the School has a window of opportunity to expand its TNE activity in both Singapore and China.

- UESTC wishes to develop a further programme with us, in Electronics with Microelectronics. This development was anticipated in the MoA which specifies a total of up to 3 degree
programmes. UESTC have suggested student numbers would be at the same level of student intake as for the current programme (240 per annum), with first entry in Sep 2015.

- The Singapore Institute of Technology (SIT) has recently become an autonomous institution and will have degree awarding powers of its own. SIT is now focusing on joint degrees with overseas partners and is suggested developing a joint programme in Civil Engineering, with the first entry in Sep 2016.

Expansion of TNE under these programmes would take the total number of TNE students to around 2750.

The School of Engineering sees this potential expansion of TNE as a major opportunity that will not only benefit the School ambitions, but provide an additional income stream that will contribute to the strategic aims of the College and the University. The School’s strategy is to build on the investments in leadership which the College and University have made in the last 4 years and, in order to capitalise on these investments, the School believes that it can fund expansion mainly through TNE, principally through our relationships with SIT and UESTC.

The strategic plan for the School is to identify additional funding for between 10-14 new appointments, mainly at junior level, in order to support not just its research ambitions, but also to support the expansion of TNE and the additional workload that ensues from undertaking this activity. In reassessing the business plan for the whole TNE activity, it is believed that 5 of the new appointments can be funded from the programmes that currently exist at SIT and UESTC. Due to retirement, another 2 posts can be realigned to the strategic aims of the School. As the new programmes come on stream with SIT and UESTC, the School believes that the posts required to build capacity in research can be found from a combination of the UESTC staff based in Glasgow and new appointments supported by the TNE business plan.

There are other income streams that the School is confident of developing and growing with the additional research and teaching resource funded from TNE activity. These include identifying and resourcing PGT programmes that are attractive particularly to international students; growing income from international sources, particularly EU programmes and including teaching opportunities such as Science without Borders; and industrial income, focusing on selected areas with potential for high levels of funding. Although REF2020 is not for another 6 years, the School would wish to start the planning and capacity building now for delivery in 2020.

In summary, the expansion of TNE can only be achieved by providing increased staff resource associated with the School within UoG, and as part of this expansion, reappraisal of support for existing programmes is required. Contributions budgeted for 2014/15 and future years would therefore be met in full, while expansion of TNE would allow an additional contribution to be generated. In addition, the new staff would contribute to research, bringing a further contribution while supporting the aspirations of the School, College and University to be a leading research institution.

The School Management Board therefore recommends that

- There is a re-evaluation of the TNE business plans which assess future expansion along with current business plans. This would build on the knowledge the School now possesses in relation to capacity building for TNE activity.
- The University engages with UESTC and SIT to develop the two programmes identified above, recognising that the opportunity is time limited.