A boom in prospects is being led by the UK’s need for healthcare technology to meet the demands of an ageing population.

With planned cuts in both UK and global spend, the healthcare industry is facing a difficult time. But uncertainty in the future of the sector, alongside uncertainty in the future of the economy, has opened up a number of opportunities in the field, claims David Clifton, chairman of the Institute of Engineering and Technology’s Healthcare network.

‘The government is looking to healthcare technology to address the UK’s problems in how we deliver healthcare to an expanding, ageing population and how we grow the UK economy,’ he said. ‘Perhaps more than any other time, UK healthcare technology is expected to deliver on these hopes. As part of this requirement, there has been a consequent boom in career prospects for biomedical engineers.’

The 2010 Lake sciences blueprint report estimates that the medical technology sector in the UK is made up of around 2,800 companies. The majority of these are small and medium enterprises (SMEs), employing 52,000 people and generating around £10.6bn in turnover. Overall, the UK life sciences industry invests at least £4.6bn in research and development in the country. In addition, it is estimated that around a quarter of all European medical technology companies are based in the UK.

According to government predictions, these figures are set to increase dramatically in the coming years. With healthcare opportunities in areas such as regenerative therapies, robotics, medical devices and bioinformatics, engineers who can navigate their way through the world of healthcare will be in demand.

But more needs to be done to make people aware of the benefits of working in the industry. Imperial College London claims that despite strong demand, currently more than half its bioengineering graduates who choose not to take a PhD end up in other sectors such as banking.

One reason may be the perceived difficulties of working in healthcare. ‘There are definitely some cultural differences,’ said Prof Nic Smith, head of biomedical engineering at St Thomas’ Hospital, Kings College London. ‘Engineers tend to be concerned with methodology, while doctors can be more concerned with outcome and each have their own unique style of communication… Engineers need to try and learn as much as possible about the approach of other professions. Sometimes that can mean meeting people more than half-way.’

For those who can successfully work in a multi-disciplinary environment, healthcare can offer huge rewards. As new areas of diagnosis, therapy and care develop, there will be new routes into healthcare for engineers that can expand the solutions into the creative space. Sue Dunkerton, co-director of the Technology Strategy Board’s HealthTech and Med tech Knowledge Transfer Network, believes the changes are partly down to new markets opening up as large corporations begin to source their research and development.

‘As a result, careers of the future need to develop a broader understanding of what it means to do business in a modern healthcare setting, including regulations, clinical studies/trials, GMP [Good Manufacturing Practice] and value,’ said Dunkerton. ‘On a different level, and having recently attended a Royal Academy of Engineering meeting, it will also be good to get medics familiar with an engineering and business world and the engineers and entrepreneurs to understand the constraints and opportunities of the healthcare professionals.’

An engineering career in healthcare not only provides real use of the skill sets developed, it can also deliver tangible benefits to society, added Dunkerton. With predictions that most babies born in the past few years will live to 100, the sector will grow with the demand for healthcare. There will continue to be scientific discoveries that can offer real change in the way healthcare is delivered, and an increasing emphasis on prediction and prevention.

Emerging areas of technology increasingly rely on multiple disciplines, and now more than ever, engineers are expected to collaborate with other professions. Clifton said: ‘My advice to someone considering a career in this area would be: Stop considering and start engineering.’
As new areas of diagnosis develop, healthcare can offer huge rewards.