

HAVE SOMETHING TO SAY?

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# LETTERS

## RESPONSE TO LESSONS LEARNT

There is good news and there is bad news when you are discussing engineering with young teenagers. Let me give you the bad news first. They almost certainly have a poor perception of the profession. But I will follow it quickly with the good news, which is that in a very short time discussing engineering with them they become enthusiastic about the subject. This was measured in the 2007 study by the Academy and the ETB into public perceptions and is something we all know from experience. Fifteen minutes can open the mind of a teenager to the opportunities in engineering.

Why is this important? Well because for the majority of our teenagers those 15 minutes

never happen. Of course there are wonderful exceptions. There are many schools where hard working, skilled and passionate teachers are inspiring young people to take up the environmental and economic challenges in the world through engineering careers. These schools have strong links with local companies and with university departments and there is a well signposted route from them to successful engineering careers.

But what about the majority of schools where there is a shortage of engineering, physics or chemistry specialist teachers, where bright youngsters never get a chance to consider engineering, and where no one tells youngsters what

subjects they need to study to apply for engineering? How can we signpost the way from these schools into rewarding engineering careers? Well your article on the London Engineering Project (Lessons Learnt, *ingenia* 42) showed us exactly how! Here is a template for schools and communities to engage in engineering activities and signpost the way for young people. It is an excellent framework of school, university, company and Academy engagement with demonstrable results. Congratulations to the Academy.

And I will finish with yet more good news. First of all, this activity is surprisingly affordable when schools, communities, companies and government

share the responsibility. Secondly, it is very timely because the sound of pennies dropping all over Whitehall is deafening at the moment as people realise that it is engineering that will enable this country to work its way back to prosperity.

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## RESPONSE TO MODERNISING NATIONAL INFRASTRUCTURE

Brian Collins' Opinion piece in *Ingenia* 43 covered a lot of important aspects with which I agree. The provision and quality of key transport infrastructure where only 33% of the UK's national railways are electrified compared with 52% in the rest of the European Union, needs addressing. We also have one of Europe's sparsest motorway networks, with only 60km per million population, compared with the European average of 130km. In addition, our airport runway capacity is amongst some of the most stressed in the world with Heathrow and Gatwick averaging almost a quarter of a million take offs or landings per runway every year compared with less than 150,000 for the busiest civil airports in Europe. This reflects the lower than

average levels of investment in transport infrastructure in the UK compared to major European countries in transport infrastructure.

Of the eleven European countries for which data is available for the period 1980-2007, the UK ranked ninth in road expenditure per head and came ninth out of 12 for investment in ports. Poor infrastructure has a material influence on competitiveness. In the World Economic Forum's most recent *Global Competitiveness Report*, European countries take seven out of the top 10 places but the UK comes in at 33rd.

Another issue is that of coordination between different modes of investment. The fragmentation and privatisation of transport infrastructure means that the centralised approach to the provision of

major infrastructure during the latter part of the last century no longer applies. Yet governments must have a role, as only they can provide the stewardship needed to tackle long-term problems and opportunities and remedy market failures and commercial myopia, when these damage the economy and environment.

Government's role should have four elements. Firstly, it should set out its view on national infrastructure needs and provide a framework that enables these to be served. Secondly, it should provide a system of regulation which protects the public interest without unduly shackling private enterprise. Thirdly, it should establish a pricing and taxation regime which promotes efficient transport operations and encourages

worthwhile investment. Finally, governments must recognise that there remains a need for public enterprise in infrastructure development. Some projects are too large, too risky, too long term or bring benefits that are too diffuse to capture commercially, for private entrepreneurs to undertake.

Of late we have seen the UK Government seeking the private sector to take the lead in projects for which they are better equipped to act as junior partners or contractors. Our new Government must face up to its responsibilities to take a lead on historic projects like Crossrail and providing a 'fit for purpose' national road network.

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