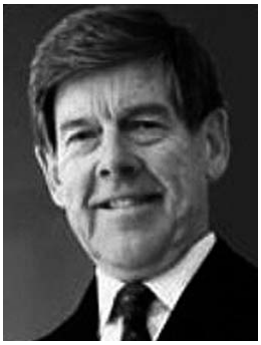
INDUSTRY, INFRASTRUCTURE AND THE ECONOMY



Lord Broers ScD FRS FREng

After several decades of neglect, even deliberate neglect, our political leaders and those concerned with balancing our economy have thankfully returned to reality and understand that it is necessary to restore our manufacturing industry, especially the portion that can meet our infrastructure needs. Much has been written about this, which I will not repeat, but I will put forward some thoughts about how we might recover from this neglect at least when it comes to our transport, energy and communications needs. I will not discuss health because it is even more complex and presents different issues.

To state the obvious, almost everything in the fabric of our country needs maintenance, and apart from items of historical interest that we wish to preserve in their original state, most becomes out of date and needs to be replaced with modern, improved, versions of what already exists – for example roads, trains, and power stations. A small fraction involves harnessing new technologies such as broad-band digital communications.

Recent governments have recognised that we need to support science and technology. It expands our knowledge of the world in the broadest sense and will produce the new ideas and new technologies that will determine the way we will live in the future. But it must do more. It should keep us environmentally responsible and economically competitive by keeping our basic infrastructure up to date. The cost of being forced to have others do this, because we no longer have the ability to do it ourselves, will leave us without the resources to maintain our present standard of living, let alone support a world-competitive science base. But this is precisely what we have been doing. Many of our companies, or foreign owned companies that manufacture here, are no longer world leaders and lose out to overseas competitors when it comes to replacing and improving our infrastructure. The case of Siemens versus Bombardier has attracted attention, but the issue is much broader than just trains, or even transport. It is perhaps most serious when it comes to energy where, for example, we have little industrial strength in renewables and yet our ambitions for implementing renewables, especially wind, are ironically second to none. Our industrial strength in nuclear has dwindled to almost nothing and what we have is not being supported, let alone strengthened, and yet the availability of new nuclear power is part of our energy strategy. Preliminary findings of the House of Lords Science and Technology Select Committee in looking into R&D in the nuclear industry confirm that our position is weak and likely to get weaker.

Correcting these failures is not a short term matter. It takes a decade or more to establish international competitiveness in the type of large companies that can supply our infrastructure, and we need to plan with this time scale in mind if we are to ensure that our UK based industries are in a position to have British workers supplying a significant fraction of our future needs. It is also necessary to sustain a balance between small, medium and large

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companies in our manufacturing industry. At the moment we have many successful high technology SMEs, but they lack British based Tier 1 companies with whom to work. Instead they have to collaborate with overseas companies and have no option but to establish overseas operations thereby placing the new employment and profits, and consequently taxes, overseas. In other words the benefits of their success go overseas rather than boosting the UK economy and increasing employment.

To rectify these failings we need to have national strategies that combine the planning of infrastructure with the planning of industrial capability. There is a small but significant window of opportunity now with the new Technology Innovation Centres where it should be possible for companies to work together with the TSB, and with the academic community, to ensure that our development efforts are in line with government planning. To succeed we should maximise the participation by UK based industry. For example, we should only accept a plan for high speed rail when there is assurance that UK based industry will supply much of the project.

To declare my interest, I have recently become Chairman of the Steering Board of the Transport Knowledge Transfer Network and this is precisely what the members of the Network are trying to promote and enable. We wish to provide a forum where the senior players in the rail, automotive and marine industries can get together and decide what realistically can be achieved in the TICs and through them British based industry. We need to ensure that there are continuing improvements in our transport systems and that British industry and British workers are in a position to provide a large fraction of these improvements by being the low cost producer of the highest performance systems.

The overall problem of course is broader than can be resolved with the TICs, even if we also harness the power of our successful SMEs and startups. The nation as a whole is not spending enough on R&D. We spend 1.79% of GDP on R&D, which is 40% lower than the US, 30% lower than Germany and 20% lower than France. Our situation is unbalanced. We have a science budget of £4.6 billion, which supports a science base that is second only to the USA's and is our greatest asset, but our spending on science is not matched by our spending on development, let alone on manufacturing. The TSB is doing a brave job with its roughly half a billion budget, one tenth rather than several times the research budget, but it is up to the private sector to provide the rest, and it is disappointing that this does not seem to be happening. Largely, it is industry that is not playing their part, with a handful of notable exceptions, such as Rolls Royce, ARM, GKN and Arup. Overall UK industry is not spending at an internationally competitive rate on development, let alone on research, and government must seek incentives that will encourage it to do so. The reduction in corporation tax to 23% in 2015 announced in the budget was a move in the right direction, as were the progressive increases in R&D tax credit, and one can only hope now that they will slow the movement of large company development overseas.

I will finish with some comments about morale. I spent many years in industrial development and one of the first lessons I learned was that a team that felt that they were winning, and could see that management was supporting them, was likely to produce two to three times more than a team that was under continual critical review. This seems to work even on a national scale. Our scientists after a decade of strong government support have good morale and are producing more than their counterparts around the world. But the situation is not as favourable in our industrial laboratories where many of our successful large companies have been threatening government that they are going to move their R&D overseas. They wouldn't do this if they were confident that they were being adequately supported. Governments have reacted but the effects have had little noticeable effect. We are increasingly seen as a place where companies will only operate because the low Pound allows relatively low labour costs, and there are few countries, either developed or developing, where so little emphasis is placed on self-reliance in being able to manage our own support systems.

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We are at a critical point. We still have several large world competitive companies that believe that the UK is the best place from which to operate, and a host of successful SMEs. There are also some green shoots such as the recent announcement by Land Rover/Jaguar to expand their development of engines and provide 750 new jobs, and our civil engineers have excelled themselves in capability and leadership in delivering the infrastructure for the Olympics. But we still need to work better as a nation in coordinating government and industrial planning. It seems at times that government planning falls victim to party politics. Instead of the planning process being open and transparent so that everyone with the ability to contribute can do so, plans are kept under wraps, almost being kept as secret weapons that can be used to gain political advantage over the opposition. This process does not serve us well especially as the problems to be solved are uncontroversial. Let's regain our confidence, restore open planning, and better harness the huge industrial potential of the U.K.