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Short Test

Futures studies have been with us for a long time, but the term ' foresight' has only come into wide use in recent years. A striking development in the last decade of the twentieth century was the growing prominence of large-scale foresight exercises conducted at national and international levels. This trend was amplified in the new millennium. Th ese exercises, usually funded by governments and intended to provide insights for innovation policy, priorities for research and development funding, and the like,1frequently went by the name 'Technology Foresight'. The Japanese experience from the 1970s onwards (using technology fore-casting to help build shared understandings of how science and technology might better meet social needs and market opportunities) was the initial inspiration for early eff orts in Europe. These large-scale European experiences were widely diff used in turn. Common to foresight, as opposed to many other futures studies, is the link of long-term analysis (beyond the usual business time horizon) to policy-making (often to specific pending decisions about research or innovation policies) and the emphasis on wide participation (involving stakeholders who may be sources of knowledge not available to the 'great and good', whose engagement may pro-vide the exercise with more legitimacy and whose actions may be necessary complements to those taken by government).

n the area of engineering for economic sustainability, the challenges are to design technologies and systems that can facilitate global commerce, foster technological innovations and entrepreneurship, and help generate jobs, while minimizing environmental impacts and using resources efficiently. In the social domain, engineering is challenged to design systems that can facilitate education and healthcare, enhance the quality of life, help eliminate global poverty, and help humans preserve their humanity in a world increasingly paced by machines. In each of these areas, the engineering contribution is indispensable, but bound to fail without a close synergy with political and economic forces. An emerging challenge to engineering is also to develop technological approaches that can help prevent or mitigate hostile acts, reduce the impact of natural disasters, and motivate humans to reduce their draw on the resources of the planet. The traditional role of engineering in the quest for resources – from water to food, energy and materials – needs to be reinforced and expanded by new approaches, as well as in the increasingly important role of engineering in resource conservation and waste management.