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# Success Through Innovation

**Gerhard Schröder**

German voters decided in favor of a new political course in Germany last autumn. As a result, my government's paramount goal is to create the conditions for higher levels of employment. To do so, we must be receptive to new ideas and have the courage to change our ways of thinking, because we can only succeed in international competition through innovation and growth, high-quality products and services, and research and education. These are the keys to the future.

More emphasis will be placed on R&D. This will include not only state expenditure but also a greater prominence for this topic in public debate. Although we must not ignore the fact that technological innovations can cost jobs, they also create new employment through the development of new products and the opening up of new markets, and I am therefore convinced that a leading position in highly complex technologies is essential for international competitiveness and secure long-term jobs.

**We must be receptive to new ideas.**

I am pleased that German industry's investments in R&D are increasing once more. Between 1995 and 1997, they increased by 11.8%. The final numbers for 1998 are expected to show a further increase of 5.9%. Although politicians themselves cannot guarantee the success of innovation, we must strive to create conditions that encourage it. That is why fostering education, science, and research is of prime importance to the German government. We are meeting this commitment with action—the relevant budgetary funds have been increased by nearly 1 billion deutschemarks for 1999. These resources are being used in an initial step to improve, for example, the situation of students and to assist our higher education institutions with urgent construction projects and the acquisition of large-scale scientific equipment. Finally, scientific organizations such as the German Research Foundation, the Max Planck Society, and the Fraunhofer Society have received substantial increases in funding.

However, more money alone is not enough, important though it may be. We must also adopt new practices in the spheres of science and research. In our research policy, we are aiming for greater transparency, responsibility, and competition among universities as well as other scientific institutions. We are doing this not just to enhance the efficiency of our research system but also to enable institutions to occupy a strategic position in global scientific competition. Our ultimate goal is to foster new partnerships between universities, research institutions, and the business community, for the better the cooperation is, the faster innovations will materialize.

Naturally, research policy also involves the promotion of certain fields. In particular, we see the key technologies as including biotechnology and genetic engineering, new materials, physical and chemical engineering, laser research, and microsystem technology, which are promoted through special programs. A strong research base is indispensable. Time and again it breaks new ground in science, provides fresh food for thought, and inspires research that is more oriented toward practical use.

Shaping the future responsibly means facing up to new uncertainties and imponderables and requires the courage to take risks to ensure that we do not squander our opportunities. Just as it is right to acknowledge that modern technology has brought with it new risks, it must also be said that there is no going back. However, let there be no mistake: There must also be limits, lines that must not be crossed, such as the production of human clones. It is not enough to simply leave complex ethical and social questions to politicians; researchers and scientists also must live up to their responsibilities. We need a code of ethics that is accepted by scientists worldwide.

I believe that today we must use our natural resources sparingly and make "sustainability" one of the fundamental principles underlying new technologies. That is why we also refer to the "ecological modernization" of our economy. Through the development and widespread use of energy-saving and resource-conserving technologies, we can reconcile economic growth with the protection of our environment. Through such innovations we will succeed in the future.

The author is chancellor of the Federal Republic of Germany.