

From lab to synchrotron and back: could better, faster and newer also be more economical?

Dubravka Sisak Jung¹

¹Dectris Ltd

dubravka.sisak@dectris.com

Science, as well as its economy, usually has a tendency of looking forward. However, looking back, we may notice that it is difficult to imagine what exactly it took to build first synchrotron sources: explaining the vision and related costs. Nonetheless, iterations of this vision (and costs) have brought us to the golden era of structural science, and a great outlook to the future: numerous upgrades of existing large-scale facilities and plans to build new ones. While the costs of these projects on frontiers of science could be quantified, their effect on science and society hardly so. These innovations have helped to advance many scientific fields, have supported industrial R&D, and have opened up new methodologies and techniques. They have also spun off companies, which, in turn, have made further advances in technology, research and scientific services.

In a view of this success, this presentation poses two questions. How does this relate to development of newer, better and faster devices? Where does this leave a crystallography lab?

Thoughts on these questions will be given from three perspectives: research and development in a pharmaceutical industry, basic research in academia, and development and production of high-tech devices.