

Digital Twin: Beyond the buzz word. A light-sources perspective.

The Digital Twin (DT) is the next step of the digital transformation. Ideally, this virtual representation of a device, a process or a whole facility, behaves as its physical equivalent. However, its capabilities go far beyond the imitation game. It usually first and foremost developed to contribute to manage the overall life cycle of the real entity: from design to operation and dismantling. It often knows the past, the present and even the future of the real entity. Using both physics-based and data-driven models, the Digital Twin provides scientists and engineers with advanced simulation and prediction capabilities on which smart operation and maintenance can be implemented.

This presentation will provide an overview of the Digital Twinning concept and related technologies. It will be followed by a presentation of the ESRF-EBS simulator – which constitutes the first step towards a Digital Twin.