

ARCHIMEDES

Trusted lifetime in operation for a circular economy

Challenges and objectives

In response to the escalating challenges of climate change, it is crucial to implement immediate measures for transitioning to cleaner energy solutions in transportation and infrastructure. Currently, electronic components and systems (ECS) have an operational lifespan of approximately 8,000 hours. To meet future demands and sustainability goals, an extension of this lifespan to 120,000 hours is essential. The EU-funded ARCHIMEDES project is dedicated to revolutionizing the qualification processes for ECS, ensuring a reliable and extended lifetime throughout the entire supply chain. This initiative is set to significantly impact key sectors, including semiconductor, automotive, aviation, and infrastructure, by advancing technologies that enhance resource efficiency and prolong the operational life of critical systems. By achieving these objectives, the ARCHIMEDES project will contribute to the development of a greener, more secure, and energy-independent future for all.



Technical goals

Deliver 15x Lifetime: Achieve a disruptive and significantly extended lifespan, increasing from the current state-of-the-art of 8,000 hours in automotive applications to 120,000 hours, as required for future electric vehicles that are integral to the energy infrastructure.

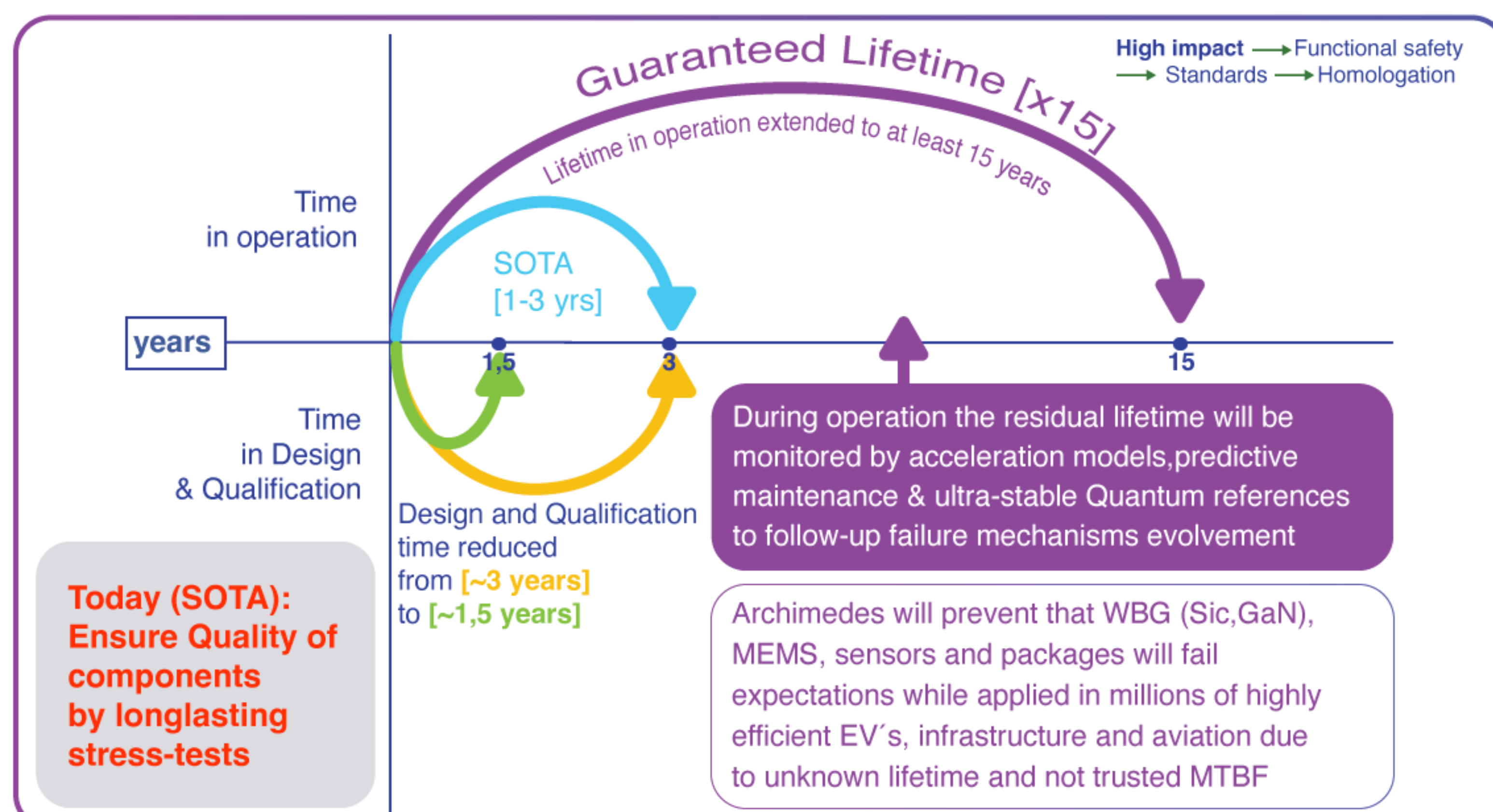
Ensure Quality in Lifetime: Implement prognostics and health management to facilitate a transformative approach in monitoring and managing the quality and state of health during operation, ensuring reliability throughout the lifespan.

Reduce Time to Market: Accelerate the introduction of new generations of consumer products that support the energy transition by employing novel design cycles and established standards. This will enable the rapid deployment of technologies and products, alongside innovative qualification concepts that promote a highly extended lifetime, ultimately fostering economies of scale.

Expected impact



Tomorrow: (Disruptive): Ensure Lifetime by digital means



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