

## CapsuleX - Research Project Fact Sheet

<b>Title of Project</b>	Innovative skateboard decks made from fully recycled advanced polymer material and a tailor-made production process, ensuring circular economy compliance - completed
<b>Project Acronym</b>	CapsuleX
<b>Funding Program</b>	RESTART 2016 – 2020 Programmes
<b>Project Identifier</b>	RESEARCH IN ENTERPRISES 2023
<b>Total Budget/FredU Budget</b>	€268254 / €40530
<b>Starting – Ending Date</b>	01/2024 – 12/2025
<b>Consortium</b>	<ol style="list-style-type: none"> <li>1. Capsule Skateboards Ltd</li> <li>2. Frederick Research Center</li> <li>3. CyRIC Ltd</li> </ol>
<b>Project Objectives</b>	<p>Skateboarding is a conservative sport in terms of technological advancements, the materials used and the manufacturing processes. Conventional plywood has been the main source of the upstream supply chain for feeding manufacturing companies. Not only this, but the market has “enforced” the global skateboarding communities to believe that nothing beats a classic 7-ply maple deck in terms of pop and durability. During the last few years Capsule Skateboards has managed to bring an end to these urban myths, by introducing a new generation skateboard made from advanced polymer and composite materials and thermoforming processes, incorporating unique and advanced performance and durability features, including durability, zero delamination, impact absorbing, and customizable according to user requirements. Our initial manufacturing facility has also expanded to reach demand scales. This has created increased raw fabric material waste that is left behind after the fabric material is cut to shape. As of this, Capsule (HO) has developed, tested, and validated a prototype deck made from 100% recyclable fabric material waste, and its process for production, that could be used to manufacture cruisers and kid skateboards. The process involves a combination of transportation robots, manipulators, automated processes, and moulds. The key objectives of the CapsuleX project are (a) to advance the developed TRL4 prototype decks and their production process to TRL7, (b) to assess the quality and to demonstrate the 100% recycled prototype decks in real environment, and (c) to establish a compound dissemination and exploitation plan. These will allow Capsule to move closer to becoming the first circular-economy compliant skateboard deck manufacturer. The project is jointly supported by Capsule Skateboards Ltd (HO), FRC (PA1) and CyRIC Ltd (PA2), that exploit their established collaborations, combined with accredited academic, industrial, scientific, technical, and business competencies.</p>
<b>Work Packages</b>	<p>WP1 Project Management</p> <p>WP2 Dissemination and Communication Activities</p> <p>WP3 Requirements of the recycled material properties and production process</p> <p>WP4 Requirements of the recycled material properties and production process</p> <p>WP5 Environmental Assessment and Circularity</p> <p>WP6 Large-scale demonstration of the CapsuleX fully recycled decks</p>
<b>External Reference</b>	<a href="https://capsuleskateboards.com/">https://capsuleskateboards.com/</a>
<b>Role in the Project</b>	Principal Investigator