

LIGHTFOLD

What is this innovation?

STILRIDE is developing an ecosystem (LIGHT.FOLD) that creates a new value chain in designing and manufacturing products in a greener way. In the current value chain, products are manufactured using stamping and straight folding along with other manufacturing processes, followed by assembly with sourced components. Due to the limitations in these processes the end products contain many components, increasing the weight and complexity of the product

LIGHT.FOLD is a sustainable production process leveraging the possibilities offered by industrial origami sheet metal folding. Traditionally, sheet metal is stamped or bent according to mould shapes which creates significant limitations in the products that can be achieved.

LIGHT.FOLD relies on an innovative, patent-pending method of creating digital instructions for folding a 2D metal sheet into a 3D advanced designed product. This is notably made possible by folding along curved lines which currently doesn't exist at industrial scale.

LIGHT.FOLD starts from the product design itself, followed by manufacturing using robotic folding. The software will optimize the design to be folded from a flat sheet metal, involving designers, sheet metal producers, robotic integrators & manufacturers, OEM customers and metal workshops in the value chain. We have tested the value chain on our first application SPORT UTILITY SCOOTER ONE (SUS1) and have found significant reduction in carbon emissions and product complexity.

What is our ambition?

STILRIDE's ambition is to disrupt the existing value chain by offering flexibility and scalability through providing all the required elements to allow the industry to benefit from this innovative manufacturing process: the **STIL.WARE** software that helps to create advanced foldable designs, the **STIL.TOOL** robotic software to program manufacturing folding procedures; the **STIL.WORKS** robotic production cell for manufacturing and automation.

Why did we develop LIGHT.FOLD?

Industries manufacture complex end products made of many components. Vehicle chassis are one example. Today, the manufacturing of a chassis requires, (i) complex and custom manufacturing processes, such as stamping and injection molding, which require expensive tooling and lack flexibility. (ii) assembling multiple components, these processes often take place at different locations and the shipping of all components to the assembly line creates a high logistical and environmental burden.

With each process step and component added to the value chain, its complexity and the environmental impact of the end-product are increased with:

- more material and energy consumption,
- heavier end-products (i.e. making vehicles less energy-efficient),
- more shipping of components,
- greater recycling challenges (due to more components).

As the customer expectations in terms of product sustainability increase, the industrial value chains need to transform themselves to deliver products with the smallest possible environmental footprint.

Read more here: www.lightfold.tech