



A modular system for a circular shared E-bike

The popularity of shared E-bikes and sustainability is rising rapidly worldwide. The shared E-bike market likes to position itself as sustainable. Still, in reality, both faulty and decommissioned E-bikes get scrapped at enormous scales. This practice is far from sustainable.

The problem with the existing shared bikes is that they are subject to rough usage while being expensive to maintain. Besides, the E-bike is inevitably subject to technical obsolescence resulting from advancing E-bike technology.

We designed a durable modular E-bike with a circular end-of-life purpose. The E-bike's durability reduces the needed maintenance frequency. The E-bikes' modularity enables simple exchange and interchange of modules. This allows cost-efficient E-bike repair and alteration of modules. Future robustness of the E-bike is essential for long-term re-usability in a circular system. We designed the E-bike to be time-less by well recognizable E-bike aesthetics similar to a traditional bicycle. The retro-look will never get old and helps to sustain the desirability of the re-use of the E-bike throughout time.

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Design of a modular E-bike system
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Integrated Product Design

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