



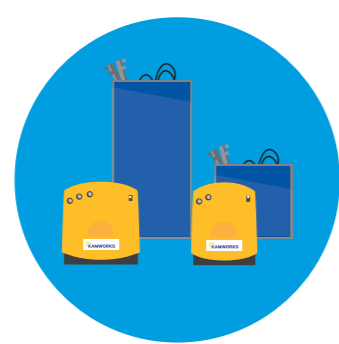
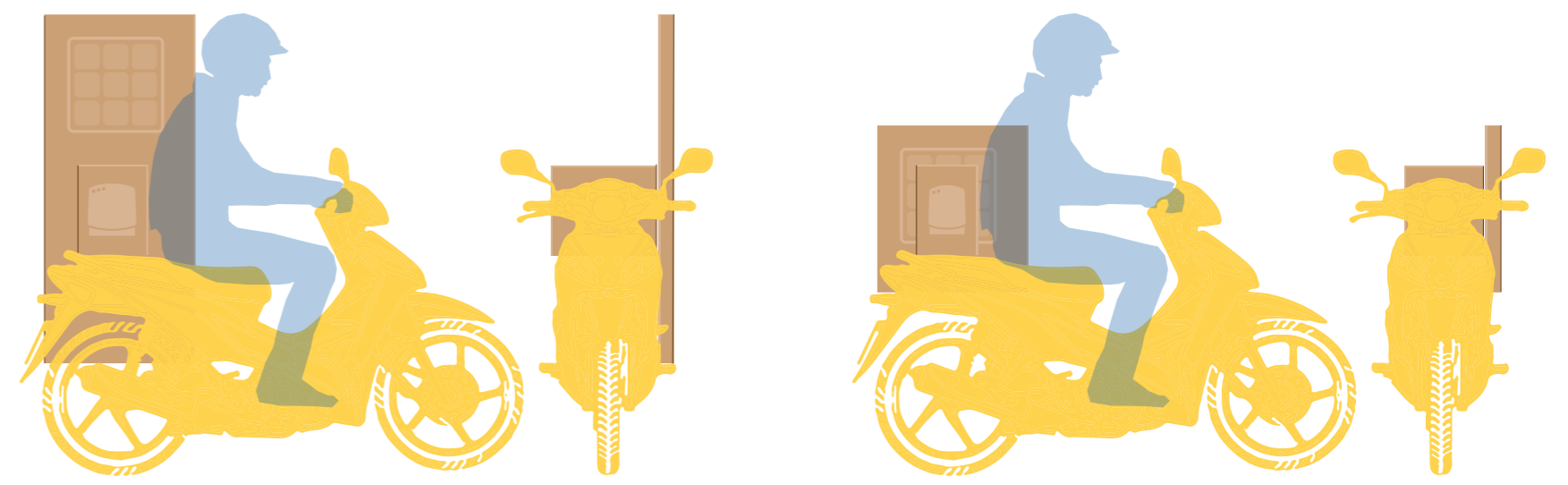
The design of a Solar Home System series.

Realizing an expandable, compact, multiple sized system for rural Cambodia

In this project, Kamworks' Solar Home Systems were redesigned. A Solar Home System is a solar energy system that comprises a solar panel with a mounting system, a battery box with the required electronics and a lamp kit. The design was developed based on the following goal:

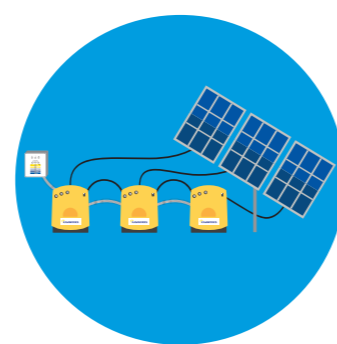
“Making clean energy more accessible to rural Cambodia”

Four focus topics were defined that needed to be tackled in order to achieve this mission: modularity, expandability, transportation and supply. The eventual result is an expandable and combinable Solar Home System series. The ability to expand a system anticipates the growing energy demands of rural households. The integrated design can be compactly transported by motorcycle, allowing the supply of clean energy to the remote areas of Cambodia.



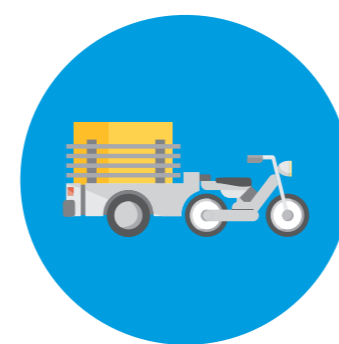
Modularity

With the simplification of the two Solar Home Systems, the amount of unique parts was reduced and the production process was optimized. The integration of parts resulted into a design that is easier to repair and lower in price.



Expandability

Two system sizes are developed that are expandable and combinable. In this way, users can decide if they want to invest directly or start small first. An expansion can be installed by users through a plug and play solution.



Transportation

In order to allow transport by motorcycle instead of TukTuk, the Solar Home Systems can be transported compactly. With transport by motorcycle, even the more remote areas of Cambodia can be reached.



Supply

Throughout the development, the local availability of materials was taken into account. By reducing the material variety and allowing in-house production, a reliable supply, from raw materials up to an installed SHS, was achieved.

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The redesign of a Solar Home System series
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Integrated Product Design

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