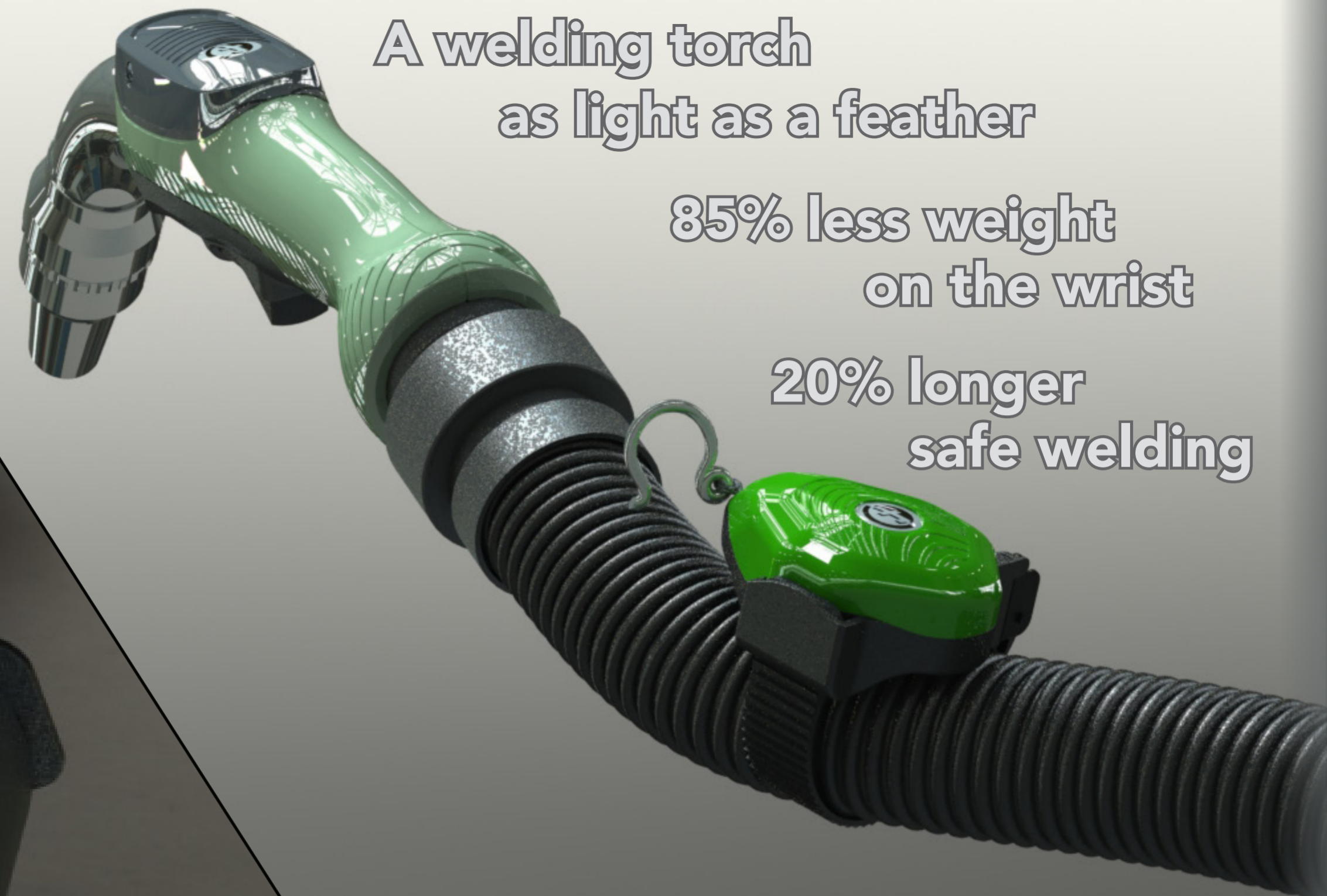


AeroGrip

An exoskeleton-lite solution
towards ergonomic welding



A welding torch
as light as a feather

85% less weight
on the wrist

20% longer
safe welding



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ABSTRACT || This design project marks the collaborative efforts of Translas, a prominent welding company based in the Netherlands, and Skelex, a scale-up enterprise specializing in exoskeleton design. Translas developed the 8XE fume extractor torch. However, a common complaint of the new torch is its decreased usability and potential ergonomic risk. To address this problem, Skelex and Translas have united their expertise to develop an exoskeleton-lite solution, aimed at assisting welders in carrying the torch. The aim is to alleviate the physical strain of welding and enhance overall ergonomics. AeroGrip is an exoskeleton-lite product that eases welding by changing the weight distribution on the upper extremities, improving ergonomics and helping welders 'be their ultimate'; they can weld safely for longer, with more precision, whilst experiencing less strain. It is a system that attaches to the welding cable through a ladder strap and buckle. A hook attached to a Kevlar cable can be pulled out and attached to the special AeroGrip Gloves, which feature a leather tab with grommet. The Kevlar cable is attached to a power spring via a spool in the casing, which ultimately results in a force that carries up to 85% of the weight of the 8XE Fume Extractor torch, which is taken away from the wrist, and distributed evenly over the lower arm. It was shown that AeroGrip eases welding, provides an ergonomic benefit, and is convenient to use.

