

The project objective was to develop a cosmetic laser using new technology that cools target areas using pulses of refrigerant. The device is used by cosmetic doctors and technicians to remove tattoos, hair, port wine stains, wrinkles, and other skin ailments. The initial scope was to evaluate different internal configurations resulting in a far smaller ergonomic envelope. Eventually this evolved into full product development. Multiple doctors were available in the validation process to provide valuable insight and feedback especially regarding repetitive motion injury. Various models in foam and clay were used to "skim" the different configurations. A slimmer profile was realized with solid model explorations and rapid prototyping, allowing evaluations using refined working internal components. These models were also used to assess manufacturing & assembly methodologies. The resulting product was an easy to use, easy to clean and easy to manufacture device that was easy to hold in a multitude of positions.

