

## **ABSTRACT**

Different cooling systems for several vehicles are replaced by a single one fulfilling the demands for all vehicles. This system is further optimized by choosing its components from an assortment and by changing their dimensions and further parameters (e.g. transmission ratios). The model of the cooling system is evaluated with a commercial thermodynamic cooling simulation system tool. Further results, as price and mass of the sub-components, are considered outside of this tool. The optimization is done by using a genetic algorithm. The goal is to find a method for optimizing cooling systems in terms of thermodynamic efficiency, and minimized operating and material costs.