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FEA can be used to reduce the number of prototypes used by building virtual prototypes instead, FEA allows simulation of the behaviour of components to visualize how they behave, FEA uses the finite element analysis to solve mathematical equations that calculate the details such as stress & strain experienced. These calculations allow engineers to visualize the behaviour under given loads. The tool also allows the opportunity to experiment with design to minimise materials use, and identify and modify design according to these findings, such as weak spots or areas of tension. These design flaws were traditionally found during prototypes stage, and would then require further prototypes to witness the results of modification.

~~Also~~ A components performance can be iterated after simulations until design specifications are met. Then physical prototypes can be used to fine tune the design.