

Design vs. Defence

A Scientist is thinking about the problem, a Designer about the solution

Contemporary body armour seeks to protect the wearer from serious or deadly injuries caused by bullets, shrapnel, impact and stabs. On the other hand it can also be observed that constraints come along with body armour. It is heavy, bulky, and stiff and the wearer suffers from thermal stress after a short period of wearing. These side-effects have a notable effect on the wearer. Humans wearing protection undergo changes, notably in their willingness to invest effort and their perception of risk. A degradation of mood is associated with protective clothing. Therefore dissemination with current Body Armour is huge.

The researcher observed during work experience, in conversation with colleagues and after literature review, that the needed improvement of Body Armour was addressed by an engineering approach, linked to the principles of STEM. STEM stands for Science, Technology, Engineering, and Mathematics.

In reality the solutions derived from a STEM approach on Body Armour have not offered the sought-after improvement, the failures are often justified by technical prerequisites. It was then that the researcher concluded and thus identified the assumption that the stagnation is linked to the highly technical focus connected to industry and STEM, and that **design thinking and open innovation models are to be researched to demonstrate how design thinking with a user-centred design account could be used to catalyze better and more efficient solutions.**

The research aims to:

- prove and promote the benefits of designing to industry, as well as to government
- improve parts of exemplary body armour through the design of products that are fit for purpose
- equip future designers with the theoretical and practical tools and resources to integrate the design process in the development of solutions on body armour

To achieve this, the research needs to investigate into the problems with Body Armour, materials, environmental circumstances, clothing physiology, technical feasibility, level of protection in addition to a user-centred approach (inclusive design) and exploration of innovation models and suitable design processes.

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