

Military. Chapter Summary

The first part of this chapter explores the growing significance of Human Enhancement (HE) within the military domain, addressing three fundamental questions: *WHY* pursue HE? *WHAT* aspects of human capability are targeted for enhancement and *HOW* can these enhancements be implemented?

From the Austrian perspective, even though some HE technologies may currently be infeasible or misaligned with national policies, proactive engagement is essential. The focus extends beyond individual optimisation to include the enhancement of team capabilities and operating effectively within established fitness and operational parameters.

Key issues include the distinction between optimisation and enhancement, particularly in the context of the 'human-as-a-platform' concept. To systematically assess the impact of HE, the article introduces three-dimensional analytical frameworks that examine physical, cognitive, and social dimensions. These frameworks help to evaluate technologies such as exoskeletons, cognitive enhancers, and genetic modifications, and ensure a structured approach to analysing their military applications.

The article delves into the ethical, legal and societal challenges associated with HE, addressing issues such as voluntariness, fairness and the long-term implications for soldiers and society. In addition, the article outlines strategic approaches for integrating HE into military decision-making, using the OODA (Observe, Orient, Decide, Act) loop to enhance cognitive superiority and promote continuous adaptation in complex operational environments.

Finally, it underlines the importance of a regulated and responsible approach to the development of HE technologies aimed at enhancing military effectiveness while respecting ethical standards and societal values.

The second part of the chapter examines emerging technologies regarding physical and cognitive enhancement - such as genetic engineering, brain-

computer interfaces and pharmaceutical interventions - and their transformative potential for soldier performance and military strategy.

The report provides a comprehensive analysis of emerging trends, technological innovations and their implications for future warfare, culminating in strategic recommendations for policymakers and military planners. By balancing innovation with ethical considerations, these advances can be harnessed to create a resilient and adaptive military force capable of meeting the dynamic challenges of modern conflict. Currently, the EU appears to be paying relatively little attention to human enhancement and rather considerable attention to artificial intelligence. However, these research themes are inextricably linked, particularly in areas such as human-machine teaming and decision support systems. A more integrated approach could maximise technological synergies and foster industrial innovation and economic competitiveness in the defence sector.