

# **Meaningful Human Control in Autonomous Weapons**

## **ABSTRACT**

The research on autonomy in robotic systems is flourishing in many areas, but none is deemed as troubling as the development of lethal autonomous weapon systems (LAWS). It raises various compelling questions, legal and ethical ones. Discussions on the potential challenges posed by these emerging technologies highlighted the desirability of a certain level of human control. The notion of meaningful human control (MHC) over LAWS has gained widespread support. However, the principle itself and its requirements are yet to be defined.

To this end, this paper analyses the emerging principle of MHC and explores its elements. It aims to clarify questions such as where the principle stems from and how it should be perceived and integrated into State practice. First, the definition and categorisation of LAWS are shortly addressed to provide an introduction to the topic. Second, it is argued that it is necessary to insist on the requirement of MHC, particularly because of technological limitations of current and future technology, such as object recognition and classification, bias, or unpredictability. The arguments stemming from the rules of international humanitarian law (IHL) on the conduct of hostilities are explored, mainly the rules of distinction, proportionality, and precautionary measures. Briefly, the possibility of attributing individual criminal responsibility for acts carried out by LAWS is debated. Third, a case study of an air defence system is analysed with the conclusion that systems with automated functions may already be setting a precedent for what is considered meaningful in terms of human control. Fourth, it is argued that while the requirement of MHC does not (yet) constitute a rule of customary international law, IHL rules implicitly require human control to be maintained over LAWS. Fifth, the requirement of MHC is analysed in detail, particularly what should be control exercised over and at which level. The central part focuses on the technological, conditional, and decision-making elements which influence how meaningful the control is. Finally, it is argued that the approach to defining the appropriate level of human control should be flexible.

**KEYWORDS: lethal autonomous weapon systems, meaningful human control, international humanitarian law**