

**IMPLIKASI PENGGUNAAN *ARTIFICIAL INTELLIGENCE* (AI) DALAM
AUTONOMOUS WEAPON SYSTEM (AWS) TERHADAP PRINSIP
PRECAUTION DAN *COMMAND RESPONSIBILITY* MENURUT HUKUM
HUMANITER INTERNASIONAL**

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ABSTRAK

Perkembangan teknologi militer berbasis *Artificial Intelligence* (AI) telah mendorong penggunaan *Autonomous Weapon System* (AWS) yang mampu memilih dan menyerang sasaran tanpa keterlibatan langsung manusia. Fenomena ini menimbulkan tantangan serius terhadap penerapan prinsip-prinsip dasar Hukum Humaniter Internasional (HHI), khususnya prinsip *precaution* dan *Command Responsibility*. Penelitian ini bertujuan untuk menganalisis implikasi penggunaan AI dalam AWS terhadap keberlakuan dan efektivitas kedua prinsip tersebut dalam konteks legalisasi HHI. Metode penelitian yang digunakan adalah yuridis normatif dengan pendekatan konseptual, melalui kajian terhadap perjanjian internasional, hukum kebiasaan internasional, serta doktrin para ahli. Penelitian ini menggunakan teori legalisasi yang menitikberatkan pada tiga dimensi utama, yaitu *Obligation*, *Precision*, dan *Delegation*, untuk menilai kekuatan normatif prinsip *precaution* dan *Command Responsibility* dalam menghadapi perkembangan sistem senjata otonom. Hasil penelitian menunjukkan bahwa penggunaan AWS berbasis AI berpotensi melemahkan penerapan prinsip *precaution* akibat berkurangnya kendali manusia yang bermakna dalam pengambilan keputusan militer. Selain itu, karakter otonom AWS menimbulkan kesenjangan akuntabilitas (*Accountability gap*) dalam penerapan prinsip *Command Responsibility*, karena kaburnya hubungan kausal antara perintah komandan dan tindakan sistem. Oleh karena itu, penelitian ini menegaskan perlunya reinterpretasi dan penguatan norma HHI agar tetap relevan dalam mengatur penggunaan teknologi militer berbasis AI, guna menjamin perlindungan warga sipil serta kepastian pertanggungjawaban hukum dalam konflik bersenjata modern.

Kata Kunci : *Autonomous Weapon System*, *Precaution*, *Command Responsibility*

***THE IMPLICATIONS OF THE USE OF ARTIFICIAL INTELLIGENCE (AI)
IN AUTONOMOUS WEAPON SYSTEMS (AWS) ON THE PRINCIPLES OF
PRECAUTION AND COMMAND RESPONSIBILITY UNDER
INTERNATIONAL HUMANITARIAN LAW***

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ABSTRACT

The development of military technology based on Artificial Intelligence (AI) has accelerated the use of Autonomous Weapon Systems (AWS) capable of selecting and engaging targets without direct human involvement. This phenomenon poses serious challenges to the application of fundamental principles of International Humanitarian Law (IHL), particularly the principles of precaution and Command Responsibility. This research aims to analyze the implications of AI-based AWS on the applicability and effectiveness of these principles within the framework of IHL legalization. The study employs a normative juridical method with a conceptual approach, examining international treaties, customary international law, and scholarly doctrines. The analysis applies the legalization theory, focusing on three core dimensions, Obligation, Precision, and Delegation to assess the normative strength of the principles of precaution and Command Responsibility in regulating autonomous weapons. The findings indicate that the use of AI-driven AWS potentially undermines the implementation of the precautionary principle due to the diminishing presence of Meaningful human control in military decision-making processes. Furthermore, the autonomous nature of AWS creates an Accountability gap in the application of Command Responsibility, as the causal link between human command and the actions carried out by autonomous systems becomes increasingly blurred. Therefore, this research emphasizes the need for reinterpretation and reinforcement of IHL norms to ensure their continued relevance in governing AI-based military technologies, while safeguarding civilian protection and Legal accountability in modern armed conflicts.

Keywords: Autonomous Weapon Systems, Precaution, Command Responsibility