Situational Awareness and adherence to the Principle of Distinction as a necessary condition for lawful autonomy

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Lethal autonomous weapons are robotic weapon systems in which the identification and selection of human targets and the initiation of violent force is carried out under machine control.
Autonomy in human or machine systems implies self-directed action, including – crucially in the case of military operations – action-according-to-rules.
Situational awareness

Military rules always require interpretation in relation to specific situations. This is what we call situational awareness.
International Humanitarian Law presupposes capacities of situational awareness that it does not, and cannot, fully specify, given the uncertainties of the conditions of action in situations of armed conflict.
Autonomy or ‘self-direction’ in the case of machines requires the unambiguous specification of the conditions under which associated actions should be taken.
Principle of Distinction

Autonomous weapons that would be adherent to IHL require reliable, unambiguous translation of rules for situational awareness, particularly for the identification of legitimate human targets, into machine executable code.

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Contrary to assertions regarding the rapid advance of artificial intelligence and robotics, there is no empirical evidence of progress in operationalizing the capacities of situational awareness that are required for adherence the Principle of Distinction.

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Implications for LAWS

This raises serious doubts regarding the feasibility of lethal autonomous weapons adherent to IHL.