

# Penalized Innovation? Criminal Liability for the Placing on the Market of Autonomous Cyber-Physical Systems

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## Abstract

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Autonomous cyber-physical systems will soon find their way into our reality. In the transition towards full automation of certain areas of life accidents will inevitably occur which are still unforeseeable in detail due to the large number of interdependent factors. In addition to considerations regarding compensation, these cases will always raise questions of appropriate attribution of responsibility.

The submitted dissertation first introduces the standards of criminal product liability applicable in Germany. The focus is on the substantive standards of criminal liability for negligence according to German Criminal Code, §§ 222, 229 and their application to the placing on the market of autonomous cyber-physical systems. The chapter concludes with an excursion into the US-American product liability system and specifically into the current legal situation in California.

This is followed by an assessment of the application of German Criminal Code §§ 222, 229 to the placing on the market of autonomous cyber-physical systems. It centers both on the limits of criminalization imposed by constitutional law and on the role of innovation in a constitutional state. For the (yet theoretical) cases at hand, a criminal conviction based on German Criminal Code, §§ 222, 229 could raise concerns particularly with regard to the principle of certainty, German Basic Law Art. 103 II, German Criminal Code § 1. The assessment concludes with an examination of possible alternative means of interpreting the constituent elements of the offences of negligence in the context of innovative, autonomous technologies.

The dissertation closes with a statement against the withdrawal of criminal law from the theoretical cases at hand. This is followed by a brief presentation and evaluation of possible concepts of criminal liability for the physical dangers of autonomous cyber-physical systems *de lege ferenda*.