


Chapter 15

Information Security Threats in the Internet of Things (IoT): A Case Study of Automatic Number Plate Recognition (ANPR) Cameras

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ABSTRACT

Automatic number plate recognition (ANPR) cameras are used by local authorities and law enforcement to monitor traffic flow and collect data. ANPR captures the registration plates on passing vehicles. This chapter will consider their use against existing policies and inherent risks associated with the management of the data they produce, focusing on economic theory and considerations, predominantly within law enforcement. The chapter finds that creating well-written policies and legislation ensures accountability and responsibility. Ensuring the correct budgeting models are applied both locally (microeconomy) and at the government (macroeconomy) level, the ANPR infrastructure can remain secure and effective. The policy must also include sharing security information and event management (SIEM) logs between law enforcement agencies to share actor intelligence as there is no risk of IP disclosure, reducing the risk of a tragedy of the commons. This will also improve public confidence.

DOI: 10.4018/978-1-6684-7207-1.ch015

1. INTRODUCTION

ANPR cameras have software that allows them to capture characters, known as indexes, on a vehicle's number plate. One former civil servant, Perrin (2015), said that the UK's ANPR network 'could be one of the world's largest non-military surveillance systems and probably contains more data about people than the NHS.' Whilst ANPR is perhaps not directly part of the critical national infrastructure (CPNI 2022), it can be argued that it supports it, if not manages it, in many ways (Dakin & Brown 2017).

Figure 1. An example of a fixed ANPR camera and an associated read (Lyddon, 2016) (SAE Systems, 2022).



Figure 2. An example of a mobile ANPR camera and associated read (Hargan, 2022) (Petards Group, 2022).



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