Chapter 1: Introduction – Themes and Issues

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Introduction

This volume brings together a range of chapters which address the linkage between law enforcement, the uses of and developments in information and communication technologies (ICTs) and key ideas about the management of information, intelligence and knowledge in this domain. The book is split into three sections. Section 1 presents four chapters which address the details, outcomes, user needs and background theoretical ideas behind the Odyssey Project. The Odyssey Project was part-funded under the EU FP7 programme to explore the challenges of establishing a Pan-European ballistics and crime information intelligence network and to propose solutions, including a demonstrator prototype system. As such the Odyssey project represents an example of the type of system that is likely to become commonly used by Law Enforcement Agencies (LEAs) in the near future.

The research goal of the Odyssey Project was that of understanding both the challenges in developing and potential opportunities provided to LEAs by systems that can securely integrate large volumes of crime data and then extract from this data, information, knowledge and intelligence of use at both an operational and strategic level.

The current rapid development in both computing power and the ability to mine and present in useful ways complex data sets provide the backdrop to both the Odyssey project and to this volume. As the work on the Odyssey Project demonstrated (see chapter 2) many of the challenges are not technical but organisational, legal, economic, social and political. Sections 2 and 3 therefore bring in chapters from other researchers, and wider commentaries from the Odyssey team. Section 2 explores other projects attempting to exploit the power of contemporary ICT systems to support LEAs in many aspects of their work including investigations, data analysis and presentation, identification, training and crime prevention. Section 3 takes a look at the social and organisational issues around aspects of crime prevention, crime detection, and policing – with a view to the role of ICTs in these contexts.
Lessons from Odyssey

Section 1 of this book is focused on the Odyssey Project. Chapter 2 discusses the overall results of the project and the key features of the prototype system developed. The Odyssey Project focused on data collection and exchange in the context of gun crime. Gun crime – that is potential and actual illegal events in which firearms, ammunition and other ballistic items are involved – happens widely across the EU, though the levels and definitions of such events vary between, among and within Member States. Such variations come from the multiple methods, systems and legal frameworks in EU member states. The majority LEAs believe that criminals actively use and move firearms across the EU. As a result, criminals, guns and evidence travel across borders. Unfortunately, comparable levels of data on gun crimes held by LEAs does not travel across borders, despite gun crime information being collected widely across the EU. The Odyssey Project was part-funded under the EU FP7 programme to explore the challenges of establishing a Pan-European ballistics and crime information intelligence network and to propose solutions, including a demonstrator prototype system.

A key concern for potential users of the Odyssey system was security. Chapter 3 explores the solutions to the problems of data security identified during the requirements research phase of the Odyssey project. Defining robust security architectures is vital for protecting IT infrastructures from cyber-attacks. This is especially true when the IT infrastructure is going to be used by investigators and law enforcement agencies to combat crime across EU. A compromise between the level of security and the level of acceptable risk must be found. Chapter 3 describes the analysis and the methodology followed in the Odyssey project (see chapter 2) to define a security-layered architecture able to support a secure Pan-European ballistics and crime information intelligence network designed to help tackle organized crime and terrorism.

Users were at the core of the Odyssey Project. Chapter 4 provides a user’s view on why systems like Odyssey, and why interoperable data and systems in general, are needed by LEAs. The chapter looks at the impact of gun crime on communities and the ease with which such crime can cross physical and other boundaries, making it a signal crime that must be addressed through effective collaboration between LEAs across EU Member States. The chapter also considers the barriers that exist between the disparate disciplines of investigation, intelligence and scientific examination of evidence and potential changes to law that may be required to facilitate a true EU wide interoperable gun crime system.

The volume of data now available to LEAs in a variety of formats, systems and contexts presents considerable issues of complexity and the need to understand this complexity. Chapter 5 considers how the science of complexity provides some guidance on how to tackle these challenges. The science of complexity is primarily concerned with the examination and understanding of the workings of complex adaptive systems and it can be argued that crime and terrorism are exam-