



National Standards Authority of Ireland

IRISH STANDARD

I.S. CWA 14838-2:2003

ICS 35.240.15

**FACILITATING SMART CARD TECHNOLOGY
FOR ELECTRONIC TICKETING AND
SEAMLESS TRAVEL - PART 2:
DEVELOPMENT OF SMART CARD BASED
INTEROPERABLE TICKETING SYSTEMS**

National Standards
Authority of Ireland
Dublin 9
Ireland

Tel: (01) 807 3800
Tel: (01) 807 3838

*This Irish Standard was
published under the
authority of the National
Standards Authority of
Ireland
and comes into effect on:
December 19, 2003*

**NO COPYING WITHOUT NSAI
PERMISSION EXCEPT AS
PERMITTED BY COPYRIGHT
LAW**

© NSAI 2003

Price Code T

Údarás um Chaighdeáin Náisiúnta na hÉireann

CEN

CWA 14838-2

WORKSHOP

November 2003

AGREEMENT

ICS 35.240.15

English version

**Facilitating Smart Card Technology for Electronic Ticketing and
Seamless Travel - Part 2: Development of Smart Card Based
Interoperable Ticketing Systems**

This CEN Workshop Agreement has been drafted and approved by a Workshop of representatives of interested parties, the constitution of which is indicated in the foreword of this Workshop Agreement.

The formal process followed by the Workshop in the development of this Workshop Agreement has been endorsed by the National Members of CEN but neither the National Members of CEN nor the CEN Management Centre can be held accountable for the technical content of this CEN Workshop Agreement or possible conflicts with standards or legislation.

This CEN Workshop Agreement can in no way be held as being an official standard developed by CEN and its Members.

This CEN Workshop Agreement is publicly available as a reference document from the CEN Members National Standard Bodies.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

CWA 14838-2:2003 (E)

Contents

Contents	2
Foreword.....	5
0 Introduction.....	8
0.1 Origins of the FASTEST Workshop.....	8
0.2 Why the need for this CWA?.....	8
0.3 The contribution of CWA 14838:2003 within CEN.....	9
0.4 What value will this CWA offer the transport industry in 2003?.....	12
0.5 CWA 14838:2003 – what it is and what it is not.....	12
0.6 Terminology.....	13
0.7 Who should read CWA 14838:2003?.....	14
0.8 Overview of the contents.....	15
0.9 Phased implementation.....	17
1 Scope	19
2 Definitions and Abbreviations.....	21
2.1 Definitions	21
2.2 Abbreviations.....	28
3 Development of a Business Strategy.....	30
3.1 Overview.....	30
3.2 Interoperability	30
3.2.1 Overview	30
3.2.2 Effects of migration	32
3.3 Business objectives.....	33
3.4 Business rules.....	35
3.5 Building the business case.....	36

3.5.1	Introduction	36
3.5.2	Key issues	37
3.5.3	Third party revenues	39
3.5.4	Analytical methodology and assumptions	40
3.5.5	Risk analysis.....	42
4	Development of a Procurement Strategy.....	45
5	Operational and Technical Requirements.....	48
5.1	Stating the problem.....	48
5.2	Providing technical solutions.....	48
5.3	Basic principles for compatible interface specifications.....	49
5.4	Processing specifications at the card edge.....	49
5.5	Recommendations for the creation of open systems.....	52
5.6	Types of smart card	53
5.6.1	Overview	53
5.6.2	Contactless cards	54
5.6.3	Dual interface cards	54
5.6.4	Hybrid (two chip) cards.....	55
5.7	Relevant smart card standards.....	55
5.7.1	ISO/IEC.....	55
5.7.2	CEN	56
5.8	Characteristics of different types of smart card.....	57
5.9	Operating systems.....	57
5.10	Criteria for transport cards.....	58
6	Multi-operator Fare Products.....	59
6.1	Overview.....	59
6.2	Business cases for each fare product type.....	63
7	Security Requirements.....	65
7.1	General requirements	65
7.2	Levels of security.....	65
7.3	Security requirements for interoperable e-ticketing systems.....	66
7.3.1	General considerations	66
7.3.2	Specific principles and recommendations	66

CWA 14838-2:2003 (E)

7.3.3 Protection of operators and tariff communities67

7.4 Development of system security implementations..... 68

7.5 Secure transactions (anti-tear)..... 68

7.6 Applicable standards..... 68

7.7 Guidelines 69

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-