



technology surveys
international inc.

leaders in technology
market intelligence

Who should buy this report?

This report is essential reading for senior executives from the following types of organizations:

- Card issuers, acquirers, merchants, ISOs and payment organizations will have an independent assessment of EMV migration in Canada, which will assist them in their EMV migration planning
- Suppliers of smart cards, POS terminals, ABMs and automatic fuel dispensers, NFC devices, software and middleware that are keen to succeed in the Canadian market
- Professional services and consulting firms that are able to leverage their international experience base in EMV migration through providing services to the lucrative Canadian market, a market suffering from a severe EMV skills shortage
- Policy-makers, financial institutions and organizations from other jurisdictions that are considering, planning or implementing EMV will have access to independent comparative information that will inform their thinking about EMV.

EMV Migration in Canada: Opportunities and Challenges, 2007 is based on more than 55 in-depth executive interviews with key decision-makers from across Canada, and globally, as well as extensive secondary research.

Publication date: February 2007.
Available directly from TSI (see order form overleaf) or online through leading market research portals.

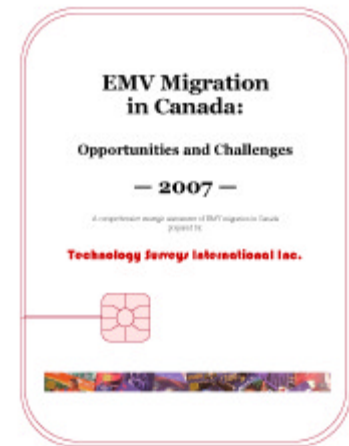
About TSI

Technology Surveys International Inc. is a leading technology market intelligence company. Established in 1995, the company has been tracking developments in the plastic card, smart card and payment systems markets in Canada and globally for the past twelve years. For more information on the products and services offered by TSI please visit: www.tsiglobalnet.com.

EMV Migration in Canada: Opportunities and Challenges – 2007

A Comprehensive Strategic Assessment of EMV Migration in Canada

EMV Migration in Canada: Opportunities and Challenges, 2007 is a comprehensive, independent and authoritative strategic analysis and forecast of Canada's EMV migration program. It includes a detailed analysis of the Canadian payments landscape and establishes the payment context in which EMV migration will take place. The 115 page report analyses the most important opportunities and threats facing EMV migration in Canada, and identifies the key challenges that need to be addressed by issuers, acquirers and merchants for migration to be successful. Detailed forecasts are presented for the migration of credit and debit cards, POS terminals, ABMs and automatic fuel dispensers to EMV. This report is an essential reference document for organizations both within Canada and around the world involved in planning, implementing, or supplying goods or services to EMV migration programs.



Market Summary:

- The number of EMV payment smart cards in circulation in Canada is expected to reach 54.8 million cards by 2010, representing 43.6% of all payment cards in circulation in that year
- By 2011, payment smart cards will account for 90% of the annual demand for smart cards in Canada
- Direct costs of EMV migration will exceed \$1 billion (excluding internal costs)
- There is significant potential for credit card payments to be displaced by debit card payments with the introduction of chip and PIN payments in Canada
- There are a number of important opportunities for convergence with EMV-based payment applications emerging on the Canadian market
- Retailers have been left out in the cold in the migration planning exercise and do not have a full appreciation of the impact that migration of debit and credit card payments to EMV will have on their businesses
- Suppliers are gearing up for the surge in demand for equipment and services as a result of EMV implementation in Canada, with new entrants emerging at all levels in the value chain

Subscribers will gain an understanding of the dynamics of the complex EMV migration process, its impact on different types of participant, from consumer, to card issuer, and how different issuer choices impact on EMV migration costs and on the future direction of the market. Subscribers will have access to essential information on the needs of different categories of stakeholder in the migration process, on market prospects and opportunities arising from EMV migration, important trends, key drivers and critical issues affecting migration. They will be able to make well-founded, research-based, strategic decisions about the planning and implementation of successful EMV migration programs.

Table of Contents

Executive Summary	1	Securing and Modernizing the Payments System	68	Debit Card Payment Transactions by Sector	18
Introduction	1	Keeping up with International Developments	69	Share of Number of Transactions at Retail Outlets (1996 - 2005)	20
Objectives of the Study	4	Multi-application Cards and Future Functionality	71	Share of Transaction Values at Retail Outlets (1996 - 2005)	20
Research Methodology	4	EMV Migration Challenges	73	Number of Visa and MasterCard Credit Cards Issued in Canada	22
A Note on Forecasts	6	Issuers	73	Net Retail Dollar Volume and Transaction Volumes (Visa & MasterCard)	23
Currency	6	Acquirers	74	Relative Shares of Visa and MasterCard in Canada	24
Acknowledgements	6	Merchants	75	Number of Merchant Outlets Accepting Visa and MasterCard	27
The Evolution of Payments in Canada	8	Merchants Views on EMV Migration	77	Volume and Value of Cheques Cleared through the ACSS in Canada	30
Introduction	8	Terminal Infrastructure	81	Share of Personal Consumption Expenditure (PCE) by Payment Type	32
The Payments Landscape in Canada	9	POS	81	Payment Transaction on PCE by Payment Instrument	33
Cash Payments	11	ABMs	82	Consumer Preferences for Payment Method	34
Debit Card Payments	15	Automatic Fuel Dispensers	83	EMV Transaction Flow	53
Credit Card Payments	21	The Impact on Consumers	86	Credit Card Fraud in Canada	60
Cheques	29	Implementing EMV in Canada	89	Credit Card as a Percentage of Retail and Cash Advance Dollar Volumes	61
Online Payments	30	Overview	89	Breakdown of Credit Card Fraud	62
Canadian Payments in Perspective	31	Timelines for EMV Migration	93	Credit and Debit Card Fraud in Canada	67
The History of Chip Cards in Payment Systems in Canada	35	The Kitchener-Waterloo Trial	94	Forecast Number of Credit Cards in Circulation in Canada	106
Stored-value Cards	35	Assessing the Investment Required	97	Forecast of Credit Cards Issued Annually in Canada by Type	106
The Mondex Guelph Pilot	36	Migration Window	101	Forecast Number of Debit Cards in Circulation in Canada	107
The Exact Pilot in Kingston	38	Wireless Payments	102	Forecast of Debit Cards Issued Annually in Canada by Type	108
The VisaCash Barrie Pilot	38	Migration Forecast	104	Forecast of EMV Cards Issued Annually in Canada	109
The Mondex Coup	41	The Supply Structure	111	Forecast of Installed Base of POS Terminals in Canada	110
Mid-Course Correction	41	The Payment Systems Value Chain	112	ABM EMV Migration Forecast in Canada	111
The Mondex Sherbrooke Pilot	42			Interlinked Value Chains: Payments	113
Dexit	45				
IMVCCP	46				
CCMP	46				
EMV Migration	48				
EMV Overview	49				
CCD and CPA	50				
Processes in a Typical EMV Transaction	53				
SDA, DDA and CDA	56				
Cardholder Verification	58				
The Case for EMV Migration in Canada	59				
Fraud as a Key Driver	59				
Credit Card Fraud	59				
Debit Card Fraud	66				

List of Figures

Canadian Retail Sales by Sector	9
Average Annual Growth in Retail Sales by Sector (2001 - 2005)	10
Canadian Banknotes and Coin in Circulation	12
Number of ABMs in Canada by Type	13
Volume and Value of Cash Withdrawals at ABMs in Canada	14
Cash-based Retail Payment Transaction Volumes in Canada	15
Annual Volume and Value of Interac Direct Payment Transactions	16

List of Tables

Number of Interviews by Sector	5
Debit Card payments by Retail and Business Sector	18
Primary Issuers of Visa and MasterCard in Canada	21
Key Features of the Mondex Guelph Pilot	37
Key Features of the Exact Kingston Pilot	38
Key Features of the VisaCash Barrie Pilot	39
Key Features of the Mondex Sherbrooke Pilot	43
EMV 4.1 Structure (EMV 2000)	50
EMV Compliance Assessment in Europe (mid-2006)	70
Summary of Merchants' Perspectives on EMV Migration	78-80
Key Features of Payment Organization EMV Migration Policies in Canada	91
Interac's EMV Migration Targets	94
Visa's Liability Shift	94
Attributes that make Kitchener-Waterloo an Attractive Trial Location	95
Number of Retail and Service Establishments by Sector	99
Canadian EMV Investment Requirements	101

REPORT PRICING

Hardcopy:	PRICE \$3,450
Single User License (PDF):	\$3,250
Corporate Use License (PDF):	\$4,400

All prices are in Canadian dollars. Price excludes GST. The report will be shipped upon receipt of payment. Free shipping in Canada and continental USA.

Order form

Subscription type: Hardcopy Single User (PDF) Corporate User License (PDF)

Total price (based on option, see above): \$ _____ (in CAD).

Canadian subscribers please add 6% GST to the subscription fee. GST No. 89477 7978 RT.

My payment is enclosed: Please bill me:

Purchase order number (if available): # _____

Name: _____ Title: _____

Company: _____ Division: _____

Address: _____

City: _____ Province/State: _____ Postal Code: _____

Country: _____

Telephone: _____ Fax: _____

E-mail: _____

Please return this form to **Technology Surveys International Inc.**, 115 George Street, Suite 610, Oakville, Ontario, L6J 0A2, Canada. Orders may also be placed by e-mail at sales@tsiglobalnet.com, by fax to (905) 339-3079, or phone at (905) 339-0109.