
MODERNIZATION IN MOTION



Payments Canada
Annual Report 2018



**WE WILL MAKE THE
CANADIAN ECONOMY
STRONGER IF WE
ALWAYS STRIVE TO
LEAD THE WORLD IN
WHAT WE DO.**



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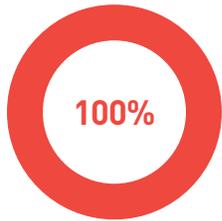
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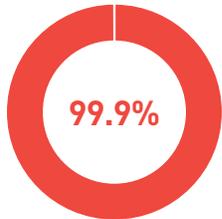
2018 AT A GLANCE



**Systems availability
scores in 2018**



ACSS AVAILABILITY RATE



LVTS AVAILABILITY RATE



CSN AVAILABILITY RATE

**IN 2018, PAYMENTS CANADA:
CLEARED AND SETTLED
8 BILLION TRANSACTIONS
TOTALLING \$53 TRILLION AN
AVERAGE OF \$209.7 BILLION
EACH BUSINESS DAY.**

TOP ACHIEVEMENTS FOR 2018



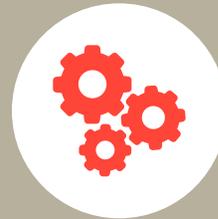
DELIVERED new interim credit risk model for the Automated Clearing Settlement System (ACSS) to enhance safety and soundness of retail payments system



ENHANCED Automated Funds Transfer (AFT) with third exchange and two-hour funds availability for faster, more convenient and flexible batch payments across all time zones in Canada



SELECTED SIA as the application provider to build Canada's new high-value payments system, Lynx, and moved forward on selecting a technology partner to host and integrate the new system



ENHANCED the performance and resiliency of our infrastructure, increasing the availability targets of the Large Value Transfer System (LVTS) and the Automated Clearing Settlement System, augmenting risk management capabilities and strengthening cyber resiliency



FACILITATED transformational change in the payments ecosystem, including our best-attended payments conference, The SUMMIT, to date



ALIGNED the payments industry, regulators and stakeholders on a revised [Modernization Delivery Roadmap](#)

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A MESSAGE FROM PAYMENTS CANADA BOARD OF DIRECTORS CHAIR, EILEEN MERCIER



EILEEN MERCIER

Payments Canada Chair, Board of Directors

Major milestones marked the global payments landscape in 2018, including the launch of faster payments platforms and the introduction of open banking regulation by some of Canada's primary trading partners. These initiatives are set to bring new services and conveniences to citizens and to support domestic and global commercial growth. Here in Canada, our own payments Modernization effort moved from planning to execution, delivering the first of many enhancements that will improve the payments experience of Canadians, increase the efficiency of the Canadian economy and ensure we keep pace with our counterparts around the world.

The deeply coordinated effort of the participants in the Canadian payments ecosystem—financial institutions, the Bank of Canada, Department of Finance and other key stakeholders—was important to our achievements in 2018. This year, Payments Canada delivered on the first three major milestones of payments Modernization: the implementation of a new credit risk model for Canada's retail payments system, significant enhancements to Automated Funds Transfers and the selection of a vendor for the country's new high-value payments platform. These actions represent the tip of the iceberg. Below the surface, the entire ecosystem was working to progress all elements of Canada's multi-year Modernization program which, in the end, will deliver faster, safer data-rich payments to Canadians everywhere.

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Another notable marker of progress in 2018 was the keen attention that Canada's regulators and legislators paid to the payments landscape, both from a public policy and an overall security point of view. Following on the proposal of a new retail oversight framework for the payments industry in 2017, the Department of Finance explored widening access to Canada's core payments systems and launched an advisory committee on open banking. The outcome of these efforts will be made public in 2019. They signal important developments that will help drive modern payments in Canada.

It is important to keep all participants aligned and connected as we continue on the delivery journey for payments Modernization. Our Member and Stakeholder Advisory Councils will continue to play a key role in helping to achieve this. We owe a special thanks to the Stakeholder Advisory Council this year for their outstanding support and advocacy within the ecosystem, as they helped educate and inform their constituent audiences about the benefits and possibilities that a modern payments system can offer. I look forward to such strong collaboration in the year ahead.

The board welcomed two new directors in 2018: Mike Henry, Executive Vice President and Chief Data Officer for the Bank of Nova Scotia, and Ramesh Siromani, Senior Vice President, Strategy & Transformation for Royal Bank of Canada. We bid adieu to Chuck Hounsell, Senior Vice President, Payments for the Toronto-Dominion Bank, and Carolyn Burke, Head, Enterprise Payments for Royal Bank of Canada. We thank them for their service.

The Member and Stakeholder Advisory Councils continue to provide invaluable advice and insight to the Payments Canada Board of Directors, especially in the areas of technology management and security. The board has shown exemplary dedication in supporting Payments Canada's management team to navigate not only the complexities of the payments ecosystem, but major industry transformation as well.

I also thank the executive team at Payments Canada for their collaborative and thoughtful work with our board. Together we have achieved major accomplishments on the Modernization journey thus far—and we have much to look forward to in the year ahead as we collectively embark on the implementation of our vision.

The year 2019 will see us dive deeper into delivery, including beginning the build of Canada's new high-value payments system, Lynx. We are now well into a journey that's tremendously important for the future of our country. We should be very proud of the progress we have made.

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A MESSAGE FROM PAYMENTS CANADA PRESIDENT AND CEO, GERRY GAETZ



GERRY GAETZ

Payments Canada President and CEO

Canada's payments Modernization journey kicked into high gear in 2018. Together with our partners on the journey—member financial institutions and key stakeholders in business and government—we passed the first major milestones of our roadmap. These achievements, accomplished despite strong headwinds, illustrate the power and capacity of industry collaboration to achieve our vision for modern payments in Canada.

The first quarter of 2018 started off strong with the delivery of a new credit risk model for the retail payment system. The new model improves the safety and soundness of the Automated Clearing Settlement System (ACSS) and aligns Canada with international best practices and risk management standards.

In the fall we completed enhancements to the Automated Funds Transfer batch system, introducing a third daily exchange period as well as two-hour funds availability. Faster, more convenient and flexible batch payments will help Canadian businesses move funds more quickly and make time-sensitive same-day payments. They also increase convenience and choice, particularly for companies in Western Canada.



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The last major Modernization deliverable in 2018 was the selection of SIA as the application provider for our new high-value payments system, Lynx. Following an extensive procurement process with participation from key industry partners, including Canadian financial institutions, SIA was selected for their proven track record of delivering innovative, sophisticated solutions across the global payments ecosystem. The Lynx build with SIA is due to begin in 2019.

In December 2018 we published a revised [Modernization delivery roadmap](#) that reflects a clearer understanding of the scale and complexity of foundational program elements, and provides the time required for payments ecosystem members, stakeholders and regulators to properly align with and participate in the transformation journey. This includes indicative dates for future phases of the program that Payments Canada will revisit and refine as those milestones near.

I must acknowledge that we did not accomplish all we set out to achieve in 2018 on Canada's Modernization journey. Development of Canada's new real-time payments system was set to begin. As an industry, we must ensure that this critical piece of the program progresses in 2019.

While the future of payments was clearly a focus for our organization, we remained fastidious in our efforts to enhance the performance and resiliency of our existing infrastructure. In 2018 we increased the quarterly availability targets of the Large Value Transfer System (LVTS) and ACSS, we enhanced our risk management capabilities across the organization, and we strengthened our cyber resiliency in the face of increasingly aggressive global threats.

With so much happening in the payments space, we continued our drive to achieve broader engagement with the payments ecosystem as a whole, educating and connecting key stakeholders in the marketplace through research, insights and collaborative forums. From quantifying the current cost of payments processing to modeling and measuring tail risk in a deferred net settlement system environment, our research efforts help member financial institutions, businesses and government organizations make informed decisions about their payments matters. We were pleased to see the uniting of these varied stakeholder audiences at our 2018 Payments SUMMIT conference, where we had a record number of attendees and an impressive lineup of speakers yet again.

The Payments Canada Board of Directors played an essential role in helping to guide us through these successes in 2018 and, on behalf of the Payments Canada team, I thank them for their continued dedication, support and engagement.

On that note, I must also recognize the staff at Payments Canada, whose resiliency and dedication are the backbone of this organization. They continue to propel the Modernization program forward. Thank you.

There is much to anticipate in the year ahead as we continue to execute on our Vision for modern payments. I look forward to working collaboratively with our members and key stakeholders as we round the bend to our next big milestones.

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CHRISTINE HUNTER
Member Advisory Council Chair

REPORT FROM THE CHAIR OF THE MEMBER ADVISORY COUNCIL

The Member Advisory Council (MAC) is a 20-person council that is codified in the *Canadian Payments Act*.

MAC serves as a consultative and engagement forum for system participants who are also members of Payments Canada. MAC members are highly engaged and pleased to have jointly reached the first milestones of our Modernization journey—notably, the third Automated Funds Transfer exchange and two-hour funds availability. The Automated Funds Transfer enhancements were carefully coordinated to ensure a seamless delivery and a clear benefit to Canada, particularly to businesses in Western regions. While significant progress has been made, much of the Modernization journey remains ahead of us.

Over the past year, the MAC forum has played a critical role in driving a collaborative process, providing advice and striving to deliver productive outcomes, given the material expansion of cross-functional forums and specialized working groups that have been initiated to support this ambitious program.

Modernization remains a multi-year initiative to modernize the systems and rules that are essential to Canada's evolving payments ecosystem. Members believe the magnitude of this program is considerably larger than similar programs worldwide, in that both the technology and the risk model across multiple systems are changing concurrently. The level of resourcing and expertise required by all stakeholders to successfully execute this change is significant. Financial institutions across Canada have dedicated significant mindshare and resources to ensure the success of the program.

In 2018, members recognized the impactful and sometimes challenging role Payments Canada plays in ensuring multiple stakeholders' needs are met. This includes regulators; small, large and global financial institutions; vendors and suppliers; payment networks; and end-users from consumers and large corporations.

Given the need to stage the Modernization journey to drive focus and mitigate risk, Lynx and the Real-Time Rail clearly emerged as key ISO 20022 planning priorities, while greater system access and adoption of enhanced market-infrastructure standards continues.

Lynx will modernize our high-value clearing and settlement system (LVTS) with a new risk model consistent with the Principles for Financial Market Infrastructure (PFMI) standards, which are critically important to maintaining safety and soundness for the Canadian economy.

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Substantial progress has been made in this area and the industry looks forward to continued collaboration as we focus on managing risk and ensuring clients are well served. Everyone agrees that the execution of Lynx must be flawless and that the development of a Real-Time Rail for Canada is a priority to drive innovation and increased access to payments systems within the country.

The Real-Time Rail design and roadmap is an area of high interest to MAC and the Stakeholder Advisory Council (SAC). Joint MAC and SAC forums will increase opportunities for an open exchange of views and perspectives among the broader community to drive alignment towards positive outcomes.

As the Modernization journey continues, success will come from understanding detailed market needs and how solutions enable gaps to be filled. Payments Canada capabilities will need to be introduced through highly integrated plans with financial institutions and the Bank of Canada as a complement to the broader payments ecosystem. This is no small task for Payments Canada – to lead exceptional governance and change management practices.

Members are highly engaged in discussions with Payments Canada to ensure that risks are identified and mitigated. Increasing cyber threats, increased data travelling with payments and increased access put greater pressures on all parties to ensure that roles, standards and efficient business models are clearly understood as we ensure that domestic needs are met and that Canada remains highly competitive on a global stage.

Looking to the year ahead, we would reiterate the need for all parties to continue to work in a collaborative and clear manner as we adapt and develop our plans, including working through the sequencing of all activities as we make progress towards the implementation of the Modernization Target State.

As key decisions are made, business models are confirmed and solution designs are finalized, we fully expect the specifics of the implementation plan, particularly timing, cost and scope, will need to adjust. We also recognize that the stakeholder community is eager for greater clarity with longer-term milestones. Our collective success will be dependent on the effectiveness with which we adapt our plans to changing conditions while remaining focused on the objectives of the program.

While Modernization consumes much of our mindshare, Payments Canada has shown diligence in running the current clearing and settlement systems with enhancements where possible to review current access constraints (i.e., the [Automated Clearing and Settlement System consultation](#)) and increasing investments in cyber defense and resiliency.

As we continue to support Payments Canada in its initiatives to underpin the Canadian financial system and economy, we look forward to another year of providing counsel and advice to the board on the rapidly changing needs and expectations of the Canadian marketplace and the requirements for the successful execution of the activities required to achieve the Modernization Target State.

REPORT FROM THE CHAIR OF THE STAKEHOLDER ADVISORY COUNCIL



BRENT MIZZEN
Stakeholder Advisory Council Chair

In 2018, Modernization continued to be the key focus of the Stakeholder Advisory Council (SAC). In the context of Modernization and also broadly speaking, SAC's objective is to advocate for and support initiatives that will lead to a more competitive and innovative system that delivers timely benefits to users.

There have been a number of positives in 2018. For example, SAC was pleased with the enhancements to the Automated Funds Transfer batch system. In addition, SAC has continued to have a positive dialogue with the Payments Canada board. Further, it is clear that the board recognizes SAC's desire for change and improvements that will deliver meaningful benefits to users in a timely manner.

ISO 20022 has been a focus for SAC, and the council has continued to advocate for moving forward in a timely manner. The ability to move data with electronic transactions introduces the opportunity to eliminate paper cheques, which will lead to significant efficiencies for the payments system and its users. SAC continues to strongly advocate for a firm deadline for financial institutions to implement ISO 20022. This is because the full benefits of ISO 20022 will not be realized until it is in broad use.

SAC has continued to demonstrate its support for ISO 20022 in a number of ways. These include supporting the work of Payments Canada through activities such as speaking at Payments Canada forums on the benefits of ISO 20022, partnering with Payments Canada to develop use case studies for ISO 20022, and being featured in published interviews and discussion pieces. SAC has also contributed its views as to how Payments Canada can communicate with other stakeholders to ensure the message of ISO 20022 is being heard.

The work on Lynx, a designated systemically important payment system, continues to progress. This requires significant resources from Payments Canada, financial institutions and the Bank of Canada. While SAC has not been heavily involved, we recognize the importance of Lynx, given its role in the ecosystem. In this regard, SAC supports changes that will enhance the reliability and robustness of the system for users. SAC also focuses on how Lynx could have broader impacts on other elements of the payments system that might affect users.

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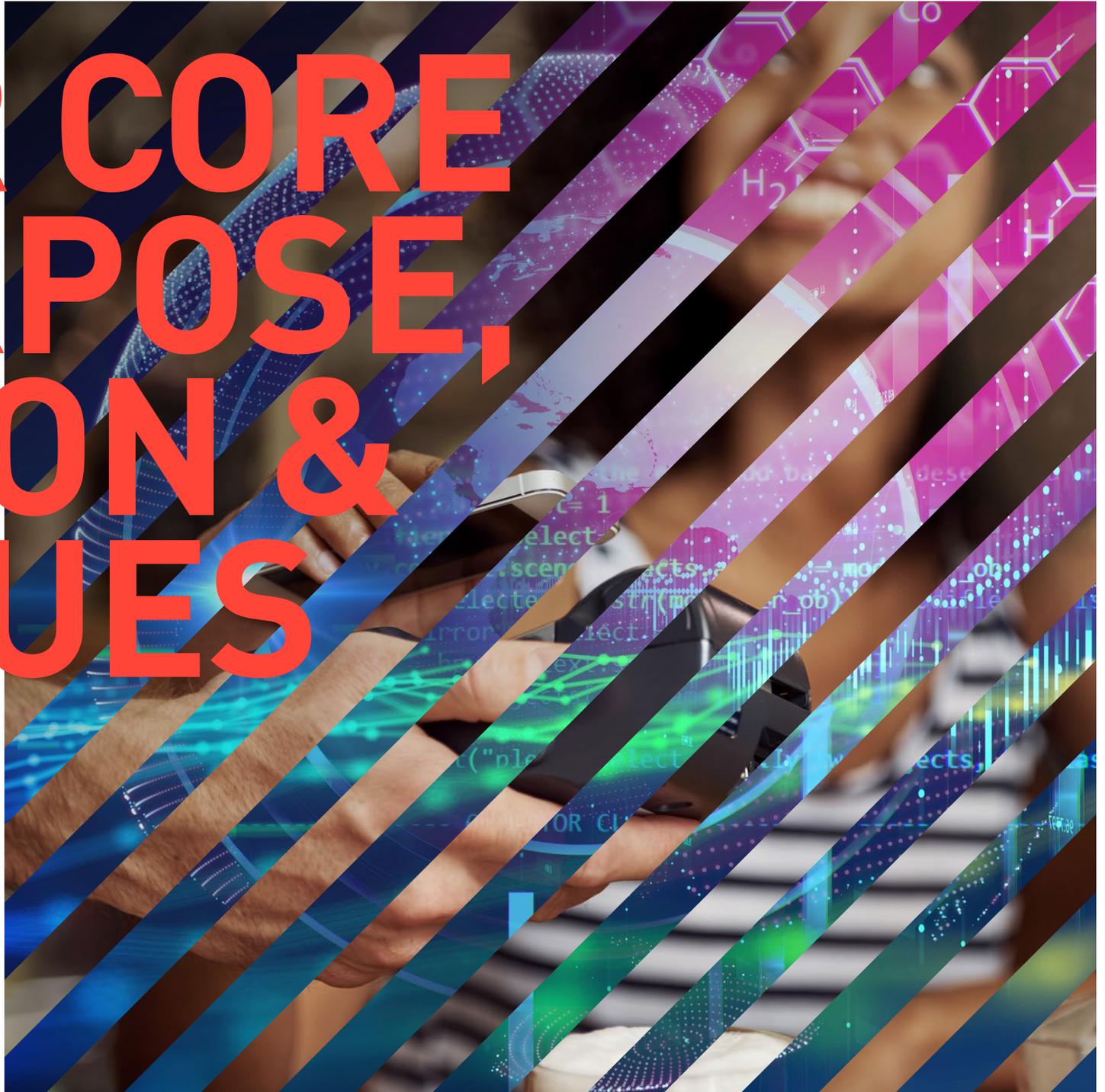
One of the more challenging issues in 2018 was with respect to the Real-Time Rail. There are significant concerns among stakeholders represented on SAC about the pace and scope of changes to date under Modernization. Towards the end of 2018, for instance, it was decided to move forward with only a limited scope of the Real-Time Rail (known as R1), relative to what had been originally planned.

At a high level, the noteworthy concerns SAC has raised on the limited scope of R1 are that it will not deliver benefits to users above and beyond the current system in the market; R1 does not deliver on ISO 20022 enhanced remittance data, which has been a priority and consistent driver of the need for Modernization since the outset of the Modernization initiative; and it does not allow for open access to foster innovation and competitiveness.

With the challenges encountered, closer collaboration among SAC, MAC and Payments Canada has already served to find a path forward. Overall, SAC believes that success will require creating the right environment for a useful Real-Time Rail, delivering benefits to users and creating a competitive environment that fosters access and innovation.

SAC will continue to be active and constructive in providing counsel and advice to the Payments Canada board as well as collaborating with interested parties with the objective of supporting a payments system that will serve Canadians well into the future. While Modernization is a long-term initiative, we have reached a point where real benefits must be delivered to the market.

OUR CORE PURPOSE, VISION & VALUES



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Payments Canada's core purpose, vision and values guide the investments and priorities of the organization in this plan.

CORE PURPOSE

We underpin the Canadian financial system and economy by providing safe, efficient and effective clearing and settlement of payments.

VISION

We will make the Canadian economy stronger if we always strive to lead the world in what we do.

VALUES

THINK BIG & ACT RESPONSIBLY

THINK BIG

Thinking big means seeing things differently, applying our creativity to challenges and questioning assumptions before solving problems.

ACT RESPONSIBLY

As a public-purpose organization, we act responsibly in the best interests of all Canadians while also serving our participants and stakeholders.

BE AMBITIOUS & RAISE THE TEAM

BE AMBITIOUS

It's important to push ourselves to take on challenges and achieve, to constantly learn and grow, to target greatness and work hard to get there.

RAISE THE TEAM

Ambition is most powerful when it makes everyone around us better. We are a team of teams. We love what we do and are at our best when we're having fun.

KEEP MOMENTUM & BE RIGOROUS

KEEP MOMENTUM

Decisions need to be rooted in diligence, but must also be made. We must show persistent and prudent progress and deliver on what we say.

BE RIGOROUS

We will make smart choices through research, individual learning, keen focus and a passion for performance.

PAYMENTS CANADA MANDATE & STRATEGY



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The Canadian economy depends on the exchange of billions of dollars each day. Payments Canada is responsible for the clearing and settlement infrastructure, processes and rules vital to those transactions.

We are responsible for supporting a vibrant economy by helping to meet the payment needs of consumers and businesses and by empowering a new era of modern payments. We provide Canada's national payments systems. Our Large Value Transfer System enables financial institutions and their customers to send large payments securely, and our Automated Clearing Settlement System is where the vast majority of day-to-day Canadian commerce is cleared by financial institution participants.

**In 2018, Payments Canada
cleared and settled transactions
totalling \$53 trillion, averaging
\$209.7 billion each business day**

How we work together

Through formalized processes and regular interactions, we work with financial institutions, the federal government, the Bank of Canada, our national stakeholders and international counterparts to provide and improve payment clearing and settlement systems in Canada.

OUR MANDATE

Our legislated mandate, as set out in the *Canadian Payments Act*, includes the following objectives:

- A. Establish and operate national systems for the clearing and settlement of payments and other arrangements for the making or exchange of payments.
- B. Facilitate the interaction of its clearing and settlement systems and related arrangements with other systems or arrangements involved in the exchange, clearing or settlement of payments.
- C. Facilitate the development of new payment methods and technologies.

In fulfilling its mandate, Payments Canada has the public policy objective of promoting the efficiency, safety and soundness of its clearing and settlement systems and taking into account the interests of users.

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OUR STRATEGY

We are well on our way to realizing our Vision of a thoroughly modernized payments infrastructure that will benefit all Canadians. To fulfill our vision and deliver on our mandate, Payments Canada follows and implements a five-year corporate plan. In 2018, this included three long-term desired outcomes

1. MODERNIZE

Modernize the core payments systems, including the policies, rules, standards and technology infrastructure.

2. OPERATE & ENHANCE

Strengthen management and overall performance in the key areas of payment systems resiliency, and operational excellence.

3. CREATE NEW OPPORTUNITIES

Develop offerings that provide value to our members, stakeholders and users.

Learn more about our strategy by reading our [Corporate Plan](#).

MEMBERSHIP

Membership in Payments Canada includes the Bank of Canada, domestic banks, and authorized foreign banks. Other deposit-taking institutions (credit union centrals, trust and loan companies, and provincial savings offices) have been eligible for membership since 1980. The amendments to the *CP Act* in 2001 opened membership to life insurance companies, securities dealers, and money market mutual funds, among others. Payments Canada is funded by its membership, which stood at 114 at the end of 2018.

Learn more by reading about our [participant financial institutions](#).

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A YEAR IN MOTION

An evolving regulatory and public policy landscape, combined with market force drivers, provided the impetus for the momentum the Modernization program witnessed in 2018. Progress could not, however, have been made without the dedicated participation of our members and ecosystem partners.

PROGRESSION IN RETAIL BATCH PAYMENTS

2018 was a pivotal year for Canada's existing retail batch payments system, the Automated Clearing Settlement System (ACSS). [Changes to the credit risk model](#) improve the safety and soundness of the ACSS and align Canada with international best practices and risk management standards.

Payments Canada implemented a third daily exchange period for Canada, a collaborative effort with key industry stakeholders, including Canadian financial institutions. This enhancement to the Automated Funds Transfer (or batch payments) enables Canadian businesses to exchange payments more frequently and provides improved funds availability, delivering benefits to companies, especially those in Western Canada. Our focus then shifted to exploring the benefits of broader access to the existing batch system and the delivery of additional regulatory enhancements in the coming years.

ADVANCEMENT OF LYNX HIGH VALUE PAYMENTS SYSTEM

We also made significant strides in advancing progress for Lynx, our high value payments system. In 2018 SIA, [the application provider for Lynx](#), was selected, and the roadmap for Lynx was updated to indicate our intent to onboard a prime vendor. This decision was made to assist with risk management and the delivery and operation of Lynx to meet the highest international security, resiliency and operating standards for payments systems.

The Lynx system will be enabled with the global ISO 20022 messaging standard, with full end-to-end support of ISO 20022 to follow in a subsequent release. This falls in line with the

MODERNIZE

Modernization goal of upgrading all Payments Canada systems to support ISO 20022, a transition that will allow our stakeholders and their customers to realize business efficiencies and benefit from ISO 20022-enabled products and services as they are introduced.

EXPANSION WITH THE REAL-TIME RAIL

The Real-Time Rail will provide immediate, 24x7x365 payments that are final and irrevocable. The first release (referred to as R1) will have alias-based routing (using an email address or mobile phone number), the capability to carry additional payment information based on ISO 20022 message standards; and the availability of standardized APIs. Unstructured remittance information will be available as part of R1. End users will realize more tangible benefits from ISO 20022 once structured remittance information is enabled and mandated as part of Release 2.

MODERNIZATION DELIVERY ROADMAP

Payments Canada has committed to publish an annual update to the Modernization Roadmap. The [Modernization Delivery Roadmap](#) reflects revised timelines that demonstrate a clearer understanding of the scale and complexity of foundational program elements and revised implementation timelines to support the participation of payments ecosystem members, stakeholders and regulators in the transformation journey.

For more information about the Modernization initiative, visit modernization.payments.ca.

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In 2018, we remained dedicated to ensuring the safety and reliability of current systems while building the agility and resiliency required by a more powerful, capable organization.

We exceeded all availability targets throughout 2018—a key goal for the year.

2018 Availability Scores

ACSS	LVTS	CSN
100%	99.99%	100%

RESILIENCY OF PAYMENT SYSTEM

Payments Canada’s payment systems must operate seamlessly to meet the expectations and obligations of our members, regulators and the Canadian public. As we move forward with Modernization, we continue to support and upgrade our current systems. In 2018, we executed the first annual Automated Clearing Settlement System audit as part of the Prominent Payment Systems designation and also refined associated business processes to improve safety and soundness and to align Canada with international best practices and risk management standards.

PRIORITIZATION OF CYBER SECURITY

In 2018, Payments Canada began executing our cyber security action plan by closing internal gaps, improving engagement in the cyber community and making improvements in the five framework areas of identify, protect, detect, respond and recover.

INCREASED ORGANIZATIONAL CAPABILITIES

Payments Canada’s organizational capabilities are keeping pace with the increased demands of Modernization. The year 2018 saw significant advances in organizational resilience, including the development of a human resource framework to align the attraction, retention and development of top talent; the implementation of a leadership program to support organizational transformation and succession planning; and the finalization of the Target State operating environment.

We integrated a new information technology service management platform and migrated internal communication and business process structures to a cloud-based solution. This helped to achieve heightened stability, security and velocity. These actions form part of our strategy to shift to a more outward-facing and product-focused posture that allows us to be agile in response to future changes.

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A better understanding of payments benefits our member financial institutions and key stakeholders. Part of our job is to communicate the latest advances and thinking. With so much happening in the payments space in 2018, we renewed our efforts to educate and connect key stakeholders in the marketplace through research, insights and collaborative forums. From studies that quantify the costs of payments processing to our speakers series to modelling risk in a deferred net-settlement-system environment, our research and outreach efforts help member financial institutions, Canadian businesses and government organizations make better decisions with regards to payments.

Two noteworthy technical advances made in 2018 include a new payment file testing and validation service for facilitating the member bank onboarding of corporate clients to ISO 20022 standard format, and direct financial institution access via API to the Financial Institutions File (FIF) application, eliminating the need for manual processes.

CREATE NEW OPPORTUNITIES

STAKEHOLDER ENGAGEMENT

Our stakeholder engagement strategy swung into high gear in 2018 with a number of engagement initiatives, such as our stakeholder forum series, which leverages relevant and timely discussions to clarify the benefits and opportunities that Modernization will bring. The series involves the business community, universities, municipalities, hospitals and other organizations as well as consumer perspectives.

It was also a record year for [The SUMMIT](#), our premiere engagement forum for our varied stakeholder audiences and the payments ecosystem at large. The SUMMIT is Canada's largest payments conference, serving to connect the payments community. It's where stakeholders come to understand the future state of payments, Canada's place in the global ecosystem and how the ongoing payments transformation will impact us all.

At the 2018 SUMMIT, we had a record 1,400 attendees and an impressive lineup of 145 speakers covering topics from artificial intelligence to blockchain to cyber security. New for 2018 was the FinTech Startup Lounge, which showcased innovation through rapid-fire presentations and animated discussion. The event demonstrated that payments modernization momentum is firmly underway. We are excited for the next edition of The SUMMIT.

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ADVANCING PAYMENTS RESEARCH

We continued to pursue [market research](#) initiatives in 2018, including quantifying the [costs of payments processing](#) for businesses, and we advanced our [case studies](#) activities to support stakeholder awareness, understanding and excitement for Modernization. The first of a series of ISO 20022 case studies supports awareness of this global payments messaging standard and promotes the benefits that it can provide for Canadian businesses.

We further explored the benefits of Modernization in other publications, including a joint study with Ernst and Young LLP called [How can payments modernization benefit Canadian businesses?](#), a research piece that identified a number of payment processing inefficiencies that are costing Canadian businesses between \$3 billion and \$6.5 billion annually.

We were pleased to release [Phase III results](#) of Project Jasper, a collaborative research initiative between Payments Canada, the Bank of Canada and TMX Group. The initiative conducts experiments on the possibilities of an integrated securities and payment settlement platform based on distributed ledger technology (DLT). Phase III clearly demonstrated the feasibility of securities clearing and settlement using DLT.

Every year, Payments Canada publishes the [Canadian Payments Methods and Trends Report](#), a pre-eminent source of payments statistics in Canada. Highlights from the 2017 report showed credit cards leading as the preferred method of payment, a rise of mobile and online banking and the advent of social media payments.

We continued to modify [rules and standards](#) and provide [feedback to government consultation](#) processes that will potentially impact the payments ecosystem. We worked to expand awareness through our research, including [Payments Perspectives](#) discussions, to advance payments thinking nationally and internationally.

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Risk management plays a critical role in ensuring the safety and reliability of payments systems in Canada. Under the office of the chief risk officer (CRO), Payments Canada maintains robust enterprise risk management, financial risk management and business continuity management programs that identify and manage key risks that could prevent the organization from achieving its objectives and mandate.

RISK MANAGEMENT: PROGRAM & GOVERNANCE

Our Risk Management program is overseen by our board of directors, implemented by management and executed throughout the organization.

Top risks to the organization are updated quarterly and reported to the board's risk committee. Risk updates provide decision-makers with a comprehensive and integrated view of organizational risks and indicate the degree to which they align with the organization's risk appetite. A rigorous bottom-up and top-down process is used to identify and communicate corporate risks to the organization.

RISK MANAGEMENT

Risk governance is the foundation for effective risk management. While risk management governance starts with our board of directors, responsibility for risk management oversight and day-to-day risk management falls to individual business units. Our risk management governance structure follows a three lines of defense approach involving individual business units, the office of chief risk officer's oversight and independent validation of processes by the audit function.

Risks are categorized into operational, strategic, financial and settlement risks. They are also evaluated in terms of their potential impact on Payments Canada's reputation, particularly with respect to our credibility in delivering on our plan and mandate. We pay special attention to potential risks affecting our largest initiative, the Modernization program.

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RISK MANAGEMENT ENHANCEMENTS

We have a multi-year plan to enhance our risk management framework and position Payments Canada among the most resilient organizations within the global financial industry.

MAJOR ENHANCEMENTS IN 2018 INCLUDED:

Enterprise Risk Management

- Enhanced the risk-appetite framework by adding more granular statements and associated metrics and thresholds, making it more useful for day-to-day internal business decision-making.
- Furthered the purification of first and second lines of defense for risk management, in both core operations and the Modernization program.
- Enhanced reporting to the risk committee by putting more focus on key items warranting risk committee discussion and streamlining the chief risk officer's report.

Financial Market Risk Management

- Ensured continuous compliance with Bank of Canada risk management standards for the Large Value Transfer System (LVTS) and closed identified gaps to be addressed prior to Modernization for the Automated Clearing Settlement System (ACSS).
- Enhanced the ACSS interim credit risk model coverage from 97 per cent to 99 per cent.

- Developed the settlement models for Real-Time Rail, which will be compliant with the Bank of Canada's risk management standards for prominent payment systems.
- Developed the foundation for the financial risk framework for Lynx.

Business Continuity Management

- Conducted an internal crisis management exercise involving senior management that resulted in enhancements to our crisis management plan structure and protocol.
- Designed and led a cyber resilience exercise with the Bank of Canada and domestic systemically important banks, resulting in new learnings relating to the specific conditions a cyber event will create for the industry and key activities needed to improve industry preparedness.
- Participated in the creation of a coordinated crisis response for systemic risk along with financial industry players (Bank of Canada, domestic systemically important banks, Canadian Bankers Association).

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SIGNIFICANT RISKS IN 2018

Payments Canada proactively identifies and assesses the likelihood and severity of possible risks to ensure preparedness. After all mitigations are considered, the highest possible risks to Payments Canada in 2018 were identified as follows:

CORE OPERATIONAL RISKS

Cyber incident

Action: Payments Canada implemented the second year of a five-year cyber security program to improve its cyber security stance.

Deterioration of critical service offerings

Action: Payments Canada put increased emphasis and improvements on system monitoring.

Major payment system outage

Action: Payments Canada stabilized the enhanced disaster recovery capability implemented in 2017 and advanced its cyber security program.

Payments Canada loses long-term relevance

Action: Payments Canada continues to closely monitor domestic and international payments developments to provide value-added services to its members. Relevance has never been stronger.

MODERNIZATION RISKS

Scale, scope, complexity and timeline for Modernization program exceed the industry's ability to execute

Action: The Modernization program Roadmap was recalibrated in collaboration with payment system participants and other stakeholders.

Inability to deliver a Payments Canada-controlled Real-Time Rail (RTR)

Action: RTR delivery was delayed. Payments Canada continued to work with its RTR vendor and members to develop the detailed design for the RTR.

Inability to align interests of regulators, financial institutions and other stakeholders

Action: Payments Canada continued to balance expectations through broad stakeholder engagement and negotiations, culminating in the establishment of a new Roadmap.

Modernization creates systemic risks and financial liability for Payments Canada and the industry, exceeding industry risk appetite

Action: Payments Canada is partaking in extensive consultation with the industry, reviewing its liability framework with members and regulators and evolving its modernized systems to address this risk within system design.

Unsuccessful delivery of Lynx

Action: Payments Canada is mitigating this risk in various ways, including detailed planning, risk assessments, extensive testing and parallel operations, and extending the testing period.

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Our position at the centre of the payments ecosystem demands that we lead while balancing multiple interests, ideas and challenges. It is the skills and teamwork of our people, more than any other factor that have enabled us to maintain this balance.

The Modernization program has given us a singular opportunity to transform as an organization. A key part of capitalizing on this involves realizing the potential of our people. In 2018, we set the foundation for this work in two ways: by focusing on engagement and diversity and by elevating human resources from simple provisioning of personnel to advancing and meeting business goals through people.

A FOCUS ON OPERATIONS

We also took steps towards operational excellence by strengthening our people metrics—data analytics and reporting capabilities—to help reduce inefficiencies around such functions as talent acquisition and retention, talent growth and leadership succession.

Our new human resource management system has evolved personnel tracking so that people and position movement data is now system-based and automated. We are progressively implementing system modules, such as talent acquisition and onboarding—time-saving functions that will also serve as analytical tools to reduce inefficiencies.

These human resource system changes have come at the right time as we continue to add resources for Modernization. In 2018, we welcomed new full-time employees and built capacity in five key areas: cyber security, business intelligence, industry engagement, corporate functions and technology architecture and integration.

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A FOCUS ON PEOPLE

Given the crucial role Payments Canada plays in the country's financial ecosystem, we aim to attract and retain the best by focusing on three key areas:

1. Engagement through better accountability, mentoring and discussion

Payments Canada fosters engagement in many ways, including social activities and providing opportunities for discussion and feedback. In 2018, we launched a new engagement tool that incorporates an information science approach to employee polling and data analysis. This has given us the capacity to report better on engagement and enable leaders to stay on top of trends, laying the groundwork for more accountability in nurturing engagement.

2. Diversity through partnership and management

In 2018, we raised our profile with respect to the diversity and inclusion of our workforce. We now have a vision, Roadmap and action plan to help build on the diversity of people and ideas at Payments Canada. To this end, we modernized our benefits offerings, completed initial work on a detailed employee value proposition, became compliant from an employment equity perspective and launched a diversity campaign. We established business relationships with external partners to increase the diversity of our talent pool. At the same time, we are solidifying our management practices through education and workshops to give our people the competencies required to manage a more diverse workforce.

3. Talent and leadership for tomorrow

Efforts focused on the diversity of people and ideas go hand-in-hand with talent and leadership. In 2018, we furthered the talent, leadership and succession planning agenda with the launch of a talent development framework. Curricula specific to each level of the organization, from employees to managers, executives and influencers, enable us to cultivate talent and ensure that we can provision the leaders we will need tomorrow. We are also strengthening alumni relations to aid in the development of key talent cohorts including senior leaders, subject matter experts and people managers.

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Summary of Financial Operations

	2018	2017
REVENUES		
Fees	54	54
Other Revenues	4	4
Total Revenues	58	58
EXPENSES		
Core Operations	47	40
Projects	6	3
Modernization	32	18
Total Expenses	85	61
(Deficit)	(27)	(3)

As Payments Canada operates on a cost recovery basis, revenues from members' fees are closely correlated with the annual operating budget. Fees from members in 2018 were \$54 million, consistent with the planned operating costs for the year, as well as Principles for Financial Market Infrastructures reserve funding and the stabilization fee.

Total expenses in 2018 were \$85 million, up from \$61 million the previous year. Our core operations encompass items such as human resources, infrastructure, facilities and professional services, all required to support the day-to-day activities of the clearing and settlement systems. Our core operation costs (including projects) reflect the continued advancement of the cyber security program, additional technology costs associated with hosting our core payment systems, as well as our investment in people to deliver on our priorities.

Modernization costs reflect expenses directly related to the Modernization program. The ramp-up costs associated with Modernization in 2017 involved program expenses of \$18 million. In 2018, as program rollout continued, expenses totalled \$32 million, with an additional \$13 million of Modernization-related costs reflected on our balance sheet in the form of capital assets.

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Selected Items from the Statement of Financial Position

	2018	2017
Cash & short term Investments	40	32
Accounts receivable	13	13
Capital assets	31	20
Total assets	88	67
Accounts payable & accrued liabilities	15	13
Demand loans	71	25
Net assets (liabilities)	(1)	26

The 2018 deficit is attributable to the manner in which the Modernization program is being financed. While day-to-day operating costs for the current systems are covered by transaction fees paid by members, the costs associated with the Modernization program are funded through debt financing. This method of financing will continue for the duration of the program. Accordingly, an annual deficit is expected each year while the national payments infrastructure is being modernized. The *Canadian Payments Act* and supporting bylaws permit Payments Canada to charge members appropriate dues in order to pay down the financing costs of the Modernization program. As a result, the deficit is temporary in nature and will diminish once modernized systems become operational and members are subsequently billed for their use.

Payments Canada's statement of financial position continues to experience significant growth directly related to the Modernization program. Cash and cash-equivalent balances increased as reserves required under the Principles for Financial Market Infrastructures were strengthened along with increased reserves for the Fee Stabilization fund; accounts receivable balances have remained stable year-over-year.

The growth in capital assets relates to the development of our modernized payment systems, specifically Lynx, the forthcoming new high-value system. The deficit in Modernization has put us into a net liability position, as planned.

Liabilities grew during the year, reflecting an increased draw on the demand loan facility and an increase in accounts payable, both attributable to the Modernization program. Debt financing of the Modernization program resulted in a demand loan of \$70.5 million at the end of the year.

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2018 PERFORMANCE AT A GLANCE

The 2018 scorecard is based on key targets and supporting initiatives detailed at the end of 2017. Payments Canada made significant progress on all the corporate strategies and initiatives. The 2018 priorities and status chart below identifies some of our key corporate initiatives and provides high-level status of the outcomes.

MODERNIZE

ON TRACK

EXPECTED OUTCOMES:

Modernize the core payments systems, including the policies, rules, standards and technology infrastructure.

KEY INITIATIVES	STATUS	UPDATE
Lynx application vendor, infrastructure provider and systems integrator has been chosen and development initiated.	▼	The preferred application provider was onboarded, and detailed functional requirements were elaborated with LVTS participants. The industry readiness-assessment framework is in progress.
Real-Time Rail (RTR) design principles will be defined.	●	High-level design activities were completed. Release 1 go-live has been extended to late 2020, as detailed design was not progressed as expected.
Automated Funds Transfer Phase 1 goes in to effect; interim collateralization of ACSS is implemented.	▲	Enhanced Automated Funds Transfer third-exchange and two-hour funds availability were implemented. Collateralization of the ACSS: new credit risk model implemented for retail payment systems.
Reached an agreement with Department of Finance on legislative changes.	▲	Submitted response to Department of Finance's consultation on <i>Canadian Payments Act</i> , taking into account input from members and stakeholders.
Data management practices matured.	▲	Security asset classification was updated and the Information Governance Council, framework and policy were established.

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EXPECTED OUTCOMES:

Strengthen management and overall performance in the key areas of payment systems resiliency and operational excellence.

KEY INITIATIVES	STATUS	UPDATE
Availability targets met or exceeded.	▲	Targets for LVTS, CSN and ACSS were exceeded.
Cyber security maturity improved.	▲	Our industry security rating has stayed above the bar of 750 every month. Cyber security maturity improved in the five framework areas of identify, protect, detect, respond and recover.
Organizational capabilities increased.	▼	An HR strategy was developed that includes our vision, guiding principles and four areas of focus. The core leadership program was successfully delivered, with nine high-potential leaders identified. Career development planning fell short of planned progress due to competing priorities.
Cloud-based solutions established.	▲	Google Cloud Platform was implemented. Financial Institutions File and Corporate Creditor Identification Number databases migrated successfully to it.
Stakeholder and employee confidence strengthened.	▼	All stakeholder confidence targets were exceeded, while employee engagement dropped due to challenges with Modernization and the rollout of a new organizational structure.
Risk management capabilities upgraded.	▲	A set of more granular risk-appetite statements, metrics and thresholds were developed. A change management plan was prepared to support implementation of 2019 risk-appetite enhancements. A payment system cyber resilience integrated program plan, involving the Bank of Canada, Canadian Bankers Association and domestic systemically important banks, was initiated.

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CREATE NEW OPPORTUNITIES

ON TRACK

EXPECTED OUTCOMES:

Develop offerings that provide value to our members, stakeholders and users.

KEY INITIATIVES	STATUS	UPDATE
Offer new services	▲	The ISO Validation Project and Financial Institutions File (FIF) Application Project moved from proof of concept to production. Proof of concepts were completed to analyze transaction processing data and to enable Inter-Bank Account Validation processing using APIs.
Engage with the financial ecosystem	▼	Data analytics products and presentations were delivered to 10+ member financial institutions. A joint symposium was held with the Bank of Canada. Payments Perspectives was launched to drive analysis and discussion. The SUMMIT was rated as “good” or higher by 94% of attendees surveyed; however, conference targets were not met. At 1,392 attendees, numbers were up 17% over 2017 but 7% under target. Financial targets were missed by 6%.
Evaluate the feasibility and advance the understanding of DLT	▲	The Project Jasper III analysis and proof of concept was completed and results were presented at The SUMMIT. A white paper was published demonstrating the feasibility of clearing and settlement of securities using distributed ledger technology.

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We are inspired by our journey to establish a modern payment system that is fast, flexible and secure; enables innovation; and achieves a competitive position for Canada.

1. MODERNIZE

Modernize the core payment systems, including policies, rules, standards and technology infrastructure.

KEY 2019 INITIATIVES

Automated Clearing Settlement System. Additional enhancements will further improve resiliency and functionality of the system.

Real-Time Rail. Determine the phased approach for functionality delivery, finalize service provider arrangements and complete detailed design and development.

New high-value payment system. The Lynx application provider has been chosen; selection of a technology partner to host the application and assist in integration, as well as provide security and other key technology services, will be finalized. Systems design and development will commence.

Policy and legal framework. Review governing legislation and membership criteria; align with the new retail regulatory framework; determine how to better meet our facilitation mandate and refresh the appropriate use of policy tools.

2019 CORPORATE PLAN

2. OPERATE

Strengthen management and performance in key areas of payment systems interoperability and resiliency, management optimization and operational streamlining.

KEY 2019 INITIATIVES

Payment System Interoperability and Resiliency

Core Payment Systems. Reduce manual processes, meet the needs of the Lynx high-value payments system and execute changes to facilitate effective new member onboarding. Enhance product management and operational frameworks to support the new batch retail and high-value payment systems to be delivered in 2020/2021.

Cyber Security Maturity. Mature our cyber practice in accordance with a new four-year cyber security action plan. Steps include addressing identified audit, regulatory compliance and threat drivers; improving metrics; establishing the 24/7 Security Operations Centre to support the new Real-Time Rail.

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Optimize Management & Streamline Operations

Target State Readiness. Enhance financial sustainability so that mature operational frameworks are in alignment with internal controls, Bank of Canada and industry standards. Upgrade the service management framework to improve vendor management capabilities and process automation.

Maturation of Organizational Development. Focus on a diverse, engaged workforce and a positive work environment through organizational evolution.

3. FACILITATE

Actively engage in the payments ecosystem to understand, inform and leverage market forces.

KEY 2019 INITIATIVES

Stimulate Open and Broader Membership. Align our rules and requirements with Retail Payments Oversight Framework and new *Canadian Payments Act* changes.

Engage Members, Stakeholders & Ecosystem. Evolve engagement with our stakeholders to understand, inform and leverage market focus. Invest in data governance and advance our analytics program to enhance the value of reports provided as guidance to our members and the ecosystem.

Provide New Service Offerings & Emerging Technologies. Continue to participate in relevant national policy discussions, including open banking, enhanced payments system access, and the merits of a national digital ID framework that follows on the success of Project Jasper Phase III.

For more details, view our [Corporate Plan](#).

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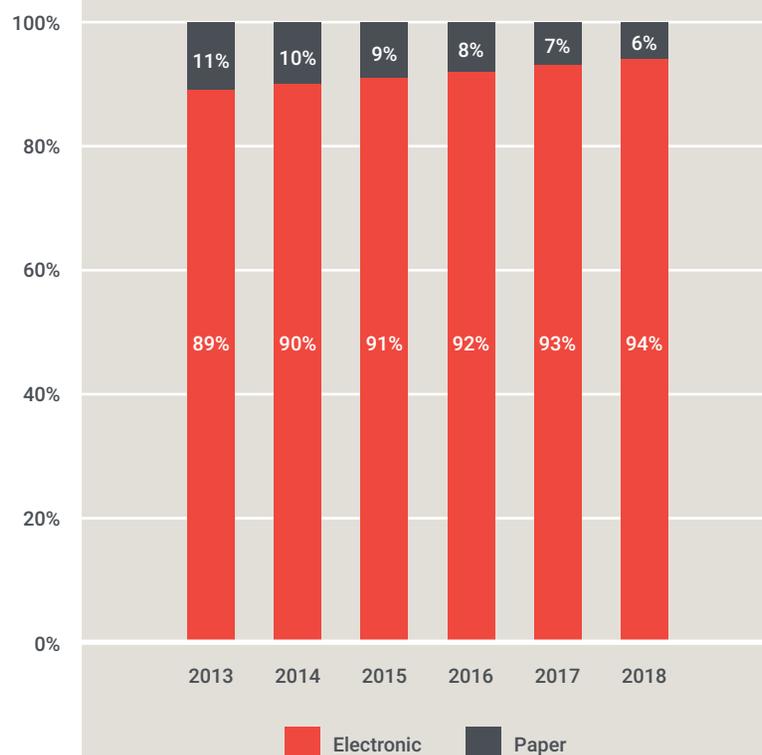
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FIGURE 1: VOLUME SHARE OF ELECTRONIC AND PAPER ITEMS



Payments Canada operates two national systems for the clearing and settlement of payments: the Automated Clearing Settlement System (ACSS), which clears retail payments, and the Large Value Transfer System (LVTS), Canada's wire transfer system, which is also used to fund settlement for ACSS clearing balances at the Bank of Canada.

In 2018, Payments Canada systems cleared approximately 8 billion payments (an average of 32 million payments per business day) with a total value of \$53 trillion (or \$209.7 billion on average per business day). Over the past five years electronic payment items¹ cleared by the ACSS and LVTS have been rising, and paper payments have been declining; cheque and paper volume has been declining by eight per cent (since 2016).² Figure 1, at left, illustrate the evolving shares of electronic and paper items in terms of volume and value.

In 2018, electronic payments made up 94 per cent of the total volume share and 84 per cent of the total value share.

¹ Les effets de paiement électroniques et les effets papier comprennent le volet MT103 du SACR et du STPGV, qui inclut uniquement les paiements non financiers faits par les clients. Le STPGV accepte deux types de messages de paiements SWIFT : MT103 et MT205. En 2018, le volet MT103 représentait 68 % du volume des transactions.

² Rapport sur les méthodes de paiement et les tendances, Paiements Canada, décembre 2018, en ligne au <https://www.paiements.ca/reseignements-sur-lindustrie/notre-recherche/rapidite-C3%A9-et-commodite-C3%A9-les-attentes-des-canadiens>

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ACSS Stream Breakdowns³

FIGURE 2: SHARE OF ACSS VOLUME

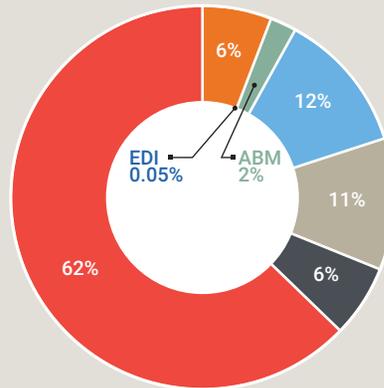
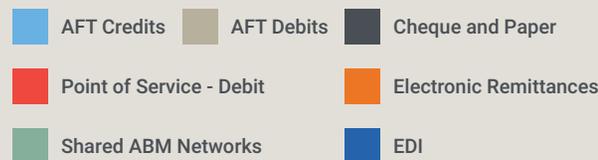
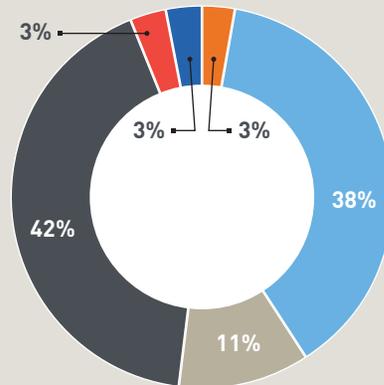


FIGURE 3: SHARE OF ACSS VALUE



AUTOMATED CLEARING SETTLEMENT SYSTEM (ACSS) 2018

ACSS Volume and Value

ACSS volume and value continued to trend upward in 2018. Volume increased by four per cent, and value increased by two per cent over 2017. Volume growth is the same as observed in the previous year; although value growth has declined, it remains positive (from five per cent in 2017). Nonetheless, both ACSS volume and value growth exhibit an upward trend historically, increasing by 19 per cent since 2013 in volume and 18 per cent in value terms.

Figure 2, at left, illustrates the breakdown of the individual payment streams that clear in the ACSS. Point-of-service (POS) debit transactions account for the majority of payments in the ACSS (62 per cent, one per cent higher than in 2017), followed by Automated Funds Transfer (AFT) credits (also known as direct deposits), which represent 12 per cent of the total system volume.

Automated Funds Transfer

In 2018, AFT payments (pre-authorized debits and direct deposits) collectively continued to maintain the largest share of ACSS clearing value (almost 50 per cent, three per cent higher than in 2017), followed by cheques (42 per cent, two per cent lower than in 2017) (Figure 3).

The first time that AFT payments surpassed cheques in the share of ACSS value was in 2016, which was seen as a significant milestone for the Canadian payments ecosystem. This trend continued into 2018, with cheque and paper items falling and AFT payments growing in their respective ACSS value shares.

³ For additional information on what is included in these streams, please see <https://www.payments.ca/resources/payments-glossary>

FIGURE 4: ACSS GENERAL PAYMENT TYPES YEAR-OVER-YEAR GROWTH (2018)

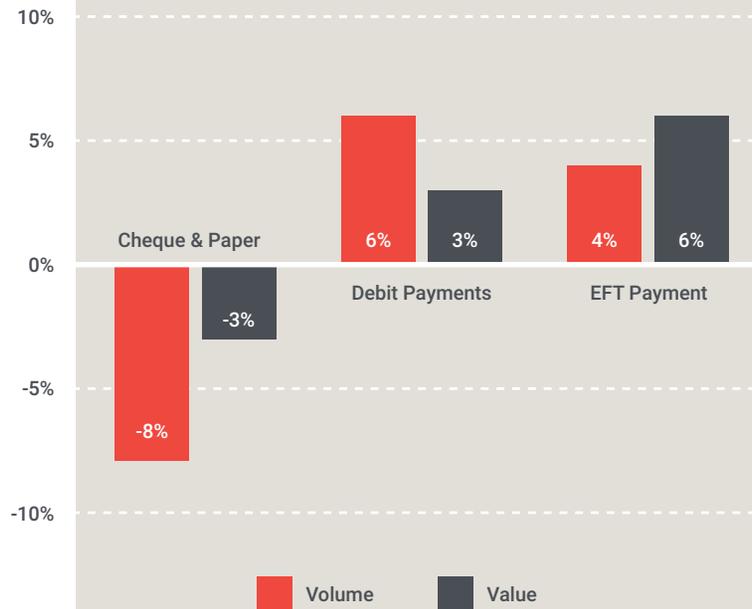


Figure 4, at left, illustrates how cheque and paper payment items decreased in volume in 2018, declining by eight per cent year-over-year.

Cheque use

According to Payments Canada’s [2018 Canadian Payment Methods and Trends report](#)⁴, businesses and consumers are adopting digital payments, reducing their use of cheques. Out of the estimated 734 million cheques processed in Canada in 2017 (worth an estimated \$4 trillion), 30 per cent were written by individuals. These represented only about two per cent of the total value of cheques in Canada (\$82 billion).

The majority of cheques in Canada (an estimated 70 per cent) were issued by businesses—small-to-medium sized enterprises in particular. In 2017, business cheque and paper items in Canada had an estimated value of nearly \$3.95 trillion—about 98 per cent of the value of all cheques in Canada. Nearly half of all of the cheques exchanged between financial institutions were images. Given the downward pressure in cheque use, it remains to be seen if cheque imaging will slow cheque decline.

A key reason why businesses continue to use cheque and paper payment items is a lack of sufficient remittance data in electronic payments.⁵ Increasing the capacity for remittance data to travel with a payment, through the implementation of ISO 20022-compliant payment messaging, for example, is crucial to enabling further business migration to e-payments, and is a particular focus of the our Modernization strategy.⁶

⁴ 2018 statistics will be available in the forthcoming 2019 Methods and Trends report, to be published in late 2019.

⁵ Business Payments in Canada: A Trilogy of Surveys Point to Inefficiencies, Payments Perspectives, December 2018. Available at: <https://www.payments.ca/industry-info/our-research/payments-perspectives/business-payments-canada-trilogy-surveys-point>

⁶ Payments Canada’s “The economic benefit of adopting the ISO 20022 payment message standard in Canada” paper discusses the benefits of ISO 20022 in Canada in more detail. Available at: https://www.payments.ca/sites/default/files/2016-economic-benefit-iso20022_1.pdf

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FIGURE 5: LVTS VOLUME GROUPED BY TRANSACTION SIZE

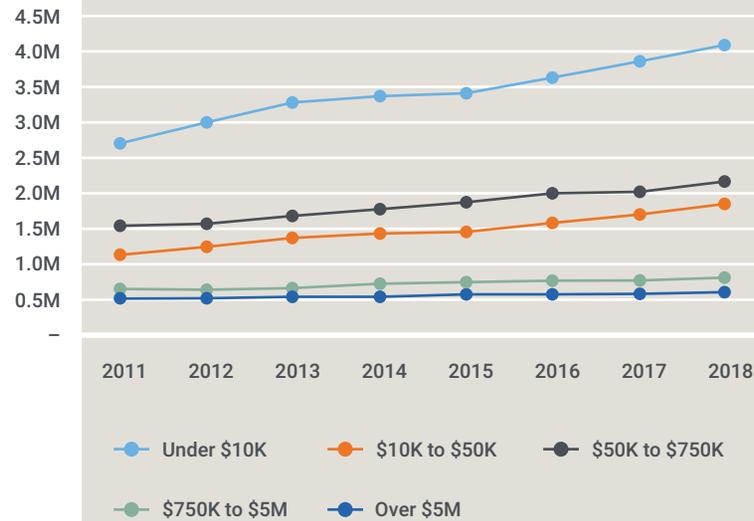
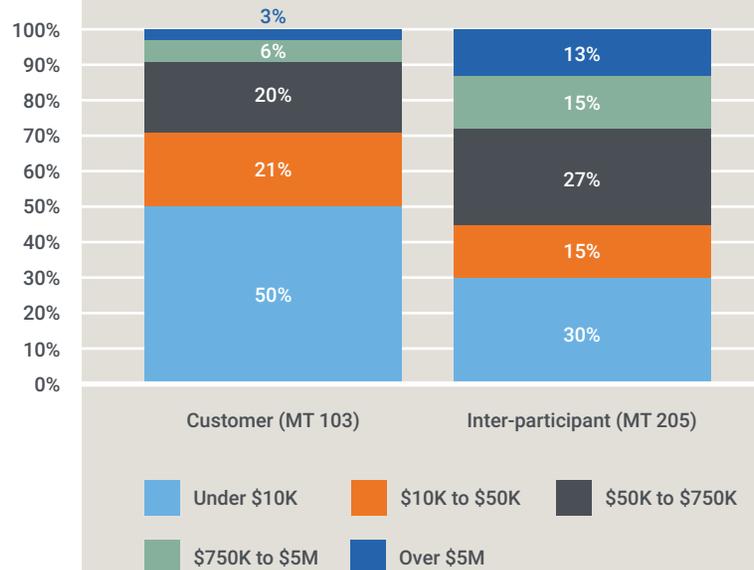


FIGURE 6: LVTS TRANSACTION TYPES SHARES BY TRANSACTION SIZE



LARGE VALUE TRANSFER SYSTEM (LVTS) 2018

LVTS Volume and Value

LVTS payment volume continued to increase in 2018 (up seven per cent over 2017). The value of LVTS payments also increased in 2018 by five per cent. The value of customer-initiated wire payments (MT 103s) rose by 14 per cent over 2017, an increase of approximately \$1.4 trillion. MT 205s also increased in value by two per cent.

LVTS Volume Grouped by Transaction Size

Payments with values of between \$10,000 and \$50,000 showed the strongest year-over-year growth in volume (eight per cent), followed by payments with values between \$50,000 to \$750,000 (seven per cent). That said, more than 60 per cent of LVTS payments had values of less than \$50,000 and only about seven per cent of LVTS payments were for amounts greater than \$5 million.

In 2018, the year-over-year growth for values over \$5 million increased to six per cent, and the \$750,000 to \$5,000,000 category continued to grow in 2018 at four per cent.

Figure 5, at left, demonstrates a historical overview of LVTS volume grouped by transaction size. As can be seen in Figure 6, the majority of MT 103s and MT 205s (50 and 30 per cent, respectively) are under \$10,000.

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CLEARING & SETTLEMENT SYSTEM STATISTICS

Systems availability rates in 2018

ACSS	LVTS	CSN
100%	99.99%	100%

2018 total systems statistics

(ACSS, LVTS and USBE combined):

TOTAL VOLUME	TOTAL VALUE
8 BILLION PAYMENTS	\$53 TRILLION
DAILY AVERAGE TOTAL SYSTEMS VOLUME	DAILY AVERAGE TOTAL SYSTEMS VALUE
32 MILLION	\$209.7 BILLION

2018 ACSS system statistics

TOTAL VOLUME	TOTAL VALUE
7.9 BILLION	\$7.1 TRILLION
DAILY AVERAGE VOLUME	DAILY AVERAGE VALUE
31.7 MILLION	\$28.6 BILLION

2018 LVTS system statistics

TOTAL VOLUME	TOTAL VALUE
9.5 MILLION	\$45.6 TRILLION
DAILY AVERAGE VOLUME	DAILY AVERAGE VALUE
37,814	\$181.1 BILLION

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THE BOARD OF DIRECTORS

Under the leadership of Eileen Mercier, the 13-director board is charged with directing and managing the affairs of the organization with a focus on strategic and policy matters.

The board welcomed two new directors with a diverse range of expertise in 2018: Mike Henry, Executive Vice President and Chief Data Officer for Bank of Nova Scotia and Ramesh Siromani, Senior Vice President, Strategy & Transformation for Royal Bank of Canada. We also welcomed back Eileen Mercier, Malcolm Knight and Lib Gibson for a second term as independent directors.

The board also said goodbye to Chuck Hounsell, Senior Vice President, Payments for the Toronto-Dominion Bank and Carolyn Burke, Head, Enterprise Payments for the Royal Bank of Canada.

The board receives advice and counsel from the Payments Canada Stakeholder Advisory Council and the Member Advisory Council.

Board of Directors: Eileen Mercier (Chair), Gerry Gaetz (President and CEO), Malcolm Knight (Deputy Chair), David Barnard, François Desjardins, Dan Dickinson, Susan Doniz, Garry Foster, Lib Gibson, Mike Henry, Ernie Johannson, Ramesh Siromani, Doug Steiner



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PAYMENTS CANADA BOARD OF DIRECTORS

ELECTED UNTIL ANNUAL MEETING OF MEMBERS 2021

Eileen Mercier (Chair)
Independent Director

Malcolm Knight (Deputy Chair)
Independent Director

Lib Gibson
Independent Director

Mike Henry
Executive Vice President and Chief
Data Officer,
Bank of Nova Scotia

ELECTED UNTIL ANNUAL MEETING OF MEMBERS 2020

Doug Steiner
Independent Director

Garry Foster
Independent Director

Ramesh Siromani
Senior Vice President, Strategy &
Transformation,
Royal Bank of Canada

François Desjardins
President & CEO, Laurentian Bank and
Chair of Board,
B2B Bank

ELECTED UNTIL ANNUAL MEETING OF MEMBERS 2019

David Barnard
Independent Director

Susan Doniz
Independent Director

Dan Dickinson
Chief Digital Officer,
Equitable Bank

Ernie Johannson
Group Head, U.S. Personal and
Business Banking,
BMO



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BOARD COMMITTEES

There are five board committees with mandates to carry out specific functions to support the Payments Canada Board of Directors.

1/ RISK COMMITTEE OF THE WHOLE

The Risk Committee is a committee of the whole board and assists the board in fulfilling its responsibilities in relation to several crucial functions: risk management oversight, including oversight of Payments Canada's Enterprise Risk Management Policy, and risk-appetite statement.

2/ AUDIT & FINANCE COMMITTEE

The Audit and Finance Committee assists the board in fulfilling its responsibilities in relation to several crucial functions: financial monitoring, financial audits and financial planning, including the oversight of budget development. This committee may also oversee projects as delegated by the board.

2018 MEMBERSHIP⁷

Garry Foster, Chair
Ernie Johannson
Malcolm Knight
Eileen Mercier (ex officio)
Doug Steiner

3/ GOVERNANCE & NOMINATING COMMITTEE

The Governance and Nominating Committee assists the board in fulfilling its responsibilities in relation to governance: oversight of board performance effectiveness, governance policies and guidelines, and compliance; code of conduct and standards of behaviour for board and management; director nomination and qualification; board succession planning; board orientation and continuing education; and evaluation of board committees as a whole.

2018 MEMBERSHIP

David Barnard, Chair
François Desjardins
Garry Foster
Ernie Johannson
Malcolm Knight
Eileen Mercier (ex officio)

4/ HUMAN RESOURCES & COMPENSATION COMMITTEE

The Human Resources and Compensation Committee assists the board in fulfilling its responsibilities in the evaluation and compensation of the president and CEO, review of the CEO's evaluation of senior management, employee benefits and pension plans, human resources policies, and management succession planning.

2018 MEMBERSHIP

Susan Doniz, Chair
Dan Dickinson
Lib Gibson
Mike Henry
Eileen Mercier (ex officio)

5/ TECHNOLOGY & MODERNIZATION COMMITTEE

The Technology and Modernization Committee assists the board in fulfilling its responsibilities in reviewing strategies for technology, Modernization and related areas, including resilience and cyber security; monitoring the performance of technology throughout Payments Canada and its contribution towards Payments Canada's business and strategic objectives; identifying, monitoring and evaluating existing and emerging technology issues and trends that may affect Payments Canada's strategic plan; and monitoring technology-related risks and Payments Canada's plans and efforts to manage those risks.

2018 MEMBERSHIP

Lib Gibson, Chair
David Barnard
Dan Dickinson
François Desjardins
Susan Doniz
Mike Henry
Eileen Mercier (ex officio)
Ramesh Siromani
Doug Steiner

⁷ As at December 31, 2018.

BOARD AND COMMITTEE ATTENDANCE

January to June (before annual meeting of members) 2018

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MEMBER	MEMBER SINCE	BOARD	AFC	GNC	HRCC	TMC	RISK
NUMBER OF MEETINGS		3	3	3	3	3	3
DIRECTOR ATTENDANCE							
E. Mercier - Chair	Jul-15	3	3	3	3	3	3
M. Knight - Deputy Chair	Jul-15	3	3	3	n/a	n/a	3
D. Barnard	May-16	3	n/a	3	n/a	2	3
C. Burke	Jun-17	3	n/a	3	n/a	3	3
F. Desjardins	Jun-17	3	n/a	2	n/a	1	3
D. Dickinson	May-16	3	n/a	n/a	3	3	3
S. Doniz	May-16	3	n/a	n/a	3	3	3
G. Foster	Jun-17	3	3	3	n/a	n/a	3
G. Gaetz	Jul-15	3	n/a	n/a	n/a	n/a	3
L. Gibson	Jul-15	3	n/a	n/a	3	3	3
M. Henry	Jun-18	1 of 1*	n/a	n/a	n/a	n/a	n/a
C. Hounsell	Jul-15	3	n/a	n/a	3	3	3
E. Johannson	Jun-17	3	3	n/a	n/a	n/a	3
D. Steiner	Jul-15	3	3	n/a	n/a	3	3

* Mr. Henry was elected to the board in June 2018, replacing Mr. Hounsell.

Note: since board committees meet at least one day before the board meetings, the attendance is for meetings up to and including the June meetings.

BOARD AND COMMITTEE ATTENDANCE

June (following annual meeting of members) to December 2018

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MEMBER	MEMBER SINCE	BOARD	AFC	GNC	HRCC	TMC	RISK
NUMBER OF MEETINGS		2	2	2	2	3	2
DIRECTOR ATTENDANCE							
E. Mercier - Chair	Jul-15	2	2	2	2	3	2
M. Knight - Deputy Chair	Jul-15	2	2	2	n/a	n/a	2
D. Barnard	May-16	2	n/a	2	n/a	3	1
C. Burke	Jun-17	n/a	n/a	n/a	n/a	1 of 1	n/a
F. Desjardins	Jun-17	2	n/a	1	n/a	3	2
D. Dickinson	May-16	2	n/a	n/a	2	3	2
S. Doniz	May-16	2	n/a	n/a	2	3	2
G. Foster	Jun-17	2	2	2	n/a	n/a	2
G. Gaetz	Jul-15	2	n/a	n/a	n/a	n/a	2
L. Gibson	Jul-15	2	n/a	n/a	2	3	2
M. Henry	Jun-18	2	n/a	n/a	2	3	2
E. Johannson	Jun-17	2	2	n/a	n/a	n/a	2
R. Siromani	Oct-18	1 of 1*	n/a	n/a	n/a	n/a	1 of 1
D. Steiner	Jul-15	2	2	n/a	n/a	3	2

* Mr. Siromani was elected at a special meeting of members in October 2018, before the last board meeting in November. Mr. Siromani replaced Ms. Burke who resigned before the September board meeting.

Note: since board committees meet at least one day before the board meetings, the attendance above is for meetings after June.

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EXECUTIVE LEADERSHIP TEAM

Our Executive Leadership Team provides strategic direction, leadership and oversight to Payments Canada. Learn more about our Executive Team by visiting payments.ca.

Gerry Gaetz, President and Chief Executive Officer

Justin Ferrabee, Chief Operating Officer

Anne Butler, Chief Legal Officer and Head of Policy and Research

Tracey Black, Executive Director, Modernization

Peter Dodic, Chief Risk Officer

Andrew McCormack, Chief Information Officer

Sheila Vokey,⁷ Chief Financial Officer

Jan Pilbauer,⁸ Executive Director, Modernization and Chief Information Officer

⁷ Sheila Vokey left the role in September 2018;

Kristina Logue took on the acting position in November 2018

⁸ Jan Pilbauer left the role in October 2018; Tracey Black took on the acting position in November 2018

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APPOINTED UNTIL JULY 2019

Bank of America, National Association	Greg Szak
Citibank Canada	John Landry
Concentra Financial Services Association	Brian Guillemín
The Bank of Nova Scotia	Rania Llewellyn
The Toronto Dominion Bank	Christine Hunter

APPOINTED UNTIL JULY 2020

Bank of Montreal	Sharon Haward-Laird
Canadian Imperial Bank of Commerce	John Cowan
Central 1	Steve Faust
Credit Union of Central Alberta	Michael Devlin
Exchange Bank of Canada	Stephen Fitzpatrick
JPMorgan Chase, National Association	Matthew Parker-Jones
Peoples Trust Company	John Pals

APPOINTED UNTIL JULY 2021

Alberta Treasury Bank	John Tarnowski
Bank of Canada	Carol Brigham
Canadian Western Bank	Vlad Ahmad
HSBC	Jennifer Ogdon
La fédération des caisses Desjardins du Québec	Patrice Dagenais
National Bank of Canada	Patrice Roy
Royal Bank of Canada	Lisa Lansdowne-Higgins

MEMBER ADVISORY COUNCIL

Our Member Advisory Council is mandated in the *Canadian Payments Act* as a consultative and engagement forum for our members who are system participants. The Member Advisory Council provides advice to the board on our clearing and settlement systems; the way they interact with other systems in the exchange, clearing or settlement of payments; and in the development of new payment technologies.

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MEMBER	MEETINGS ATTENDED (OR DELEGATE)	NAMED REPRESENTATIVE
Alberta Treasury Bank	2/5	John Tarnowski
Bank of America, National Association	5/5	Maureen Jarvis
Bank of Canada	5/5	Carol Brigham * Grahame Johnson
Bank of Montreal	5/5	Sharon Haward-Laird
Canadian Imperial Bank of Commerce	4/5	John Cowan * Todd Roberts
Canadian Western Bank	4/5	Vlad Ahmad * Keith Hughes
Central 1	5/5	Steve Faust * Kelly Latzel
Citibank Canada	4/5	John Landry
Concentra Financial Services Association	2/5	Brian Guillemin
Credit Union of Central Alberta	4/5	Michael Devlin * Steve Dunn
Exchange Bank of Canada	4/5	Stephen Fitzpatrick
HSBC	5/5	Jennifer Ogdon * Ed White
JPMorgan Chase, National	4/5	Matthew Parker-Jones * Amy Altersohn
La fédération des caisses Desjardins du Québec	5/5	Patrice Dagenais
National Bank of Canada	5/5	Patrice Roy * Stephen Lacelle
Peoples Trust Company	5/5	John Pals
Royal Bank of Canada	5/5	Lisa Lansdowne-Higgins
The Bank of Nova Scotia	5/5	Rania Llewellyn
The Toronto Dominion Bank	5/5	Christine Hunter

MAC MEMBERSHIP AND 2018 MEETING ATTENDANCE

Council members are appointed through a process involving a Nominating Committee and approved by the Board. While named representatives are expected to attend all council meetings, if a named representative is unable to attend a meeting, alternates may be permitted on an exception basis but for not more than one third of council meetings.

2018 PAST MEMBERS

MEMBER	MEETINGS ATTENDED (OR DELEGATE)	NAMED REPRESENTATIVE
Industrial and Commercial Bank of China (Canada)	0/5	David Min Zhang

* indicates the previously named representative that changed during the year.

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APPOINTED UNTIL JULY 2019

Canadian Life and Health Insurance Association	Brent Mizzen
FI.SPAN	Lisa Shields
MasterCard	Iain McLean
nanoPay	Laurence Cooke
Retail Council of Canada	Karl Littler
Wawanesa	Brenda Gibson

APPOINTED UNTIL MARCH 31, 2020

ADP Canada	Bill Piggot
Canadian Federation of Independent Business	Monique Moreau
Consumer Council of Canada	Don Mercer
Ministry of Finance, Government of BC	Jean Hope
PayPal Canada	Katja Lehr
Western Union	Felipe Backup

APPOINTED UNTIL MARCH 31, 2021

CAE	Mario Pizzalongo
Canadian Depository for Securities Ltd.	John McKenzie
Fiserv	David Chance
Hydro Québec	Michel Lechasseur
Option Consommateurs	Alexandre Plourde
Receiver General for Canada, PSPC	Céline Chartier
Sage	Sandra Horvath

STAKEHOLDER ADVISORY COUNCIL

The Stakeholder Advisory Council provides advice to our Board of Directors on payment, clearing, and settlement matters. SAC members contribute input on proposed initiatives, including by-laws, policy statements, and rules that affect third parties. They also identify issues that might concern payment system users and service providers, and suggests how they could be addressed.

PAYMENTS CANADA BOARD OF DIRECTORS REPRESENTATIVES

Ramesh Siromani

DEPARTMENT OF FINANCE CANADA OBSERVER

Julie Trépanier

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MEMBER	MEETINGS ATTENDED (OR DELEGATE)	NAMED REPRESENTATIVE
ADP Canada	4/4	Bill Piggot
CAE	1/3	Mario Pizzalongo
Canadian Depository for Securities Ltd.	3/4	John McKenzie
Canadian Federation of Independent Business	3/4	Monique Moreau * Doug Bruce
Canadian Life and Health Insurance Association	4/4	Brent Mizzen
Consumer Council of Canada	4/4	Don Mercer
Fiserv	2/3	David Chance
FI.SPAN	3/4	Lisa Shields
Hydro Quebec	3/3	Michel Lechasseur
Option Consommateurs	4/4	Alexandre Plourde
MasterCard	3/4	Iain McLean * Donna Kinoshita
Ministry of Finance, Government of BC	4/4	Jean Hope
nanoPay	4/4	Laurence Cooke
PayPal Canada	4/4	Katja Lehr * Ritu Khanna
Receiver General, PSPC	4/4	Céline Chartier
Retail Council of Canada	4/4	Karl Littler
Sage	2/3	Sandra Horvath
Wawanesa Insurance	4/4	Brenda Gibson
Western Union	2/4	Felipe Buckup * Juan Blanco
Payments Canada Board Member	2/4	Ramesh Siromani * Erminia (Ernie) Johansson

SAC MEMBERSHIP AND 2018 MEETING ATTENDANCE

Council members are appointed through a process involving a Nominating Committee and approved by the Board in consultation with the Minister of Finance. While named representatives are expected to attend all Council meetings, if a named representative is unable to attend a meeting, alternates may be permitted on an exception basis but for not more than one third of council meetings.

2018 PAST STAKEHOLDERS

STAKEHOLDER	MEETINGS ATTENDED (OR DELEGATE)	NAMED REPRESENTATIVE
Finastra	1/1	Heather McMillan
Bell Canada	1/1	Frank Rodi

* indicates the previously named representative that changed during the year.

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Our opinion

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of Payments Canada (the Company) as at December 31, 2018 and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

What we have audited

The Company's financial statements comprise:

- the statement of financial position as at December 31, 2018;
- the statement of operations for the year then ended;
- the statement of changes in net assets for the year then ended;
- the statement of cash flows for the year then ended; and
- the notes to the financial statements, which include a summary of significant accounting policies.

Basis for opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada. We have fulfilled our other ethical responsibilities in accordance with these requirements.

Comparative information

The financial statements of the Company for the year ended December 31, 2017 were audited by another auditor who expressed an unmodified opinion on those statements on February 22, 2018.

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Other information

Management is responsible for the other information. The other information comprises the information, other than the financial statements and our auditor's report thereon, included in the Annual Report.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of management and those charged with governance for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Company's financial reporting process.

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Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

PricewaterhouseCoopers s.r.l./s.e.n.c.r.l.

Chartered Professional Accountants, Licensed Public Accountants

Ottawa, Ontario
February 28, 2019

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December 31, 2018
(in thousands of dollars)



Statement of Financial Position

As at December 31, 2018

(in thousands of dollars)

	2018 \$	2017 \$
ASSETS		
Current assets		
Cash	7,836	8,483
Short term investments (note 3)	31,886	23,138
Accounts receivable (note 4)	13,651	13,498
Prepaid expenses	3,689	2,048
	57,062	47,167
Capital assets (note 5)	31,113	19,787
	88,175	66,954
LIABILITIES AND NET ASSETS (LIABILITIES)		
Current liabilities		
Accounts payable and accrued liabilities	15,498	13,324
Demand loans (note 7)	70,500	24,500
Deferred revenue	407	793
	86,405	38,617
Tenant inducement	1,292	1,489
Employee future benefits (note 6)	1,370	1,249
	89,067	41,355
NET ASSETS (LIABILITIES)		
Unrestricted	(29,804)	3,281
Internally restricted	28,912	22,318
	(892)	25,599
	88,175	66,954

Commitments (note 8)

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Statement of Operations

For the year ended December 31, 2018

(in thousands of dollars)

	2018 \$	2017 \$
REVENUE		
Fees	53,516	53,935
Costs recovered from members	1,538	1,603
Conference	1,882	1,265
Other	1,189	679
	58,125	57,482
EXPENSE		
Modernization program	31,915	17,890
Salaries and benefits	21,739	17,405
Technology and telecommunications	9,209	7,752
Projects	8,424	5,044
General administration	4,800	4,722
Amortization of capital assets	2,293	2,937
Professional services	3,868	2,539
Costs incurred for members	1,575	1,595
Bank of Canada settlement services	900	900
	84,723	60,784
Net expense for the year	(26,598)	(3,302)

Statement of Changes in Net Assets (Liabilities)

For the year ended December 31, 2018

(in thousands of dollars)

	Balance - Beginning of year \$	Net revenue (expense) for the year \$	Employee future benefits remeasurements \$	Transfers \$	Balance - End of year \$
UNRESTRICTED					
Core operations	16,833	5,317	107	(6,594)	15,663
Modernization program	(13,552)	(31,915)	-	-	(45,467)
	3,281	(26,598)	107	(6,594)	(29,804)
INTERNALLY RESTRICTED					
Principles of Financial Market Infrastructure	11,745	-	-	3,092	14,837
Modernization program	10,573	-	-	-	10,573
Stabilization	-	-	-	3,502	3,502
	22,318	-	-	6,594	28,912
	25,599	(26,598)	107	-	(892)

Statement of Cash Flows

For the year ended December 31, 2018

(in thousands of dollars)

	2018 \$	2017 \$
CASH PROVIDED BY (USED IN)		
Operating activities		
Net expense for the year	(26,598)	(3,302)
Items not affecting cash		
Amortization of tenant inducement	(197)	(194)
Amortization of capital assets	2,293	2,937
Employee future benefits expense	251	107
Cash paid for employee future benefits	(23)	(15)
Net change in non-cash working capital items	(6)	4,733
	(24,280)	(5,200)
Investing activities		
Purchases of short-term investments	(38,215)	(35,986)
Proceeds on sale of short-term investments	29,467	26,690
Purchases of capital assets	(13,619)	(15,120)
	(22,367)	(24,416)
Financing activities		
Proceeds from demand loans	(24,500)	-
Advances of demand loans	70,500	24,500
	46,000	24,500
Net change in cash for the year	(647)	(5,116)
Cash - Beginning of year	8,483	13,599
Cash - End of year	7,836	8,483

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(in thousands of dollars)

1 General information

Canadian Payments Association, doing business as Payments Canada (“the Company”), was incorporated in 1980 by an Act of Parliament of Canada. The objects of the Company are to:

- establish and operate national systems for the clearing and settlement of payments and other arrangements for the making or exchange of payments;
- facilitate the interaction of its clearing and settlement systems and related arrangements with other systems or arrangements involved in the exchange, clearing or settlement of payments; and
- facilitate the development of new payment methods and technologies.

The costs associated with Canada’s central automated facilities and telecommunications facilities of the national clearing and settlement systems are the responsibility of the Company. All other significant operating costs in relation to the information technology infrastructure relative to the actual clearing process are the responsibility of the member institutions.

The Company is funding the Modernization Program by way of bank financing as opposed to annual dues and fees from members. As a result, the Company is expected to operate in a deficit position over the period of time in which national payments infrastructure is being modernized. The *Canadian Payments Act* (“the Act”) and Finance By-Law made under the Act provide the Company with the authority to require its members to pay dues and fees.

The Company has elected to operate as a non-profit organization, under paragraph 149(1)(l) of the *Income Tax Act* and, as such, is not subject to income taxes.

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2 Summary of significant accounting policies

Basis of accounting

The financial statements have been prepared in accordance with Canadian accounting standards for not-for-profit organizations.

Use of estimates

The preparation of financial statements in conformity with Canadian accounting standards for not-for-profit organizations requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenue and expense during the year. Actual results could differ from these estimates.

Short term investments

Government of Canada treasury bills are measured at fair value. Changes in fair value are recorded in the statement of operations.

Capital assets

Capital assets comprise both tangible and intangible assets and are initially recorded at cost. Amortization is provided on the basis of their useful lives using the straight-line method over the following durations:

Leasehold improvements	over the term of lease
Office furniture	5 years
Technology	5 years

Modernization systems under development will not be amortized until substantially available for use.

Tenant inducement

In 2014, the Company entered into a 10-year lease agreement for new office space. As part of the lease, the Company received tenant inducements totalling \$1,931. In 2016, the Company entered into a nine-year lease agreement for additional office space and received a lease inducement totalling \$121. The tenant inducements are amortized on a straight-line basis over the terms of the leases and are included in general administration expense in the statement of operations.



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Employee future benefits

The Company provides a life and health insurance plan to its employees subsequent to their retirement.

The Company accrues its obligations and related costs for employee future benefits as the employees render the service necessary to earn retirement benefits. As these benefits are unfunded, the obligation is measured using an actuarial valuation prepared for accounting purposes, which incorporates management's assumptions used for cost escalation, average ages of employees and other actuarial factors. The actuarial valuation is performed at least every three years. In the years between valuations, plan results are prepared based on extrapolations of the latest available actuarial valuation results.

The benefit plan expense for the year consists of the current service and interest costs. Remeasurements and other items are recognized directly in the statement of changes in net assets (liabilities).

Revenue recognition

Service fees are recognized as revenue as transactions are processed.

Common service fees are recognized as revenue proportionately over the year to which they relate. Fees received in advance of the related fiscal year are recorded as deferred revenue.

Costs recovered from members are recognized as revenue in the year in which the related service is performed.

Revenues from conferences are recognized in the year the conference takes place.



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3 Short term investments

Guaranteed investment certificates bear interest at fixed rates ranging from 1.351% to 1.93% (2017 – 0.52% to 1.21%), and mature in 2019 (2017 – in 2018).

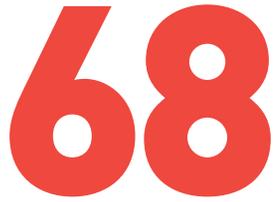
4 Accounts receivable

80% of accounts receivable are owing from five members (2017 – 80% owing from five members).

5 Capital assets

			2018	2017
	Cost	Accumulated	Net	Net
	\$	amortization	\$	\$
	\$	\$	\$	\$
Leasehold improvements	3,044	1,081	1,963	2,278
Office furniture	1,460	987	473	631
Technology	13,601	8,390	5,211	6,052
Modernization systems under development	23,466	-	23,466	10,826
	41,571	10,458	31,113	19,787

Cost and accumulated amortization amounted to \$27,951 and \$8,164, respectively as at December 31, 2017.



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6 Employee future benefits

The most recent valuation date was October 31, 2017. Extrapolations of the actuarial valuation indicated an accrued benefit liability of \$1,370 (2017 – \$1,249).

As at the plan is unfunded, this amount is recorded as an employee future benefits liability in the statement of financial position.

Significant assumptions:

	2018	2017
	%	%
Discount rate	4.00	3.70
Health care cost trend rates		
Hospital, dental, other medical	4.00	4.50
Drugs, grading down to 4.50% per annum in and after 2020	6.50	9.00



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7 Demand loans

The Company has an authorized credit facility, which is being drawn down by way of bankers' acceptance notes with minimum terms of 90 days as follows:

	2018	2017
	\$	\$
2.14%, maturing on January 19, 2019	30,000	-
2.29%, maturing on March 20, 2019	40,500	-
1.73%, matured on January 19, 2018	-	4,500
1.69%, matured on January 19, 2018	-	3,000
1.74%, matured on March 5, 2018	-	10,000
1.79%, matured on March 20, 2018	-	7,000
	<hr/> 70,500	<hr/> 24,500



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8 Commitments

The Company is committed to minimum payments under long-term operating leases for the rental of premises, infrastructure services and office equipment as follows:

	\$
Years ending December 31, 2019	7,694
2020	2,964
2021	2,751
2022	2,530
2023	2,530
Thereafter	3,410