

PSCIOC Information-Sharing Template – February 2020 – Government of Ontario

Information Sharing is collected for the purpose of the PSCIOC Meeting of February 2020.

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Jurisdiction : Ontario	Contact
1. Accomplishments: Briefly highlight major IT/IM accomplishments, progress, and/or significant milestones achieved in your jurisdiction over the past 6 - 12 months	
<u>Central Agencies I&IT Cluster (CAC)</u>	<div> <u>Architecture, Information Management & PMO Branch</u> </div> <div> 1. Cognitive Computing Service Advancement The Cognitive Computing & Innovation Consulting Services team successfully advanced cognitive computing services in 2018-2019. The team: <ul style="list-style-type: none"> • Developed first Chatbot application – Ada (AIP's digital assistant) to answer project management process related questions • Developed first Natural Language Processing (NLP) application in the form of the Lessons Learned POC application • Developed CAC Cognitive Modelling Tool (CCMT) which was CAC's first cognitive application implemented in a production environment • In partnership with the Ministry of Finance, developed a cognitive computing model that uses satellite imagery, maps, and weather data to identify potential areas of non-compliance related to the unregistered growth of raw leaf tobacco. </div> <div> <u>Enterprise Applications Branch</u> </div> <div> 1. IAM Modernization – One-Key, GO secure, GO-PKI Identity and Access Management (IAM) services enable Government business applications to be accessed securely by the Public, Broader Public Sector (BPS), and the Ontario Public Service. Modernized IAM services will be launched as Public Secure, BPS Secure, and OPS Secure in order to enable the Government's Digital First Strategy and Managing Transformation: A Modernization Action Plan for Ontario by supporting business applications hosted in OPS data centers, in the cloud, or through business partners. IAM is critical to ensuring appropriate access across technology environments and to meet increasingly rigorous compliance requirements such as cyber security. Today, applications, services or technologies are accessed through the following IAM authentication services: <ul style="list-style-type: none"> • Active Directory: provides authentication and access control services to all users and servers connected to the OPS network domain. It enables access control activities such as logging into local workstations connected to the OPS network, access to Office 365 services (e.g. email, file shares), internet and printing; </div> <div> Liz MacKenzie Chief Information Officer Central Agencies I+IT Cluster Liz.MacKenzie@ontario.ca </div>

- GO-PKI: is used to identify and authenticate OPS employees and BPS users requiring access to sensitive business systems;
- GO Secure: provides a seamless mechanism for OPS and BPS users to access the Government's business applications. It works with GO-PKI to protect sensitive government systems, or on its own, provides access to less sensitive systems; and
- ONe-key: provides credential for Ontario citizens or private business to perform secure transactions with the Government of Ontario. It works in concert with the registration and security controls of a Government program.

The IAM authentication services currently support over 1,300 business applications such as Social Assistance, Child Protection, Family Responsibility Office, Vital Records, Driver and Vehicle Registration, Health Services and business taxation.

2. OPSdocs

OPSdocs enables digital management of the information that government and broader public-sector employees use to perform their jobs and serve Ontarians. The service enables the management of OPS business records through the full document and records management lifecycle in an enterprise class content management system (i.e. OpenText). The service offers a set of processes and content management technologies that manage information across the OPS - from capture (scanning) through to archiving and disposition (records management). Information is securely stored in a central location, is easy to find, and provides tools to ensure adherence to OPS recordkeeping policies. This means all digital documents can be accessed and shared in any way that makes sense to a program area. OPSdocs provides modernized management of OPS business records in an enterprise class content management system. Currently, there are 11, 849 OPSdocs users in the OPS and approximately 90.9M documents stored.

3. Talent Management Modernization

The Talent Management (TM) Framework is the mechanism through which the Ontario Public Service (OPS) understands and manages talent, ensuring that employees continue to have the skills and capabilities to fulfill their roles and deliver quality public services. The current TM system is a solution that enables the organization to implement the TM Framework and consists of three application modules: Talent Profile, Performance and Readiness Assessment (PRA) and Succession Management. The modernized TM system will include a new system delivering core functionality of the Talent Management System in the GO Cloud environment and will replace core components of the Talent Profile module and the Performance and Readiness Assessment (PRA) module.

4. Public Appointments Management System (PAMS) Modernization

The Public Appointments Management System (PAMS) is a digital space where appointments staff across government manage public appointments for their agencies, boards and commissions. This system is administered by the Public Appointments Secretariat (PAS) and is

used by the Premier's Office and several Ministries in the OPS. Users are able to create positions, advertisements, and browse candidates to find the right fit for public appointments. Modernization of the existing internal facing Public Appointments Management System (PAMS) application and public facing Public Appointments Secretariat (PAS) website that administer the appointments of competent people to the province's agencies, boards and commissions will involve migration away from the current .NET SDC hosted/supported applications to Azure Cloud hosting managed by CAC.

5. Binder Browser Electronic Meeting Management

Binder Browser is an electronic meeting management application that enables the elimination of the large paper binders that are often used to support meetings and their agendas. Using a tile and band format to display the agenda, users can also access and comment on supporting materials via a touch screen or traditional interface using a mouse. Binder Browser was adopted for all Cabinet meetings and Cabinet Committees and has also been adopted as the standard tool for Cabinet and Treasury Board meetings by the new administration. This means that Ontario's Cabinet and Treasury Board meetings are now fully digital.

Usage of the tool across the user community includes:

- Over 30 committees
- In excess of 2,000 users
- Over 600 binders have been created electronically saving many hours of printing and assembly as well as thousands of trees.

6. eApprovals

eApprovals is an approvals workflow tool used to digitally approve packages of documents, such as briefing notes and reports. This system replaces the traditional process of print, sign, scan, email, and repeat with an easy to use browser-based application (no more printing) that can support any file type and can be done within minutes. eApprovals helps to reduce overall OPS costs for approval systems, by using a shared enterprise wide system which leverages one solution and infrastructure for all ministries. This system also helps to reduce the overall amount of paper required in the OPS. CAC is currently focusing on rolling out an enterprise-wide process for obtaining approvals to travel outside of Ontario using the eApprovals system.

Cluster Applications Branch

1. Tax Compliance Verification Modernization

Tax Compliance Verification (TCV) is a service that the Ministry of Finance (MoF) provides for a wide variety of government programs/services that confirms businesses are in good standing with their provincial and federal tax obligations.

CAC, in partnership with MoF and the .Net Centre of Excellence recently delivered a modernized TCV application. This solution facilitates an online, self-service channel for public users to

confirm tax compliance in real-time, coupled with a back-office suite that empowers our ministry partners to perform self serve functions while easing manual administrative burdens. This initiative supports Ontario's Open for Business mandate making it easier to do business in the province and overall goal of offering digital public services.

2. Advisory Pro Application (AdPro)

The Ministry of Finance (MoF) in partnership with CAC and the .Net Centre of Excellence recently delivered the AdPro system, a fully automated case/workload management system coupled with an 'online' self serve channel to address internal OPS common inquiries/interpretations and consultation on all tax related legislation and benefit programs administered by MOF.

Work requests are now generated by MoF's Advisory Services internal OPS clients, primarily through a web portal and those work requests can be automatically routed to the appropriate manager for assessment and workload management. This improves efficiencies within the branch and allows Advisory Tax Specialists to focus more on service delivery.

3. Raw Leaf Tobacco Bale Tracking

The Ministry of Finance (MOF) has oversight of all Raw Leaf Tobacco (RLT) in the province of Ontario including flue-cured, dark-fired and burley tobacco. Raw Leaf Tobacco is the key input for the manufacture of unregulated tobacco products in Ontario.

The purpose of this initiative was to enhance MOF oversight of RLT by implementing a system that would enable MOF to administer the issuing of Ontario government RFID labels and tracking of labels/bales for authorized RLT growers/producers to contribute to reducing leakage of RLT and increase government tax revenue. CAC and MOF implemented this system for the 2019 growing season.

4. Estate Administration Tax Modernization.

Ministry of Attorney General (MAG) partnered with Ministry of Finance (MOF) in 2015 to provide program administration for the Estate Tax. Approximate 25,000 tax returns are managed annually by MOF with focus on audit and compliance validation.

This CAC-MOF project modernized the Estate Tax solution, including automating the integration of Ontario Shared Services (OSS) Estate Information Returns (EIR) using interactive online smart forms to address EIR data issues. It also provided a system that improved the client experience, and MOF back-office administration through the implementation of case management functionality leveraging CRM Dynamics. With the use of a configurable platform, the project implemented business specific processes including workflow, activity tracking, stakeholder communications, document management, knowledge base, and dashboard reporting to maximize the investment. The new system was implemented in September 2019.

5. First Nations Gas Card Modernization

The Ministry of Finance (MOF) provides a refund to gas retailers on reserves when they sell gasoline to First Nations Individuals. This program has been administered using an Ontario Gas card, that was issued by the Province to First Nations individuals who provided proof of their Indian status. The individual then presents the Ontario gas card to the retailer to purchase the gasoline tax exempt and the retailer creates a refund request to be processed by the Province. This CAC-MOF project replaced the current Ontario Certificate of Exemption (Gas Card) with the Certificate of Indian Status (CIS) card issued by Indigenous and Northern Affairs Canada (INAC). The federally issued card, in particular the secure CIS, is more durable, has modern security features, and can be used for electronic processing. These addresses concerns expressed by First Nation communities about the administrative burden related to having to use two separate cards (Ontario Gas Card and SCIS/CIS card) as proof of Indian status when purchasing a tax-exempt product. This also allows MOF to decommission their administration of the Ontario Gas Card. This project was implemented with a go-live of January 1, 2020.

6. Senior Dental Care Program – Automated Income Verification Services

The primary objective of this project was to enable Automated Income Verification (AIV) for the new social benefits Ontario Seniors Dental Care Program (SDP) - to determine eligibility and entitlement, and to ensure the program support targets low-income senior citizens. This program was identified as part of the Spring Bill and was launched November 20, 2019 through an announcement that day by the Premier. The program owner, Ministry of Health, partnered with Ministry of Finance (MOF) and CAC to establish the program administration. This project enabled MOF Income Verification Services Branch (IVSB) to onboard the SDP Program into the AIV service. The solution was configured by CAC, in partnership with our vendor FAST, using the existing structures and processing pattern established for AIV and Business Services. It is expected that 100,000 low income Ontario Seniors will benefit from this new program annually.

IT Source Branch

1. Contingent Workforce Model

CAC has continuously led an innovative contingent workforce model to support Ontario Public Service and broader public sector clients on I&IT projects. We offer a pool of ~200 highly skilled internal employees, with technical expertise in Architecture, Project Management, Analysis and Privacy Impact Assessments. Also, CAC supports the acquisition of external consultants via the Task-Based Vendor of Record, where the Ontario government historically spends ~~over~~ approx. \$145 million annually. Since inception of the contingent workforce model, in 2009, CAC has contributed to \$68.9M in cost avoidance (including \$4.4M in the last fiscal year). CAC continues to explore and identify the adoption of alternate service delivery mechanisms to drive value and efficiencies in contingent workforce planning, acquisition and management.

2. Planview EPPM

	<p>CAC delivers the enterprise-wide Planview Project Portfolio Management service (EPPM). Planview provides capabilities to manage Strategies, Projects, Financials, Resources effort and cost, and allows reporting and analytics from a project level all the way up to a corporate strategy level. Planview is also leveraged for Operational planning, and Risk and Issue Management. Key benefits include improved visibility of work, enhanced controls, quality and reporting, and expanded organizational capacity. The OPS is working towards migrating to latest Planview version that will provide extended capabilities for managing Agile projects in a collaborative fashion, offer enhanced reporting capabilities through PowerBI integration, and enable opportunities for Application Portfolio Management in Planview. Seeking strategic input and best practices from organizations leveraging an Enterprise Project Portfolio Management Solution.</p> <p>3. Organizational Change Management</p> <p>CAC is developing a service model for increasing the success of public service initiatives by improving the way people experience change (Organizational Change Management). The focus is on developing a best practice methodology aligned for use in the public service, key performance indicators that highlight benefits and ROI, service delivery recommendations (e.g. coaching models, implementation options), and change agent competencies/capabilities</p> <p>4. Managed Service Provider (MSP)</p> <p>Task-based Vendor of Record Replacement – Managed Service Provider model</p> <p>Treasury Board Secretariat (TBS) and the Ministry of Government and Consumer Services (MGCS) will be introducing a new Managed Service Provider (MSP) model for buying temporary IT contractor services that will streamline processes, lower costs, and allow client project managers to spend less time on resource acquisition and more time on projects. The MSP model will support the implementation of key service improvements and is consistent with broader government initiatives such as Open for Business, Supply Chain Centralization, and digital transformation initiatives. The MSP model will be supported by an automated cloud-based Vendor Management Solution and is anticipated to be implemented as of October 1, 2020. Seeking input and lessons learned from organizations that have implemented a similar MSP model for contingent workforce delivery.</p>	
<p><u>Cyber Security Division (CSD)</u></p>	<p>Ontario Public Service (OPS) Cyber Security Strategy</p> <p>In July 2019, the government approved the Ontario Public Service Cyber Security Strategy. Over the next 3 years, the strategy will support the transformation of the way digital services are delivered, enhance current cyber practices and safeguard the sensitive and private personal information entrusted to the province by people and businesses in Ontario.</p> <p>Cyber Security Centre of Excellence for the Broader Public Sector</p> <p>In 2019, the Ontario established the Cyber Security Centre of Excellence (COE) for the Broader Public Sector. The COE will support ministries and BPS service delivery partners improve digital resilience through education and awareness activities and knowledge sharing.</p>	<p>Mohammad Qureshi Chief Information Security Officer Cyber Security Division mohammad.qureshi@ontario.ca</p> <p>David Hayes Head, Cyber Security Operations Branch, CSD david.hayes@ontario.ca</p>

	<p>As part of the COE, Ontario has introduced the Cyber Security Community of Practice, to connect broader public sector and municipal stakeholders together with Cyber Security Division experts to discuss:</p> <ul style="list-style-type: none"> - The latest cyber security news and threats - Answer questions related to cyber security from participants - Solicit feedback on cyber security topics of interest from participants <p>The Community of Practice calls aim to create a space for cyber security practitioners across the province to share information on cyber events, to share experiences when dealing with cyber incidents and to have an open forum to discuss ideas on how to keep systems, processes and people cyber resilient.</p> <p>Cyber Security Awareness Month 2019 2019 marked the 8th year in the Ontario Public Service (OPS). Cyber Security delivered an enhanced program in 2019 that included collaboration with public-sector partners outside the OPS.</p> <p>Partnerships included the federal government, Ontario Provincial Police, City of Toronto and University of Toronto to ensure collaboration across sectors.</p> <p>Throughout the month, the division released new educational material weekly – including videos, infographics, articles - and offered webinars that were available to staff and managers that allowed participation across Ontario. Material was also shared with some broader public sector partners, municipalities and jurisdictions across Canada.</p>	<p>David Langille Head, Head, Cyber Security, Strategy, Risk Management and Architecture david.langille@ontario.ca</p>
<p><u>Children, Youth and Social Services Information and Information Technology Cluster (CYSSC)</u></p>	<p>Child Protection Information Network (CPIN)</p> <ul style="list-style-type: none"> • As of May 2019, CPIN has been deployed successfully to 39 agencies (all 38 non-Indigenous and one Indigenous society). • Initiated work for second indigenous society (Nijjaansinaanik Child & Family Services) • 9 Reporting releases that implemented 12 new reports and multiple updates in existing reports • 4 successful regular CPIN releases to implement 22 sector change requests (support more accurate clinical documentation, support new regulation requirements and reduce administrative burden) • Child, Youth and Family Services Act (CYFSA) Part X legislative requirements are enabled within CPIN • Resolved over 400 defects outside of quarterly release • About 900 scripts automated for testing to achieve efficiencies 	<p>Aklilu Tefera Chief Information Officer and Assistant Deputy Minister, Children, Youth, and Social Services I&IT Cluster Aklilu.Tefera@ontario.ca</p>

Ontario Autism Child Information System (OACIS)

- Implemented OACIS in April 2019 to support the Centralized Intake and Registration Team for the Ontario Autism Program (OAP) in processing application from families of children with Autism.
- Since implementation, over 2683 childhood budget applications have been received from clients on the waitlist.

Healthy Child Development – Integrated Services for Children Information System (HCD-ISCIS)

- June 2019 release implemented functionality to enable the collection of consent for the Risk Factor Screen and the corresponding results that support all infants born in Ontario being eligible for heel-prick screening for congenital Cytomegalovirus and other genetic risk factors associated with early hearing loss.
- November 2019 release implemented two reports for service providers to support data related to the Expanded Hearing Screen and related consent.

Social Assistance – MyBenefits

MyBenefits is a digital mobile solution that enables Ontario Disability Support Program (ODSP) and Ontario Works (OW) clients to check the status of their benefits and self-report any changes to their income and information.

- CYSSC piloted MyBenefits across all ODSP offices and OW sites.
- Integration with Public Secure completed for user authentication
- Document upload functionality was introduced for income reporting
- There are now more than 20,000 MyBenefits users.

Social Assistance – Electronic Document Management (EDM)

EDM project aims to allow for the imaging and electronic storage and retrieval of requirement Ontario Disability Support Program (ODSP) and Ontario Works (OW) client documentation. It creates a single electronic document channel for staff as well as reducing workload so staff can provide better service to Social Assistance recipients.

- CYSSC delivered EDM solution to fully deploy across all 47 ODSP offices over 3 years in a phased approach.
- CYSSC integrated OW requirements to the ODSP baseline by launching at the first OW City of Toronto's Employment and Social Services (TESS) in October 2019. This forms a foundation for scalable model that will be used as a basis for other municipalities in the future.

	<ul style="list-style-type: none"> • There are now currently 16 ODSP offices and 2 OW offices actively participating and utilizing the EDM project by December 2019. <p>FRO Case Management System (FCMS) Successfully delivering FCMS enhancements and technology upgrades to enable Family Responsibility Office (FRO) business transformation in September 2019, the final stage of FRO's three-year transformation plan "Building our Future", resulting in adoption of a more effective tiered service delivery model for the more than 300,000 clients using the system across Ontario.</p> <p>Launch of CYSSC Strategy, Operational Plan and Performance Measures</p> <ul style="list-style-type: none"> • Launch of 5 strategic directions in February 2019, which are used to help executives determine priorities • Launch of Cluster Operational Plan in August of 2019, aligning all work to a strategic direction, allowing staff to see a direct connection between their work and our Cluster's direction • Piloted measures to validate if the Cluster is achieving its Strategic Objectives 	
<p><u>Community Services I+IT Cluster (CSC)</u></p>	<p>Modernizing Child Care</p> <p>The Child Care Licensing System (CCLS) was successfully designed and delivered to support the minimization of manual processing and providing a real-time, online electronic mechanism for documenting complaints about licensed programs. This solution allows ministry staff to track and manage public complaints in a centralized and consistent manner while ensuring data accuracy. Additionally, a province-wide database supports timely response to complaints and enables data analyses to identify trends and the provision of reports at the provincial level.</p> <p>In May, June and September 2019, new releases were successfully launched to support additional features and enhancements. The key enhancements of the releases were to implement Restoring Ontario's Competitiveness Act (ROCA) legislative changes to the Home Child Care Agency checklist and standard director approval/conditions language. The Child Care and Early Years Act (CCEYA) regulatory changes for Child Care Centres (CCC) and the Home Child Care Agency (HCCA) were also made. Additionally, enhancements were made to the complaints module of the Child Care Licensing System (CCLS).</p> <p>The Early Years Analytics Solution (EYAS) is a business intelligence and reporting solution that integrates data from the multiple I&IT business solutions to support evidence-based decision-making. EYAS provides a flexible web-based solution that create and distribute standard reports to ministry staff, assisting in managing workload distribution across seven regions. EYAS includes 30 standard reports and three dashboards as well as self-serve ad-hoc</p>	<p>Soussan Tabari, Chief Information Officer, Community Services I+IT Cluster Soussan.Tabari@Ontario.ca</p>

reporting functionality enabling ministry staff to track child care license information and identify trends and issues across multiple regions over time.

Over the past months numerous enhancements have been made to EYAS to accommodate new features and changes from the CCLS source system, as well as new reporting functionality designed to assist with the delivery and monitoring of ministry initiatives focused on the early years portfolio. These upgrades all centre around providing a flexible and streamlined process that efficiently addresses reporting needs, reduces manual effort wherever possible, and ensures data quality. Going forward, the project will begin implementing Lean Six Sigma methodologies to apply best practices and further refine both the development and delivery of new functionality; including an updated Child Care Survey report, as well as an updated Municipal Profile report planned for Summer 2020.

A new collection (Early Year Experiences) was added to the Ontario School Information System (OnSIS) to gather comprehensive, retrospective information about a child's participation in early years programs. The data, requested at the time of the child's registration to kindergarten, would be used to better understand how families access programs, improving policy development and program delivery.

EarlyON is a data collection application for capturing up-to-date location and contact information for child and family centres across Ontario. This data is displayed on a public facing map on Ontario.ca, and used to report back on the status of EarlyON Centres in Ontario (reporting includes, Indigenous & French-language Programming, Hours of Operation, etc.).

In 2019, location and contact information was collected for over 1,200 EarlyON locations populating a live public-facing map on Ontario.ca that provides parents with an up-to-date view of all EarlyON programs, their locations and hours of operation across Ontario.

The Investigative Case Management System (ICMS) was developed to assist with the tracking and monitoring of childcare investigations to support childcare enforcement, as mandated by the Childcare and Early Years Act. Using the Child-Care Application and Modernization framework that was already established, and the Case Management platform (Siebel) technology, the system was built and launched in November 2015 to begin capturing unregulated childcare facility cases and to aid the inspection and the enforcement processes. The system captures the entire lifecycle of childcare investigations, including complaints, first visits, investigations, enforcement actions, and prosecutions and includes data analytics functionality.

A mobile application was successfully delivered in March 2017, along with a new infrastructure environment to support the release. This mobile solution allows investigators to use a mobile device while conducting investigations and inspections of child care centres. This reduces case

processing times and enables users to connect with a backend case management system to retrieve case details and use voice recordings, images and videos to support investigations.

The mobile solution is currently being leveraged by field investigators who conduct their investigations on iPads and are able to reduce the processing times to the goal of 50% by cutting out post investigation visit desk time to input notes into the system.

Since the solution was delivered, enhancements have been made to keep the system up-to-date such as adding a time sheet tracker, introducing new compliance templates and global search functionality.

Application of Artificial Intelligence to Unstructured Documents

The Community Services I&IT Cluster collaborated with the System Planning, Research and Innovation Division, Ministry of Education (EDU) to revamp the existing ***“Made in EDU”*** solution. The solution provides policy and program analysts access to a repository of documents to identify and locate previously conducted research, evaluation and knowledge mobilization reports/materials to assist in the development of policies and programs.

The revamped solution launched in April 2019 incorporates artificial intelligence, specifically Natural Language Understanding which provides more pertinent research to users faster, and enables the exploration of tangential, related research. The ***“Revamped Made in EDU”*** solution enabled users to conduct their searches using phrases in a manner that is natural to them rather than adapting their searching to the machine and employed a simple, intuitive user interface that greatly improved the usability of the solution. The AI-enabled solution resulted in greater confidence in the relevance of the search results and a significant reduction in the time taken to locate a specific document or resource when compared to the prior solution.

Through the improvements implemented in this AI-based solution, users in the Ministry of Education will be better equipped to conduct the research needed to develop policies and programs aligned with government priorities that meet the educational needs of Ontario’s students and their parents.

Automated Collection of Financial and Staffing Data from Ontario Municipalities

Oracle’s Hyperion Planning suite of products has been deployed to automate and secure the process for collecting financial and staffing data from over 444 municipalities in Ontario. Previously this task (known as Financial Information Returns (FIR)) was accomplished with spreadsheets and emails resulting in a labour-intensive, error-prone and non-secure collection method which has been replaced by a centralized financial planning application modelled on the Canada Revenue Agency’s e-file approach. A key focus of this fully modernized new system is to enable more effective internal use of the collected data (On-Line Analytical Processing) and to

facilitate the sharing of data amongst all stakeholders using familiar interfaces such as Microsoft Excel. This was implemented in all of Ontario's municipalities and went live in March 2017.

A small pilot project was completed in March 2019 to modernize the current public website in an effort to make FIR data easily accessible and useful. Funding is being requested to continue this work with the ultimate goal to provide dynamic access directly to FIR data in order to replace the static csv file approach that is currently being used.

Improved Usability and Availability of Education Data

The Ontario Ministry of Education (EDU) has a mandate to collect education-related information from schools and school boards across Ontario for the purpose of reporting, analytics and evidence-based decision-making.

As an evolution of the existing data warehouse, the Community Services I&IT Cluster, along with their EDU partners, have aligned the already rich education information data collection to the many business processes the ministry uses every day. As a result, the usability of the information has drastically improved, as has the efficiency of data storage and retrieval. In addition, there is also new capacity for linkage to many other internal and external data sets, providing the opportunity for more comprehensive education analytics. This new dimensional approach has resulted in the creation of the industry leading Ontario Education Data Warehouse (OEDW).

With a complete set of education data now available, the focus on OEDW development has been on the creation of business-driven data marts built around student achievement and graduation. Efforts have also been made to make student level information accessible to multiple branches within the ministry such that the data will be used in a consistent manner.

To provide an effective window into this enriched source of data, EDU and CSC have forged ahead in the self-service business intelligence space with the creation of the **Education Information Center (EIC)**.

EIC is a reporting and analytics portal for use by the Ministry of Education and representatives of Ontario's 72 publicly funded school boards and 4 school authorities. It enables EDU to share interactive reporting applications with ministry and school board stakeholders, giving them a unique view on education trends and results through an easy-to-use web-based interface.

Recent releases included an Indigenous Education Analytical Profile interface which will enable users to explore enrolment trends and student achievement results for self-identified indigenous students. Another recent release included a new School Board Profile application, which offers an overall view of education statistics for each school board.

September 2017 introduced a major shift in application delivery with the migration of EIC to the cloud – the first OPS-integrated application to do so. Moving to the cloud enabled more flexible resource utilization, cost efficient application delivery, and improved time-to-market.

On May 15, 2019, the implementation of phase two of the EIC portal was approved. The main new feature introduced is a significant improvement in the tool used to query data. Microsoft's Power BI suite of tools will replace the currently available Power View product. This change will mean a significant improvement in EIC capabilities. The new tool is fully compatible with all internet browsers and is accessible via mobile applications. This means that EIC users will now be able to access to the full suite of new reporting tools using any browser on a wide variety of devices. The upgrade to Power BI will also give board users new analytical functions that will enable data-supported planning and monitoring. EIC phase two is currently piloting the Power BI-based reports with three school boards and set to roll out more broadly as it moves toward full launch targeted for March 2020. Also targeted for this release, using Azure Active Directory, ADFS or a SAML-2.0 compliant identity provider, is the ability for school board users of EIC to use their existing school board credentials (user name and password) to access the application.

An End-to-End Service Provider Lifecycle Management Solution

The Employment & Training Division (ETD) of the Ministry of Labour, Training and Skills Development (MLTSD) has been working with Community Services I&IT Cluster hand in hand for a full Service Provider Lifecycle Management (SP Connect) Solution. The solution includes a number of features, such as business planning, transfer payment agreement contracting with plan development, assessment, recommendation, approvals, agreement template and generation. The solution also enables managing the agreements, monitors the performance and financials as well as follow-ups, and evaluates the service provider and the transfer payment agreements.

This solution provides a homogeneous framework for planning, delivering and monitoring the programs and services with consistencies and efficiencies. The highly configurable template driven design enables program areas to design, deliver, and evaluate the programs and services, as well as make quick adjustments when necessary. The flexibility and capability of the system design allows it to be leveraged within Ontario government for similar requirements.

The system was successfully delivered in March 2017, and enhancements have since been released to increase efficiency and further reduce administrative burden for both ministry and service providers. We have also been making required enhancements to keep the system up-to-date such as updating program templates. Currently changes are being made to the system to support Ontario's Employment Service Transformation (EST) which is an integration of social assistance programs and Employment Ontario programs.

Long Term Care Homes - Rate Reduction

The Community Services I&IT Cluster worked in close partnership with the Long-Term Care Homes Division, Ministry of Health and Long-Term Care (MOHLTC) and Health Services I&IT Cluster, to implement the Electronic Rate Reduction Information System Application (E-RRISA) to modernize the Long-Term Care Homes (LTC) rate reduction line of business.

LTC home residents are required to contribute towards the cost of their accommodation (basic or preferred) through a co-payment. To ensure that income is not a barrier to access, residents who do not have sufficient income to pay the full co-payment rate may be eligible to have their co-payment amount reduced. This is known as 'rate reduction' and is available to residents in basic accommodation only. LTC homes submit requests for rate reduction to the ministry on behalf of residents. It is estimated that the ministry receives approximately 33,000 applications annually.

E-RRISA is integrated with automated income verification functionality, where a detailed Notice of Assessment for long term care residents can be retrieved from the CRA and populated into E-RRISA for the rate reduction application. This feature improves data accuracy and reduces manual entry by long term home administrators. CSC continues to support E-RRISA for all operational and production support activities including infrastructure and application maintenance.

Ontario Student Assistance Program (OSAP)

Ontario Student Assistance Program (OSAP) is a flagship program of the Ministry of Colleges and Universities (MCU). OSAP is responsible for administering both provincial and federal student financial aid programs for Ontario students undertaking postsecondary studies.

OSAP provides eligible Ontario students with financial aid to help pay for education-related costs such as tuition, books, living costs and transportation. In addition, OSAP provides repayment assistance options when students have completed their studies. Financial aid includes over 20 funding instruments and can come in many forms: grants, bursaries, scholarships, fellowships, debt reduction, interest relief, work study or loans.

OSAP program is a mobile friendly web-based solution that contains over 50 applications and sub-systems to support data collection and application processing for three active academic years and data viewing for all historical years. OSAP is used by over 3 million Ontario students, hundreds of ministry staff and over 3,000 financial aid agents in over 2,000 financial offices across over 2,000 universities and colleges over the world.

Over the past 12 months, there have been over 45 releases across all major applications and sub-systems to support government priorities, policy changes and enhancements. This included over 30 simulation exercises for evidence based policy revisions, implementing business rules changes, aligning the system with government fiscal commitments, redesigning the Grant-to-

	<p>Loan Conversion and Grants Paydown system, changing manual payment to electronic payment system for core part time students, implementing a new Data File Portal for third party integration, and enhancements related to Accessibility for Ontarians with Disabilities Act (AODA) compliance and security.</p> <p>Program Approval and Registration Information System (PARIS) CSC's Program Approval and Registration Information System (PARIS) application is an example of how CSC is making it easier for organizations to do business with the government through digitization, self service and streamlined processes. In February 2019, the PARIS application went live. PARIS automates the end-to-end business processes between the Ministry of Colleges and Universities (MCU) and approximately 500 Private Career Colleges. PARIS supports the role of the ministry in monitoring and regulating Private Career Colleges (PCCs) and to modernize the branch's core business through automation, business process reengineering, and improved data management.</p> <p>PARIS is transformative for the PCC sector as it represents a major leap forward from a largely paper-based processes to true digitally enabled service delivery. Re-engineered business processes and automation will greatly reduce the administrative burden on both the PCC sector and PCCB's internal operations and will lead to improved turn-around times for key services. PARIS will provide a client-focussed user experience for its sector stakeholders through a modern user interface and the convenience of paperless application submission and online payment processing.</p> <p>The PARIS application also demonstrates CSC's ability to make I&IT investments go further. PARIS was built on the iACCESS platform. This is the platform that was first built to enable a student financial assistance program ("Ontario Student Assistance Program") in the Ministry of Colleges and Universities (MCU) and has subsequently been leveraged for the following diverse lines of business:</p> <ul style="list-style-type: none"> ○ Child Care – Ministry of Education ○ Archeology and Heritage – Ministry of Heritage, Sport, Tourism and Culture Industries ○ Long Term Care – Ministry of Health and Long-Term Care ○ Residential programs for children and youth – Ministry of Children, Community and Social Services 	
<p><u>Government Services Integration Cluster (GSIC)</u></p>	<p>Contact Centre Modernization – Part 2 Successfully implemented 44 program contact centres onto one platform representing up to 20M contacts annually ensuring business continuity and addressing end-of-life support/legacy systems. In addition, introduced enhancements to facilitate improvements in the customer experience.</p> <p><u>Military Hotline</u></p>	<p>Renee Laforet, Chief Information Officer, Government Services Integration Cluster renee.laforet@ontario.ca</p>

Government commitment to establish a “one-stop hotline” for Canadian Armed Forces (CAF) members and their families. This hotline was put in place in September 2019 in collaboration with ServiceOntario. Our hotline offers live customer service agents with specialized knowledge to provide value-added assistance to military family callers for inquiries related to health cards, driver’s licences and vehicle registration and other programs, such as schools and child care in their community.

Responsive Feedback Mechanism

Commitment, and as part of the broader Open for Business agenda, implemented a new Business Info/Feedback Line which will help businesses with questions, comments, compliments and complaints about compliance, audits and inspections; this will also help to establish a strategy to process the feedback received with a view to promoting service excellence and fostering a “How May I Help You?” culture.

Publications Ontario eCommerce and Order Management System:

Publications Ontario is the central manager and distributor of public facing Ontario government publications, e.g. Driver’s Hand Book, Ontario Building Code, and is the publisher and distributor of the Ontario Gazette. The Publications Ontario project delivered a highly configurable, cloud-based eCommerce and Order Management System in collaboration with Ontario Shared Services that replaced a legacy system that no longer met the business need and was running out of support

Outcomes:

- Agile culture where business and IT work together as one team
- Attractive, intuitive, accessible, and mobile-enabled user interface
- Promotes self-service, by providing customers with online capabilities to order and receive digital and physical publications and build their own online library of digital publications
- Provides corporate customers with monthly statements that show account activity and funds owing; enables online access to details on orders placed and the status of the corporate account
- Facilitates order management, inventory management, returns management, customer account management, business rules management (e.g. entitlements, discounts, limits), and publications management
- Provides a high degree of configurability to the business (i.e. built for change)
- Enables reconciliation (e.g. with financial system, with payment gateway, with third-party warehouse)
- Built-in data exporting and importing capabilities support ongoing bulk data improvements (e.g. new or changed products), data analytics, and the OSS SaaS exiting strategy
- Potential to do advanced analytics (e.g. segment analytics to support ministry strategic decisions regarding publications, and other analytics to support Publications Ontario operational decisions.)

The IFIS Refresh initiative

The Integrated Financial Information System (IFIS) is one of the Ontario Public Service (OPS) key Enterprise Resource Planning (ERP) system and IFIS is vital to supporting financial management activities for all ministries in the delivery of their programs and services to Ontarians.

The IFIS Refresh Project is part of a necessary cycle of asset maintenance and meets our commitment to modernize IT systems and maintain financial transparency and accountability. The IFIS Refresh Project has delivered two major improvements:

1. On August 28th, 2018, Enterprise Financial Systems Branch has successfully implemented a state-of-the-art architecture to modernize the IFIS Infrastructure. A solid, innovative technology solution is provided to enable future OPS business transformation and expansion. This agile technology foundation introduced the latest innovative industry technology – Engineered System and consolidated the IFIS footprint by 80%. The new IFIS infrastructure paved the first step required to move towards a cloud solution and met the strategic priorities to be faster, smarter and better.
2. Business Intelligence Modernization in collaboration with Ontario Shared Services which will replace obsolete reporting software and toolsets and will deliver a modern, powerful, secure BI and analytics platform capable of meeting emerging enterprise ministry and central agency needs.

The first phase replaced Discoverer with Oracle Business Intelligence Enterprise Edition; Modernized BI Security; Migrated Public Disclosure of Travel and Hospitality Expenses to IFIS Core. This was successfully implemented January 28, 2019.

The second phase migrated Cash Forecasting and Public Accounts Consolidation to IFIS Supercluster; Implemented Cost Centre, Salary and FTE Forecasting in Hyperion. Go-live occurred on March 31, 2019 and April 29, 2019

The final phase went live on January 20, 2020 and will increase the usage of data analytics and evidence-based decision making by further education of IFIS related data sets for advanced power users.

The project close-out activities will be completed by the end of 2019-2020 fiscal year.

Robotic Process Automation and Machine Learning for Accounts Payable - Pilot Project -

	<p>Modernize Ontario Public Service's (OPS) experience, enabling internal ministry clients work digitally, by submitting invoices electronically.</p> <p>In 2018, Enterprise Financial Services Division (EFSD) in partnership with Government Services Integration Cluster (GSIC) completed a Proof of Concept (POC) to assess and review the potential benefits of utilizing Robotics Process Automation & Machine Learning (RPA/ML) for Accounts Payable processes. The POC validated that the use of Robotics Process Automation and Machine Learning was a viable solution to further explore and modernize the Accounts Payable processes.</p> <p>EFSD launched a Pilot project to automate invoice distribution, processing, and verification and to modernize the submission process by providing a digital portal to replace the current paper-based submission method in collaboration with Infrastructure Technology Services, GSIC and the Office of the Provincial Controller. The pilot scope focused on invoices submitted by one ministry with a planned OPS-wide rollout to follow.</p> <p>The RPA Pilot went live in December 2019, improving the client ministry experience and processing invoices simpler, faster, and better, by:</p> <ul style="list-style-type: none"> ○ Reducing the total end-to-end processing time for AP invoices submission from 20-40 days to 5-8 minutes per invoices ○ Maximizing digital-first inputs and minimizing the use of paper ○ Increasing accuracy of payment requests and increasing the percentage of invoices paid on time ○ Improving compliance and controls through the upfront validation process 	
<p><u>Health Services I&IT Cluster (HSC)</u></p>	<p>Ontario Integration Adapter (OIA) Ontario Government Pharmaceutical and Medical Supply Services (OGPMSS) procures publicly funded vaccines (e.g., influenza), drugs (e.g. TB and STI) and medical supplies (e.g., Naloxone kits) on behalf of the province. These products are then distributed across the province to Health Care Providers (HCPs) by OGPMSS and PHUs.</p> <p>Annually, the 34 Public Health Units (PHUs) and OGPMSS receive over 160,000 orders by fax, ordering portal and/or email for publicly funded vaccines, drugs and medical supplies from HCPs within their jurisdictions. Each order is entered manually into Panorama as a requisition. This is a lengthy and time-consuming process (4-6 minutes to enter each requisition). Manual entry may also result in data entry errors. Correcting these errors adds minutes to the process.</p> <p>During the Influenza season, OGPMSS also enters thousands of pre-allocated orders to allow for the influenza vaccine to be quickly distributed. Entering these orders requires 2-3 staff to enter over several days. The process is also prone to human data entry error.</p>	<p>Karen McKibbin Chief Information Officer Health Services I+IT Cluster Karen.McKibbin@ontario.ca</p>

HSC went to the front-line at Peel Public Health to observe the manual business process and worked with Peel's technical team to create an .xml file (with information entered by HCPs through a portal) that could be automatically uploaded into Panorama's Inventory Module via a new tool called the Ontario Integration Adapter (OIA) to create a draft requisition. Draft requisitions can then be reviewed by the PHUs as needed. OIA also allows up to 10 files to be uploaded per batch. Once OIA was deployed to Peel, it was rolled out to the remaining 33 PHUs and OGPMSS.

OIA has enabled reduction in manual entry and human errors and information validation prior to requisitions being created as well as provided a simpler and faster way to create requisitions. Evaluation done at Peel Public Health showed that they benefited from savings of 4 minutes for each requisition created.

Escalating Tones

The paging technology at the Ambulance Communications Centre (ACC) was a single very loud tone, prompting health and safety concerns for paramedics. The paramedics would experience such a jolt when they were notified of 9-1-1 calls through a speaker system. Paging vendors were not able to deliver a solution to fix this problem, but the Health Services I&IT Cluster team was able to design, prototype and manufacture the Escalating Tones solution that worked to soften the tones, from very low to high. The Escalating Tones solution was implemented to make incident paging alerts sound softer and more comfortable for paramedics. The equipment was successfully rolled out across the province to all 21 ACCs and close to 500 ambulance stations.

Electronic Medical Records (EMR) Integration

The ministry has partnered with OntarioMD (OMD) and Ontario Health Digital Services (formally eHealth Ontario) to integrate Electronic Medical Records (EMRs) with the provincial Digital Health Drug Repository (DHDR) and Digital Health Immunization Repository (DHIR). Through this work, community-based clinicians using OMD-certified EMRs will be able to: view and submit immunization records and access clinical decision support from the immunization forecaster from the DHIR. As well as, view dispensed drug and pharmacy services records from the provincial DHDR.

EMR integration will improve patient-centred care by providing authorized health care providers with secure electronic access to patients' immunization and dispensed drug information. EMR integration with the DHIR will improve patient outcomes, decreased the risk of adverse events, decrease immunization reporting burden on parents and streamline frontline providers' workflow.

Four OntarioMD certified EMR vendors: OSCAR EMR, Indivica, QHR and YMS are actively engaged in various stages of development and integration testing. Expected rollout to clinicians is scheduled in late 2020 with a target of ~800 community-based physicians and nurse

practitioners. Additional OMD-certified EMR vendor engagement and onboarding of clinicians is expected to occur in 2021.

Ontario Seniors Dental Care Program (OSDCP)

Oral health is an essential component of overall health. Oral health problems can lead to serious health issues, such as infection, pain, abscesses, and an increased risk of heart disease, stroke and respiratory diseases. As part of the 2019 Budget, the government committed to implementing a comprehensive dental program that would assist 100,000 low-income seniors, age 65 and older, helping to close the gap for those that currently do not have dental coverage. Starting in Fall 2019, the OSDCP has been implemented using a staged approach. OSDCP will help reduce unnecessary trips to the hospital, prevent chronic disease and increase quality of life for Ontario's seniors. OSDCP services will be offered by dentists in public health units and through partnerships with Community Health Centres (CHCs) and Aboriginal Health Access Centres (AHACs).

To support OSDCP, the ministry is updating the Client Treatment Data Management solution used by public health units (Oral Health Information System - OHISS). Income verification through an electronic interface with the Canada Revenue Agency will leverage the Automatic Income Verification (AIV) process, to ensure rigor and consistency in eligibility assessment. The ministry has procured the services of a Third-Party Administrator (Accerta) to manage application intake, account management, client support, enrolment and renewal.

As of January 2020, 12,260 eligible clients have been enrolled into the OSDCP program through the Accerta online portal, and 545 clients were provided dental services and recorded in OHISS since the program was launched late November 2019.

Burden Reduction on Drug Shortages

Addressing drug shortages is a multi-stakeholder responsibility requiring collaborative action from provinces and territories, manufacturers, distributors, practitioners, and the federal government. Timely action in response to potential drug shortage signals is important as it allows for efficient assessment of the situation and implementation of mitigation measures, when required.

When it went live in December 2019, the Burden Reduction on Drug Shortages initiative created a new temporary benefit classification in the Ontario Drug Benefit (ODB) program formulary, applied formulary benefits pricing and restriction rules, updated the formulary extract and updated the online e-Formulary.

Benefits of the project include:

- Burden reduction on industry stakeholders.
- Enabled temporary access of available therapies to eligible ODB recipients.

- A separate classification that allows for better documentation relating to temporary drug shortages such as different coverage provisions, explanation of products and why the product is a temporary benefit.

Long-Term Care Homes Licensing Tracker (LTT)

The Licensing and Transaction Tracker (LTT) is a solution that supports the administration of the full spectrum of Long-Term Care Homes licensing activities, including the management of active and completed transactions. LTT facilitates the tracking, oversight and reporting of 200+ in-progress licensing transactions in a user friendly and efficient manner.

LTT is a key enabler for the role that the Ministry of Long-Term Care plays in the Premier's commitment to end hallway healthcare and increase Long-Term Care beds by 15,000 in 5 years and 30,000 in 10 years.

The initial implementation of the LTT was in April 2019. Subsequent release was done in October 2019 and the Business Intelligence (BI) is currently being tested by the program area.

Long-Term Care Inspector's Quality Solution (IQS)

Inspector's Quality Solution (IQS) is an automated tool used by Long-Term Care Home Inspectors to enforce the *Long-Term Care Homes Act* (LTCHA) and its regulations. The solution supports various areas of work and is composed of the following modules: Intake, Licensing, Inspections and Compliance.

Implemented enhancements to meet Amendments to Ontario Regulation 79/10 under the LTCHA related to High Acuity Priority Access Beds (HPAB). Long-term care applicants and existing residents meeting the eligibility criteria would be placed on a separate waiting list for a High Acuity Priority Access Bed.

Bundled Care

In support of the government's commitment to ending hallway healthcare, there is a requirement for a mechanism to capture, analyze and report on the new Bundle Care service delivery model.

Using the existing Ontario Healthcare Financial and Statistical System (OHFS) and the Ontario Healthcare Financial and Statistical Reporting System (OHFS BI), data will be collected related to a number of surgical procedures including shoulder surgery, bilateral hips and knees, stroke and coronary, artery bypass graft surgery.

Enhancements to the OHFS and OHFS BI have been completed to enable hip and knee data collection and reporting.

Emergency Communication Nurse System (ECNS)

	<p>The Ministry of Health and Niagara Emergency Medical Services (NEMS) successfully rolled out ECNS in September 2019, which is the first low acuity triaging solution for nurse practitioners working on site at a 9-1-1 ambulance dispatch centre in.</p> <p>Through ECNS (now live in the Niagara Region), Niagara expects to be able to divert a significant percentage of 9-1-1 patients from hospital emergency departments in the region, reducing hallway medicine.</p> <p>Children and Youth Mental Health (CYMH) Transition As part of the government's new comprehensive and connected mental health and addictions strategy, CSIM BI team did extensive work to transition the CYMH BI application from CYSSC into its secure BI/BA platform. The application collects anonymized data at the client level from the 176 CYMH agencies and aggregates the data for reporting on 13 performance indicators. Since going live, the team has validated this transition by successfully completing 3 quarterly submissions to date. CYMH BI application will drive greater efficiencies by empowering MOHLTC and agency staff to use an evidence-based approach for informing service delivery, service system planning, performance measurement and monitoring</p> <p>Ontario Case Costing (OCC) Data Provision Automation Project The Ontario Case Costing submission files processing has been automated to enable timely exchange of information, data validation, and exception reporting between the participating hospitals, facilities, agencies and the Ministry. The Case Costing data is also available to authorized users via Intellihealth and integrated with clinical data for adhoc reporting.</p>	
<p><u>Information, Privacy and Archives Division (IPA)</u></p>	<p>Legislative Updates Targeted amendments were made to Ontario's Freedom of Information and Protection of Privacy Act in support of data sharing for the purposes of policy research and analysis in a privacy-protective manner.</p> <p>Data Integration On November 4, 2019, Part III.1 Data Integration (DI) was proclaimed under the Freedom of Information and Protection of Privacy Act. On November 5, 2019, O. Reg. 366/19 for DI came into force.</p> <p>DI units have been designated and prescribed in regulation. These units collect personal information for linking to enable access to de-identified datasets for analysis in relation to the management or allocation of resources, the planning for the delivery of programs/services, as well as the evaluation of those programs/services.</p> <p>In consultation with Ontario ministries, data standards are being developed for review and approval by the Information and Privacy Commissioner of Ontario. Applicable policies and procedures are also being developed to support implementation.</p>	<p>John Roberts, Chief Privacy Officer and Archivist of Ontario Information, Privacy and Archives Division john.roberts@ontario.ca</p>

Infrastructure Technology Services (ITS)	<p>Modernizing Collaboration and Productivity Tools – Microsoft Office 365 & Techlounge</p> <p>Office 365 Office 365 is a cloud service securely provided at Microsoft's data centres in Toronto and Quebec City. It is replacing several individual Microsoft products previously provided or hosted internally by the OPS including enterprise e-mail, Microsoft Office desktop tools (Word, Excel, PowerPoint), workgroup and home file shares (centralized network electronic storage for documents) and Lync instant messaging. In addition, Microsoft O365 offers more productivity and collaboration tools available through the Microsoft Office 365 web portal. The enhanced features of Office 365 will bring these tools up-to-date and provide employees with new ways to engage each other, collaborate, and share information.</p> <p>An early adopter migration with select IT staff started in the Fall 2017 with 2,300 migrations completed by May 2018. A wider group of early adopter migrations completed in September 2018 with an additional 8,000 staff migrated to Office 365. OPS-wide migrations commenced in the fall of 2018 and were completed in October 2019 with 70,000 active OPS users and 170k total mailboxes migrated. Following a similar approach, all IT staff personal shares were migrated first to OneDrive for Business as of January 2020. OPS-wide personal share migrations are currently in progress with over 29,500 shares migrated to date, or 55% of the OPS completed.</p> <p>Additional significant product activations completed:</p> <ul style="list-style-type: none"> • Advanced Data Protection – information sensitivity classification – August 2018 • Enterprise Mobility + Security / InTune (Phase 1) – device management – November 2018 (for 25k+ mobile devices) • Microsoft Teams – workgroup-focused collaboration – February 2019 • Enterprise Mobility + Security / InTune (Phase 2) – September 2019 – desktop management, including the removal of the requirement to use VPN to access core Office products on Corporate devices <p>While the migration of active mailboxes and public folders was completed in October 2019, significant activity will continue to be completed both during the project timelines and beyond including:</p> <ul style="list-style-type: none"> • Workgroup Shares migration – the establishment and testing of a cloud-based service capable of hosting over 450TB of legacy workgroup share data. Technology selection to be complete by March 2020 with migration timeline TBD. 	<p>Mohammad Qureshi Enterprise Chief Information Officer, Infrastructure Technology Services Mohammad.Qureshi@ontario.ca</p>

- Home/Personal Shares migration – the relocation of an all remaining private user shares from on premises infrastructure to OneDrive for Business. To be complete by March 2021.
- Infrastructure Decommissioning – the removal of the legacy Enterprise Email Service (EES) environment by TBD – initial decommissioning activity is in progress and the approval process for full decommissioning as been initiated Home Share and Group Share infrastructure decommissioning aligned with their migration timeline.
- End User Experience – ongoing education and communication of new Office 365 capabilities (i.e. – self-service password reset, Skype to Teams migration, PowerPoint Live captioning, etc.) to the user community aligned with functional release timelines.

It is anticipated that the full migration to Microsoft Office 365 will ultimately position the OPS to utilize and access the latest technological updates and enhancements as soon as they are released by Microsoft. To ensure a smooth transition to Office 365 and to provide an enhanced end-user/employee experience with Microsoft Office products, several migration awareness and support initiatives were implemented including weekly interactive webinars to prepare users for their migration and use of Office 365. Over 250 information sessions were completed with over 13,000 OPS staff participating. Additionally, an Office 365 Change Champion program has been launched with over 275 OPS resources being mobilized to foster adoption of O365 in the OPS.

TechLounge/Techlounge Express

Traditionally, Infrastructure Technology Services (ITS) has provided first point of contact IT support to Ontario Public Service (OPS) employees through phone and email. Success is measured in many ways, including the time it takes to resolve a customer IT issue and overall customer satisfaction with the service provided. Historically, customer resolution time where an onsite technician is required is five business days, and the overall customer satisfaction rating is 95%.

Industry trends indicate a shift towards a multi-channel approach for IT services. Research shows employers are now offering a variety of ways employees can engage IT for support, aligned to an 'anytime, anywhere, access on any device' approach seen in the consumer marketplace. To evolve with the industry, the OPS has begun offering new support channels including self-service support, live-chat, and Artificial Intelligence (AI) chatbot services. To further enhance the end-user experience, and to complement these channels we have also begun offering an in-person retail-like support service, branded as TechLounge.

Techlounge Express offers similar services to Techlounge but operates adhoc in available boardrooms, does not offer a display area for available products & offerings, and does not have loaner equipment available.

As of August 2019, 3 Techlounge or Techlounge express locations are operating in Toronto, Guelph and North Bay.

Based on the success of the 3 existing TechLounge and TechLounge Express locations plans are underway to expand this multi-channel approach to other strategic locations in 2020.

Redesign of Service Desk and Order Desk - August 2019 Update

For over 10 years the Ontario Public Service (OPS) Service Order Desk On-Line “shopping cart” service (S.ODO) has been a successful way for OPS employees to acquire infrastructure and enterprise IT products and services. S.ODO is an internal OPS marketplace used by over 60,000 users with approximately 250,000 orders processed annually.

The OPS is taking a user centred design approach to redesign and modernize S.ODO. The new tool known as ONRequest was beta launched in June 2018. Since then, over 27,000 requests have been submitted by OPS staff through ONRequest with an extremely positive feedback from our end users. They are reporting easier and a more intuitive interface, faster processing times, and an improved overall end user experience.

The project team continues working with ministry partners to move their existing products and services to the ONRequest with approximately 50% of the existing products and services migrated. As part of the migration process, the team is focused on improving the end to end experience of each product or service. This includes filling out the request form, the approval process and the eventual fulfilment of the request. All aspects of the request are being analyzed for optimal user experience and efficiency.

New features in ONRequest include a chatbot powered by IBM Watson and a live chat service that enables another channel for OPS staff to connect with the OPS IT Service Desk. The chatbot and live chat services were beta launched in ONRequest in June of 2019 with a pilot group of 2,500 OPS employees. With a focus on user experience testing, the team continues to iterate on the chatbot and live chat experience and is anticipating a full roll out across the OPS over the course of 2020.

User experience testing with OPS staff continues as development progresses, continuously iterating and identifying new features and improvements for ONRequest. Upcoming features based on user testing and feedback will include:

- Mobile access to ONRequest
- Approval delegation and automation system
- Automation initiatives for new staff onboarding, offboarding, and employee moves
- Enabling IBM Watson and Agent live chat capabilities for the OSS Contact Centre through ONRequest.

It is anticipated that the core services identified today in SODO will be fully migrated into ONRequest by May 2020 where the development team will continue to iterate, improve and simplify the customer experience.

Cloud Computing VOR

The OPS is adopting a Digital First approach, that will improve the services delivered to citizens, lower internal administrative burden, lower the cost of doing business, simplify processes, and open new avenues for innovation. Governments are embracing digital technologies and principles to revolutionize the delivery of services and the adoption of cloud computing is foundational in the delivery of these services. A digital approach to improving service delivery to citizens needs to be a priority for the Ontario Public Sector and a key enabler for the OPS is to support the acceleration of cloud adoption by ministries.

Cloud First is not just about technology, but rather about modern approaches to the procurement, acquisition and delivery of digital services. The acquisition of cloud services is a key enabler to cloud adoption within the OPS. The Ministry is conducting a procurement for Cloud Computing Services that will establish a list of qualified vendors capable of providing enterprise-wide cloud computing services through a RFQ and negotiate agreements with selected qualified vendors to create the VOR. In addition, an additional procurement is being conducted to allow Ministries to acquire professional services to support their cloud adoption. The Ministry intends to acquire the following:

Cloud Computing Services - IaaS (Infrastructure-as-a-Service) and PaaS (Platform-as-a-Service) services.

Development Software - Specialized software and tools used for development on Cloud Native Application Platforms (CNAP).

CNAP Professional Services - Standard Request for Bids (RFB) for CNAP professional services

All three procurements are currently finalizing evaluations and will be moving into contract negotiations as of January 2020.

Voice Services Program

The Voice Services Program was a review to streamline voices services, such as desk phones, voicemail and mobile phones, across government, with the objective to identify savings opportunities to ensure that services are cost effective and that they meet business needs.

It is important to note that this program did not change in the way people contact and interact with Ontario government offices and services. Any changes made through the Voice Services Program did not impact frontline services for the people of Ontario.

	<p>The overall timeline for this program was aggressive and involved the engagement of all Ministries. During the fall of 2018, extensive work was done on data collection, verification and data informed decisions made by each Ministry based on their business requirements. Implementation was completed over a four-month period ending in September 2019.</p> <p>Overall the Voice Services Program was successful in achieving the forecasted savings, as well as demonstrating the benefit of collaboration across all ministries and the importance of having good data to make informed decisions.</p> <p>Back Office Efficiencies Program: Aligned with the EY line – by – line recommendation for back office efficiencies through rationalization and shared services consolidation, ITS is leading a Back Office Efficiencies program as part of the MGCS Multi Year plan.</p> <p>The program focuses on the opportunities to improve services through the efficient use of ITS services and technology, consolidating common infrastructure and increasing Broader Public Sector use of the OPS Guelph Data Centre.</p> <p>Taking a coordinated approach, collaborating across ministries/clusters, central agencies and external partners where applicable, the program has successfully delivered on the following initiatives enabling the planned savings in 19-20 through considerable reductions in Voice services like desk phone line and voicemails and desktop assets in addition to rationalizing the disabled mailboxes.</p> <ul style="list-style-type: none"> • Voice Services Program • Asset Lifecycle Extension • Desktop Rationalization • Disabled Mailbox Rationalization <p>Having 11 distinct initiatives in the program, ITS continues to work across all ministries to deliver on the remaining initiatives continuing to improve efficiencies and ensuring that services provided by ITS are effective, affordable and meet the needs of Ontarians.</p> <p>The program is a great testament to the data informed decisions through robust data analytics, one of the key factors contributing to the success of the initiative.</p>	
<p><u>Justice Technology Services (JTS)</u></p>	<p>Corrections: Workforce Management eRoster is a centralized, user-friendly, multi-purpose scheduling and payroll reporting tool, that assists corrections staff with most day-to-day hiring and scheduling decisions. In fall 2019 eRoster continued its deployment and was phased into Ontario's largest institutions. To date it has been deployed in 25 locations. eRoster saves the government both time and money by using</p>	<p>Catherine Emile (A) Chief Information Officer/Assistant Deputy Minister Justice Technology Services catherine.emile@ontario.ca</p>

real-time data validation, which helps to reduce costly scheduling input errors, along with the manually intensive data entry and reconciliation associated with fixing them.

Electronic Briefs (SCOPE deployment) Update: New Deployments

SCOPE is the Ministry of the Attorney General's system supporting criminal case disclosure tracking from Police Services (municipal and OPP), case management, file management, and digital scheduling. It is progressively being deployed to Crown office locations across the province.

Now over 95 per cent of Ontario's criminal case volume resides within the SCOPE database covering twenty-nine municipal police services and nearby OPP detachments. Since Jan 2018 this includes deployments to 21 municipal police services and over 60 OPP and Indigenous Police. Most recently Timmins, Stratford, and Deep River Police Services.

Criminal e-Intake

Criminal e-Intake is a safe and secure online solution that integrates Police records management solutions with Ontario's criminal court case management legacy mainframe application, and a judicial web portal. The project was launched in Fall 2019 as a pilot in Barrie region (which includes Barrie municipal police, OPP Orillia division, Barrie and Orillia courthouses). The solution gives police officers the ability to electronically send charge packages for review and consideration by a justice of the peace—saving police, the ministry, and the court time and money associated with the current manual, paper-based, and in-person processes.

Public Safety Radio Network (PSRN) modernization project

In October 2019, following approval by Treasury Board/Management Board of Cabinet, the Ontario government announced a \$765 million investment in the Public Safety Radio Network (PSRN) modernization project—an initiative that will ensure our frontline and emergency responders can rely on the infrastructure and equipment needed to enable quick and effective responses to emergencies and keep Ontarians safe.

The PSRN provides mobile radio communication network services across the province to support Ontario's public safety essential services including OPP officers, paramedics and hospital staff, forest fire services, provincial highway maintenance staff, as well as parks, enforcement and correctional officers.

As the current network uses older technology, it has become a challenge to maintain and modernization is critical. Issues experienced by the current network – including daily service outages, outdated equipment for which parts can no longer be found, lack of interoperability with other public safety radio networks, and lack of data encryption – compromise our frontline and emergency responders' ability to react to emergencies and puts the safety of Ontarians at risk.

	<p>The delivery model for the new network will see government take on the role of integrator. The project team has completed the largest of the planned procurements and has moved into design, validation, and planning the build and transition stages of the project.</p> <p>Enhancements to Family Justice Services Online (FJSO)</p> <p>Launched in 2018, Family Justice Services Online enables Ontarians to file joint divorce applications online. This included integrating civil and family court case tracking system, with the federal Department of Justice's Central Registry of Divorce Proceedings (CRDP).</p> <p>Enhancements in 2019 now mean litigants can request claims for property, spousal support, child support, and child access and/or custody, making the process simpler and faster. Prior to this change, litigants had to file claims for property, spousal support, child support, etc. in person in paper. The divorce claim could be initiated online but subsequent documentation for had to be filed in person.</p> <p>Overall, being able to file court documents anytime from anywhere translates to more convenience and less stress for litigants (60% of whom are self-represented in family court matters). It also saves litigants time and money spent on trips to the courthouse including time off work, travel, and childcare costs.</p>	
<p><u>Land and Resources I&IT Cluster (LRC)</u></p>	<p>Parks Reservation and Registration Service (PRRS) (MECP)</p> <p>The Ministry of the Environment, Conservation and Parks (MECP) manages 329 Ontario Parks through protection, conservation, education and providing recreation opportunities including: camping, hiking, canoeing, swimming, skiing, snowshoeing and nature viewing. MECP has partnered with the Land and Resources I+IT Cluster to replace the existing reservation and registration system with a modern online digital service and tools for ministry business intelligence and revenue management. The PRRS launched November, 2019.</p> <p>Outcomes:</p> <ul style="list-style-type: none"> • Faster and easier public access to Ontario Parks information, registration and reservations. • 24-7 online access to services and information on any device (mobile). • Streamline public experience at parks (check-in, permits, vendor). • Additional improved digital Parks Ontario services and functionality (all sites available for reservation). • Improved ministry data, reporting and business intelligence. <p>AgriSuite Modernization (OMAFRA)</p> <p>The Ministry of Agriculture, Food and Rural Affairs (OMAFRA) provides calculator tools and resources for use by farmers, environmental and agricultural professional and ministry staff to support the Nutrient Management Act, 2002 and Minimum Distance Separation guidelines. This project will modernize the AgriSuite application and 10 environmental calculators with a mobile-enabled digital user experience and launch 2 new calculators (Phosphorus loss and greenhouse gas emissions) to promote scientifically sound agronomic, environmental and land-</p>	<p>Rocco Passero Chief Information Officer Land and Resources I&IT Cluster Rocco.Passero@ontario.ca</p>

use practices. Project has publicly released the first three calculators (Crop Nutrient, Fertilizer Application and Organic Amendment) with favourable response from the user community. OMAFRA Ministerial Announcement on September 4, 2020 Helping Ontario Farmers Save Time and Money with Technology.

Outcomes:

- Mobile Access to all tools, supporting growing trend of using mobile devices for farm operations.
- Provide current users with a better user experience and more flexibility to conduct their business.
- Client profiles with individual user log-in and retention of profile information across all calculators.
- Decision-making tools to promote scientifically sound agronomic, environmental and land-use practices (with new Phosphorus Loss and Greenhouse Gas).

Natural Resources Information Portal (NRIP):

The ministry is moving forward with a plan to implement an online Natural Resources Information Portal to provide industry and the public with fast, accessible, easy-to-use, and secure online service. Initial efforts will focus on modernizing forest management planning services that support the province's forest products industry. This will be followed by the modernization of approval processes and reporting services for other natural resource activities including aggregates, Crown land use/activities and wildlife allocation. Implementation of the first beta release for forest management planning was completed in November 2019. Additional business lines will be modernized onto the Natural Resources Information Portal over the next 5-6 years.

Outcomes:

- Remove unnecessary effort and time burden on businesses and citizens.
- Improved usability, 24-7 online access to services and information on any device (mobile).
- Real-time collaboration between ministry staff and stakeholders.
- Automated services and processes, lower ministry cost and administrative burden.
- Future-ready with flexibility and adaptability to any industry or regulatory changes.

Permissions Enterprise Platform (PEP) (MECP)

The Ministry of the Environment, Conservation and Parks (MECP) safeguards our natural environment and healthy communities through environmental approvals and permissions. Approvals/permits are required for Ontario businesses that release air, water, land, or noise pollutants, or handle waste.

MECP has partnered with the Land and Resources I+IT Cluster to move from a paper-based Certificate of Approval program to an online digital service. This enterprise solution enables a risk-based framework that can support all ministry approval/permit business areas. Continuing to iteratively onboard new permission/approvals lines of business.

Outcomes:

- Business cost and time savings through online self-registration for low-risk approvals (months to minutes).
- Faster and easier online access to information, approvals, and permits (mobile access).
- Scalable, flexible, and reusable platform (enabling new lines of business to be onboarded in under 4 months), latest permissions onboarded to the Environmental Activity and Sector Registry (EASR):

- Permit to Take Water (PTTW)
- Pesticide Licenses

In addition to air emissions, automotive refinishing, commercial printing, non-hazardous waste transportation, solar facilities, end-of-life vehicle disposal already implemented.

Mining Lands Administration System (MLAS)

The Ministry of Energy, Northern Development and Mines (ENDM) regulates prospecting, mineral exploration, and mine development and rehabilitation. ENDM partnered with the Land and Resources I+IT Cluster (LRC) to implement a new online mining land-use management system supporting changes to the Ontario Mining Act and enabling electronic mining claim acquisition. MLAS launched on April 1, 2018. Since the launch, ongoing industry-requested improvements have been implemented.

Outcomes:

- Mining Lands Administration System post launch fixes and enhancements to support industry users.
- E-staking 24/7 global access to mining/pro prospector services.
- Reduced time for mining claim acquisition (days to minutes).
- Public information on claims and activities available on a map (spatial data).
- Improved Indigenous community notification.

Ontario GeoHub (MNR)

Land Information Ontario (LIO) is a part of the Ontario Ministry of Natural Resources and Forestry (MNR). It helps organizations and individuals find, access and share geographic data. LRC partnered with LIO on Ontario GeoHub, a new online geographic data discovery and access tool. It is the authoritative source for Ontario's geospatial data, including roads and transportation networks, wetlands, boundaries, and more.

Outcomes:

- Simpler, faster and better ways for Ontarians to access and use government geographic data.
- Open and transparent public access to government data.

Forest Resource Inventory (MNR)

The Forest Resource Inventory (FRI) is a key data and science support for forest industry and forest management planning. The Forest Sector Strategy contains a commitment to modernize the forest inventory via increasing use of remote sensing data (optical imagery, satellite data).

	<p>This project is to implement the data storage, processing and access tools to support development of the FRI and enable efficient sharing with industry. A beta release was completed in January 2020 using cloud-based infrastructure.</p>	
<p>Labour & Transportation I&IT Cluster (LTC)</p>	<p>Registration Licensing System of Ontario (RLSO) Refresh</p> <p>The Registration Licensing System of Ontario (RLSO) Refresh project was initiated in 2017-18 by the Labour & Transportation I+IT Cluster (LTC). The RLSO solution is classified as business critical and includes highly complex infrastructure made up of 188 application & databases servers containing high-sensitive business data. The RLSO Refresh project scope was limited to 'lift and shift' the infrastructure from ITS managed on-premise data center to Microsoft Azure cloud.</p> <p>The RLSO solution's hardware infrastructure was reaching its end of life (per vendor support model – generally the refresh cycle is every 5 years) and needed to be refreshed per warranty and support requirements. Aging platform normally becomes unstable as the vendor discontinues support and patch releases, and subsequently ends up being a security risk. The escalated support charges by the vendor(s) were estimated to be \$1.1M annually, beginning April 2018.</p> <p>In addition, few components of the infrastructure did not meet OPS standards for security interactions and were perceived as security risks, which needed to be remediated immediately. Although temporary exemptions were in place, the components needed to be upgraded to meet the stringent requirements. Failure to upgrade would have put the RLSO solution in a vulnerable security status and may have been inadvertently exposed.</p> <p>The RLSO cloud platform is targeted to be reused and built upon with new functionality by multiple high priority business transformation programs across the Ministry, hence, it was essential to have the infrastructure refreshed prior to initiation of the development work to avoid risk of failed delivery and costly mitigations.</p> <p>The infrastructure was migrated to Microsoft Azure cloud and leveraged Terraform, Packer, Ansible, VSTS etc. tools to automate the infrastructure build. These tools are part of LTC's technology roadmap.</p> <p>RLSO Refresh project went live in October 2019. The types of benefits achieved through this cloud migration include significant savings in environment set up (minutes vs. months), savings in automated testing vs. manual (minutes vs. weeks), savings in code deployments (minutes vs. days) and significantly reduced hosting charges.</p> <p>Other benefits are:</p> <ul style="list-style-type: none"> • Cloud infrastructure that can be leveraged by the RUS Transformation and other initiatives, which will build upon RLSO infrastructure components 	<p>Wynnann Rose Chief Information Officer Labour & Transportation I&IT Cluster Wynnann.Rose@ontario.ca</p>

- Established the ability to leverage cloud-only services such as Artificial Intelligence, Machine Learning, etc. planned for roll out in transformation projects in 2020
- Reduced time to provision environments, leveraging automated build, for upcoming programs/projects such as RUS Transformation program initiatives
- Provide better scalability to allow rapid changes to the system/infrastructure e.g. memory, disk space, CPU etc., on as needed basis
- Ability to optimize the infrastructure usage by turning off unwanted/unused infrastructure components, within the project lifecycle, resulting in savings on hosting charges
- Reduced total cost of ownership – an inherent benefit of hosting on cloud (savings on capital investment required every 5-years to keep the hardware infrastructure refreshed and up-to-date)

Driver Medical Review Program

Core function of Medical Review (MR) program is to assess a driver's fitness to safely operate a motor vehicle based on MTO Driver Medical Policy and Procedures, CCMTA National Medical Standards, and Canadian Medical Association Standards. Current Driver Medical Policy is difficult to use in guiding decision making, resulting in inconsistent decisions for drivers, undue burden for healthcare practitioners and drivers, long lead times to train new case processors, and potential for negative reputational impact for MTO from stakeholders and clients.

MR program's vision is to *"Effectively and efficiently take action on driver fitness information through fully engaging our citizens, stakeholders, and employees to continuously improve road safety, while also meeting the core needs and expectations of our citizens."*

Cross ministry teams of business and IT participants worked in an agile way to deliver the following:

- Transformed and optimized driver medical policy and related reporting forms through agile sprints, for better experience by medical practitioners and drivers
- Digital transformation strategy, including user research and target business model

Additional project accomplishments to-date include:

- Procured and onboarded Solution build vendor
- Established a balanced team of business Product Owners, SMEs, resources across the IT organization, partners and vendors to deliver incremental business value in an agile way
- Completed first build sprint for the Minimal Viable Product (MVP) release of the new Driver Medical Review solution
- Cleansing data to make it ready for migration to the new solution

- Procured an Organizational Change Management (OCM) vendor to support transformation

Ministry of Labor (MOL) 360 Program (including Self Audit)

- The Ministry of Labour (MOL) 360 - Self-Audit tool is the first of its kind in Canada. The tool enables employers to digitally self-audit compliance with the Employment Standards Act.
- Specifically, the tool allows employers to conveniently self-audit compliance with employment standards such as minimum wage, hours of work, public holidays.
- For the first time in OPS IT history, a project team involving ministry staff, LTC, ITS and eSM partnered with Pivotal Labs – a third party software developer – collaborated on developing a transformational digital initiative.
- Representatives from each organization were relocated to Pivotal's Toronto offices to support team collaboration and the exploration and adoption of “Lean Startup” and “DevOps” methodologies.
- In addition to the integration of these two methodologies, the co-location of the project team allowed for a horizontal delivery team (or the balanced team) that promoted the full collaboration between ministry and IT team members.
- The LTC team transitioned back to ministry premises in 2018 and carried on with subsequent releases using the extreme/paired programming methodology to scale agile/devops across the ministry and cluster.
- The new solution reduces the administrative burden for employers by modernizing a paper based manual process that relied heavily on intervention by an Employment Standards Officer. Employers are now able to complete the audit process at a convenient time and pace. The tool creates efficiency for Officers by reducing site visits and data entry, eliminates errors and, enables officers to expand their reach to focus on education and improving compliance in the over 450,000 workplaces.
- October 2018 - MOL Self Audit tool was implemented on the OPS Azure cloud platform, in partnership between OPS IT and Pivotal Labs, with the following outcomes:
 - Positively impacted employers providing them with the tools required to understand and ensure compliance.
 - Provided over three hundred (300) employees with positive outcomes, recovering over \$79K from just 24 audits.
 - Delivered the foundation for the Case Management process including the role-based access module required to support the end to end Case Management functions.
- March 2020 – target to deliver complete Case Management functionality, replacing existing outdated system:

- Bi-weekly demos are being conducted with many MOL employees to ensure the team is communicating openly with the business units on the overall progress of the project and to ensure its ultimate success.

Driver's Licence Check

- This project focuses on providing users with a simpler and more accessible way to check the validity of an Ontario Drivers Licence.
- Policy changes were implemented, fees removed and the user experience was dramatically improved.
- Expand the service to a mobile channel, increase awareness and use of the service to:
 - Provide personal assurance when lending a vehicle to another driver
 - Avoid impoundment costs
 - Manage risk and liability
 - Prevent fraud
 - Improve driver behavior
- Orders placed by Businesses in October and November 2019 (after September 2019 launch) accounted for almost half of 2019 orders, while DLs checked by Individual Citizens comprise over 60% of year-to-date volume.
- Business Orders and Individual DL Check volumes are expected to increase each by 105% and 175% in 2019 over 2018.

Digital First Omnibus Bill - Phase 1 Approval

Features amendments to the MTO Highway Traffic Act (HTA) intended to remove legislative barriers to data sharing and becoming a digital first organization

- **Phase 1:** Three regulatory changes to the Highway Traffic Act (HTA) were approved:
 - Enable customers who renew their driver's licence online to get digital temporary driver's licence to continue driving with until their new driver's licence card is received
 - Permit online valtag renewal for customers whose valtag is expired or set to expire within 10 days of renewal
 - Allow for online beginner driver education (BDE) training

Remote Northern Airport Safety Management System (SMS)

- MTO owns the largest airport network in Canada, owning and operating 29 airports across Northern Ontario over 800,000 sq km.
- Daily airport operations require staff to conduct regular runway inspections manually and fax to Nav Canada.

	<ul style="list-style-type: none"> The software implemented enables electronic capture of inspection notes (using an iPad), storage to a database, and the electronic submission of compliance records to Nav Canada. In addition, MTO Remote Airports unit can review airport and runway conditions in real time, perform trend analysis across the airport network. Prior to the implementation of this software the inspections, reports and records were created and managed manually using a paper and fax. MTO staff were manually compiling the reports and attempting some rudimentary analysis of the data. With the software in place staff are able to easily report, track monitor, sort and manipulate data to comply with federal legislation/regulations. <p>Software has been deployed for 29 airports.</p> <ul style="list-style-type: none"> Some of the benefits: <ul style="list-style-type: none"> Timely transmission of critical safety data to NAV Canada while significantly reducing dependence on fax and mail system Created a single repository of safety data and thus enabling trend analysis & comprehensive reporting across all 29 airports <p>Streamline paper-based system with electronic real-time processes</p>	
<u>Ontario Digital Services (ODS)</u>	<p>Identity Management – Digital Identity</p> <ul style="list-style-type: none"> Draft OPS Corporate Policy on Identity and Credential Assurance (ICA): The initial draft of the ICA policy being developed by the Cybersecurity division, MGCS in collaboration with the ODS has been developed and circulated for initial review. Draft policy incorporates considerations for digital identity, identity proofing and alignment with work on the Public Sector Profile of the Pan Canadian Trust Framework. Target to have updated policy draft in place by Q1 FY2020-21 	<p>Robert Devries Assistant Deputy Minister, Platforms Cabinet Office Robert.Devries@ontario.ca</p>
<p>2. <u>Priorities:</u> Briefly describe what your organization sees as its top IT/IM priorities/initiatives over the next 12 to 36 months. <i>The PSCIOC is particularly interested in jurisdictional information in the following areas:</i></p> <ol style="list-style-type: none"> Digital Government Cyber Security Talent Management 		
<u>Central Agencies I&IT Cluster (CAC)</u>	<p><u>Architecture, Information Management & PMO Branch</u></p> <p>1. Cognitive Computing Service Advancement: CAC will continue to explore how Cluster business partners and the broader enterprise can benefit from emerging technology adoption.</p> <p><u>Cluster Applications Branch</u></p>	<p>Liz MacKenzie Chief Information Officer Central Agencies I+IT Cluster Liz.MacKenzie@ontario.ca</p>

1. Revenue Processing, Image Capture and Data Entry Transformation Initiative (RIDE-TI)

The RIDE-TI multi year project will re-engineer and modernized how the Ministry of Finance (MoF) delivers its payment processing, imaging and data capture processes.

Benefits of this initiative include better serving the public through an on-line portal, aligning with the government's digitization strategy and MOF's e-services vision, enhanced security, administrative efficiencies, operational savings, and a reduction in the total amount of paper processed.

Implementation of RIDE-TI will be accomplished using a phased approach where the current solution will be gradually transitioned to the new IT solution by July 2024.

It will generate long-term savings to the MoF through the re-engineering of business processes, reduction of paper, and streamlining of operations.

2. Centralized Collections

The Ministry of Finance (MOF) is the debt collector for the Ontario Public Service (OPS) and other public entities (agencies, boards and commissions).

Currently collections of tax and non-tax debt are handled by individual collectors working on various computer systems using different rules, training and procedures. These systems range from complex case management systems to spreadsheets.

Centralizing collections within the MOF is a key transformation initiative that focuses on a consolidated, consistent and integrated approach to recovering accounts receivables (AR) across the OPS. The vision is to provide a single source of collection services and tools, using common processes and practices for all ministries and programs regardless of debt type.

The current MOF robust tax collection IT system (OntTax), provides enhanced collection tools (i.e. liens, warrants, and garnishments) to collect on outstanding debt. MOF and CAC will enhance this system to include partner ministry accounts and facilitate expanded use of the enhanced collection tools for these partner ministry programs. This solution will support efficiency, and lead to a more consistent client experience.

3. Canada Ontario Housing Benefit

The Ministry of Municipal Affairs and Housing (MMAH) is partnering with the Ministry of Finance (MOF) in support of the government's commitment to implement a province-wide portable housing program supporting the housing needs of vulnerable low-income Ontario families. The new social benefits program will be called the Canada-Ontario Housing Benefit Program (COHB). COHB has been negotiated and co-designed with the federal government (Canada Mortgage and Housing Corporation), under the National Housing Strategy, which is a bilateral agreement between Ontario and the federal government. COHB is a successor program to the existing Portable Housing Benefit – Special Priority Program (PHB-SPP) program, which is delivered by MOF.

MMAH would like MOF and Central Agencies I&IT Cluster (CAC) to provide Automated Income Verification and Business Services (AIVBS) for COHB, to determine eligibility and entitlement for

	<p>the program, and to ensure the program supports targeted low-income Ontario citizens. MOF and CAC will include Business Services, which will include application and consent management, payments for the benefit issuance, Federal T5 reporting, and tracking and reporting in support of the overall program administration. This program will be implemented in April 2020.</p> <p>4. eSignature Solution Project</p> <p>The primary objective of this project is to provide an electronic alternative to the current paper-based consent process for Benefits Programs administered by the Ministry of Finance (MOF) that have Automated Income Verification processes to determine program eligibility and entitlement for low income Ontarians. Providing an e-signature solution reduces the burden on people by allowing a client to submit their consent for income testing immediately after they submit their application, rather than using a paper process for providing consent. This aligns with the Digital Government initiatives and is supported by user research conduct on the overall benefits program administration. This will be integrated with 2 existing program applications processes providing a full online submission process.</p> <p>IT Source Branch</p> <p>1. Expand and continuously improve IT Source service offerings</p> <ul style="list-style-type: none"> (e.g. People Placement, Project Source, OCM) to realize business value and ensure alignment with strategic priorities. <p>2. Modernize CAC resource models (people, technology and financials)</p> <ul style="list-style-type: none"> Maximize ROI through innovation (e.g. cost sharing, base funding) and ensure fiscal responsibility, accountability and sustainability. <p>3. Develop a future-ready digital workforce model.</p> <p>Enhance attraction, skills, development and flexibility of the CAC model to support Digital First mandate and Workforce of the Future.</p>	
<u>Cyber Security Division (CSD)</u>	<p>The cyber security top priority for Ontario includes implementing the Ontario Public Service Cyber Security Strategy, focusing on:</p> <ul style="list-style-type: none"> Heightened Organizational Awareness Enhanced Monitoring and Threat Intelligence Proactive Management of Cyber Risks Modern Identity and Access Management Services Cyber Security Centre of Excellence for the Broader Public Sector 	<p>David Hayes Head, Cyber Security Operations Branch, CSD david.hayes@ontario.ca</p>
<u>Children, Youth and Social Services Information and Information Technology Cluster (CYSSC)</u>	<p>Child Protection Information Network (CPIN) Deployment and Enhancements</p> <ul style="list-style-type: none"> Continue the rollout of CPIN in 12 Indigenous societies and implement number of enhancements that will achieve automation and reduce administrative burden. CPIN technical upgrade is on target to go to production in May 2020 with latest Curam version (version 7.0.8). 	<p>Aklilu Tefera Chief Information Officer and Assistant Deputy Minister, Children, Youth, and Social Services I&IT Cluster Aklilu.Tefera@ontario.ca</p>

- Upgrade all non-CPIN child welfare related systems like mFTIS (modernized FastTrack Information System) and CARs (Child Abuse Registry system) to the latest software versions.
- Enhance and upgrade CPIN to be more culturally appropriate by adjusting language, user experiences, implementation of all different variations of regulations, laws and policies that impact child welfare ecosystem.
- Build and execute strategy around breaking huge monolithic application into smaller and manageable solutions using microservices and Application Program Interfaces (APIs).
- Enable Mobile and offline capabilities for case workers.
- Create and promote self serve reporting platform for all child welfare related data analytics.

Ontario Autism Child Information System (OACIS)

- Determine longer term technology solutions that align to new Panel recommendation for Ontario Autism Program (OAP) program design whilst continuing to provide service continuity for OAP through OACIS as an interim technology solution.

Healthy Child Development – Integrated Services for Children Information System (HCD-ISCIS) Technology Upgrade

- Transform the overall application and technology infrastructure of HCD-ISCIS into a digital tool that reduces overall operating and hosting costs.

Enable Digital First for Service Delivery

Deliver more government services through digital means to improve services and reduce administrative burden for staff:

- Modernize common platforms to enable digital functionality and reduce hosting/maintenance costs
- Automate solution development, testing and deployment and reskilling staff resourced in digital activities
- Explore centralized data warehouse and cross-program data models for an integrated view
- Modernizing data and analytics technology platforms to enhance data management (including privacy/security)
- Adopt Agile and Dev/Ops delivery models

Identify Operational Efficiencies

	<p>Identify opportunities to reduce annual operating costs, increase efficiency and support faster development</p> <ul style="list-style-type: none"> • Retire and/or migrate peripheral applications • Rationalize internal file shares, telephony/voice equipment and other user seat costs where internal billing exceeds actual usage/productivity of these assets <p>Establish a results-focused culture by embedding rigorous strategic performance measurement within the Cluster</p> <ul style="list-style-type: none"> • By creating an even stronger basis for evidence-based decision making, we will support our Ministry's drive to provide services to Ontarians faster, smarter and better 	
<p><u>Community Services I+IT Cluster (CSC)</u></p>	<p>Increasing access to education through broadband connectivity</p> <p>The goal of the multi-year Broadband Modernization Program (BMP) is to provide a fast, reliable and secure level of broadband connectivity to all Ontario students and educators – including those in rural, remote and northern areas.</p> <p>The target speed is 1 megabit per second per student (1 Mbps/student), understanding the need for scalability to address the anticipated increased growth in internet usage in the future. That means school board (board) networks will be able to adapt to future increased bandwidth needs of technological advancements in the learning environment.</p> <p>This is the target speed noted in the Ontario Association of School Business Official's (OASBO's) Manifesto for 21st Century Learning report in 2013 and the 2017-18 target set by the State Education Technology Directors Association (SETDA) in the U.S., as adequate for an elementary/secondary (K-12) learning environment. Further analysis confirmed this is an adequate target based on the download wait times of average course work. Based on the information collected by the boards in spring of 2016, the data indicated that the majority of boards were operating below this threshold</p> <p>This program is implementing software-defined wide area network (SD-WAN) technology in full collaboration between the ministry and school boards. The initial focus was to start small by upgrading a limited number of schools with representation from English, French, public and Catholic boards across all regions of the province to create learnings for application to future work. These learnings informed the strategy and approach for the full roll-out which started in August 2017.</p> <p>As of August 1, 2019, 26 school boards and more than 1,500 schools have completed their modernization work, impacting more than 550,000 students, and including 550 rural schools and 348 northern schools. There are 34 additional boards in implementation, which means that they</p>	<p>Soussan Tabari, Chief Information Officer, Community Services I+IT Cluster Soussan.Tabari@Ontario.ca</p>

have completed the design phase, and subsequent procurement and deployment activities are underway to implement the updated broadband network design. Within the 34 school boards, more than 538,000 students, 245 rural schools and 81 northern schools are included.

Upcoming planned activities will be informed by the current implementation and will focus on the completion of the remaining boards, as well as the development of a cyber protection framework that incorporates cyber security, cyber safety and privacy, and how to address sustainment beyond the program.

Student Transitions

Students from elementary school through to post-secondary education have a unique student identification number, the Ontario Education Number (OEN), to allow a better understanding and tracking of a student's progress through the education system.

CSC has developed a secure and safe solution that not only links data using the OEN but also other unique identifiers. With the ability to link datasets with OEN and other identifiers, the ministries now have a wider spectrum of dataset to explore, including child care and employment data as well as expanding the synchronization into Ontario Student Assistance Program (OSAP) data through alignment with existing college and university enrollment data. This will enable following a child's progress from the early stages of their life and throughout their education path, as well as their transition into Ontario's workforce.

Apprenticeship Modernization

The now legacy Apprenticeship (APPR) system was launched in March 2006 to support the administration, management and certification of clients training in apprenticeship and modular trades, as well as the exam management process leading to the licensing of Journeypersons.

The 2019 Ontario Budget set out the government's vision for a modernized and ministry-led delivery model for the apprenticeship and the skilled trades system. This vision included a commitment to "modernizing service delivery in apprenticeship by developing a new client-facing digital system, including a one-window digital portal for apprentices." A digital portal will allow apprentices and sponsors to access information and carry out transactions related to their apprenticeship, such as registration and skills-tracking, online. A modern, digital-first delivery channel for apprenticeship will empower clients to easily navigate and progress through the apprenticeship system using an online self-service model, and also significantly reduce administrative overhead by automating administrative activities

Targeting, Referral and Feedback System (TRF)

Ontario's programs for employment and training, persons with disabilities and upcoming innovative programs involves a complex web of programming, service providers and internal government accountabilities. This initiative is to implement processes and systems to collect all

the data elements for Labour Market Development Agreement (LMDA) and Workforce Development Agreement (WDA) and to implement Targeting, Referral and Feedback (TRF) system.

TRF is a system that provides Provinces/Territories with the ability to actively offer services to selected Employment Insurance (EI) applicants including:

- Targeting: Enables Provinces/Territories to filter EI applicants and make their employment services more effective and aligned to priorities
- Referral: Transmits details on targeted EI applicants separated by Provinces'/Territories' local offices so that the Provinces/Territories can actively offer assistance
- Feedback: Provinces/Territories can return information on applicants' responses

Employment Services Transformation

Ontario is transforming its employment services to help more people find and keep quality jobs and increase the number of businesses finding the right workers with the right skills. In November 2018, the Ministry of Training, Colleges and Universities (MTCU) received approval for the transfer of responsibility for employment services programming for social assistance recipients (Ontario Works and Ontario Disability Support Program) from the Ministry of Children, Community and Social Services to MTCU.

In addition to the integration of employment supports, MTCU also received approval to undertake a staged transformation of the integrated employment system, in parallel with integration, through a commissioning approach open to non-profit, private, and/or municipal entities, beginning in three geographic areas by fall 2019. Client intake will begin on April 1, 2020. Full employment services transformation will be phased in by 2022-23.

Streamlining Approvals Processes

The goal of the Streamlining Approvals Processes initiative is to support the Ministry of Municipal Affairs and Housing in the development of process and technology options that will advance the Ministry's priority to streamline building development approvals.

Extending Evidence-Based Decision Support

In 2015 an analytics sandbox proof of concept had been successfully set up for the Ministry of Training, Colleges and Universities (MTCU) to enable more self-service analytics to better support evidence-based decision-making. One pilot study using the sandbox investigated postsecondary student mobility, which looked into student transition and mobility across university and college institutions and programs. The success of this initiative has led to expansion of the proof of concept to make available an open analytics environment to university and college institutions, enhancing usability, openness and trust between the ministry and postsecondary education sector partners.

CSC is looking at extending the use of this concept to Ministries of Education (EDU), Tourism, Culture and Sport (MTCS), Municipal Affairs and Housing (MMAH) to enhance their analytics capacity.

Modernizing Education Capital Management

Education Capital Information System (ECIS) is a business process re-engineering initiative intended to modernize and replace the existing legacy **School Facilities Inventory System (SFIS)** with a new integrated and automated Commercial-Off-The-Shelf (COTS) Integrated Workplace Management Solution (IWMS). The new solution will improve efficiency and effectiveness in the administration of Education and Child Care capital and operating funding, while automating the overall business processes, and meeting Ontario Public Service (OPS) Application and Security standards and other government mandated compliances.

Ontario's publicly funded school infrastructure consists of an asset base of \$56 billion and approximately 5,000 schools that serve close to 2 million students annually or close to 15% of Ontario citizens. To support this infrastructure, the Ministry of Education (EDU) and school boards utilize SFIS to manage and maintain this asset inventory.

The information in SFIS is relied upon to allocate over \$4 billion in School Foundation Grant and School Operations and Renewal Grants annually and to conduct policy change analysis and decisions (e.g. Capital Priorities funding decisions, Pupil Accommodation Review Guidelines, etc.).

The new solution would provide the business, school boards, and other ministries and stakeholders with a number of important benefits. Some of the benefits include:

- 1) Increasing availability, transparency and sharing of information between relevant parties and systems (e.g. visibility of data between school boards, which does not exist today)
- 2) Providing streamlined and automated capital processes for higher efficiency, adaptability, transferability (i.e. between ministries and programs), and equity
- 3) Achieving a high level of accountability through system automation, auditable process flows, and detailed data extraction and reporting capabilities to meet internal information needs, stakeholder needs, other ministry needs, media requests, MO and PO reporting/information needs and public information requests
- 4) Offering timeliness, adaptability, transferability and scalability to meet evolving requirements

Ticketing, Reservation and Resource Management System (TRRMS)

The Ticketing, Reservation and Resource Management System (TRRMS) system is intended to provide a new ticketing, reservation, and resource management system to further I&IT enable Ontario's attractions.

In collaboration with Ministry of Tourism, Culture and Sport (MTCS) partners, an open competitive procurement is underway for a solution to modernize admissions and operations for key Ontario attractions. This project has been expanding in scope, with up to eight tourism and culture agencies involved in the procurement. The solution will provide a common core system that can be leveraged by multiple agencies, maximizing operating efficiencies and aiding in the better achievement of economies of scale.

Robust ticketing, reservation and resource management system will allow the entities to:

- Maintain and possibly increase their current annual revenue (memberships, events, donations, attendance)
- Reduce event set up time, as well as reduce time and staff effort in managing customer information and accounts manually
- Manage resources and assets to maximize usage and identify efficiencies
- Comply with Ontario Public Service (OPS) cyber security and policy standards
- Deliver, promote and market programs and special events on-line and through built-in links to social media, in response to latest public expectations
- Provide timely customer service and meet consumer expectations for support across various channels (online and tablets)
- Mitigate payment information risks by ensuring alignment with Canadian banking and payment card industry data security standards
- Address future technology changes, security upgrades
- Realize cost avoidance through integrated and holistic system and benefit from the expertise in ministry's resources to plan and implement
- Enable consistent reporting back to MTCS.

Serious Occurrences Reporting /Residential Licensing (SOR-RL) Modernization

In 2015, a Residential Services Review Panel was established in Ontario to conduct a review of the child and youth residential services across all sectors (i.e., youth justice, child welfare, mental health and complex and special needs). The review analyzed the needs of children and youth in residential settings with a focus on approaches to effective treatments, programs, services as well as placement, care and treatment methods in residential settings. In 2016, the Panel delivered their final report and recommendations, "Because Young People Matter: Report of the Residential Services Review Panel".

The highlighted Report determined that a modernized IT solution would automate, simplify and consolidate end-to-end residential licencing processes to support many of the recommendations outlined in the Panel's report, namely:

- The creation of a centralized, publicly accessible, web-based directory of all licensed service providers to support placement decision-making
- Developing capacity across residential services for data collection and reporting on the number of young people in out-of-home care within specific cultural, racial, faith, or gender groups
- Integrating data across existing databases
- Enabling the use of Business Intelligence (BI) to conduct extensive trend and comparative analyses to aid in developing benchmarks and performance targets
- Contributing to a proactive strategy to ensure the rights, well-being and participation of young people is promoted – especially for young people with complex and special needs.

Due to the strong alignment of the proposed solution with the existing Child Care Licensing System, ministry partners have engaged CSC for the development of an IT solution to address the Panel's recommendations. Since project approval, requirements for Release 1.0 have been signed-off on, development and User Acceptance Testing (UAT) have been completed and the application is ready to go-live at the end of September 2019. A subsequent release 2.0 is being planned for launch in fall of 2019.

Housing and Homelessness Business Intelligence Portal

In Ministry of Municipal Affairs and Housing (MMAH), to ensure public policies are created based on quantifiable measures, a tool is required to minimize the effort (e.g. labor, technology required) during the decision-making process. Thus, the **Housing and Homelessness Business Intelligence (HHBI) project** was created to improve MMAH's ability to collect, manage, access, and use data essential for evidence-informed public policy development and delivery of program. This will enable the ministry in becoming a leader in research and analysis for key housing markets and sub-markets, demographic and socio-economics trends, and impacts on the overall housing market and economy. With the HHBI tool, the ministry will be able to:

- Highlight data linkages with evidence-based policy and provide holistic views of the client
- Highlight data integration across multiple housing sectors (e.g. social, market)
- Have greater insights into client demographics and outcomes

The four-year project roadmap aligns with the housing sector modernization and delivers the following components. The project is currently in Year four (4) of its lifecycle. The roadmap is revisited regularly to ensure the right items are being implemented, in alignment with ministry priorities over the lifecycle of the project.

- **Year 1:** Focused on a robust MMAH Housing and Homelessness Data Warehouse combined with powerful business intelligence and analytics tools to make existing data easier to access and analyze (**Status: Completed**)

	<ul style="list-style-type: none"> ○ In May 2017, the Housing and Homelessness Business Intelligence (HHBI) Data Portal was launched. The HHBI Data Portal is a decision support platform built to support policy-driven, evidence-based decision-making. This web portal provides strategic reporting dashboards and dynamic data access map viewing (GIS) to all users, as well as self-service business intelligence tools for trained power users to produce and publish customized reports. • Year 2: Identify the priority datasets from MMAH and transform/load data into HHBI portal; Enable access for business (ministry) users to utilize the portal for data analysis (Status: Completed) • Year 3: Continue with introduction of other datasets into the system and implement iterative automated data refresh process for data updates; Enhance general usability of HHBI by creating new mapping visualizations and dashboards. (Status: Completed) • Year 4: Explore and create an integrated view of datasets and create meaningful data linkages between data of different nature; Provide portal access (with only applicable regional information) to Service Managers. Enhance data visualization suite and advance towards predictive analytics (Status: In Progress) <p>Ontario College of Trades (OCOT) Transition Apprenticeship in Ontario needs to be modernized and transformed to better meet the needs of apprentices, employers and industry. As part of the government's commitment to reduce unnecessary regulatory burdens, and to modernize apprenticeship in Ontario, the government is winding down the Ontario College of Trades. The government intends to develop a replacement model for the regulation of the skilled trades and apprenticeship system in Ontario by fall 2019.</p>	
<p><u>Government Services Integration Cluster (GSIC)</u></p>	<p><u>Contact Centre Modernization (CCM)</u> The new Contact Centre Modernization initiative is a multi-year plan to reduce and/or eliminate duplicative and inconsistent processes and technology. This will allow the government to offer best in class phone, email, online chat and two-way messaging options and services to help Ontarians get information faster and with more ease.</p>	<p>Renee Laforet, Chief Information Officer, Government Services Integration Cluster renee.laforet@ontario.ca</p>
<p><u>Health Services I&IT Cluster (HSC)</u></p>	<p><u>Novel Coronavirus Surveillance (iPHIS)</u> To strengthen Ontario's ability to monitor cases of the novel coronavirus circulating in China, the ministry added novel coronavirus as a designated disease reportable under Ontario's public health legislation on January 22, 2020. Ontario public health units use the integrated Public Health Information System (iPHIS) to support their communicable disease activities— including case, contact, and outbreak management and surveillance. iPHIS is being updated to support health units' response to any coronavirus cases that may be identified in Ontario.</p> <p><u>Assistive Devices Program (ADP) – eSubmission</u> This project will allow for secure digital submission of Assistive Devices Program (ADP) vendor invoices and device claims applications to the Ministry of Health, leveraging existing delivery channels currently used by medical claims submitters and for ADP vendor reporting. Electronic</p>	<p>Karen McKibbin Chief Information Officer, Health Services I+IT Cluster Karen.McKibbin@ontario.ca</p>

invoicing is being implemented in February 2020, with electronic claims application submissions scheduled to follow at a date to be determined.

Special Authorization Digital Information Exchange (SADIE)

SADIE, with its wide release in July 2019, began addressing business challenges related to the Ontario Public Drug Program's Exceptional Access Program (EAP). Through the use of criteria-driven, dynamic forms that all prescribers in Ontario can use to submit EAP applications through a familiar and intuitive online channel, incomplete EAP requests have been reduced and clinical data are being collected to inform program performance and decision-making. SADIE is data-driven by rules through a decision manager that was created to enable guided data-entry for many EAP drug and indication combinations. Rules are written and maintained by the business program area, allowing them to adapt quickly to changes such as funding criteria updates and new drugs being added to EAP. SADIE also provides "Google-like" elastic search features that provide a better end-user experience, quickly connecting them to the information that they are seeking. In July 2020, the next major SADIE release will focus on increasing adoption and enhancing security by introducing staff designation capabilities for prescribers and two-factor authentication.

Long-Term Care Inspector's Quality Solution (IQS)

Inspector's Quality Solution (IQS) is an automated tool used by Long-Term Care Home Inspectors to enforce the *Long-Term Care Home Act* (LTCHA) and its regulations. The solution supports various areas of work and is composed of the following modules: Intake, Licensing, Inspections and Compliance.

The next release will include enhancements for High Acuity Priority Access Beds (HPAB). IQS requires continuous enhancements to meet the most current provincial and federal legislative requirements of the Ontario Regulation 79/10 under the LTCHA.

Long-Term Care Critical Incident System (CIS) Automation

The Critical Incident System (CIS) is one of five (5) applications hosted on LTCHomes.net, a web-accessed environment.

Long-Term Care (LTC) Homes staff access CIS within LTCHomes.net to report on critical incidents occurring at the LTC Homes. CIS information is captured and sent through the portal to the ministry who receives the data via an email notification. Triage Inspectors, who are Registered Practical Nurses (RPNs) at the Central Intake Assessment Triage Team (CIATT), take the information from the CIS email and log it as an intake into the Intake Module of IQS.

CIS Automation would reduce the existing resource intensive data entry exercise and more appropriately utilize the capacity of the Triage Inspectors to focus on responding to critical incidents.

Daily Bed Census Summary and Reporting (dBCS BI)

This solution supports the reporting of the daily bed census data collected from Ontario hospitals to improve the planning and management of hospital in-patient bed occupancy. This tool supports the evidence-based decision making to help the Ministry of Health reach its goal of ending hallway health care.

Health Services I&IT Cluster (HSC) leveraged the power of Python in dBCS ELT (extract, load, transform) which glues together various quasi-independent steps. This end to end process automation using Python in ELT has reduced the manual effort for data loading and quality checking.

Mobile Computer Aided Dispatch (mCAD)

The Mobile Computer Aided Dispatch (mCAD) solution is a mobile application used by paramedics to respond to incidents assigned by the 9-1-1 Ambulance Communications Centres. mCAD is mobile device-agnostic and is fully integrated with off-the-shelf (Google and Waze) routing. The application automatically alerts the assigned paramedics with incident details as they are captured by the 9-1-1 dispatcher, including the patient status and location information, plus any safety considerations. mCAD was first implemented in the Georgian Ambulance Communication Centre on July 4, 2018 for York Region paramedics. In York Region, Ambulances are equipped with iPads on the dashboard and two iPhone devices, one for each medic on scene. As medics respond to the incidents, they are able to 'swipe' their status updates for communications officers in the dispatch centre in real time. mCAD has reduced voice and radio communication effort and crew response times, as well effort associated with quality control and documentation. The mCAD team is currently working with Simcoe Paramedic Services to roll out the solution in that region in 2020.

Medical Priority Dispatch System

Deploy a standards-based configured Computer Aided Dispatch (CAD) 5 version to all Ambulance Communications Centres (ACCs). CAD technology is used within all Central Ambulance Communications Centres to support dispatchers in managing requests for ambulances.

The province is building a more integrated dispatch and communication service delivery system that will better meet the needs of Ontario's communities.

Once implemented, the improvements will better triage and prioritize 9-1-1 calls for ambulance services and patients will experience less overcrowding, shorter wait times and faster movement through the emergency system. The project is part of a multi-year strategic reform to improve and sustain quality coordinated care across the patient's journey.

Assistive Devices Application Management Reporting (ADAM-R)

This application allows for the Assistive Devices Business area to generate operational and payment reports to support Assistive Devices Program (ADP). ADP provides customer centered support and financial assistance to Ontario residents with long-term disabilities to obtain personalized assistive devices and supplies appropriate for their individual needs for over 6 months. The application provides ADP with 80 pre-defined reports and ad-hoc reports to help with the decision making.

The migration project is in progress to migrate ADAM-R to a shared platform, called BIDA, hosted at Guelph Data Center (GDC) from legacy Sheba II environment. Software versions are also being upgraded.

The enhancement project is also in progress for ADAM-R to incorporate changing business needs to maintain business continuity.

Adoption of Cloud Ready Platform SAS Viya on GoCloud Platforms

Health Services Cluster successfully implemented SAS Visual Analytics solution for the ministry serving both internal program area users (about 300) and external users (about 250) – mostly from LHINs. Given the increasing demand for easy-to-use health analytical tools with visualization capabilities, ministry is in the process of adopting SAS Viya, a next generation cloud-ready platform that provides more capabilities as well as scalability needed to address growth in external user access.

In terms of SAS Viya roadmap, it is anticipated that there will be GoCloud Viya implementation to address external user access and dealing with low-sensitive, aggregated health data. There will be another instance of Viya on GoCloud/On-Premise for supporting high-sensitive health data analytics. This on-premise environment will address Visual Analytics, Visual Statistics and integrate legacy Business Analytics needs of the ministry.

Electronic Funds Transfer for Northern Health Travel Grant Recipients

Northern Health Travel Grant (NHTG) helps defray medical related travel costs that residents of Northern Ontario incur in order to access OHIP insured health care services through a medical specialist, or ministry-funded health care facility, unavailable locally within a radius of 100 km. Work is underway to offer a more efficient and user-centric payment method by enabling recipients to receive their grants through Electronic Funds Transfer.

OHIP Eligibility Data Integrity

The Ministry of Health is working to ensure data integrity of its OHIP client registration database. The database currently holds registrations that require action due to questions of continued entitlement to OHIP coverage.

	<p>IT work has progressed to effect data integrity for obsolete registrations where there is no valid health card on file for an individual. Further work will occur to end Red and White Health Cards which will ensure only eligible individuals will be able to continue to access publicly funded and insured health services.</p> <p>Arbitration Award between the Ontario Medical Association and the Ministry of Health After five years without an agreement, the Ministry and the Ontario Medical Association was awarded a Physician Services Agreement through binding arbitration in February 2019. This agreement is for April 1, 2017 to March 30, 2021 and includes multiple elements over the four-year period that will require continual I&T development and support to meet the arbitrated savings requirements and targets.</p>	
<p><u>Information, Privacy and Archives Division (IPA)</u></p>	<p>New Information Policies, Methods and Processes for Digital</p> <p>Data Integration – Under the 2019 Ontario budget bill, Protecting What Matters Most Act, the Ontario Data Integration Framework includes a foundational set of requirements related to collection, use and disclosure of personal information, including privacy, transparency and accountability.</p> <p>Email Management – The OPS is modernizing email management by moving from requiring OPS employees to manage every individual email to managing email at the email account level. A roles-based approach to the management of email accounts for the OPS has been proposed, based on the Capstone model developed by the United States National Archives and Records Administration (NARA). This approach categorizes roles in the public service and retains or disposes entire email accounts based on their significance. Workforce Information Network (WIN) reports are being developed to support placing retention holds on email accounts of employees appointed to positions where the accounts are designated for permanent retention.</p> <p>Privacy Management Action Plan – Following on from a comprehensive current state analysis an action plan is being executed for privacy management that will uplift Ontario's privacy management capability. Early outputs include a privacy management program guideline, maturity assessment, risk management guideline and the establishment of a government-wide privacy management community of practice.</p> <p>Appraisal for Recordkeeping – This made in Ontario recordkeeping framework draws from international best practices to provide tools, techniques and strategies for identifying requirements for creating and managing records in a digital context. The Appraisal Toolkit, which includes a range of guidance documents, is presently available for early review and will be released for further test driving this Spring.</p>	<p>John Roberts, Chief Privacy Officer and Archivist of Ontario, Information, Privacy and Archives Division john.roberts@ontario.ca</p>

	<p>Integrating Recordkeeping into IT – Ensuring recordkeeping requirements, considerations and solutions are incorporated into the design of IT systems and the processes that government IT projects (e.g. Enterprise Architecture).</p> <p>Modernizing Freedom of Information (FOI) Services – Ontario is working on legislative proposals to improve the efficiency of Ontario's FOI services and to provide faster, more reliable access to government information through its access to information programs. Proposals include streamlined FOI processes and procedures, modernized fee schedules, and proactive disclosure. Additional complimentary proposals are being developed to strengthen recordkeeping in the Ontario government.</p>	
<p><u>Justice Technology Services (JTS)</u></p>	<p>Provincial Justice Video Network Expansion of the Provincial Justice Video Network to move to a “video first” approach that prioritizes video conferencing as the first option for most types of in-custody pre-trial court appearances.</p> <p>Digital Evidence Management Digital Evidence Management is a cloud-based Software as a Service vendor supported solution for use by Justice Sector partners/stakeholders to electronically capture, manage, store and share digital investigative/evidentiary files. A competitive and transparent procurement process will begin this year.</p> <p>Vanguard Data Analytics Platform and the Child and Youth Death Review and Analysis The Vanguard Data Analytics Platform launched in April 2019. The platform, managed and supported by Justice Technology Services offers a suite of business intelligence (BI) and advanced analytics tools. These are combined with a single, secure Justice Sector data repository that can capture complex historical information, forecast future events and reasonably predict the anticipated/expected outcome of introducing new or changing variables.</p> <p>Vanguard will be used as part of the Child and Youth Death Review and Analysis (CYDRA) Data Integration Pilot led by the Office of the Chief Coroner, which will collect and link data on all deaths of children and youth in Ontario to better understand how life circumstances can influence the deaths of young people.</p>	<p>Catherine Emile (A) Chief Information Officer/Assistant Deputy Minister Justice Technology Services catherine.emile@ontario.ca</p>
<p><u>Land and Resources I&IT Cluster (LRC)</u></p>	<p>Ongoing Releases and Enhancements for Successfully Launched Solutions:</p> <ul style="list-style-type: none"> • Natural Resources Information Portal (NRIP): Additional business lines will be modernized onto the Natural Resources Information Portal over the next 5-6 years. • AgriSuite Modernization (OMAFRA): Remaining calculators and functionality will be delivered in 6 releases. • Permissions Enterprise Platform (PEP): Prioritized enhancements. • Mining Lands Administration System (MLAS): Ongoing industry-requested improvements. 	<p>Rocco Passero Chief Information Officer Land and Resources I&IT Cluster Rocco.Passero@ontario.ca</p>

Laboratory Services Review and IT Modernization (MECP)

The Ministry of the Environment, Conservation and Parks (MECP) provides analytical laboratory services to support monitoring compliance, audit and emergency response needs. The ministry delivers high-quality testing, expert consultation, scientific reference service, method development and the application of relevant analytical technology. This project will replace legacy technology from the 1990s with a modern, scalable and expandable Commercial off-the-shelf (COTS) solution. Competitive procurement completed via a Request for Bids, with HORIZON Labs COTS solution selected as the vendor in May 2019. Project includes 10 major milestones, with target launch in December 2020 and final product acceptance in March 2021.

Anticipated Outcomes:

- Modernize current processes (60% are currently manual/paper-based).
- Streamline all business processes and improve/automate operations for the end-to-end service (from request intake to results returned).
- Reduced risk of system failure and data degradation.
- Consolidate side applications used for data and automate data collection and management.
- Meet high-level of standards for ministry International Organization for Standardization (ISO) accreditation.
- Improve business intelligence and performance measurement of laboratory performance

Compliance Re-Engineering and Information System Technology Project (CRISP)

The Ministry of the Environment, Conservation and Parks (MECP) safeguards our natural environment and healthy communities through regulatory programs, monitoring compliance and enforcement if required. This project will modernize the Ministry's core regulatory compliance programs and associated business processes, and enable a risk-based approach through the implementation of a compliance and enforcement solution. Functionality currently being developed for production release in April 2020.

Anticipated Outcomes:

- Central access to data and information, with holistic information on compliance for each regulated area.
- Business intelligence and analytics to enable.
- Compliance monitoring and assurance.
- Risk-based planning and decisions.
- Research and policy development.
- Efficiencies and improved functionality, replacing legacy systems.

Northern Ontario Heritage Fund Systems Renewal Project

	Replace the Financial Management System and the Financial Unified Northern Development System (FUNDS) with a new system that combines and replaces the FUNDS and Financial Management System (FMS).	
Labour & Transportation I&IT Cluster (LTC)	<p>Digital Government MTO is working collaboratively with MGCS to push the governments digital agenda forward through various digital first initiatives (Top 10 Transactions and Digital First Omnibus Bill)</p> <ul style="list-style-type: none"> ○ Top 10 Transaction: MTO is working with MGCS to enhance 8 of the 10 top ten transactions and improve uptake of existing digital services, including online Driver's licence, health card, address change, electronic renewal notices etc. (i.e. building on existing transactions). ○ Top 10 will shift approximately 10 million in-person transactions to digital channels saving up to \$33.5 million over the next five years. <p>Digital Garage:</p> <ul style="list-style-type: none"> ○ Sr Driver's Renewal - Review the Sr Driver's Renewal Program and identify opportunities for digital transformation, increasing efficiencies and improving the user experience. ○ Digital Driver's Handbook -The move to digital formats is on the rise and our citizens are expecting us to follow the trend. Through this project we explore the opportunity to digitize the Ontario Driver's Handbook. ○ Driver's Instructor Card Elimination - Move away from physical cards to a modern digital format that is accessible online and/or on our mobile devices. ○ Photo Card - Enable the application and renewal of the Ontario Photo Card to be processed through a digital service. ○ Drivers License Card Production - Research and test emerging digital solutions for maintaining the integrity of physical cards <p>Highway Corridor Management System Provide an online public-facing system for municipalities and land developers to allow for the online submission of planning documents (e.g. site plans, consents, severances, Plans of Subdivision) for ministry review. It will allow the status of submissions to be tracked by proponents and allow the ministry to report on progress of major land development proposals. <i>This supports the government's commitment to streamline development approvals</i></p> <p>Digital First Omnibus Bill Features amendments to the MTO Highway Traffic Act (HTA) intended to remove legislative barriers to data sharing and becoming a digital first organization</p> <ul style="list-style-type: none"> ○ Phase 2: Six legislative changes to the HTA have been proposed, seeking LRC approval in September 	<p>Wynmann Rose Chief Information Officer Labour & Transportation I&IT Cluster Wynmann.Rose@ontario.ca</p>

	<ul style="list-style-type: none"> Process documents digitally and allow for information to be shared across government (i.e. apply for a Driver's Licence/register a vehicle online and receive a digital document and facilitate digital IDs) Provide roadside enforcement (i.e. short-term ability to show a permit/DL on a mobile device, long-term ability to transfer information digitally for enforcement) Electronic provision of information with no risk to breach of privacy (i.e. enabling digital transfer of identification (mobile DL) for third parties such as financial institution, LCBO etc.) Allow permit validation with or without a valtag (i.e. renew licence plates without providing a sticker) Allow digital signatures All the notification of suspensions or notices digitally (i.e. receive a notice of suspension) 	
<u>Ontario Digital Service (ODS)</u>	Identity Management – Digital Identity <ul style="list-style-type: none"> Proofs of Concepts (POCs) and Pilot initiatives: Ontario will continue to engage Ministry partners across the OPS to collaborate on potential POC and Pilot project opportunities to demonstrate the benefits of a DI solution/approach. Current POC involves the development of APIs (Application Programming Interfaces) for real-time identity information validation against an Ontario driver's licence. This work is being done in a controlled lab/test environment to validate assumptions on technology and approach to have third party DI solution providers connect with Ontario's data assets in a secure manner. Scope includes demonstration of an API Gateway to provide a single access point for internal and external consumers of these APIs in support of real-time validation and verification of identity claims. Supporting patient digital identity authentication and authorization pilot project funded by Ministry of Health. Scoping of work to demonstrate DI is in progress; pilot targeted to launch in 2020 	Robert Devries Assistant Deputy Minister, Platforms Cabinet Office Robert.Devries@ontario.ca
<u>3. Issues and Needs:</u> Briefly describe any issues you would like to share with the Council and what assistance you might be seeking from PSCIOC.		
<u>Children, Youth and Social Services Information and Information Technology Cluster (CYSSC)</u>	Data Management <ul style="list-style-type: none"> Alignment and direction for the overall master data management that enables data sharing between different ministries and government organizations. With data sharing, how to move to single record for citizens (adult, youth or kid) instead of multiple data record of the same person in different system of records. This mechanism can help and 	Aklilu Tefera Chief Information Officer and Assistant Deputy Minister, Children, Youth, and Social Services I&IT Cluster Aklilu.Tefera@ontario.ca

	<p>be used to uniquely identify the person records in child welfare systems like CPIN and eliminate the possibility of creating duplicate records of the same person.</p> <ul style="list-style-type: none"> • How best to implement for indigenous data requirements across government organizations and build common governance and guiding principles. This will enable systems like CPIN to follow standard guidelines and principles to manage indigenous data. <p>Resourcing</p> <ul style="list-style-type: none"> • Staff require training on digital solution development practices and technology. • Need the ability to quickly ramp up/down based on workload. • Need to build digital mindset with our business partners that will help enable change management from current to future business processes. <p>Existing Technology Footprint</p> <ul style="list-style-type: none"> • Currently, the ministry has large monolithic applications that are costly to maintain and enhance. • Need to move to smaller, more agile applications that support larger systems of record. • How to transform legacy technology into digital tools in current fiscal climate. <p>Governance</p> <ul style="list-style-type: none"> • Current governance process is disconnected and does not support rapid, agile delivery. • Historical governance approaches need to be adapted to the new way of delivering services while ensuring stewardship of public resources. <p>The challenge will be to adapt a coherent, modern governance system across all levels of IM/IT government.</p>	
<p><u>Community Services I+IT Cluster (CSC)</u></p>	<p>Digital leadership and entrepreneurship for modern governments</p> <p>It would be valuable to know the experiences across jurisdictions of building digital and modern governments by demonstrating digital leadership as well as intrapreneurship at all levels of the organization. This would include:</p> <ul style="list-style-type: none"> • How different jurisdictions are re-skilling the public sector to encourage innovation and build digital leadership capacity. • Successful case studies for: <ul style="list-style-type: none"> ◦ Effective joint business and I&IT strategic planning to inform new policy options; ◦ User-centric business model co-design between IT and policy/program partners. • Learning of experiences across jurisdictions around pilots / proofs-of-concepts pertaining to emerging technologies to advance digital government such as: 	<p>Soussan Tabari, Chief Information Officer, Community Services I+IT Cluster Soussan.Tabari@Ontario.ca</p>

	Artificial intelligence, Block-Chain, drones and Open Government.	
<u>Government Services Integration Cluster (GSIC)</u>	Would welcome the opportunity to share lessons learned related to contact centre services delivery transformation, best practices and approaches as we begin our journey with Contact Centre Modernization.	Renee Laforet, Chief Information Officer, Government Services Integration Cluster renee.laforet@ontario.ca
<u>Health Services I&IT Cluster (HSC)</u>	<p>High Assurance Identity and Access Management Ontario's Ministry of Health requires adequate provincial Identity and Access Management tools and services to ensure cost effective, secure and authorized access to systems and information for providers and patients, while complying with relevant legislation such as the province's <i>Personal Health Information Privacy Act, 2000</i>.</p> <p>Standards: There is a need for a national organization to advance (or even enforce?) messaging standards and standard terminologies for health. Opportunities that would benefit from multi-jurisdictional investigation, leadership and support include:</p> <ul style="list-style-type: none"> • Common HL7-FHIR messaging standards • Adoption and maintenance of standardized drug terminology within each jurisdiction's Drug Information System and interfacing systems, for clinical as well as adjudication purposes (e.g. Canadian Clinical Drug Data Set (CCDD)) • Adoption and maintenance of the standardized immunization terminology in the Canadian Vaccine Catalogue (CVC), the comprehensive national source-of-truth for all vaccine-related terminology content. <ul style="list-style-type: none"> ○ Immunization schedules are complex, vary across the country, and change frequently as new vaccines are licensed. People rely on public health nurses and their doctors and other health care providers to help them know what immunizations are needed and when. The CVC is critical to ensuring that citizens and their health care providers can access and share accurate, comprehensive, life-long digital immunization records, increasing Canadians' confidence in their ability to manage their immunizations and supporting more informed discussions with their doctors ○ Four EMR vendors (Accuro/QHR, Oscar, YMS, Indivica) are currently aligning with the CVC as part of Ontario's EMR DHIR integration work. ○ The CVC was funded by the Public Health Agency of Canada (PHAC) until March 2019. The funding gap to support API development and ongoing sustainment support costs is now at a critical juncture as CVC work, including APIs supporting the EMR DHIR project, has stopped and expected to impact 	Karen McKibbin Chief Information Officer, Health Services I+IT Cluster Karen.McKibbin@ontario.ca

	<p>integration and adoption timelines for the project. Workflows of public health units for immunization programs will also be impacted, and national immunization interoperability goals are in jeopardy.</p> <p>Scaling for Growth There is a need to identify opportunities where scaling for future growth can be implemented into existing business systems. Enhancements to I&IT systems are implemented on an as needed basis, for example, finding efficiencies in existing costs or new legislative requirements. As delivery of public health care solutions continues to grow, existing and new systems are required to do more.</p>	
<u>Information, Privacy and Archives Division (IPA)</u>	<p>Shifting Information Practitioner Capabilities to Digital Through transformation, Ontario seeks to ensure that the right skills, behaviours and capabilities are identified, integrated into its information practitioner workforce to shift our capabilities to digital. To this end, it is undertaking a multi-year program of work to 're-professionalize' the disciplines required to support effective recordkeeping, access and privacy</p>	<p>John Roberts, Chief Privacy Officer and Archivist of Ontario Information, Privacy and Archives Division john.roberts@ontario.ca</p>
<p>4. Topics of Interest: Please identify topics of interest to your jurisdiction for future PSCIOC meetings /teleconferences.</p>		
<u>Central Agencies I&IT Cluster (CAC)</u>	<p>Cluster Applications Branch Cross-provincial collaboration on sharing best practices in the area of data governance, master data management and analytics.</p> <p>IT Source Branch Cross-provincial collaboration on sharing best practices in areas of common interest, e.g. contingent workforce management and organizational change management.</p>	<p>Liz MacKenzie Chief Information Officer Central Agencies I+IT Cluster Liz.MacKenzie@ontario.ca</p>
<u>Children, Youth and Social Services Information and Information Technology Cluster (CYSSC)</u>	<p>The usage of public cloud for high sensitivity data given data sovereignty laws/ freedom of information acts in US/Canada /cyber security policies.</p>	<p>Aklilu Tefera Chief Information Officer and Assistant Deputy Minister, Children, Youth, and Social Services I&IT Cluster Aklilu.Tefera@ontario.ca</p>
<u>Government Services Integration Cluster (GSIC)</u>	<p>Single Sign On capabilities to support Broader Public Sector employee access to systems in the cloud</p>	<p>Renee Laforet, Chief Information Officer, Government Services Integration Cluster renee.laforet@ontario.ca</p>

<p><u>Health Services I&IT Cluster (HSC)</u></p>	<p>Public Safety Broadband Network As the 911 and public safety sector continues to innovate and evolve, there are great opportunities to leverage modern tools and technologies to improve the experience for first responders such as paramedics and ambulance dispatchers while improving services for patients. As paramedics and other critical functions are delivered in the field the ability to communicate to mobile devices reliably in both urban and rural environments is critical. A secure and dedicated broadband network will enable these critical services to be delivered and innovative opportunities to be realized.</p> <p>Claims Processing We are currently reviewing options to modernize our claims processing (medical, pharmaceutical, assistive devices, etc.) and would be interested in hearing from other jurisdictions as to how they have modernized their approach.</p> <p>Communications of Solutions Health Services I&IT Cluster (HSC) delivers 230+ business systems for 14 million customers and supports \$61 billion in expenditures. HSC solutions are robust, secure and always on. The general public may not necessarily be aware of the wide range of health care sector technology solutions being delivered by the Province to ensure that Ontarians are and remain healthy. This possible lack of awareness may be a hindrance to Ontarians in fully utilizing the digital health solutions available to them.</p>	<p>Karen McKibbin Chief Information Officer Health Services I+IT Cluster Karen.McKibbin@ontario.ca</p>
<p><u>Justice Technology Services (JTS)</u></p>	<p>Next Generation 911 – How are other jurisdictions planning to manage the extreme volumes of data that will be generated, from an IT perspective but more importantly from a human perspective?</p>	<p>Catherine Emile (A) Chief Information Officer/Assistant Deputy Minister Justice Technology Services catherine.emile@ontario.ca</p>