A FRUITFUL COLLABORATION

Midterm Report
A message from elected officials

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Appendix (photo credits)
DENIS CODERRE
Mayor of Montréal

In 2014, we expressed the desire to be recognized as a world leader among smart and digital cities. This ambitious project has made impressive progress over the past two years. Our efforts have not gone unnoticed. Many of the projects identified in the Montréal Smart and Digital City 2015-2017 Action Plan have become reality. Thanks to the participation, commitment and energy of players and citizens within the Montréal community, both our model and our efforts have gained international attention, as is evidenced by the recognition of the Greater Montréal as the Intelligent Community Forum’s (ICF) 2016 Intelligent Community of the Year.

These accomplishments create an energy and momentum which are to be encouraged and sustained. This is only the beginning. Today, more than ever, technology offers us a multitude of ways to pool our talents in order to meet the many challenges with which we are faced. I invite you to join us in pursuing these efforts, so that Montréal may continue to serve as a model for open, digital, mobile, connected, innovative and collaborative cities, ensuring good quality of life and sustained economic prosperity for all its citizens.

HAROUT CHITILIAN
Vice-president of the executive committee, in charge of information technology and smart city initiatives

I rejoice at the significant advancements made since the unveiling of the 2014-2017 Montréal Smart City Strategy and Montréal Smart and Digital City 2015-2017 Action Plan. This evolution encourages me to persevere in order to fulfill our ambitions which, in time, will generate significant social and economic benefits for all Montrealers.

I wish to thank all citizens, employees and partners who continue to contribute their time, energy, knowledge and enthusiasm to the deployment of this inspiring and transformative project. Thanks to Montréal’s collective intelligence, we have the power to bring to life initiatives which focus on the real needs of our community, as well as ensure the deepening of an open, digital and profoundly human culture.
INTRODUCTION

Committed to making Montréal a world-class smart city by 2017, the city of Montréal created the Smart and Digital City Office in the spring of 2014. So that this transformation might be founded on the real needs of Montréalers, and in order to determine its framework, the city launched a civil dialogue with institutional and private sector partners, municipal employees and the general population.

Inspired by this dialogue with Montréalers, as well as by best global practices, the city of Montréal proposed its Montréal Smart and Digital City 2014-2017 Strategy. In May 2015, the city of Montréal’s executive committee adopted the Montréal Smart and Digital City 2015-2017 Action Plan (referred to as The Plan for the purposes of this document).

The objective of this midterm report is to show the road travelled in the twenty months which have followed the adoption of The Plan. It shines a light on the more than thirty projects completed or underway, thanks to close collaboration between the city of Montréal and key players from the Montréal ecosystem.

This document classifies projects completed or in development in one of five categories of the Montréal Smart City plan, according to their contribution towards making Montréal an open, mobile, connected, collaborative or innovative city. Each project’s fact sheet includes a short description, identifies its project owners, and highlights key information and upcoming developments.

This report also showcases the territory’s assets and examples of initiatives and organizations which also contribute to making Montréal an intelligent community. This document is a testimonial to this fertile ground, to this vibrancy, and to the impact of this collective effort.

Given that this is the beginning of substantive and ongoing work, the final section of the document identifies the levers and priorities with which the city of Montréal equips itself to ensure the successful implementation of the current action plan and, in the longer term, the structuring and durable nature of this intersectorial approach which characterizes Montréal Smart City.

REVIEW OF THE MONTRÉAL SMART CITY VISION

Using an open, innovative and people-centric approach, and in cocreation with citizens, develop and deploy technological solutions to the city’s major urban challenges.
Assessment of accomplishments

The following report presents results associated with the Montréal Smart and Digital City 2015-2017 Action Plan. These accomplishments are grouped in five Montréal, Smart City categories.

Additional inserts, entitled “Montréal on the move”, shine a spotlight on community-driven initiatives. Presented as examples which serve to complete the portrait of what has been accomplished over the past several months, these public, private and institutional sector initiatives are a testament to the vitality and dynamism of Montréal’s ecosystem.
Smart and open

Transparency is a mark of confidence and innovation. By opening its data, Montréal seeks to encourage exploration and the emergence of new solutions through the participation of members of its ecosystem. Here is what has been accomplished over the past months.
The development and adoption of an open data policy is a cornerstone of the Montréal Smart and Digital City 2014-2017 Strategy. Montréal has elected to favour an “open by default” approach, whereby all data collected or acquired by the city is considered open, with certain exceptions for reasons of privacy and public security.

**Project owner:** City of Montréal, Smart and Digital City Office

**HIGHLIGHTS**

- The new policy was adopted by city council in December 2015, and by the agglomeration council in November 2016, initiating a reevaluation of eligible data sets.
- The “open by default” approach is one which evolves according to best practice standards, with transparency as a fundamental component of all work done by municipal governments.
- Among other things, this new approach has led to the opening of data related to criminality, a subject of great interest to citizens.
- The city of Montréal invites its partners to follow its example. As a result, Stationnement de Montréal and BIXI have published their data. The Société de transport de Montréal (STM) and the Montréal Taxi Bureau (Bureau du taxi de Montréal) have an open data policy which is similar to Montréal’s.
- In addition to this regional momentum, the CMM (Communauté métropolitaine de Montréal) mandated the Commission de développement économique to make recommendations with respect to open data.

**Upcoming:**

- By December 31st 2018, more than 800 data sets will have been released. This number includes the 233 data sets already available through the city of Montréal’s open data portal.

**Why an open data policy?**

By opening its data to the public, the city of Montréal allows it to be used for a variety of purposes, including commercial. The resulting applications can be shared within the community, creating a multiplier effect. Open data creates benefits not only within the economic sector, but also within the cultural, social and tech sectors.

**TRANSPARENCY**

All data collected or acquired by the city of Montréal is considered to be open by default, unless there is a justifiable reason to restrict its access. Montréal recognizes that the access to open data is an advantage from the perspective of the public administration and of democratic and social life.

**RIPPLE EFFECT**

Other organizations are moving towards the adoption of open data principles (CMM, Commission des services électriques, STM, BIXI) or have already completed the process (Montréal Taxi Bureau, Stationnement de Montréal). This ripple effect increases the potential development of innovative and beneficial solutions.

**INNOVATION**

Data often fuels startups. Dissemination and crossing-over of information encourage innovation and result in the creation of new products and services which benefit citizens. Examples of startups using open data include: Local Logic and Transit.
The city of Montréal has contributed to the development of a shared open data portal for the government of Québec and the province’s municipalities. This new portal, launched in April 2016, seeks to consolidate all open data available in Québec.

**Project owner:** Conseil du trésor du Québec (Québec Treasury Board)

### HIGHLIGHTS

- Montréal’s data is showcased and potential users have access to even more ways to find relevant data.
- Both Données Québec and Montréal favour a new approach to collaboration between different levels of government.
- Assuming a leadership role, the city of Montréal shares its documents and processes with other municipalities as a means to encourage the adoption of best practices.

**QUÉBEC DATA PORTAL**

**MONTRÉAL ON THE MOVE!**

**TRANSIT**

- Launched in Montréal, Transit is an application which facilitates public transit ridership in Montréal and in 125 cities around the world.
- The application is powered by the open data of over 100 mass transit companies.
- In order to provide Montréal transit users with the up-to-date information needed for an improved user experience, Transit uses data from, among others, Agence métropolitaine de transport (AMT) and Société de transport de Montréal (STM).
The city of Montréal has launched a series of online visualization tools which allow citizens to access its data in order to better understand how it operates. This is done in a spirit of transparency, of access to information and to encourage citizen participation in democratic life.

**Project number 3**

**VIEW ON THE BUDGET**

Through simple charts, the *View on the Budget* visualization tool website allows citizens to better visualize and understand financial information related to the municipal budget. While certain terms used are technical and specific to financial and accounting fields, language used throughout the site favours an understanding of the notions presented.

This allows citizens to better understand city operations and, in this case, key elements of the municipal budget. It should be noted that this tool will be updated annually, as new budgets are presented.

**Project owner:** City of Montréal, Service des finances & Smart and Digital City Office

**HIGHLIGHTS**

- In the manner of other major cities like Boston and New York, Montréal now offers an easy way for citizens to access budgetary data.
- The *View on the Budget* visualization tool presents a summary and highlights from the last published budget.

**Project number 4**

**VIEW ON CONTRACTS**

The goal of the *View on Contracts* visualization tool is to make data already available on the city of Montréal’s open data portal more readily accessible, while providing users with a high-level view on contract attribution.

The site allows visitors to access all contracts and subsidies granted by the city of Montréal and authorized by the executive committee and city council since January 2012.

Citizens can also make specific queries and easily download results. A programming interface (API) which respects the Open Contracting Data Standard, an international contract data transparency standard, has also been developed in order to simplify the treatment and analysis of data by computer.

**Project owner:** City of Montréal, Service du greffe & Smart and Digital City Office

**HIGHLIGHTS**

- More than 60 000 contracts available to date.
- A chart allows visitors to view the total value of contracts granted monthly, along with amounts per sector of activity. It is also possible to view the total number of contracts granted monthly, along with the number of contracts per sector of activity.
- The tool can be used to search by date, by amount and by sector of activity.
- Since launching in June 2015, the tool has attracted return visitors, thereby confirming its usefulness.
VIEW ON PERFORMANCE INDICATORS

Launched in November 2015, the View on performance indicators website is a visualization tool which allows visitors to consult the city of Montréal’s performance indicators, and compare them to those of Calgary, Ottawa, Toronto and Winnipeg.

From an organizational performance perspective and in the interest of transparency, the city of Montréal publishes an analysis of 148 performance indicators from 20 sectors of activity on this website.

Performance indicator results stem from two benchmarking exercises: that of Réseau d’étalonnage municipal du Canada (REMC) and of Ministère des Affaires municipales et de l’Occupation du territoire (MAMOT). The results are presented in a detailed manner, through graphs and analyses which allow a clearer interpretation of data.

Project owner: City of Montréal, Service de la performance organisationnelle

HIGHLIGHTS

• 148 performance indicators, published and analysed.
• Charts and explanations that facilitate data interpretation.
• The possibility to compare the city of Montréal with Calgary, Ottawa, Toronto and Winnipeg.
• Favourable comments from citizens following its launch: «The data presented allows me to better grasp several notions related to our city’s management. Visually, the comparative charts allow me to understand the situation in Montréal at a glance.»

VIEW ON PUBLIC SAFETY

Within the framework of the city of Montréal’s new open data policy, the SPVM (Service de police de la ville de Montréal) published its first criminality data sets (break-ins) in April 2016. This openness generated significant interest from citizens and the media, and led to requests for a data visualization tool.

View on Public Safety was launched in response to this request, making the SPVM’s open data content more accessible to the public. Launched in November 2016, the visualization tool provides user-friendly access to information related to criminal events. It uses SPVM data sets available through the city of Montréal open data portal, and therefore covers events reported to police. Data is added on an ongoing basis, beginning January 1st, 2015.

Project owner: City of Montréal, SPVM (Service de police de la Ville de Montréal) & Smart and Digital City Office

HIGHLIGHTS

Mapping and historical data visualization tool allowing visitors to easily consult the following police data:

• Break-ins
• Theft in or on a motor vehicle
• Motor vehicle theft
• Mischief
• Robberies
• Offences causing death
Montréal is a hub for the exchange of ideas, whether one is a citizen or a visitor discovering it for the first time. Its installations, underlying infrastructures and touchpoints must therefore provide a digital experience which is unequalled, and foster excitement around its projects. The following represent accomplishments over the past months.
FREE PUBLIC WIFI

The objective governing the deployment of MtlWiFi is the creation of a harmonized experience for access to public WiFi, while providing uniform performance throughout the Montréal network, most notably through a unique visual identity, a single, simple connection method and an identical quality of service for all access points.

Project owner: City of Montréal, Smart and Digital City Office & Service des technologies de l’information

HIGHLIGHTS

- On June 25th 2015, the city of Montréal launched MtlWiFi, thus beginning the gradual deployment of its free wireless Internet network.
- This initial WiFi deployment in Old Montréal was done in support of the Cité Mémoire project. Citizens and tourists are able to access several virtual reality projections which tell the history of Montréal. Technology contributes to a techno-tourism experience.
- The WiFi service is also available in the area surrounding the Palais des congrès, thanks to its partnership with the city of Montréal.
- Finally, free WiFi is available at city hall and in 43 public libraries.

Upcoming:

- Strengthening of the WiFi network and of the fibre optic infrastructure in Old Montréal and in the area around Palais des congrès in order to increase bandwidth and provide an enriched customer experience, as required given the service's popularity.
- Planning the deployment of new antennas in preparation for Montréal’s 375th anniversary celebrations, as well as in the following sectors: downtown Montréal, Quartier des spectacles and Quartier de l’innovation.

MONTRÉAL ON THE MOVE!
CITÉ MÉMOIRE

Making the most of MtlWiFi new Internet infrastructure, the Montréal en Histoires Cité Mémoire project reinvents the manner in which the city and its history are discovered and explored. This innovative and large-scale project includes:

- More than 20 large-scale narrated projections created by visual artists Michel Lemieux and Victor Pilon.
- A free mobile application, which has been downloaded almost 100 000 times by visitors wishing a guided tour.
- An original soundtrack, with content available in 4 languages.
- Recipient of several awards in 2016, among which: Prix Coup d’Éclat! – Recipient of the New products or original activity prize | Gala de l’Association québécoise des attractions, festivals et événements touristiques – Honourable mention in the category ‘Best new product or original activity’.
The city of Montréal has made the development of an ultra high-speed multiservice telecommunications network a priority, so that it may increase the number of digital services to citizens, improve its performance and get maximum benefit from its assets.

In order to meet this objective, the city of Montréal intends to deploy its own public utility fibre optic network as a means to:

- Link the main municipal buildings;
- Link future MtlWiFi zones;
- Accelerate the implementation of intelligent mobility solutions;
- Improve digital services on the territory of Montréal;
- Reduce its dependency on external suppliers and generate substantial savings;
- Provide various players within the Montréal community with access to an ultra high-speed multiservice fibre network which meets their current and future needs.

**Project owner:** City of Montréal, Smart and Digital City Office & Service des technologies de l’information

**HIGHLIGHTS**

- Deployment of approximately 30 kilometers of fibre optic cable in the Quarter des Spectacles, downtown and the Quartier de l’Innovation, in order to implement MtlWiFi service in these sectors.
- Planning the connection by fibre optic of municipal buildings and of future MtlWiFi zones, with the aim of deploying 120 additional kilometers of fibre optic cable in 2017-2018.

**DISCOVER**

**COMMISSION DES SERVICES ÉLECTRIQUES DE MONTRÉAL**

- Since 1910, the Commission des services électriques de Montréal (CSEM) promotes and favours the undergrounding of cable networks throughout the territory of Montréal, through its association with the city of Montréal and with businesses and organizations of the energy and telecommunications sectors.
- The CESM plans, conceives, builds, maintains and manages an underground network of conduits, covering more than 770 kilometres of roads with more than 23.5 million metres of cable.
- Since 2001, the CESM has worked with the municipality and its boroughs to ensure the management and coordination of aerial interventions to harmonise them with the underground conduit network.
- Acting as a single integrator for all Montréal cable network projects, the CESM is an original and inspiring model which reduces project risk, delay and costs.

**DISCOVER**

**RÉSEAU D’INFORMATIONS SCIENTIFIQUES DU QUÉBEC**

- Founded in Montréal in 1989 and comprised of 150 members throughout the province of Quebec, the RISQ is a high-speed fibre optic network.
- Its network covers approximately 6000 kilometers and serves approximately one million users.
- The RISQ is also the main gateway for the CANARIE (Canadian Network for the Advancement of Research, Industry and Education) network, a national and international portal for all research and education networks.
- The RISQ also operates the Montréal Internet Exchange (QIX), Canada’s second largest Internet exchange after the TorIX. It allows for public peering among its 50 members, which include some of the world’s largest content and cloud computing service providers.
The Quartier des Spectacles boasts an incomparable fibre optic network as well as a complex urban structure. Together, they form the Urban Digital Laboratory (UDL).

Operating in a spirit of open democracy, and operational 365 days a year throughout the square kilometre district, the network interconnects nine remote-controlled architectural video-projection sites and specialized public amenities (fountains, sound and lighting systems, water spraying systems, street lamps etc.).

It brings bold artistic installations to life, creating public services which transform the relationship between citizens and their city.

It also offers an experimental space to academic and community institutions, as well as equipment manufacturers and creative industry players to create, test, present and launch new projects and products.
In order to optimize the mobility of users on the territory of Montréal, today’s information must be accessible anytime, anywhere, and available in real time. We aim for more fluid movement of people, reliable data and intelligent, intermodal and integrated transport systems. Accomplishments of the last months are as follows.
INFO-NEIGE MTL

The INFO-Neige MTL application uses snow removal data provided by the city of Montréal to inform citizens, in real time, of snow removal activities throughout the city.

The application was born of the Info-neige challenge organized by the city of Montréal in May 2014. As the winner of the challenge, the Logiciels Héritage (now SideKick Interactive) startup was awarded a contract to develop the application. Info-neige MTL was launched as a pilot project in the winter of 2015-2016, then improved and deployed throughout the city for the 2015-2016 winter season. The city developed a web version of the map as a complement to the application. It displays snow removal data in real time.

Beyond benefits to citizens, the new intelligent snow removal operations system allows the city to efficiently measure and record loading and unloading of snow. This helps improve operational efficiency while reducing operating costs.

Project owner: City of Montréal, Service de la concertation des arrondissements

HIGHLIGHTS

- 117k downloads of the application since its launch.
- More than 50k active users at the height of winter, during the season’s biggest snowstorms.
- The option to receive notifications on the state of snow removal at favourite locations.
- Alerts sent to all users of the application when snow removal operations are launched throughout the city of Montréal.
- Top prize for excellence awarded in 2015 by the Association québécoise des transports (AQTR).
- Smart City Expo World Congress Project Award finalist in Barcelona.

INFO-REMORQUAGE

Info-remorquage is an online service which helps car owners locate a vehicle which has been towed by the city of Montréal during events or snow removal operations. Users can search for their vehicles using a licence plate number or though geotracking.

Moreover, the system includes a mobile data entry interface used by SPVM parking enforcement officers during towing operations, greatly reducing delays between the towing event and the availability of information to citizens searching for their vehicles.

Project owners: City of Montréal, Service de la concertation des arrondissements et SPVM

HIGHLIGHTS

- Delays in information about a towed vehicle have been reduced from 3 to 12 hours to fewer than 30 minutes.
- More than 35k unique users over the 2015-2016 winter season.
- Citizen testing with a view of improving user experience.
WAZE AND CITY OF MONTRÉAL DATA EXCHANGE PARTNERSHIP

The Waze navigation application connects drivers in order to improve their daily commute. Following a partnership agreement signed in April 2016, the city of Montréal obtains traffic disruption and incident data as declared by Waze users. In exchange, the city of Montréal has committed to publishing planned traffic obstructions in open data format.

Project owner: City of Montréal, Service des infrastructures, de la voirie et des transports

HIGHLIGHTS

• Data obtained from users/citizens through the Waze crowdsourcing application allows the city to be more reactive, particularly in the case of unplanned incidents and events.
• Information regarding road closures and disruptions become more quickly accessible to a greater number of people. As an example, during the August 2016 Montréal Pride event, Waze and Google Now applications were able to send alerts to a majority of area residents, allowing them to avoid road closures along René-Lévesque Boulevard.
• This partnership foreshadows new ways the city of Montréal will call upon citizen participation to improve conditions for all.

Upcoming:

• Automated, real-time data sharing
• Increased usage of city of Montréal data in mobility support tools

MONTRÉAL ON THE MOVE!
TÉO TAXI

• Created by an experienced team of Montréal investors and industry heavyweights, Téo Taxi is revolutionizing the taxi industry thanks to its fleet of all-electric vehicles, its efficient mobile application, its online and telephone reservation system, online payment, free WiFi and in-vehicle tablets.
• The service allows users to share a ride with others travelling in the same direction.
• Its business model allows the company to offer stable employment and fair salaries to its drivers.
MTL TRAJET

Formerly known as Mon RésoMobilité, MTL Trajet is a smartphone application which records user movement, allowing the city of Montréal to improve mobility on its territory. The telemetry equipment installed on the territory does not currently allow the city to know all characteristics of a journey (route, speed, time). The application seeks to help understand user behaviour from the beginning of the journey through to arrival at destination.

Project owner: City of Montréal, Service des infrastructures, de la voirie et des transports

The objective of MTL Trajet is to:

- Collect an anonymous and representative sampling of data.
- Understand and analyze the journey database.
- Conduct simulations aimed at improving mobility in certain sectors.
- Measure the impact on journeys.
- Study back-and-forth movement during peak traffic periods.
- Suggest better alternate routes to citizens.
- Contribute to better urban transport system planning, taking into account the needs of all users.
- Lower the cost of road network improvement.
- Share information on the city of Montréal’s open data portal.

HIGHLIGHTS

- October 18th 2016: official launch of the application.
- Application development by experts at Concordia University met in November 2015, at Défi Vélo MTL.
- Prize-winning contest launched to promote and encourage the adoption of this application.
- The MTL Trajet app was downloaded 11,433 times over the course of the contest period, from October 17th to November 17th 2016.

Upcoming:

- Data treatment and analysis.
SMART PARKING

REAL-TIME DATA COLLECTION AND NAVIGATION APPLICATION

Stationnement de Montréal, the paramunicipal body which manages paid municipal on- and off-street parking, is constantly on the lookout for new and innovative operational solutions.

In addition to its popular P$ Mobile service payment application, used by 584,392 users in 2016, with 21 million transactions since its launch in 2012, and with new functionalities planned for spring 2017, Stationnement de Montréal is working on real-time data collection and reporting with regards to parking spot availability.

The installation of in-ground sensors seeks to provide real-time data which will, in turn, support the development of mobile applications which will guide drivers to available parking spots.

Project owner: Stationnement de Montréal

HIGHLIGHTS

- RFI (Request for information) issued to 15 sensor vendors, worldwide.
- Pilot project experiments conducted on two on-road sensor systems: over the course of 10 months, 20,000 minutes of data covering 350 paid parking spots in downtown Montréal were captured.
- Demonstration of the robustness of the successful sensor technology and its ability to weather Quebec winters.
- Development of business intelligence algorithms required to feed an eventual navigation mobile application aimed at directing drivers to available parking spots.

Upcoming:

- Road sensor system call for tender.
- The integration of basic functionalities enabling navigation towards available parking spots within the P$ Mobile Service application (ex: map allowing the identification of zones where parking may be available).
- Test of different, complementary vehicle counting technologies such as licence plate reading camera systems, on-ground magnetometer sensors, ultrasound sensors and optical IP cameras.

DYNAMIC SIGNAGE SYSTEM

In order to optimize existing parking infrastructure, and reduce traffic and pollution linked to the search for available parking, the city of Montréal developed a dynamic signage system. Connected to the CGMU (Centre de gestion de la mobilité urbaine), these road-side signs provide drivers with real time information and guide them towards available private downtown parking. They will also be used to announce roadwork and closures when needed, and to provide tourist information during festival season.

Project owner: City of Montréal, Service des infrastructures, de la voirie et des transports

HIGHLIGHTS

- Negotiation of data sharing agreements with the Quartier des spectacles and Vieux-Montréal parking management companies (in progress).
- Laboratory testing for the selection of dynamic display panels.
- Incremental roll-out of the selected signage system in the Quartier des spectacles and Vieux-Montréal zones.
- Study for the expansion of the system to the downtown area west of the Quartier des spectacles.

Upcoming:

- Signature of letters of agreement with 23 owners of private parking lots.
- System installation, configuration and deployment (208 signs on 98 sites by Summer 2017).
- Creation of a programming interface (API) in Open511 format, to collect and generate data in order to facilitate the development of third-party mobile parking applications.
Currently in development, Géo-Trafic is a dynamic mapping database which will be deployed to provide real-time intelligence on the state of Montréal’s expressways and major traffic routes (traffic, disruptions, obstructions, snow removal etc.). This access to the state of its entire road network allows the city of Montréal to provide high quality information to all stakeholders, including first responders. For its part, the API will make relevant data accessible to developers, thus favouring the emergence of new mobility tools and solutions for goods and people.

Project owner: City of Montréal, division des Transports - Service des infrastructures, de la voirie et des transports

HIGHLIGHTS

- User platform for CGMU (Centre de Gestion en Mobilité Urbaine) operators. Includes cartographic elements and data entry forms.
- Database ready to receive data from transportation partners (MTQ, STM, AMT, Port of Montréal, BIXI, etc.).
- Currently, the following applications are connected: detour of the city of Montréal (directory of planned obstructions), MTQ incidents, BIXI and the city of Montréal’s Géobase.

Upcoming:

- Increase the number of data sources in Géo-Trafic: addition of STM, AMT and Port of Montréal data.
- Creation of a programming interface (API) in Montréal Open 511 format for the release of data.
- Reinforcing the robustness of the system.
TRAFFIC LIGHT COORDINATION

This city of Montréal project aims to optimise traffic lights in order to increase security and improve the mobility of all users (persons with reduced mobility, pedestrians, cyclists, drivers) and of merchandise on its territory.

Progressively deployed on the territory, this multidimensional project includes:

- bringing traffic lights up to current municipal and government standards (layout and equipment);
- connecting traffic light controllers to the CGMU (Centre de Gestion de la Mobilité Urbaine), which handles the monitoring and remote operation of this equipment;
- establishing traffic light programs adapted to traffic conditions, according to mobility parameters specific to each sector and intersection.

Project owner: City of Montréal, Division des Transports - Service des infrastructures, de la voirie et des transports

HIGHLIGHTS

- Progressive upgrading of 63% of traffic lights (1460 traffic lights out of a total of 2300; timeline: 2022).
- Linking of 45% of traffic light monitors to the CGMU (Telecommunications): 1035 traffic lights out of a total of 2300; timeline: 2023).

Upcoming:

- Implantation of traffic light programming, adapted to event and traffic conditions: 300 planned for 2017, most notably in the area surrounding the Bell Centre and large construction sites currently underway.

MONTRÉAL ON THE MOVE!
AÉROPORTS DE MONTRÉAL

- Constantly seeking to innovate in order to improve service quality, efficiencies and security, Aéroports de Montréal was one of the first airports in the world to offer luggage self-tagging.
- In this system, which is studied throughout the world, bags are transported on 2km of track by individual destination coded vehicles using wireless technology to communicate with control systems and to power each unit.
- The YULi app, developed by local startup Underlabs, offers online interactive maps and real-time flight schedules. The smart map locates users within the building, and calculates walking and waiting times. YULi also allows you to reserve parking spaces and sign up for various SMS alerts.
Smart and collaborative

In order to solve its complex urban challenges, the city of Montréal sought to multiply sources of innovation. The city was at the heart of the following initiatives, which seek to find solutions by leveraging collective intelligence. The following are accomplishments of the past months.
Held in November 2015, Défi Vélo MTL was a sprint aimed at developing solutions around the theme of the bicycle as a smart tool for urban mobility. With the help of newly released BIXI, STM and city of Montréal data sets, participants were invited to develop projects, products and services capable of encouraging the growth of urban cycling and improve user experience.

**Project owner:** City of Montréal, Smart and Digital City Office

**HIGHLIGHTS**
- Three-day, 120 participant event.
- 8 data sets used, including three released specifically for the event.
- 26 member citizen panel.
- 20 project prototypes developed, and six prizes valued at more than 2k awarded.
- 13 individual meetings held between participating teams and BIXI, the city of Montréal and InnoCité Mtl.
- Contract awarded to Local Logic by BIXI. One of the winners of the Défi Vélo, Local Logic was also selected to join the second InnoCité Mtl cohort.
- Initial encounter with Concordia University’s TRIP Laboratory, which led to a fruitful collaboration with city of Montréal transportation teams, and resulted in the development of the MTL Trajet application.

Launched in December 2015 as a pilot project, the Citizen testers group aims to involve Montréalers in the conception and testing of the applications and digital public services from which they will benefit. Citizens who wish to collaborate in the development of smart city projects are invited to sign up for the group so that they may contribute in several ways:
- interviews on the use of an existing service
- consultation sessions involving the vision for a project or service’s development
- cocreation activities
- testing of applications, or of newly developed products or services

By involving its citizens in early stages of project development, Montréal Smart City seeks to better understand their needs and expectations in order to improve satisfaction, facilitate adoption and create a good user experience with regard to all digital services offered.

**Project owner:** City of Montréal, Smart and Digital City Office

**HIGHLIGHTS**
- 250 enrollments in a pilot project.
- Ten testing activities for projects, including MTL Trajet, View on contracts, View on the budget and Info-remorquage.

**Upcoming:**
- Launch of a tester recruitment campaign which will formalize the creation of the group.
- Programming of consultation and testing activities to support the revamping of the city’s digital presence.
FAIRE MONTRÉAL

Faire Montréal is a collaborative platform for projects aimed at improving the city. As a space for dynamic and transparent discussion between the city and its citizens, it allows visitors to discover projects, follow their evolution and contribute to their development.

Project owner: City of Montréal, Service des communications

HIGHLIGHTS

• Launched on June 17th 2015 in the presence of 250 community representatives.
• Online showcasing of projects resulting from three city of Montréal initiatives: Montréal, Smart and Digital City, Je fais Montréal, and Montréal durable.
• Promotes projects which aim to make Montréal a greener and more fair and prosperous city.
• The site includes recruitment initiatives, a calendar of events, a blog and a tool allowing visitors to follow the progress of each project.
• 272 detailed fact sheets for each project allow visitors to identify project owners, partners, objectives and anticipated results.
DIGITAL WORKSHOPS AND FAB LABS IN LIBRARIES

The project seeks to develop, equip and animate experimentation laboratories and fab labs in libraries so that citizens, creatives, innovators and entrepreneurs make use of the new technologies in order to reinforce competencies and search for innovative solutions to complex urban challenges. An abbreviation of “fabrication laboratory”, the term fab lab describes digital maker workshops where machines, such as 3D printers, are made available to the public in order to allow them to develop individual and group projects. A fab lab rests on principles of knowledge and skills sharing, trial and error, creativity and community support.

Project owner: City of Montréal, Service de la culture

HIGHLIGHTS

• Launched in August 2016, Benny Fab is the first of Montréal’s public libraries’ fab labs. Located in the Centre culturel Notre-Dame-de-Grâce’s Benny library, it is open to the public twice weekly.
• Resulting from a sponsorship partnership between Benny Fab and Communautique / échoFab, it is moving towards accreditation from the Massachusetts Institute of Technology (MIT).
• Fab lab style activites in seven Montréal libraries.
• Production of a 3D printer user guide for use by library patrons.
• 3D printers installed in 4 libraries, as well as a mobile fleet available to members of the network.
• Delivery of three tablets per library (45 libraries) for the purpose of accessing newspapers, magazines and online resources.
• Ten laptops available to the network for offsite digital activities.
• In collaboration with Techno Culture Club, development and deployment of the ABC3D program, to reflect upon the role of 3D printers in libraries. 26 workshops held in 12 libraries AND development of 10 turnkey activities which can be easily reproduced.
• 10 Cafés des saviors libres (open knowledge café events) organized around OpenStreetMap and Wikipedia.
• Day-long event organized on September 23rd 2016 around the theme of libraries, fab labs and public goods, during the Semaine québécoise de l’informatique libre.
• Collaboration with Fab Labs Québec to document fab lab projects and activities held in Montréal’s public libraries.

Upcoming:

• 8 new fab labs in Montréal public libraries planned for 2017.
• Equip 6 additional libraries with 3D printers.
• Publish a booklet presenting 10 workshop ideas for 3D printing in libraries.
• Increase the Cafés des saviors libres (open knowledge café events) program to 15 workshops annually.
• Launch a fab lab or medialab-style creative space in all new libraries.
• Development of a technological program for libraries aimed at establishing a list of equipment required to transform the city’s public libraries into 21st century libraries.
The city of Montréal wishes to transform its public libraries into modern, welcoming, next-generation spaces. Moreover, it faces important urban challenges and seeks to multiply sources of innovation in order to find solutions. Public innovation laboratories (living labs) in libraries and other spaces are one of the ways in which citizens, with the support of various experts, can actively contribute to the research, cocreation, testing and evaluation of solutions to these challenges through experimentation in real-life conditions. The city wants to make the library not only a catalyst, a facilitator and a service centre for citizens, but also an incubation and experimentation space.

**Project owner:** City of Montréal, Service de la culture

### HIGHLIGHTS

- Establishment of a public innovation laboratory process within the framework of the program to build new libraries.
- Active collaboration with Bibliothèque et archives nationales (BAnQ) to develop a vision for the Saint-Sulpice library, including a digital technologies incubator/innovation and creation space for teens.
- Mobilisation of a total of 500 citizens and municipal employees

### Upcoming:

- A codesign initiative for the cultural space of the Plateau Mont-Royal borough.
- The opening a public innovation space in all new libraries of dedicated to citizens and community organizations wishing to reflect upon, and find creative solutions to, urban challenges.

### DISCOVER COMMUNAUTIQUE

- For over 15 years, Communautique has been dedicated to bridging the digital divide by encouraging information literacy, the democratization of access to technologies and the general usage of information and communication technology (ICT), particularly by at-risk or disadvantaged citizens.
- Innovative and participatory approaches have led to the creation of échoFab, the first fab lab in Quebec to receive its accreditation from the Massachusetts Institute of Technology (MIT).
- For the past several years, Communautique has accompanied Montréal’s public libraries in their innovation process.

### MONTRÉAL ON THE MOVE!

**LIVING LAB BIBLIOLAB**

- The Bibliolab Living Lab is a joint project of the SAT and Montréal public libraries which aims to promote interactions between users through a practical portable device which combines telepresence and immersive technologies.
- Conceived and developed in co-design with librarians and users of the Frontenac and Père-Ambroise libraries, located in the Ville-Marie borough, offers a vast range of opportunities to encourage distant interaction and collaboration between boroughs.
- Able to reach persons with special needs, Bibliolab could, for example, allow an elderly person with mobility issues to attend a cross-town event (conference, master class, workshop, storytelling hour etc.) from the convenience of his or her neighbourhood library.
- The Living Lab team has tested user prototypes under real conditions, and aims to launch production and deploy the device sometime in 2017.
An initiative of the de Gaspé Beaubien Foundation, AquaHacking is an annual event which seeks to solve water preservation challenges through the development of technological solutions. It combines a multi-week challenge with a two-day summit on freshwater issues. It brings together young digital developers, tech specialists and water experts involved in the development of applications, decision-makers, field experts, researchers, non-profits and citizens who wish to take action in favour of the environment and to protect our freshwater sources.

The 2016 edition focussed on the Saint Lawrence River. The hackathon challenge, which ran from June to September, culminated in October with the AquaHacking Summit 2016: United for the St. Lawrence. As an event partner the city of Montréal played an active role, most notably by providing data sets to organizers and participants.

Project owner: de Gaspé Beaubien Foundation
Collaboration from the city of Montréal’s Service de l’eau and Smart and Digital City Office

**HIGHLIGHTS**

- 350 Summit participants
- 15 innovative solutions developed during the Challenge, including five award-winners recognized for their ability to respond to issues of river access, water quality control and assurance and bank erosion
- The Challenge winner: Info-Baignade, a mobile application using predictive models incorporating city of Montréal data which provides information on the quality of water in designated swimming zones of the Saint Lawrence River.
- The opening of eight city of Montréal data sets, including data related to runoffs, overflow and rainfall
- A great multi-service collaboration among city divisions in response to the needs of participating teams

**MONTRÉAL ON THE MOVE! INFO-BAIGNADE**

- Info-Baignade, an application developed during the Aquahacking event, provides real time estimates about the quality of water on the banks of the Saint Lawrence River.
- Still in development, the application proposes a water quality evaluation using innovative artificial intelligence predictive models, offering an interesting alternative to current sampling methods, which suffer from longer delays and greater limitations.
- In the development of its prototype, Info-Baignade used, among other things, the city of Montréal’s overflow and water quality data.
- The mobile application will eventually allow swimmers to be informed of the level of risks at the river’s various access points, and thus favour the reappropriation of the Saint Lawrence River by citizens.
COOPÉRATHON

Designed and realized by Desjardins and Hacking Health, the Coopérathon is a new generation hackathon. Extending over 4 weeks, it seeks to develop quality solutions, alliances and partnerships. Montréal, Smart and Digital City and InnoCité MTL have joined the founding members for the event’s 2016 edition. Themes explored during the 2016 edition included health, fintech and the smart city.

For the Smart and Digital City track, teams drew inspiration from the following challenge: “The City of Montréal seeks to improve the quality of life of its citizens by optimizing travel and accessibility for the elderly and persons with disabilities. It seeks to favour the autonomy of persons living with physical challenges by improving their accessibility to all public buildings, businesses and housing and by reducing the obstacles which they face on a daily basis. The city wishes to increase social participation and facilitate and secure travel, particularly during winter months.”

Project owner: Mouvement des caisses Desjardins

HIGHLIGHTS

- Over 250 participants and 95 projects submitted.
- 15 prizes awarded, including 3 in the smart city category:
  1. Grand prize awarded to Société logique (data sharing on the environment built).
  2. Jury favourite or “coup de coeur” prize awarded to KirMaq.Tech and S-Products (connected objects for home automation systems).
  3. Public Choice award given to Sésame, ouvre-toi, a module integrated into existing button-activated door openers which detects user presence and opens doors without prompting.

MONTRÉAL ON THE MOVE!

DESJARDINS LAB

- In this lab, financial institution Desjardins work with local accelerators Innocité MTL et Hacking Health to offer a technology innovation space filled with mentoring, collaboration, creation and sharing of expertise.
- L’offre de services du Desjardins Lab also involves partnerships with technology hub Notman House and tech startup event producer Montréal NewTech.
- A space which is at once physical and virtual, and open to the public on a regular basis, Desjardins Lab adds to the richness of Montréal’s innovation ecosystem.
- “The involvement of an important financial institution, so intimately linked with our collective entrepreneurial history, with InnoCité MTL, our smart city accelerator, reinforces the notion that we must all invest in the future of Montréal,” said Mayor Coderre at the lab’s inauguration.
24H OF INNOVATION
SMART CITY STREAM

24 h of innovation is an international competition organized by par l’École de technologie supérieure (ÉTS). Participants have 24 hours to find innovative solutions to challenges proposed by the private sector, public institutions or citizens.

The event brings together collective intelligence and, most of all, talented university students, to find solutions to complex urban issues. A smart city challenge was proposed for the 2015 edition of the competition.

Project owner: École de technologie supérieure (ÉTS)
In collaboration with the City of Montréal, Service de développement économique and Smart and Digital City Office

HIGHLIGHTS

• More than 2500 participants in 25 locations, in 17 countries and on 4 continents.
• Proposal of a Smart and Digital Cities challenge on the theme of intelligent parking.
• 33 creative solutions developed in response to the proposed challenge.
• Selection of the challenge proposed by the city of Montréal so that it might be further explored during the ÉTS Summer School (see project number 28).

MONTRÉAL ON THE MOVE!
QUARTIER DE L’INNOVATION

Emerging from its past as a neglected industrial sector, the Quartier de l’Innovation has become a centre of ingenuity and economic development. The fruit of an agreement and collaboration between four universities, three levels of government (municipal, provincial and federal), the private, community, cultural and research sectors, the QI has made a notable impact in its four years of existence.

• More than 40 new initiatives developed, each with multiple partners, including the INGO Innovation Centre and Le Salon 1861.
• Twelve incubators and accelerators, including Centech and District 3.
• Attraction of new entities, such as Maison du Logiciel Libre, BioFuelNet, IBM and Coveo.
• Opening of Neoshop Montréal.
• Regular networking and innovation events, such as Mat’Inno and QI Connexion.
• Host and instigator of numerous important events such as C2MTL, the Montréal Summit on Innovation and Défi QI.
• Revitalised the sector by attracting $6 billion dollars in real estate projects.
• First runner-up for the grand prize in the urban innovation category of the Le Journal Le Monde Smart Cities innovation awards.

Upcoming:

• Creation of the first open air smart city laboratory, in partnership with Videotron, Ericsson and l’École de technologie supérieure.

ÉTS SUMMER SCHOOL
INNOVATION AND TECHNOLOGY

The city helped develop the first edition of ÉTS’ (École de technologie supérieure) International Summer School on Innovation and Technological Design, created exclusively for engineering students from international universities.

Project owner: École de technologie supérieure (ÉTS)
In collaboration with the City of Montréal, Smart and Digital City Office

HIGHLIGHTS

• Proposal of a Smart and Digital City challenge for the 2015 edition of the ÉTS Summer School: “Which innovative and integrated tools can optimize parking in a large city like Montréal?”
• Active participation by city of Montréal and Stationnement de Montréal representatives as presenters, mentors, data suppliers, guides and evaluators throughout the student innovation process.
• Development of a mobility-integrated mobile application prototype.
• Contribution to the city of Montréal’s reflection on intelligent mobility.
Smart and innovative

The city can and must be the first client and test bed for the most avant-garde solutions. Members of Montréal’s entrepreneurial ecosystem are dynamic, curious, ingenious, creative and daring. Montréal wishes to foster their growth and favour prosperity for all. The following have been accomplished over the past months.
InnoCité MTL is a business acceleration program that supports and develops smart city startups. First of its kind in Canada, and initiated by Smart City Montréal, it allows emerging tech companies develop projects which create local jobs and offer concrete solutions to urban challenges, most notably those which are the focus of the City of Montréal’s Smart and Digital City 2015-2017 Action Plan.

Its 12-week training program offers selected entrepreneurs an access to a complete ecosystem of mentors and potential financial partners and clients, able to support them in the development, testing and marketing of their solution at both a local and international level. InnoCité MTL’s approach breaks silos between the public administration, the startup world and big business, while accelerating the development of smart city innovations for the benefit of all Montrealers.

**Project owner:** InnoCité MTL

**HIGHLIGHTS**

- June 2015: launch of the accelerator, a city of Montréal initiative.
- Three graduated cohorts.
- 27 entrepreneurs / 14 accompanied startups.
- $300k in equity raised.
- 80 contrats signed by its entrepreneurs, and 5 pilot projects, including 3 with the City of Montréal.
- Organization of major events, including 3 demo days involving more than 2000 participants.
- Participation in more than 30 community events as speaker, panelist, challenge presenter etc.
- Creation of local and international partnerships such as:
  - Partnership with Desjardins and Desjardins Lab in order to encourage innovation in the smart city sector
  - Creation of MAIN, a group of Montréal innovation accelerators permitting the sharing of best practices and resources.
- A unique collaboration with the city of Montréal, who defines the issues, provides mentors, and offers product feedback and validation, as well as a testbed to entrepreneurs.

**Upcoming:**

- The opening of the accelerator to startups wishing to launch intrapreneurship projects
- Pre-acceleration support involving teams working on projects proposed by InnoCité MTL's private and public partners.

**IMPRESSIVE DEMO DAYS**

**JOURNÉE DÉMO 1**
December 2015
1400 participants (largest such gathering in Canada)
In collaboration with Founder Fuel, Canada’s largest accelerator.

**JOURNÉE DÉMO 2**
June 2016
The collaboration of 6 accelerators, and launch of MAIN (Montréal accelerator and incubator network).

**JOURNÉE DÉMO 3**
Decembre 2016
Smart City dedicated event.
In collaboration with Capital Intelligent.
PRKNG | Digital tools to improve urban mobility and ease parking.

UBIOS | Preventing water damage by reducing occurrence and impact.

SENSEQUAKE | A remote sensing platform used to assess seismic vulnerabilities, and make cities safer and smarter.

DASBOX | Collection of reconfigurable industrial sensors, available at low cost and easily integrated into Internet applications.

DIGITAL STATE | Drag ‘n drop platform allowing government organizations to quickly provide online services.

POTLOC | Platform allowing retailers to crowdsource in order to implement the right store in the right neighbourhood.

KEY2ACCESS | A solution that makes pedestrian crosswalks accessible. Key2Access empowers impaired pedestrians with the use of technology to revolutionize municipal infrastructure and create more inclusive communities.

LOCAL LOGIC | A platform offering a variety of services such as snow-removal, and lawn and pool maintenance.

GOOWI | A platform allowing corporations to integrate philanthropy into their daily operations by engaging their clients and employees to support charities of their choice.

WEDO | A platform offering a variety of services such as snow-removal, and lawn and pool maintenance.

CITY PARKING | Application allowing drivers to reserve private parking spaces.

WE GRAB IT | Intelligent solution for the disposal of large and unwanted objects.

MLDB.AI | Open-source database designed for machine learning.

GIVE-A-SEAT | Allowing sporting or cultural event ticketholders to resell tickets at a discount and donate proceeds to a non-profit.

PARTICIPANTS DES 3 COHORTES

FALL 2015

WINTER 2016

FALL 2016
Capital Intelligent MTL’s mission is to help arrange vital financial backing for innovative companies offering solutions for present and future urban challenges. Funding is available both for startups and established businesses wishing to grow their operations.

An initiative of Smart City Montréal, Capital Intelligent MTL’s membership includes venture capital investors, corporations and financial institutions. Its activities are administered independently by the PME MTL network.

**Project owner:** PME MTL Centre-ville

**HIGHLIGHTS**

- $100M in available capital.
- 25 venture-capital investors, corporations and financial institutions involved.
- 70 financing opportunities (business plans) received and analysed.
- 2 pitch events in front of CIMTL committee members
- 7 projects presented for a total of $24M in investment opportunity.
- 1 project (Potloc) accepted with a round of financing of $800 000, of which $400 000 is from a Capital Intelligent MTL partner.

MONTRÉAL ON THE MOVE!

**STARTUP OPEN HOUSE**

- Startup Open House is an annual event which gives Montrealers the opportunity to visit the inspiring workplaces of innovative local startups.
- The one-day, annual event allows visitors to discover the inner world of startups.
- All are welcome: from students to those searching for work opportunities, partners, neighbours and the curious!
- Created in Montréal in 2013, Startup Open House events are now held across Canada (Toronto, Vancouver, Ottawa, Québec, Waterloo) and even in London, England (2016). The events have attracted 10 000 participants and 500 startups, many of whom have been involved since the very first edition.
- Produced by Credo in collaboration with Car2go, Startup Open House benefits from the support of partners such as Amaya, Shopify and the City of Montréal.
STARTUPFEST
SMART CITY STREAM

Held each summer in Montréal, Startupfest is a global gathering of the world’s best entrepreneurs, founders, investors and mentors. With the creation of a smart city component, the festival provides an opportunity to identify and promote local and international startups working in the field, while promoting the support offered to them by the city and its partners.

Project owner: Festival international du startup

HIGHLIGHTS

- Promoting drivers for the creation and reinforcement of Montréal Smart City’s economic programs.
- 2015 and 2016 editions: Presence of smart city accelerator InnoCité MTL at the Accelerator tent and organisation of pitch sessions.
- Presence of PME MTL, the network of experts supporting Montréal’s entrepreneurs and businesses.
- Presence of Capital Intelligent Mtl, a capital financing group whose mission is to help arrange vital financial backing for innovative companies offering solutions for present and future urban challenges. Financing is available both for startups and established businesses wishing to grow their operations.
- Exposure for smart city startups.
- InnoCité MTL 2nd cohort startup KeyY2Access, winner of the 2016 edition of the 30-Second Pitch Contest (prize value: $30k).
- InnoCité MTL 1st cohort startup Ubios, among 12 startups participating in the “Best Onstage Pitch Contest”.

MONTRÉAL ON THE MOVE!
THE SOCIÉTÉ DES ARTS TECHNOLOGIQUES (SAT)

- Since its creation in 1996, the SAT (Société des arts technologiques) has played a leading role in the development of Montréal’s immersive, telepresence and virtual reality technologies.
- Boasting an international reputation, it combines research, training, creation and presentation activities within its 44,000 square foot multifunctional and multi-level building, located in the heart of the Quartier des spectacles.
- Thanks to its numerous partnerships and its creative and technological capabilities, the SAT is both a springboard for the new generations of digital creators and researchers, as well as a source of social innovation and economic development for Montréal.
- Its organizational model led to the SAT being named North-America’s first Open Living Labs (ENoLL) member. This European initiative is a collective of over 170 of the world’s research and innovation centres.
IVADO brings together l'Université de Montréal, Polytechnique Montréal and HEC Montréal to actively contribute to the digital revolution by proposing a large-scale, transformational strategy which will explore the application of artificial intelligence and massive datasets.

IVADO leverages a combination of operational research, artificial intelligence and data science, leading to synergy in resources and expertise among academic and industry partners. It fosters exchanges and the pooling of knowledge among the experts, partners, researchers and students in its network.

This alliance helps foster the development of an economic sector in Montréal based on the optimal use of artificial intelligence and massive data.

**Project owners:** Polytechnique Montréal, HEC Montréal and Université de Montréal

**HIGHLIGHTS**

- Secured record grant financing of more than $93M over 7 years from the Canada First Research Excellence Fund (Fonds Apogée Canada) Participation of close to 1000 scientists.
- IVADO academic research members affiliated to 4 major and world-renowned research centres.
- World leader in deep learning and operational research
- More than 40 training programs.
- More than 560 graduate students involved.
- More than 70 private and public partners from Canada and around the world.
- More than 25 corporate members participating actively in its development, among them the city of Montréal.

**MONTRÉAL ON THE MOVE!**

**ELEMENT AI**

- Creation of Element AI, a new organization specialized in artificial intelligence, made possible through IVADO’s $93M grant.
- Its mission: to help organizations embrace an AI-First future, today.
- Composed of a research lab uniquely connected to the world’s best academic ecosystems, Element AI launches and incubates advanced AI-First solutions in partnership with large corporations.
- Its dream: to transform Montréal into the Silicon Valley for artificial intelligence.

IVADO aims to make Montréal a leading centre for wealth creation through data valorisation. Galvanizing the best talents on campus, IVADO increases the scope and impact of big data activities carried out by institutions and partners from various sectors. This positions Montréal as a world leader in the judicious and optimal exploitation of big data, a new resource that we generate daily in all aspects of our lives.

— Valérie Bécaert, Executive Director, IVADO
IMPACT
Montréal aimed to become recognized as a world leader among smart and digital cities by 2017. Already, the city has received important and widespread recognition which encourages it to pursue its efforts.

In June 2016, the Intelligent Community Forum (ICF), an independent think tank dedicated to the development of smart cities, bestowed its Intelligent Community of the Year Award upon the Greater Montréal. Since 1999, this award recognizes the most proactive and inspiring smart cities. Through this recognition, Montréal joins the prestigious ranks of past winners such as New York, Stockholm, Singapore, Taipei and Columbus.

Five main strengths of Montréal’s candidacy caught the attention of the judges:

- Administrative and political leadership
- The bold intersection of culture, arts and technology
- A dynamic entrepreneurial ecosystem
- Innovation in everything! (education, health, mobility, public services)
- Citizen mobilization and engagement

In all, more than 115 Montréal stakeholders showcased Montréal to contest judges, including: the Quartier de l’Innovation, Quartier des spectacles, Je fais Montréal, Société des Arts Technologiques, InnoCité MTL, District 3, E-180, Codex, Fusion Jeunesse, Hacking Health, Espace pour la vie as well as numerous innovative companies (Moment Factory, Ubisoft, Lightspeed POS, Breather, Frank & Oak, etc.), research chairs and industrial clusters such as TechnoMontréal.

This prize reflects the strength of the collective and encourages us all to continue our efforts!
OTHER IMPACTS OF NOTE

WE IMPLEMENT ACTIONS WHICH MULTIPLY

3 COHORTS / 14 STARTUPS PARTICIPATING IN INNOCITÉ MTL ACCELERATOR PROGRAM
Several pilot projects initiated and contracts signed by entrepreneurs.

REGIONAL PARTNERS ADOPTING THE ‘OPEN BY DEFAULT’ DATA POLICY (i.e. Société de transports de Montréal and Bureau de taxi de Montréal)

COLLABORATIVE EVENTS WITH CONCRETE IMPACT

WE INITIATE AND COLLABORATE IN INITIATIVES OF INTEREST

25 INVESTORS since the creation of Capital intelligent Mtl in June 2016

RECORD ATTENDANCE at Start-up Open House on September 22nd 2016. More than 200 companies and 3000 visitors present

RECORD ATTENDANCE at Demo Day for the first InnoCité MTL cohort in December 2015 – 1400 attendees

LAUNCH of Bleu Blanc Tech (Montreal’s French Tech Hub), which bridges Montréal and French Tech communities, at Montréal city hall

MONTRÉAL ATTRACTS AND HOSTS MAJOR EVENTS

NEW CITIES SUMMIT
June 2016

OPEN LIVING LABS DAYS
First non-European city to host the European Network of Living Labs (ENOLL) event
August 2016

GLOBAL SOCIAL ECONOMY FORUM
on the theme of “Local Governments and Social Economy Stakeholders. Allies for the intelligent and sustainable development of cities”
September 2016

GLOBAL PUBLIC TRANSPORT SUMMIT
(UITP, The International Association of Public Transport
June 2017

METROPOLIS WORLD CONGRESS
June 19-22, 2017

WORLD CONGRESS ON INTELLIGENT TRANSPORT SYSTEMS (ITS) World
October 2017

CITY OF MONTREAL

Défi Vélo MTL
Collaborative event
Open data
Open innovation
Open data
Citizen participation

LocaLogic ParticiPatinG Team
Grand prize winner in the products and services category

Zachary Patterson
Mentor - Concordia
Critical meeting of city of Montréal professionals at Défi Vélo MTL. An avenue for collaboration opens.

Innocité MTL
Economic development

Mtl Trajet
Données ouvertes Participation citoyenne

Montreal attracts and hosts major events

Record attendance at Start-up Open House on September 22nd 2016. More than 200 companies and 3000 visitors present.

Record attendance at Demo Day for the first InnoCité MTL cohort in December 2015 – 1400 attendees.

Launch of Bleu Blanc Tech (Montreal’s French Tech Hub), which bridges Montréal and French Tech communities, at Montréal city hall.

We implement actions which multiply.

3 cohorts / 14 startups participating in InnoCité MTL accelerator program.

Regional partners adopting the ‘Open by Default’ data policy (i.e. Société de transports de Montréal and Bureau de taxi de Montréal).

Collaborative events with concrete impact.

25 investors since the creation of Capital intelligent Mtl in June 2016.

Record attendance at Start-up Open House on September 22nd 2016. More than 200 companies and 3000 visitors present.

Record attendance at Demo Day for the first InnoCité MTL cohort in December 2015 – 1400 attendees.

Launch of Bleu Blanc Tech (Montreal’s French Tech Hub), which bridges Montréal and French Tech communities, at Montréal city hall.

Montreal attracts and hosts major events.

New Cities Summit
June 2016

Open Living Labs Days
First non-European city to host the European Network of Living Labs (ENOLL) event
August 2016

Global Social Economy Forum
on the theme of “Local Governments and Social Economy Stakeholders. Allies for the intelligent and sustainable development of cities”
September 2016

Global Public Transport Summit
(UITP, The International Association of Public Transport
June 2017

Metropolis World Congress
June 19-22, 2017

World Congress on Intelligent Transport Systems (ITS) World
October 2017

We initiate and collaborate in initiatives of interest.

Montreal attracts and hosts major events.

We initiate and collaborate in initiatives of interest.

Montreal attracts and hosts major events.

We initiate and collaborate in initiatives of interest.

Montreal attracts and hosts major events.

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Montreal attracts and hosts major events.

We initiate and collaborate in initiatives of interest.
Beyond impacts already felt, it is important to ensure that all players within the Montréal ecosystem continue to mobilize efforts and resources to attain objectives which will result in tangible impact.

A process has been undertaken to define the smart city’s performance indicators. Work began in Fall 2015 among working groups composed of experts, researchers and employees of the city of Montréal and of the CEFROID.

Of the 92 performance indicators identified at the outset in relation to the Montréal Smart City Action Plan programs (Step 1A), 13 were given priority status (Step 1B).

The process continues and is currently at Step 2.

**STEP 1A**
Devising the performance indicators

**STEP 1B**
Implementation plan (operational committee)

**STEP 2**
Establishing a benchmark (baseline)

**STEP 3**
Fixing objectives

**STEP 4**
Developing measurement and tracking tools

**STEP 5**
Measurement and dissemination of results

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Of the 92 performance indicators identified at the outset in relation to the Montréal Smart City Action Plan programs (Step 1A), 13 were given priority status (Step 1B).

The process continues and is currently at Step 2.

**SMART CITY PERFORMANCE INDICATORS**

One of the key projects of the Montréal Smart City 2015-2017 Action Plan is the development of smart city performance indicators. These indicators will help in the selection of objectives, as well as clarify contributions required and the responsibility of each in terms of progress and impacts. The public and participants will be able to follow the evolution of Montréal’s performance as a smart and digital city over time.

**Project owner:** City of Montréal, Smart and Digital City Office

**HIGHLIGHTS**

- In order to reduce the number of indicators and maintain those most relevant per program, 13 indicators were prioritized (step 1B).

**Upcoming:**

- Production of indicator fact sheets, including high-level defining of required sources and data collection methods and an initial evaluation of costs of measurement were completed (step 2).
- The establishment of preliminary indicator metrics and objectives.

**13 SELECTED INDICATORS**

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Number of businesses and jobs in the smart city sector</td>
</tr>
<tr>
<td>2</td>
<td>Total amount of smart city venture capital invested in the community</td>
</tr>
<tr>
<td>3</td>
<td>Number of small smart city businesses under contract with the city of Montréal, and the value of these contracts</td>
</tr>
<tr>
<td>4</td>
<td>The place of digital within the municipal service offering</td>
</tr>
<tr>
<td>5</td>
<td>Percentage of citizens who interact with the city through digital platforms</td>
</tr>
<tr>
<td>6</td>
<td>Sense of proximity with the municipal body and elected officials, as felt by citizens, as the result of digital platforms</td>
</tr>
<tr>
<td>7</td>
<td>Participation of citizens in democratic life through digital means</td>
</tr>
<tr>
<td>8</td>
<td>Ultra high-speed Internet on the territory of the city of Montréal and by borough</td>
</tr>
<tr>
<td>9</td>
<td>WiFi coverage on the territory of Montréal</td>
</tr>
<tr>
<td>10</td>
<td>Availability of real time transportation data, specifically with regards to the movement of persons and merchandise</td>
</tr>
<tr>
<td>11</td>
<td>Transportation data usage, specifically with regards to the movement of persons and merchandise</td>
</tr>
<tr>
<td>12</td>
<td>Change in behaviour following the application of mobility data</td>
</tr>
<tr>
<td>13</td>
<td>Number of Montréal Smart City action plan projects deployed</td>
</tr>
</tbody>
</table>
ONGOING TRANSFORMATION
A transformation well underway, and levers to activate

This midterm review demonstrates that the transformation has indeed begun, and that it rests on a solid, promising foundation.

1. Determined leadership and positioning

The political and administrative leadership of the city of Montréal in this initiative is significant. The creation of the Smart and Digital City Bureau (BVIN), with its dedicated multidisciplinary team, has allowed the creation of a structured roadmap in partnership with various stakeholders. The city has thus positioned itself as both a catalyst and an accelerator of this large urban transformation project.

The adoption of a new open data policy which commits all of the city’s central services and boroughs and encourages commitment from all of the city’s reporting entities is a good illustration of this.

This leadership is also expressed through sustained public presence and dialogue with various stakeholders. In order to pique interest, conversation and the participation of public and private players as well as citizens, more than 20 public activities were initiated or cocreated by Montréal Smart City in order to solicit ideas, promote innovations and address topics from urban mobility to the use of open data and the potential of fab labs in libraries.

Montreal Smart City’s political and administrative representatives participated in more than 60 conferences in Montréal, throughout Quebec and Canada, as well as overseas. Montréal Smart City was presented through various panel talks and jury representations at events such as C2MTL, New Cities Summit, Printemps numérique, Les Affaires’ annual conference on smart cities, and at international events, most notably at Entretiens Jacques-Cartier and Smart City Expo World Congress in Barcelona.
2. Visionary and committed partners

The city of Montréal can count on a diverse group of committed stakeholders and a significant ecosystem of innovators. Among these innovators are found pioneers in the field of smart cities, who have worked for years to promote Montréal’s digital potential and stimulate its creativity.

Whether they be early contributors (such as TechnoMontréal, Communautique, SAT, CEFRIO, Maison Notman, BIXI, STM or universities, for example) or emerging forces (students, startups, foundations, sociotechnological entrepreneurs etc.), these partners are essential to the success of the project.

Their exemplary commitment is at the source of several projects presented in this report. One such example, Capital Intelligent Mtl, is the result of an alliance formed between 25 member investors who joined forces in order to offer financing to smart city innovators. The Quartier de l’innovation and IVADO are others who, through the development of a strong partnership with the city of Montréal will allow the city to advance in the terms of experimentation in the field and the analysis and appreciation of big data, respectively.

As the result of this spirit of collaboration, the Greater Montréal was recognized by the Intelligent Community Forum as 2016 Intelligent Community of the Year. More than 115 Montréal players from the public, private, institutional and community sectors active in fields as varied as health, education, mobility and the environment came together during the nomination process to promote Montréal’s innovative spirit. What a successful collaboration this proved to be!

3. Citizens eager to participate

The popularity and outcomes of collaborative initiatives such as Défi Vélo MTL, Citizen Testers and MTL Trajet, among others, show that Montrealers are more than ready to participate in city development.

The adoption rate of Info-neige, Info-remorquage, MtlWiFi and BennyFab illustrate the need to pursue and intensify the development of concrete proximity services which impact the daily lives of citizens.
4. Fertile ground for innovation

The emergence of Montréal Smart City takes root in an environment which is ripe for innovation, as the following statistics eloquently illustrate:

**MONTRÉAL, VÉRITABLE PÔLE DU SAVOIR**

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>93 000</td>
<td>Qualified workers in the fields of information and communication technology¹</td>
</tr>
<tr>
<td>11</td>
<td>Universities and affiliated schools</td>
</tr>
<tr>
<td>40 000</td>
<td>Annual number of university graduates²</td>
</tr>
<tr>
<td>240 000</td>
<td>Post-secondary students³</td>
</tr>
<tr>
<td>1st</td>
<td>University research cluster in the country⁴</td>
</tr>
</tbody>
</table>

**DES ÉCOSYSTÈMES QUI ACCÉLÈRENT L’INNOVATION**

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>50+</td>
<td>Incubators, accelerators and coworking spaces⁵</td>
</tr>
<tr>
<td>7</td>
<td>Fab labs⁶, including 6 new spaces in the past 2 years</td>
</tr>
<tr>
<td>9</td>
<td>Industrial clusters, 1 more than in 2015⁷</td>
</tr>
<tr>
<td>2⁸</td>
<td>Canadian city for venture capital investment in 2016⁹</td>
</tr>
</tbody>
</table>

**DES INFRASTRUCTURES FACILITANTES**

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>190 000</td>
<td>Meters of municipal fibre optic cable, to which will be added 120 additional kilometers over the next two years</td>
</tr>
<tr>
<td>943</td>
<td>WiFi access points, an increase of 143 over 2015</td>
</tr>
</tbody>
</table>

**MONTRÉAL ON THE MOVE! A DYNAMIC MONTREAL STARTUP ECOSYSTEM**

Add to this Montréal’s distinct entrepreneurial buzz, as illustrated in the Montréal Startup Ecosystem Report, published in November 2016, which presents the first status report on the state of startups in the Greater Montréal region. The study by Credo in collaboration with the OSMO Foundation and Startupfest, quantifies the economic importance and impacts of Montréal’s startup sector. Among its highlights, we note the following:

- Montréal boasts an estimated **1800 to 2600 startups**
- Tech startups create more than **8000 direct and 2000 indirect jobs** in Montréal
- Their ecosystem contributes approximately **$700M** per annum to Montréal’s economy
- The number of startups created **since 2011 has doubled**. Approximately **$360M in venture capital** has been invested over this same period.
- **67% of startups** claim to have a product or service which meets the needs of a smart city.

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² Fondation du Grand Montréal, Signes vitaux du Grand Montréal, 2015, p. 15.
⁴ Montréal international, 10 + 1 bonnes raisons d’investir dans le Grand Montréal.
⁷ Communauté métropolitaine de Montréal, Grappes Montréal - Cap sur l’innovation : http://grappesmontreal.ca/grappes-metropolitaines/les-grappes-metropolitaines-de-montreal/
The work continues!

The present document is a midterm report. Through a review of approximately thirty accomplishments, and by analysing their impact, it permits a thorough examination of the Montréal Smart City projects in order to explain their nature, orientations and status. A few key figures stand out:

While results, twenty months following the adoption of the 2015-2017 Action Plan, are encouraging, much important work remains to be done. Transforming Montréal into a smart and digital city is a major undertaking which requires profound changes both within and without the municipal administration in terms of infrastructure, regulations, processes and practices, as well as expertise to develop.

In order to ensure a real and profound adoption of an open and digital culture while ensuring that the Action Plan is delivered within best possible delays and circumstances, it is important to take advantage of identified levers, to act where it can have the most impact and to prepare the future today. Consequently, the current priorities identified by the city of Montréal are as follows:

1. Complete the implementation of the 2015-2017 Action Plan
2. Come together with community leaders and consolidate the innovation chain
3. Propel the process by measuring actions and initiating future-oriented thinking about the smart city
Complete the implementation of the 2015-2017 Action Plan, while focusing particularly on the following priorities:

- **Digital infrastructures**: develop the ultra high-speed multiservice urban telecommunications network and allow citizens to have access to the free public WiFi network throughout the Montréal territory. In order to accomplish this goal, deploy 120 additional kilometres of fibre optic cable in 2017-2018 in order to connect future MtlWiFi zones (Quartier de l’innovation, Quartier des spectacles, commercial arteries, parks and municipal buildings).

- **Digital public services**: Propose a simplified, harmonized experience based upon a digital services offer that is relevant and client-oriented. Aiming to completely redesign its portal and to continuously deliver 180 improved or added digital services, the city of Montréal will launch a digital 311 pilot project in 7 boroughs, an integrated client record including a citizen alert system as well as an information and citizen participation platform, as of Fall 2017.

- **Open government and participatory democracy**: In the spirit of its new open data policy adopted in December 2015, and given its open-by-default principle, the city of Montréal has committed to liberate more than 800 data sets by December 31st 2018. These include the 233 data sets already accessible through the city of Montréal’s open data portal. A leader in the field, Montréal will continue to encourage the organizations of its reporting entity to do the same. The city thus maximizes the potential of open data for citizens, in terms of transparency, for decision-makers, in terms of planning, and for entrepreneurs, in terms of providing for innovation. In terms of participatory democracy, the city of Montréal will offer an online petition tool to citizens who wish to initiate and sign petitions according to the right of initiative public consultation process.

- **Urban mobility**: With the objective of optimizing user mobility in real-time, the city of Montréal will continue its work of collecting, sharing, opening and using data from a variety of sources across the territory. Based on knowledge gained from the CGMU (Centre de gestion de la mobilité urbaine) and the Géo-Trafic open 511 database currently undergoing consolidation, several concrete projects will see the light of day in the coming months: dynamic signage, traffic light synchronization, implementation of integrated corridors (instrumenting corridors to allow the development of tools to support real-time decision-making), mobility in the case of disruption and the creation of an institute for intelligent and sustainable mobility. These actions complete the current offer of innovative devices developed by regional partners such as BIXI (payment via Opus and other non-contact cards), the STM (real-time bus geotracking and Opus mobile payment pilot project) and the Montréal Taxi Bureau (the additional of smart functionalities to all of the city’s taxi fleets).
Complex issues require a sharing of various and complementary expertise and energies. For this reason, it is more important than ever to mobilize the business community, public institutions, universities and citizens around the Montréal Smart City project, so that solutions to the most pressing urban challenges can be found and tested. Among these, most notably:

- Through the development of spaces to support urban innovation and reduce the digital divide. Coming in 2017, follow the launch of 8 new, permanent fab labs in Montréal libraries, as well as the implementation of fab lab or media lab-like creative spaces planned for all new libraries. New technological and digital literacy programs will complement the innovative offerings of the city’s libraries, which are veritable proximity and inclusion hubs available throughout the territory.

- By multiplying collaborative innovation challenge-type events through which, thanks to the inclusion of data, issues or mentors by the city of Montréal and its partners, conditions are ripe for the emergence of new projects, products and services which benefit all citizens.

- By systematically adopting a user experience approach at the city, thanks to the consolidation of the citizen tester program.

- By reviewing certain business processes and practices, including procurement, so that the city of Montréal’s purchasing power may be used strategically to stimulate innovation.
Emboldened by our experiences these past years and given the emergence of new challenges, it is already time to prepare for what is to come after 2017!

• By continuing the process of performance indicators in concert with various Montréal Smart City actors so that we may, collectively, establish the targets which will guide us.

• By analysing smart city trends around the world and updating the image we have of Montréal’s innovation ecosystem.

• By developing an inclusive and mobilizing process for the identification and prioritizing of projects for the next action plan in a way that will ensure the participation, appropriation and commitment of and by citizens, partners and city employees as they join together to undertake the Plan’s renewal.

• By instigating a reflection process surrounding governance, in order to ensure a support, decision-making and followup structure that will make the process efficient and agile in future.

Propel the process by measuring actions and initiating future-oriented thinking about the smart city
APPENDIX
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<th>Crédit photo</th>
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<td>Montréal en histoires</td>
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<td>CESM medallion</td>
<td>Commission des services électriques de Montréal</td>
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<td>p. 13</td>
<td>RISQ medallion</td>
<td>Réseau d’informations scientifiques du Québec</td>
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<td>p. 14</td>
<td>Cocreation workshop</td>
<td>Eva Blue</td>
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<td>p. 14</td>
<td>BIXI Montréal medallion</td>
<td>BIXI Montréal</td>
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<td>LNU medallion</td>
<td>Quartier des spectacles</td>
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<td>Transit</td>
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<td>Smart Halo medallion</td>
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<td>p. 18</td>
<td>Téo Taxi medallion</td>
<td>Téo Taxi</td>
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<td>Baggage transit medallion</td>
<td>Aéroports de Montréal</td>
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<td>p. 23</td>
<td>Défi Vélo MTL participant</td>
<td>Eva Blue</td>
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<td>p. 24</td>
<td>je fais mtl medallion</td>
<td>Sylvain Ryan</td>
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<tr>
<td>p. 25</td>
<td>Fab lab machines</td>
<td>Jean Beaudin</td>
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<tr>
<td>p. 25</td>
<td>Benny Fab medallion</td>
<td>Jean Beaudin</td>
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<td>p. 26</td>
<td>Pierrejean Library</td>
<td>Chevalier Morales Architectes et DMA architectes</td>
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<td>Communautique medallion</td>
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<td>Info-Baignade medallion</td>
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<td>p. 29</td>
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<td>Capital Intelligent Mtl photo</td>
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<td>Startup Open House medallion</td>
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<td>p. 34</td>
<td>Startupfest photo</td>
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<td>p. 34</td>
<td>SAT dome medallion</td>
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<td>Démo MTL crowd photo</td>
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<td>p. 41</td>
<td>BVIN’s team photo</td>
<td>Eva Blue</td>
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<td>p. 41</td>
<td>Photo of Mr. Chitianian and Mr. Goyette</td>
<td>Eva Blue</td>
</tr>
<tr>
<td>p. 42</td>
<td>Cocreation workshop photo</td>
<td>Eva Blue</td>
</tr>
<tr>
<td>p. 46</td>
<td>Olympic stadium photo</td>
<td>Tourisme Montréal</td>
</tr>
<tr>
<td>p. 47</td>
<td>Clock tower photo</td>
<td>Tourisme Montréal</td>
</tr>
</tbody>
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