

EXPENDITURE
BUDGET
2022 - 2023

VOL. 5

INFORMATION RESOURCE
INVESTMENT AND EXPENDITURE PLAN

2022 - 2023

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2021-2022 Expenditure Budget
**Information Resource Investment
and Expenditure Plan 2022-2023**

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TABLE OF CONTENT

MESSAGE FROM THE MINISTER.....	1
INTRODUCTION	3
CONTRIBUTION OF INFORMATION RESOURCES TO THE ACTIVITIES OF THE STATE	4
INVESTMENTS AND EXPENDITURES IN INFORMATION RESOURCES	6
1. Probable Investment and Expenditure in Information Resources.....	6
2. Annual Planning of Investments and Expenditures in Information Resources.....	6
3. Intervention Strategies.....	8
4. Annual planning of investments in the Quebec Infrastructure Plan – Information Resources Component (IQP-IR)	9
5. Achievement Rate of Information Resource Initiatives	11
INFORMATION RESOURCES PROJECTS	12
PORTRAIT OF INFORMATION RESOURCES ASSETS.....	14
1. Inventory of Information Assets.....	14
2. Health Status of Information Assets	15
INFORMATION RESOURCES STAFF.....	18

MESSAGE FROM THE MINISTER



The Information Resources Investment and Expenditure Plan 2022-2023 is the first produced by the Ministère de la Cybersécurité et du Numérique. With planned investments of \$7.57 billion for 2022-2032, it demonstrates the importance the government places on information resources, government digital transformation, cybersecurity and, more broadly, the modernization of the way our public administration operates.

Essential to the government's performance and to the deployment of services to Quebec citizens and businesses, the management of the public administration's information resources must be guided by the objective of offering the best services at the lowest cost. The Plan is an essential tool to support public organizations in planning and monitoring expenditures in this area and to make the necessary choices.

The increased use of information resources is also a major input to the government's digital transformation. Thus, the Plan paints a picture of the contribution of information resources to government activities and addresses strategic data such as the information resource projects underway in several public organizations, the state of government assets including those of the health and social services, education, and higher education networks.

Éric Caire

INTRODUCTION

In accordance with section 16.1 of the Act respecting the governance and management of the information resources of public bodies and government enterprises (chapter G-1.03), as amended by section 24 of the Act to enact the Act respecting the Minister de la Cybersecrité et du Numérique and to amend other provisions (2021, chapter 33), the Ministère de la Cybersecrité et du Numérique shall submit annually to the Conseil du trésor a plan of the investments and expenditures of public bodies with respect to information resources.

The purpose of this plan is to present a portrait of the Québec government's interventions in the area of information resources related to the following items:

- the contribution of information resources to the activities of the State and the adequacy of the strategies referred to in paragraph 1 of section 13 of the Act respecting the governance and management of the information resources of public bodies and government enterprises with guidelines referred to in the second paragraph of section 21;
- information concerning the investments and expenditures in information resources that public bodies plan to make;
- information concerning information resource projects whose total estimated cost is greater than the threshold determined by the Government, and other projects of government interest;
- an inventory of the information assets of public bodies, including an assessment of their condition.

This Information Resources Investment and Expenditure Plan also presents the information resources workforce in order to provide the reader with a more complete picture of the state of information resources within the government.

The data is generally presented by ministerial portfolio, with the exception of data from organizations in the health and social services network, the education network, and the higher education network. The intervention strategies, as defined in the "Planned investments and expenditures in information resources" section, correspond to the categories that public organizations are required to use to describe the activities and projects included in the programming of their investments and expenditures in information resources. These same categories are used to report on the use of funds.

The information resources investment and expenditure plan of public bodies is attached to the estimates tabled in the Assemblée nationale in accordance with section 45 of the Public Administration Act (chapter A-6.01).

CONTRIBUTION OF INFORMATION RESOURCES TO THE ACTIVITIES OF THE STATE

2021-2022 will have focused on, but not limited to, strengthening the governance framework and creating the Ministère de la Cybersécurité et du Numérique (MCN).

Through the creation of this new Ministère, the State confirms, among other things, the importance of strengthening cybersecurity and setting a steady pace to digital transformation. By now being a field of competence in its own right, the digital sector has become an essential and, above all, a priority area for the government.

The Ministère de la Cybersécurité et du Numérique is responsible for directing and coordinating the State's actions in the fields of cybersecurity and digital technology, proposing to the government the main guidelines in these fields, determining the sectors of activity in which it intends to act as a priority, and advising the government and public bodies. It also proposes measures to the government to increase the effectiveness of the fight against cyber attacks and cyber threats in Quebec.

The Ministère is developing leading-edge expertise in digital and emerging technologies and intends to share this expertise with all public agencies. It leads the digital transformation of the State, acts as a broker in cloud computing and provides public organizations with technological infrastructure services and common support systems. It contributes to enhancing the security of digital information and data within public agencies and to ensuring the availability of services to citizens and businesses through the increased use of shared, secure, and high-performance technological infrastructures.

On June 10, 2021, the Act to amend the Act respecting the governance and management of the information resources of public bodies and government enterprises and other legislative provisions (2021, chapter 22) was assented to. The new provisions introduced by this law provide additional means to support digital transformation and offer more agile and secure services to the population and businesses of Quebec.

Thus, a management framework has been established that promotes the mobility and enhancement of government digital data within the public administration, while respecting the various personal information protection regimes.

The main changes are aimed in particular at:

- significantly improving the security of information resources in support of the activities of the Gouvernement du Québec;
- concretely accelerating the digital transformation of the government's public administration, in particular by providing that each organization establish its digital transformation plan.

More specifically, the key to transforming services offered to citizens and businesses is through an integrated vision of public services. This vision, enshrined in the government's 2019-2023 Digital Transformation Strategy, is embodied in the design of public services adapted to today's realities. Digital transformation must be based on the use of innovative and ambitious technologies that are built on a solid and proven government digital foundation.

The government's digital transformation is based on the following principles:

- sharing, reuse, mutualization and collaboration are at the heart of the transformation within public administration;
- public services are thought out and designed to adapt to the contemporary reality of citizens and businesses;
- digital public services are easy to find, understand, use and remain as intuitive as those of large private companies, while offering a coherent experience adapted to the particularities of all citizens, in order to fully meet their expectations;
- the performance of the public administration is improved in a tangible way, for the benefit of citizens and government employees.

Based on these principles, the Ministère de la Cybersécurité et du Numérique will have to build the digital foundations of tomorrow. On the other hand, it will also have to see to the pooling of ideas and efforts to make sense of the modernization and computerization of citizen and business services, while ensuring exemplary cybersecurity and information security risk management.

In sum, during the 2022-2023 fiscal year, the Ministère de la Cybersécurité et du Numérique will proceed with the prioritization of structuring initiatives in relation to its mission. The main objective will be to simplify the relationship of citizens and businesses with the public administration through the digital transformation of services and ways of doing things.

INVESTMENTS AND EXPENDITURES IN INFORMATION RESOURCES

Section 13 of the Act respecting the governance and management of information resources of public bodies and government enterprises states that, in order to enable the development of government information resource planning, a public body must establish a schedule of information resource investments and expenditures and describe the use of information resource investments and expenditures.

1. Probable Investment and Expenditure in Information Resources

Based on the updated information resource investments and expenditures for state agencies transmitted on October 31, 2021, the total probable information resource investments and expenditures from all funding sources are \$4,601.5 million for the 2021-2022 fiscal year, an increase of 8.3%¹ from the \$4,250.5 million projected in the 2021-2022 fiscal year Investment and Expenditure Plan. This variance is due to a significant increase in investment in information resources of 16% and an increase in expenditures of 6%.

One of the government's objectives is to improve the ratio of expenditures to benefits of public investments. Public agencies have made efforts to optimize their costs, but coordination with the Ministère de la Cybersécurité et du Numérique to plan information resources management more effectively and continue to implement best practices in this area should generate more savings.

2. Annual Planning of Investments and Expenditures in Information Resources

The programming of investments and expenditures in information resources makes it possible to monitor the evolution of the choices made by the public bodies covered by the Act for the 2022-2023 fiscal year and for the three subsequent fiscal years.

¹ Due to rounding, amounts may not add up to the total shown.

Table 1: Annual Information Resource Investment and Expenditure Planning² (\$ millions)

Ministerial Portfolio	2022-2023		2023-2024		2024-2025		2025-2026	
	Expense	Investment	Expense	Investment	Expense	Investment	Expense	Investment
Affaires municipales et Habitation	34.1	11.9	34.0	15.8	34.4	10.2	35.5	6.3
Agriculture, Pêcheries et Alimentation	45.0	9.2	41.3	8.4	41.7	7.2	42.3	7.3
Conseil du trésor et Administration gouvernementale	30.9	9.2	28.1	9.4	28.5	9.1	29.0	9.0
Conseil exécutif	5.7	1.0	5.8	2.6	6.0	1.4	6.2	0.9
Culture et Communications	27.6	18.0	29.9	16.6	29.0	13.2	29.2	11.4
Cybersécurité et Numérique	406.8	62.3	402.9	127.0	387.2	135.9	391.2	94.6
Économie et Innovation	10.4	1.5	10.1	1.4	9.9	1.2	10.1	1.2
Éducation	34.5	10.0	38.3	6.7	39.9	5.2	42.0	4.7
Énergie et Ressources naturelles	44.4	3.5	36.5	7.2	37.2	6.1	37.0	1.5
Enseignement supérieur	8.6	4.1	9.1	1.8	9.7	1.7	10.4	1.9
Environnement et Lutte contre les changements climatiques	21.7	11.2	21.5	11.2	21.1	9.7	21.0	3.3
Famille	35.4	15.3	30.6	16.7	31.1	16.1	31.3	7.4
Finances	298.2	129.4	304.9	125.7	312.5	124.1	316.9	125.2
Forêts, Faune et Parcs	43.1	11.4	34.7	12.7	33.1	8.7	32.2	6.4
Immigration, Francisation et Intégration	33.7	8.6	35.0	7.3	35.4	5.0	37.3	8.1
Justice	139.8	55.2	122.0	55.4	116.3	49.0	114.1	18.1
Relations internationales et Francophonie	4.8	1.2	4.8	0.4	4.9	0.3	4.9	0.3
Santé et Services sociaux	372.9	185.9	370.2	241.4	376.2	186.6	381.4	102.3
Sécurité publique	125.5	17.5	125.0	16.6	125.8	13.8	124.8	15.4
Tourisme	10.0	7.0	9.8	3.5	10.0	3.3	10.0	2.7
Transports	270.2	44.0	230.9	39.5	237.3	31.1	211.3	29.3
Travail, Emploi et Solidarité sociale	200.7	55.2	206.5	49.2	205.9	45.3	207.3	46.0
Réseau de la santé et des services sociaux	587.7	263.0	593.5	142.1	595.4	122.9	568.5	87.9
Réseau de l'éducation	207.8	143.6	214.9	130.9	212.3	98.6	210.6	99.3
Réseau de l'enseignement supérieur	438.0	154.9	450.1	128.6	456.1	120.2	463.5	111.8
Réserve en ressources informationnelles	0.0	18.4	0.0	69.8	0.0	120.3	0.0	86.1
Grand Total	3,437.3	1,252.4	3,390.4	1,247.7	3,396.7	1,146.2	3,368.0	888.7

NOTE: Due to rounding, amounts may not add up to the total shown.

2. Expenditures do not include the amortization of information resources of public bodies or the payroll and financial expenses of budgetary ministries and agencies.

For fiscal year 2022-2023, the sum of planned expenditures and investments in information resources for all public agencies subject to the Act is \$4,689.7 million. Expenditures represent 73% of this amount and 27% are investments.

The portion allocated to the health and social services network, the education network and the education network reaches 38.3% of total expenditures and investments.

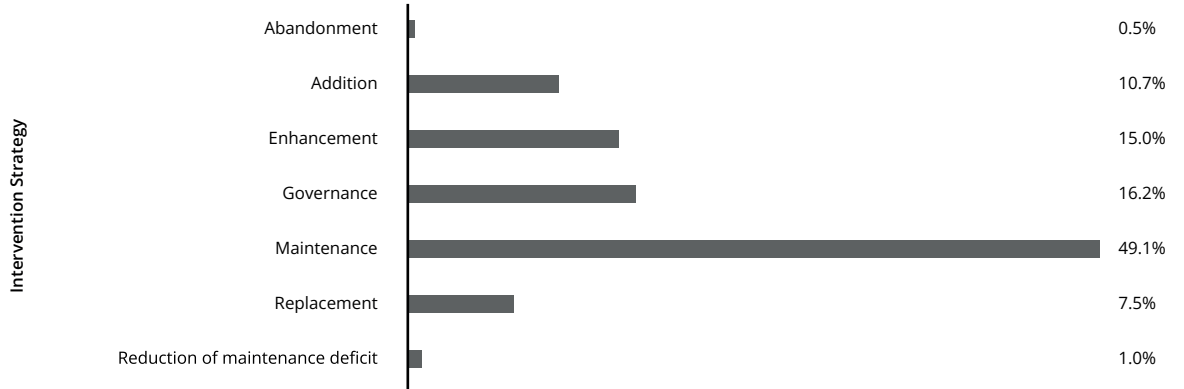
3. Intervention Strategies

To describe the initiatives and projects included in their information resource investment and expenditure programming, public sector organizations are required to classify them according to intervention strategies. There are seven intervention strategies that correspond to the categories that public agencies are required to use:

- Addition: action that aims to acquire or develop new information assets.
- Enhancement: an action that modernizes, increases, or enhances the service potential of an existing service potential of an existing information asset.
- Maintenance: action that maintains the performance of an existing information asset and to prevent obsolescence.
- Replacement: action that aims to replace all or part of an existing information asset, normally at the end of its useful life.
- Reduction of maintenance deficit: action that aims to catch up on the maintenance of an existing maintenance of an existing information asset.
- Abandonment: action that aims to dispose of an information asset that is deemed obsolete or no longer meets the objectives pursued.
- Governance: action to ensure the sustainability of management and planning operations in order to implement the organization's strategic information resource objectives.

Intervention strategies are designed to allocate financial resources based on organizational needs to address or prevent obsolescence, or to acquire new assets to better support service delivery to citizens and businesses.

Figure 1: Annual planning from 2022-2023 to 2025-2026 for information resource investments and expenditures by intervention strategy type³



4. Annual planning of investments in the Quebec Infrastructure Plan – Information Resources Component (IQP-IR)

The IQP-IR sets out, over a ten-year period, the investment needs required to carry out information resource projects and activities to be financed by a contribution from the Gouvernement du Québec. It is important to note that only investments in information resources by public bodies subject to the Public Infrastructure Act (chapter I-8.3) are included in the IQP-IR. Thus, the investments planned in the IQP-IR are included in the investments in information resources presented in Table 1.

For the decade 2022-2032, information resource investment needs were collected in conjunction with the creation of the Ministère de la Cybersécurité et du Numérique from public agencies.

The 2022-2032 IQP-IR allocation level has been allocated to public agencies in accordance with government information resource directions and priorities. Planned investments in the 2022-2032 IQP-IR allocated to each public agency total \$7,572.8 million, including \$1,064.5 million for the 2022-2023 fiscal year. The 2022-2032 IQP-IR is an increase of \$361.1 million over the 2021-2031 IQP-IR established at \$7,211.7 million. Table 2 shows the breakdown of the 2022-2032 IQP-IR by ministerial portfolio.

The portion attributable to the health and social services network, the education network and the education network represents 37.7% of the total planned investments.

3. Les pourcentages de répartition sont calculés selon les programmations déclarées par les organismes publics dans le cadre de la programmation en ressources informationnelles, comme le prévoit l'article 13 de la Loi.

Table 2: Ten-Year Information Resource Investment Plan by Ministerial Portfolio for 2022-2032 (\$ millions)

Ministerial Portfolio	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031	2031-2032	Total 2022-2032
Affaires municipales et Habitation	2.8	3.2	3.3	1.9	2.2	2.1	2.1	2.2	2.1	2.2	24.1
Agriculture, Pêcheries et Alimentation	9.2	8.4	7.2	7.3	7.3	7.3	7.3	7.3	7.3	7.4	75.7
Conseil du trésor et Administration gouvernementale	9.2	9.4	9.1	9.0	8.7	8.5	8.4	8.3	8.3	8.3	87.3
Conseil exécutif	1.0	2.6	1.4	0.9	0.8	0.8	0.8	0.8	0.8	0.8	10.7
Culture et Communications	18.0	16.6	13.2	11.4	8.6	8.6	8.5	8.5	8.4	8.4	110.3
Cybersécurité et Numérique	62.3	127.0	135.9	94.6	84.3	53.8	39.3	39.3	39.6	39.6	715.6
Économie et Innovation	1.5	1.4	1.2	1.2	1.2	1.2	1.4	1.2	1.1	1.1	12.7
Éducation	10.0	6.7	5.2	4.7	3.8	4.1	4.1	4.1	7.2	4.1	54.1
Énergie et Ressources naturelles	3.1	7.0	5.8	1.5	4.9	4.0	4.1	5.0	5.6	5.6	46.5
Enseignement supérieur	4.0	1.7	1.6	1.9	2.7	2.8	2.8	2.8	4.9	2.9	28.1
Environnement et Lutte contre les changements climatiques	11.1	11.1	9.6	3.2	3.7	3.7	3.9	3.7	6.0	3.7	59.8
Famille	15.3	16.7	16.1	7.4	11.2	6.3	5.7	4.9	8.1	6.1	97.9
Finances	104.0	100.7	99.2	100.3	84.3	84.2	82.7	82.9	82.7	82.7	903.7
Forêts, Faune et Parcs	8.5	10.3	6.2	6.0	5.8	5.1	5.1	5.1	5.2	5.2	62.7
Immigration, Francisation et Intégration	8.6	7.3	5.0	8.1	7.4	7.5	7.5	7.5	7.5	6.3	72.7
Justice	54.8	55.2	48.8	18.0	16.6	15.6	15.1	16.8	14.9	14.9	270.7
Relations internationales et Francophonie	1.2	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4.2
Santé et Services sociaux	165.3	235.2	180.6	97.5	45.1	20.7	21.7	19.8	20.7	58.7	865.2
Sécurité publique	16.7	16.2	13.5	14.8	20.2	13.2	14.1	12.9	11.2	11.2	144.2
Tourisme	7.0	3.5	3.3	2.7	2.9	3.1	2.9	2.9	3.1	3.5	35.0
Transports	32.0	33.4	28.5	26.8	24.3	23.9	20.0	19.6	19.5	19.9	247.9
Travail, Emploi et Solidarité sociale	22.3	22.3	18.3	18.0	17.9	18.1	18.0	18.0	18.0	17.9	189.0
Réseau de la santé et des services sociaux	240.1	136.0	120.7	87.0	85.3	83.0	83.0	83.0	83.0	83.0	1,084.1
Réseau de l'éducation	137.4	125.1	92.8	93.8	95.5	90.8	82.1	82.6	85.9	85.9	971.9
Réseau de l'enseignement supérieur	100.7	89.5	83.7	75.1	78.2	74.1	74.1	74.7	74.8	74.8	799.8
Réserve en ressources informationnelles	18.4	69.8	120.3	86.1	65.1	49.3	51.1	60.5	58.2	20.4	599.0
Grand Total	1,064.5	1,116.9	1,030.7	779.5	688.5	592.4	566.2	574.7	584.5	575.1	7,572.8

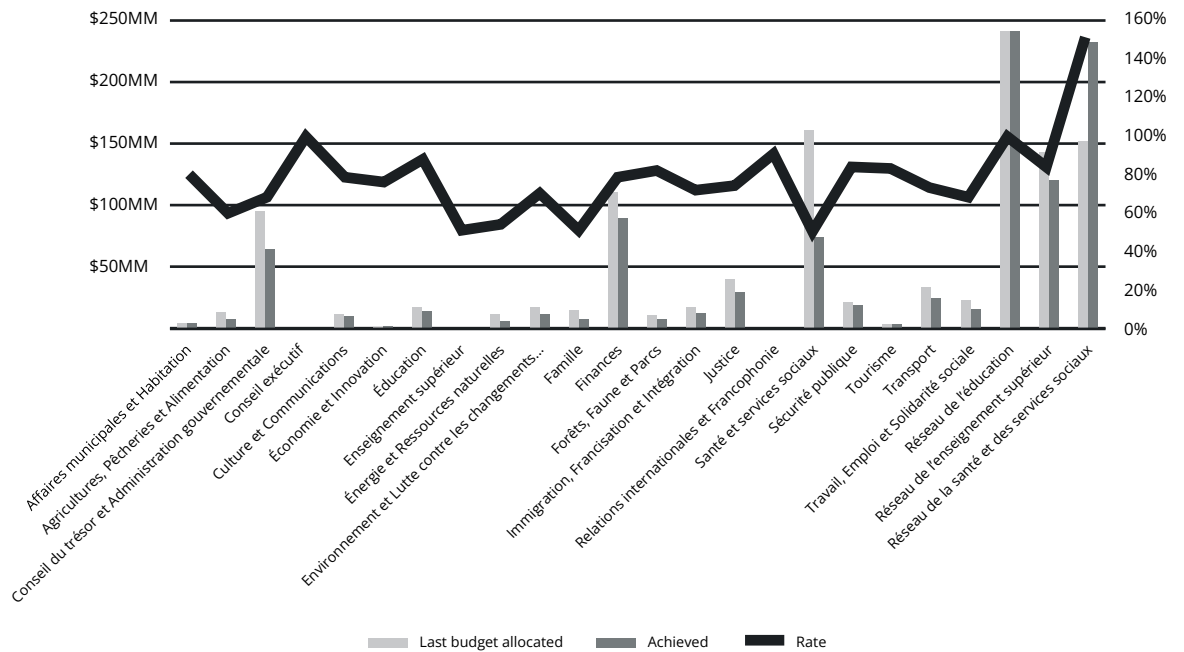
5. Achievement Rate of Information Resource Initiatives

The Public Administration Act establishes a results-based management framework based on respect for the principle of transparency, requiring public organizations to be accountable for their performance and the achievement of their results. In this context, the achievement rate of investments in information resources measures the capacity of an organization to carry out its interventions within the limits of the planned budgets, and is calculated according to the following formula:

$$\frac{\text{Actual investments in information resources}}{\text{Last authorized budget for the public information resources agency}} \times 100$$

Figure 2 presents the 2020-2021 realization rate for information resources investments by ministerial portfolio. Of the total investments in information resources funded by the Gouvernement du Québec, the achievement rate is 101.6%, which is a significant result for investments in information resources at the global level.

Figure 2: 2020-2021 Information Resource Investment Achievement Rate by Portfolio



Efforts are underway to ensure that the indicator evolves through the activities of the sub-committees of the Information Resources Governance Committee established under section 12.1 of the 12.1 of the Act respecting the governance and management of information resources of public bodies and government enterprises.

The objective is to define a renewed indicator that will truly measure the performance of public organizations according to the intervention strategies planned in their programming.

INFORMATION RESOURCES PROJECTS

The information resource projects of public agencies are shown in the Information Resource Project Dashboard published on the Internet at: www.tableaubordprojetsri.gouv.qc.ca.

This dashboard shows the status of projects costing more than \$100,000 and in the completion phase. The dashboard allows viewing projects by portfolio and agency and provides detailed information on the scope and performance of these projects. As of February 2022, 196 projects are shown there, including 28 targeted projects.⁴

As of February 2022, 2,199 information resource projects are considered active within the government. The MCN includes 25 ongoing projects inherited from Infrastructures technologiques Québec. At the end of 2021, a total of 212 projects are declared completed. The Higher Education (45%), Health and Social Services (11%) and Education (23%) portfolios have reported the most completed projects.

Table 3: Number of completed projects by portfolio

Ministerial Portfolio	Number of projects completed
Affaires municipales et Habitation	4
Agriculture, Pêcheries et Alimentation	2
Culture et Communications	2
Économie et Innovation	1
Éducation	49
Énergie et Ressources naturelles	6
Enseignement supérieur	95
Environnement et Lutte contre les changements climatiques	1
Famille	1
Finances	10
Forêts, Faune et Parcs	1
Justice	3
Santé et Services sociaux	24
Sécurité publique	3
Tourisme	2
Transports	5
Travail, Emploi et Solidarité sociale	3
Grand Total	212

4. A targeted project is considered to be: 1. a project designated as being of government interest by the Conseil du trésor; 2. a project for which authorization has been granted by the Conseil du trésor; 3. a project for which the Conseil du trésor requires a follow-up.

Since January 1, 2022, when the government deems it necessary, certain large-scale projects involving several public bodies may be designated as being in the government's interest. Prior to this date, it was the responsibility of the Conseil du trésor to make this designation. The projects designated as being of government interest that are currently being carried out are the following.

Table 4: Designated Projects of Government Interest

Project Name	Organization	Project Description	Selection Date
Integrated resource management business solution (SAGIR) – Phase SGR7 – Payroll System	MCN	The SGR7 phase is designed to modernize the government's payroll system by replacing the current system. This project will better support the administration of employee compensation and benefits programs and make compensation management more efficient.	June 2018
Quebec Digital Identity Service Program (SQIN): 1 st project: Enhanced access to electronic services – Business and Citizens 2 nd project: Citizen digital identity	MCN	The SQIN program will simplify access to government online services, while limiting the amount of personal information disclosed on the basis of consent to share information to the essentials. The scope includes the implementation of a digital wallet to support citizens' digital identity.	May 2020
Consolidation of data processing centers (CCTI) and optimization of processing and storage	MCN	The CCTI program aims to consolidate the data processing centers of public organizations as well as those of institutions in the health and social services, education, and higher education networks.	June 2020
Face recognition	SAAQ	The facial recognition project aims to introduce a facial recognition solution for the optimization of the Société de l'assurance automobile du Québec's photo bank.	November 2021

In addition to the SQIN and CCTI projects, a fourth major government transformation project will be carried out by the Ministère de la Cybersécurité et du Numérique, namely the Government Telecommunications Network (GTR). Linked to the 2019-2023 Government Digital Transformation Strategy (GDS), the GTR will provide a range of advanced telecommunications services when completed.

PORTRAIT OF INFORMATION RESOURCES ASSETS

1. Inventory of Information Assets

Public bodies subject to the Act respecting the governance and management of information resources of public bodies and government enterprises must have and maintain an information asset inventory and conduct an annual assessment of their condition.

The information asset inventory is a permanent record of information assets that must be established and maintained by each government agency. Computer systems, infrastructure services and technology components are considered to be information assets.

Each of the systems and infrastructure services listed is subject to an annual condition assessment by the owning government agency. The results of this inventory analysis allows for the implementation of appropriate measures to ensure information security and service continuity offered by Québec.

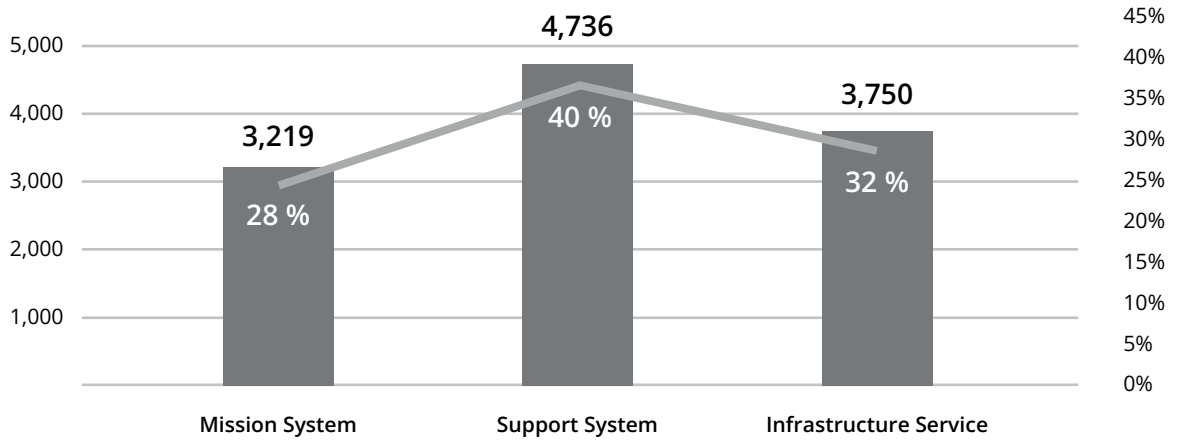
In a context of increasing cyber-attacks, aging legacy IT systems and increased reliance on information resources in the current pandemic management framework, knowledge of the inventory of information assets of public organizations is essential to enable the deployment of appropriate measures to ensure, among other things, information security and service continuity offered by the Gouvernement du Québec.

The asset information inventory of all public organizations, including those of the health and social services, education, and higher education networks, was completed at the end of 2021. Thus, 11,705 systems are registered in the Information Resources Asset Collection System (Système de collecte des actifs en ressources informationnelles [SCARI]).

Table 5: Definition of IT assets

Type	Sub-type	Definition
Computer system	Mission System	A system that operates within the core business of a public agency and is its <i>raison d'être</i> .
	Support System	A system that supports the common processes of a public organization (e.g., resource management, procurement management, communications management, legislation management).
Infrastructure Service		An integrated set of configuration items, which may include hardware and software, that is designed to meet a need or achieve an objective.
Technological components	Software	A set of software components and related data that provide instructions to a computer about what to do. The software is organized according to a software architecture and is deployed on a technological infrastructure.
	Hardware	Physical components of a computer system in the form of hardware. These items are: workstations, servers, network equipment, storage equipment, telephony and printers.

Figure 3: Number of Systems Identified by Type



In 2020, 3,992 systems were listed on the asset status, including 1,277 mission systems (32%), 1,635 support systems (41%), and 1,080 infrastructure services (27%). The total number of systems therefore increased 193.2% (7,713 additional systems) between 2020 and 2021, including 1,942 mission systems, 3,101 support systems, and 2,670 infrastructure services.

The observed increase in the number of systems is attributable to the inclusion of education, higher education, and health and human services network assets in the inventory.

2. Health Status of Information Assets

The information assets listed are assessed for their health status according to business and technical aspects. The business health status is intended to assess mission or support systems, while the technical health status assesses the status of infrastructure services according to criteria listed in Table 6.

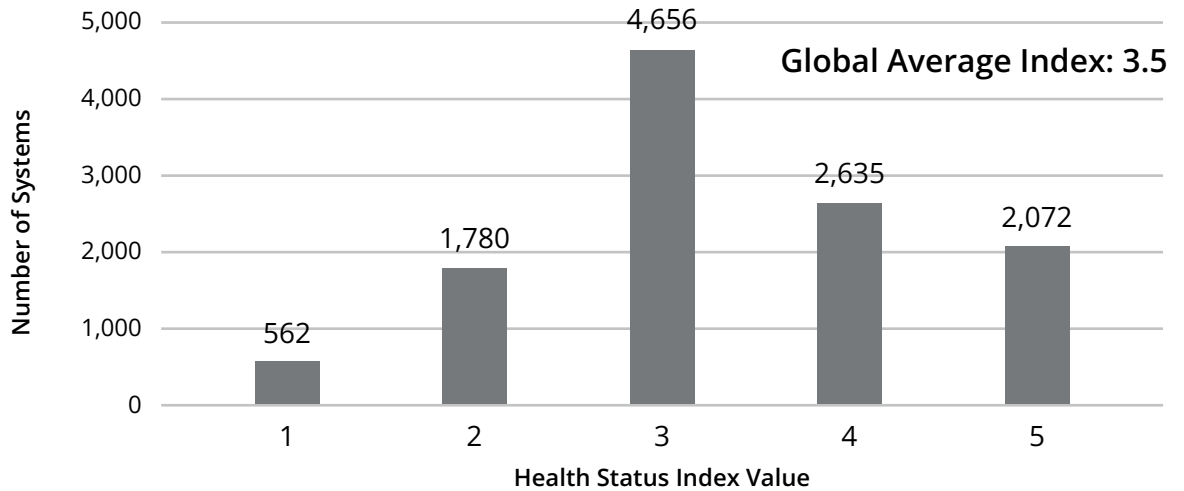
The health index, based on a scale of 1 to 5, provides a single, comparable presentation of the health of systems and services. This scale is ascending, meaning that a score of 1 reflects very poor health while a score of 5 reflects very good health.

Table 6: Health Status Assessment Criteria and Index

Business Health Status	Technical Health Status	Index			
		Index	Status		
Adequacy with current needs	Alignment with the architecture	5	Very good		
Matched with future needs	Technological sustainability				
Support ease	Ease of evolution				
Business documentation	System performance			4	Good
Information security needs	Technology expertise			3	Satisfactory
	Technical documentation	2	Poor		
	Compliance with security measures	1	Very Poor		

In 2021, the average asset health index for the inventory is 3.5 out of 5. The proportion of systems that score 3 out of 5 or higher is 79.9%.

Figure 4: Distribution of systems by health status index value in 2021



The overall index of information resource asset health remains unchanged from 2020. However, the proportion of systems that scored 3 or higher out of 5 was 73 percent, nearly 7 percentage points lower than the 2021 health status.

Figure 5: Distribution of systems by health status index value, years 2020 and 2021

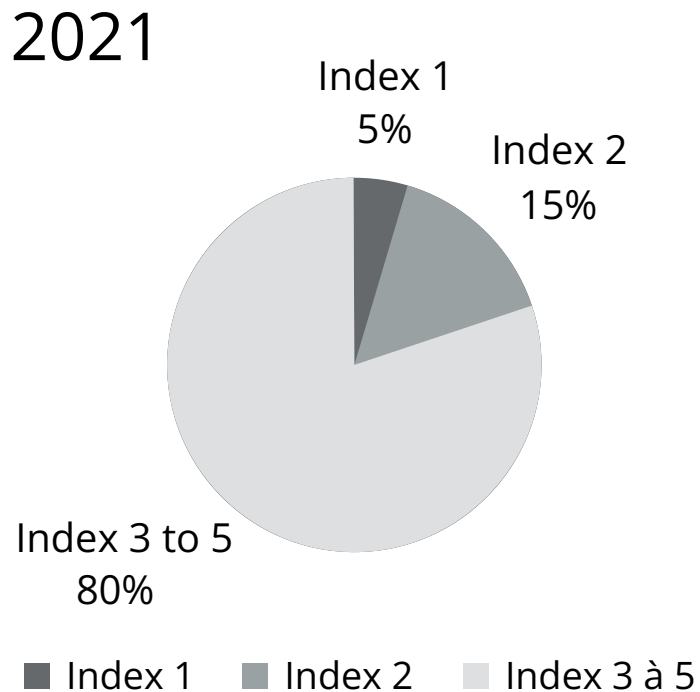
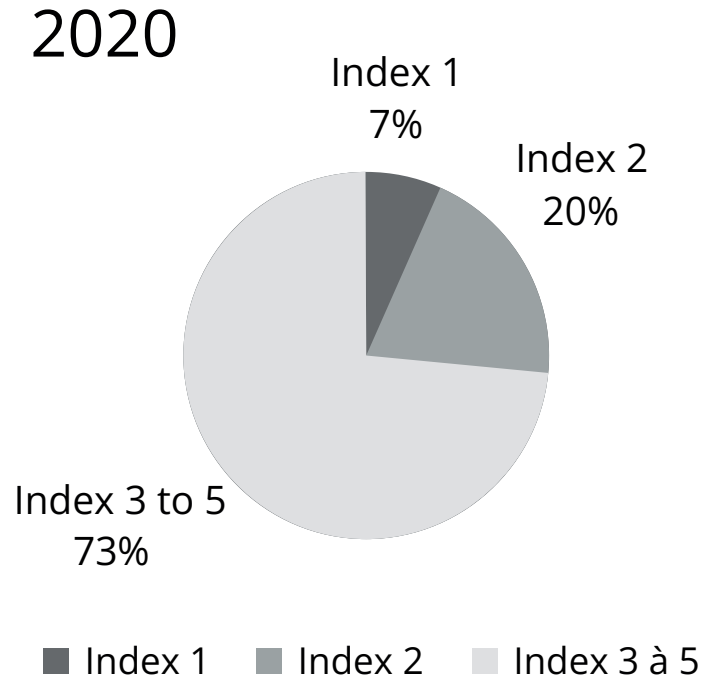


Figure 5: Distribution of systems by health status index value, years 2020 and 2021 (continued)



In general, infrastructure services have a better health index than other types of systems. In 2021, infrastructure services have an index of 3.9 out of 5, while the index is 3.4 for mission systems and 3.3 for support systems. The situation was similar in 2020; infrastructure services had a health index of 3.8 out of 5, compared to 3.2 for mission systems and 3.3 for support systems.

Table 7: Average index by type of system

	2021	2020	Difference
Mission System	3.4	3.2	0.2
Support System	3.3	3.3	0.0
Infrastructure Service	3.9	3.8	0.1
Total	3.5	3.5	0.0

INFORMATION RESOURCES STAFF

Since 2015, portraits of the workforce and the use of consultants assigned to information resources have been produced. As of 2020, all public agencies subject to the Public Agency and Government Enterprise Information Resources Governance and Management Act are now required to produce their information resources workforce portraits. As a result, the 2020 Workforce Snapshot report provides the most comprehensive overview to date, as it now includes public agencies in the education, higher education, and health and social services networks.

In 2020, 304 public agencies reported a total of 22,868 information resource personnel, of which 18,538 (81.1%) were internal resources and 4,330 (18.9%) were external resources.

The data is presented according to four ownership groups in order to comply with their distinct repositories and to insert scalable data for the public organizations to which this situation applies. The membership groups are defined as follows:

- Affiliation Group 1: Public bodies subject to the Act respecting the governance and management of information resources of public bodies and government enterprises, and whose personnel are appointed under the Public Service Act. Consists of 73 public bodies.
- Affiliation Group 2: Public bodies subject to the Act respecting the governance and management of the information resources of public bodies and government enterprises, and whose personnel are not appointed under the Public Service Act, with the exception of network public bodies. Consists of 42 public agencies.
- Affiliation Group 3: Education network (73 organizations), which includes mainly school service centers and school boards, and higher education network, which includes CEGEPs (48 organizations) and universities (19 organizations). Composed of 140 public organizations.
- Affiliation Group 4: Health and social services network, which includes various types of organizations (health institutions, health communication centers, non-budgetary organizations, and common procurement group). Composed of 49 public organizations.

Table 8 shows the change in the information resources workforce from 2015 to 2020 for affiliation group 1.

Table 8: Affiliation Group 1: Changes in internal and external resources and vacant positions

Resources	2015	2016	2017	2018	2019	2020
Internal	5,889	5,973	6,185	6,427	6,749	6,967
External	2,976	2,388	2,297	2,552	2,787	3,141
Total	8,865	8,361	8,482	8,979	9,536	10,108
% internal	66.4	71.4	72.9	71.6	70.8	68.9
% external	33.6	28.6	27.1	28.4	29.2	31.1
Vacant Positions	486	707	876	991	842	971
Internal and vacant positions	6,375	6,680	7,061	7,418	7,591	7,938
% vacant positions	7.6	10.6	12.4	13.4	11.1	12.2

Table 9 shows the change in information resources workforce from 2019 to 2020 for affiliation group 2.

Table 9: Affiliation Group 2: Changes in internal and external resources and vacant positions

Resources	2019	2020
Internal	2,000	2,296
External	475	543
Total	2,475	2,839
% internal	80.8	80.9
% external	19.2	19.1
Vacant positions	233	144
Internal and vacant positions	2,233	2,440
% vacant positions	10.4	5.9

Table 10 shows the breakdown of the information resources workforce within public organizations in affiliation group 3. There are 73 public organizations in the education network, 48 in the "Cegep" category and 19 in the "University" category.

Table 10: Affiliation Group 3: Internal, External Resources and Vacant Positions within public agencies of both networks

Resources	Affiliation Group 3	Education Network	Higher Education Network	
			Cegep	University
Internal	5,548	1,973	858	2,717
External	260	25	19	216
Total	5,808	1,998	877	2,933
% internal	95.5	98.7	97.8	92.6
% external	4.5	1.3	2.2	7.4
Vacant Positions	284	122	57	105
Internal and vacant positions	5,832	2,095	915	2,822
% vacant positions	4.9	5.8	6.2	3.7

Table 11 presents the information resource staffing of public sector organizations in affiliation group 4.

Table 11: Affiliation Group 4: Internal, External Resources and Vacant Positions

Resources	2020
Internal	3,727
External	386
Total	4,113
% internal	90.6
% external	9.4
Vacant positions	561
Internal and vacant positions	4,288
% vacant positions	13.1

