

ANNEX

Section 5. Terms of Reference

1 Introduction

1.1 BACKGROUND

The vision of the Government for an Intelligent and Smart Mauritius calls for a paradigm shift in our Government to Government interactions that advocates the sharing of centrally organised data amongst Government agencies to be governed by a policy that ensures compliance with Data Protection Act and appropriate IT security requirements. Moreover, provisions have been made in the Finance Act 2015 to explicitly facilitate the sharing of information in the public sector. Eventually the policy has to address the manner in which data may be shared with bodies outside Government (including private sector) with necessary safeguards in place.

One of the key instruments of the policy is the Government Service Platform-Mauritius Information Services Highway (GSP-MISH), which has been developed to specifically address sharing of data amongst Government and private agencies through web services. This is achieved through the model of ‘Publish and Subscribe’ whereby public data is being published by an authorized Government agency on the GSP-MISH highway and the same being consumed or subscribed by other Government agencies and private organisations.

The GSP-MISH platform has already been commissioned and enables the exchange of citizen data between the Civil Status Division as publisher and the Ministry of Social Security, National Solidarity and Reform Institutions as subscriber.

In the near future, the following agencies will be using the GSP-MISH for data sharing:

- National Transport Authority and Mauritius Post Limited

The Ministry of Technology, Communication and Innovation (MTCI) intends to carry out an assessment of data sharing needs amongst Government agencies and private organisations and adequacy of existing structures in order to formulate and implement a data sharing policy. Data Architect services will also be required to conceive the data sharing methodology (including data templates and standards), data architecture and governance in order to define how sharable data will be stored, shared, integrated and managed by the different stakeholders.

Consultant will assess gaps and recommend appropriate data sharing strategies together with the appropriate platforms and structures that will facilitate more effective, secured and efficient sharing of data amongst both public and private organisations.

1.2 OBJECTIVE OF THE ASSIGNMENT

The prime objective of the assignment would be the formulation of a data sharing policy to provide an enabling platform for proactive and open access to the data generated by various Government entities as well as Parastatal and private institutions, with emphasis on improving productivity, quality and service delivery.

The aim of this policy is to facilitate access to Government owned shareable data in machine readable form through a wide area network in a periodically updatable manner, within the framework of various related policies, acts and regulations, thereby permitting a wider accessibility and usage by the public. The policy should be in tune with the vision, mission and objectives of MTCL.

The data sharing demand assessment would aim at reviewing the actual needs for an efficient and effective networked Government, current availability of infrastructure, systems, legal and regulatory environment of data sharing and data protection at national level. The data sharing framework will eventually generate gains in effectiveness and efficiency in public service delivery, bring about cost savings in terms of reduction in the infrastructure required for data storage, reduction in data inconsistencies and establish a framework to promote innovation in government applications, while at the same time enhancing government transparency, accountability and public engagement.

2. Scope of the assignment

The scope of this Consultancy will cover the following (this is a non-exhaustive list):

Data Sharing Needs and Assessment

1. Development of methodology for undertaking data sharing needs assessment using a holistic approach that includes Governmental, Parastatal and private bodies. Consultant should develop a methodology that would identify criteria for selection of organisations that would be involved in data sharing. The methodology should also be based on assigning scores to variables such as cost, demand, availability of back end systems, and a multiplier effect for specific data sharing needs.
2. Assessment and prioritization of demand for sharing of data amongst Government agencies. A data sharing needs survey should be conducted to identify needs for sharing data in the public sector. The survey should have qualitative and quantitative elements including a data dissemination analysis to determine the nature and quantum of public data, usefulness of the data and opportunities for sharing together with a comprehensive inventory of sharable public data holdings and modality for sharing the identified data. Based on the results of the survey, the sharable public data shall be categorized as High,

Medium and Low Priority areas. The results when analysed, will give a clear mandate about the Government agencies and public data to be focused on with respect to data sharing.

3. A full assessment of the current state of the data sharing process amongst Government, Parastatal and private agencies and the use of the existing infrastructure and framework for data sharing. Consultant should also carry out a complete assessment of the GSP-MISH together with its governance policy that makes provision for the framework of compliance, business practices, responsibilities of both public and private sectors, operating model and participation pricing model and based on the assessment provide appropriate recommendations for incorporating the governance of the GSP-MISH as part and parcel of the data sharing policy.

Legal, Institutional and Regulatory Framework

4. Assessment of existing legal, institutional and regulatory framework, identification of gaps and make appropriate recommendations for implementing adequate Policy, Legal and Regulatory framework adequate for sustaining a comprehensive data sharing model. Some of the aspects would include regulations on information management, data security, data protection, data quality, data archiving, digital preservation and cyber security amongst other regulatory framework across Government.

Best Practices for Data Sharing

5. Assessment of data sharing policies, framework and data architect strategies currently being used worldwide and analysis of best practices.
6. Formulation and development of a data sharing strategy based on a mix of the models assessed at paragraph 4.

Data Sharing Policy

7. Formulation of a Data Sharing policy for the governance of such a strategy based on the principles of Openness, Flexibility, Transparency, Legal Conformity, Inter-operability, Quality, Security, Efficiency, Accountability, Sustainability and Privacy for data sharing and accessibility.
8. Moreover, the Data Sharing policy should address the following salient features:
 - Purpose of the data sharing initiative.
 - The organisations (both public and private) that will be involved in the data sharing.
 - Data items to be shared.

- The modalities for sharing the identified data items.
 - Basis for sharing, including conditions under which such sharing is permitted.
 - Access rights and type of access to be granted to organisations (both public and private).
 - Information governance to ensure that all organisations (both public and private) involved in the sharing:
 - Have detailed advice on which datasets may be shared.
 - Make sure the data being shared is accurate.
 - Have common rules for the retention and deletion of shared data items and procedures for dealing with cases where rules are different.
 - Have common technical and organisational security arrangements, including for the transmission of data and procedures for dealing with any breach of the agreement.
 - Have timescale for assessing the ongoing effectiveness of the data sharing initiative and agreement that governs it.
 - Have procedures for dealing with the termination of the data sharing initiatives, including deletion of shared data.
 - Data sharing requests and agreement amongst the different agencies (both public and private) that will be sharing data.
 - Pricing/subscription model, licensing, usage costs, and regulations for all organisations (both public and private) involved in the data sharing.
 - Legal and regulatory framework with respect to data sharing.
 - Any other related aspects that are required for the proper implementation of the data sharing strategy devised at paragraph 6.
9. The Data Sharing policy should also make provisions for the governance of the GSP-MISH based on the recommendations identified at paragraph 3 while at the same time be kept in tune with the current e-Government Strategy.

Data Architecture

10. Provision of Data Architect services to conceive the data sharing strategy, data architecture and governance in order to define how sharable data will be stored, shared, integrated, protected and managed by the different stakeholders.
11. Design and development of data standards, formats, templates and data sets.
12. Setting up of adequate data architecture and structures for data security, data quality, data preservation and archival, and interoperable systems.

- 13.** The data sharing methodology should be based on the following principles (non-exhaustive list):
- Completeness – Datasets should be as complete as possible, reflecting the entirety of what is recorded about a particular subject.
 - Primary – Datasets should be primary source data. This includes the original information collected by the owner, details on how the data was collected and the original source documents recording the collection of the data.
 - Timeliness – Datasets should be available to the public in a timely fashion. Whenever feasible, information should be released as quickly as it is gathered and collected. Priority should be given to data whose utility is time sensitive.
 - Ease of Physical and Electronic Access – Datasets should be as accessible as possible, with accessibility defined as the ease with which information can be obtained, whether through physical or electronic means.
 - Machine readability - Machines can handle certain kinds of inputs much better than others. Information shared in the widely used PDF format, for example, is very difficult for machines to parse. Thus, information should be stored in widely used file formats that easily lend themselves to machine processing.

Evaluation of Proposed Framework

- 14.** Evaluation of regular amendment/revision of the proposed framework.
- 15.** Evaluation of the complexity of managing the proposed framework and recommend accordingly.

Project Management

- 16.** Development of an action plan with project time frames and highlighting relevant issues in connection with the implementation of the proposed data sharing framework.
- 17.** Assessment of all potential risks and threats with recommendations for mitigating them with appropriate controls in order to provide IT security requirements.
- 18.** Advice on the setting up of the implementation mechanisms - how to involve different stakeholders, setting up of steering committee, etc.
- 19.** Any change management issues to ensure successful implementation.
- 20.** A comprehensive outcome-based monitoring and evaluation process for recommended data sharing initiatives.

Workshops

21. Organisation of appropriate workshops to create awareness on data sharing amongst both public and private organisations and presentation of the Data Sharing Policy.

Others

22. Any other related activity for the proper implementation of the data sharing strategy.

3. Reporting and Timeframe

The consultancy assignment would be for a period of about 3 months. However bidders can propose alternative time frames with justification.

The Consultants shall submit a proposal indicating a work plan to carry out the assignment and provide the Data Architect services and Data Sharing Policy on the basis of the present Terms of Reference and to cover other aspects, which in their opinion are deemed essential for completing the assignment.

A Steering Committee would be set up to guide and oversee the assignment. This Committee will include, inter alia, representatives from:

- Prime Minister's Office (PMO)
- Ministry of Technology, Communication and Innovation
- Central Informatics Bureau (CIB)
- IT Security Unit (ITSU)
- Ministry of Finance and Economic Development
- Ministry of Public Infrastructure and Land Transport
- Ministry of Education and Human Resources, Tertiary Education and Scientific Research
- Ministry of Health and Quality of Life
- Ministry of Social Security, National Solidarity and Reform Institutions
- Ministry of Civil Service and Administrative Reforms
- Attorney General's Office (AGO)
- Civil Status Division (CSD)
- Passport and Immigration Office (PIO)
- Statistics Mauritius
- The Mauritius Police Force
- Consultancy Firm; and
- Other relevant authorities

The responsibility of the Steering Committee would include reviewing the reports submitted by the consultants and make recommendations and suggestions. All deliverables will be submitted to the Steering Committee for endorsement.

3.1 Deliverables

The following reports are expected from the consultants during the consultancy exercise:

3.1.1 Inception Report

Within three (3) weeks after the start date, the Consultant will provide the Steering Committee with an inception report outlining any proposed revisions to the programme following a detailed review of the situation and initial discussions with the relevant stakeholders.

3.1.2 Data Dissemination Report

Within five (5) weeks after the start date, the Consultant will provide the Steering Committee a data dissemination report outlining the nature and quantum of public data, usefulness of the data and opportunities for sharing together with a comprehensive inventory of sharable public data holdings and modality for sharing the identified data.

3.1.3 Progress Report

Each month a progress report will have to be submitted summarising the achievements in the past month, progress in the overall programme, any suggestions/recommendations for the effective continuation of the project and proposed activities for the coming month.

3.1.4 Interim Data Sharing Policy and Data Architecture Report

An interim report will have to be submitted after nine (9) weeks of the submission of the inception report for discussion and amendments by the Steering Committee. A presentation of the major aspects of the report should also be made to the Committee. The Steering Committee will react within one (1) week of submission of the interim report.

3.1.5 Final Data Sharing Policy and Data Architecture Report

Upon receiving comments of the steering committee, the consultant will amend the interim report and submit a final report within two weeks of receipt of the comments.

All documents (reports, presentations) developed for/during the course of the consultancy services must also be provided in soft copy.

3.2 Phasing of Reports and Proposed Time Schedule

Documents	No of Copies	No. of Weeks/Months After Start
Inception Report	3	2 weeks
Data Dissemination Report	3	5 weeks
Progress Reports	3	Month 1 and Month 2
Interim Data Sharing Policy and Data Architecture Report	3	9 weeks
Final Data Sharing Policy and Data Architecture Report	3	12 weeks

4. Profile of Personnel

The team shall comprise a **Team Leader and at least two (2) Data Architects**. The expert who will be acting as Team Leader should be clearly identified. All experts proposed should be available in Mauritius during the consultancy exercise.

The **Team Leader and each of the two (2) Data Architects** should preferably have the following qualifications, experience and expertise:

Qualifications, Experience and Expertise	Team Leader	Data Architect
Qualifications	<ul style="list-style-type: none">• Graduate in the field of Law, Economics, Public Policy or any other related field acceptable to the Client.• Postgraduate qualifications will be an advantage.	<ul style="list-style-type: none">• Graduate in the field of Information and Communication Technologies or any other related field acceptable to the Client.
Experience in the field of the assignment	<ul style="list-style-type: none">• Minimum of 5 years but preferably 10 years experience in the field of the assignment with specific experience in formulation and implementation of policies, legal and regulatory framework in the public or private sector or at the national level.	<ul style="list-style-type: none">• Minimum of 5 years experience in the field of the assignment with specific experience in providing data architect services for policy implementation in the public or private sector or at the national level.
Expertise	<ul style="list-style-type: none">• Have preferably carried out at least 1 project of similar nature.	<ul style="list-style-type: none">• Involved in at least 1 project of similar nature.

Firms may propose a range of experts. However, for evaluation purpose, only the **three (3)** best qualified consultants (consisting of a **Team Leader and two (2) Data Architects**) in terms of academic qualifications and experience, preferably with experience in projects of similar nature will be considered.

The retained experts may be replaced only with prior written consent of the Client.