



Republic of Mauritius



Ministry of Public Service, Administrative and Institutional Reforms



Sandbox Framework for Adoption Of Innovative Technologies in the Public Service



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1.0 Background

The present local and international environment calls for a faster and, more agile approach to harness emerging and innovative technologies in Government. Decisions can no longer be postponed, particularly, when economic recovery and growth will be largely driven by technology and innovation.

Innovative procurement is gaining momentum around the world, particularly in European Countries. The European Commission is involved in developing forward-looking innovative procurement strategies and aims at promoting the demand for innovative goods, services and works in Europe. In this context, Mauritius should benchmark from international best practices in the area of public procurement of innovative technologies and take advantage of new tools which contribute to improve Government Service Delivery.

The present Procurement Framework does not provide appropriate space for Ministries/Departments to venture in implementing projects through proof of concept models or pilot basis before scaling up into a fully comprehensive solution. “Proof of concept” refers to any solution that is proven to work on a small scale prior to its implementation to a larger scale.

The intake of technology requires that appropriate specifications are defined and that sometimes lengthy procurement exercises are conducted. This model has its limits as it puts the onus on the Public sector organisations to decide on the type of technology solution to adopt along with pre-defining its immediate and long term costs.

In many cases, public sector organisations do not have such knowledge or capacity to implement such initiatives. They have no choice than to resort to the services of a Consultant which again entails a lengthy procurement procedure. There are many cases whereby the solution adopted has been ultimately found not to be relevant or come with ancillary costs/changes which were not factored in originally. Had this

aspect been known beforehand, Government might not have opted for the solution.

With a view to encourage adoption of innovative technologies in the Public Sector, Government announced in the Budget Speech 2020-2021 the introduction of a new Sandbox Framework to facilitate development of proof of concepts and pilots exercises to test the possibilities of innovative technologies.

The Budgetary measures announced in the **Budget Speech 2020/2021** are reproduced hereunder:

(i) Para. 218.

“Furthermore, a new sandbox framework will be introduced to facilitate development of proof of concepts and pilot exercises to test the possibilities of innovative technologies”.

(ii) Annex to Budget Speech 2020/2021

B.5. Digital Transformation

“A Public Sector Transformation Scheme (PSTS) will be introduced by the Mauritius Research and Innovation Council (MRIC) to encourage innovative companies and start-ups to develop applications for the public sector.”

Consequently, the Public Procurement Act was amended under the Finance (Miscellaneous Provisions) Act 2020 as follows:-

By inserting “25A. Sandbox for innovative technologies

- (1) A public body may, for the procurement of its innovative technology or other systems, request one or multiple suppliers to submit proof of concepts or prototypes.*
- (2) A supplier referred to in subsection (1) may be entitled to payment by the public body.*

- (3) *A public body shall assess the proof of concepts or prototypes and may ask for modifications to be brought by any supplier and approve or reject them.*
- (4) *A public body may use the proof of concepts or prototypes for its own purposes and for eventual procurement in accordance with section 15.”*

2.0 The Sandbox Framework: Principles and Objectives

2.1 The Sandbox Framework

A Sandbox framework allows business start-ups and other innovators to conduct live implementation/experiments in a controlled environment under supervision and according to the agreed set of terms and conditions for a defined period. It can, thus, be defined as testing grounds for emerging business models. Under the Sandbox Framework, interested companies (local or international as well as incubators) will be required to offer a Minimum Viable Product (MVP), that is, a version of the new product with sufficient features, to allow the public organisation to evaluate its appropriateness with the least efforts and resources. The final complete set of features will be designed and developed only after considering user feedback and ensure compliance with the set requirements.

The present Sandbox Framework will benchmark on the two approaches of the European Assistance for Innovation Procurement (EAFIP), which are: ‘**Pre-Commercial Procurement (PCP)**’ and ‘**Public Procurement of Innovative Solution (PPI)**’. While PCP focuses on the development of solutions on a pilot basis, prior to commercialization, PPI concentrates on the commercialization/diffusion of solutions.

2.1.1 Pre-Commercial Procurement

PCP is an innovative procurement practice that allows public organisations to work with the industry to define the specifications for new/ non-existing services. It is adopted when there is a need for the development of new solutions and tested on a pilot basis. PCP is a

specific approach to procure services that involve competitive development in phases, risk-benefit sharing under market conditions, and where there is a clear separation between the PCP and the deployment of commercial volumes of end-products (potential follow-up PPI).

2.1.2 Public Procurement of Innovative Solution

PPI focuses on innovative solutions which are not yet available on a large-scale commercial basis. This also includes solutions based on existing technologies that are used in a new innovative way. The solutions may have been (partially) demonstrated with success on a small scale (e.g. field testing of a first batch of products) and may be nearly or already available in small quantity on the market. However, due to residual risk or market uncertainty, the innovations are not being produced at large scale yet and do not meet the market price/quality requirements of the public sector for wide deployment yet.

The Public Body will, thus, act as a launching customer / early adopter / first buyer for innovative products and services that are new on the market by announcing its intention to buy a critical mass of innovative solutions to trigger industry to bring products on the market with desired quality / price ratio within a specific time. After verification if the market was able to deliver the desired quality/price – e.g. via a test and/or certification - the public body may buy a significant volume of innovative solutions.

PPI is, thus, complementary with PCP, as PPI can enable larger scale deployment of solutions that were developed in small quantity in a preceding PCP. PPI can also be used independently, to bring to the market innovative solutions that do not result from prior development and pilot testing but for instance, from organisational or process innovation.

2.2 Objectives of the Sandbox Framework

The objectives of the Sandbox Framework are:

- ▶ To enable Ministries/Departments to venture in the adoption and implementation of innovative technology solutions or other systems through proof of concept models/pilot basis, on a set scale, key performance indicators and timeframe, on a non-committal and prejudice basis to Government;
- ▶ To attract local or international service providers as well as incubators to share their expertise on innovative technologies or other systems;
- ▶ To create an ideal space to encourage the development and testing of innovative solutions or other systems and collaboration between the public and private sector;
- ▶ To provide deeper insights on the technology solution prior to deployment, thereby enabling Ministries/ Departments to better understand what it entails; and
- ▶ To monitor the sustainability and minimise potential risks of the innovative technology solutions, as well as how it can be developed within existing framework or, if necessary, tailor-made for a particular situation.

3.0 Benefits of the Sandbox Framework

The benefits accruing from a Sandbox Framework are varied and include the following:

- (i) Allow a more flexible and quicker enrolment of internationally or locally recognized solution providers and incubators to tap into the adoption of innovative technologies in Government;
- (ii) Help in defining a set timeframe for running, monitoring and understanding the technology solution along with all caveats attached (costs, change management, legal and others);
- (iii) Foster '*learning by doing*'. The organisation will obtain first-hand empirical evidence on the benefits and risks of emerging

technologies and their implications, enabling them to take a considered view on the technology solution, while containing the associated risks. This will also help in avoiding cost overrun, poor design, outdated technology and scenarios of ‘not fit-for-purpose’;

- (iv) Users can test the social and economic viability of the technology solution without the need for a larger and more expensive roll-out, if it appears to have the potential to be successful. If any concerns arise, during the sandbox period, appropriate modifications can be made before the solution is launched on a larger scale;
- (v) Allow projects which are not successful to fail at a much smaller and manageable scale and be closed; something which is presently difficult and a barrier for Public Sector Organisations to venture on the adoption of new processes and technology solutions; and
- (vi) Ease the adoption of innovative technologies or other systems which will lead to the modernisation and transformation of the Public Service by fostering improved work processes and in turn, better provision of services to both internal and external customers.

4.0 The Risks and Limitations of the Sandbox Framework

- (i) Technology solution providers may lose some flexibility and time in going through the Sandbox Framework process in the context of the Public Sector. However, running the Sandbox Framework in a time-bound manner at each stage can mitigate this risk.
- (ii) There is potential for some legal issues coming up, such as those relating to consumer losses in case of failed experimentation. Such instances may not have much legal ground if the Sandbox Framework and processes are transparent and have clear entry and exit criteria. Upfront clarity that liability for customer or business risks, shall devolve on the entity entering the Sandbox Framework, will be important in this context.
- (iii) Lack of knowledge and comfort from stakeholders to embrace the adoption of innovative technologies and other systems.
- (iv) Inadequate staffing and resources.

- (v) Resistance to adopt the innovative technologies/solutions or other systems.
- (vi) Uneven playing field for participants.

5.0 The Sandbox Framework Eligibility Criteria

The target applicants for entry in the Sandbox Framework are organisations (local/international) including incubators that are eager to enter an agreement and provide innovative technology solutions on a pilot basis in Ministries/Departments, subject to the Sandbox criteria laid down in the guidelines.

The focus of the Sandbox Framework will be to encourage innovations intended for use in the Mauritian Public Service, in areas where the proposed innovation shows promise of easing/effecting service delivery in a significant way.

6.0 Criteria for Selection of Participants for the Sandbox Framework

Every applicant shall satisfy the following conditions:

Local and International Organisations	Incubators
1. It should be a company incorporated, including an incubator and registered in Mauritius or abroad. The promoter(s)/director(s) of the entity should be fit and proper.	1. Incubators should be accredited by the Mauritius Research and Innovation Council (MRIC) or Ministry of Information Technology, Communication and Innovation (MITCI) .The promoter(s)/ director(s) of the entity should be fit and proper.
2. The financial situation of the entity as well its promoter(s)/director(s) should be satisfactory.	2. The entity should demonstrate that the products/services are technologically ready for deployment in the broader market, or at least a working prototype.

<p>3. The entity must have a good track record in the provision of similar solutions.</p> <p>4. The entity should demonstrate that the products/services are technologically ready for deployment in the broader market.</p> <p>5. The entity must demonstrate arrangements to ensure compliance with the existing regulations/Laws on consumer data protection and privacy.</p> <p>6. There should be adequate safeguards built in its IT systems to ensure that it is protected against unauthorized access, alteration, destruction, disclosure or dissemination of records and data.</p> <p>7. The entity should have a robust IT infrastructure and managerial resources. The IT systems used for end-to-end sandbox processing shall provide end-to-end integrity of information processing.</p>	<p>3. The entity must demonstrate arrangements to ensure compliance with the existing regulations/laws on consumer data protection and privacy.</p> <p>4. There should be adequate safeguards built in its IT systems to ensure that it is protected against unauthorized access, alteration, destruction, disclosure or dissemination of records and data.</p>
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The entities shall additionally satisfy the following conditions:	
1.	The proposed innovative solution should highlight an existing gap in the service delivery of public sector organisations and the proposal should demonstrate how it would address the problem, and bring benefits to citizens or the public service and/or perform the same work more efficiently. Alternatively, the applicants should demonstrate that there is a relevant barrier that prevents deployment of the product/service at scale, or a genuinely innovative and significantly important product/service/solution is proposed for which relevant regulation is necessary but absent.
2.	The test scenarios and expected outcomes of the sandbox experimentation should be clearly defined, and the public organisation should report on the test progress, based on an agreed schedule.
3.	The appropriate boundary conditions should be clearly defined for the Sandbox Framework to be meaningfully executed while sufficiently protecting consumers' privacy.
4.	An acceptable exit and transition strategy should be clearly defined in the event that the proposed innovative solution has to be discontinued, or can proceed to be deployed on a broader scale after exiting the Sandbox Framework.
5.	The applicants shall be required to share the results of Proof of Concept (PoC)/testing of use cases including any relevant prior experiences before getting admission into the Sandbox Framework for testing, wherever applicable.
6.	Significant risks arising from the proposed innovative solution should be assessed and a mitigation plan shall be submitted.

7.0 The Sandbox Process and its Stages

A detailed sandbox process, including the testing of the products/innovations by the private entities, shall be overseen by the Ministry/Department and the Ministry of Public Service, Administrative and Institutional Reforms (MPSAIR) through the Public Sector Business Transformation Bureau (PSBTB), along with the participation of domain experts.

7.1 Embarking on the Sandbox Framework

Different approaches can be adopted to embark on the Sandbox Framework. These are:

1. Ministries and Departments can identify innovative projects they wish to implement on a pilot basis after discussion with the PSBTB and/or the Programme Manager of the Central Informatics Bureau (CIB). The respective Ministry/Department will, thereafter, channel the proposal to MPSAIR.
2. The MPSAIR (PSBTB) can identify Business Transformation Initiatives (BTIs) of Ministries/Departments and propose the latter to embark on the Sandbox Framework.
3. A platform will be available for local and international organisations, including incubators, to enable them to provide inputs on innovative technologies that can have a direct and positive impact on the Government Service Delivery.

7.2 Implementation Mechanism

As the Sandbox Framework involve major technical issues, organizational change and financial implications, the implementation mechanism will involve a Steering Committee and a Technical Committee. The **Steering Committee** will comprise Public and Private Sector representatives and will be chaired by the Secretary for Public Service. The composition and terms of reference of the Steering Committee will be as follows –

(i) Composition -

- a) a representative of the Ministry of Finance, Economic Planning and Development;
- b) a representative of the Ministry of Information Technology, Communication and Innovation;
- c) a representative of Business Mauritius;
- d) the Executive Director of the Mauritius Research and Innovation Council; and
- e) the Chief Executive Officer of SME Mauritius Ltd.

(ii) Terms of Reference -

- a) to oversee the implementation of the framework;
- b) to address operational issues pertaining to the implementation of the projects;
- c) to approve projects to be implemented under the framework; and
- d) to supervise and monitor the execution of the whole implementation process.

The **Technical Committee** will be the technical arm of the Steering Committee and will be mainly responsible for examining projects from Ministries and Departments, identifying appropriate Service providers on the basis of established criteria and making appropriate recommendations to the Steering Committee. The proposed composition of the Technical Committee will be as follows-

(i) Chairperson

Assistant Director of the Public Sector Business Transformation Bureau (MPSAIR)

(ii) Members

- Chief Technical Officer of the Ministry of Information Technology, Communication and Innovation;

- Director of the Central Informatics Bureau;
- Director of the Central Information System Division;
- Executive Director of the National Computer Board;
- A representative of the Mauritius Research and Innovation Council; and
- A representative of the Ministry of Finance, Economic Planning and Development.

7.3 The Sandbox Process

Once an initiative and/or an innovative solution has been identified or proposed, the Steering Committee will decide on the feasibility of the initiative and/or the validity of the proposals made by local and international organisation including incubators. Once agreeable, an invitation for expression of interest will be issued to either local and international organisations, incubators or both, following which a screening will be carried out by the Technical Committee to check the eligibility of the participants and eventually select one or more Service Provider(s) to operate under the Sandbox Framework.

The Service Provider(s) will be allowed to operate under the Sandbox Framework and develop a prototype of the innovative solution to be tested on a pilot basis. An evaluation of the prototype(s) will be made and if successful, the most appropriate innovative solution will be recommended for full-scale procurement under Section 15 of the Public Procurement Act, 2006 (PPA). **Figure 1** below illustrates the Sandbox Framework process.

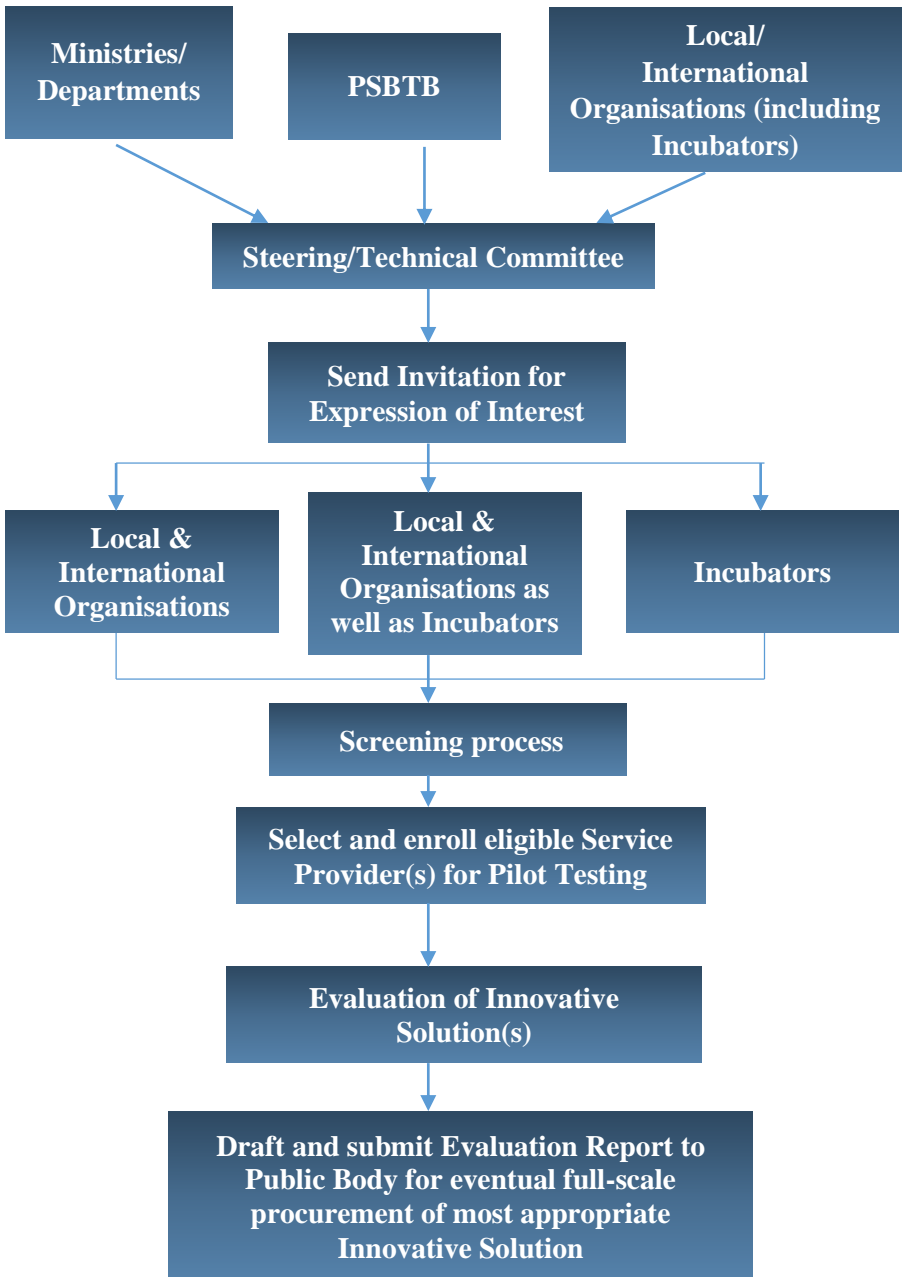


Figure 1 – The Sandbox Framework Process

Once the report has been submitted to Public Bodies, they can opt one of the various procurement methods as per Section 15 of the PPA, depending on the circumstances and nature of the innovative solution and entities providing it. It is understood that the CIB and MITCI will be involved in drafting specifications for full-scale deployment of the innovative solution.

7.4 The Stages and Timelines

7.4.1 Screening and Selection of Service Provider

This phase may last for four weeks from the closure of application window (where applicable). The applications shall be received by the Steering Committee and evaluated by the Technical Committee against set eligibility criteria. It should be ensured that the applicant(s) clearly understands the objectives and principles of the Sandbox Framework and conforms to them.

7.4.2 Test Design

This phase may last for four weeks. The Technical Committee along with the public organisation shall finalize the test design through an iterative engagement with the applicant(s) and identify outcome metrics for evaluating evidence of benefits and risks.

The Technical Committee and the public organisation shall vet the test design and propose modifications, if any.

7.4.3 Testing

This phase may last for a maximum of twelve weeks. The Technical Committee and the public organisation shall generate empirical evidence to assess the tests by close monitoring.

7.4.4 Evaluation Report

This phase may last for four weeks. The final outcome of the testing of products/services/technology as per the expected parameters including viability/ acceptability under the Sandbox Framework shall be confirmed

by the Steering Committee, which shall assess the outcome of the test and decide on whether the innovative solution is viable and acceptable. An evaluation report will eventually be prepared by the PSBTB and submitted to the respective Ministry/Department.

8.0 Statutory and Legal Requirements

- (a) Upon the signature of an agreement, the applicant(s) becomes the entity responsible for operating in the Sandbox Framework. The Ministry/Department will provide the appropriate support where necessary, for the duration of the implementation of the Sandbox Framework. The Ministry/Department shall bear no liability arising from sandbox process. However, in case of any cost implications, the Ministry may consider funding pilot projects up to the tune of Rs 500,000 per project to incentivise local and international service providers to offer their services under the Sandbox Framework. Such fees need to be agreed by both parties, in advance and payable at the end of the Sandbox contract.
- (b) Upon successful experimentation and on exiting the Sandbox Framework, the entity(ies) must fully comply with the relevant procurement and other requirements. The applicant(s) should clearly understand(s) the objectives and principles of the Sandbox Framework. It must be emphasized that the Sandbox Framework is not intended and cannot be used as a means to circumvent legal and regulatory requirements.
- (c) At the end of the Sandbox period, the Sandbox entity(ies) must exit the Sandbox Framework.

9.0 Transparency and Disclosure

- (a) Outreach with stakeholders, clear and adequate information dissemination on the Sandbox Framework is important. The Ministry/Department will communicate the entire Sandbox process including its launch, theme of the cohort, successful applicants selected for the Sandbox Framework, entry and exit criteria and

products/services found viable and acceptable under the Framework, through its official website.

- (b) The Ministry/Department shall reserve the right to publish any relevant information about the Sandbox Framework applicants on its website, including for the purpose of knowledge transfer and collaboration with other international agencies, without revealing any proprietary/intellectual property rights related information.

10.0 Follow up and Post Implementation

After the submission of the evaluation report following the closure of the sandbox initiative, the PSBTB will follow up and support the Public Body on the way forward for a full scale implementation of the innovative project in line with Section 15 of the Public Procurement Act.

In case of project failure, the lessons learned for both parties will be captured in a report and available to parties concerned for corrective actions to be envisaged.

11.0 Signature of Agreement

An agreement will be entered between the service provider(s) and the public body on mutually agreed terms and conditions.

References

European Commission (2019), European Assistance For Innovation Procurement (EAFIP) Toolkit, [Online] Available on: <https://eafip.eu/toolkit/> (Accessed 05/09/20).

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