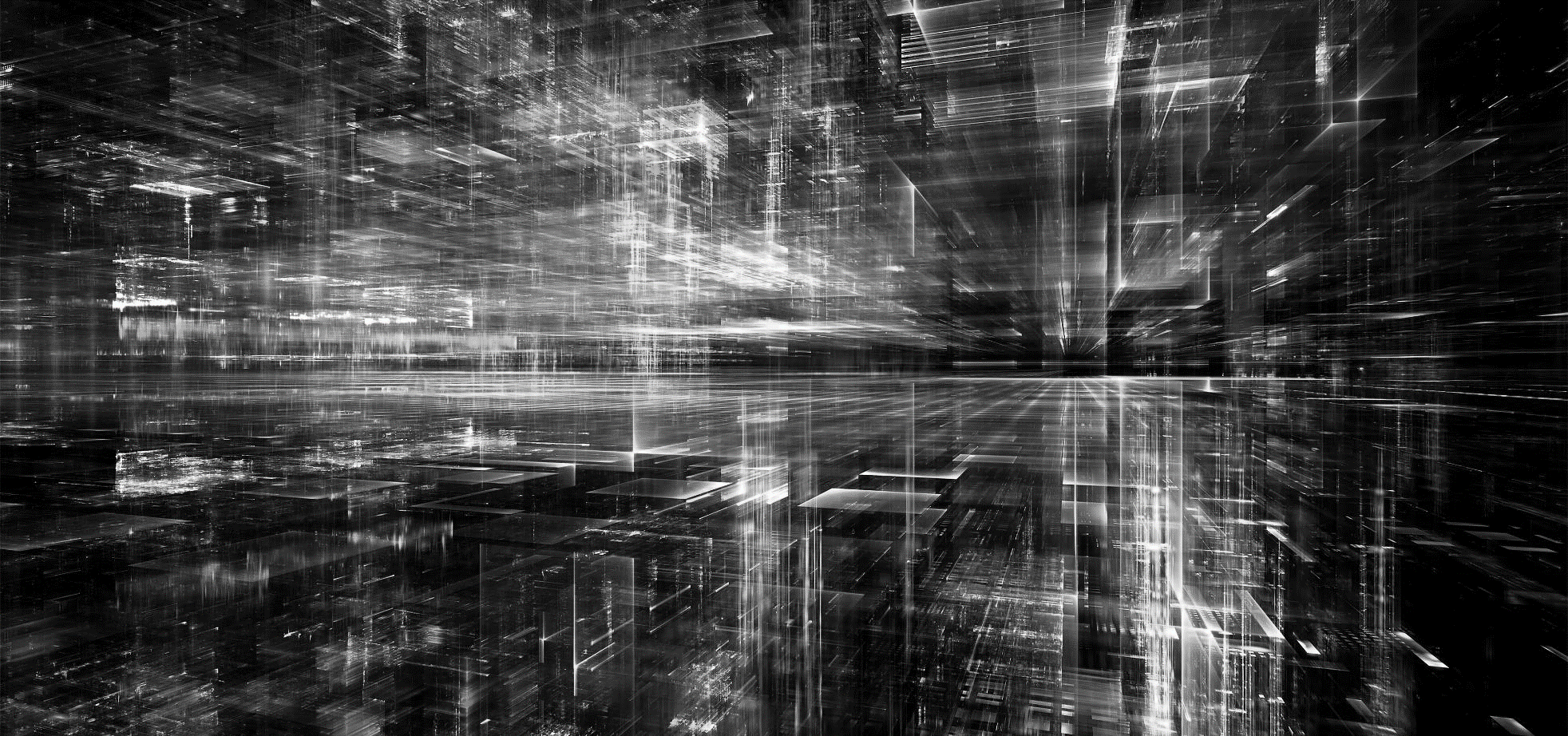
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Request For Information (RFI)

Payment System – Pakistan

April 13, 2018

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# Request for information (RFI)

**This notice is placed by Karandaaz Pakistan. You are requested to direct all your queries to the Karandaaz Pakistan office in Islamabad using the e-mail address provided below.**

**Country: Pakistan**

**Title of RFI:** **Payment System technical implementation on turnkey basis**

**Sector:** Financial sector

**Date of RFI publication:** April 13, 2018

**Closing date of RFI:** April 30, 2018

**Project duration:** September 2018 to March 2020

**Address RFI response to:** Procurement Team

**RFI number:** 10

**E-mail address:** [procurement@karandaaz.com.pk](mailto:procurement@karandaaz.com.pk)

Karandaaz Pakistan (Karandaaz), in coordination with the State Bank of Pakistan (SBP), intends to develop a new real-time retail payment system for Pakistan. The purpose of this RFI is to identify a potential technical implementation partner to help develop and implement a Payment System (PS) that provides low-cost, open-loop, push-based payment capabilities nationally. The PS is expected to adhere closely to the Bill & Melinda Gates Foundation’s Level One Project (<https://leveloneproject.org>).

Karandaaz was established in 2014 and registered with the Securities and Exchange Commission of Pakistan as a not-for-profit organization. It promotes access to finance for small businesses through commercially directed investments and financial inclusion for individuals.

Leading international development finance institutions support Karandaaz financially and institutionally, especially the **UK Department for International Development (DFID)** and the **Bill & Melinda Gates Foundation (BMGF).**

# Background – the need for a Payment System

The **Payment System (PS)** will fit under the **Digital Financial Services (DFS)** unit (one of the four main cores of Karandaaz) which focuses on expanding the poor’s access to digital financial services in Pakistan. The DFS unit facilitates the digitization of government and other payment streams, encourages experimentation with businesses, and supports innovative DFS start-ups.

The unit focuses on providing increased access to digital financial services in line with the National Financial Inclusion Strategy (NFIS). The NFIS identifies the need for infrastructure to support low value interbank credit and debit transfers, bulk payments, and instant transfers as one of the cornerstones for the success of a stable and inclusive financial system in Pakistan.

While Pakistan has made several important strides to improve the safety and efficiency of payments, the payments infrastructure requires further development to support financial services to become more inclusive, open to digital and branchless banking service providers, and other financial institutions creating solutions to advance financial inclusion.

The creation and implementation of a PS are critical steps toward helping the less privileged access financial services and thereby enabling them to improve their financial lives. The cost barriers to reaching this segment of the population with financial services will be reduced substantially with this foundational work, paving the way for more robust commercial efforts to serve the less privileged and thereby help to create an economy that benefits everyone.

The creation of the PS is being undertaken by Karandaaz with financing provided by the BMGF. However, the project is governed by the SBP who will be responsible for the oversight, regulation, and settlement of transactions in this system.

## Size of Pakistan’s digital payment industry

Pakistan is the sixth largest country in the world with a population of 200 million. By 2020, approximately 70% of the adult population in Pakistan will have grown up with the Internet. Digital savviness in Pakistan is expected to grow exponentially with mobile penetration expected to reach 86%, smartphone penetration to reach about 40% of population at 40% year-on-year growth and exponential growth in 3G/4G connections to reach about 36% penetration by 2020.

Nationally, there are currently more than 600 million digital transactions annually with a volume of more than PKR 300 trillion (approximately USD 260 billion). It is estimated that approximately 25% of transactions in Pakistan are electronic and this number is expected to increase with rise in awareness of payments and adoption of technology.

## Overview of Pakistan payment landscape

Pakistan’s payments infrastructure is based on the Pakistan real-time interbank settlement mechanism (PRISM) as the primary settlement system. PRISM is a large-value, real-time gross settlement (RTGS) system operated by the SBP. The PS would also be connected to RTGS where settlement would occur. Its members are all commercial banks, selected microfinance banks, and the CDC (sole securities depository company).

The payment systems and schemes in operation in Pakistan are shortly summarized below:

**PRISM:** large-value, real-time fund transfer system equipped with modern liquidity savings and risk mitigation features

**Interbank fund transfer operated by 1Link:** retail payment system providing P2P transfers 24/7 via several delivery channels, i.e., ATMs as well as Internet and mobile banking

**ATM switch operated by 1Link:** Drives interoperability of ATM systems between banks

**Electronic bill payment operated by 1Link:** platform for banks to process bill payments electronically; however, banks also have their own bill payment systems (to capture biller settlement accounts) restricting use of the central bill payment platform and hence interoperability

**PayPak operated by 1Link:** recently launched domestic payment scheme for low-cost payment solutions for private customers and financial institutions; however, as a card-based payment, it limits the proliferation of electronic payments to lower-tier merchants

**Agent-based branchless banking:** There are more than 400,000 branchless banking agents catering for cash and fund transfer needs of millions of consumers via agent networks (usually a subset of Telco Franchise and Retail networks). Currently there is no agent level interoperability.

## PS – project objectives and desired outcomes

Main objective is to enable the Pakistani digital economy and to reduce the use of cash and cheques over the next five years by increasing the use of electronic transfers. Thus, efficiency will be improved, costs reduced, and innovation encouraged. A safe, efficient, and interoperable private customer, business, and e-commerce payment environment shall be established that streamlines both face-to-face and on-line transactions for individuals, business, and the government.

The mission of the PS is to deliver to the SBP a **modern and robust payments infrastructure** that will provide an equitable and stable digital financial system for a high-volume, low-value payment system. **It will be enabled by shared, open, and standard-based components designed and built based on Level One principles.**

1. Primary objectives
2. Promote the use of electronic payment in Pakistan based on open-loop principles

Introduce innovative payment methods to increase the acceptance and use of electronic payment

Improve ease of use, acceptance, and benefits of electronic payment to reduce non-digital channels

Provide a platform to enable government payments & receipts electronically

1. Create an interoperable digital payment ecosystem

Make the most of the opportunity to introduce safe and efficient instant payment at low cost (e.g., enabled API-based connectors)

1. Improve safety and security levels

Ensure that the system complies with relevant security standards

Monitor suspicious transactions, provide fraud and risk management and regulatory controls

1. Desired outcomes

The PS shall be a payment system that:

Lowers transaction costs for players and end users

Supports online real-time push-based and request-to-pay credit transfers (individual and bulk-based) for P2X, G2X, and B2X payment use cases

Is robust and offers full interoperability between commercial and microfinance banks

Complies with the applicable regulatory requirements of Pakistan

Is available 24/7

Enables access to the financial system for the unbanked population

# Scope of work

## Key product components and system capability

Karandaaz is looking for a technical implementation partner (or a consortium) that will help develop a PS that provides low-cost, open-loop, push-based payment capabilities nationally on a turnkey basis:

* Functional Analysis
* Develop and refine business requirements
* Design functional architecture
* Design technical architecture
* Supply, install, configure, integrate and deploy technology components
* Interfacing with other payment systems / participants as per design
* Customization as applicable
* Provide testing, trainings and production setup (at primary and DR sites)
* Provide functional training and support to systems participants
* Post implementation maintenance and technical support at least for a period of 5 years (subject to review)
* Incorporate additional developments as per business requirements
* Handover of systems production operations to SBP with handholding after a specified period

The responders should provide following details:

1. Key solution components

This is an indicative list (not exhaustive) of the key product components that the PS is expected to have:

Multilateral net clearing mechanism (switch)

Integration capability with settlement system

Dispute resolution and management system

Open API layer for seamless integration with indirect participants

Centralized directory services

Central fraud and risk management system (including blacklist handling)

If the technical implementation partner regards additional system components as relevant for ensuring the desired features of the PS, it shall suggest them and showcase available best-in-class components.

1. System capability

The PS should be able to (**requirements may vary in the RFP**):

Handle 1 billion transactions per year as an indicative scale for phase 1 – the ultimate scale could be 10-100x multiple of the above as the ecosystem evolves over time

System to start at peak load capacity of minimum 1,000 TPS (transaction messages per second) – and be capable of scaling to at least 5,000 TPS

Enable participation by all commercial and microfinance banks in Pakistan and any regulated entity that holds digital transactions accounts allowing for new entrants in the market

The system should have an availability of 99.995% with active-active configuration

Handle not only off us transactions, but also make it possible for on-us transactions to be shared with the central transaction engine to allow for fraud detection and similar

1. PS design principles

The technical implementation partner should consider the following principles:

Payer is always in control – push based payments to reduce risk by using a modern approach

Transparent

Available, secure, and stable

Common rules and standards (for example: ISO20022 messaging compliant with backwards compatibility with ISO8583) – internal and external standards might diverge

Support alternate identity based payment such as MSISDN, or National ID card number based payment instead of bank account numbers

Scalable

The technical implementation partner should also provide its perspective on any additional design choices it feels are critical to deliver the desired outcome of the project.

1. Security architecture

Information security is expected to be a key aspect of the PS to ensure the confidentiality, integrity, reliability and availability of the platform. The security architecture of the PS needs to maintain and build on these standards by adhering to the following secure IT architecture principles:

**Drive standardization and simplicity** by adopting common security standards (ISO 27001, SOC 2, etc.), industry best practice, SBP, as well as PS regulations and governance policies.

**Provide a sandbox for innovation** to be able to, e.g., rapidly build and deploy new features or on-board FinTechs.

**Foster service architecture** by introducing separate levels for access to data of different risk levels creating multiple “perimeters” within each domain, hence providing stability, security, and resilience towards a more open payments architecture.

**Implement defence in depth** including multiple layers of security that are interwoven within the PS architecture covering from the lowest-level infrastructure and network security to the highest-level application security including mitigating the risks of fraud detection, risk of abuse, and data privacy.

**Isolation of assets based on threats** such as breaking up of the IT infrastructure as well as storing and processing high-risk assets in a separate domain.

**Keeping the crown jewels in the category of core systems** by storing, managing, and monitoring access to the most valuable data assets

**Transaction encryption and endpoint security** with encryption keys stored properly and following best practice

The PS high-level security architecture is expected to include, but not limited to the following key security components:

|  |
| --- |
| The eventually selected Technical Implementation Vendor will need to work closely with the relevant security experts from the State Bank of Pakistan to ensure all security requirements are met. The above serves as a non-final indication only. |

1. Partnership structure

This procurement will be run on a turnkey basis and we are looking for a complete end-to-end solution. This includes the operation, hardware, software, training of human resources, technical support, etc. The technical implementation partner is free to consider responding to the RFP (that will be published later) independently or through a consortium.

## Key questions to address in RFI

The following questions should be addressed in the RFI:

1. What is your proposed approach to the solution? Is there more than one alternative approach?
2. What is your preference for the structure of a commercial contractual arrangement (implement and support, build and operate, joint venture with local partner or local bank/microfinance bank, PSP/PSO, joint venture with international partners, etc.)
3. What contract duration would you envisage related to your preferred contractual arrangement (we would want to buy a perpetual license for the solution)?
4. Under your preferred arrangement, what duration do you anticipate for the design and implementation phase, and how would you approach it?
5. What would be your suggested business and technical architecture with diagrams (showing roles of stakeholders and interconnections)?
6. How would your solution meet the primary objectives and desired outcomes?
7. What would be the challenges to meet the desired objectives and outcomes?
8. How does your solution adhere to the proposed standards & security architecture?
9. Please also indicate any key lessons you have learned in previous similar projects that you feel might be beneficial to this project.

# Evaluation criteria, company information, and selection process

## Evaluation criteria for the RFI

The technical implementation partner is expected to work closely together with Karandaaz and the SBP for all project-related activities. Ideally, it provides the following:

Verifiable substantial experience in implementing a minimum of two large-scale retail payment projects at national level

Prior experience in working with local and/or international government agencies that have been involved in payment systems

Prior experience in promoting the financial inclusion agenda, particularly mobile money

1. Basic company (and its partners in case of consortium) information (10%)

Name, address, website, and contact information of applying entity

Organograms, management, sponsors and beneficial owners, country of origin

Number and location of all offices (local and international)

Year of incorporation or registration and details of registration

Tax registration information (if applicable)

Audited financial statements of last three years

Key financial indicators proving company’s financial stability

1. Brief on experience from the technical implementation partner detailing (90%)

Knowledge of and experience in projects related to implementing large-scale payments systems (including real time payment systems)

Details of experts (detailed resume and available copies of credentials of resources)

Knowledge and experience of working on similar assignments in developing countries

Expert level knowledge of settlement and payment systems implementation

Experience of developing and implementing payment schemes

Knowledge and experience of working in Pakistan (if applicable)

Overall experience in implementing technology projects for banks/financial institutions (ideally central banks)

List of similar projects successfully completed clearly indicating ability to execute all aspects of the work (alone or with partner)

**Willingness to engage in a technical implementation partner presentation between May 1 to 18, 2018 in Pakistan**

1. Project approach and answers to key questions (qualifying criteria)

Expression of interest with **answers to all key questions (I to IX) both in submitted RFI**

**Presentation to evaluation committee during Technical Implementation Partner workshop**

## Expected timelines

Relative to start date, the project completion time is March 2020. The tentative timelines for selecting the technical implementation partners are as follows:

|  |  |
| --- | --- |
| Publishing RFI | April 13, 2018 |
| Deadline for sending clarifying questions | April 20, 2018 |
| Responses to clarifying questions | April 25, 2018 |
| **RFI submission deadline** | **April 30, 2018** |
| Technical implementation partner workshop (in person) | May 1 to 18, 2018 |
| Shortlist applicants based on RFI’s submitted | May 21, 2018 |
| Send out RFP to shortlisted technical implementation partners | June 1, 2018 [TBC] |
| **RFP submission deadline** | **July 15, 2018 [TBC]** |
| Review proposals, technical implementation partner meetings start | Immediately after proposal submission |
| Two selected applicants being invited to pilot phase | August 31, 2018 [TBC] |
| Pilot delivery | September 1 to December 26, 2018 [TBC] |
| Contract negotiation | September 1, 2018 [TBC] |
| **Contract signed with technical implementation partner** | **December 26, 2018 [TBC]** |

These timelines are indicative only. Karandaaz reserves the right not to award any contract, to make whatever changes it sees fit to the structure and timing of the procurement or to cancel the procurement at any time.

## Institutional and organizational arrangements

The direct reporting line for the technical implementation partner is to Director Digital Financial Services at Karandaaz or such other person as specified by Director Digital Financial Services. SBP will facilitate all the necessary access to project related resources and communication with all stakeholders and expert teams.

## Selection process

The potential technical implementation partner shall submit a response to the RFI demonstrating and the ability to ensure that the criteria mentioned is met

The technical implementation partner should provide necessary documentation and attachments along with the proposal supporting the qualification criteria

After the submission of the response to the RFI, the technical implementation partner can submit a list of clarifying questions regarding the project scope and objectives. There will be one round of clarifying questions and Karandaaz will reply to these questions on or before the April 25, 2018.

**All the technical implementation partners that submit a response to the RFI are requested to come to Pakistan and present their project approach in person (in Pakistan) to the evaluation committee**

**The purpose of these workshops will be to:**

1. **Understand the technical implementation partner proposed approach and existing technological assets that the technical implementation partner possesses**
2. **Discuss project approach with special attention to pilot use cases**

Only complete and responsive bids meeting the eligibility criteria will be processed to the stage of being fully evaluated and compared.

Following the RFI process, an RFP will be issued submitted to the short-listed technical implementation partners. short listed based on competence, capability and track record to deliver services.

The technical implementation partner that scores highest based on a set of commercial and technical criteria on the proposal will be chosen shortlisted as the technical implementation partner for the project.

In the event of any conflict or inconsistency in terms and conditions of the request for proposal, Karandaaz Pakistan procurement policies and procedures shall prevail.

# Application checklist

| **Sr. No** | **Required documents** | **Checkbox** |
| --- | --- | --- |
| 1 | CVs of the proposed personnel | ☐ |
| 2 | Copy/Copies of Registration(s)/Affiliation | ☐ |
| 3 | Tax Number Certificates (To be provided) | ☐ |
| 4 | Audited Financial Statements/Other Relevant Financial Documents of Last One year. | ☐ |
| 5 | Declaration by authorized person to submit the RFI | ☐ |
| 6 | An affidavit stating that the technical implementation partner has not been blacklisted/debarred by any Government/Semi Government | ☐ |
| 7 | Response to key questions in Scope of Work | ☐ |
| 8 | Any other document attached, please specify | ☐ |
| 9 | The organization must prove it is not affiliated to India or Israel | ☐ |

Responding to this request: RFIs must be submitted at or before 05:00 pm Pakistan Standard Time, April 31, 2018 by e-mail at [procurement@karandaaz.com.pk](mailto:procurement@karandaaz.com.pk), or by courier at 1 E, Ali Plaza, Nazim ud din Road, D-Chowk, Islamabad. Late RFIs will not be considered for shortlisting.

# Appendix – other relevant information

1. Key links for information on payment systems

SBP

* Overview of payment systems: <http://www.sbp.org.pk/PS/Key.asp>

Rules and regulations

* Electronic transaction ordinance, 2002: <http://www.sbp.org.pk/about/act/ETC202.pdf>
* Role of SBP in payment systems, PSEFT Act 2007: <http://www.sbp.org.pk/psd/2007/EFT_Act_2007.pdf>
* Regulations for security of Internet banking: <http://www.sbp.org.pk/psd/2015/C3.htm>
* Regulations for prepaid card: <http://www.sbp.org.pk/psd/2016/C4.htm>
* Regulations for payment card security: <http://www.sbp.org.pk/psd/2016/C5.htm>

1. Guidelines and circulars regarding payment systems

SBP has published extensive guidelines: <http://www.sbp.org.pk/psd/2003/index.htm>

Mostly circulars are about ATM operations, guidelines for customers, etc.

Some important ones are

Rules for payment system operators and providers: <http://www.sbp.org.pk/psd/2014/C3-Annex.pdf>

Payment system designation framework: <http://www.sbp.org.pk/psd/2017/C2-Annex.pdf>