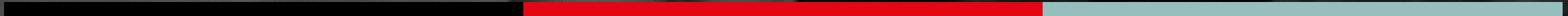




GSMA Mobile Money Research & Innovation Lab





GSMA Mobile Money Program

The **GSMA Mobile Money Program** supports mobile money services to reach scale. We do this by identifying and sharing **benchmark data**, operational **best practices**, and **commercially-viable** approaches, as well as cultivating **enabling regulatory environments**. Mobile money is a sustainable, scalable approach to providing convenient and affordable financial services to the underserved.

Building the Ecosystem

- IPN Hub
- E-Commerce
- Enterprise Solutions
- Merchant Payments
- Mobile Money API
- Interoperability

Policy and Regulation

- Mobile Money Leadership Forum
- Advocacy Engagements
- Regulatory Workshops
- Resources

Industry Data and Insights

- Mobile Money Metrics
- State of the Industry Report on MM
- Mobile Money Deployment Tracker
- Global Adoption Survey of MM
- Individual Benchmark Reports
- Estimates and Forecasts

GSMA Mobile Money Certification

The GSMA Mobile Money Certification is a global initiative to bring safer, more transparent, and more resilient financial services to millions of mobile money users around the world.



Mobile Money Research and Innovation Lab

- Mobile Money has realized significant growth: 227M registered accounts in Africa, 30 markets having 10x more agents than bank branches, more than 40% of population in 8 countries use Mobile Money on an active basis
- However, many challenges and un-tapped opportunities, development of use cases outside of P2P and lack of interoperability for example, limit the industry's ability to fully develop
- Demand for industry-wide initiatives to solve these challenges, capture opportunities, and adapt to a changing environment is growing
- However, with 277 mobile money deployments across over 90 markets, fragmentation hinders collaboration

The GSMA Mobile Money Research and Innovation Lab

A central workshop, where the mobile money industry, technology providers, donors, and other industry stakeholders can collaborate on strategizing, developing, testing, and piloting solutions the industry's leading challenges and opportunities. Primary Lab activities include:

- 1) **Innovation Projects:** In collaboration with industry stakeholders, the lab will define, ideate, prototype, test, and distribute technology solutions
- 2) **R&D Sandbox Environments:** The lab will host test environments of Mojaloop, and other key technical assets, providing the industry a sandbox in which to develop and test with the assistance of Lab technical resources.
- 3) **Tech-focused Research & Insights:** Ensure industry visibility and knowledge to inform technically strategic decisions through testing and validation of technologies and standards (E.g. NFC, QR, blockchain).
- 4) **Solution & Knowledge Dissemination :** The lab will ensure learnings and Lab developed solutions availability to the wider industry through open houses, events, publications, blog posts, and the deployment of solutions



Project Sourcing & Assessment

Project will be sourced through GSMA research and industry input, assessed through impact potential criteria, and vetted by Lab governance bodies

1. The Lab will determine potential topics of focus through the monitoring mobile money industry trends and challenges; suggestions from GSMA Mobile for Development, GSMA Mobile Money Program, industry stakeholders; and monitoring of general payments & financial industry innovations
2. Topics will be assessed based on: a) Potential market impact; b) Demonstrable impact on the poorest population segments; c) Varied regional/provider reach; d) Likelihood of industry adoption; e) the Lab's potential ability to add value on the topic; e) impact on gender gap in mobile money participation
3. Taking into account feedback and buy-in from Advisory Committee and GSMA Mobile for Development, the Lab will develop a project plan and allocate/source resources
4. Depending on the project, the Lab will identify appropriate partners, seeking commitment from those partners to dedicate time and resources to investigate a topic or pilot a solution depending on project scope, with an agreement that any applicable learnings for the industry can be shared widely through lab events and publications

An 'Advisory Committee' consisting of mobile money providers and other industry representatives will advise on topics within the defined strategy for the Lab, introduce potential new topics, and offer support and partnerships for specific projects where relevant and needed.



Lab Output and Dissemination

The Lab will ensure learnings and Lab developed solutions will be available to the wider industry through Lab open houses, events, publications, blog posts and the deployment of solutions through piloting and distribution

- **Lab Open Houses:** The Lab will organize Open House events, where results will be disseminated to the broader industry and interested parties. The industry and partner organizations will be invited to present as well on related topics, and the Open Houses will be co-located with one of the main GSMA conference events.
- **Piloting & Implementation:** The Lab will work industry partners to test and pilot learnings in live environments. Successful implementations can be mirrored or supported in other markets depending through the broader mobile money, or mobile for development teams, resulting in market adoption of Lab projects and learnings.
- **GSMA Mobile Money Multi-Channel placement:** The Lab will work with the broader Mobile Money team to ensure that visibility and access to outputs of the Lab can leverage the events, online platform and community that the Mobile Money team have developed over the last eight years.



Mojaloop Hosting & Testing

Since early 2018, the Lab has been hosting Mojaloop to facilitate its testing and development for Mowali, with the future aim to host a Mojaloop sandbox for industry testing

- First instance of Mojaloop installed in Jan 2018 to facilitate the testing of Mojaloop as the platform for Mowali
 - Worked with Modusbox and Sofrecom to support the development and testing of the platform
 - Initially the environment was hosted on AWS. We later moved it to Azure after concluding that Azure had a better offering for the region.
 - MTN and Orange Platforms connected
 - Currently testing P2P
 - Mowali is scheduled to move to their own environments at the end of Q1
- Going forwards the Lab aims to host a Mojaloop Sandbox for industry in perpetuity. Specific Mojaloop activities include
 - Facilitation of Mojaloop testing for the mobile money industry
 - Feedback loop to the industry on testing results and continued development
 - Pilots of Mojaloop with mobile money providers and other industry players.
 - Integrations with other GSMA projects, eg. Pathfinder, IPN Hub, GSMA MM API



GSMA Mobile Money API

The Mobile Money API is publicly available specification to all service providers. It covers a wide range of use cases and business arrangements that may occur within a mobile money proposition. It allows providers to be highly flexible in which parts of the API they can use — a vendor may use only a part of the API as part of their compatibility.

SUPPORTED USE CASES & CAPABILITIES:



TRANSACTIONS

- ✓ Adjustments
- ✓ Bill payments
- ✓ Deposits
- ✓ Disbursements
- ✓ International transfers
- ✓ Merchant payments
- ✓ Reversals
- ✓ Transfers
- ✓ Withdrawals



ACCOUNTS

- ✓ Account holder name
- ✓ Status
- ✓ Balance
- ✓ Statement entries
- ✓ Create and update debit mandates (pre-auths)
- ✓ Create & update account to account links



BILLS

- ✓ Bill payments
- ✓ Merchant payments
- ✓ View your account-associated bills



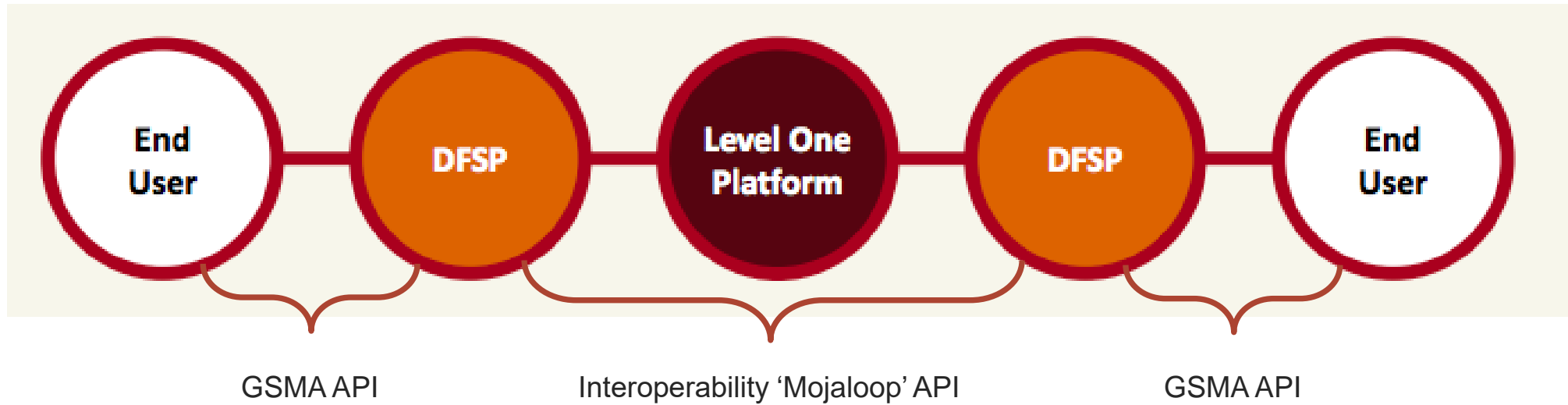
QUOTATIONS

- ✓ Request and view a quotation
- ✓ Receive single or multiple quotes

We aim to develop a plug and play environment within the broad mobile money industry and ecosystem



GSMA Mobile Money API





Current Status & Projects

- Since early 2018, the Lab has been operating limited scope to facilitate the testing and development of Mojaloop for Mowali
- We are currently in the process of staffing the Lab to full scale to support the wider scope of activities
- Currently engaged in early discussions with other operators to facilitate the testing of Mojaloop and other potential technology assets
- **We are interested in hearing from community on potential projects and assets for industry testing – Thoughts?**

Potential Lab projects and activities

The Lab will look at both new and mature standards and technical enablers, and together with interested industry partners investigate and test their suitability for known and future applications.

- Investigate QR and NFC standards to provide clarity on which version best suits the industry current and future needs
- Investigate newer technologies such as blockchain and various applications built on distributed ledger technologies
- Merchant Payments pilot focusing on business models and technical solutions
- GSMA API integration with Mojaloop instance and IPN Hub