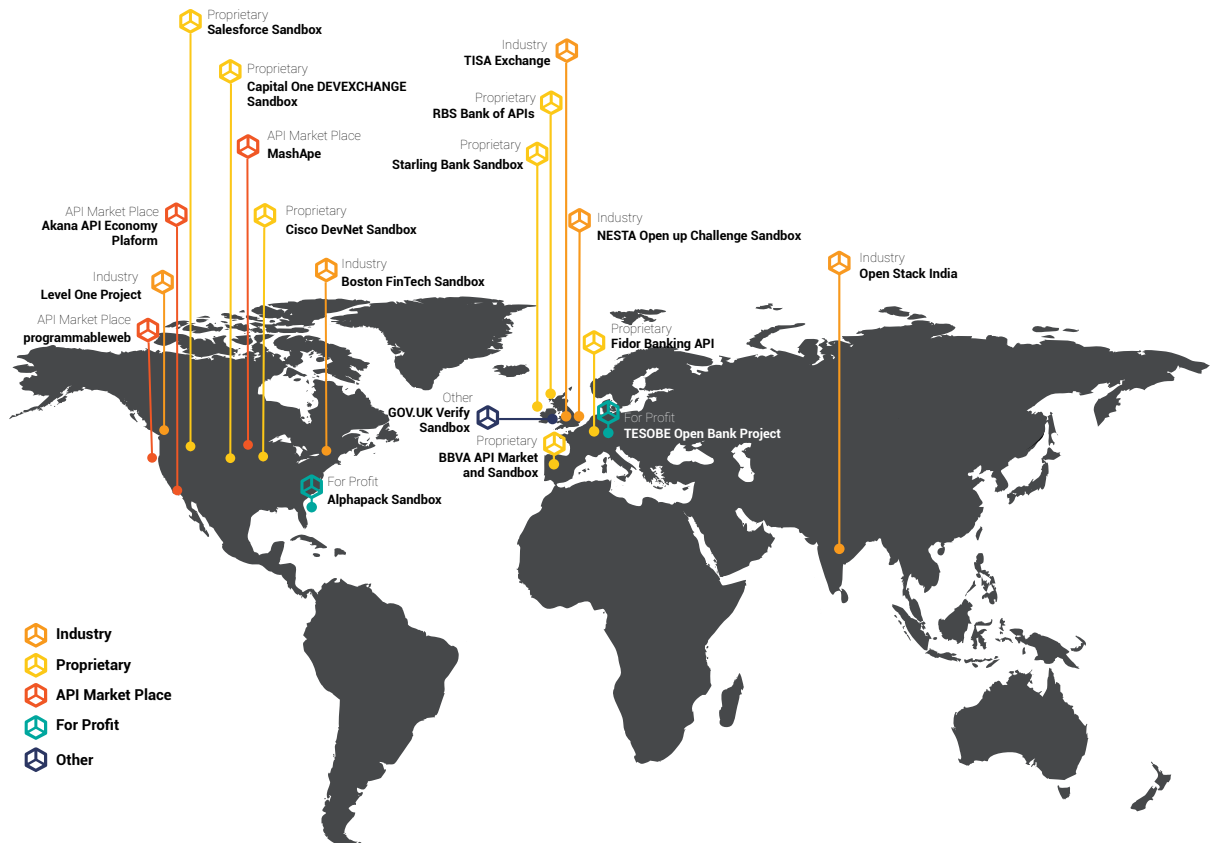




















# ANNEX 5: DETAILED SUMMARY OF SAMPLE SANDBOXES



Sandbox (Country)	Description	Users	Funding	Data	Technologies
 Boston FinTech Sandbox (United States)	Boston-based non-profit providing eligible startups with free access to predominantly market data.	FinTechs. Businesses should be physically located in one of the four cities: London, Boston, New York or San Francisco.	Platinum Sponsors: Fedetyl , F-Prime Capital, Thompson Reuters, Silicon Valley Bank, Amazon Web Services, Intel, State Street  Silver Sponsors: SIX, Goodwin Procter LLP, 406 Ventures	Market and Industry Data Providers include: Thomson Reuters, FACTSET, Morningstar, S&P, CME, Moody's Analytics, etc	Infrastructure and Platform as Service solutions offer up to \$15,000 in credits per startup to Amazon Web Services plus Business-level AWS Support up to \$5,000 per startup.
 Level One Project (United States)	Funded by Bill and Melinda Gates Foundation. Level One Sandbox is intended for those who have a need to access a reference ecosystem as part of their development work. It has 3 mobile wallet providers, an interoperability service for transfers, a bulk payer and a bank represented within the ecosystem. The downloadable API would be used to integrate into the system. The sandbox is representative of a vision for a pro-poor digital financial services ecosystem, but does not map directly to any systems deployed in the real world today.	FinTechs, Banks, Telecoms	(1) Not-for-profit/cost recovery model. (2) Participants pay fees (as determined by predetermined rules) sufficient to cover costs, as well as any investment or innovation capabilities deemed necessary to the system. (3) Private-sector entity is commissioned to operate some shared component of the system while the profits of that entity should be subject to scrutiny and limits.	Framework/Infrastructure (1) Open Loop interoperability between all providers – the system should be open to all actors, including FIs and regulated non-traditional financial services providers. (2) Immediate Funds Transfers and Same Day Settlement – Provides immediate notification of payment from the payer to the payee, transfers funds. The system should settle funds among participants at least once a day, on the same day. This is the most efficient way of managing liquidity. (3) Push Payments – Person who initiates transaction should always be the payer. May provide 'request to pay' service, but authorization rest with the payer. (4) Adherence to Open, International Standards – The system should adhere to internationally accepted payments standards (ISO20022). (5) Adequate and Shared Fraud Service – Shared risk management leads to lower fraud and more secure schemes. (6) Efficient and Tiered KYC – Account opening requirements should vary based on need, level of transactions, services provided. (7) Transaction Irrevocability – The system should not allow transaction reversal unless in extreme circumstances in order to reduce complexity and cost.	Open Banking APIs
 NESTA Open Up Challenge Sandbox (United Kingdom)	A new £5m challenge prize for the future of small business banking, getting ready for UK "Open Banking" in early 2018. Open Banking Ltd (formerly the Implementation Entity) is the delivery body responsible for developing the open banking API standards and frameworks. Its work will be led by a Steering Group and informed by Advisory Groups.	FinTechs	The Open Up Challenge is run independently by Nesta's Challenge Prize Centre, with backing from the CMA and funding from eight of the UK's largest providers of SME banking Barclays, HSBC, Lloyds Banking Group, RBS, Santander, AIB Group (UK) p.l.c, Bank of Ireland UK and Danske Bank.	Open Banking APIs	Open Banking APIs

Sandbox (Country)	Description	User	Funding	Data	Technologies
 TISA Exchange (United Kingdom)	Having open standards and a structure which encourages multiple players, TISA Exchange promotes competition, and instigates the drive to improve performance and reduce cost.	It is only open to custodians, trustees and firms that run institutional and retail funds.	Subscription model, where a schedule of payments was design to cover the initial setup cost and the ongoing operational costs, with founding members effectively receiving a rebate. Initial fees were £12,000 pa, reduced to £5K and £2K. Set up cost was near £500,000.	Market Data	
 Open Stack India (India)	The OpenStack Foundation is an independent body providing shared resources to help achieve the OpenStack Mission by Protecting, Empowering, and Promoting OpenStack software and the community around it, including users, developers and the entire ecosystem.	OpenStack is for service providers, enterprises, government agencies and academic institutions that want to build public or private clouds. Industries range from IT and telco to SaaS and eCommerce to finance and healthcare.	Platinum Members : AT&T, ubuntu, Huawei, IBM, Intel etc. Gold Members: Cisco, Dell EMC, Ericsson, Fujitsu, NetApp Infrastructure Donors: Rackspace, Vexxhost, Hewlett Packard Enterprise Corporate Sponsors: Accenture, BBVA, Comcast, Lenovo, Nokia, Orange Supporting Organizations: AppDynamics, Catalyst, Cognizant, Dynatrace <a href="http://www.openstack.org/foundation/companies">www.openstack.org/foundation/companies</a>		
 Capital One DEVEXCHANGE Sandbox (United States)	Philosophy: We've done the heavy lifting so you can focus on creating great customer experiences. Powerful technology that goes beyond banking.  Testimony: By making available the foundational blocks to abstract complex financial rails and core backend processes as well as their other natural assets (access to low-cost capital, strong customer base and brands) banks will help unbundle the financial services sector, create new vibrant verticals, and build alternatives to traditional banking consumer experiences.	Open to all customers with registrations	Capital One	API products covers, (1) identify authentication through registered mobile device, (2) Credit Offers of personalized list of credit cards, (3) Rewards on miles, points, and cash earned on bank accounts and (4) Bank Account.	
 Salesforce Sandbox (United States)	Four sandbox types available: 1. Developer Sandbox – intended for development and testing in an isolated environment 2. Developer Pro Sandbox – host larger data sets than a Developer sandbox, and to handle more development and quality assurance tasks and for integration testing or user training. 3. Partial Copy Sandbox – support UAT user acceptance testing 4. Full Sandbox – support performance testing, load testing, and staging.		Premium on licences-based model. Different sandbox environments and licenses that depend on customers' needs for storage, templates, copy configuration, and frequency of refresh.  Sandbox Licence: (1) Full Sandbox licence (2) Partial Copy Sandbox licence (3) Developer Pro Sandbox licence (4) Developer Sandbox licence	Salesforce data	(1) Analytics (2) Reports and Dashboards (3) Salesforce Development Tools (4) Debugging Suites (5) Testing framework.
 Cisco DevNet Sandbox (United States)	There are two types of sandboxes, Always-On and Reservation. Each sandbox typically highlights one Cisco product (think, CallManager, APIC, etc). Sandboxes can be used for development, testing APIs, learning how to configure a product, training, hackathons, and much more	Developers	Cisco	Third-party data	Sandbox Catalog (1) Networking (2) IoT (3) Datacenter (4) Collaboration (5) Cloud (6) Analytics & Automations (7) Security.
 RBS Bank of APIs (United Kingdom)	Driven by 48-hour Hackathons, in a team of coders, designers, and business people to create a working prototype to showcase. IP belongs to participants.	FinTechs, Banks, Individual developers	RBS	Blue Bank API allows you to log on as a simulated customer, enumerate the set of accounts belonging to the customer, enumerate transactions and make simulated payment requests. The API also provides branch and ATM information.	
 Starling Bank Sandbox (United Kingdom)	The first UK licensed bank to launch a public API that's ready for PSD2  Starling has built a public API that will enable third-parties to access customer data (with their permission, of course) and build on top of the Starling Platform to create products and services that customers will love.	Beta version users  FinTechs, Banks, Individual developers	Starling Bank	PSD2 APIs	
 BBVA API Market and Sandbox (Spain)		FinTechs	There is no cost associated with accessing and using the APIs in the sandbox environment.  For using the APIs in the production environment there is a cost based on the services to consumed and their intended use.	API catalog include Payments, PayStats, Notifications, Customers, Accounts, Cards, and Loans.	In response to Revised Directive on Payment Services (PSD2) to promote secure and fast online, mobile, and cross-border payment transactions and to accelerate digitalisation of banking industry, BBVA implemented account information services (AIS) and payment initiation services (PIS) available at its API marketplace.
 Fidor Banking API (Germany)	Munich-based Fidor is the first digital-only bank in Germany. Fidor commercializes its tech stack to banks and startups around the world. The sandbox in test environment offers users the same functionality as the live API, so users can start developing their applications without risk of losing money or unintentionally altering data.	FinTechs	Registering, using, and testing with the APIs in the sandbox is free of charge.  If members plan to offer third party services to existing Fidor Bank customers or need extended services (e.g. trust account), contact Fidor Business Development. Potential monthly flat fee: EUR 14,90.	API specific for mobile app development, Money Transfer, Transactions Filtering, Future payments, High-level user information, Create a Customer, etc	RESTful API, JSON format, and OAuth2.0 authorization.

Sandbox	Description	Users	Funding	Data	Technologies
 programmableweb (United States)	ProgrammableWeb provides daily industry news, analysis, case studies, developer tools, technical resources, and the world's largest directory of APIs.	Developers  All members listed in public directory	Advertisement  Request a Media Kit Feature 1. run-of-site or targeted ads 2. content and channel targeting 3. geographic filter 4. network advertising 5. social media advertising 6. newsletter advertising	Third-party APIs	Features (1) API news and analysis (2) API directory listing and search (3) API showcase in applications (4) API research, whitepaper, conference (5) API education, how-to, source code (6) Member directory
 MashApe (United States)	MashApe's mission is to facilitate a new revolution in software production by serving as the backbone of the distribution and consumption of data and services through APIs.	Developers	MashApe	Third-Party APIs	The open-source API Gateway (1) RESTful interface (2) Plugin Oriented (3) Platform Agnostic (4) Simple Scaling  The Analytics Platform for APIs, Microservices and Serverless Software.
 Akana API Economy Platform (United States)	The Akana Platform provides an end-to-end API Management solution for designing, implementing, securing, managing, monitoring, and publishing APIs. It is available as a SaaS platform, on-premises, and as a hybrid deployment.	The world's largest companies including Bank of America, Pfizer, and Verizon use Akana products to harness the power of their technology and transform their businesses.	Akana is a privately held company backed by leading investors including: (1) Redpoint Ventures (2) Draper Fisher Jurvetson (3) Palisades Ventures (4) Paladin Capital Group (5) Navigation Capital Partners	Akana APIs	The Akana (formerly SOA Software) API Gateway solution streamlines management, deployment, development and operation of APIs, enhancing security and regulatory compliance through authentication, authorisation and audit capabilities. (1) Authentication and Authorisation (2) Message Security (3) Threat Protection (4) Orchestration, Mediation and Transformation (5) Analytics and Monitoring (6) Unified API and SOA (REST/XML, REST/JSON and SOAP)
 Sandbox (United States)	A software deployment platform that empowers regional banks and credit unions to quickly and safely try new software from third party developers often startups. The product solves data security and legacy system integration problems that currently cripple a financial institution's (FI) ability to work with unproven vendors.	Developers, Banks and Credit Unions	For-profit company	banking APIs	For developers: (1) Build software using standardised, RESTful banking APIs (2) Add configuration and wrap services in Docker (3) Use the CLI to upload new releases of software to the catalog (4) Bank employees install the software against data sources they select  For Banks & Credit Unions: (1) Pick a vendor or bring your own (2) Sandbox connects to your systems quickly (3) Safely try out software throughout your organisation without burdening IT (4) Once you're happy, deploy to production with confidence
 TESOBÉ Open Bank Project (Germany)	Banks can start using Open Bank Project (OBP) in sandbox mode for innovation programs or proof of concepts (POCs) with startups and then quickly transition to a production configuration in which OBP interacts with the core banking systems of the bank.	FinTechs, Banks, Individual developers	For-profit company	130+ RESTful APIs covering transaction history, payments, entitlements and metadata.	Built on a secure, enterprise ready technology stack that supports secure Internet protocols such as OAuth
 GOV.UK Verify Sandbox (United Kingdom)	The Verify Sandbox Environment will enable interested parties test how their services would incorporate digital identities that meet GOV.UK Verify standards. It allows these interested parties to consider the operational and technical implications of adopting Verify through a test infrastructure so as to inform their business cases and roadmaps for adoption.	Any organisation that wants to test and learn about Verify can do so by engaging with a self-certified hub provider.	UK Government Initiative	The Identity Providers will enable a credential Authentication and the return of the matching data set.	Where the Hub Provider offers the OpenID Connect protocol it is best practice to align with the self-certification requirements defined by the OpenID Foundation defined via the OIXnet website.