

Financial Sector & Intellectual Property Programme

Technical cooperation with regulatory authorities in relation to FinTech Ecosystem Development

Final Report
May 31, 2021



The Financial Sector and Intellectual Property Programme

The SE Asia Financial Sector & IP Programme is part of the UK Prosperity Fund which was announced as part of the 2015 Strategic Defence and Security Review. It supports the United Nations Sustainable Development Goals, as well as the 2015 UK Aid Strategy by promoting growth and prosperity in developing countries.

The key objectives of the programme are to strengthen the overall business environment as well as broaden and deepen the financial markets to promote greater financial inclusion across six SE Asian countries – Burma (Myanmar), Indonesia, Malaysia, Philippines, Thailand and Vietnam.

The programme addresses barriers to growth by improving the global business environment, strengthening institutions, and encouraging greater private investment, particularly in developing SE Asian countries. In addition, we expect the reforms supported by this programme to create additional opportunities for international business to engage in the region.

Section 1: Introduction

This report is prepared under the Financial Sector & Intellectual Property (FSIP) Programme of the United Kingdom's Foreign, Commonwealth and Development Office (FCDO). The FSIP Programme is subdivided into work streams, including a work stream focused on financial technology or "fintech". Within the fintech workstream are national "work packages" that target specific issues and have a defined work plan. The work package under which this report is prepared is referred to as "THA_01: Technical cooperation with regulatory authorities in relation to FinTech Ecosystem Development".

Summary of the Work Package

Thailand is in the middle of a major digital transition and the Thai government has been actively promoting technology and innovation through its latest economic model 'Thailand 4.0'. Although there have been activities (e.g. challenge programmes) in the past that support Thai fintech start-ups, a recurring issue has been the lack of a coordinated strategy for continuous support in building a robust, and dynamic fintech ecosystem in Thailand.

The objective of this work package is to support the development of Thailand's fintech ecosystem, including talent and human resources in financial technology for Thailand, through close consultation and collaboration among Thai stakeholders, including the Bank of Thailand (BOT), Electronic Transactions Development Agency (ETDA), Office of the Insurance Commission (OIC), and Securities Exchange Commission (SEC).

Activities under this work package complement two other fintech work packages in Thailand, relating to provision of technical inputs and know-how transfer in e-KYC and cybersecurity.

Work Package Deliverables

Under this work package, the FSIP Team will produce a report with final findings and recommendations for the partners or "stakeholders" (BOT, ETDA, OIC and SEC), which includes:

- Deliverable #1: a FinTech ecosystem map with a strategy document outlining areas of focus and specific ecosystem development activities agreed among stakeholders.
- Deliverable #2: Provision of further technical cooperation in the design of programme activities (contingent upon decision of stakeholders to take forward specific programme recommendations).

This document represents the completion of Deliverable #1 noted above and lays out activities to be carried forward as part of Deliverable #2.

Section 2: Fintech Innovation Ecosystem Mapping

Key Terminology Used in this Report

It is important to establish some definitions for key terms that we will rely upon throughout this report. The following are some of the critical terms that we will be using in this report, and our definition of what they mean:

“Fintech Ecosystem” – We use this term to refer to all those firms and organizations that are using or developing financial technology, digitizing financial services, regulating financial services, investing in financial technologies or fintech firms, and other kinds of firms and organizations that provide support or to or facilitate fintech adoption or innovative fintech business models.

“Fintech Industry” – This term refers to a subset of the fintech ecosystem that is comprised of firms whose business models involve developing and deploying financial technology. The “fintech industry” refers to all the fintech companies that are operating in the country (including foreign owned as well as national fintechs). Though banks, securities firms and insurance companies may invest in and use a substantial amount of financial technology, we do not define them as part of the fintech industry for the purposes of this report; banks are closely linked to the fintech industry. If a bank were to launch a greenfield “challenger bank” (i.e., all-digital bank with no branches), we would consider that challenger bank to be part of the fintech industry. Commercial banks, plus all other “incumbent” financial institutions (existing and formally licensed firms operating in financial services) are certainly an important part of the fintech ecosystem and the fintech innovation ecosystem, as we define these terms hereunder.

“Fintech Innovation Ecosystem” – This term refers to a subset of firms, organizations and other entities that are not themselves directly creating, managing or selling financial technology solutions, but rather are enabling the use of, investing in, facilitating and/or regulating financial technologies, as well as supporting financial innovation. In this report we seek to identify and focus on precisely this fintech innovation ecosystem, highlighting its uniquely important role.

“Player” – A company, agency, organization, or other entity that is actively participating in the fintech ecosystem, fintech innovation ecosystem, or fintech industry.

“Stakeholder” – This term refers to our partners in this work package, namely BOT, EDTA, OIC and SEC.

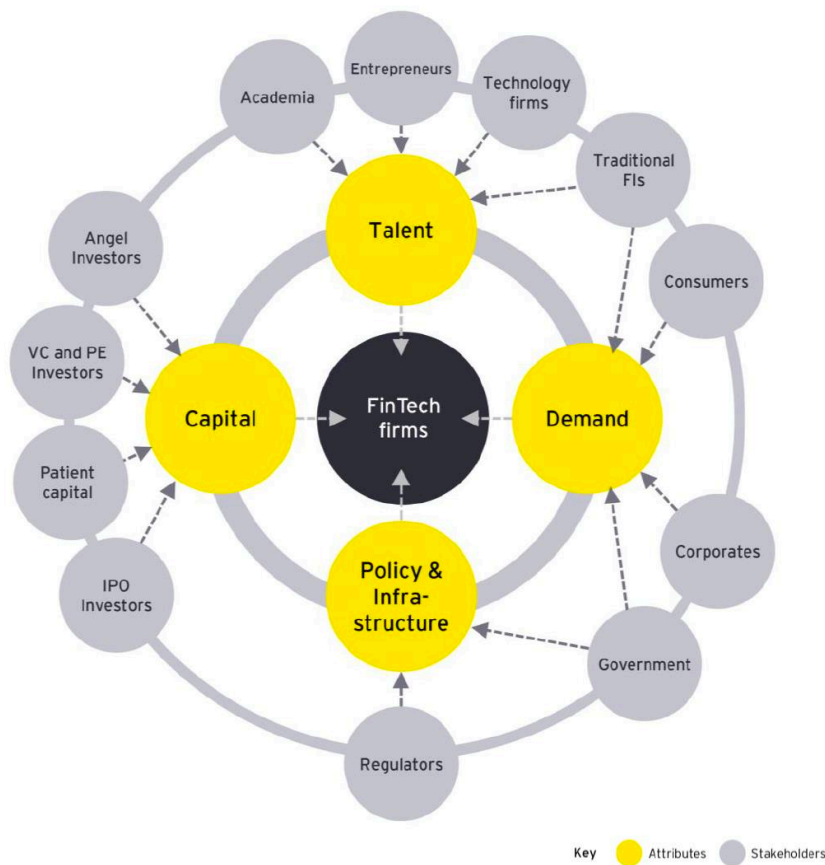
A Note on Mapping of Ecosystems

In our research we encountered multiple formats for projecting an industry or ecosystem. There is, in fact, a profusion of styles and formats from which to choose, and since individual countries and specific industries have their own characteristics and idiosyncrasies, there is no real standard format. There are, however, a few standard practices generally employed in the process of laying

out an ecosystem visually, or “infographically”. Ecosystems are generally subdivided into sections, with a section comprising a group of like firms or organizations, or alternatively, firms or organizations engaged in the same or similar activities.

Sections of an ecosystem dealing with the financial sector are generally defined by the financial activity in which entities are engaged, or by the role that a player, or group of players, might perform in the ecosystem. Firms that are engaged in providing financial services, or supporting the provision of financial services, are grouped by type of product or service, like payments, or debt or equity in some form. These activities are often referred to as “verticals”. Enabling, facilitating or regulating entities are grouped most often by type. The diagram below (introduced during our second webinar in December 2020) we present a stylized map of a fintech innovation ecosystem:

Infographic #1: Stylized Fintech Innovation Ecosystem

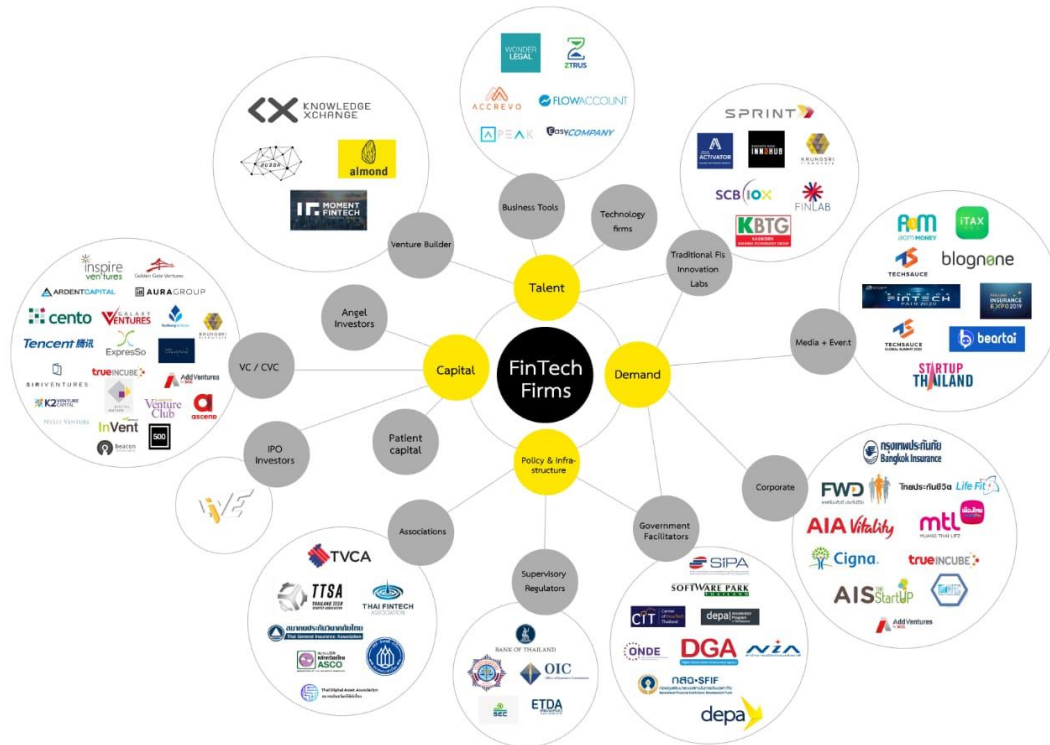


We believe the format of this diagram is useful in defining the fintech innovation ecosystem as opposed to the broader fintech ecosystem. Fintech innovation ecosystem players are subdivided into groupings defined by the grey circles in the infographic above, which identify types of organizations or firms. These “grey circle” entities cluster around key themes or attributes, including capital, talent, demand, and policy and infrastructure.

In this diagram, “FinTech firms” are placed at the center, in the black circle, and are essentially the focus or target of the firms and organizations in the grey circles. This diagram was developed in the UK, where a significant amount of attention is paid to promoting and nurturing the fintech industry. This is also true in Thailand.

Borrowing this UK format, we have produced the following Thailand version:

Infographic 2: Thailand Fintech Innovation Ecosystem



Key observations of the Thailand FinTech Innovation Ecosystem include:

- There are a large number of players in most of the categories, notably Venture Capital firms, Accelerators, and Corporates, indicating the presence of capable fintech firms and strong investor support and interest.
- The large number of both Supervisory Regulators (our Stakeholders) and Government Facilitators is also notable, indicating significant support by policymaking bodies, and strong government interest in technology and fintech.
- In terms of “Traditional FIs”, we have included only those incumbent financial institutions that are active in fintech, as evidenced by their operation of an innovation laboratory or other outwardly facing programme that might promote fintech.
- Angel Investors are likely very actively involved in the ecosystem, but as these investors are

often individuals and can be quite numerous, we have not identified them individually and put them on the map.

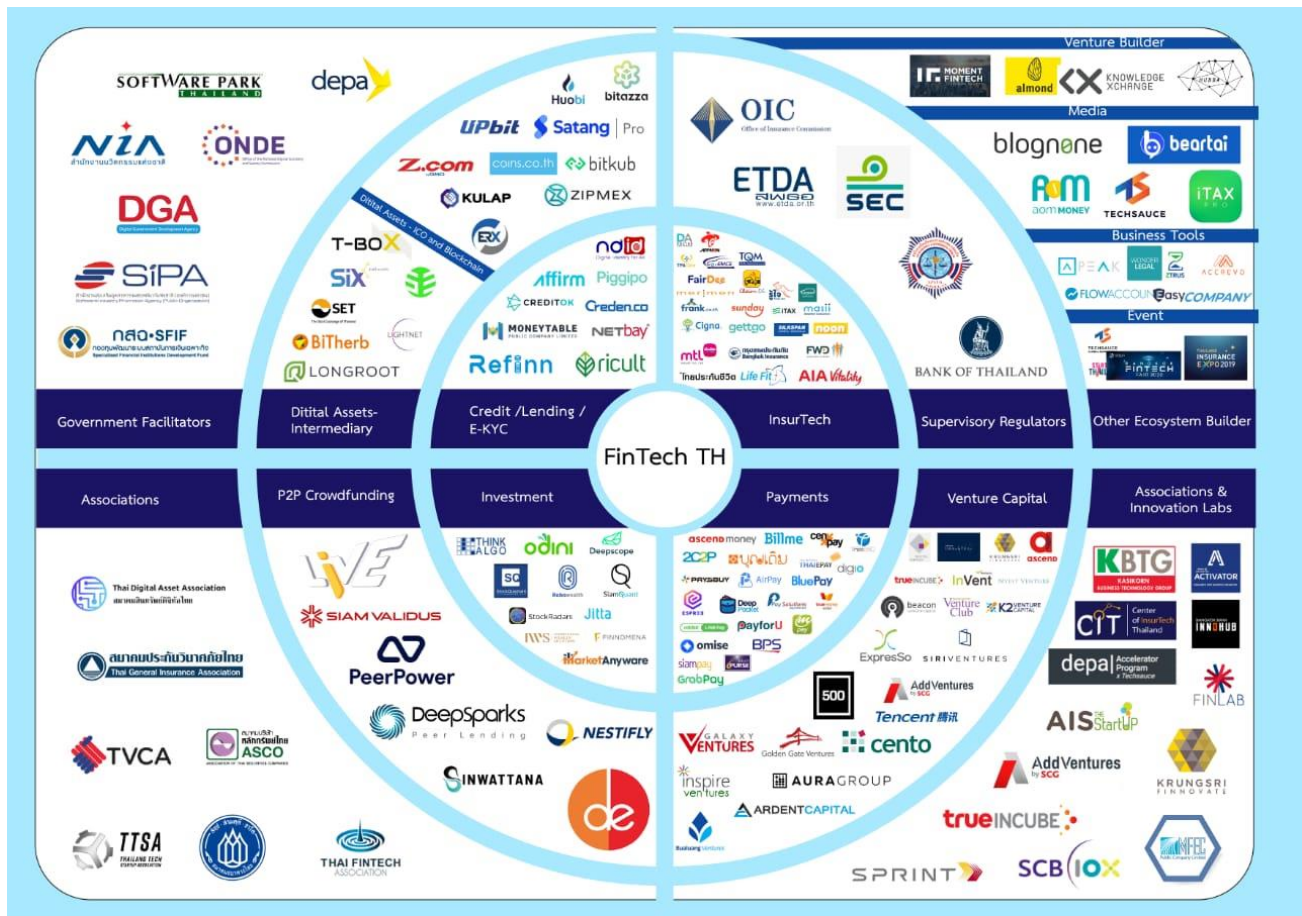
- We have not fully mapped the technology providers in this report, but we are fully aware of various groups of technology providers that are more than willing to participate in the fintech industry. It appears that there are sufficient technology firms in the country, many of them interested to work with fintechs and adapt technology solutions.
- There are some media companies and venture builders that are quite strong in supporting the fintech industry. There appears to be a lack of participation, however, by universities or other higher educational organizations.

We would consider this infographic as a “beta version” for the Thailand Fintech Innovation Ecosystem map. It is a work in progress, and in such a fast-moving area as fintech it may always be so; this infographic should be reviewed and updated frequently. We view this map as an excellent starting point for entering into any follow-on discussions between stakeholders and innovation ecosystem players.

Preliminarily, we can conclude that the Thailand Fintech Innovation Ecosystem has multiple players operating in most major categories. We can conclude that Thailand has all the necessary elements in the ecosystem to generate strong financial sector development, address all major technical issues, and promote a significant expansion of financial access based on the resources available in the country. The question becomes how best to mobilize or leverage these resources.

We also present hereunder an “alternative” mapping, which projects the broader fintech ecosystem in a more holistic way, as shown below.

Infographic #3: Thailand Fintech Ecosystem



What we have defined earlier as the fintech innovation ecosystem is displayed on the outside corners and in the outermost “ring” of this map. Within the two concentric rings are displayed the fintech industry, subdivided into verticals. The power of this infographic is that it contains the entire fintech ecosystem on one page. It makes an excellent companion to Infographic #2, which projects the Fintech Innovation Ecosystem separately.

The FSIP Team believes that both Infographic #3 and Infographic #2 will require additional fine-tuning and modification to achieve maximum clarity and to incorporate changes that occur as the ecosystem develops. Having good visual representations of the fintech and fintech innovation ecosystems provides a useful set of tools to refer to when considering the recommendations presented in this report.

The infographics developed under this work package, as well as materials being designed and developed by BOT and other stakeholders are to be further refined, revised and updated as part of the follow-on activities laid out in Section 4 below.

Elements of a Robust Fintech Innovation Ecosystem

Having prepared a visual ecosystem map that identifies and groups all key players according to their function or area of market activity, we can now consider market dynamics and ecosystem development. Some issues to consider include the key elements of a functional fintech innovation ecosystem, the market dynamics driving the ecosystem, and the key challenges that the ecosystem might be mobilized to address. Identifying key elements or market strands of an ecosystem will facilitate taking a “technology neutral” approach to developing appropriate regulatory responses.

We posit that the following six areas represent the most important thematic elements of the evolving fintech ecosystem in Thailand, and therefore should be the focus of the fintech innovation ecosystem development:

1. **Retail** - Open Banking and Open Finance should promote banking, payments and investment and insurance services competition through more participation by fintechs, as the retail financial services value chain is opened up (e.g., via standard APIs). This process involves important policy and regulatory considerations, i.e., about which parts of the value chain should be open to competition. It also involves access to information and safeguards, so regulations around these issues also need to be considered. Data will be of paramount importance to consider, for both domestic and cross border activity.
2. **Capital Markets** – To a great extent, fintech in this area revolves around distributed ledger technologies, and DLT-based business models. Trading venues/platforms for equities and exchange traded derivatives, and also CSDs operating on a DLT basis are solid fintech models that should be considered and accommodated, and this process will require reworking existing regulations to make way for these new technologies. Recent development of new asset classes such as cryptos is less systemic or structural, so not necessary to consider accommodating in this report. Bond markets, both sovereign and corporate, are a major area/potential use case for DLT and blockchain. Repo markets may also benefit from the greater certainty and speed in collateral management, providing for intraday exposure and lending capabilities. Such increased clarity provided by DLT in this area would also provide for financial stability in collateral management and rehypothecation practices.
3. **Infrastructure** - for both retail and wholesale markets basic infrastructure issues arise, centering on interoperability and standardization. Access to payments systems for non-banks is important. This element represents the other end of the “access to customer information” dynamic, as fintechs start entering the payments and transactions value chains to offer various services, including settlement and even consumer or small business credit. Trading and clearing of derivatives, including settlement functions currently carried out by CSDs may be further compressed to provide for faster or even instant transaction time.

4. **Consumer Protection** - the access provisions for information associated with client accounts (i.e., via APIs) raises the specter of fraud and possibility of consumer harm. A substantial amount of the ecosystem's focus should be on policy and regulatory choices around consumer protection, and market-driven consumer protection protocols and measures, some of which can be driven by industry players through codes of conduct.
5. **Cryptocurrency /"Big Tech"/e-commerce** - this is a large and fast developing area that is substantially covered by payments under point 1 above. There are significant policy issues associated with opening up banking or financial services to the Googles and Facebooks, WeChats and Alibabas of the world. Central bank digital currencies and stablecoins (e-money tokens)—whatever the legal structure—will also involve policy choices, not least associated with monetary policy.
6. **RegTech** - this is an important element or area into which we can include operational resilience, cybersecurity, KYC and e-KYC, along with other RegTech solutions. RegTech may also enhance regulatory capabilities in managing and analysis of significantly higher volumes of transaction and regulatory data. This will provide for enhanced consumer protection, market monitoring and integrity.

The foregoing discussion of thematic elements outlines a kind of conceptual framework for understanding the emerging, fintech-led financial services sector. Of course, there are alternative ways to frame the market and define key elements. Interestingly, discussions between the FSIP Team and the four stakeholders about the framework presented above took place after the presentation of the initial draft final report version of this report (dated February 17, 2021). Responding to the above approach posited by the FSIP team, BOT experts provided a different way to view the emerging fintech industry and innovation ecosystem in Thailand. In joint discussions, BOT presented their own list of seven elements, plus diagrams, which we believe represent a basis for further discussions of the fintech innovation ecosystem. Here are the BOT's "7 Key Elements for FinTech Ecosystem Mapping":

1. Infrastructure & data
2. Supportive regulations
3. Products & services (fintechs across all the industry verticals)
4. Strong demand (users of the Fintech products)
5. Access to capital
6. Right talent/skills
7. Collaboration among stakeholders

In Section 4 below, we have programmed activities to help further refine these conceptual frameworks. Each of the thematic elements the FSIP team has identified may be further developed and addressed under the structural elements identified by BOT. The infographics shared above, along with the BOT's and other materials, will be developed going forward by the four stakeholders. These materials will be shared widely through public platforms and media, with support from the FSIP Team under this work package.

Section 4: Agreed Programme of Next Steps

This section has been thoroughly redrafted after detailed discussions with all four stakeholders. In this Final Report we present the agreed programme of activities in support of financial innovation in Thailand that will be supported and facilitated by the FSIP Project. To review how we have arrived at this point, recall that we had initially suggested a three-step process:

- Step One:** A short list of suggested follow-on activities were presented in the “Draft Final Report” version of this document.
- Step Two:** The stakeholders reviewed potential follow-on activities suggested in the Draft Final Report and indicated a set of suggested activities to further develop, after detailed discussions with the FSIP Team.
- Step Three:** The FSIP Team has prepared a programme of activities that represents the consensus of the discussions with all four stakeholders. This programme is presented below.

The FSIP Team has also held internal discussions regarding the remaining resources available to support project activities under this WP. We have determined that sufficient budget resources are available to support the follow-on activities described in this section. This set of activities and events will be referred henceforth as either the “Programme for Supporting Fintech Innovation in Thailand”, or simply “the Programme”.

Programme for Supporting Fintech Innovation in Thailand

Priority Themes:

1. Facilitation of Innovation. There is consensus among the four stakeholders that the “Innovation Office” theme is important, though it is understood that no such formal office will be set up under this WP. The Programme should, however, showcase how the four stakeholders/regulators have worked together collaboratively to build and improve the fintech innovation ecosystem in Thailand.

One concrete activity to be developed under the Programme will build upon the “fintech innovation ecosystem mapping” work that was presented in Section 2 above. These infographics can become the centerpiece of a “guidebook” or “catalogue” type website that could serve as a “one-stop” point for anyone interested to know more about the Thai fintech ecosystem in all its aspects, particularly those industries or activities regulated by the four stakeholders. It is the consensus of the four stakeholders that managing these infographics and the various lists of innovation ecosystem players and industry participants will form part of an ongoing, continuous initiative. This will not be an “Innovation Office” per se, but a mechanism will be created to coordinate among the four stakeholders to jointly host a live platform that can support engagement with the fintech community by the four stakeholders after the closure of this WP.

2. Decentralized Finance (“DeFi”). The consensus area indicated as a second priority is the theme of DeFi. The four regulators believe there is a need to enhance their own understanding of these rapidly emerging, cutting-edge technologies in order to be able to more appropriately promote and regulate them. This will be achieved through strategic knowledge sharing and “peer to peer learning” involving regulators from the UK and from around the region. It should be noted that DeFi as a theme has been placed on the agenda of BOT and SEC by senior policymakers, so it is quite important to explore this theme over the coming year; OIC and ETDA also understand that DeFi trends will get stronger and support BOT and SEC in their decision to prioritize this area.

3. Participation in GFIN. The Global Financial Innovation Network (GFIN) is an open initiative focused on learning and knowledge sharing among regulators launched by the UK’s Financial Conduct Authority (FCA) in 2019. The organization continues to welcome membership applications from financial regulators from around the world. Our four stakeholders agree that becoming a member of GFIN may be highly beneficial. Through the Programme, the FSIP Team will support the four stakeholders in exploring the costs and benefits of GFIN membership, and, potentially, initiating contact with that organization regarding membership should such a step be deemed fruitful and appropriate by the four regulators.

4. Supporting Insurtech. The final thematic area chosen for follow-on support is insurtech. OIC has scheduled a national InsurTech event (to be hosted as an online event, or potentially as a hybrid or physical event, conditions permitting) from 1 - 3 October 2021. The FSIP Team, through the Programme, will provide support to OIC, including in identifying and inviting key insurtech speakers (e.g. regulators and/or industry players), and other support as needed.

Programme Management:

All four stakeholders have agreed to create an informal working group to coordinate the Programme arrangements. They will nominate a “Programme Coordinator”, to liaise with the FSIP Team and ensure coordination among the four stakeholders. The FSIP Team will take an active role to organize and facilitate the programming of events with this working group.

Activities to be included under the Programme:

All four regulators agree to the activities-based approach proposed by the FSIP Team that may include webinars and other kinds of hosted events. Activities/events will include: (i) “closed door” activities exclusive to the regulators; and (ii) public events open for the general public.

Programme Time Frame:

It is anticipated that the Programme time frame will be from June through November 2021. The four stakeholders and FCDO have agreed that scheduling activities on a monthly basis is not advisable; the target will be to host events every other month. The following is an indicative schedule of events / activities, which will be further defined and developed by the working group and FSIP Team going forward:

Timeline	Activities	Targeted Audience
June-July	Produce updated version of fintech industry mapping infographics that will be feed into a “Guidebook / Catalogue Platform” to provide support for further development of the fintech innovation ecosystem and fintech industry in Thailand.	Exclusively for four stakeholders
August	Reach out to the UK insurtech industry association, insurance regulators, and key insurtechs and organise the sharing of UK and Thailand experience and knowledge, to be shared during a National Thailand InsurTech Event .	Public event
September	Organise a webinar to share experiences from UK and other countries on DeFi regulation and support.	Exclusively for four stakeholders
October	Organise a webinar to share insights on GFIN activities and share information on membership benefits and requirements.	Exclusively for four stakeholders
November	Organise a public launch of the developed Guidebook / Catalogue Platform to showcase the four stakeholders’ initiatives to promote the fintech innovation ecosystem and fintech industry.	Public event