



THE EBA'S FINTECH ROADMAP

CONCLUSIONS FROM THE CONSULTATION ON THE
EBA'S APPROACH TO FINANCIAL TECHNOLOGY
(FINTECH)

15 March 2018

EBA

EUROPEAN
BANKING
AUTHORITY

Contents

Executive Summary	3
Abbreviations and glossary	6
1. Introduction	7
2. Reactions to the FinTech Discussion Paper	9
3. FinTech Roadmap	19
Feedback on the public consultation: Views of the BSG	32

Executive Summary

In August 2017, the European Banking Authority (EBA) published a Discussion Paper on its approach to financial technology ('FinTech')¹ further to its statutory objective, which, among other things, requires the EBA to contribute to enhancing consumer protection, promoting a sound, effective and consistent level of regulation and supervision, preventing regulatory arbitrage and promoting equal competition, and its duty to monitor new and existing financial activities.²

The FinTech Discussion Paper sets out the results of the EBA's preliminary mapping of FinTech in the European Union ('EU') and identifies proposals for further EBA work in the following policy areas: authorisations and regulatory sandbox regimes; prudential risks for credit institutions, payment institutions and electronic money institutions (referred to here as 'institutions'³); the impact of FinTech on the business models of institutions; consumer protection and retail conduct of business issues; the impact of FinTech on the resolution of credit institutions and investment firms; and the impact of FinTech on anti-money laundering and countering the financing of terrorism ('AML'/'CFT').

Respondents welcomed the EBA's initiative and expressed strong support for the EBA's proposals for further work. In particular, respondents noted the need to strike an appropriate balance between the close monitoring of the regulatory perimeter (the scope of activities required to be authorised) and the need for neutrality in regulatory and supervisory approaches towards new technology applied by incumbent institutions and other FinTech firms.⁴ Accordingly, respondents encouraged the EBA to prioritise work relating to authorisation issues and regulatory sandboxes and to establish a forum in which best practice and convergence in supervisory and regulatory approaches can be promoted in order to foster technological neutrality and innovation across the single market. Respondents also supported the EBA's proposals in relation to business models and risks and opportunities for institutions. Respondents pushed for enhanced consumer protection, notably to address cross-border and disclosure issues and suggested additional areas of work such as the monitoring of alternative dispute resolution ('ADR'), developments relating to the Regulation on electronic identification and trust services for electronic transactions in the internal market

¹ 'FinTech' is defined at the EU and international standard-setting levels as 'technologically enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services'. The EBA's FinTech Discussion Paper is available here: <https://www.eba.europa.eu/-/eba-publishes-a-discussion-paper-on-its-approach-to-fintech>.

² See the EBA Regulation available here: <http://www.eba.europa.eu/about-us/legal-framework/founding-texts-and-mandates>.

³ The definition of 'institution' applies strictly for the purposes of this Roadmap. Reference is made to 'incumbent' and 'new entrant' institutions where appropriate.

⁴ 'FinTech firm' means a firm using FinTech for the purposes of the provision of one or more financial services listed in Table 1 of the EBA's FinTech Discussion Paper. Credit institutions, payment institutions, electronic money institutions, and other types of firm fall within the scope of this term where they apply FinTech for this purpose.

('eIDAS Regulation'),⁵ the interaction of the second Payment Services Directive ('PSD2')⁶ and the General Data Protection Regulation ('GDPR'),⁷ and FinTech self-regulation. Respondents also suggested including pre-contractual information in the scope of the work on disclosure. Respondents supported the EBA's proposals in relation to AML/CFT. To this end, the EBA will continue its work on updating the Risk Factors Guidelines,⁸ which will include the assessment of money laundering/terrorist financing ('ML/TF') risks arising from FinTech as proposed in the FinTech Discussion Paper. In addition, the EBA will take part in the expert group of the European Commission ('Commission'), which will assess the use of electronic identification and authentication tools provided under the eIDAS Regulation in remote customer on-boarding processes.

The Commission, in its March 2018 FinTech Action Plan,⁹ mandated the EBA, along with the other European Supervisory Authorities ('ESAs'), to carry out specific tasks relating to FinTech, for example with regard to authorisations issues, regulatory sandboxes¹⁰ and innovation hubs,¹¹ knowledge sharing among FinTech firms, supervisors and regulators, and virtual currencies ('VCs').

In this report, the EBA sets out its FinTech Roadmap describing its next steps and indicative milestones for 2018/2019 in light of the feedback received and in alignment with the Commission's FinTech Action Plan. In particular, the EBA explains the approach it will take in relation to the policy areas identified in the FinTech Discussion Paper and sets out the following priorities for 2018/2019:

- **monitoring the regulatory perimeter**, including assessing **current authorisation and licencing approaches** to FinTech firms, analysing **regulatory sandboxes and innovation hubs** with a view to developing a set of best practices to enhance consistency and facilitate supervisory coordination;
- **monitoring emerging trends and analysing the impact** on incumbent institutions' business models and the prudential risks and opportunities arising from the use of FinTech in order to enhance **knowledge sharing**;

⁵ The Regulation on electronic identification and trust services for electronic transactions in the internal market (Regulation (EU) No 910/2014) is available here: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L.2014.257.01.0073.01.ENG>.

⁶ Payment Services Directive 2 (Directive 2015/2366/EU) is available here: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32015L2366>.

⁷ The General Data Protection Regulation (Regulation (EU) No 2016/679) is available here: <http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32016R0679>.

⁸ The Risk Factor Guidelines are available here: <https://www.eba.europa.eu/documents/10180/1890686/Final+Guidelines+on+Risk+Factors+%28JC+2017+37%29.pdf>.

⁹ The FinTech Action Plan is available here: https://ec.europa.eu/info/files/180308-action-plan-fintech_en.

¹⁰ Although there are no commonly used definitions of the term 'regulatory sandbox' they are typically regarded as 'safe spaces' in which innovative products, services, business models and delivery mechanisms can be tested without being subject to the full set of regulatory or supervisory requirements that would otherwise apply. Where the term appears in this report it should be interpreted to mean such a scheme.

¹¹ No common definitions apply for the term 'innovation hub' but for the purposes of this report 'innovation hub' means a scheme whereby regulated or unregulated entities can engage with competent authorities to discuss FinTech-related issues (share information and views etc.) and seek clarification on the conformity of business models with the regulatory framework and/or licensing requirements (i.e. individual guidance to a firm on the interpretation of applicable rules).

- **promoting best supervisory practices** on assessing **cybersecurity** and promoting a common **cyber threat testing framework**;
- **addressing consumer issues arising from FinTech**, in particular in the areas of unclear regulatory status of FinTech firms and related disclosure to consumers, potential national barriers preventing FinTech firms from scaling up services to consumers across the single market, and assessing the appropriateness of the current regulatory framework for **VCs**;
- **identifying and assessing ML/TF risks** associated with regulated FinTech firms, technology providers and FinTech solutions.

All of the EBA's FinTech priority topics will leverage knowledge and expertise from participants in the EBA's new '**FinTech Knowledge Hub**'. The Hub will provide an overarching forum bringing together competent authorities enabling knowledge sharing on FinTech and to enhance engagement with incumbent and new entrant institutions and other FinTech firms, technology providers¹² and other relevant parties. The Hub will contribute to the monitoring of the impact of FinTech, including on business models and interconnectedness in the financial system, and fostering technological neutrality in regulatory and supervisory approaches. The FinTech Knowledge Hub will draw on the experience and knowledge of competent authorities, the ESAs and will interact with similar EU and national initiatives.

This report also sets out a high-level summary of the feedback received from respondents to the FinTech Discussion Paper and notes, where applicable, interactions with the Commission's FinTech Action Plan, and the work of other EU and international bodies. The detailed feedback received, along with the EBA's response, is set out in the annex.

Abbreviations and glossary

ADR	alternative dispute resolution
AML	Anti-Money Laundering Directive (Directive 2015/849/EU)
AML/CFT	anti-money laundering and countering the financing of terrorism
AI	artificial intelligence
BCBS	Basel Committee on Banking Supervision
BSG	Banking Stakeholder Group
BigTech	large globally active technology firms
CDD	customer due diligence
CRD	Capital Requirements Directive (Directive 2013/36/EU)
DLT	distributed ledger technology
EBA	European Banking Authority
eIDAS Regulation	Regulation on electronic identification and trust services for electronic transactions in the internal market (Regulation (EU) No 910/2014)
EIOPA	European Insurance and Occupational Pensions Authority
ESAs	European Supervisory Authorities (the EBA, EIOPA, and ESMA)
ESMA	European Securities and Markets Authority
FinTech	financial technology as defined in footnote 1
FinTech firm	a firm as defined in footnote 4
FSB	Financial Stability Board
FATF	Financial Action Task Force
GDPR	General Data Protection Regulation (Regulation (EU) No 2016/679)
ICT	information and communication technology
Innovation hub	a scheme as defined in footnote 11
Institution	credit institution, ¹³ payment institution, ¹⁴ electronic money institution ¹⁵
KYC	know your customer
ML/TF	money laundering/terrorist financing
PSD2	Payment Services Directive 2 (Directive 2015/2366/EU)
RegTech	regulatory technology
Regulatory sandbox	a scheme as defined in footnote 10
RTS	regulatory technical standards
SREP	Supervisory Review and Evaluation Process
Technology provider	a person as defined in footnote 12
VC	virtual currency

¹³ 'Credit institution' has the meaning given in point (1) of Article 4(1) of Regulation (EU) No 575/2013 (the CRR).

¹⁴ 'Payment institution' has the meaning given in point (4) of Article 4 Directive (EU) 2015/2366 (PSD2).

¹⁵ 'Electronic money institution' has the meaning given in point (1) of Article 2 of Directive 2009/110/EC (EMD).

1. Introduction

Background

1. For many decades, innovative technologies have been developed and applied to support the provision of financial services. However, over recent years, the range of financial innovations, the prevalence of their use and their pace of evolution have increased substantially to the point that 'FinTech', defined at the EU and international standard-setting levels as 'technologically enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services',¹⁶ has entered the common lexicon.
2. In light of these developments, there is a challenge for regulators and supervisors, namely to keep pace with technological developments in order to ensure that regulation and supervisory practices allow opportunities presented by FinTech to be fully and properly realised without undermining consumer protection, the level playing field, the integrity of the financial markets and the stability of the financial system taken as a whole.
3. In view of these considerations, the EBA's statutory objective (which requires the EBA to contribute to enhancing consumer protection, promoting a sound, effective and consistent level of regulation and supervision, ensuring the integrity, transparency, efficiency and orderly functioning of the financial markets, preventing regulatory arbitrage and promoting equal competition),¹⁷ and the EBA's duty to monitor new and existing financial activities,¹⁸ the EBA published in August 2017 a Discussion Paper on its approach to financial technology (the 'FinTech Discussion Paper').

The FinTech Discussion Paper

4. The FinTech Discussion Paper sets out the results of a mapping exercise, the first of its kind, designed specifically to provide a better insight into FinTech in the EU, and the EBA's proposals for future work in the following policy areas: (i) authorisation and regulatory sandbox regimes; (ii) prudential risks for institutions; (iii) the impact of FinTech on the business models of institutions; (iv) consumer protection and retail conduct of business issues; (v) the impact of FinTech on the resolution of credit institutions and investment firms; and (vi) the impact of FinTech on AML/CFT.

¹⁶ See <http://www.fsb.org/what-we-do/policy-development/additional-policy-areas/monitoring-of-fintech/>.

¹⁷ See Article 1(5) of the EBA Regulation available here: <http://www.eba.europa.eu/about-us/legal-framework/founding-texts-and-mandates>.

¹⁸ See Article 9(2) of the EBA Regulation.



5. The EBA publicly consulted on its proposals for future work. The consultation period lasted for three months and ended on 6 November 2017. To facilitate the consideration of the EBA's proposals, a public hearing took place on 4 October 2017.

Overview of responses

6. 63 responses were received, of which 15 are confidential. The non-confidential responses have been published on the EBA's website.¹⁹
7. Chapter 2 of this report presents a summary of the key points arising from the consultation. A summary of the views of the EBA's Banking Stakeholder Group is set out at the end of this report. A more detailed summary of the feedback received from respondents is set out in a separate annex.
8. In many cases, several industry bodies made similar comments or the same body repeated its comments in its response to different questions. In such cases, the comments and the EBA's analysis are included in the section of the annex to this report where the EBA considers them most appropriate.

The FinTech Roadmap

9. Chapter 3 of this report sets out the EBA's FinTech Roadmap, which identifies the EBA's priorities and provides an indicative timeline of key milestones for 2018/2019 taking account of the feedback received, interactions with the Commission's FinTech Action Plan and a letter from Commission Vice President Valdis Dombrovskis dated 20 December 2017 requesting the ESAs conduct further work on VCs, and other EU and international work in this area.

¹⁹ See https://www.eba.europa.eu/regulation-and-policy/other-topics/approach-to-financial-technology-fintech/-/regulatory-activity/discussion-paper#responses_1919157.

2. Reactions to the FinTech Discussion Paper

Overview

10. In general, respondents were highly supportive of the EBA's proposals to take forward work on FinTech, noting that this is an area in which EU action is needed to ensure that the full benefits of FinTech can be realised, including through the provision of cross-border services, while protecting the interests of consumers and minimising risks to financial stability.
11. In particular, respondents noted that FinTech can help support deeper, more integrated and inclusive markets for financial services by enhancing consumer choice and efficiencies in the provision of financial services and facilitating cost reduction. However, in order to protect the level playing field, respondents observed that it is important that FinTech can be applied across all Member States and in a way that maintains the EU's competitiveness. Therefore, a consistent regulatory and supervisory approach should be promoted at the EU and international levels.
12. On the whole, respondents confirmed that the EBA's proposals for further work identified in the FinTech Discussion Paper are relevant and complete. Nevertheless, some changes to the EBA's proposals have been incorporated as a result of the responses received and are explained in this report.

General remarks

The definition of FinTech: EU and international consistency and engagement

13. Respondents supported the EBA's approach to the definition of FinTech and welcomed alignment with the approach adopted by the Basel Committee on Banking Supervision ('BCBS') and the Financial Stability Board ('FSB').²⁰ Regarding the definition of 'FinTech firm', respondents considered it important to recognise that incumbent institutions and new entrants may apply FinTech. Going forward the EBA will use a broad definition of 'FinTech firm' to cover incumbent and new firms (see footnote 4). Respondents also welcomed the EBA's recognition of, and involvement in, EU and international FinTech initiatives as described in Chapter 1 of the FinTech Discussion Paper. Respondents considered this essential in order to ensure sufficient consistency in the response to FinTech, noting that many technologies are not confined to national borders but have a cross-sectoral application (e.g. the use of distributed ledger technology ('DLT')/blockchain in the context of banking, payments and insurance). Respondents called for continuing cooperation at all levels.

²⁰ See <http://www.fsb.org/what-we-do/policy-development/additional-policy-areas/monitoring-of-fintech/>.



14. The EBA agrees that cooperation is a key element for addressing all FinTech-related issues and, therefore, it will continue to participate actively in EU and international FinTech initiatives. In addition, the EBA will continue to work closely with the other ESAs in relation to existing work streams (e.g. VCs, big data and regulatory technology ('RegTech')) and new FinTech initiatives. The EBA will also establish a FinTech Knowledge Hub to foster dialogue and enhance knowledge sharing between supervisors and regulators about FinTech (for further discussion, see paragraph 90). Moreover, the EBA underlines the importance of coordination with other authorities, such as data protection authorities, as FinTech gives rise to issues that go beyond the remit of financial regulatory and supervisory authorities.

EBA FinTech mapping exercise

15. Respondents considered that the results of the EBA's FinTech mapping exercise, set out in Chapter 3 of the FinTech Discussion Paper, provide a useful insight into the regulatory status of, and financial services offered and financial innovations applied by, FinTech firms in the EU.
16. More generally, respondents observed that the results, albeit preliminary in nature, may imply that some firms carrying out similar forms of activity may not be subject to consistent regulatory and supervisory standards (for instance, many respondents noted the significant percentage (31%) of FinTech firms identified as not subject to any authorisation or registration regime). Respondents supported the case for further analysis of these issues, on which the EBA reflects in paragraph 56. The EBA also takes this opportunity to note that this 31% relates to the sample of FinTech firms reported by competent authorities to the EBA in the course of the mapping exercise (282 FinTech firms in total). For the purposes of establishing the sample, competent authorities were requested to identify FinTech firms providing services across five services clusters (see Table 1 of the FinTech Discussion Paper) and were asked to report on both regulated (EU and national authorisation or registration regimes) and unregulated FinTech firms. Therefore, the 31% should be considered in this context and should not necessarily be taken as representative of the population of EU FinTech firms as a whole.

Level playing field and technological neutrality

17. Many respondents, including incumbent institutions, raised questions about a potential unlevel playing field between different firms applying FinTech and the risks of regulatory arbitrage. In the spirit of the level playing field, many respondents proposed that a 'same activities, same risks, same rules, same supervision' approach be followed so that every firm carrying out similar activities is treated equally in terms of regulation and supervision.
18. The EBA notes the call for consistency in the treatment of similar risks. At the same time, careful monitoring and analysis is needed. On the one hand, specific products and services can carry similar consumer risks whichever entity is supplying them and should be regulated accordingly. However, prudential risks are assessed taking account of the combination of the activities undertaken by, and business model of, an entity, which is the rationale for entity-based prudential supervision and the basis for prudential requirements to be differentiated



accordingly. Therefore, monitoring of the perimeter is important to ensure that appropriate regulatory and supervisory responses are applied taking into account, in addition, potential interlinkages between firms (for instance in terms of reputational and operational links and interconnectedness stemming from funding flows).

19. Many respondents also called for regulators and supervisors to demonstrate proportionality and flexibility. In particular, they advocated that the EBA should ensure that any existing, new and/or modified regulations are technologically neutral, such that regulation allows for the substitutability of technology and does not result in firms being locked into vertically integrated technology monopolies. This should also allow for a degree of interchangeability, that is, firms carrying out similar activities should be able to benefit from access to similar forms of innovative technology. This point is very much interlinked with the EBA's intention to adopt a technologically neutral and proportionate approach.
20. Technological neutrality and proportionality can be pursued via three main avenues. The first is when reviewing existing EU measures/developing new measures and during ongoing monitoring of prudential regulation and supervisory guidance, typically designed at the entity rather than the activity level. The second is in the authorisations space generally and, in particular, in understanding how sandboxing regimes and other aspects of authorisations are working to create the space for emerging technologies while maintaining robust and consistent entry criteria. The third is the sharing of supervisory knowledge and experience in assessing, and responding to, new technologies, which is critical in promoting technological neutrality in the daily work of supervisors. An example is provided by the EBA's 2017 Recommendations on outsourcing to cloud service providers,²¹ which amplify existing outsourcing guidelines to promote rigour in, but also understanding of, the use of the cloud.
21. The EBA did not refer expressly to technological neutrality in the FinTech Discussion Paper but fully supports this principle and will pursue the three approaches outlined above consistent with its statutory objective of promoting equal competition.²²

Knowledge sharing

22. A significant number of respondents, across all sectors, felt that the EBA could act as a central hub for the sharing of information and best practices between regulators and supervisors regarding the emergence of FinTech, bearing in mind the 'borderless' nature of FinTech and the continued trend towards disintermediation in the provision of financial services. Such a hub could support the authorities in keeping pace with the industry, for instance regarding business model changes, risks and opportunities arising from FinTech and interconnectedness in the financial system. In turn, this would help facilitate consistency of, and promote technological neutrality in, regulatory and supervisory approaches.

²¹ The Recommendations are available here: <https://www.eba.europa.eu/regulation-and-policy/internal-governance/recommendations-on-outsourcing-to-cloud-service-providers>.

²² See Article 1(5)(d) of the EBA Regulation, available here: <http://www.eba.europa.eu/about-us/legal-framework/founding-texts-and-mandates>.



23. The EBA welcomes this feedback and agrees with the benefits identified and, accordingly, will take steps to establish a FinTech Knowledge Hub with a view to enhancing dialogue with the relevant stakeholders and building capacity, and to support knowledge sharing among regulators and supervisors on innovative business models and FinTech more generally (for further discussion, see paragraph 90).

Remarks on the EBA's proposed work in priority policy areas

24. In the FinTech Discussion Paper, the EBA outlined six priority policy areas in which it considered further work warranted (see paragraph 4). In general, respondents agreed with the EBA's assessment and provided detailed comments on aspects of the EBA's proposals. Each policy area is addressed in turn below.

(i) Authorisations and registration regimes and sandboxing/innovation hub approaches

25. Respondents expressed broad support for the EBA's proposals to:
- a. assess the national regulatory regimes that are in place in relation to FinTech and to produce an EBA report and, if appropriate, an opinion;
 - b. further assess the features of regulatory sandboxes, innovation hubs and similar regimes;
 - c. assess whether there are merits in converting the EBA Guidelines on the authorisation of payment institutions under PSD2 to regulatory technical standards ('RTS') once experience has been acquired in the application of the Guidelines in accordance with Article 5(6) of PSD2;
 - d. undertake, at a suitable juncture, further work to assess the merits of harmonising the assessment of applications for authorisation in order to promote consistency in supervisory practices.
26. Respondents noted that consistency in the regulatory treatment of FinTech and the operational aspects of regulatory sandboxes and innovation hubs would help prevent forum shopping, promote consumer and investor confidence, and protect the level playing field. It would also promote the attractiveness and competitiveness of the EU market for FinTech.
27. Respondents also supported the EBA's proposals to assess whether or not there are merits to converting the Guidelines mentioned in paragraph 25(c) to RTS once experience has been acquired with the application of the Guidelines.



(ii) Prudential risks and opportunities for institutions

Credit institutions

28. Overall, respondents welcomed and supported the EBA's approach to analysing prudential risks and opportunities for credit institutions arising from FinTech and encouraged an equal focus on both elements when considering any future changes to the regulatory framework.
29. In terms of risks, credit institutions also expressed concerns about the disruptive potential of an entry of BigTech²³ into the financial sector. Such firms have the technological capabilities, as well as a large enough customer base, to deploy financial products with agility and gain presence in the financial sector. In this context, maintaining the level playing field and the 'same activities, same risks, same rules, same supervision' rule were mentioned.
30. An additional area of focus identified was that of third-party/outsourcing risk management where respondents considered that regulation and supervision should ensure that risks are understood and managed by FinTech firms, including institutions (for further discussion, see paragraph 94).
31. In view of the foregoing, respondents encouraged the EBA to (i) broaden this discussion across the whole financial ecosystem, observe trends and communicate with the industry, (ii) work with the industry to achieve greater regulatory harmonisation, and (iii) strongly engage with the BCBS, which is also currently working on the risks associated with FinTech.
32. On the same note, respondents proposed that the EBA sets up task forces/working groups and/or standing platforms with regulators, industry stakeholders and technology providers in an effort to raise awareness, share and exchange experiences, and promote knowledge and education on innovative business models and FinTech. Respondents expressed their willingness to engage and participate if such an initiative were to move forward.
33. Respondents also expressed general support for the EBA's proposals to work on the harmonisation of supervisory practices around cybersecurity. Several respondents highlighted the importance of a more harmonised regulatory and supervisory framework for cybersecurity for all market players and for further cooperation among all relevant stakeholders at national, EU and international levels.

Payment institutions and electronic money institutions

34. Respondents expressed support for the EBA's proposals to:
 - a. carry out an in-depth analysis of the risks and opportunities for payment institutions and electronic money institutions resulting from FinTech;
 - b. offer workshops and training for supervisors;

²³ 'BigTech' refers to large globally active technology firms.



- c. develop possible updates to relevant EBA guidelines for supervisors.
35. Overall, respondents agreed with the EBA's proposals for future work in relation to payment institutions and electronic money institutions, so that the specificities of these institutions can be taken into account fully.
36. Several respondents supported the EBA's proposal to conduct work on DLT in the provision of payment services. However, respondents specified that consideration should be given to various use cases, and not only payments, given that this technology has the potential to affect many sectors and should be understood in all its dimensions.

(iii) Impact of FinTech on the business models of institutions

Credit institutions

37. Most respondents supported the EBA's proposals for a detailed analysis of the impact of FinTech developments on credit institutions' business models and identified working methods. In addition, suggestions were made to:
- a. expand the focus of the analysis to cover the impact of BigTech;
 - b. include, in the scope of the proposed interviewees, industry associations, academics and consultancies;
 - c. consider societal aspects in the analysis, including (i) striking a balance between digital and physical banking to ensure wider financial inclusion, (ii) the impact on employees being replaced by digitalisation, and (iii) finding talent;
 - d. ensure that the analysis/report is not a one-off exercise, but a regular exercise to understand the developments over time and expand the work to cover the wider FinTech ecosystem;
 - e. leverage work already performed by various international bodies such as the BCBS.

Payment institutions and electronic money institutions

38. Respondents expressed broad support for the EBA's proposals to develop a thematic report on changes to the business models of electronic money institutions and payment institutions, again noting the need for the specificities of these institutions to be taken into account fully. In addition, suggestions were made to:
- a. expand the focus of the analysis to cover the impact of BigTech firms;
 - b. include, in the scope of the proposed interviewees, a broad range of stakeholders, including industry associations, academics and consultancies.



(iv) Consumer protection and retail conduct of business

39. Respondents expressed broad support for the EBA's proposals to conduct follow-up work relating to:

- a. the need to clarify the application of consumer protection requirements when engaging with FinTech firms;
- b. consumer rights in the case of the cross-border provision of financial services;
- c. complaint handling requirements;
- d. disclosure to consumers in a digital environment.

40. Regarding the areas of financial literacy and financial exclusion (financial exclusion associated with artificial intelligence ('AI') and data-driven algorithms), respondents were divided in their views. In the context of financial literacy, several respondents were of the view that this should be within the remit of the national authorities and that the EBA should not intervene, whereas others welcomed a more active role for the EBA. In the context of financial exclusion associated with AI and data-driven algorithms, some respondents were of the view that AI does not entail financial exclusion.

41. In the area of disclosure, one of the EBA's proposals was to evaluate, in relation to VCs, the possibility of implementing standards regarding information requirements, in particular on the risks involved. Regarding this proposal, some respondents were of the view that no further work is needed at this stage given that the EBA has published already a warning and two opinions on VCs.²⁴ Other respondents were of the view that information requirements for VCs may be premature and should be set only if there is a clear framework in place. However, on 20 December 2017, the ESAs received a letter from Commission Vice President Dombrovskis requesting immediate work on VCs, which resulted in the publication of an ESA warning on VCs;²⁵ further follow-up work will be carried out as described in Chapter 3 of this report.

42. In addition, respondents requested that the EBA add to the scope of its work on consumer protection the monitoring of self-regulation by FinTech (industry standards), the interaction of PSD2 and the GDPR regarding consumer data protection, and automation in advice and validation of algorithms.

²⁴ The warning and opinions can be found here: <https://www.eba.europa.eu/regulation-and-policy/consumer-protection-and-financial-innovation>.

²⁵ The February 2018 warning is available here: <https://www.eba.europa.eu/-/esas-warn-consumers-of-risks-in-buying-virtual-currencies>.



(v) The impact of FinTech on the resolution of credit institutions and investment firms

43. In the FinTech Discussion Paper, the EBA asked respondents to indicate whether or not the proposals to consider, as part of the wider analysis of FinTech firms, the consequences of FinTech on institutions' resolution and resolution planning were relevant and complete.
44. Respondents expressed broad support for the main findings and the proposed next steps, observing that FinTech may offer benefits (e.g. potentially facilitating an orderly resolution by providing quick access to information) and also present risks (e.g. by potentially increasing the risks of rapid deposit outflows) in resolution.

(vi) The impact of FinTech on AML/CFT

45. Most respondents agreed with the issues identified by the EBA in the FinTech Discussion Paper as regards the impact of FinTech on AML/CFT.
46. Overall, respondents expressed support for the EBA's proposal to issue an opinion²⁶ on the use of innovative/FinTech solutions as part of the customer due diligence ('CDD') processes. They noted that this would go some way towards addressing the issues that the EBA identified by creating a common understanding of the responsible and effective use of innovation by credit and financial institutions, which can enhance their AML/CFT controls.
47. In addition, some respondents proposed that the EBA, together with the other ESAs and possibly the Commission, could further harmonise and improve practices within the EU, for example by:
- a. issuing standards on the interpretation of EU law and its application in practice;
 - b. issuing guidelines to ensure that similar products and services are treated consistently according to their functions and risk profiles;
 - c. ensuring that FinTech firms do not operate outside the regulatory regime and do not carry out regulated services without a licence or authorisation, for example by bringing changes to relevant Level 1 texts, such as those currently under discussion, that bring VC exchange platforms and custodial wallets within the scope of the Anti-Money Laundering Directive ('AMLD').
48. The most commonly cited FinTech solutions that were viewed by respondents as potentially creating ML/TF vulnerabilities and presenting increased ML/TF risks were cryptocurrencies, crowdfunding and marketplace lending, peer-to-peer lending, prepaid cards, initial coin offerings, DLT and cross-border payments. Respondents thought this was due to a lax regulatory and supervisory environment and institutions' lack of CDD/know your customer

²⁶This opinion was published as a Joint Opinion in January 2018; see [https://esas-joint-committee.europa.eu/Publications/Opinions/Opinion%20on%20the%20use%20of%20innovative%20solutions%20by%20credit%20and%20financial%20institutions%20\(JC-2017-81\).pdf](https://esas-joint-committee.europa.eu/Publications/Opinions/Opinion%20on%20the%20use%20of%20innovative%20solutions%20by%20credit%20and%20financial%20institutions%20(JC-2017-81).pdf).



('KYC') capability. Respondents also mentioned anonymity, the speed of transactions and the involvement of intermediaries as risk-increasing factors.

49. Most respondents confirmed that, in most Member States, there are no legal obstacles that would prevent FinTech firms from entering the market. They considered that FinTech firms were, and should be, subject to the same AML/CFT obligations as any other firm offering financial services. Such a view is also shared by the EBA. In contrast, respondents identified several obstacles that they felt were impeding the use of FinTech solutions in AML/CFT compliance, including:
- a. the inconsistent transposition of the AMLD across the EU;
 - b. the lack of regulation on the use of innovative solutions, such as biometric identification;
 - c. competent authorities' lack of knowledge and understanding of FinTech solutions, used either by institutions or by other FinTech firms.

EBA remarks

50. In view of the responses received, the EBA considers that the work identified in the FinTech Discussion Paper remains appropriate and has formulated the FinTech Roadmap based on the priorities supported by respondents. In addition the EBA will form a FinTech Knowledge Hub to further support the EBA's initiatives on FinTech, in particular to build capacity and enhance knowledge sharing among the regulatory and supervisory community with a view to promoting technological neutrality in regulatory and supervisory approaches.
51. As regards the conversion of the Guidelines on the authorisation of payment institutions under PSD2 to RTS as referred to in paragraph 25(c), the EBA recognises that experience needs to be acquired in the application of the Guidelines, which have applied since 13 January 2018. Therefore, the EBA will consider at a later stage (from 2019) the benefits of a conversion to RTS. In the meantime, the EBA will monitor the practices of competent authorities when authorising payment institutions in accordance with the Guidelines.
52. More generally, the EBA has taken on board respondents' suggestions as regards the methodology and the scope of the work, for example, in the area of the impact of FinTech on the business models of institutions, to expand the scope of the interviews to industry associations, academics and other relevant actors, and, in the area of consumer protection, to include the assessment of pre-contractual information and the assessment of ADR regimes and their potential extension to FinTech firms, where not already in place.



53. Finally, the EBA will conduct work on FinTech at the level of the Joint Committee of the three ESAs, as requested by respondents, specifically in the area of automation in advice with a view to updating the Joint Committee Report that was published on 16 December 2016.²⁷

²⁷ The Joint Committee Report is available here:
<https://esas-joint-committee.europa.eu/Pages/News/European-Supervisory-Authorities-publish-conclusions-on-automation-in-financial-advice.aspx>.

3. FinTech Roadmap

About the FinTech Roadmap

54. The FinTech Roadmap sets out the EBA's next steps and provides an indicative timetable for the completion of its work. In particular, the Roadmap explains the approach that the EBA will take in relation to the following priorities for 2018/2019:

- **monitoring the regulatory perimeter**, including assessing **current authorisation and licencing approaches** to FinTech firms, analysing **regulatory sandboxes and innovation hubs** with a view to developing a set of best practices to enhance consistency and facilitate supervisory coordination;
- **monitoring emerging trends and analysing the impact** on incumbent institutions' business models and the prudential risks and opportunities arising from the use of FinTech in order to enhance **knowledge sharing**;
- **promoting best supervisory practices** on assessing **cybersecurity** and promoting a common **cyber threat testing framework**;
- **addressing consumer issues arising from FinTech**, in particular in the areas of unclear regulatory status of FinTech firms and related disclosure to consumers, potential national barriers preventing FinTech firms from scaling up services to consumers across the single market, and assessing the appropriateness of the current regulatory framework for **VCs**;
- **identifying and assessing ML/TF risks** associated with regulated FinTech firms, technology providers and FinTech solutions.

55. All of the EBA's FinTech priority topics will leverage knowledge and expertise from participants in the EBA's new **FinTech Knowledge Hub**.

Authorisation and regulatory perimeter issues relating to FinTech

Regulatory perimeter issues

56. During the course of the EBA's 2017 FinTech work, competent authorities reported a sample of FinTech firms, some of which were identified as carrying out financial services pursuant to EU law or to a national authorisation or registration regimes, or were reported as not being subject to any identified regulatory regime.

57. The EBA acknowledges the interest of respondents in the EBA's preliminary findings in relation to such firms and the expression of support for the EBA to analyse further whether or not variations at the national level give rise to any level playing field or consumer protection issues.



58. Accordingly, in 2018, the EBA will analyse in further detail the nature of the services being provided by FinTech firms pursuant to national regimes/no identified regime and will assess prudential requirements and conduct of business requirements. This will be carried out with a view to ensuring that similar services entailing similar risks are regulated in a consistent way across the EU and to facilitate cross-border activity by removing, where appropriate, identified regulatory obstacles.
59. More generally, the EBA will map the authorisation and licensing approaches and procedures applied by competent authorities when authorising firms adopting innovative FinTech business models, in particular with a view to assessing how proportionality and flexibility are applied in the context of existing EU and national law. The EBA will also review any regulatory sandboxes or innovation hubs in the Member States with a view to developing best practices and, where appropriate, guidelines (see further details below).
60. To inform this analysis, the EBA will engage with the competent authorities and will encourage them to liaise with other relevant authorities (e.g. consumer protection and data protection authorities) in the Member States in assessing the regulatory status of FinTech firms. The EBA will also take account of any applicable self-regulatory/industry standards adopted in relation to FinTech.
61. The EBA expects to finalise, before the year end, its assessment of the regulatory treatment of FinTech firms reported as carrying out financial services outside the framework of EU law (as authorised or registered entities under national law or as unregulated entities), authorisations and perimeter issues with a view to publishing an EBA report and, if appropriate, an opinion. This will elaborate the approaches and procedures adopted by competent authorities and, where appropriate, set out best practices and recommendations as to the need, if any, for the adaptation of EU financial services legislation in order to ensure a proportionate and technologically neutral approach to licencing practices.

Resolution

62. As envisaged in the FinTech Discussion Paper, the EBA will proceed with the consideration of resolution-related issues as part of a wider analysis of FinTech firms, in particular, but not only, in the course of the authorisation work stream. The EBA will keep this under review bearing in mind FinTech and FinTech firms may have an impact on the resolvability of institutions.

Regulatory sandboxes and innovation hubs

63. The EBA recognises that regulatory sandboxes and innovation hubs can offer a range of benefits, for example by facilitating a strong dialogue between FinTech firms, regulators and supervisors about the deployment of new technologies and enabling low-risk experimentation in a closely controlled environment. Indeed, over half of the Member States already have in place some form of regulatory sandbox, innovation hub or similar regime to capitalise on these benefits.



64. However, the results of the preliminary analysis by the EBA show that the characteristics of the existing regulatory sandboxes vary, for example in terms of whether the schemes are open to new entrants only or are also open to incumbents, the scope of the financial services that may be carried out within the sandbox (e.g. payments only, or all forms of banking activity as identified in Annex I to the Capital Requirements Directive ('CRD')), the applicable regulatory obligations and licencing limitations, and the exit criteria.
65. Therefore, mindful of the need to ensure that firms can enter and participate in the internal market for financial services on an equal footing, coupled with the need to maintain a high standard of consumer protection, further to the Commission's FinTech Action Plan, which calls on the ESAs to make further efforts to identify best practices across the EU, in 2018 the EBA will conduct a further analysis of the features of regulatory sandboxes with a view to defining common features and best practices and assessing compatibility with EU law.
66. This work will be informed by a further survey of the competent authorities, which, building on the work already undertaken at the EU and international levels, will extend to an assessment of:
- a. operational aspects of sandboxes (e.g. objectives, scope, entry and exit conditions, regulatory requirements, typical duration of operation and cooperation arrangements among authorities involved in the supervision of firms participating in the sandbox);
 - b. the use of discretions by Member States and competent authorities in developing and operating sandboxes, including the extent to which use is made of discretions already embedded in EU law;
 - c. the number and types of firms participating in sandboxes, including the types of financial services provided and financial innovations applied;
 - d. any legal constraints to establishing sandboxes;
 - e. any opportunities and risks arising from sandboxes.
67. The EBA will report, by the year end, on the outcome of this work, where appropriate, this will be accompanied by an opinion and/or proposals to promote best practices and enhance supervisory consistency in the operation of regulatory sandboxes, including, where appropriate, EBA guidelines. In carrying out this work, the EBA will work in close cooperation with the other ESAs.



Impact on incumbent institutions' business models and prudential risks and opportunities arising from the use of FinTech

68. The latest EBA Risk Assessment Report²⁸ (November 2017) noted that upcoming competition from FinTech firms may result in changes in incumbent institutions' business models to ensure profitability. This appears to be noted both as a risk to revenues in some business lines along with amplified risks in cybersecurity and data security but, at the same time, as an opportunity to rethink customer interactions, enlarge customer bases and improve cost efficiencies.
69. The use of new technologies and innovations to support the provision of financial services also brings new prudential risks and opportunities for incumbent institutions. This has supervisory implications with regard to understanding these changes and adjusting existing supervisory approaches.
70. Taking into account the above and the industry's support for the EBA's proposals set out in the FinTech Discussion Paper, the EBA will continue working on developing a better understanding and analysing these aspects. To the largest extent possible, this work will take into account and leverage on existing work produced by fora at the international level (such as the BCBS and the FSB).²⁹
71. The work related to incumbents' business models intends to cover (i) the current and prospective relationship between incumbent institutions, new entrant institutions and other FinTech firms, (ii) the potential threats to the viability of traditional business models, as well as the sustainability of strategies of incumbent institutions in view of FinTech evolution, and (iii) the adapted and new business models emerging in the financial sector as a result of FinTech. Based on the development and nature of FinTech evolution, this might not be an ad hoc analysis but rather a recurring observation and analysis of market trends.
72. The EBA will also continue working on the identification and assessment of prudential risks and opportunities for institutions stemming from the use of FinTech. The approach to be followed is to select a number of 'use cases' in which financial technologies (such as biometric technology, DLT and AI) are applied, or considered to be applied, for example by institutions to replace existing banking activities, processes and procedures, and, secondly, analysing the corresponding prudential risks and opportunities. This approach may also analyse how institutions are responding to these risks and how they adopt their internal governance, control and risk management frameworks.
73. This work at the initial stage will support supervisors and other stakeholders in understanding the prudential risks arising from the use of innovative technologies along with the corresponding opportunities, as well as technology-related adjustments on incumbent

²⁸ See <http://www.eba.europa.eu/documents/10180/2037825/Risk+Assessment+Report+-+November+2017.pdf/4f9778cc-1ccd-4f65-9bc3-eb76971b9a4a>.

²⁹ For instance, the BCBS published in February 2018 'Sound Practices: Implications of fintech developments for banks and bank supervisors', available here: <https://www.bis.org/bcbs/publ/d431.htm>.



institutions' business models. Such deep dive analysis will contribute to building and sharing knowledge among the supervisory community and assist regulators in assessing the appropriateness of the existing regulatory framework.

74. During this work, it has become evident that more dialogue with the industry may be needed to understand the practical application of FinTech along with changes to incumbent institutions' business models and risk profiles and potential financial stability issues (e.g. from VCs) as FinTech extends beyond the usual boundaries of supervisory communication with institutions. The EBA will, in cooperation with supervisors, conduct interviews with institutions in order to understand how FinTech has affected their business models. In light of the responses received, the EBA will also conduct interviews with industry associations, academics and, if deemed necessary, other parties. Consequently, the FinTech Knowledge Hub could have a valuable role in supporting this work.
75. As a first step, thematic reports are planned to be published in 2018. They will aim to provide an overview of the current landscape across the internal market and of the key trends observed in relation to the changes to current business models stemming from FinTech. These will also summarise supervisory views on the prudential risks (such as operational risk) and opportunities to institutions stemming from the use of new technologies in the financial sector.
76. This work will continue by considering the pace of employment in FinTech and, where appropriate, in the broader context of identifying emerging trends and monitoring the impact of FinTech on the whole financial ecosystem with a view to supporting the supervisory community. The EBA will prepare additional thematic reports and, where appropriate, accompanying proposals to enhance supervisory consistency, facilitate supervisory coordination and promote technological neutrality.

Cybersecurity

77. Risks stemming from cybersecurity fall under the broader scope of ICT security, meaning that cyber threats are a type of threat to ICT security. Cybersecurity is a much broader issue than that of FinTech - as respondents pointed out, cybersecurity is an important challenge for the financial sector taken as a whole and cybersecurity measures need to be applied throughout the financial system, in particular where multiple entities interconnect. The EBA's work on cybersecurity is referred to in this report in light of respondents' emphasis on this topic in the feedback to the FinTech Discussion Paper.
78. From the EBA's work on cybersecurity to date, including the EBA's workshop on this topic with both industry and supervisors, as well as other risk analyses and the EBA's work on security-related mandates under PSD2 (the EBA's 2017 Guidelines on major incident reporting under Article 96, Guidelines on security measures for operational and security risks under Article 95, and the RTS on strong customer authentication and common and secure communication under



Article 98),³⁰ it is evident that there are differing degrees of supervisory engagement on cybersecurity in the EU. As such, there is room for EU-wide common guidance addressed to supervisors and institutions on cybersecurity management and further work in relation to the referred to guidelines and RTS under PSD2.

79. Accordingly, the EBA will focus on:

- a. producing ICT risk guidelines addressed to credit institutions and investment firms, which will include guidance for evaluating and mitigating ICT risk, including cybersecurity risk;
- b. producing harmonised supervisory practices for assessing the management of cybersecurity risk in credit institutions, investment firms, payment institutions and electronic money institutions;
- c. evaluating the development of an intelligence-led cyber threat-testing framework and promote best practices.

80. With the ICT guidelines for credit institutions and investment firms, the EBA aims to develop a uniform EU baseline guidance for ICT risk in general and for cybersecurity in particular, and to create a common understanding of fundamental ICT risk management concepts and ICT risk management practices. The EBA intends to align the ICT risk guidelines for credit institutions and investment firms with the existing ICT risk assessment guidelines under the Supervisory Review and Evaluation Process ('SREP') addressed to competent authorities.³¹

81. In the specific case of the payments sector, the EBA will carry out work under the PSD2, which has the explicit objective of fostering innovation in the payments market, and has conferred on the EBA the development of 12 mandates in support of the Directive. To that end, the EBA will assess the reports on security incidents in the payments sector that it will receive from April 2018 onwards, via national authorities, from credit, payment and electronic money institutions in the EU and will then disseminate these reports to other national and relevant EU authorities. Furthermore, the EBA will contribute to the consistent supervision of other security-related provisions under PSD2, such as those on strong customer authentication and common and secure communication and operational and security risks as well as on the reporting of payment fraud.

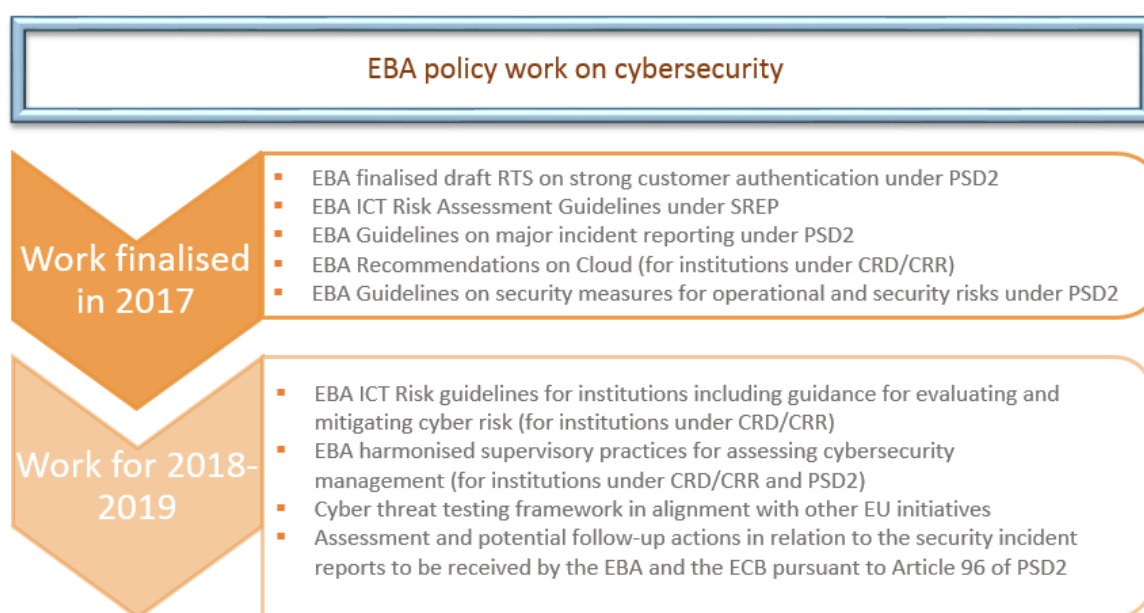
82. The harmonised supervisory practices on cybersecurity will complement the existing ICT risk assessment guidelines under SREP and provide EU competent authorities with practical guidance for the day-to-day monitoring and assessment of cybersecurity management at credit institutions and investment firms. The guidance will focus on the harmonisation of supervisory

³⁰ The EBA Guidelines and RTS are available here: <https://www.eba.europa.eu/regulation-and-policy/payment-services-and-electronic-money>.

³¹ See <http://www.eba.europa.eu/regulation-and-policy/supervisory-review-and-evaluation-srep-and-pillar-2/guidelines-on-ict-risk-assessment-under-the-srep>.

practices around cybersecurity and on strengthening cross-border cooperation among competent authorities across Member States in this area.

83. In addition to strengthening basic cyber standards, there is an increasing focus on the assessment of the effectiveness of cyber defences and cybersecurity through resilience testing. In particular, for the area of cyber resilience testing, the purpose is to evaluate the development of a harmonised cyber threat-testing framework in alignment with other EU initiatives such as the European Central Bank's Threat Intelligence Based Ethical Red Teaming ('TIBER-EU'). An EU-wide harmonised framework for cyber resilience testing will facilitate cross-border cooperation among supervisors in the area of cyber resilience testing, allow for the mutual recognition of the test results for institutions that operate across borders, and make the process more efficient both for competent authorities and for credit institutions and investment firms.
84. Acknowledging the importance of international harmonisation, the EBA will continue to liaise with relevant EU and international bodies on the topic of cybersecurity.



Consumer protection

85. Following the feedback received from respondents, during 2018 the EBA will conduct work on:
- a. *Unclear regulatory status*: as part of the forthcoming analysis to be conducted on the authorisation and regulatory perimeter issues relating to FinTech (see paragraph 56), the EBA will publish a report/opinion comparing the regulatory treatment of selected activities and the provision of different forms of financial products and services under EU and national law. This will also cover an assessment of the conduct of business requirements applicable to FinTech firms in order to ensure that an adequate level of protection is provided to consumers, recognising that there may be justifications for some variations at the national level.



- b. *Cross-border issues*: the EBA will focus its work on (i) identifying potential national barriers stemming from different consumer protection and conduct of business requirements applicable to FinTech firms and will provide input to the Commission on its work on national barriers under the Consumer Financial Services Action Plan, (ii) the allocation of home/host responsibilities in the areas of complaints handling, and (iii) activity via the internet and mobile solutions.
- c. *Disclosure*: the EBA will focus its work on assessing how the information should be presented to consumers in the digital ecosystem and will also include in the scope of this work precontractual information relating to financial services. The EBA will also review/follow the Commission's review of EU legislation and national legislation that may restrict digitalisation.
- d. *Automation in advice*: Jointly with ESMA and EIOPA, the EBA will conduct an analysis on the evolution of 'automation in financial advice' in the three sectors since the publication of the December 2016 Joint Committee Report on this topic.

86. During 2019, the EBA will undertake the following:

- a. *ADR*: the EBA will assess the applicability of the ADR Directive to FinTech firms and whether or not any additional actions need to be taken.
- b. *Financial exclusion in the context of big data algorithms*: the EBA will assess whether or not this potential risk may need any immediate action, particularly as regards potential non-transparent credit scoring and decision-making and risks related to the ethics of algorithms.

87. In addition, and as part of its monitoring role, the EBA will continue to monitor:

- a. *Big data*: specifically, data-driven business models.
- b. *National financial literacy initiatives*: the EBA recognises that its role is to coordinate national initiatives on financial literacy and, to this end, will adapt the information requested from competent authorities for the national repository to include specific information on FinTech-related financial initiatives, when applicable. This will allow the inclusion of more targeted information in future reports on financial education.
- c. *Developments concerning the interaction between PSD2 and the GDPR*: the EBA will monitor potential clarifications that may be provided by the European Parliament, the Council of the EU, the Commission or other EU authorities on the interaction between PSD2 and the GDPR, in order to assess what, if any, implications such clarifications may have on the EBA, national authorities, consumers and/or payment service providers.
- d. *The eIDAS Regulation*: the EBA will monitor potential developments at the EU level, for example in respect of the interoperability of national digital customer identification frameworks.

Virtual currencies

Following the ad hoc request of Commission Vice President Dombrovskis addressed to the ESAs, in February 2018 a Joint ESA warning on virtual currencies was issued that updates the EBA warning issued on 13 December 2013. By way of next steps the EBA will conduct work on the regulatory mapping of the current requirements on VCs in coordination with ESMA and EIOPA in order to assess whether the current framework in place is appropriate with a view of publishing an EBA report and/or opinion addressed to EU legislators.

AML/CFT

88. Many of the issues and risks identified during the consultation had already been identified by the EBA, and work on addressing these issues and risks is already under way or planned:

- a. The EBA and the other ESAs are updating their joint 'Risk Factors Guidelines',³² which will build upon many of the ML/TF risks and other internal control considerations outlined in the Joint Opinion on the use of innovative solutions in the customer due diligence process,³³ which was published in January 2018. This Opinion, together with the Guidelines, is part of the ESAs' wider work on creating a common understanding on the responsible and effective use of FinTech by institutions. These Guidelines will incorporate changes introduced by the fifth AMLD (when published) and will address ML/TF risks associated with some FinTech firms and services, for example, providers engaged in exchange services between virtual currencies and fiat currencies and custodian wallet providers³⁴ (where they are customers of financial institutions) as well as payment initiation service providers and account information service providers. A consultation paper will be published later in 2018.
- b. The EBA is working to address the knowledge gap between FinTech firms, technology providers and AML/CFT competent authorities by facilitating the sharing of knowledge among AML/CFT competent authorities and between technology providers and AML/CFT competent authorities through meetings and round tables.
- c. The EBA is working closely with the Commission, including in the context of the Commission's expert group, of which the EBA will be part, on the use of electronic identification and authentication tools provided in the eIDAS Regulation in remote

³² See [https://esas-joint-committee.europa.eu/Publications/Guidelines/Final%20Guidelines%20on%20Risk%20Factors%20\(JC%202017%2037\).pdf](https://esas-joint-committee.europa.eu/Publications/Guidelines/Final%20Guidelines%20on%20Risk%20Factors%20(JC%202017%2037).pdf).

³³ See [https://esas-joint-committee.europa.eu/Publications/Opinions/Opinion%20on%20the%20use%20of%20innovative%20solutions%20by%20Ocredit%20and%20financial%20institutions%20\(JC-2017-81\).pdf](https://esas-joint-committee.europa.eu/Publications/Opinions/Opinion%20on%20the%20use%20of%20innovative%20solutions%20by%20Ocredit%20and%20financial%20institutions%20(JC-2017-81).pdf).

³⁴ In the compromise text of the fifth AMLD, which was agreed in December 2017, the providers engaged in exchange services between virtual currencies and fiat currencies and the custodian wallet providers are not categorised as financial institutions.

customer on-boarding processes. The EBA's future work in this field will be informed by the outcomes of the work of the Commission's expert group.

89. A fact-finding exercise to identify and assess the ML/TF risks associated with innovative solutions and FinTech is currently under way as part of the ESAs' work on the Joint Opinion on the risks of ML/TF affecting the EU's financial sector, pursuant to Article 6(5) of Directive (EU) 2015/849. Findings from this exercise may lead to additional work or a refocusing of the activities already under way.

RegTech

As a counterpart to FinTech as defined here, regulatory technology ('RegTech') is a commonly recognised term for technologies that can be used by market participants to follow regulatory and compliance requirements more effectively and efficiently, and also used by national and EU authorities for supervisory purposes.

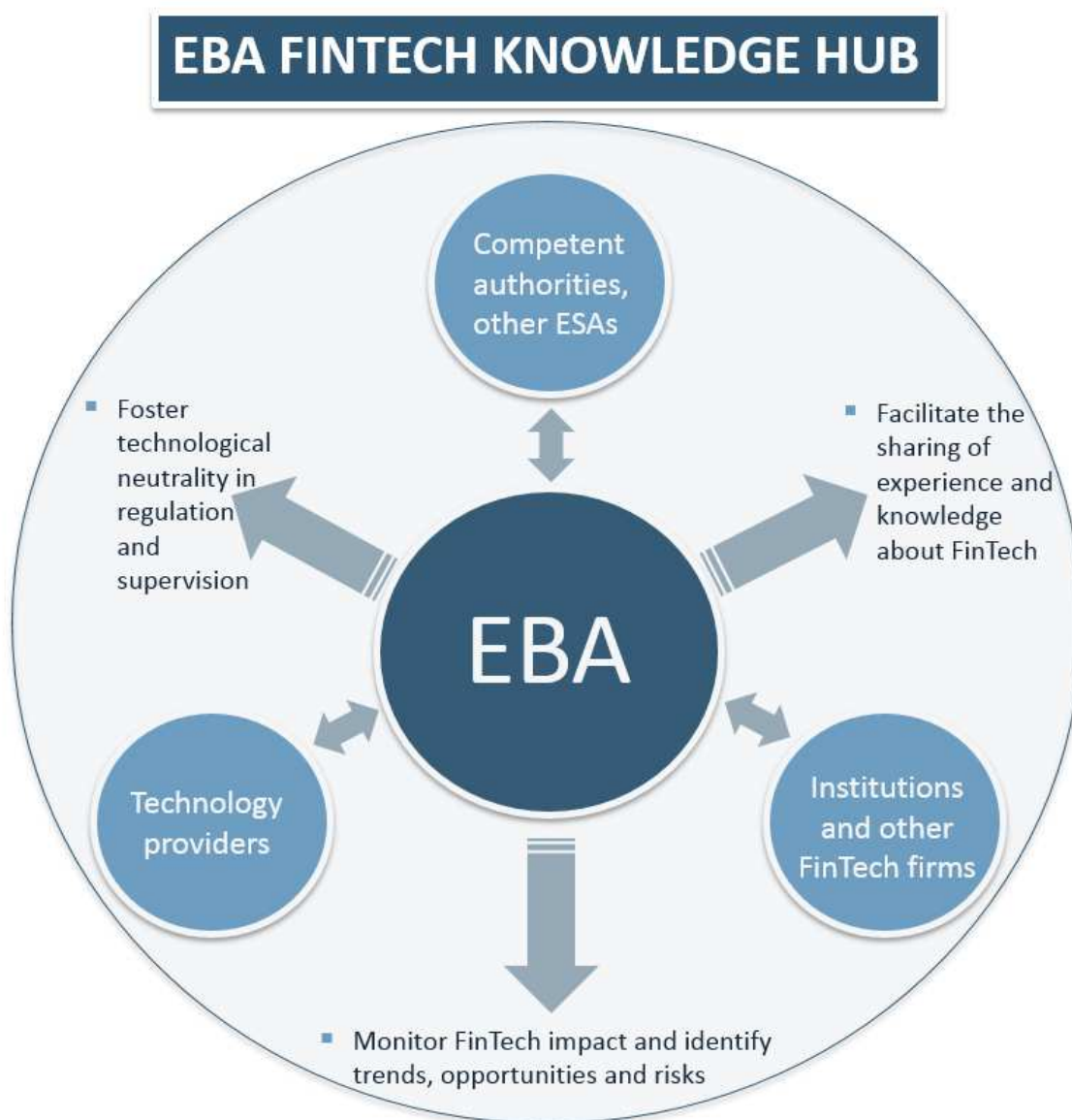
The FinTech Discussion Paper did not specifically look at RegTech. However, in the broader context of FinTech it will be an area of interest for the EBA.

To date, the EBA has considered only some aspects of RegTech as part of the ESA Joint Opinion on the use of innovative solutions as part of the customer due diligence processes where the EBA, together with the other ESAs, explored how RegTech solutions can help institutions and FinTech firms in meeting their obligations under AML/CFT legislation more effectively and efficiently. However, the Opinion also highlights that there is a risk that these RegTech solutions could potentially weaken ML/TF safeguards, if applied unthinkingly. Ongoing monitoring will be key in relation to AML, but also more broadly as firms rely on new RegTech instruments to facilitate their compliance functions both in relation to customers and in relation to prudential monitoring. Supervisors too are expected to increasingly respond by adapting to the use of regulatory technology with associated benefits and risks.

EBA FinTech Knowledge Hub

90. As a result of the industry's feedback and willingness to engage and participate in the EBA's initiatives, and in line with the EBA's existing monitoring work on FinTech and financial innovation in general,³⁵ in 2018 the EBA will form a FinTech Knowledge Hub. The FinTech Knowledge Hub will provide an overarching forum bringing together competent authorities in a common setting to facilitate information and experience sharing, to raise awareness and to support the transfer of knowledge on FinTech. The FinTech Knowledge Hub will be established in the context of the EBA's mandate to improve the functioning of the internal market, including promoting a sound, effective and consistent level of regulation and supervision, to strengthen international supervisory coordination and to enhance consumer protection.

³⁵ For instance, as part of its consumer protection and risk analysis roles.



91. The objectives of the FinTech Knowledge Hub will be to:

- a. identify emerging trends and monitor the impact of FinTech on the whole financial ecosystem, changes in business models, risks and opportunities (including ML/TF), consumer protection and other areas under the EBA's competence;
- b. promote knowledge and experience sharing related to FinTech within the EU and the global regulatory and supervisory community;
- c. facilitate the exchange of information between competent authorities, ESAs, incumbent and new entrant institutions, technology providers and other market players about innovations in the provision of financial services in order to exchange views, share information and inform supervisory and regulatory outputs;



- d. support the supervisory community with practical guidance on FinTech and produce publications related to the regulatory treatment and supervisory aspects of FinTech with a view to promoting technological neutrality in regulatory and supervisory approaches. Such publications could take the form of opinions, thematic reports and guidelines aiming to promote the consistency of supervisory practices;
 - e. prepare and present policy issues to the EBA standing committees related to the regulatory treatment of financial services ensuring technological neutrality and a level playing field.
92. At its initial stage, the FinTech Knowledge Hub will identify efficient ways of and productive methods for bringing together supervisors, regulators, institutions and other FinTech firms, technology providers and, where applicable and appropriate, also consumers and resolution authorities, in a mutual setting with the aim of increasing awareness of the impact of FinTech. The Hub will build on experience and knowledge of competent authorities and the ESAs and will interact, where appropriate, with similar EU (in particular the Commission's FinTech Lab) and national regulatory and supervisory and resolution initiatives and will support all identified areas of work, initially focusing on the identified priorities outlined in this Roadmap and reflecting industry's feedback on planned and future work. Any policy products will follow the normal development and approval procedures through the appropriate EBA internal governance process.

Other issues

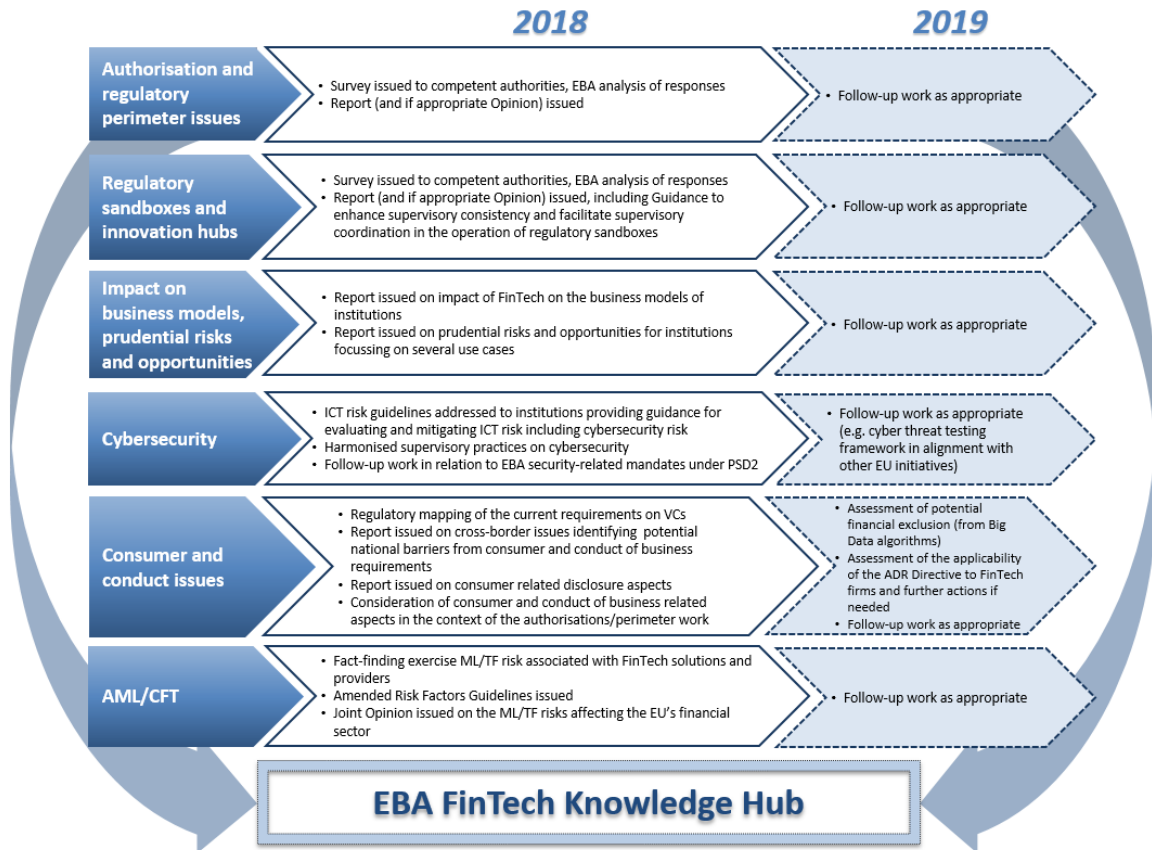
93. The EBA agrees with respondents that DLT warrants attention. Accordingly, the EBA will monitor developments to assess risks and opportunities arising from the use of DLT (and its underlying technology) not only in the area of payments, as indicated in the FinTech Discussion Paper, but from a wider perspective covering different use cases. The EBA will conduct this work in the context of the FinTech Knowledge Hub.
94. In 2018, the EBA will also update the Committee of European Banking Supervisors ('CEBS') Guidelines on outsourcing³⁶ and expand the scope beyond credit institutions to cover, in addition, payment institutions and electronic money institutions. As part of this work stream, the EBA will take into account previous work in relation cloud outsourcing.³⁷
95. Without prejudice to the abovementioned areas of work, the EBA will continue to monitor FinTech and financial innovations more generally and, as appropriate, adjust its work programme in line with its assessment of any additional emerging opportunities and risks.

Timeline

³⁶ The CEBS Guidelines are available here: <https://www.eba.europa.eu/-/cebs-publishes-guidelines-on-outsourcing>.

³⁷ Please refer to footnote 21 for the reference to the Recommendations on outsourcing to cloud service providers.

96. The EBA sets out below an indicative timeline for the work on its identified priorities for 2018/2019.



Concluding remarks

97. In addition to taking forward the work identified in this Roadmap, the EBA will continue to engage in EU and international FinTech initiatives in order to promote consistent and robust standards for AML/CFT, consumer protection and prudential regulation. The EBA will also continue to monitor FinTech developments and, as appropriate, carry out additional tasks with a view to policing effectively the regulatory perimeter and fostering neutrality in regulatory and supervisory approaches to new technologies. The EBA will engage with competent authorities, resolution authorities, the Commission, ESMA, EIOPA, institutions, other FinTech firms, and technology providers as appropriate to inform its work.

Feedback on the public consultation: Views of the BSG

Feedback on the public consultation

1. The table available in a separate annex sets out a detailed summary of the feedback received from respondents to the FinTech Discussion Paper and of the EBA's reactions.

Views of the Banking Stakeholder Group

2. The EBA's Banking Stakeholder Group (BSG) expressed support for the EBA's approach to the definition of FinTech, noting that the definition applied is sufficient to take account of incumbent institutions, new entrants and so-called 'BigTech'. The BSG also supported the EBA's proposals for future work on FinTech.
3. The BSG considered the work on authorisation and registration regimes, and sandboxing and innovation hubs to be relevant and complete. The BSG expressed strong support for the proposals to produce an EBA opinion (or at least a report) about the regulatory treatment of relevant activities at the national level, and the proposals to further assess and promote consistency in the design of regulatory sandboxes and innovation hubs, bearing in mind the potential benefits for such schemes for regulators and consumers. In this regard, the BSG drew attention to its July 2017 proposal to the EBA on regulatory sandboxes³⁸ in which it called on the EBA 'to take the lead in developing some guidelines in order to achieve a harmonisation in regulatory practices as well as supervisory criteria on nationally established sandboxes' and to explore the possibility of cross-border sandboxes.
4. The BSG agreed with the main risks and opportunities for institutions identified by the EBA, including cybersecurity-related risks. The BSG also supported the provision of guidance to supervisors on how to understand and evaluate these new risks.
5. The BSG emphasised that FinTech activities give rise to not only operational risks but also financial risks, especially of a systemic nature. A potential 'FinTech bubble' was raised as another issue of concern with the risk of reducing the effectiveness of monetary policy noted as another potential threat. Strategic risk was added to the list of risks, as FinTech competition may lead to further deterioration in profitability and increased volatility of funding sources for credit institutions (which may encourage the taking of higher risks to offset negative effects). It was proposed that the potential role of 'SupTech' should be recognised.

³⁸ The BSG's proposal is available here: https://www.eba.europa.eu/documents/10180/807776/BSG+Paper+on+Regulatory+Sandboxes_20+July+2017.pdf.

6. The BSG agreed with the areas of work identified by the EBA in relation to risks and opportunities for payment institutions and electronic money institutions, emphasising the importance of a level playing field.
7. In relation to the impact on business models, the BSG agreed with the issues identified and emphasised the need for engagement with the whole industry (i.e. not only institutions but also other participants, such as academics, consultants and developers) in developing the work.
8. The BSG noted the ability of FinTech to break down the value chain of traditional banking, recognising the increased investments in ICT and FinTech by institutions. The BSG also observed the potential challenge to the traditional business model that may come from BigTech while noting a clear trend towards more collaborative strategies between institutions and FinTech firms.
9. As regards the impact of FinTech on incumbent payment institutions' and electronic money institutions' business models, the BSG considered that a thematic report on changes to business models should be developed, adopting a similar approach to that applied to inform the report on the impact on the business models of institutions.
10. The BSG shared the concerns around the unclear regulatory status and the difficulty it poses for customers to ascertain information on this. It welcomed the EBA's proposal to produce an EBA opinion (or a report) about the regulatory treatment of selected activities and the provision of different forms of financial products and services under national law and EU law with a view to reviewing the perimeter of regulation, including the nature of the regulated activities prescribed in EU law, and level playing field and consumer protection issues, also taking into account levels of activity and risk, and how regulation in this field might affect the development of FinTech in the EU. The BSG also highlighted the importance of addressing cross-border issues, including complaints handling issues arising from FinTech, as well as the inadequate/insufficient disclosure to consumers in a digital environment and the need for fostering financial education and consumer awareness as a prerequisite to financial stability. Finally, the BSG made a call for cooperation among the ESAs.
11. On resolution-related issues, the BSG observed that, although resolution requirements are not common for FinTech firms, there is a need to consider interactions between FinTech and institutions and the implications for resolution planning/resolution, for instance in terms of the impact on deposit outflows.
12. The BSG also agreed with the issues identified and the proposed way forward in relation to AML/CFT.



EUROPEAN BANKING AUTHORITY

Floor 46 One Canada Square, London E14 5AA

Tel. +44 (0)207 382 1776

Fax: +44 (0)207 382 1771

E-mail: info@eba.europa.eu

<http://www.eba.europa.eu>