



BANKING AND FINANCE

Public consultation on FinTech: a more competitive and innovative European financial sector


Fields marked with * are mandatory.

Introduction

Thank you for taking the time to respond to this consultation on technology-enabled innovation in financial services (FinTech). Our goal is to create an enabling environment where innovative financial service solutions take off at a brisk pace all over the EU, while ensuring financial stability, financial integrity and safety for consumers, firms and investors alike.

Please note: In order to ensure a fair and transparent consultation process **only responses received through our online questionnaire will be taken into account** and included in the report summarising the responses. Should you have a problem completing this questionnaire or if you require particular assistance, please contact fisma-fintech@ec.europa.eu.

More information:

- [on this consultation](#)
- [on the protection of personal data regime for this consultation](#) 

1. Information about you

*Are you replying as:

- a private individual
- an organisation or a company
- a public authority or an international organisation

*Name of your organisation:

DIGITALEUROPE

Contact email address:

The information you provide here is for administrative purposes only and will not be published

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*Is your organisation included in the Transparency Register?

(If your organisation is not registered, [we invite you to register here](#), although it is not compulsory to be registered to reply to this consultation. [Why a transparency register?](#))

- Yes
- No

*If so, please indicate your Register ID number:

64270747023-20

*Type of organisation:

- Academic institution
- Consultancy, law firm
- Industry association
- Non-governmental organisation
- Trade union
- Company, SME, micro-enterprise, sole trader
- Consumer organisation
- Media
- Think tank
- Other

*Please indicate the size of your organisation:

- less than 10 employees
- 10 to 50 employees
- 50 to 500 employees
- 500 to 5000 employees
- more than 5000 employees

*Where are you based and/or where do you carry out your activity?

Belgium

*Field of activity or sector (*if applicable*):


at least 1 choice(s)

- Accounting
- Asset management
- Auditing
- Banking
- Brokerage
- Credit rating agency
- Crowdfunding
- Financial market infrastructure (e.g. CCP, CSD, stock exchange)
- Insurance
- Investment advice
- Payment service
- Pension provision
- Regulator
- Social entrepreneurship
- Social media
- Supervisor
- Technology provider
- Trading platform
- Other
- Not applicable



Important notice on the publication of responses

*Contributions received are intended for publication on the Commission's website. Do you agree to your contribution being published?

([see specific privacy statement](#) )

- Yes, I agree to my response being published under the name I indicate (*name of your organisation /company/public authority or your name if your reply as an individual*)
- No, I do not want my response to be published

2. Your opinion


1. Fostering access to financial services for consumers and businesses

FinTech can be an important driver to expand access to financial services for consumers, investors and companies, bringing greater choice and more user-friendly services, often at lower prices. Current limitations in traditional financial service markets (e.g. opacity, lack of use of big data, insufficient competition), such as financial advice, consumer credit or insurance, may foreclose access to some categories of individuals and firms. New financial technologies can thus help individuals as well as small and medium-sized enterprises (SMEs), including start-up and scale-up companies, to access alternative funding sources for supporting their cash flow and risk capital needs.

At the same time, potential redundancy of specific back-office functions or even of entire market players due to automation via FinTech solutions might have adverse implications in terms of employment in the financial industry, even though new jobs would also be created as part of the FinTech solutions. The latter, however, might require a different skill mix.

Question 1.1: What type of FinTech applications do you use, how often and why? In which area of financial services would you like to see more FinTech solutions and why?

Artificial intelligence and big data analytics for automated financial advice and execution

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 1.2: Is there evidence that automated financial advice reaches more consumers, firms, investors in the different areas of financial services (investment services, insurance, etc.)?

- Yes
- No
- Don't know / no opinion / not relevant

Question 1.3: Is enhanced oversight of the use of artificial intelligence (and its underpinning algorithmic infrastructure) required? For instance, should a system of initial and ongoing review of the technological architecture, including transparency and reliability of the algorithms, be put in place?


- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your answer to whether enhanced oversight of the use of artificial intelligence is required, and explain what could more effective alternatives to such a system be.

Question 1.4: What minimum characteristics and amount of information about the service user and the product portfolio (if any) should be included in algorithms used by the service providers (e.g. as regards risk profile)?

Question 1.5: What consumer protection challenges/risks have you identified with regard to artificial intelligence and big data analytics (e.g. robo-advice)? What measures, do you think, should be taken to address these risks/challenges?

Social media and automated matching platforms: funding from the crowd

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 1.6: Are national regulatory regimes for crowdfunding in Europe impacting on the development of crowdfunding?


- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether there are national regulatory regimes for crowdfunding in Europe impacting on the development of crowdfunding. Explain in what way, and what are the critical components of those regimes.

Question 1.7: How can the Commission support further development of FinTech solutions in the field of non-bank financing, i.e. peer-to-peer/marketplace lending, crowdfunding, invoice and supply chain finance?

Question 1.8: What minimum level of transparency should be imposed on fund-raisers and platforms? Are self-regulatory initiatives (as promoted by some industry associations and individual platforms) sufficient?

Sensor data analytics and its impact on the insurance sector

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.


Question 1.9: Can you give examples of how sensor data analytics and other technologies are changing the provision of insurance and other financial services? What are the challenges to the widespread use of new technologies in insurance services?

Question 1.10: Are there already examples of price discrimination of users through the use of big data?

- Yes
- No
- Don't know / no opinion / not relevant


Please provide examples of what are the criteria used to discriminate on price (e.g. sensor analytics, requests for information, etc.)?

Other technologies that may improve access to financial services

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 1.11: Can you please provide further examples of other technological applications that improve access to existing specific financial services or offer new services and of the related challenges? Are there combinations of existing and new technologies that you consider particularly innovative?

2. Bringing down operational costs and increasing efficiency for the industry

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

FinTech has the potential of bringing benefits, including cost reductions and faster provision of financial services, e.g., where it supports the streamlining of business processes. Nonetheless, FinTech applied to operations of financial service providers raises a number of operational challenges, such as cyber security and ability to overcome fragmentation of standards and processes across the industry. Moreover, potential redundancy of specific front, middle and back-office functions or even of entire market players due to automation via FinTech solutions might have adverse implications in terms of employment in the financial industry, even though new jobs would also be created as part of the FinTech solutions. The latter, however, might require a different skill mix, calling for flanking policy measures to cushion their impact, in particular by investing in technology skills and exact science education (e.g. mathematics).

Question 2.1: What are the most promising use cases of FinTech to reduce costs and improve processes at your company? Does this involve collaboration with other market players?

Financial Services Institutions (FSIs) are collaborating actively with large and small market players in the technology sector to adapt and compete in the post-crisis world. A fundamental shift in the technology sector in the last decade involves the wide-spread adoption of cloud computing services, and FSIs are actively exploring how to take advantage of this evolution. Fully deployed, cloud computing services can reduce costs and increase competitiveness, in particular through:

- Cost-effective access (scalability) to greater computing power leading to increased availability of data and faster data processing;
 - Greater flexibility to meet changing business needs through new innovations such as big data analytics;
 - Quicker response to new demands and requirements of customers, adding value to clients;
- Efficient data sharing across the organization.

Question 2.2: What measures (if any) should be taken at EU level to facilitate the development and implementation of the most promising use cases? How can the EU play its role in developing the infrastructure underpinning FinTech innovation for the public good in Europe, be it through cloud computing infrastructure, distributed ledger technology, social media, mobile or security technology?


Digital transformation and deployment of cloud services by FSIs has been constrained as FSIs have sought approval from regulatory to migrate legacy systems or adopt new services, and by the different approaches taken by national regulatory authorities that regional banks must work with. A common EU-wide approach to cloud service deployment among regulatory authorities would overcome the current fragmentation of national guidelines, and bring much needed certainty and speed to the cloud adoption process in the financial sector. Ultimately it would bring down operational costs and increase efficiency for financial services institutions (FSIs). We are therefore encouraged that the European Banking Authority (EBA) has published a consultation paper on 17 May with “draft recommendations on outsourcing to cloud-service providers”.

We are encouraged that the European Parliament’s recent report on FinTech highlights the benefits that cloud computing can have for consumers and providers of financial services, and stresses the need for the deployment of “clear and comprehensive European rules or guidelines and for a common approach to the use of cloud computing across NCAs”. We believe that a similarly positive statement from the European Commission about the use of cloud services in the financial sector could also help provide momentum to the ongoing EBA work and encourage a more appropriate pace of digital transformation in this sector.

Particularly in the case of distributed ledger technology, the EU should promote open source developments in order to facilitate collaboration and a wider adoption of the technology on the market.

Question 2.3: What kind of impact on employment do you expect as a result of implementing FinTech solutions? What skills are required to accompany such change?


RegTech: bringing down compliance costs

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 2.4: What are the most promising use cases of technologies for compliance purposes (RegTech)? What are the challenges and what (if any) are the measures that could be taken at EU level to facilitate their development and implementation?

The first issue faced by market players towards regulation compliance is ensuring that all material needed is produced digitally in a structured way. This is not yet completely the case, so much is available in paper form only, or in unstructured PDF form only. For such fully or semi-analogue documents, as well as digital unstructured documents (without adequate metadata tagging e.g.), tools exist for converting the analogue or unstructured document, however this is an area of incomplete efficiency which needs to be managed.

Recording, storing and securing data: is cloud computing a cost effective and secure solution?

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 2.5.1: What are the regulatory or supervisory obstacles preventing financial services firms from using cloud computing services?

A variety of factors, both from the regulatory and supervisory aspect, affect financial services firms from using cloud computing services, including the lack of clarity on the regulations position, the migration process and security of data. FSIs will often be unwilling to use cloud computing services unless the regulator has issued clear guidance on its use. These would provide clarity on how FSIs can address compliance, security and performance standards when engaging a cloud service provider (CSP), so that FSIs (and, ultimately, their end customers) can fully benefit from the potential of the technology while maintaining a safe, stable and secure financial environment. To accompany the guidelines, the regulator should encourage adopting a best practice 'checklist' for FSIs when working with CPS. Also, any guidance issued must be harmonized at EU level

Question 2.5.2: Does this warrant measures at EU level?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether the regulatory or supervisory obstacles preventing financial services firms from using cloud computing services warrant measures at EU level.

According to the Queen Mary 2016 Study on “Use by Banks of Cloud Computing: An Empirical Study”, despite outsourcing/cloud guidance having been issued by for example, the Netherlands, Spain, Greece and Finland, there are similar but different rules everywhere. If fragmented approaches continue, this poses a risk to the development of innovative financial technologies and clashes with the goal of building a Digital Single Market in Europe.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2856431##

Question 2.6.1: Do commercially available cloud solutions meet the minimum requirements that financial service providers need to comply with?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether commercially available cloud solutions do meet the minimum requirements that financial service providers need to comply with.

Commercially available cloud solutions are available that meet minimum requirements FSIs need to comply with, and can help with ensuring smooth compliance with financial regulation and beyond (for e.g. privacy regulations). FSIs that use cloud computing services also have certainty that their systems are running the very latest versions of software, avoiding “version lag”, where systems may be operating one or two software releases behind the most current versions, and FSIs may thus be exposed to a higher risk of security threats or vulnerability issues. By using cloud computing services, FSIs can exploit far greater computing power, achieve greater availability and resilience of data, and improve levels of security even as they reduce their IT costs compared to on premise delivery models.


Further on security, certification is an important benchmark used by Financial Regulators in measuring security standards. There is currently no single recognised industry certification specifically for Cloud Services. However, ISO 27001 is generally considered the most appropriate certification given the high benchmark that CSPs must meet to achieve and maintain it. Other CSP certifications, whilst not specifically relevant to FIs, can be indicative of industry best practice and should also be taken into consideration (for example ISO 27018).

Question 2.6.2: Should commercially available cloud solutions include any specific contractual obligations to this end?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether commercially available cloud solutions should include any specific contractual obligations to this end.

Disintermediating financial services: is Distributed Ledger Technology (DLT) the way forward?


Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 2.7: Which DLT applications are likely to offer practical and readily applicable opportunities to enhance access to finance for enterprises, notably SMEs?

Question 2.8: What are the main challenges for the implementation of DLT solutions (e.g. technological challenges, data standardisation and interoperability of DLT systems)?

Question 2.9: What are the main regulatory or supervisory obstacles (stemming from EU regulation or national laws) to the deployment of DLT solutions (and the use of smart contracts) in the financial sector?

Outsourcing and other solutions with the potential to boost efficiency

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 2.10: Is the current regulatory and supervisory framework governing outsourcing an obstacle to taking full advantage of any such opportunities?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether the current regulatory and supervisory framework governing outsourcing is an obstacle to taking full advantage of any such opportunities.

The EU framework governing outsourcing needs to acknowledge the difference between custom outsourcing versus hyperscale cloud solutions, which are the infrastructure and provisioning needed in distributed computing environments for effectively scaling from several servers to thousands of servers in a multi-tenant infrastructure. Second, different approaches currently exist across Member States; either there are no publicly available positions on cloud computing or they fall under outsourcing activities. Third, the FSI and CSP should have flexibility to assess what access to data and business premises is required for a specific outsourcing arrangement. This is in line with a risk-based and proportionate approach to risk management and considers the broader legal framework including the Markets in Financial Instruments Directive (MiFID).

Question 2.11: Are the existing outsourcing requirements in financial services legislation sufficient?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether the existing outsourcing requirements in financial services legislation are sufficient, precisising who is responsible for the activity of external providers and how are they supervised. Please specify, in which areas further action is needed and what such action should be.


A common EU-wide approach would overcome the current fragmentation of national guidelines, and bring much needed certainty and speed to the cloud adoption process in the financial sector. In addition, existing legislation including MIFID, the NIS Directive and the General Data Protection Regulation provide the necessary framework for outsourcing.

FSI and CSP responsibilities do not finish at the point that a contract is signed but that FSIs continue to be vigilant in compliance throughout the contract lifecycle. Financial Regulators recognise that FSIs may need to outsource certain services but they make it clear that FSIs cannot outsource their primary responsibility relating to risk and compliance.

Other technologies that may increase efficiency for the industry

Question 2.12: Can you provide further examples of financial innovations that have the potential to reduce operational costs for financial service providers and/or increase their efficiency and of the related challenges?

3. Making the single market more competitive by lowering barriers to entry

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

A key factor to achieving a thriving and globally competitive European financial sector that brings benefits to the EU economy and its society is ensuring effective competition within the EU single market. Effective competition enables new innovative firms to enter the EU market to serve the needs of customers better or do so at a cheaper price, and this in turn forces incumbents to innovate and increase efficiency themselves. Under the EU Digital Single Market strategy, the EU regulatory framework needs to be geared towards fostering technological development, in general, and supporting the roll-out of digital infrastructure across the EU, in particular. Stakeholder feedback can help the Commission achieve this goal by highlighting specific regulatory requirements or supervisory practices that hinder progress towards the smooth functioning of the Digital Single Market in financial services. Similarly, such feedback would also be important to identify potential loopholes in the regulatory framework that adversely affect the level playing field between market participants as well as the level of consumer protection.

Question 3.1: Which specific pieces of existing EU and/or Member State financial services legislation or supervisory practices (if any), and how (if at all), need to be adapted to facilitate implementation of FinTech solutions?

For cloud, the largest barriers are:

- **Lack of clarity from the supervisor:** European FSIs and the technology services they use operate across borders in the EU, while the supervision of the use of cloud services by European banks is a national responsibility. While some Member States provide detailed guidance in this area, others are not engaged at all on such issues. Unless the supervisor offers detailed specific guidance, banks will remain reluctant to use cloud services to support core business functions and analytics.
- **Right to access/ audit:** Under the EU Markets in Financial Instruments Directive (MIFID), financial institutions have to enable “effective access to data” for national supervisors for audit purposes – and in cases of serious regulatory breaches. It is often unclear to national supervisors, however, whether this means strictly physical access or not and the default supervisory position is a preference data to be stored on the bank’s premises.
- **Data localisation requirements:** These restrictions are present for banks in some EU Member States (Germany, Luxembourg) but not in others (Netherlands) resulting in fewer service options and higher costs where they are present.


We believe that harmonised EU guidelines for the financial sector on how to migrate to and use cloud computing services can go a long way to overcoming these barriers, and facilitate the implementation of cloud computing solutions in the financial sector. In our view, a Commission-backed legislative measure on removing data localisation restrictions is also necessary.

Question 3.2.1: What is the most efficient path for FinTech innovation and uptake in the EU?


Question 3.2.2: Is active involvement of regulators and/or supervisors desirable to foster competition or collaboration, as appropriate, between different market actors and new entrants?

- Yes
- No
- Don't know / no opinion / not relevant

FinTech has reduced barriers to entry in financial services markets

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

But remaining barriers need to be addressed

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 3.3: What are the existing regulatory barriers that prevent FinTech firms from scaling up and providing services across Europe? What licensing requirements, if any, are subject to divergence across Member States and what are the consequences? Please provide the details.

Question 3.4: Should the EU introduce new licensing categories for FinTech activities with harmonised and proportionate regulatory and supervisory requirements, including passporting of such activities across the EU Single Market?

- Yes
- No
- Don't know / no opinion / not relevant

Question 3.5: Do you consider that further action is required from the Commission to make the regulatory framework more proportionate so that it can support innovation in financial services within the Single Market?

- Yes
- No
- Don't know / no opinion / not relevant

Question 3.6: Are there issues specific to the needs of financial services to be taken into account when implementing free flow of data in the Digital Single Market?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether there are issues specific to the needs of financial services to be taken into account when implementing free flow of data in the Digital Single Market, and explain to what extent regulations on data localisation or restrictions on data movement constitute an obstacle to cross-border financial transactions.

Data localization mandates present a major obstacle. They take many forms, including regulations, administrative requirements, procurement policies, and regulatory guidance. They also include, for example, laws based on national security requirements (e.g. for classified data), company record laws, and archival requirements (requiring storage of records in a specific institution inside a country). Many are sector-based, and notably apply to the financial services sector.

The main origin of such data localization mandates in the financial sector seem to be the outsourcing rules for financial institutions, included in financial legislation, notably MiFID, or guidance by regulators (e.g. EBA's 2006 Outsourcing guidelines), which mandate audit- and "effective access"-rights to regulators. Whether the meaning of "effective access" is restricted to physical access only has been a question of great importance. More effective than changing financial regulation, would be the removal of unjustified data localization requirements, as it would send a clear signal to both the financial sector and regulators.


Another important factor that needs to be taken into account when considering the free flow of data are the local laws used by law enforcement authorities (LEAs) to access data. Some customers are concerned that storing data in another country could subject their data to law enforcement access in that country. In this regard, data flows are inhibited by the lack of certainty about foreign law enforcement capabilities, not only by localization requirements put in place for law enforcement reasons in the customer's home country.

Question 3.7: Are the three principles of technological neutrality, proportionality and integrity appropriate to guide the regulatory approach to the FinTech activities?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether the three principles of technological neutrality, proportionality and integrity are or not appropriate to guide the regulatory approach to the FinTech activities.

Role of supervisors: enabling innovation

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 3.8.1: How can the Commission or the European Supervisory Authorities best coordinate, complement or combine the various practices and initiatives taken by national authorities in support of FinTech (e.g. innovation hubs, accelerators or sandboxes) and make the EU as a whole a hub for FinTech innovation?

Question 3.8.2: Would there be merits in pooling expertise in the ESAs?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether there would be merits in pooling expertise in the European Supervisory Authorities.

Question 3.9: Should the Commission set up or support an "Innovation Academy" gathering industry experts, competent authorities (including data protection and cybersecurity authorities) and consumer organisations to share practices and discuss regulatory and supervisory concerns?

- Yes
- No
- Don't know / no opinion / not relevant

Question 3.10.1: Are guidelines or regulation needed at the European level to harmonise regulatory sandbox approaches in the MS?

- Yes
- No
- Don't know / no opinion / not relevant


Please elaborate on your reply to whether guidelines or regulation are needed at the European level to harmonise regulatory sandbox approaches in the MS?

Question 3.10.2: Would you see merits in developing a European regulatory sandbox targeted specifically at FinTechs wanting to operate cross-border?

- Yes
- No
- Don't know / no opinion / not relevant

Question 3.11: What other measures could the Commission consider to support innovative firms or their supervisors that are not mentioned above?

Role of industry: standards and interoperability

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 3.12.1: Is the development of technical standards and interoperability for FinTech in the EU sufficiently addressed as part of the European System of Financial Supervision?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether the development of technical standards and interoperability for FinTech in the EU is sufficiently addressed as part of the European System of Financial Supervision.

Question 3.12.2: Is the current level of data standardisation and interoperability an obstacle to taking full advantage of outsourcing opportunities?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether the current level of data standardisation and interoperability is an obstacle to taking full advantage of outsourcing opportunities.

Question 3.13: In which areas could EU or global level standards facilitate the efficiency and interoperability of FinTech solutions? What would be the most effective and competition-friendly approach to develop these standards?


Question 3.14: Should the EU institutions promote an open source model where libraries of open source solutions are available to developers and innovators to develop new products and services under specific open sources licenses?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether the EU institutions should promote an open source model where libraries of open source solutions are available to developers and innovators to develop new products and services under specific open sources licenses, and explain what other specific measures should be taken at EU level.

The EU should indeed promote open source models and encourage the development of libraries of open source solutions.


Challenges

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 3.15: How big is the impact of FinTech on the safety and soundness of incumbent firms? What are the efficiencies that FinTech solutions could bring to incumbents? Please explain.

A large number of incumbent firms are today collaborating with FinTech firms to offer innovative services to their customers, gain market share, as well as to reduce development and operating costs.

4. Balancing greater data sharing and transparency with data security and protection needs

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.


Question 4.1: How important is the free flow of data for the development of a Digital Single Market in financial services? Should service users (i.e. consumers and businesses generating the data) be entitled to fair compensation when their data is processed by service providers for commercial purposes that go beyond their direct relationship?

Removing data localisation restrictions within the EU Digital Single Market would stimulate innovation in the financial sector.

Moving on to other issues, such as data access, re-use, and ownership, as with the technologies used to analyze and re-use data, the data market itself is nascent but it is already characterized by tremendous innovation in business models.

In any case, data sharing should be subject to the owner's explicit permission.

Storing and sharing financial information through a reliable tool

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 4.2: To what extent could DLT solutions provide a reliable tool for financial information storing and sharing? Are there alternative technological solutions?

Businesses could use DLT to retain required customer information. But unlike current technology, DLT can help businesses access information in the ledger and provide trusted evidence of the information without actually sharing sensitive data. Given the sensitive nature of customer information, legal mandates require protecting the information and notifying customers if that confidentiality has been breached. Blockchain solutions can be designed to store such sensitive information off of the chain and leverage the blockchain to retain the trusted evidence and secure access information to the off-chain data. In addition to cryptography, DLT creates a time-stamped record that once established cannot be changed. For example, once originally created, even appropriately authorized operational personnel cannot change existing customer information in the ledger. Instead, if a customer's name, address, or investment objectives change, the updated information can only be appended to the existing record in a new record (or a chain), thereby creating an automatic, comprehensive audit trail.

DLT can also grant auditors and regulators permission to see information relevant to their respective oversight roles. Also on the same ledger, DLT can grant a customer permission to a channel to view his or her account or transaction records without seeing information stored on the ledger about other customers. This ability for customers to access immutable records of their transactions better protects investors, eliminating the need that exists today to rely on intermediaries or other market participants for essential information. As such, the ledger by design reduces layers of intermediation and thereby decreases costs to investors.

Using "smart contracts" the DLT can build-in requirements to notify customers when information changes in their account records or at specified intervals to fulfil regulatory requirements. And depending on the design of the specific DLT solution, the record could be retained for predetermined periods of time—to fulfil mandated retention requirements—or indefinitely.

Question 4.3: Are digital identity frameworks sufficiently developed to be used with DLT or other technological solutions in financial services?


- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether digital identity frameworks are sufficiently developed to be used with DLT or other technological solutions in financial services.

Question 4.4: What are the challenges for using DLT with regard to personal data protection and how could they be overcome?

Data needs to be stored in many places for a holistic DLT solution, ranging from data within the ledger, to databases, to elements stored off the ledger. Careful analysis of the data types, data classifications and associated policies is critical. Storing SPI/PI data on the ledger could be problematic especially given the GDPR's "right to forgotten" which is orthogonal to DLT immutability. Nevertheless, there are solutions being tested on the market including separately SPI/PI from transaction data, and maintaining a hash reference between the two.


The power of big data to lower information barriers for SMEs and other users

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 4.5: How can information systems and technology-based solutions improve the risk profiling of SMEs (including start-up and scale-up companies) and other users?

Question 4.6: How can counterparties that hold credit and financial data on SMEs and other users be incentivised to share information with alternative funding providers ? What kind of policy action could enable this interaction? What are the risks, if any, for SMEs?

Security


Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 4.7: What additional (minimum) cybersecurity requirements for financial service providers and market infrastructures should be included as a complement to the existing requirements (if any)? What kind of proportionality should apply to this regime?

Question 4.8: What regulatory barriers or other possible hurdles of different nature impede or prevent cyber threat information sharing among financial services providers and with public authorities? How can they be addressed?

Question 4.9: What cybersecurity penetration and resilience testing in financial services should be implemented? What is the case for coordination at EU level? What specific elements should be addressed (e.g. common minimum requirements, tests, testing scenarios, mutual recognition among regulators across jurisdictions of resilience testing)?

Other potential applications of FinTech going forward

Please [refer to the corresponding section of the consultation document](#)  to read some contextual information before answering the questions.

Question 4.10.1: What other applications of new technologies to financial services, beyond those above mentioned, can improve access to finance, mitigate information barriers and/or improve quality of information channels and sharing?

Question 4.10.2: Are there any regulatory requirements impeding other applications of new technologies to financial services to improve access to finance, mitigate information barriers and/or improve quality of information channels and sharing?

- Yes
- No
- Don't know / no opinion / not relevant

Please elaborate on your reply to whether there are any regulatory requirements impeding other applications of new technologies to financial services to improve access to finance, mitigate information barriers and/or improve quality of information channels and sharing?

3. Additional information

Should you wish to provide additional information (e.g. a position paper, report) or raise specific points not covered by the questionnaire, you can upload your additional document(s) here:

Useful links

[More on the Transparency register \(http://ec.europa.eu/transparencyregister/public/homePage.do?locale=en\)](http://ec.europa.eu/transparencyregister/public/homePage.do?locale=en)

[Consultation details \(http://ec.europa.eu/info/finance-consultations-2017-fintech_en\)](http://ec.europa.eu/info/finance-consultations-2017-fintech_en)

[Specific privacy statement \(https://ec.europa.eu/info/sites/info/files/2017-fintech-specific-privacy-statement_en.pdf\)](https://ec.europa.eu/info/sites/info/files/2017-fintech-specific-privacy-statement_en.pdf)

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