



EIOPA Regular Use
22 June 2020

European Commission's Digital Finance Strategy consultation – EIOPA draft response

Question 1 – What are the [main obstacles to fully reap the opportunities of innovative technologies](#) in the European financial sector (please mention no more than 4)?

EIOPA considers that a sound approach to financial innovation should strike a balance between enhancing financial innovation and ensuring well-functioning consumer protection and financial stability frameworks. A level playing field and technological neutrality are crucial. To achieve this it is important to remove legislative barriers to financial innovation while guaranteeing that other objectives such as financial soundness of the insurance market, consumer protection and financial stability are not undermined.

EIOPA would like to underline that in our view, digitalisation offers significant opportunities to take the single market further forward while allowing for more efficient supervision and new products and services that offer increased value propositions and allow for greater transparency and greater market competition. It is important to take this opportunity to set out longer term as well as shorter term targets.

In doing so, it is also important to address the risks arising from digital technologies, such as the risk of unfair treatment of consumers or related to the lack of explainability of opaque AI algorithms if there are no adequate governance measures in place. The issue of third parties management is also particularly relevant in the digital domain, as well as the risks arising from an inadequate management of conflicts of interests/cross-selling by digital platforms. Furthermore, from a prudential perspective the increase in digitalisation might also lead to an increase in interconnectedness, which could render extreme cyber risks more plausible and more impactful for insurance undertakings and for the economy at large.

The Covid-19 outbreak has accelerated the trend towards digital transformation of business models and shown how digital technologies can promote financial inclusion by helping address the challenges arising from social distancing

measures. On the other hand, Covid-19 outbreak has also revealed that there are groups of vulnerable consumers (e.g. low income or elderly populations) which cannot easily access digital technologies or the Internet and should therefore be protected. It also opened the door to an increase number of cyber-attacks.

EIOPA would like to highlight three areas (more detail on these and other issues are further developed in the relevant questions in the consultation):

- Areas where improvements or clarifications in insurance legislation could be introduced: EIOPA considers that insurance legislation should be fit for purpose and for this reason, it is crucial to understand shifting risks and opportunities of new technologies and business models. In this regard, improvements and clarifications could be introduced, e.g. for paper requirements by default, on the definition of insurance and on outsourcing requirements. Further refinements to address the emergence of so-called platforms may also be needed.
- Unlocking the use of new technologies while ensuring a fair, ethical and transparent use of data: data is a key driver of financial innovations such as those enabled by artificial intelligence; an ethical and trustworthy data analytics governance framework is crucial, yet stakeholders have called for more guidance. EIOPA is working with stakeholders to bring further clarity on fairness, explainability, and governance of AI algorithms through an Expert Group on Digital Ethics in insurance (GDE) drawn from a wide range of stakeholders.
- Access to relevant datasets: Access to data is of utmost importance for the insurance sector. In this context EIOPA would highlight the following:
 - Open Finance/Open Insurance: EIOPA has recently started a broader discussion with different stakeholders on possible balanced, forward-looking and secure approaches to Open Insurance and its risks and benefits to the insurance industry, consumers and supervisors. This work is currently on-going, and therefore the preliminary potential risks and benefits identified should be treated cautiously. However EIOPA considers that there might be potential for the sector and its supervision if handled right.
 - Internet of Things (IoT) data: EIOPA encourages the European Commission to promote the interoperability of applications and portability of data between different platforms (i.e. reduce lock-in effects), improve the power of consumers to switch between providers and therefore create an appropriate framework for innovation in insurance.
 - Cyber incident reporting data: a common incident reporting framework is critical for sharing knowledge about incidents and to encourage the development and growth of sound underwriting practices.
 - Data standardisation: EIOPA believes it is critical that future standardisation is built on what has already been achieved. EIOPA has

already extensive experience in this regard. We are ready to be closely involved in future discussions on data standardisation. Innovation and digitalisation could also benefit from a wider adoption of existing standards (e.g. LEI).

Question 2. What are the [key advantages and challenges](#) consumers are facing with the increasing digitalisation of the financial sector (please mention no more than 4). For each of them, what if any are the initiatives that should be taken at EU level?

In its thematic review on Big Data Analytics (BDA) in motor and health insurance, EIOPA concluded that there are many opportunities arising from BDA and digitalisation more broadly, both for the insurance industry as well as for consumers. For example, insurance undertakings are able to develop increasingly tailored products and services and more accurate pricing and risk assessments. The latter can be used to introduce new products for specific targets, markets and groups of coverage where previously was not possible, filling like this coverage gaps in the insurance needs by individuals and firms. The development of CRM systems allows firms to develop increasingly personalised and targeted marketing campaigns. The penetration of robo-advisors could also potentially allow consumers to access more affordable advice, and mobile phone technology enables consumers to submit claims (e.g. attaching pictures of invoices or car damages), or buy short-term /on-demand motor insurance policies, or make medical and dental appointments via their mobile phone apps.

In addition, digitalisation can help develop economies of scale and breadth of market access by facilitating cross-border sales and driving down costs, while also laying a basis for new venues for competition, and for deeper and more effective market and supervisory transparency.

However, EIOPA has also identified a number of risks that need to be further addressed in practice. Some of these risks are not new, but their significance is amplified in the context of BDA. This is particularly the case regarding ethical issues with the fairness of the use of data as well as regarding the transparency, performance, explainability, auditability and so on of certain BDA tools such as AI or ML in insurance. Indeed, given that BDA tools such as AI and ML algorithms rely on historic data for 'training', any biases (e.g. societal / ethical) inherent in the historic data will be reflected in the output of these algorithms. This issue becomes more significant where specific judgements of a (black box) algorithm cannot be specifically explained in a meaningful way, raising fundamental questions about the accountability of those firms using them. Moreover, the thematic review did not find evidence that an increasing granularity of risk assessments is causing exclusion issues for high-risk consumers, but insurance undertakings expect the impact of BDA to increase in the years to come.

In order to address the above-mentioned challenges, EIOPA has recently created a Consultative Expert Group on Digital Ethics in insurance. A total of 40 stakeholders from the insurance industry, consumer representatives and academics are working to develop a set of principles of digital responsibility in insurance, leveraging on the Ethical Guidelines developed by the European Commission's High Level Expert Group on Artificial Intelligence. The aim is to promote further clarity to the market in terms of fairness, explainability, and governance considerations concerning the use of BDA in insurance. The European Commission may consider developing similar initiatives for other areas of the financial sector.

Moreover, risks for consumers could also arise from an inadequate management of conflicts of interests/cross-selling by digital platforms. Due consideration should also

be given to prudential risks arising from the increasing digitalisation of the financial services sector, since they could also ultimately negatively affect consumers. For instance, the increase in digitalisation might also lead to an increase in interconnectedness. This will render extreme cyber risks more plausible and more impactful for insurance undertakings and for the economy at large.

For further details about opportunities and challenges arising from digitalisation to consumers, please refer to questions 29, 38, and 39.

[Ensuring a technology-neutral and innovation friendly EU financial services regulatory framework](#)

[Question 3. Do you agree with the choice of \[the following\] priority areas?](#)

1. ensuring that the EU financial services regulatory framework is technology-neutral and innovation friendly;
2. reaping the opportunities offered by the EU-wide Single Market for digital financial services for consumers and firms;
3. promoting a data-driven financial sector for the benefit of EU consumers and firms; and
4. enhancing the operational resilience of the financial sector.

<input checked="" type="checkbox"/>	Yes
<input type="checkbox"/>	No
<input type="checkbox"/>	Don't know / no opinion / not relevant

[Question 3.1 Please explain your answer to question 3 and specify if you see other areas that would merit further attention from the Commission:](#)

EIOPA considers that it is important to strike a balance between the opportunities and risks arising from new technologies in order to enable the industry and consumers to reap the benefits arising from financial innovation. Concerning the promotion of a data-driven financial sector, EIOPA is of the opinion that the European Commission should actively promote the fair, ethical and transparent use of data in the financial sector, leveraging on already existing initiatives such as the European Commission's High Level Expert Group on Artificial Intelligence or EIOPA's on-going work on digital ethics in insurance.

[Question 4. Do you consider the existing EU financial services regulatory framework to be technology neutral and innovation friendly?](#)

<input checked="" type="checkbox"/>	Yes
<input type="checkbox"/>	No
<input type="checkbox"/>	Don't know / no opinion / not relevant

Question 4.1 If not, please provide specific examples of provisions and requirements that are not technologically neutral or hinder innovation:

In 2019, EIOPA analysed a number of potential barriers to InsurTech in insurance legislation, following discussions with stakeholders. EIOPA concluded that the European insurance legislative framework is fundamentally well designed to address the opportunities and challenges arising from digitalisation, and therefore we have responded “Yes” to the previous question. However, EIOPA have identified some areas where legislation could be further improved or clarified. For other areas where existing legislation could potentially represent barriers to innovation it was concluded that the legislation is already sufficiently adaptive and potential barriers can be addressed with the application of the principle of proportionality recognised in insurance legislation.

A Technological neutral regulatory framework should not inadvertently prefer or prevent the adoption of a specific technology nor prefer or prejudice a specific business model or service provider. It should also take into account that it is not desirable to remove all legislative provisions that represent barriers to innovation, given that there are other public policy objectives (like consumer protection or financial stability) sought by legislators that are still relevant in the digital age. Consumer protection and financial stability should indeed be the priority, but we should also be willing to take some risks in view of the benefits arising from financial innovation.

Areas where improvements or clarifications in the financial services legislation could be introduced were identified:

- Paper requirement by default

Article 23 IDD and Article 14 PRIIPS establish the requirement to provide information to the customer on paper or, if the consumer agrees, in a durable medium other than paper or by means of a website. As regards IDD, given that the insurance undertaking or insurance intermediary always has to be able to provide a paper copy on request and free of charge (Article 23(3)), it is essentially a “paper by default” requirement (with some notable exceptions – the disclosure of the nature or sources of a conflict of interest regarding the distribution of an insurance-based investment product must be done in a durable medium and include sufficient detail (Article 28(3)) and the same is the case for periodic reporting and suitability statement (Article 30)). These requirements were brought in to align with MiFID II, which generally promotes a “durable medium” requirement. For PRIIPs Article 14 provides that paper “should be the default option” where it is a “face-to-face” distribution.

These requirements aim to enhance consumer protection by ensuring that retail consumers (i.e. non-professionals) have the necessary access to information that would allow them to make informed decisions (e.g. investing their life-time savings on a life insurance product), and that the format of information is appropriate for the channel by which a service or product is being transacted. Indeed, some segments of the population (e.g. often this is the case of elderly people) may not be as tech-savvy as other segments and/or may prefer to receive the information on paper. The Covid-19 outbreak have shown that while on the one hand digital technologies have promoted financial inclusion by helping address barriers arising from social distancing rules, on the other hand there are

also vulnerable populations (e.g. low income) which cannot easily access digital technologies or the Internet.¹

Moreover, some small insurance intermediaries may still operate through traditional sales models and the argument is often made that consumers make their decisions based on their face-to-face contact with the intermediary, rather than on the basis of the actual disclosures. Indeed in a face-to-face advisory process providing important information via an email could significantly reduce the impact of that information in the customer's decision making process, while the policy objective is that the information is provided in such a way as to inform that decision making process.

However, the requirement of 'paper by default' can be burdensome in certain cases such as online sales. Those who are fully embracing digital services and wish to conduct their business online can face some challenges. The hurdles for providing the information digitally may not be efficiently met in some cases, while since the information requirements have been designed first for paper, they may not be well enough adapted for digital delivery. Some cost-efficiencies arising from technological innovations reportedly depend on the possibility to process data digitally throughout the entire process. Any disruption of the processes such as the need to use paper can lead to less efficient digital processes. In addition, new more interactive communication possibilities will not be possible.

It should be noted that the possibility for insurance firms to completely remove paper in their internal processes and interaction with their customers is strictly linked with the achievements in initiatives by the government and the authorities to dematerialise legal documents and signatures (e.g. electronic ID, digital signature, and so on). This indeed one of the objectives pursued by Regulation (EU) N°910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation), although the level of penetration of electronic identification systems still differs widely across Member States.

EIOPA considers that there is a need to find a well-balanced regulatory solution allowing the provision of digital financial services through quick, effective and efficient compliance requirements, while at the same time ensuring a consistent level of consumer protection and clear communications of important information. In this regard, the European Commission should consider further promoting in the primary EU legislation (where not already provided for) disclosure requirements other than paper for online sales,² such as via another durable medium or via a website, and at the same time consider under which circumstances (e.g. for certain types of insurance products) consumers should be still offered the option to request receipt of the information on paper free of charge.

For the future, it may be necessary to consider using innovative tools to avoid just replicating paper via digital means, so as to more fundamentally assess how regulatory disclosures and communications can work best for consumers buying financial services and products using, for instance, smartphones, in parallel to fostering the EU-wide development of a reliable digital signature system. It is also important to provide guidance on the timing of disclosures of digital contractual information to ensure that customers

¹ See Eurostat statistics on Internet penetration in European households: https://ec.europa.eu/eurostat/statistics-explained/index.php/Digital_economy_and_society_statistics_-_households_and_individuals

² Given that the focus was on InsurTech-related activities, disclosure requirements of other non-digital distribution channels were not considered in this analysis. It is important to highlight that EIOPA does not suggest the creation of a *lex specialis* for online sales or for other distribution channels; that should be determined by a comprehensive impact assessment prior to the development of any new policy measures in this area.

have enough time to make an informed decision, especially in relation to unit-linked life insurance contracts. Current insurance distribution legislation only provides that disclosures shall be made "in good time before the conclusion of an insurance contract." (Article 18 of the IDD)

- Lack of clarity regarding the definition of insurance, including P2P insurance

European insurance legislation does not provide a definition of what is insurance and what is not (either as an activity or as a contract); Art 13(1) Solvency II states that insurance undertaking means a direct life or non-life insurance undertaking which has received an authorisation. The IDD, which is a minimum harmonisation directive, provides a broad definition of what should be understood by insurance distribution (Article 2(1)(1)). The definition of insurance is often (not always) included in national legislation or case law, and therefore there is not a common EU approach in this regard which can lead to diverging views of what is P2P insurance.³ Some NCAs have also reported that it is unclear to what extent the several natural or legal persons typically involved in the setting up and running of digital distribution channels should be considered as insurance distributors and/or ancillary intermediaries under IDD.

From a regulatory perspective, and following an activity-based approach, it can be argued that there are three different types of P2P insurance business models: a) P2P insurance sold directly through a licensed insurer; b) P2P insurance sold via a licensed / registered insurance intermediary backed by a licensed insurance undertaking, and c) service providers/platforms acting solely as administrators for risk sharing groups, without an underlying insurance carrier and without performing insurance distribution activities, in so far as the risk sharing is deemed not to be insurance.

While there is a clear applicable legal framework for the first two types of P2P insurance business models, this is not so clear in the case of service providers/platforms purely acting as an administrator for risk sharing groups. It is also debateable whether the Solvency II and IDD are adapted to all new types of P2P insurance business models. One could argue that the low penetration of P2P insurance is due to a lack of clarity as to the application of the legal framework for these types of business models.

In this regard, a P2P insurance initiative similar to the European Commission's crowdfunding legislative proposal could facilitate the penetration of P2P business models in insurance, facilitating the access to alternative risk management tools for consumers and/or offering them a wider range of choices and specifying governance and disclosure elements so that consumers understand in what kind of business they engage. Indeed it should ensure that these business model does not pose a risk to consumers. However, it should also be taken into account the fact that the protection needs of insurance customers are different, arguably higher, than the ones of crowdfunding investment models, in particular regarding certain types of insurance products.

Due to the current relatively low market penetration of P2P insurance business models,⁴ EIOPA does not see a pressing need for special regulatory approaches or changes in

³ At least in one EU jurisdiction there is an entity operating an P2P-like insurance business models with the a payments license under PSDII instead of an insurance license/registration.

⁴ Taking into consideration the European Commission's Fintech Action Plan, EIOPA mapped in 2019 current authorising and licencing requirements (both in the light of the IDD and Solvency II), and assessed how the principle of proportionality is being applied in practice specifically in the area of financial innovation. EIOPA also looked more in depth P2P Insurance. The majority of the NCAs didn't report on licenced P2P insurers. Some NCAs stated that the specific regulation would be useful if such market will start growing – at the moment it is very limited and thus it is too early to determine a need for special legislation. Indeed, an estimate size of the P2P business was considered very limited or even not sizable (compared e.g. with the market size of crowdfunding). NCAs reported no consumer complains on P2P insurance yet.

relation to P2P insurance. However, the European Commission could consider developing such a legislation in the future, in particular if P2P insurance business models or other new business models continue to develop along a similar trajectory as seen with crowdfunding, car sharing or real estate rentals. In any case an in-depth impact assessment would be needed, as highlighted in EIOPA's report on Best Practises on Licencing Requirements, Peer-to-Peer Insurance and principle of proporcionality⁵. This report also highlights that when considering possible legislative options, it is important to define how and where to intervene. In general, any regulatory responses should be:

1. neutral in terms of the way that a product or service is distributed (i.e. the principle of "technological neutrality"); and;
2. ensure that regulatory responses reflect the businessmodel, size, systemic significance, as well as complexity and cross-border activity of the regulated entities (i.e. proportionality).

Furthermore, EIOPA considers that it would be advisable to provide clearer rules on the definition of ancillary intermediary and insurance distribution under IDD that take into account digital business models.

- Outsourcing requirements

Financial stability and consumer protection considerations are behind the outsourcing requirements included under Article 49 Solvency II Directive and Article 274 of Commission Delegated Regulation (EU) 2015/35. Indeed, trust in the reliability of the financial system is crucial for its proper functioning and therefore effective internal governance arrangements are fundamental to ensure that it operates well. It is a critical feature of the regulatory and supervisory system applying under Solvency II that insurance undertakings are fully able to identify and mitigate the risks arising in their business models, including through strong oversight and governance arrangements and leadership from the top and that NCAs can supervise service providers to the same extent as insurance undertakings. It is also crucial that outsourcing does not lead to an accumulation of unforeseen risks.

Nonetheless, incumbent insurance undertakings are increasingly cooperating with InsurTech start-ups and the so-called "Big Tech" firms to develop specific areas of the insurance value chain; there is an increasing interest in outsourcing certain business activities in order to improve the efficiency of internal processes and obtain quick access to new technologies and business models. In addition, new business models are developing in the market, such as the growth of Managing General Agents whereby insurance undertakings outsource some of their responsibilities (e.g. pricing and underwriting, including defining a target market) to insurance intermediaries, including InsurTech start-ups. It should also be noted that Managing General Agents do not underwrite any risks by themselves.

In this context, excessively burdensome or unclear outsourcing requirements (e.g. how to develop key governance processes such as materiality assessments) could limit the involvement of third parties in the insurance value chain and therefore represent a barrier to financial innovation. At the same time, a lack of competition in the offering of strategic services/technologies or at the distribution channel level, can also disrupt the efficient functioning of value chains, leading to situations of "reverse outsourcing", and thereby represent a potential barrier to financial innovation.

⁵ https://www.eiopa.europa.eu/content/report-best-practises-licencing-requirements-peer-peer-insurance-and-principle_en

EIOPA acknowledges the benefits for financial innovation of a transparent and proportionate outsourcing legal framework and the important role played by competition in all areas of the insurance value chain. In order to provide further clarity and transparency to market participants avoiding potential regulatory arbitrages, as well as to foster supervisory convergence regarding the expectations and processes applicable in relation to cloud outsourcing, EIOPA published Guidelines on outsourcing to cloud service providers in February 2020.⁶ Going forward, EIOPA will consider issuing further guidance on outsourcing in other activities / areas of the insurance value chain, with the aim to clarify supervisor's expectations in this area, improve the governance of such processes and provide transparency to the market, without lowering standards.

Areas where the insurance legislation is already sufficiently adaptive, including via the application of the principle of proportionality:

- Solvency II requirements, including capital requirements

Safeguarding policyholders and beneficiaries as well as financial stability are the reasons behind the capital requirements included in Solvency II; the aim is to enable insurance and reinsurance undertakings to absorb significant losses thus giving reasonable assurance to policyholders and beneficiaries that payments will be made as they fall due.⁷

The Solvency II Directive includes an explicit reference to the principle of proportionality (Article 29(3)) according to which its requirements need to be applied in a manner which is proportionate to the nature, scale and complexity of the risks inherent in the business of an insurance or reinsurance undertaking.

Moreover Article 4 Solvency II establishes certain thresholds / exceptions below which Solvency II Directive does not apply. However for those undertakings excluded from the scope of the Solvency II regime, on some occasions the applicable national legislations and approaches reportedly establish similar regimes, including minimum and solvency capital requirements to the ones of Solvency II.

Similar to other small and medium size insurance undertakings, InsurTech start-ups often need a regulated status in order to gain the trust of consumers and investors. They therefore need to meet Solvency II requirements, in particular the capital requirements included in the applicable legislation, and it can be difficult to raise the required capital without first testing their business on real consumers. Alternatively, they need to enter into a partnership agreement with established players who will bear the risks for them. While Solvency II capital requirements are established on a risk-based manner, some firms including InsurTech start-ups consider that the costs of compliance with regulation put them in a disadvantaged position compared to undertakings with larger balance sheets or more complex business models.

EIOPA considers that the existing solvency framework is already risk-sensitive and sufficient to achieve the objectives of financial stability and the protection of policyholders and beneficiaries in a proportionate manner, namely through the exclusion of certain undertakings under Article 4 Solvency II and also taking into account that Solvency II is underpinned by the principle of proportionality. Indeed while the MCR represents an absolute minimum level of capital an insurance undertaking must hold in order to benefit from a EU-passport, for those undertakings falling below the thresholds of Article 4 (where

⁶ https://www.eiopa.europa.eu/content/guidelines-outsourcing-cloud-service-providers-now-available-national-supervisory_en

⁷ Recital 62 Solvency II

InsurTech start-ups would typically fall in their early days)⁸ Member States can decide on which regime to apply. This varies between Member State with some Members applying Solvency II. This approach is already followed by some Member States, as highlighted by the recent report from the Financial Stability Institute (FSI) Insights No 14 on Proportionality in the application of insurance solvency requirements.⁹ A full list of regimes applied to excluded undertakings under Article 4 is available in the Consultation Paper on the Opinion on the 2020 review of Solvency II¹⁰

- Restrictions in the scope of (re)insurance activities

In order to ensure the financial soundness of insurance undertakings and consumer protection, Article 18(1)(a) and (b) of Solvency II limits the types of products / services that (re)insurers can offer consumers to the (re)insurance business or activities arising directly therefrom. Reinsurance undertakings may also pursue activities such as the provision of statistical or actuarial advice, risk analysis or research for its clients or other related activities.¹¹

Some stakeholders have argued that a restrictive interpretation of this article could limit the ability of (re)insurance undertakings to experiment with new business models and technologies and develop platforms and ecosystems¹² around them. For example, it has been argued that it is unclear whether reinsurers could receive a fee-based remuneration for a service it provides to an insurance undertaking (e.g. app development) where no prior reinsurance contractual relationship with that insurance undertaking exists. Insurers may also be constrained from cross-selling products containing on the one hand a pure insurance products combined with other products or services such as fire alarms or theft alerts (for buildings/cars), coaching about driving styles via apps, e-medicine services, etc. requiring a fixed contribution from the customer.

Insurance undertakings could establish subsidiaries or other group affiliation and intragroup solutions to carry out some of these so-called ancillary activities. However not all insurance undertakings can easily create subsidiaries, and this option would reportedly create some additional complexities in terms of costs, governance, tax treatment, etc. Finally, it has also been argued that these restrictions could leave (re)insurance undertakings in a disadvantaged position compared to so-called "Big Tech" firms, which can cross-sell insurance/extended guarantees with some technological products sold through their online platforms.¹³

EIOPA acknowledges benefits can arise from the trend enabled by digitalisation towards platforms and ecosystems in insurance, and considers that the restrictions around business activities should take into account such new developments. EIOPA is of the

⁸ It is important to note that insurance undertakings that are below the Article 4 (1) Solvency II thresholds when they start, are still subject to Solvency II requirements from day 1 if they are likely to exceed the thresholds within five years (Article 4(3)). Also if any of the amounts set out in paragraph 1 of Article 4 is exceeded for three consecutive years the Solvency II Directive shall apply as from the fourth year (Article 4(2)).

⁹ See the examples included in the report from the Financial Stability Institute (FSI) Insights No 14 on Proportionality in the application of insurance solvency requirements, December 2018, <https://www.bis.org/fsi/publ/insights14.htm>

¹⁰ See pages 468 and following of the Consultation Paper: https://www.eiopa.europa.eu/content/consultation-paper-opinion-2020-review-solvency-ii_en

¹¹ Recital 13 Solvency II

¹² For the purposes of this paper, ecosystems are understood as customer-centric networks through which different types of products and services are offered by one or several players.

¹³ For example, Amazon often sells extended guarantees together with the technology products and household appliances via its website. This can be done by using different techniques such as contractual liability clauses transferring the risk to the Big Tech operator, collective insurance contracts (provided by a (regulated) third party), etc.

opinion that a proportionate interpretation of the current rules already allow the conduction of non-insurance related business, as long as the protective purpose of the requirement, the current common understanding of the terms and a social adequacy customary in the respective market are taken into account. Furthermore, with ongoing technical progress, technical innovations can be more easily attributed to a direct connection with the insurance business.

For those activities which do not directly arise from the insurance business, insurance undertakings may establish subsidiaries or other group affiliation and intragroup solutions. From a prudential perspective this can be useful in order to ring fence the non-insurance activities and avoid financing short term non-insurance activities with the longer term dedicated insurance premiums. Moreover, from a consumer protection perspective it is important that the cross-selling of products and services are always accompanied by strong disclosure requirements from insurance undertakings vis-à-vis consumers in line with IDD's provisions.

Question 5. Do you consider that the current level of consumer protection for the retail financial products and services established by the EU regulatory framework is technology neutral and should be also applied to innovative ones using new technologies, although adapted to the features of these products and to the distribution models?

<input type="radio"/>	Yes
<input type="radio"/>	No
X	Don't know / no opinion / not relevant

Question 5.1 Please explain your reasoning on your answer to question 5, and where relevant explain the necessary adaptations:

EIOPA is in the opinion that facilitating innovation is not about de-regulation. If an InsurTech company offers the same services and products as an established insurance provider and is exposed to the same risk portfolio, it should be subject to the same legislation and supervision regarding the services and products in question. This ensures that customers are effectively and equally protected both when they purchase their insurance products from established insurers and from new market entrants. Of course, it is critical that the legislative framework is properly risk-based and embeds an effective, outcomes-focused, concept of proportionality.

Moreover, EIOPA considers that there is a need to find a well-balanced regulatory solution allowing the provision of digital financial services through quick, effective and efficient compliance requirements, while at the same time ensuring a consistent level of consumer protection and clear communications of important information. In this regard, the European Commission should consider further promoting in the primary EU legislation (where not already provided for) disclosure requirements other than paper for online sales,¹⁴ such as via another durable medium or via a website, and at the same time consider under which circumstances (e.g. for certain types of insurance products)

¹⁴ Given that the focus is on InsurTech-related activities, disclosure requirements of other non-digital distribution channels are not considered in this document. It is important to highlight that EIOPA does not suggest the creation of a *lex specialis* for online sales or for other distribution channels; that should be determined by a comprehensive impact assessment prior to the development of any new policy measures in this area.

consumers should be still offered the option to request receipt of the information on paper free of charge (please also see the response to question 4)

Question 6. In your opinion, is the use for financial services of the new technologies listed below limited due to obstacles stemming from the EU financial services regulatory framework or other EU level regulatory requirements that also apply to financial services providers?

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
Distributed Ledger Technology (except crypto-assets)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Cloud computing	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Artificial Intelligence/Machine learning	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet Of Things (IoT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Biometrics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quantum computing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you see other technologies whose use would be limited in the financial services due to obstacles stemming from the EU financial services legislative framework, please specify and explain:

N/A

Question 6.1 Please explain your answer to question 6, specify the specific provisions and legislation you are referring to and indicate your views on how it should be addressed:

Distributed Ledger Technology (except crypto-assets)

While it is still early days for blockchain/DLT in European (re-)insurance sector, the number of potential uses cases is constantly growing and can influence a number of insurance functions such as IT, operations, product design and development, pricing and underwriting, distribution and claims management.

Blockchain is being applied to raise efficiency, reduce costs and lessen the need for intermediation and increase transparency.¹⁵ Blockchain and smart contracts can e.g. be used for managing claims in a responsive and transparent way, KYC assessment and accurate risk evaluation, lowering administration and underwriting costs, accurate pricing, automated claims submission and processing, improved claims assessment and costing, fraud detection, and automatic payments.¹⁶

However, while promising to drive efficiency in business practices and mitigate certain existing risks, the adoption of blockchain may trigger new risks to insurance undertakings, supervisors and consumers. As blockchain technology is still evolving it is facing many general challenges, such as performance and scalability, energy consumption, data privacy, integration with legacy infrastructures, or interoperability between different blockchains. Some risks are related broadly to its emerging technology status (risk profile is developing together with the business potential). Additionally, the decentralized nature of the blockchain might create risks that are different from traditional centralized solutions.

Although current regulatory and supervisory framework remain valid and might address those risks, specific issues should be considered, such as are the technology and its use cases in business processes understood both by insurance undertakings and supervisors and how to ensure appropriate governance and how to guarantee that all relevant risks are identified and properly managed.¹⁷ Data protection and privacy, interoperability, network stability and cyber risks could also be mentioned, as well as concerns about the legal status of smart contracts.¹⁸

However, blockchain could face unwarranted barriers for insurance undertakings piloting it or interested in its deployment.¹⁹ E.g. based on EIOPA's 2019 analysis of regulatory barriers to InsurTech, it was reported that the right to erasure (right to be forgotten) of personal data recognised in Article 17 GDPR could represent a barrier to the adoption of distributed ledger technologies (DLT) in insurance containing personal data. It was argued that the erasure of personal data would conflict with the "immutability" principle that typically characterises DLT applications.

However, the requirements associated with the 'right to be forgotten' may not necessarily be harder to meet in DLT-based contracts in which the DLT ledger does not include personal information by design; reportedly it would be possible to create systems where such references are removable, or which are even completely anonymous by default. Implementing the possibility to delete personal data while maintaining accountability definitely is a challenge, but this also holds true with more traditional forms of contract and is not strictly a problem of DLT implementations. EIOPA acknowledges the work being done in this area by the EU Blockchain Observatory and Forum.²⁰

¹⁵ See e.g. BIS 2020, Policy responses to fintech: a cross-country overview <https://www.bis.org/fsi/publ/insights23.htm> See also The Tokenisation of Assets and Potential Implications for Financial Markets, OECD, 2020.

¹⁶ 30 Recommendations on Regulation, Innovation and Finance - Final Report to the European Commission, 2019.

¹⁷ Insurance and Distributed Ledger Technology: A risk manager's guide, CRO Forum, 2019.

¹⁸ See The Tokenisation of Assets and Potential Implications for Financial Markets, OECD, 2020.

¹⁹ Nascimento S. (ed), Pólvara A. (ed), Anderberg A., Andonova E., Bellia M., Calès L., Inamorato dos Santos A., Kounelis I., Nai Fovino I., Petracco Giudici M., Papanagiotou E., Sobolewski M., Rossetti F., Spirito L., Blockchain Now And Tomorrow: Assessing Multidimensional Impacts of Distributed Ledger Technologies, Publications Office of the European Union, Luxembourg, 2019

²⁰ <https://www.eublockchainforum.eu/>

EIOPA will explore in 2020 and 2021 the benefits and risks arising from the use of blockchain and smart contracts for (re-)insurance undertakings and consumers, including assessing possible regulatory barriers preventing the deployment of this innovation.

Cloud computing

Based on EIOPA's thematic review on the use of Big Data Analytics in motor and health insurance, in 2018 cloud computing services, which reportedly represent a key enabler of agility and data analytics, were already used by 27% of insurance undertakings, with a further 26% saying they would be moving to the cloud over the next 3 years (i.e. by 2021).

In order to provide further clarity provide clarification and transparency to market participants avoiding potential regulatory arbitrages, as well as to foster supervisory convergence regarding the expectations and processes applicable in relation to cloud outsourcing, EIOPA published Guidelines on outsourcing to cloud service providers in February 2020.²¹

Artificial intelligence

Based on EIOPA's thematic review on the use of Big Data Analytics in motor and health insurance, BDA tools such as such as Artificial Intelligence (AI) or Machine Learning (ML) were already actively used by 31% of insurance undertakings in 2018, and another 24% were are at a proof of concept stage. EIOPA concluded that there are many opportunities arising from BDA and digitalisation more broadly, both for the insurance industry as well as for consumers.

However, EIOPA also identified a number of risks that need to be further addressed in practice, namely with regard to the fairness and transparency / explainability of BDA such as AI/ML. The principles of fairness and transparency are already foreseen in Article 5 and 13 GDPR, which are in line with Article 17.1 and Article 20.1 of the Insurance Distribution Directive IDD. EIOPA is seeking to provide further clarity to the market about how these requirements would apply in an insurance and BDA context via its work through EIOPA's stakeholder Expert Group on Digital Ethics, which is expected to develop a set of principles of digital responsibility in insurance by Q3/Q4 2020 (for additional information see questions 36-40)

Internet of Things

Internet of Things data is very important for the insurance industry; this has materialised in the emergence of Usage-Based Insurance (UBI) products in motor, health and home insurance, i.e. insurance products measuring consumer's behaviour and environment to perform risk assessments and price discount rewards. Based on the information gathered by EIOPA from the insurance industry, in 2018 the penetration of UBI in Europe was still low: only 15% of the European motor insurance firms and 4% of the health insurance firms offered some kind of UBI products. However in the next three years (i.e. by 2021), possibly taking into account the increasingly connected vehicles and the upcoming introduction of 5G mobile technology, 50% of the motor insurance firms and 23% of health insurance firms expected to offer these types of products.

Based on EIOPA's 2019 analysis of regulatory barriers to InsurTech, it was reported that that Article 20 GDPR's right to data portability could not be sufficient to ensure that insurance undertakings get access in a timely and operational manner. Indeed, in this

21

https://www.eiopa.europa.eu/content/guidelines-outsourcing-cloud-service-providers-now-available-national-supervisory_en

context it is relevant to understand the role of technical and operational standards to ensure the effective portability of data across the national and European market (e.g. establishing a minimum set of data with a common format in order to guarantee its full circulation and transfer in a timely manner).

EIOPA encourages the European Commission to promote the interoperability of applications and portability of data between different platforms (i.e. reduce lock-in effects), improve the power of consumers to switch between providers and therefore create an appropriate framework for innovation in insurance.

Question 7. Building on your experience, what are the best ways (regulatory and non-regulatory measures) for the EU to support the uptake of nascent technologies and business models relying on them while also mitigating the risks they may pose?

Please rate each proposal from 1 to 5:

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
Setting up dedicated observatories to monitor technological and market trends (e.g. EU Blockchain Observatory & Forum; Platform Observatory)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Funding experimentation on certain applications of new technologies in finance (e.g. blockchain use cases)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Promoting supervisory innovation hubs and sandboxes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Supporting industry codes of conduct on certain applications of new technologies in finance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Enhancing legal clarity through guidance at EU level for specific technologies and/or use cases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>

Creating bespoke EU regimes adapted to nascent markets, possibly on a temporary basis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify what are the other ways the EU could support the uptake of nascent technologies and business models relying on them while also mitigating the risks they may pose:

See replies to questions 15, 20 and 40

Question 8. In which financial services do you expect [technology companies which have their main business outside the financial sector](#) (individually or collectively) to gain significant market share in the EU in the five upcoming years?

Please rate each proposal from 1 to 5:

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
Risk-taking activities in Life insurance products	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Risk-taking activities in Non-life insurance products	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Risk-taking activities in pension products	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intermediation / Distribution of life insurance products	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intermediation / Distribution of nonlife insurance products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Intermediation / Distribution of pension products	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other insurance related activities, e.g. claims management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Please specify in which other financial services you expect technology companies to gain significant market share in the EU in the five upcoming years:

N/A

[Question 8.1 Please explain your answer to question 8 and, if necessary, describe how you expect technology companies to enter and advance in the various financial services markets in the EU Member States:](#)

Technological innovations are affecting all of the stages of the insurance value chain. However, pricing and underwriting, claims management and sales and distribution are arguably the stages of the insurance value chain most affected by digitalization to date and are also expected to be the most affected in the near future.

In the thematic review on the use of Big Data Analytics in motor and health insurance, EIOPA collected information on the views of the insurance industry concerning the potential entrance into the market of the so-called BigTech companies. Shall BigTech entities decide to enter the insurance market, many insurance undertakings consider that this would take place in the form of intermediaries / brokers / price comparison websites; they consider that they could disrupt the distribution of insurance products by selling insurance products through their platforms.

In this scenario, Big Techs would obtain an insurance distribution license and then collaborate with insurance undertakings, which would focus on risk-taking regulated activities. Some firms consider that this could eventually lead to reduced underwriting margins for insurance firms. They argue that large platforms with strong bargaining power could potentially engage in orchestration and gatekeeping practices; e.g. defining the "rules of the game" by favouring certain products in the ranking criteria of their platforms or by controlling the entities that can sell products through their platforms.

Moreover, if Big Tech firms would become increasingly active in the distribution of insurance policies, some insurance undertakings believe that they would end up themselves having less contact with consumers and therefore less access to key consumer behavioural data. This would therefore affect their own BDA processes, since this information is commonly used for supporting insurance firm's operations in different processes across the insurance value chain.

Another group of insurance undertakings consider that Big Tech firms could try to leverage on the extensive data they already have about consumer's behaviour (e.g. shopping habits, web searches, health data etc.) in order to predict future claims and therefore enter the market with an insurance undertaking license. More particularly, some respondents believe that they are more likely to do this firstly in the health insurance sector. Other insurance firms consider that Big Tech firms could focus on niche and special purpose products, such as IoT or Blockchain-based products.

On the contrary, some insurance undertakings stated that they hardly expect large Tech Firms to enter the insurance market. There is the feeling that Big Tech Firms generally tend to avoid highly regulated markets because the required level of transparency towards the regulators is too high. Furthermore, the high-level fragmentation and complexity of European and national insurance regulatory framework could be seen as another major obstacle for them. In addition, their lack of historical claims data could also deter them from entering the insurance market, although some insurance undertakings argued that they could solve this gap via mergers and acquisitions of established insurance undertakings.

Interestingly, one insurance undertaking noted that Big Tech Firms will not enter the insurance market because their entire business is 'data' and not 'insurance'. They argue that although Big Tech firms have access to relevant datasets and state-of-the-art technological expertise, they do not have the insurance knowledge. Therefore, some insurance undertakings consider that Big Techs will rather focus in providing data and technological solutions (e.g. cloud computing, AI/ML technology, advertising) to insurance firms on a B2B basis.

Finally, technology companies such as comparison websites have already gained a prominent role in the sale and distribution of certain lines of business such as motor insurance. Most of the new InsurTech start-ups are also reportedly predominantly active in the sales and distribution area of the insurance value chain, and more specifically regarding the distribution of non-life insurance products.

EIOPA's recent work on fragmentation of the value chain and new business models also confirmed that the entering of BigTech companies to the insurance market in the EU seems to still be at emerging state.

Question 9. Do you see specific financial services areas where the principle of "same activity creating the same risks should be regulated in the same way" is not respected?

<input type="radio"/>	Yes
<input type="radio"/>	No
<input checked="" type="radio"/>	Don't know / no opinion / not relevant

Insurance legislation follows an "activity-based approach", and therefore any new actor that would like to enter the European insurance market would need to comply with the relevant legislation. i.e. the IDD for the distribution of insurance products and/or Solvency II Directive for those risk-taking activities defined therein. It should be noted that the recent review of IDD clarified that technology platforms such as comparison websites are covered within the scope of the legislation.

Having said this, EIOPA notes the European insurance legislation does not provide a definition of what is insurance and what is not (either as an activity or as a contract); Art 13(1) Solvency II states that insurance undertaking means a direct life or non-life insurance undertaking which has received an authorisation. The IDD, which is a minimum harmonisation directive, provides a broad definition of what should be understood by insurance distribution (Article 2(1)(1)). The definition of insurance is often (not always) included in national legislation or case law, and therefore there is not a common EU approach in this regard which can also lead to diverging views across Member States of what is insurance and/or other types of insurance-related products and services.

This could have implications for certain innovative business models in insurance such as P2P insurance, including raising the question if "same activity creating the same risks should be regulated in the same way". Indeed at least in one jurisdiction there is a P2P insurance entity providing services with a payments license under PSD2 instead of an insurance license (For further information about P2P insurance please see also the response to question 2)

In addition, new business models are developing in the market. For example, the growth of Managing General Agents whereby insurance undertakings outsource some of their responsibilities (e.g. pricing and underwriting, including defining a target market) to

Concentration risk for funds collected and invested (e.g. lack of diversification)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concentration risk for holders of funds (e.g. large deposits or investments held in a bank or fund)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undertaken insurance risk in life insurance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undertaken insurance risk in non-life insurance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Operational risks for technology companies and platforms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Operational risk for incumbent financial service providers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Systemic risks (e.g. technology companies and platforms become too big, too interconnected to fail)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Money-laundering and terrorism financing risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify which other prudential and conduct risk(s) you expect to change with technology companies gaining significant market share in financial services in the EU in the five upcoming years:

[See comment above.]

Question 10.1 Please explain your answer to question 10 and, if necessary, please describe how the risks would emerge, decrease or increase with the higher activity of technology companies in financial services and which market participants would face these increased risks:

Use of third-party services and outsourcing is nothing new in the insurance sector. However, technological developments are arguably increasing the extent and ways by which insurers rely on third parties within the insurance value chain.

Additionally, there is a trend for the emergence of co-operation models where the insurance value chain (e.g. product design, pricing, client interaction and claims management) is originated, managed and controlled by technological platforms or other third parties. This raises a number of potential risk that other firms outside the insurance

regulatory perimeter take a predominant position with significant impact on insurance business including insurance distribution.

The three primary drivers of fragmentation are:

- 1) Technology firms (outside the traditional insurance landscape) demonstrating that certain processes within the insurance value chain can be carried out cheaper, more efficiently and more effectively with new technologies;
- 2) Customers increasingly purchasing and interacting with businesses via digital ecosystems / platforms (increased digitalisation of consumer interactions), where insurance may only be an ancillary offering a wider service or product purchase (new and complex tying and bundling practices);
- 3) The offering of insurance policies is complemented with the provision of other ancillary services to consumers (e.g. different risk-preventive/additional services such as geolocation in case of a car stolen or assistance in health insurance contracts). In some cases the policy is a part of a complex bundle of products and services of which the insurance could be a minor component.

If not properly implemented and managed, co-operation models with third parties can make it harder for insurance undertakings to exercise effective control, oversight and governance of consumer outcomes, but also for supervisors to have full oversight of the value chain. It could also lead potentially to concentration and operational risks that might not always be apparent. Moreover, the extensive use of third parties can give rise to a number of conduct and prudential issues.

Based on EIOPA's recent work on fragmentation of the insurance value chain and new business models some underlying risks for supervisors associated with the fragmentation of the insurance value chain include:

- increased bundling of services and provision of insurance (e.g. when insurance is included in the price at point of sale);
- oversight concerns due to longer and more complex insurance value chains;
- risks that critical activities are moving beyond the regulatory perimeter;
- shift in market powers and structure;
- concentration risk;
- competition issues, including 'lock-in' effect;
- threat to the viability of traditional business models;
- strategic risk;
- ICT, cyber, operational resilience, outsourcing, legal, compliance and reputational risks and other operational risks (which might not be apparent);
- the need to develop supervisory skills set to understand and oversee the aforementioned developments and changes and to properly respond to them.

More specifically on insurance platforms and ecosystems perspective, continuously changing customer expectations can put a strain on traditional insurance business models. The depth of the value-chain integration varies between different types of platforms. The integration in a platform may require a significant investment by an insurer, and this in turn creates a lock-in effect, making it difficult for the insurer to switch to other platforms. There is therefore a risk that insurers could become increasingly dependent on a relatively small number of dominant platforms/ecosystems which might increase the concentration risk. Large platforms may also act as gatekeepers²² for their users, and they may assume a position of a demand-side monopoly or oligopoly. Should a tech firm establish dominance over an insurance market (as has been the case in other industries), failure of their

²² For example, the role of data as a market entry barrier has been emphasised. Large volumes and a large variety of data collected by platforms may be a source of competitive advantage over traditional undertakings. They may result in a market entry barrier if new entrants are unable to collect or buy access to the same kind of data in terms of volume and/or variety.

insurance arm (either as a broker or underwriter) could be very significant due to the likely customer concentration.

Furthermore, a separation of risk assessment and risk carrying — e.g. if a large platform sells pre-packaged and pre-classified bundles of risk to insurers — may make it difficult for insurers and insurance regulators alike to assess the riskiness of the risk bundles. The ability of online platforms to analyse all transactions across the companies operating on the platform may also create an information advantage over other firms. As a consequence, insurers may become dependent on large platforms that are able to extract an increasing share of the added value.

From a competition perspective online platforms have the potential to enhance efficiency, but they can also be a source for potential emergence of dominant undertakings. The reason for the often observable monopoly-tendency of successful platforms is network effect²³, which favours the emergence of large market players.

It is currently not possible to accurately assess what would be the impact of an increase in the activity of technological companies in financial services in terms of prudential or financial stability risks in the insurance sector. It is expected that insurers are affected by both an operational risk perspective (e.g. due to the above-mentioned reliance on third-party services and outsourcing, etc.) and an underwriting risk perspective (as providers of cyber insurance). However, the current lack of an adequate level and quality of data on cyber incidents at a European level hampers an adequate assessment and quantification of risks by both insurers and supervisors.

Accordingly, lack of data is a primary obstacle to a detailed understanding of fundamental aspects of cyber risk. In particular, the scarcity of quantitative information on cyber incidents limits the development and proper calibration of quantitative models for pricing of risks and estimation of liability exposures and hampers cyber risk measurement and management for insurers. A proper evaluation of cyber risks (and their potential systemic impact) by insurance supervisors through e.g. the inclusion of cyber incident scenarios in the stress testing framework is also dependent on the availability of relevant data on cyber incidents and claims.

In this context, EIOPA considers it beneficial to develop a common incident reporting framework at European level (see also responses to questions 1 and 34).

[Question 11. Which consumer risks do you expect to change when technology companies gain significant market share in financial services in the EU in the five upcoming years?](#)

Please rate each proposal from 1 to 5:

	1	2	3	4	5	N.
	(significant reduction in risks)	(reduction in risks)	(neutral)	(increase in risks)	(significant increase in risks)	A.

²³ The value of networks increases to each member as more users join.

Default risk for funds held in non-banks and not protected by Deposit Guarantee Scheme	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Liquidity risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Misselling of insurance products	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Misselling of investment products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Misselling of credit products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Misselling of pension products	<input type="radio"/>	<input type="radio"/>	x	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inadequate provision of information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Inadequate complaint and redress process and management	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use/abuse of personal data for financial commercial purposes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Discrimination e.g. based on profiles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Operational risk e.g. interrupted service, loss of data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>

Please specify which other consumer risk(s) you expect to change when technology companies gain significant market share in financial services in the EU in the five upcoming years:

Question 11.1 If necessary, please describe how the risks would emerge, decrease or increase with the higher activity of technology companies in financial services and which market participants would face these increased risks:

Based on EIOPA's on-going work on fragmentation of the insurance value chain and new business models (a public consultation is expected to be issued soon), from consumer/conduct side it could also include the general risks of:

- data privacy and portability;
- new and possibly not apparent sources for conflict of interest;
- inappropriate advice;
- difficulty for consumers to understand who the risk carrier actually is;
- increased over- or underinsurance risk;
- financial exclusion;
- ethical issues.

More specifically on insurance platforms and ecosystems perspective, competition in digital ecosystems is still limited. Although consumers should expect to find a wide range of insurance products available, at present in these ecosystems consumers can often find only one product, which restricts overall consumer choice.²⁴ Similarly, although ecosystems should offer tailored products, currently product offer is tailored to the overall platform rather than being tailored to the demands and needs of the customer pool.²⁵

Other risks can also emerge from consumer behaviour: as insurance is mostly the secondary product sold through these ecosystems, consumers may buy coverage inadvertently or may not be paying enough attention to the coverage they are buying, leading to over- or under-insurance coverage. Alongside these risks, other risks generally associated with ancillary insurance products — such as low value for money, lack of proper assessment of customers' demands and needs and lack of overall target market assessment — can be heightened by digital ecosystems.

Moreover, given the market power — including data ownership — of certain brands, the relationship between insurance manufacturers and distributors may change, with distributors imposing conditions on insurers (e.g. payment of high commissions) that may not necessarily correspond to the service they offer. As insurers are often secondary providers, high commissions paid to ecosystem operators may also incentivise pressured sales techniques. Given that they have control over customers' data and the competitive advantage of having a generally large pool of customers, operators may set up upfront commissions — while offering limited mediation services — to be paid by those undertakings that want to participate.²⁶

Ecosystems also bring challenges, in particular with regard to the supervision of product oversight and governance (POG) requirements and supervision of distribution activities. As platforms could become 'co-manufacturers' of insurance products, it can often be difficult to discern/identify product manufacturers and product distributors. It may also be difficult to identify which participant in the ecosystem carries out insurance distribution

24 BEUC Position Paper, Ensuring consumer protection in the platform economy, 2018. <https://www.beuc.eu/publications/ensuring-consumer-protection-platform-economy/html>

25 EIOPA, *Consumer Trends Report 2019*, 2019. <https://www.eiopa.europa.eu/content/consumer-trends-report-2019>

26 See issues highlighted in EIOPA's Thematic Review on Consumer Protection Issues in Travel Insurance, 2019. https://www.eiopa.europa.eu/content/consumer-protection-issues-travel-insurance_en

activities versus other activities, making it challenging to identify what is within and outside the scope of the IDD.²⁷

Platforms may also be subject to conflicts of interest, and may bias search results and rankings to their advantage, for example if the platform operator is itself active as a seller on the platform or owns insurance undertaking within complex group-structures. Conflicts of interest may also arise from the platform's fee structure.²⁸ These attributes of platforms could challenge fair pricing as well as the competitive market structure and could have negative impact on consumer's ability to shop around; potential 'lock-in' effects could be reduced with the introduction of open standards for portability and interoperability of data between platforms from different providers. Furthermore, once a platform or ecosystem has gained a large market share, it may be a rational strategy to reduce transparency and make it difficult for its users to compare products with those provided on other platforms/ecosystems.

In 2014 EIOPA published a Report on Good Practices on Comparison Websites,²⁹ were a number of good practices where suggested aiming to enable consumers make informed decisions and not only focus on the price when purchasing insurance products through comparison websites channels. Among other things, EIOPA identified as a good practice to disclose the number of insurance undertakings whose products are compared and their market coverage, as well as to clearly detail the criteria used by the comparison website on the criteria used to make the rankings in order to reduce potential conflicts of interests. It was also considered as good practice to not use price as the sole criterion for comparison and to present clearly and in detail main features and characteristics of products, insurance cover and limitations (e.g. deductibles, threshold, limits, exclusions etc.).

[Question 12. Do you consider that any of the developments referred to in the questions 8 to 11 require adjusting the regulatory approach in the EU \(for example by moving to more activity-based regulation, extending the regulatory perimeter to certain entities, adjusting certain parts of the EU single rulebook\)?](#)

<input type="radio"/>	Yes
<input type="radio"/>	No
<input checked="" type="radio"/>	Don't know / no opinion / not relevant

[Question 12.1 Please explain your answer to question 12, elaborating on specific areas and providing specific examples](#)

See reply to question 9

27 EIOPA, Consumer Trends Report 2019, 2019. <https://www.eiopa.europa.eu/content/consumer-trends-report-2019>

28 Platforms typically earn revenue by charging fees for brokering transactions and/or by charging advertisers fees to gain access to the platform users. Some platform owners retain a commission out of the fee that the buyer pays to their sellers. Most platforms rent out space so that advertisers can reach the users.

29

https://register.eiopa.europa.eu/Publications/Reports/Report_on_Good_Practices_on_Comparison_Websites.pdf

Question 13. Building on your experience, what are the main challenges authorities are facing while supervising innovative/digital players in finance and how should they be addressed? Please explain your reasoning and provide examples for each sector you are referring to (e.g. banking, insurance, pension, capital markets):

InsurTech has an impact across all of the steps of the value chain in the insurance and pension sectors, including through the emergence of start-ups, often in cooperation agreements with incumbent undertakings. The business models of undertakings and the consumer experience are being transformed as a result of the proliferation of financial innovations and technology. In view of the wide range of issues and aspects arising from InsurTech, and given the limited resources at National Supervisory Authorities (NCAs), the latter need to plan and prioritise their supervisory activities amongst all the different technological innovations taking place. Indeed, while some innovations such as Artificial Intelligence / Machine Learning have a relatively high penetration in the insurance sector, others such as Blockchain / Distributed Ledger Technology are still at a nascent stage.

Moreover, in view of the broad impact of technological innovation in the different areas of supervision including consumer protection, financial stability, data protection etc. NCAs need to follow a multidisciplinary approach gathering expertise and resources from all the relevant disciplines including consumer protection, financial stability, policy, supervisory oversight, IT, etc. in order to have a broad perspective on technological innovations and their implications.

In addition, NCAs often have challenges in keeping pace of the ever-changing technological developments and understanding their complex nature; in addition to continuous training of staff to be able to feel potential gaps, NCAs should also establish a frequent multi-stakeholder dialogue with the relevant actors from the industry, consumers and academics. This shall include cooperation with other supervisory authorities from relevant areas, such as data protection authorities, transport authorities (in the case of motor insurance), health authorities (for health insurance) etc (see also question 14).

Question 14. According to you, which initiatives could be put in place at EU level to enhance this multi-disciplinary cooperation between authorities? Please explain your reasoning and provide examples if needed

EIOPA has tried to address the challenges described in the previous questions with the creation of the InsurTech Task Force in 2018, which brings together national supervisors from multidisciplinary backgrounds (consumer protection, financial stability, IT etc.) to assess the impact of technological innovations in the insurance sector. Furthermore, EIOPA actively cooperates with stakeholder through the organisation of regular InsurTech Roundtables as well as via the European Forum for Innovation Facilitators. Finally, EIOPA has also recently created a specialised stakeholder Expert Group on Digital Ethics in insurance (GDE).

Moreover, in addition to its regular cooperation with EBA and ESMA, EIOPA has also cooperated with other European Authorities such as the European Data Protection Supervisor (EDPS) in the past (e.g. in the context of EIOPA's Big Data Analytics thematic review). EIOPA continues to try to involve the EDPS in its on-going work, although due to resource constraints and prioritisation of activities it is not always possible. EIOPA considers that the European Commission should actively promote the cooperation of supervisory authorities from the financial sector with the authorities from different sectors, particularly with data protection authorities, but also with competition authorities, transport authorities (in the case of motor insurance), health authorities (for health

insurance) etc. Indeed the increasing prevalence of ecosystems in motor, health, travel insurance etc. makes this cooperation between authorities from different disciplines more and more necessary.

Removing fragmentation in the single market for digital financial services

Question 15. According to you, and in addition to the issues addressed in questions 16 to 25 below, do you see other obstacles to a Single Market for digital financial services and how should they be addressed?

Questions 15-19 – Digital Financial identities / AML

The possibility for insurance undertakings to completely remove paper in their internal processes and interaction with their customers is strictly linked with the achievements in initiatives by the government and other authorities to dematerialise legal documents and signatures (e.g. electronic ID, digital signature, and so on). Certainly, the complete dematerialization of insurance contracts (and, more in general, of the relationship between customer / agent or broker / undertaking) requires a strong digital on-boarding framework.

This is one of the objectives pursued by Regulation (EU) N°910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation), although the level of penetration of electronic identification systems still differs widely across Member States. EIOPA encourages the European Commission and Member States to continue pursuing the objectives sought in the eIDAS Regulation. In the insurance sector, this is relevant not only from an AML perspective but also for ensuring safe and efficient identity management and legal certainty of digital contracts (including smart contracts).

As far as the questions regarding AML, as of January 2020, the EBA is the competent authority for the AML supervision of credit and financial institutions, including for the insurance sector. EIOPA had the opportunity to provide input to the EBA's response to the consultation. Therefore, EIOPA is fully supportive of the EBA's feedback related to AML.

Question 20. In your opinion (and where applicable, based on your experience), what is the main benefit of a supervisor implementing (a) an innovation hub or (b) a regulatory sandbox as defined above?

The joint ESA report 'FinTech: Regulatory sandboxes and innovation hubs' from 2019 points out that both innovation hubs and regulatory sandboxes (hereinafter innovation facilitators) identified a number of benefits and risks arising from these initiatives.

In terms of benefits for supervisors, the report highlighted that innovation facilitators can help competent authorities to keep pace with developments by gaining near 'real time' insights into emerging technologies (such as distributed ledger technologies or artificial intelligence) and their application in the financial sector. Competent authorities can apply these insights for the purposes of anticipating regulatory and supervisory issues and responding proactively.

For example, competent authorities may react by building up supervisory expertise and resources in relevant areas, confirming and clarifying the application of the regulatory

framework to financial innovations and, as appropriate, informing timely updates of regulatory and supervisory practices. In addition, the insights can enable the authorities to adopt a preventative approach, identifying supervisory issues early on, such as emerging risks to consumer protection, and to develop a good understanding of potentially undue regulatory barriers to financial innovation.

The European Forum for Innovation Facilitators (EFIF) has taken on the important task of promoting greater cooperation and coordination between national innovation facilitators across the EU. Achieving this is crucial and therefore EIOPA appreciates the European Commission’s latest thoughts about strengthening the role of the forum.

Question 21. In your opinion, how could the relevant [EU authorities enhance coordination among different schemes](#) [innovation hubs and regulatory sandboxes] in the EU? Please rate each proposal from 1 to 5:

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N A
Promote convergence among national authorities in setting up innovation hubs and sandboxes, through additional best practices or guidelines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Facilitate the possibility for firms to test new products and activities for marketing in several Member States (“cross border testing”)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Raise awareness among industry stakeholders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Ensure closer coordination with authorities beyond the financial sector (e.g. data and consumer protection authorities)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>

Promote the establishment of innovation hubs or sandboxes with a specific focus (e.g. a specific technology like Blockchain or a specific purpose like sustainable finance)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X

Please specify how else could the relevant EU authorities enhance coordination among different schemes in the EU:

Question 22. In the EU, regulated financial services providers can scale up across the Single Market thanks to adequate licenses and passporting rights. Do you see the need to extend the existing [EU licenses passporting rights](#) to further areas (e.g. lending) in order to support the uptake of digital finance in the EU?

Taking into consideration the European Commission's Fintech Action Plan, EIOPA mapped in 2019 current authorising and licencing requirements (both in the light of the IDD and Solvency II), and assessed how the principle of proportionality is being applied in practice specifically in the area of financial innovation (e.g. regarding InsurTech start-ups such as peer-to-peer (P2P) insurers).

Based on the results, a best practices report was published in Q1 2019 with the aim at starting a more systematic approach to InsurTech regarding the licencing requirements and application of the principle of proportionality as well as for ensuring consistent and effective supervisory practice within NCAs.

EIOPA is of the opinion that facilitating innovation is not about de-regulation. If an InsurTech company offers the same services and products as an established insurance provider and is exposed to the same risk portfolio, it should be subject to the same legislation and supervision regarding the services and products in question. This ensures that customers are effectively and equally protected both when they purchase their insurance products from established insurers and from new market entrants.

EIOPA is also in the opinion that so far there seems to be no need for "more" regulation considering licencing and principle of proportionality. However, NCAs should – where appropriate – adapt their internal processes and knowhow to the general process of digital transformation. At the same time diverging supervision amongst NCAs must be avoided, considering that some InsurTech developments have a cross-border/cross-sector coverage.

Taking into account the current COVID-19 outbreak and its implications, EIOPA considers important to refer that in the report EIOPA i.a. considered best practice that NCAs should consider establishing online systems³⁰ which will be easily accessible and allow the submitting of licencing applications directly online. NCAs should also consider online

³⁰ This is already compulsory under Article Art 3(2) of the IDD which explicitly states that Member States shall establish an online registration system. That system shall be easily accessible and allow the registration form to be completed directly online.

systems that allow tracking of the status/progress of applications for a licence. Current crisis has made this even more important.

Below are some more concrete findings of EIOPA's Report on Best Practices on Licensing Requirements, Peer to Peer Insurance and the Principle of Proportionality in an InsurTech context:

- Based on the evidence gathered, it can be stated that EU InsurTech market is at an early stage, but evolving.
- Most NCAs have limited experience with InsurTech companies or they do not differentiate whether the company has "digital" business model.
- However, the ESA's joint work on Innovation Facilitation found that more than 20 NCAs have implemented an innovation facilitator. The result shows that most NCAs within the EU are aware of the importance as well as of the risks and benefits deriving from innovative technologies and new market players.
- NCAs identified a total of 779 regulated InsurTech firms. It is important to note that even when the data was provided, it was often subject to the reservation that it is based upon own judgement/best estimates. The level of the available data related to InsurTech (e.g. information on which companies can be considered as InsurTech companies, the occurrence of different kinds of InsurTech companies in each jurisdiction technologies and business models used, what part of the value chain they operate, etc.) and the data quality vary across NCAs but also across the kind of InsurTechs (e.g. with regard to licenced InsurTechs it occurs that the data is available but the lack of a common understanding of InsurTechs makes it difficult to map them). Therefore, the observations extracted are preliminary and are intended to be as a first step to promote the understanding of the EU InsurTech market. It cannot be taken as a general statement of the market.
- Both NCAs and external stakeholders highlighted the need for level playing field, proportionality and technological neutrality – which are also underlining principles in the IDD. This is also directly linked to EIOPA's approach to digitalisation which is to strike a balance between enhancing financial innovation and ensuring a well-functioning consumer protection framework and financial stability.
- In regard of gaps and issues in general it can be stated that most of the NCAs did not see any gaps or issues in the existing rules. Since the types of licences in the insurance sector are much more limited than in for instance the banking sector and there are apart from P2P business models no obvious InsurTech related developments that could be a challenge to the European current licencing framework, there seems at the moment to be no need for further regulatory steps considering licencing requirements – all business models seems to fit to the IDD and Solvency II framework.
- EIOPA also looked more in depth P2P Insurance. The majority of the NCAs didn't report on licenced P2P insurers. Some NCAs stated that the specific regulation would be useful if such market will start growing – at the moment it is very limited and thus it is too early to determine a need for special legislation. Indeed, an estimate size of the P2P business was considered very limited or even not sizable. NCAs reported no consumer complains on P2P insurance yet.
- Taking this into account it can be concluded that at this point EIOPA does not see a definite need for special P2P insurance regulation, but this might be the case in the future, if P2P insurance evolves. However, a regular P2P insurance market monitoring should be considered, and possible EU-level action, accompanied by a proper impact assessment, considered again when the coverage extends to sizeable segment of the EU population with expectations of continued growth.

Question 23 – national non-discriminatory access to relevant technical infrastructures

N/A

Question 24. In your opinion, what should be done at EU level to achieve improved [financial education](#) and literacy in the digital context?

Please rate each proposal from 1 to 5:

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
Ensure more affordable access at EU level to financial data for consumers and retail investors	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encourage supervisors to set up hubs focussed on guiding consumers in the digital world	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Organise pan-European campaigns and advisory hubs focusing on digitalisation to raise awareness among consumers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Collect best practices	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promote digital financial services to address financial inclusion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Introduce rules related to financial education comparable to Article 6 of the Mortgage Credit Directive, with a stronger focus on digitalisation, in other EU financial regulation proposals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>

Please specify what else should be done at EU level to achieve improved financial education and literacy in the digital context:

Digital devices and tools can empower consumers to better understand and use financial services and products. However, the use and application of such devices and tools can also pose potential risks for consumers, such as cyber risks and lack of data protection. Apart from that, recent research has shown that mobile payment users display lower levels of financial literacy and worse financial management practices than non-users³¹. In this context, it is important to guide consumers through the digital age and make them aware of the risks involved.

EIOPA welcomes the introduction of rules related to financial education into other EU consumer protection legislation to promote measures that support the education of consumers in the digital context. Furthermore, EIOPA suggests that the mandate of the ESAs in the field of financial education and literacy should be strengthened to encourage them to undertake digital initiatives aimed at enhancing financial education.

In 2011 EIOPA developed a report on Financial Literacy and Education Initiatives by Competent Authorities³² and a list of all financial education initiatives by national authorities in the area of insurance and pensions on its website. For the future, EIOPA plans to make its website much more interactive, using digital financial education tools, such as online quizzes, surveys and interactive maps.

Question 25: If you consider that initiatives aiming to [enhance financial education](#) and literacy are insufficient to protect consumers in the digital context, which additional measures would you recommend?

See response to the previous question

Question 26: In the recent communication "[A European strategy for data](#)", the Commission is proposing measures aiming to make more data available for use in the economy and society, while keeping those who generate the data in control. According to you, and in addition to the issues addressed in questions 27 to 46 below, do you see [other measures needed to promote a well-regulated data driven financial sector](#) in the EU and to further develop a common data driven financial sector in the EU and to further develop a common European data space for finance?

See response to question 34

Question 27. Considering the potential that the use of [publicly available data brings in finance](#), in which areas would you see the need to facilitate integrated access to these data in the EU?

³¹ Lusardi, A., Scheresberg, C. D. B. and Avery, M.: Millennial Mobile Payment Users: A Look into their Personal Finances and Financial Behaviors

³²

https://register.eiopa.europa.eu/Publications/Reports/Report_on_Financial_Literacy_and_Education__EIOPA-CCPFI-11-018_.pdf

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
Financial reporting data from listed companies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Non-financial reporting data from listed companies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SME data	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prudential disclosure stemming from financial services legislation	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Securities market disclosure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disclosure regarding retail investment products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify in which other area(s) you would see the need to facilitate integrated access to these data in the EU:

All information available on public disclosure from regulated entities (not only the listed ones).

[Question 28. In your opinion, what would be needed to make these data easily usable across the EU?](#)

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
Standardised (e.g. XML) and machine-readable format	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Further development of the European Financial Transparency Gateway, federating existing public databases with a Single EU access point	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Application Programming Interfaces to access databases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Public EU databases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>

Please specify what else would be needed to make these data easily usable across the EU:

Please see question 26.

[Question 29. In your opinion, under what conditions would consumers favour sharing their data relevant to financial services with other financial services providers in order to get better offers for financial products and services?](#)

The discussion around the benefits and risks of so-called 'Open Finance' has taken place in many different jurisdictions for some time, focusing so far mainly on the banking sector (Open Banking).

Consequently, EIOPA has recently started a broader discussion with different stakeholders on possible balanced, forward-looking and secure approaches to Open Insurance and its risks and benefits to insurance industry, consumers and supervisors. Below are some general considerations related to questions 29-35 of the consultation. However, it is important to note that EIOPA's work on those topics is still on-going, and therefore the potential benefits and risks described further below should be treated very cautiously, including regarding the issue of data reciprocity..

While there is no uniform definition of Open Insurance, EIOPA considers it in its work in the broadest sense, covering accessing and sharing personal and non-personal data usually via APIs in insurance.

It could broadly be looked from three inter-linked angles:

1. Consumer angle

Open Insurance could be defined as accessing and sharing consumers' insurance services-related data (e.g. their insurance policies data such as insured object, coverages, claims history, and Internet of Things data etc.) with other insurers, intermediaries or third parties to build applications and services. This could include:

- Insurance Policy Information Services where insurers could be required to provide other insurers/intermediaries or third-party providers seamless access (via standard APIs) to their users' underwritten insurance policies e.g. information such as insured object, coverages, claims history, data on suitability assessment, KYC data etc. Access to policies and related information would make it easier for third-party service providers and/or insurance intermediaries to develop tools which could give consumers an overview of their policies and help them manage their risks, get better prices etc.
- Better switching services that encourage consumers to compare the market. Open Insurance initiatives could encourage consumers to shop around and get a better deal and increase competition between product providers. Innovative services could help consumers to better understand their investments and insurance cover and consider whether they continue to meet their needs by providing up-to-date information on costs, performance and risk compared to other products available on the market.

2. Industry angle

Open Insurance could require insurers and intermediaries to make standardised insurance product information available to public (e.g. to consumers and third parties) to facilitate like for like comparison of products (e.g. cost, fees, product features). This could include for example public comparison websites and aggregators.

Combining both consumer and industry angle would allow to compare products and to facilitate guidance or advice - individuals and advisors/providers could have, in one place, a comprehensive view of their financial situation and all the information they may need to go through the financial planning process. It could make it easier for consumers to receive proposals to compare the costs and product features and switch between providers, in turn improving competition between financial services providers as well as spurring the creation of innovative new services or tools for consumers. In this way it contribute to a more integrated and efficient European financial services market. Open Finance/Open Insurance could allow the development of new tools in banking, in insurance as well as tools that goes across sectors.

3. Supervisory angle

Open insurance could also open doors to new supervisory tools. EIOPA has published a SupTech Strategy³³ where the use of technology by supervisors to deliver innovative and efficient supervisory solutions that will support a more effective, flexible and responsive supervisory system is addressed. As part of the implementation of this Strategy EIOPA has identified the need to work on a dashboard for retail risk indicators, based on already existing Solvency II prudential data (such as claims ratios, claims rejected, commission

³³ <https://www.eiopa.europa.eu/sites/default/files/publications/supervisory-technology-strategy-february-2020.pdf>

rates etc.) in combination with consumer complaints data and other publicly available data as well as identification of missing information and efficient ways of gathering that data.

Additionally a tool to automate the assessment of the information available in the Key Information Document (KID) established by the Packaged Retail Investment and Insurance Products (PRIIPs) Regulation or in the Insurance Product Information Document (IPID) established by the Insurance Distribution Directive (IDD) that would support market monitoring from a conduct of business perspective should be considered. Machine-readable KID information is pre-requisite for that.

Different Open Insurance solutions could further facilitate the uptake of SupTech as it may require that supervisors access consumer insurance services-related data and/or product information data on *real-time* bases to improve their oversight capabilities. This may allow compliance with regulatory goals to be automatically monitored by reading the data that is exchanged by providers via standardized APIs, thus reducing the need actively collect, verify and deliver data for supervision. In addition to KID data this could include for example "live" overview of exact product information bought (costs, fees, features), underwritten policies information, real time claims data and consumer complaints data as well as data on commissions.

Risks

There are several potential risks associated with the increased sharing of data, especially personal data, that deserve scrutiny and adequate safeguards for consumers. The wider sharing of data with more parties raises the risks of a data breach, misuse and fraud and clear rules are needed to assign liability in the event of financial loss, erroneous sharing of sensitive data, or other data breaches. Adequate security standards and explicit consumer consent when third parties access consumer data should be the corner stone of Open Insurance/Open Finance.

Data quality and how it would be measured and enforced might be another possible challenge in this regard. Moreover from a prudential perspective the increase in digitalisation might also lead to an increase in interconnectedness. This could render extreme cyber attacks more plausible and more impactful for insurance undertakings and for the economy at large

In addition, risks relating to fair competition between the different market players should also be taken into account (see below section about data sharing / data reciprocity).

Proper consumer protection and supervisory framework

To ensure that Open Insurance is implemented in a consumer-friendly way, several safeguards or principles should be adopted. Possible risks (and consequently, necessary safeguards) are also related to the actual 'level of openness' (e.g. what data is shared) and parties who will get the access to the data.

Proper licensing regime and supervision taking into account who have access to what data on what circumstances

- Possible Open Insurance/Open Finance initiatives should include discussion around regulatory perimeter. Accessing and sharing data could be envisaged in the framework of already regulated entities (e.g. in insurance it could mean accessing and sharing data across insurance companies and intermediaries already under the remit of Insurance Distribution Directive and Solvency II Directive). Possible discussion could include extending the perimeter to third parties with bespoke licensing/authorisation regime and proper safeguards (see e.g. PSD2 Account Information Service and Payment Initiation Service regulation).

Data protection

- Personal data should remain under the full data subject's control - Open Finance/Open Insurance must be based on the principle that the data supplied by and created on behalf of financial services consumers is owned and controlled by those consumers.;
- Wider access to consumer data by third parties must take place in a safe and ethical environment, with the informed explicit consent of the consumer.
- The wider sharing of data with more parties also raises the risks of a data breach or misuse of data occurring, and clear rules are needed to assign liability in the event of financial loss, erroneous sharing of sensitive data, or other data breaches.

Standardisation

- Standards for the data format and APIs could be developed to facilitate data sharing and to eliminate avoidable costs and facilitate scaling, so as to enable a secure and smooth access to consistent data sets. This should be done in a way that promotes security, interoperability, efficiency and usability for all parties.

Data Reciprocity

One controversial topic which often pops up in light of Open Finance/Open Insurance is so called "data reciprocity".

The potential entry of new market players into the area of financial services triggered concerns as to whether existing financial service providers may be faced with unfair competition due to the data sharing requirements imposed on them and a lack of reciprocity to respect this principle in other sectors. Indeed, the requirement on banks has triggered strong resistance from the banking industry, which considers it to be an un-level playing field that they have to share their data with new competitors (including start-ups and also BigTech firms such as Apple Pay, Google Pay, Samsung Pay or Amazon Pay) while these new competitors do not share their data with the banking institutions. It can give a strong competitive advantage to BigTech firms.

It can be argued that other market participants, which generate and collect non-financial data inherent to their business model (e.g. the GAFAs), are not obliged to share it, or do not do so in an easily utilisable format and thus may develop unfair competitive advantages against financial service providers by being able to combine financial data with non-financial user data, e.g. on social media.

Hence it can be argued that for a level regulatory and supervisory playing field, facilitation of real-time data sharing/access to data via APIs should further take into account the concept of 'data reciprocity' in a data sharing context in order to ensure fair competition between the different market players, e.g. if financial sector entities share their data with third parties/BigTechs, then third parties should probably also share their data which is used to provide financial services-related services to consumers. However, it seems that the exact implications, risks and benefits of 'data reciprocity' should be further explored. More fundamentally, before considering data reciprocity, it seems to be important to exactly define for which data it is not acceptable to be used in risk assessments and pricing of insurance products. Those unacceptable data might include internet searches, "likes" in social networks or certain shopping habits histories.

We saw both risks and benefits related to that and consider it critical that the preparatory work on possible Open Finance/Open Insurance framework includes in-depth assessment of possible implications, including risks, of a possible data reciprocity principle.

Question 30. In your opinion, what could be the main benefits of implementing an open finance policy in the EU?

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
More innovative and convenient services for consumers/investors, e.g. aggregators, comparison, switching tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Cheaper traditional services for consumers/investors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Efficiencies for the industry by making processes more automated (e.g. suitability test for investment services)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Business opportunities for new entrants in the financial industry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
New opportunities for incumbent financial services firms, including through partnerships with innovative start-ups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Easier access to bigger sets of data, hence facilitating development of data dependent services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Enhanced access to European capital markets for retail investors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>

Enhanced access to credit for small businesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X

If you see other benefits of implementing an open finance policy in the EU, please specify and explain:

Please see question 29.

Question 31. In your opinion, what could be the main risks of implementing an open finance policy in the EU?

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
Privacy issues / security of personal data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Financial exclusion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Poor consumer outcomes (e.g. unfair pricing strategies)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Misuse of consumers' financial data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Business confidentiality issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>

Increased cyber risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Lack of level playing field in terms of access to data across financial sector activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X

If you see other risks of implementing an open finance policy in the EU, please specify and explain:

Please see question 29.

Question 32. In your opinion, what safeguards would be necessary to mitigate these risks?

Please see question 29.

Question 33. In your opinion, for which specific financial products would an open finance policy offer more benefits and opportunities?

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
Savings accounts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X
Consumer credit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X
SME credit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X

Mortgages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X
Retail investment products (e.g. securities accounts) Non-life insurance products (e.g. motor, home...)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Life insurance products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Pension products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X

If you see other financial products that would benefit of an open finance policy, please specify and explain:

Please see question 29.

Question 33.1 Please explain your answer to question 33 and give examples for each category:

Question 34. What specific data (personal and non-personal) would you find most relevant when developing open finance services based on customer consent? To what extent would you also consider relevant data generated by other services or products (energy, retail, transport, social media, e-commerce, etc.) to the extent they are relevant to financial services and customers consent to their use?

Access to public and private datasets that are currently not accessible or where reliable data has not yet been sufficiently developed is important. Some datasets might be especially critical for the insurance sector in allowing sound underwriting and proper risk management e.g. cyber incidents data, data relevant for mitigating the impact of climate change, or data from IoT devices such as smart homes, health wearables or connected cars (see also question X).

Internet of Things data: See reply to question 6.

Cyber incidents data

In line with the support to cross-sectorial access to datasets described above, EIOPA is in particular in favour of the development of a common incident reporting framework to (1) 'share knowledge' about incidents in order to better prepare the resilience against certain events / attacks and (2) to support the development and growth of sound cyber insurance underwriting and risk management practices. EIOPA refers to the recently published

strategy on cyber underwriting³⁴ where 'incident reporting' is an important element and a crucial building block in promoting a sound cyber insurance market. However, EIOPA also recognises the differences in the current existing reporting frameworks e.g. NIS Directive-reporting framework.

The relevance of a common incident reporting framework and data sharing has also been evidenced in two reports published by EIOPA:

- In August 2018, EIOPA published the report "Understanding Cyber Insurance - A Structured Dialogue with Insurance Companies".³⁵ One of its key findings is the need for a deeper understanding of cyber risk, which is a core challenge for the European insurance industry. This challenge relates both to the supply and demand for cyber insurance and is essential for the cyber insurance market to develop further. It relates not only to the assessment and treatment of risks in new cyber insurance propositions, but also to the understanding of clients' own needs. This challenge generates or fosters other challenges, such as improper treatment of non-affirmative risks and difficulties to quantify and assess risks, among others. In particular, lack of data emerges as a relevant obstacle in the context of most models to estimate pricing, risk exposures and risk accumulations. Such limitations imply that qualitative models are more frequently used than quantitative models, which could hinder the proper estimation and pricing of risks. A potential contribution that regulation could make is to allow data sharing.
- In September 2019, EIOPA published a second report "Cyber Risks for Insurers – Challenges and Opportunities", addressing cyber risk from both an operational risk management perspective and an underwriting perspective.³⁶ This report identifies key challenges in collecting aggregated statistics related to cyber threats, which can be mainly attributed to different systems employed by insurance groups to capture and analyse cyber events and cyber incidents. It suggests that a harmonized overview of cyber incidents across insurance groups is limited. Therefore, having a clear, comprehensive and common set of definitions and terminology on cyber risks would enable a more structured and focused dialogue between the industry, supervisors and policymakers. This would include streamlining of the cyber incident reporting frameworks across the insurance and financial sector, to avoid inconsistencies in the reported information and ultimately enhance operational resilience. The findings also suggested that the cyber insurance market is still very much in development and insurers are still working on disentangling their cyber specific business, which is typically included within traditional lines of business. Having common and harmonized standards for both cyber risk measurement and reporting purposes could facilitate the understanding of cyber risk underwriting. To this end, creating a European-wide common incident reporting framework, based on a common taxonomy, could be considered to further support the development of the European cyber insurance market.

The ideal and most efficient and effective starting point should be a common reporting framework for all EU undertakings, not only applicable to the financial sector but to a broader set of participants of the global economy. In EIOPA's view, this is the perfect moment to work on an EU-wide cyber incidents database, to combine all the initiatives,

³⁴ https://www.eiopa.europa.eu/content/cyber-underwriting-strategy_en

³⁵ <https://www.eiopa.europa.eu/content/understanding-cyber-insurance-structured-dialogue-insurance-companies>

³⁶ <https://www.eiopa.europa.eu/content/cyber-risk-insurers-challenges-and-opportunities>

reduce the burden of reporting and build an unique database, with a common taxonomy, which could represent a competitive advantage for the EU in the future.

EIOPA is aware that reporting on cyber incidents is an urgent matter. At the same time, it is important to recognise different objectives of cyber incident reporting: reporting on event-basis (i.e. reporting that takes place immediately after the incident is discovered) and reporting for statistical purposes after full analysis of the incident. To make a distinction between the two reporting moments it is important to consider the different objectives and addresses of the reporting.

In view of the above, EIOPA is already working on the establishment of guidelines on ICT governance and security, and incident reporting for insurance undertakings is also under discussion ..

Data to mitigate the impact of climate change

Insurers and pensions funds, as well as other institutional investors, have to play a stewardship role taking into account the impact of their activities (investment, underwriting, lending) in the overall ESG factors and risks. Through their engagement with the economic actors they can play an important role in a gradual transition to a more sustainable and resilient economy.

In light of climate change, the risk of increasing frequency and severity of natural catastrophes is becoming more and more apparent. Whereas insurance penetration varies across Europe, the impact of natural catastrophes across regions may change under influence of climate change. Hence, the risk of a widening protection gap for natural catastrophes (NatCat) materialises. EIOPA is concerned that the impact of a protection gap on households and businesses as well as on the financial system will be systemic (losses affecting banking books, e.g. loss of collateral) and aggravated by public financing options of Member States (e.g. depending on the scope for investing in recovery from natural disasters). Therefore, the potential widening of the protection gap for natural catastrophes in Europe requires a concerted European action.

The first important step forward is to create commonly available data and analysis on NatCat events in Europe (including exposure, vulnerability, economic and insured losses, insurance penetration and mitigating action at national level) to inform policy decisions. Such a step could prove to be instrumental in developing an open ecosystem to foster innovation in modelling and risk transfer solutions through (re)insurance and capital markets. Information on the insurance penetration for natural catastrophes across the European Union, and the evolution of the cost for insuring natural catastrophes (premiums) is also of relevance, in order to assess the availability and affordability of insurance coverage in the future.

Question 35. Which elements should be considered to implement an open finance policy?

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
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Standardisation of data, data formats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Clarity on the entities covered, including potential thresholds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	x	<input type="radio"/>
Clarity on the way data can be technically accessed including whether data is shared in realtime (e.g. standardised APIs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Clarity on how to ensure full compliance with GDPR and e-Privacy Directive requirements and need to ensure that data subjects remain in full control of their personal data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Clarity on the terms and conditions under which data can be shared between financial services providers (e.g. fees)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Interoperability across sectors	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clarity on the way data shared will be used	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Introduction of mandatory data sharing beyond PSD2 in the framework of EU regulatory regime	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
If mandatory data sharing is considered, making data available free of cost for the recipient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X

Please specify what other element(s) should be considered to implement an open finance policy:

Please see question 29.

Question 36: Do you/does your firm already deploy AI based services in a production environment in the EU?

<input checked="" type="radio"/>	Yes (specify that we mean for the insurance sector and not by EIOPA)
<input type="radio"/>	No
<input type="radio"/>	Don't know / no opinion / not relevant

Based on EIOPA's thematic review on the use of Big Data Analytics in motor and health insurance, BDA tools such as such as Artificial Intelligence (AI) or Machine Learning (ML) were already actively used by 31% of European insurance undertakings in 2018, and another 24% were are at a proof of concept stage. In in some jurisdictions, the level of adoption is already 100%, higher even than in the banking and securities sectors³⁷

Question 36.1 If you/your firm do/does already deploy AI based services in a production environment in the EU, please specify for which applications?

Based on EIOPA's thematic review on the use of BDA in the motor and health insurance sector and subsequent work identified in the supervision of ML algorithms, EIOPA has identified the following use cases across the insurance value chain and benefits arising therein:

AI applications / BDA use cases in the insurance sector:

Use Case	Description
Churn models	Use of ML churn models for the prediction of consumer's propensity to shop around at the renewal stage, which can be useful for pricing and underwriting (e.g. for price optimisation in combination with a demand price-elasticity analysis) or for servicing the customer (e.g. "Next Best Action" approach)
Customer life time value estimation model	ML classification models used to assign/predict Customer life time value (CLV) scores (e.g. high, medium, low) to new and existing customers.
Recommender model	Recommending / nudging towards cross-selling and up-selling opportunities (i.e. "Next best action") to consumers based on information about them available in the firm's customer relationship management (CRM) systems (e.g. contact details, number of policies, emails, previous customer interactions etc.).

³⁷ <https://www.fca.org.uk/publication/research/research-note-on-machine-learning-in-uk-financial-services.pdf>

Chatbot	Enable "human like" conversations with consumers in non-sensitive areas such as Q&As (e.g. by analysing customer unstructured data via text or voice with the use of Natural Language Processing (NLP) techniques (which commonly involves Deep Learning Networks)
Sentiment Analysis	Use of NLP to assess the sentiment in feedback provided by consumers on surveys or FNOL notifications to transform it into usable information to help improve customer satisfaction and engagement
Electronic document management	Robotic Process Automation (RPA) – Deep learning networks used for automatic classification of incoming documents of unstructured data (e.g. emails, claims statements), routing them to the correct department
Claims management	Optical Character Recognition (OCR) - Deep learning networks (which have become dominant in picture recognition and NLP) used to extract information from scanned documents such as images from damaged cars to estimate repair costs ML predictive models can also be used to triage claims, allocating them a priority based on estimated cost and complexity. Simple claims are paid straight away whilst complex ones are referred for human analysis.
Fraud prevention	Analysis of fraudulent claim patterns based on FNOL data provided by the consumer and on other information about the consumer available at the firm's CRM system. There are a myriad of ML methods in this area of the value chain, from analysing the movement of the mouse while filling a claims form to analysing the language used in said forms. In Motor insurance some undertakings combine ML classification algorithms to shortlist claims suspect of being fraudulent and then network analysis (graph database) is used to confirm if those claims are the result of organised fraud.
Product development	Use of ML and graph database in predictive modelling for the identification of disease development patterns
Pricing and underwriting	BDA tools used in motor and health insurance for processing large quantities of data from different sources, often on a real-time basis (e.g. quote manipulation) ³⁸ , using a wide array of statistical techniques and algorithms (see also Annex I)
Loss Reserving	Some undertakings use ML to identify large losses earlier and improve early estimates about the final cost.

The use of BDA tools is generally focussed on a specific part of the insurance value chain and a reduced number of firms make use of them across all their processes (albeit the trend is to increase their use within the next 3 years). Amongst those firms that already use or are planning to use BDA tools, they mainly use them for pricing and underwriting (35% of firms), claims handling (30%) and sales and distribution (24%).

[Question 37: Do you encounter any policy or regulatory issues with your use of AI? Have you refrained from putting AI based services in production as a result of regulatory requirements or due to legal uncertainty?](#)

Please refer to our answers to questions 38 and 39.

³⁸ Quote manipulation analysis aim to assess at the point-of-quote whether the consumer deliberately omitted or falsified information to generate a lower premium

Question 38. In your opinion, [what are the most promising areas for AI- applications in the financial sector in the medium term](#) and what are [the main benefits that these AI- applications can bring in the financial sector to consumers and firms?](#)

Please refer to the previous question concerning the [use cases](#) across the insurance value chain.

Concerning the main [benefits](#) of BDA / AI, they enable firms to better understand the needs, characteristics and lifestyles of consumers enabling them to develop more accurate risks assessments. This also allows firms to develop more personalised and convenient products and services for consumers; the fact that they can be delivered in an increasingly tailored and timely manner reportedly improves consumer's engagement and user experience.

In the context of the Internet of Things (IoT), the insurance sector has seen the emergence of usage-based insurance products. While it is still at an early stage of development, motor and health insurance customers already can obtain a more accurate calculation of their insurance premium based on the driving information collected through telematics devices installed in their cars or through health wearables. Some firms also use these telematics devices to offer consumers a number of risk prevention and mitigation services such as coaching services or automatic assistance services in case of accident.

The use of BDA allows firms to develop more accurate risk assessments and new rating factors, which can be used to introduce new products for specific targets, markets and groups of coverage where previously was not possible. Among other things, this can lead to the financial inclusion of certain groups of consumers which were previously excluded. For example, young drivers with limited driving experience reportedly have access to more affordable motor insurance if they install telematics devices in their car. In addition, the accuracy and objectivity of the calculation of technical provisions can also be enhanced by using BDA.

From a sales and distribution perspective, the development of CRM systems incorporating all the information from consumers into one single platform allows firms to develop increasingly personalised and targeted marketing campaigns. Also interesting is the development of the "Next Best Action" approach, where BDA tools such as ML can be used by firms to develop more consumer-centric cross-selling and up-selling models, for instance following a "consumers that bought this might also buy this" approach.

The penetration of robo-advisors could potentially allow consumers to access more affordable advice. However, the level of penetration of these tools is still limited compared to chatbots using Natural Language Processing and other ML algorithms. Chatbots are increasingly popular in view of the wide range of possibilities that they offer for servicing the customer in simple and non-sensitive procedures (e.g. answering Q&As or guiding consumers through the quoting process). Their availability on a 24/7 basis and the possibility to use them from any location are reportedly seen as convenient services by consumers.

EIOPA believes that one key development in the area of BDA is the increasing use of mobile phone technology to collect new sources of data and interact with consumers; in particular, the thematic review has gathered detailed examples of how insurance firms provide different types of services to their customers through mobile phone applications. For example, consumers can submit claims (attaching pictures of invoices or car damages),

or buy short-term /on-demand motor insurance policies, or make medical and dental appointments via their mobile phone apps.

In the area of claims management, BDA can support the detection of fraudulent claims in different ways. Most insurance firms use claims scoring and anomaly detection tools, where tools such as ML algorithms are trained to look for fraud patterns based on hundreds of different attributes (e.g. incident location, contract premium, number of previous claims by the policyholder etc.). By flagging potentially fraudulent claims, investigators can focus on claims that are likely to be fraudulent and reduce the number of false positives.

Question 39. In your opinion, what are the main challenges or risks that the increased use of AI- based models is likely to raise for the financial industry, for customers/investors, for businesses and for the supervisory authorities?

Please rate each proposal from 1 to 5:

1. Financial industry

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
1.1. Lack of legal clarity on certain horizontal EU rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
1.2. Lack of legal clarity on certain sector-specific EU rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
1.3. Lack of skills to develop such models	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
1.4. Lack of understanding from and oversight by the supervisory authorities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
1.5. Concentration risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
1.6. Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify what other main challenge(s) or risk(s) the increased use of AI-based models is likely to raise for the financial industry:

Based on EIOPA’s thematic review on the use of BDA in the motor and health insurance sector and subsequent work identified in the supervision of ML algorithms, EIOPA has identified the following challenges and risks of the increased use of AI in the insurance sector:

Challenges in the implementation of ML

- 1) Need to update risk management frameworks: Undertakings are reviewing the extent to which their control, testing and feedback loop criteria remain relevant and valid. In particular, in the context of pricing models, ML processes are likely to require an increase in frequency of certain validation tests (for example, in line with the expected increase in the frequency of model calibrations); but these may need to be performed at a different and possibly more strategic level - reflecting the expected reduction of manual interventions. In this context, some undertakings are starting to think through how they might be able to automate some elements of model governance and sign-off to more fully realise the benefits (e.g. to stop manual oversight becoming a constraint on pace in the market). Finally, controls around internal and external data are expected to need enhancements – e.g. to ensure the underlying data is free from prohibited biases.
- 2) IT-Landscape, hardware and software constraints: The increasing use of ML techniques across the insurance value chain and the consequential speed in new iterative models has in some cases exposed the need for a more agile IT functions – increasing the frequency of software updates and providing greater support for future releases. Many insurance undertakings are considering server upgrades, or the need to move to a cloud service provider to accommodate the additional processing power needed to support new ML techniques.
- 3) Cultural shift, integration of old and new teams: Undertakings cite the need adapt their processes and ensure that domain knowledge and data science skills are appropriately integrated to ensure continued rigorous testing / validation to support ongoing appropriateness of the new pricing models

Risks in the implementation of ML

Based in its on-going work in the supervision of Machine Learning algorithms, EIOPA has identified the following risks:

Legal / conduct risk: See below explanation about risks to consumers regarding fairness and non-discrimination and transparency and explainability. From an operational perspective, these risks to consumers would also represent legal / conduct risks to insurance undertakings.

Model risk: performance (e.g. prediction accuracy) of ML algorithms

Model risk is a type of risk that occurs when a model produces inaccurate predictions which a firm uses for decision making (e.g. to calculate the SCR or to provide advice to consumers via robot-advisors). Model complexity does not always ensure model accuracy or confidence. Indeed, excessively complex models can lead to a lack of understanding of the circumstances under which the model's accuracy or usability might be compromised. This can have negative consequences for insurance undertakings in different ways:

- From a prudential perspective, anti-selection occurs when a firm's model fails to price riskier segments of the market accurately. Where this leads to prices that are lower than the market average, undertakings can rapidly acquire risks at prices that eventually may prove to be insufficient to meet the expected claims cost.
- From a conduct perspective, specifically the fair treatment of customers, there is a greater risk of undetected biases in how data are interpreted when complex models are used, leading to a higher risk of discrimination against certain groups.

In addition, the commoditisation of ML applications means that, quite often, training a complex model requires a simple line of code in R or Python. This also means that users may not necessarily know what the model is actually doing and whether that is appropriate for the use case or not. For example, if fitting a certain model, is the R or Python library internally applying any pre-processing and if yes, what specifically and what impact could that have in the results? If using cross-validation, how is the algorithm choosing the samples and are they representative, i.e.: do they have to observe any stratification, etc.? Also, undertaking should ensure an updated training of the model to include changes in the market and relevant scenarios.

Finally, it is important to bear in mind that that ML is about finding correlations and not causation. ML algorithms identify patterns in data including multi-factor interactions. However, not all correlations imply causation; if the output of a model is based on correlations, which are falsely assumed to be causations, then the decision-making process would be biased as well. Moving from correlation to causation is especially important when it comes to understanding the conditions under which a ML model may fail, how long we can expect it to continue being predictive and how widely applicable it may be.

IT-risk: governance of IT systems supporting ML

The COBIT5 defines IT-risks “as business risk, specifically, the business risk associated with the use, ownership, operation, involvement, influence and adoption of IT within an enterprise”. In the context of ML, undertakings need to use up-to-date IT governance systems and controls and gather the relevant skills and knowledge in order to address such risks.

IT-related operational risks arising from ML are to a large extent not new, but they are exacerbated by the ability for ML to scale up and to be deployed more rapidly than in the past. In particular, data inaccuracies (either accidental or intentional), increasing volumes and sources of data, increasing number of ML use cases, and the reduction in human oversight over the different models used, increase existing operational IT risks.

Indeed, the higher degree of automation as well as scalability, not only of simple and standardized processes but also of more complex and critical decision-making processes, often with direct impact on consumers, results in a steep increase of the importance of the resiliency of IT governance systems when applying ML.

Other operational risks

Furthermore, the increasing use of data and data-based decision making models across the different areas of the value chain are accompanied by additional operational risks such data loss, misuse, reputational risks etc. Moreover, an excessive concentration in the number of providers in certain strategic services/technologies such as ML can potentially disrupt the efficient functioning of value chains, leading to an increase of concentration risks and situations of ‘reverse outsourcing,’ i.e. the reversal of the traditional power relationship between insurance undertakings and the subcontractor. Moreover, from a prudential perspective the increase in digitalisation might also lead to an increase in interconnectedness; this could render extreme cyber attacks more plausible and more impactful for insurance undertakings and for the economy at large.

2. Consumers/investors

	1 (irrelevant)	2 (rather not	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.

		relevant)				
2.1. Lack of awareness on the use of an algorithm	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.2. Lack of transparency on how the outcome has been produced	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
2.3. Lack of understanding on how the outcome has been produced	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
2.4. Difficult to challenge a specific outcome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
2.5. Biases and/or exploitative profiling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
2.6. Financial exclusion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
2.7. Algorithm-based behavioural manipulation (e.g. collusion and other coordinated firm behaviour)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
2.8. Loss of privacy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
2.9. Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify what other main challenge(s) or risk(s) the increased use of AI-based models is likely to raise for customers/investors:

Fairness and non-discrimination

According to Article 17(1) IDD, insurance distributors shall always act honestly, fairly and professionally in accordance with the best interests of their customers. Article 25 IDD and Delegated legislation establish product oversight and governance (POG) requirements for insurance distributors, including the need to identify a target market and to regularly assess that the product remains consistent with the needs of the identified target market. The fairness principle is also recognised in Article 5 GDPR and the Unfair Commercial Practices Directive (UCPD). Furthermore, the insurance industry has to comply with anti-discrimination legislation (see Annex II).

In the context of ML, compliance with the above-mentioned provisions could be challenging if there are no adequate governance frameworks in place, in particular taking into consideration the relationship of ML algorithms with the training data and certain use cases in insurance. Indeed ML algorithms rely heavily on the training data for the production of the model. Its major strength is the desired capability to find and discriminate classes in training data, and to use those insights to make predictions.³⁹ Any bias in the training data, either accidental or intentional, will be reproduced by the ML algorithm. Bias can be found in the collection, processing and application of data. To address these issues it is important that there are processes and controls in place so as to ensure that the data use in ML models is accurate, appropriate and complete.

³⁹ AXA Rev. 2019. "Regulating Machine Learning: where do we stand?". https://axa-rev-research.github.io/static/AXA_WhitePaper_RegulatingML.pdf

Bias in the data could lead to the explicit or implicit use of prohibited characteristics. In the context of pricing and underwriting, this could lead to price discrimination of unprivileged and protected groups. For instance ML algorithms could find some attributes/variables, in car or health telematics data (e.g. gym activity, calorie consumption, geolocation etc.) or a combination of them as a proxy to prohibited factors.

Moreover, ML churn models could be used for price optimization purposes and lead to unfair treatment of consumers, for example if the ML algorithm predicts that certain classes of vulnerable consumers (e.g. old age, low income, or low level of studies) are less likely to shop around and are therefore charged a higher price. The increasing granularity of risk assessments enabled by ML could also lead to prices becoming very high (exclusion) for customers who fall in riskier categories (sometimes independently from their actions, e.g. in case of diseases/handicaps).

In marketing, bias in training data of a ML model could lead to certain insurance products, services or price discounts being offered only to certain groups of people and not to others. Also in sales, ML recommender models could potentially nudge customers towards products or services that they do not need or are not fit for them or are not in their best interest. In fraud, bias could exist if the human loss adjusters applied any prejudices when labelling the transactions as "fraudulent" or "non-fraudulent".

Transparency and explainability of decisions based on ML algorithms

Article 20(1) IDD states that insurance distributors shall provide the customer with objective information about the insurance product in a comprehensible form to allow the customer to make an informed decision. Moreover, Article 13(2)(f) GDPR establishes the requirement, under certain conditions, that undertakings should be able to meaningfully explain the outcome of tools such as ML algorithms.

As explained above, specific judgements of some ML black-box algorithms cannot be explained in a meaningful way given that black-box model delivers a point-estimate without any confidence level for the different variables included in the model. The ability to explain why certain interactions within the variables lead to specific price differentials may be even more difficult. This raises fundamental questions about the accountability of those undertakings using them. In order to address this issue, when using black-box algorithms insurance undertakings should make use of supplementary explainability tools.

Explainability requirements may differ depending on the use case. For example, in the context of pricing and underwriting, undertakings should be able to explain to the customer the pricing differentials between different customer segments; i.e. insurance undertakings should be able to provide counterfactual explanations to consumers about how they can improve their risk profile. Other use cases like fraud prevention techniques may arguably need to be less transparent vis-a-vis consumers in order to avoid jeopardizing the ability of insurance undertakings to fight against fraudsters.

Information and transparency requirements may also differ between the different stakeholders; the information that needs to be provided to consumers will normally be less comprehensive than the information provided to supervisors (e.g. types of algorithms used, data sources, weight of the different variables, assumptions etc.). However, if consumers do not understand how they can influence an outcome (e.g. in the context on risk mitigation and prevention techniques using health wearables or car telematics), they will reportedly not interact and human action driven prevention strategies are compromised / not effective.

Question 40. In your opinion, what are the best ways to address these new issues?

Please rate each proposal from 1 to 5

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
New EU rules on AI at horizontal level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
New EU rules on AI for the financial sector	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guidance at EU level for the financial sector	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>
Experimentation on specific AI applications under the control of competent authorities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Certification of AI systems	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Auditing of AI systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Registration with and access to AI systems for relevant supervisory authorities	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify what other way(s) could be best to address these new issues:

In order to address the above-mentioned challenges, EIOPA has recently created a Consultative Expert Group on Digital Ethics (GDE) in insurance. A total of 40 stakeholders from the insurance industry, consumer representatives and academics are working to develop a set of principles of digital responsibility in insurance, leveraging on the Ethical Guidelines developed by the European Commission’s High Level Expert Group on Artificial Intelligence. The aim of the GDE is to promote further clarity to the market in terms of fairness, explainability, and governance arrangements concerning the use of BDA in insurance. The European Commission may consider developing similar initiatives for other areas of the financial sector.

Following the conclusion of the work of the GDE, which is expected to be finalised in Q3/Q4 2020, and taking into account the on-going market, research (e.g. regarding AI explainability) and regulatory developments (namely the outcome of the European Commission’s AI White Paper public consultation), EIOPA might consider developing further activities in the area of ML supervision. The aim is not to limit innovation but rather to unlock the use of new technologies while ensuring a fair, ethical and transparent use of data.

Question 41. In your opinion, what are the main barriers for new RegTech solutions to scale up in the Single Market?

[Proposed to be answered in part only because we do not have data to comment from the perspective of RegTech providers]

Financial service providers:

	1 (irrelevant)	2 (rather not relevant)	3 (neutral)	4 (rather relevant)	5 (fully relevant)	N. A.
Lack of harmonisation of EU rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Lack of trust in newly developed solutions	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of harmonised approach to RegTech within the EU	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	<input type="radio"/>

Please specify what are the other main barrier(s) for new financial service providers solutions to scale up in the Single Market:

Question 42. In your opinion, are initiatives needed at EU level to support the deployment of these solutions, ensure convergence among different authorities and enable RegTech to scale up in the Single Market?

<input type="radio"/>	Yes
<input type="radio"/>	No
X	Don't know / no opinion / not relevant

Question 42.1 Please explain your answer to question 42 and, if necessary, please explain your reasoning and provide examples:

EIOPA has not yet done detailed work on RegTech, however it has developed a SupTech Strategy.

Please see answer to question 44 and 45.

One of the areas commonly referred to when addressing RegTech is supervisory reporting. In this case the lack of harmonization of EU rules, namely consistency across definitions, formats and processes within the financial services reporting legislation needs to be achieved to contribute to further development of such tools. See also answer to Q43.

Question 43. In your opinion, which parts of financial services legislation would benefit the most from being translated into [machine-executable form](#)? Please specify what are the potential benefits and risks associated with machine-executable financial services legislation:

In general, EIOPA considers that translating financial services legislation into machine-readable and executable reporting requirements could benefit both, the reporting entity and the supervisor. It is likely that the long-term future compliance with regulatory and reporting requirements will be largely algorithm/code based. This could potentially reduce compliance costs for insurance undertakings, eliminate (or substantially decrease) the need for interpretation as well as increase the speed of risks' identification by supervisors.

When it comes to ranking probably the reporting frameworks / legislations which could benefit the most are the ones already using machine-native international standards (such as ISO20022, XBRL, SDMX) for reporting and disclosure. More specifically for use cases of granular reporting within particular domains.

However, beforehand **consistency** across definitions, formats and processes within the financial services legislation needs to be achieved. This topic was already mentioned in the "Commission Staff Working Document Fitness Check of the EU Supervisory Reporting Requirements" [SWD(2019) 402 final] where it also stated that "*A common financial language ('define once') and further standardisation would address these issues and would also be needed for developing standardised, machine-readable and -executable reporting requirements.*" It may be therefore necessary to reconsider how the financial services legislations are established.

Transforming the legal requirements into source code is technically challenging and does not come without risks though. The legislators need to thoroughly consider and remember about potential issues related to IT security, cybersecurity, accountability, auditability as well as privacy matters.

Despite the challenges EIOPA acknowledges the potential benefits of machine-executable legislation and based on its extensive experience in data standardisation (see response to question 44) is ready to be closely involved in future discussions on machine readable-executable legislation and on data standardisation.

Question 44. The Commission is working on [standardising concept definitions and reporting obligations across the whole EU financial services legislation](#). Do you see additional initiatives that it should take to support a move towards a fully digitalised supervisory approach in the area of financial services?

The EU Data strategy consults i.a. on a Data Space in finance, stating the Commission will further facilitate access to public disclosures of financial data or supervisory reporting data, currently mandated by law, for example by promoting the use of common pro-competitive technical standards.

The creation of European Data Spaces is currently described quite abstractly in the EU Data Strategy. However, it seems to be related to the access to relevant data sets and Open Finance/Open Insurance. Hence, EIOPA's roles as a regulator and a supervisor should be kept in mind especially since as mentioned above EIOPA is responsible for: development of draft Implementing Technical Standards on public disclosure and supervisory reporting of insurance and reinsurance undertakings, provision of XBRL taxonomies as well as assurance of data

standardisation and data quality. As for the research and innovation, EIOPA is supportive of creating a framework for seamless analyses of the data which is required to be publicly disclosed. However, EIOPA remains sceptical when it comes to sharing any confidential data for any other purposes other than financial supervision conducted by the European System of Financial Supervision (ESFS). EIOPA implemented rigorous data dissemination procedures. Considering the confidential nature of financial reporting data, it may not be in the public best interest to share such information outside of the ESFS.

In any case, adequate safeguards are needed for possible European Data Space on Finance (e.g. proper governance, data integrity and safety). This also includes the question on standards for data submitting and taxonomy.

In particular, regarding the questions on standardization including standards for data submission and taxonomy:

- EIOPA actively participated in the Commission's exercise regarding fitness check of EU supervisory reporting requirements.⁴⁰
- EIOPA welcomes the Commission's Delegated Regulation (EU) 2019/2100 regarding updates of the taxonomy to be used for the single electronic reporting format. The idea that this Regulation can make listed companies' financial records more readable and accessible using up-to-date digitalised business reporting systems (XHTML and iXBRL) is very much needed. Hopefully, in the future also the legal entity identifier will be included in similar Regulations and Directives as using a unique company/entity identifier in different reporting frameworks would help tremendously in analyzing company's data for supervisory purposes.
- EIOPA has been supporting standardised approaches to data and IT for several years now. Those include (i) an XBRL based taxonomy for both (re)insurance and occupational pensions reporting requirements and (ii) the LEI application in both sectors.
- In particular, it would be of significant use if there was a repository of clearly identified standards, processes and protocols which would need to be met, conducted when it comes data sharing. This repository should cover not only cross-sector level but also within a sector. Naturally, where deemed necessary the sectoral standards should be built as indicated in the consultation papers "*on existing structures and coordination mechanisms*" provided those are operational, efficient and effective. EIOPA already took preventive measures in that area and developed its own working instruction on data dissemination in order to fulfil its duties towards different stakeholders.

As such EIOPA would strongly agree with the EU Data Strategy's statement that "*Data governance mechanisms are needed to capture the enormous potential of data in particular for cross-sector data use.*"

Considering the interoperability issues (which were described in the EU Data Strategy consultation paper) still exist, EIOPA also agrees with the following statements that:

⁴⁰ https://ec.europa.eu/info/publications/191107-fitness-check-supervisory-reporting_en

- *"the re-use of data in the economy and society would benefit greatly from standardisation to improve interoperability";*
- *"future standardization activities need to better address the use of data across sectors of the economy or domains of society"*

In addition, the elements we consider as useful in terms of standardization are:

- Metadata management incl. schema and variables,
- Data formats and common data models
- Data exchange protocols and APIs.

Potential standardization regarding licenses among EU institutions, agencies could be of benefit as well. Sharing best practices, tools in terms of BI and data analytics frameworks could be also useful.

Question 45. What are the potential benefits and drawbacks of a stronger use of supervisory data combined with other publicly available data (e.g. social media data for effective supervision)? Please explain your reasoning and provide examples if needed:

The increasing complexity and variety of IT solutions for different supervisory tasks requires a comprehensive view of the current tools available, the main needs to be covered and the efficiency of the solutions available to take the right decisions. For this reason, EIOPA has organized the on-going development of supervisory tools using new technologies through the EIOPA SupTech Strategy⁴¹. For this purpose, EIOPA has also identified the expert groups needed considering the expertise and seniority needed develop and implement this strategy and each project falling within it, and new expert groups have been created where none of the existing ones had the desired profile. This way, EIOPA and its Members have prioritised those projects that either lay on the base of most SupTech initiatives (e.g. improvement of the Register of insurance and reinsurance undertakings), or might provide higher benefits in a reasonable timeframe (e.g. platform for code sharing purposes and data gathering for conduct of business purposes).

EIOPA is also exploring the benefits from using Artificial Intelligence tools including Natural Language Processing to extract information from PRIIPs KID documents for supervisory purposes. In the past EIOPA has also used similar AI tools to extract information from social media; this tool was outsourced from a third party service provider provide some useful insights.⁴² On the other hand, it faced a number of challenges, such as not extracting relevant information; irony included in some social media comments were not always well understood by the tool, and the accuracy of the tool was not the same for all EU languages. Furthermore, some comments could be generated by "fake" social media profiles.

IV. Broader issues

46 – EU funding

47 - AoB

⁴¹ https://www.eiopa.europa.eu/content/supervisory-technology-strategy_en

⁴² https://register.eiopa.europa.eu/Publications/Reports/EIOPA-BoS-15-235%20-%20Mobile_Phone_Insurance_Report.pdf