



The Legal 500 Country Comparative Guides

The Netherlands: Fintech

This country-specific Q&A provides an overview of fintech laws and regulations applicable in The Netherlands.

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1. What are the sources of payments law in your jurisdiction?

The payments sector in the Netherlands is mainly regulated on the basis of European legislation, such as the second Payment Services Directive (PSD2), the second E-Money Directive (EMD2), the Single Euro Payments Area (SEPA) Regulation, the Interchange Fee Regulation and the Payment Accounts Directive. European Regulations have direct effect in the Netherlands. The European Directives have been implemented in - mainly - the Dutch Financial Supervision Act (*Wet op het financieel toezicht*) and Title 7b of Book 7 of the Dutch Civil Code (*Burgerlijk Wetboek*). The first act deals with the financial regulatory requirements applicable to financial undertakings involved in the payment chain, whilst the latter focuses on the private law requirements that need to be taken into account by the different parties involved in such payments chain. In addition, important laws to adhere to by institutions including financial undertakings active in the payments sector is the Anti-Money Laundering Directive V (AMLD V, as implemented in the Dutch Money Laundering and Terrorist Financing (Prevention) Act (*Wet ter voorkoming van witwassen en financieren van terrorisme*)) and Sanctions laws and regulations (*Sanctiewet 1977*). One national piece of legislation worth mentioning is a regulatory framework applicable to payment processing service providers (PPSPs, *afwikkelondernemingen*). This piece of Dutch legislation is not based on a European example. PPSPs typically have Payment Service Providers (PSPs) as their clients rather than the end-customer. PPSPs offer payment processing services to other financial undertakings active in the payment chain, such as Account Servicing Payment Service Provider (ASPSPs, generally banks), Payment Institutions (PIs) and Electronic Money Institutions (EMIs). It results in other parties than covered by the above mentioned European legislation such as card schemes to likely fall under this type of oversight by the Dutch Central Bank (DNB).

2. Can payment services be provided by non-banks, and if so on what conditions?

In line with PSD2 and EMD2, payment services can be provided by non-banks such as PIs, exempt and third country PSPs and EMIs. Both EMD2 and PSD2 were implemented in a harmonised manner in Dutch law. In line with PSD2, providing payment services in the Netherlands is subject to a license from DNB unless they can rely on an exemption or a European passport. The license obligation as well as the exemption applicable to a financial undertaking when providing payment services in the Netherlands can largely be derived from these European Directives (in particular PSD2). Account Information Service Providers (AISPs) however need to obtain a (light) license in the Netherlands, instead of a mere registration as required pursuant to PSD2. DNB does, however, maintain a relative narrow reading of the scope of the licence obligation of a PSP: DNB considers that a party is pursuing the business of a PSP only if *'it provides a payment service for a payer's or payee's expense as a separately identifiable activity. This means the activity must be separate and not indissolubly linked to another activity unrelated to payment services.'*

(<https://www.dnb.nl/en/news/dnb-nieuwsbrieven/nieuwsbrief-betaalinstellingen/NieuwsbriefBetaalinstellingenfebruari2019/dnb382349.jsp>). Another thing to mention is that PIs do not (yet) have direct access to the TARGET2 inter bank payment system, resulting in incumbent banks generally maintaining a very important role in scriptural (cashless) payment

transactions. In that respect, PIs are just another intermediary in the payment chain. This is a point of attention, particularly taken the recent Covid-19 crisis resulting in a further increase of cashless payment transactions and the intensifying AML and CFT risk mitigation measures taken by incumbent banks resulting in accounts to be terminated by banks.

3. What are the most popular payment methods and payment instruments in your jurisdiction?

When discussing popular payment methods and payment instruments, a distinction should be made between in store payments (or better: at a physical point of sale (POS)) and online payments. From the annual report 2019 of the National Forum on the Payment System (*Maatschappelijk Overleg Betalingsverkeer*), in which a large number of participants in the payments sector is represented and which is chaired by DNB and observed by the Dutch Ministry of Economic Affairs and the Ministry of Finance, it can be derived that the upward trend of electronic payments to the detriment of cash payments is continuing. In 2019, 67% of all in store payments were electronic payments (compared to 63% in 2018) and the remainder were cash payments. It is expected that this development will result in only 25% of the in store payments to be settled in cash in 2025. Cash is however still considered to have important social functions (such as *"inclusion, a form of public money, independence from banks, means of storing value, anonymity and fall back option in the event of digital disruption"*, see p. 3 of the below mentioned report of the MOB task force). Other trends that are shown in the MOB annual report 2019 is an upward trend in contactless card payments (65% of all debit card payments were contactless in 2019, compared to 52% in 2018). Covid-19 has a positive effect on these upward trends as well; during the intelligent lock down payees were urged to pay by card and preferably contactless. Contactless payments can be made for transactions with a value up to €25, which threshold was increased to €50 since the lock down. The most popular payment method for online payments in the Netherlands remains iDEAL. iDEAL redirects a payer to its online banking environment. Since its launch in 2005 it has enjoyed phenomenal success. In 2019, approximately 667 million transactions were settled through iDEAL (compared to approximately 524 million in 2018). We expect this exponential growth to stabilize a bit due to iDEAL not being available for payment transactions from or to a non-Dutch account. A last upward trend is shown in respect of digital payments making use of cloud-based payment methods, e-wallets, smartphones, smartwatches and other devices with near field communication (NFC) tags built in. These are winning market share rapidly. Please see for more information on MOB: <https://www.dnb.nl/en/payments/other-tasks/national-forum-on-the-payment-system/index.jsp>, the annual report 2019: https://www.dnb.nl/en/binaries/2019%20Report.%20may%202020_tcm47-388515.pdf, and the report of the MOB task force in respect of the position of cash: https://www.dnb.nl/en/binaries/NFPS,%20Towards%20a%20New%20Vision%20on%20Cash%20in%20the%20Netherlands,%20May%202020_tcm47-388944.pdf.

4. What is the status of open banking in your jurisdiction (i.e. access to banks' transaction data and push-payment functionality by third party service providers)?

Is it mandated by law, if so to which entities, and what is state of implementation in practice?

For open banking purposes, access to the account (XS2A) is the most important innovation enabled by PSD2. XS2A entails the possibility for third party providers (such as AISPs, PISPs and so called card-based payment instrument issuers (“CBIIs”)) to get access to online available payment accounts administered by ASPSPs subject to the explicit consent of the account holder. Although nine new PISPs and AISPs became active in the Netherlands in 2019 and existing PSPs extended their services under their respective licenses, PSD2 has, however, not yet resulted in a substantive change in the Dutch payments sector. The rationale may be that implementation of the requirements dealing with security measures and strong customer authentication (SCA) in respect of XS2A and online payments only took effect simultaneously with the effectuation of the European Regulation on Strong Customer Authentication as per 14 September 2019. Despite the fact that the XS2A Framework developed by the Berlin Group is used by most Dutch banks, a further standardization is desirable.

In line with the opinion of the European Banking Authority (EBA) (<https://eba.europa.eu/eba-publishes-an-opinion-on-the-elements-of-strong-customer-authentication-under-psd2>), some financial undertakings subject to these SCA requirements may apply to take a longer period to migrate to SCA supported payment solutions. The Dutch Payments Association (*Betaalvereniging Nederland*) has developed the SCA Migration Project for that purpose. Eligible undertakings are required to fully comply with the SCA requirements as per 1 January 2021. Covid-19 will not have any impact on this final deadline.

The Dutch Minister of Finance offered the Dutch FinTech Action Plan to the Dutch House of Representatives. This FinTech Action Plan still needs to be discussed within the House of Representatives. Part of the plan is to stimulate new innovation by laws and regulation emerging from EU-law for open banking and open finance. Special attention must be paid to safekeeping of privacy. In considering next steps, the Dutch government closely follows the initiatives taken by the European Commission as part of its efforts to build a Capital Markets Union and a Digital Single Market, such as the initiatives in respect of the European Data Strategy, Digital Finance and Retail Payments Strategy.

5. How does the regulation of data in your jurisdiction impact on the provision of financial services to consumers and businesses?

The applicable data protection regime in the Netherlands mainly follows from the European General Data Protection Regulation (GDPR) and the Dutch Implementation Act GDPR (*Uitvoeringswet AVG*). This regime does not have specific implications for fintech companies; it applies to any type of company processing personal data within the meaning of the GDPR. Depending on the type of fintech company and the manner in which it uses personal data, additional requirements following from sector specific legislation could be applicable, such as the explicit consent requirement under PSD2. Another example is that if a fintech company

makes use of Big Data and/or artificial intelligence specific requirements following from the GDPR with respect to profiling apply. Additionally, IT and cyber security rules apply to fintech companies. These rules mainly follow from requirements included in specific legislation such as PSD2, MiFID II and/or GDPR. Examples are the requirement to implement appropriate technical and organizational measures to ensure a level of security appropriate to the risk involved with the processing of the personal data under GDPR, as well as the requirement to have procedures and measures in place to ensure the integrity, continuous availability and security of automated data processing under financial regulatory rules. In 2018, the Dutch Act on Security Network and Information Systems (*Wet beveiliging netwerken informatiesystemen*) implementing the EU Cybersecurity Directive entered into force. The requirements laid down in the act apply to digital service providers, including fintech companies, that have at least 50 or more employees and/or generate a revenue of at least EUR10 million and provide essential services (eg, energy, banking, financial markets infrastructure). Pursuant to the act, these companies have a duty of care and must take adequate technical and organizational measures to control identified security risks.

6. What are regulators in your jurisdiction doing to encourage innovation in the financial sector? Are there any initiatives such as sandboxes, or special regulatory conditions for fintechs?

The Dutch financial regulators, the AFM and DNB, are actively encouraging innovation in the financial sector in the Netherlands. Late 2016 / early 2017, the regulators launched two initiatives with the aim of both facilitating fintech companies, as well as gaining knowledge of and experience with innovative business models used by fintech companies: the InnovationHub and the 'Regulatory Sandbox'. Whilst the InnovationHub is meant to facilitate fintech startups with qualifying their contemplated business model and assessing the applicability of financial regulatory laws, the 'Regulatory Sandbox' is supposed to go a step further. The 'Regulatory Sandbox' could, theoretically, offer a tailored approach to innovative business models if and to the extent applicable laws and regulations leave room for such an approach. Due to the existing regulatory framework which applies irrespective of the manner in which the regulated activities or services are provided (concept of technological neutrality), the Dutch regulators experience difficulty in offering a fintech company a deviating, more tailored, treatment compared to other financial undertakings. In an interim evaluation report, published in August 2019, the regulators did however conclude that 'both initiatives are playing an important role in responding to innovation in the financial sector'. They also acknowledge that maintaining an open dialogue with fintech companies is essential to continuously stimulate innovation. This open dialogue is actively called on within iForum, a digital platform launched by DNB in November 2019. With iForum, DNB aims to create a link between the financial ecosystem and DNB in the field of technological innovation and share best practices in the fintech sector. Financial undertakings, including fintech companies, are invited to participate in one or more initiatives taken by the platform with the aim of improving oversight by DNB and to make compliance measures more efficient by making use of technology. Part of the recently published Dutch Fintech Action Plan is to further strengthen these existing national initiatives as well as to examine the possibilities of launching a European InnovationHub or European Regulatory Sandbox and to improve the

cooperation with national competent authorities in respect of sharing experiences with similar initiatives in other Member States.

7. Do you foresee any imminent risks to the growth of the fintech market in your jurisdiction?

We expect no imminent risks to the growth of the fintech market in the Netherlands. Rather, we expect a further growth of fintech initiatives to be developed in the Netherlands. Covid-19 could temporarily have negative impact on new initiatives to be conducted due to a potential lack of funding, but it also accelerates a further digitization of services, including financial services. Dutch consumers have a high fintech adoption rate (average of 73%, compared to 64% globally) and they increasingly require easily available, transparent and cost-efficient solutions. These numbers can be derived from the research report published by EY (EY, *'Dutch FinTech census 2019'*, December 2019). The research was conducted at the request of the Dutch government and formed the basis for the Dutch FinTech Action Plan as recently published by the Dutch Minister of Finance. It gives valuable insights in the developments, trends and challenges of and for the fintech market in the Netherlands. We do note that the report only represents data of 121 participants. This is a relatively small survey, taken the total number of fintech companies active in the Netherlands (approximately 635 by the end of 2019 according to the EY report). The main challenge for fintech companies presented in the report is attracting and maintaining qualified and skilled talent. Another challenge is to partner up with incumbent financial undertakings such as the Dutch banks, insurance companies and pension funds. This is important for fintech companies because Dutch customers remain to put a high level of trust in these incumbents. It is expected to be conceived by a customer as a stamp of trust when a fintech collaborates with an incumbent. Another challenge is the size of the Netherlands and the relatively small customer base available. These challenges and other potential bottleneck described in the EY report, are taken into account in the Dutch FinTech Action Plan. In this plan, the Dutch Minister of Finance proposes three pillars to stimulate innovation in the Dutch financial sector and to enable fintech companies to flourish. These pillars are: (i) putting the Dutch fintech climate and fintech industry on the map, both nationally and internationally, (ii) creating easy access to knowledge and talent for fintech companies, and (iii) having in place future proof legislation and regulations which facilitates innovation. Within each pillar, a number of contemplated actions are described. The Dutch FinTech Action Plan includes (i) actions on a European level (such as strengthening the EU Capital Markets Union including the Crowdfunding Regulation, which will apply as per 10 November 2021, the development of harmonized EU frameworks in respect of cybersecurity, crypto assets and the use of distributed ledger technology within the financial sector), (ii) actions on an international level (such as marketing the Netherlands as a perfect place of business for foreign fintech companies, and by entering into partnerships with jurisdictions that have a forerunner position as it comes to fintech developments), and (iii) actions on a national level. These include, for example, the offering of guaranteed SME loans, developing residence arrangements for foreign key personnel of startups and making it more attractive to grant stock options as part of salaries from a Dutch tax perspective. The national actions proposed in the FinTech Action Plan also aim to ensure that fintech companies have easy access to

material information including in respect of the regulatory framework applicable to them, to keep in mind how this regulatory framework, as well as the costs involved with regulatory oversight, can be applied in a more proportionate manner to small companies and startups, and to strengthen existing initiatives of the Dutch financial regulators such as the InnovationHub, 'Regulatory Sandbox' and iForum.

8. What tax incentives exist in your jurisdiction to encourage fintech investment?

Despite the numerous number of taxes and subsidies or grants, the Netherlands does not excel in incentivizing fintech companies, fintech investments or fintech projects via appealing tax rates. That being said, the Dutch government is working on making stock option plans more interesting from a Dutch tax perspective (contemplated to take effect as per 1 January 2021). This is in addition to two tax related measures already in place which could be beneficial for fintech companies. The first is a tax arrangement offered to an employer that employs specialist talents from abroad (who have lived more than 150 kilometres from the Netherlands for at least the preceding 16 months), such as programmers, blockchain experts and similar 'Silicon Valley' hotshots. An employer can pay up to 30% of the salary of its foreign employee on a tax-free basis for a limited period of 5 years. Given the relatively high income tax rates in the Netherlands (37.35% over (the part of) a taxable income up to €68.508 and 49.55% over the part of a taxable income above €68.508), this facility is a welcoming bonus for talent migrants. The other tax arrangement worth mentioning is the Innovation Box. Innovative fintech research & development initiatives may be eligible for this tax arrangement. In essence it is a considerable discount on the corporate income taxes payable by a company. The current regular Dutch corporate income tax rates are between 16.5% (first €200,000 of taxable profits) and 25% (taxable profits over €200,000). These rates will be reduced to 15% and 20.5% respectively in 2021. Under the Innovation Box, only 7% taxes needs to be remitted in respect of the returns obtained from such innovative R&D. The latter rate will be increased to 9% as per 2021.

9. Which areas of fintech are attracting investment in your jurisdiction, and at what level (Series A, Series B etc)?

Depending on the stage which they have reached, fintech companies are primarily financed by regular seed capital providers, such as angel investors and early-stage venture capital funds. Later-stage venture capital funds and private equity funds are also increasingly aware of the potential of the fintech sector. According to the research report of EY (*'Dutch FinTech census 2019'*) and a source referred to by EY, fintech companies attracted €969 million investment financing from 2014 to the first half of 2019. The main part of those investments (39.3%) was provided to fintech companies active the payments and remittance area, followed by fintech companies developing infrastructure and enterprise software (12.4%), marketplace lending (11.2%) and insurtech (11.1%). The biggest investments in these subsectors were a Series B round in 2014 and an IPO in 2018 of Adyen, a venture capital round in Afterpay, a Series A round in CarePay, a Series B round in GeoPhy, a Series C round in Ohpen and a private placement in Bitfury. The Netherlands is also home to numerous start-up accelerator programmes such as Startupbootcamp and Rockstart accelerator. Moreover,

initiatives are taken by the Dutch government with the aim to make the Netherlands the best start-up ecosystem of Europe. The most important programme is TechLeap (www.techleap.nl). Multiple subsidies are also available for fintech companies in the form of loans provided by the Dutch government on interesting terms. Examples include the innovation credit (<https://english.rvo.nl/innovation-credit>), guaranteed SME loans (*borgstellingskrediet*, <https://www.rvo.nl/subsidies-regelingen/borgstelling-mkb-kredieten-bmkb>, including a guaranteed SME loan programme made available in light of Covid-19) and the possibility for closed-end venture capital funds to obtain a subordinated interest-free hybrid loan from the Dutch government to finance one or more investments in tech start-ups (<https://english.rvo.nl/subsidies-programmes/seed-capital>). The Dutch government also launched the project 'MKB!dee', offering eligible companies including fintech companies to obtain a government subsidy for investments in, amongst others, strengthening the technical, digital knowledge and skills of personnel.

10. If a fintech entrepreneur was looking for a jurisdiction in which to begin operations, why would it choose yours?

The Netherlands is a welcoming country for fintech companies. Due to its digital ecosystem and high connectivity, thanks to housing two of the largest internet exchange points in the world (AMS-IX and NL-IX), the Netherlands is home to many tech companies, including fintech companies. The Netherlands is the digital gateway to Europe (www.digitalgateway.eu). The Dutch financial regulators are known for their positive attitude towards financial innovation, and are actively promoting innovation and facilitating fintech companies through initiatives such as the 'Regulatory Sandbox', the InnovationHub and iForum. The Dutch FinTech Action Plan (backed by the EY research and research conducted by network organization Holland FinTech, '*State of the Dutch Fintech Market 2020*') emphasizes that the Netherlands offers an attractive investment and business climate thanks to its excellent digital infrastructure, proper command of the English language, digital adoption of Dutch consumers, strong and stable financial sector and the welcoming and internationally oriented culture. Moreover, the numerous technical universities and a diverse tech ecosystem contribute massively to innovation.

11. Access to talent is often cited as a key issue for fintechs - are there any immigration rules in your jurisdiction which would help or hinder that access, whether in force now or imminently? For instance, are quotas systems/immigration caps in place in your jurisdiction and how are they determined?

One of the three pillars of the Dutch FinTech Action Plan, as published in July 2020, focuses on access to knowledge and talent for fintech companies. The Netherlands is generally considered the perfect pan-European hub and is known for its lenient business immigration policy. In addition to the immigration schemes already available (as described below), the Dutch government has several ideas of how to attract and retain talent. It aims to develop a residence scheme for key personnel for startups. In cooperation with a number of regions and national partners, it further aims to develop a branding strategy and information page aimed

at retaining and attracting international talent. Moreover, several subsidies are available to fintech companies, amongst which the option of participating in 'MKB!dee' (we defer you to paragraph 9). Lastly, the government aims to make it fiscally more attractive to grant stock options as part of salaries (we defer you to paragraph 8). These plans come in addition to the immigration schemes already available to attract and retain specialist talent from abroad. Employees from the European Union do not need to obtain a residence permit nor a working permit. Fintech employees from outside the European Union can apply for schemes such as the Dutch highly skilled migrant programme or the EU Blue Card, the latter of which combines a residence permit with a working permit. No working permit is required for the highly skilled migrant and his or her spouse. These immigration schemes require an employment contract, know a minimum salary requirement and the EU Blue Card requires a higher education degree. Moreover, the Dutch highly skilled migrant programme can only be used by employers that are recognised by the Dutch Immigration and Naturalization Service. The above mentioned residence scheme for key personnel for startups is meant to offer an alternative for early-stage innovative companies which cannot comply with the conditions that apply to these immigration programmes that are already in place. For the '30% rule' available to employers of specialist talent from abroad, we defer you to paragraph 8.

12. If there are gaps in access to talent, are regulators looking to fill these and if so how? How much impact does the fintech industry have on influencing immigration policy in your jurisdiction?

We defer you to paragraph 11.

13. What protections can a fintech use in your jurisdiction to protect its intellectual property?

Protection of innovation in the fintech space is relatively difficult. Generally, innovative ideas can be protected by IP rights such as patents, design rights, trade secrets and copyright. Software source code and the graphic interfaces of apps are generally protected by copyright by operation of law. Copyright does not need to be registered, although it is recommended to register an early-stage fintech innovation with the i-DEPOT of the Benelux IP Bureau (www.boip.int/en/entrepreneurs/ideas) in order to be able to evidence the ownership thereof. Design rights and trademarks can protect the name or logo of a fintech innovation, such as an app. A more secure way to protect fintech innovations is to obtain a patent which protects the technical product or process. The functioning of an algorithm, for example, is not protected by copyright, but may be eligible for a patent under certain circumstances. A Dutch patent can be requested from Octrooicentrum Nederland, subject to compliance with the requirements laid down in the Dutch Patent Law. It is also possible to obtain a European patent via the European Patent Office (EPO), if the innovation is novel, inventive and susceptible of industrial application. If the EPO approves the request, the applicant must register the patent in the European country in which it wishes to protect the innovative ideas. It is expected that in the relatively near future (expected in the beginning of 2022), applicants will be able to opt for a unitary patent - a unilateral instrument that will be valid in almost all EU member states.

14. **How are cryptocurrencies treated under the regulatory framework in your jurisdiction?**

Different types of cryptocurrencies (also referred to as crypto-assets or virtual assets), can be distinguished: native coins, stable coins and a numerous amount of tokens, the name of which is generally derived from its main function, such as commodity-backed tokens, (pre)payment or currency tokens, asset or investment tokens, utility tokens and hybrid tokens combining one or more of the terms of the aforementioned tokens. Up until now, the position is taken that native coins (such as bitcoin and Ether) is not an acknowledged type of funds within the meaning of PSD2 (as implemented in Dutch laws and regulations). As such, parties offering brokerage services or exchange services in respect of such native coins only are not considered to offer payment services. This does not mean that such parties are 'off the regulatory hook' due to the recent implementation of AMLD in the Dutch AML Act (see below). Such a clear regulatory boundary cannot be given in respect of cryptographic tokens. The existing laws do not apply neatly to innovations based on DLT or blockchains. Investment tokens that in essence provide the same type of rights that would normally be offered to holders of debt or equity securities, are generally considered security tokens under Dutch laws. The offering of such security tokens or trading in such tokens could trigger the application of Dutch securities laws and European laws such as the Prospectus Regulation and the second Markets in Financial Instruments Directive (MiFID II). But also stable coins and commodity-backed tokens raise Dutch regulatory questions, in particular in the field of electronic money and derivatives legislation. This regulatory uncertainty is expected to be history soon. Early September 2020, the draft proposal of the European Commission for a Regulation on Markets in Crypto-assets (MiCA) was leaked (<https://www.politico.eu/wp-content/uploads/2020/09/CLEAN-COM-Draft-Regulation-Markets-in-Crypto-Assets.pdf>). Although it is very early stage to elaborate on this draft regulation, it is clear that the European Commission made it one of its key objectives to regulate this market as soon as possible (as the public consultation on a regulatory framework applicable to crypto assets was only closed early April 2020). The MiCA Regulation aims to provide an EU harmonized framework for the issuance of and provision of services in respect to crypto-assets to the extent not already governed by existing regulatory legislation such as MiFID II, the Prospectus Regulation and EMD2. It distinguished three sub-categories of crypto assets: utility tokens, asset-referenced tokens with a payment functionality which aim at maintaining a stable value by referencing a specific asset, and e-money tokens, which are described to be crypto-assets that are used as a means of payment which aim at stabilizing their value by referencing a single fiat currency. The draft MiCA Regulation appears to combine existing regulatory frameworks including MiFID II, Prospectus Regulation, EMD2, the Capital Requirements Regulation, the Markets Abuse Regulation in one regulation applicable to those crypto-assets issuers and service providers that do not already fall under the existing regulatory framework due to, for example, the tokens qualifying as a financial instrument. Interesting to mention is that initiatives taken by central banks or public authorities are not hindered by the MiCA Regulation; these are explicitly excluded from the scope of the draft regulation. The initiative of DNB to develop a central bank digital currency can therefore proceed. In April 2020, DNB published a report reflecting its intention to play a leading role in developing Central Bank Digital Currency (CBDC). DNB calls for the debate to be held

more broadly across the euro area, given that it is the Eurosystem that will decide on the potential introduction of CBDC. Further, it expects that additional European regulations might also be necessary. DNB is open for a role to experiment with some more concrete type of CBDC. See:

https://www.dnb.nl/en/binaries/Os%20Central%20Bank%20Digital%20Currency_tcm47-388408.PDF.

In addition to the existing regulatory framework applicable to certain crypto-assets depending on their characteristics, the first Dutch piece of legislation specifically regulating certain services in respect of cryptocurrencies came into effect as per 21 May 2020. This is the date on which AMLD V was implemented in the Dutch AML Act. As per such date, in line with AMLD V, crypto service providers that either (i) offer custodial wallet services in respect of virtual currencies, or (ii) offer exchange services between virtual currencies and fiat currencies fall under the scope of the Dutch AML Act and the Dutch Sanctions Act. AMLD V does not offer a European passporting regime comparable to other harmonized EU legislation. This results in the registration requirement to apply to any crypto service provider offering the above mentioned services in the Netherlands, irrespective of its country of incorporation. In order to be registered by DNB, crypto service providers falling within the scope of the registration requirement need to comply with numerous requirements which are fairly similar to the requirements applicable to certain financial services providers pursuant to the Dutch Financial Supervision Act. The registration requirement under the Dutch AML Act is perceived to be *de facto* a license obligation. Important requirements for crypto service providers to mention are, amongst others, the obligation to prepare an integrity risk analysis and keep it up to date, to safeguard sound and ethical operational management and the requirement to monitor on an ongoing basis business relationships and the transactions conducted or intended during the existence of those relationships. Crypto service providers that were already active in the Dutch market prior to 21 May 2020, could opt for an exemption from the registration obligation for the duration of six months (until 21 November 2020). It appears that DNB needs this period as well; up until now (early November 2020) only one crypto service provider is registered by DNB. One of the main challenges for crypto service providers appears to be compliance with the Sanctions Act in respect of ensuring that the non-client of the crypto service provider can be screened against sanctions and freeze lists when a crypto service provider facilitates in a crypto transaction to a third party crypto wallet. DNB requires crypto service providers to validate the identity of the holder of such third party crypto wallet, for example by means of initiating a crypto 'penny check' transaction from such third party crypto wallet. DNB takes the position that this is the only manner in which a crypto service provider can comply with the Sanctions Act. This approach by the Dutch regulator has resulted in many discussions which have not ended as yet.

15. How are initial coin offerings treated in your jurisdiction? Do you foresee any change in this over the next 12-24 months?

We refer to paragraph 14; if a crypto asset offered in an ICO is considered a security, it will be subject to the Prospectus Regulation. Moreover, any intermediaries offering brokerage services, placement services, underwriting services or advisory services in respect of such ICO will be deemed to provide investment services and require a MiFID II license as an investment firm.

16. Are you aware of any live blockchain projects (beyond proof of concept) in your jurisdiction and if so in what areas?

Within the financial sector, many companies are experimenting with DLT or blockchain technology, both incumbents and fintech companies. There are multiple use cases, in particular ones to make back end systems more efficient and robust. Blockchain initiatives involving tokenization of assets seem to be the most popular and far advanced blockchain projects in the Dutch financial sector. Our firm assisted Netfin (trading under the name Finturi) in obtaining the authorisation of the AFM as the first crowdlending platform based on blockchain technology in February 2020. In the same month, the Blockchain Netherlands Innovation Network published a report describing some blockchain use cases, including VAKT (a blockchain based post trade settlement platform for (currently) oil transactions (and expected to extend to all physically traded energy commodities), Komgo (a spin-off of VAKT offering a blockchain based platform for commodity trade finance) and DELIVER (a blockchain logistics platform enabling a paperless, instantly financed, fully automated and traceable shipping). Another blockchain based trade financing platform is offered by we.trade. In other industries, Ledger Leopard launched the first healthcare blockchain application, Mijn Zorg Log. See:

<https://www.netherlandsworldwide.nl/documents/publications/2020/02/19/blockchain-netherlands-innovation-network>. An advanced blockchain project in the testing phase worth mentioning is BlockLab, an initiative of the Port of Rotterdam Authority and the municipality of Rotterdam. Early September 2020, in cooperation with the Dutch Blockchain Coalition, a kick off event of the negotiable eBL Consortium took place, which is intended to digitize the bill of lading in a negotiable electronic bill of lading. The Dutch Blockchain Coalition endorsed five societal blockchain use cases. These are in the fields of self-sovereign identity (SSI), logistics, education, pension and governmental subsidies (<https://dutchblockchaincoalition.org/uploads/pdf/Visiedocument-Blockchain-For-Good-NL.pdf>). The SSI use case is performed within the Techruption programme of, and in collaboration with, the Dutch Organization for applied natural scientific research TNO (<https://blockchain.tno.nl/laboratory/>). LabChain is yet another example: since May 2019 two hospitals in the Netherlands are using the device and software of LabChain to exchange encrypted lab results and medical patient data via a secure private blockchain with a predefined list of nodes (<https://www.labchain.nl/>).

17. To what extent are you aware of artificial intelligence already being used in the financial sector in your jurisdiction, and do you think regulation will impede or encourage its further use?

Artificial Intelligence is developing rapidly and has caught the interest of the Dutch government. In February 2020 a general round table discussion took place in respect of a legal framework and supervision in respect of a digital future. The discussion was not limited to the financial sector or the use of AI, algorithms and machine learning. In the same month, the European Commission published and opened a consultation on a whitepaper on AI. The whitepaper stresses the need to achieve an ecosystem of excellence and an ecosystem of trust

(https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf). The Dutch government endorsed this whitepaper, albeit that the Dutch government believes that these two ecosystems are inevitably intertwined instead of two ecosystems as separate modules. The Dutch response was based on three documents which were published in October 2019 focusing on the risks involved with AI, such as the ethical risks, the risk of bias and the ability to explain an outcome when using AI. The Dutch government is currently working on draft principles that assist developers to mitigate risks involved with the use of AI. The documents also describe the measures to be taken into account when mitigating those risks and further elaborate on the need to uphold public values and to safeguard human rights. One of these three documents is the Strategic Action Plan for AI

(<https://www.government.nl/documents/reports/2019/10/09/strategic-action-plan-for-artificial-intelligence>). The main objective of the Dutch government is to *'capitalize on AI's societal and economical opportunities, as well as to safeguard the public interests of AI, thus contributing to prosperity and well-being'*. The leading principle is an inclusive approach that puts the human being first. These documents govern a broader use of AI than just the use of AI in the financial sector. In that respect, the Dutch financial regulators have published initial guidelines relating to the use of AI and self-learning algorithms in the financial sector. For example, the Netherlands Authority for the Financial Markets published guidelines on the duty of care involved in semi-automated asset management and its views on roboadvice (www.afm.nl/en/nieuws/2018/mrt/doorontwikkeling-roboadvies). The Dutch Central Bank (DNB) also recently published guidelines for the use of AI (www.dnb.nl/en/news/news-and-archive/DNBulletin2019/dnb385020.jsp). The acronym of these DNB guidelines is 'SAFEST', which hints at DNB's main message. The guidelines urge financial undertakings to use AI responsibly. AI applications in the financial sector should be Sound; someone must be Accountable; the outcome of AI should be Fair and Ethical; only sufficiently Skilled people should be involved in developing AI applications; and the use of AI should be Transparent and explainable. Responsible use of AI is key to prevent incidents which could have a substantial impact on financial stability.

18. Insurtech is generally thought to be developing but some way behind other areas of fintech such as payments. Is there much insurtech business in your jurisdiction and if so what form does it generally take?

As insurance is a financial product, both offering insurance products and services and advising or intermediating in respect thereof are subject to financial regulatory laws. The point of departure is technological neutrality. As a consequence, insurtech players are currently subject to the same regulatory framework applicable to their incumbent competitors. This results in fintech companies involved in the insurtech business in the Netherlands still being relatively limited. The Dutch Association of Insurers recently started an initiative to bring start-ups and incumbents together in a hub with the aim to increase collaboration. The AFM and DNB published a report describing the 10 key focus areas when using artificial intelligence (AI) in the insurance sector, in which the technical aspects of the use of AI are considered (www.afm.nl/nl-nl/nieuws/2019/jul/verkenning-ai-verzekeringssector). In line with the

European Insurance and Occupational Pensions Authority, the Dutch regulators emphasize the fact that the fast-evolving insurtech market should be monitored closely. The regulators will pay special attention to the ethical aspects involved in insurtech solutions. The effects of AI (and other types of technology) on solidarity and insurability are important areas of focus. The Dutch Minister of Finance endorses the

19. Are there any areas of fintech that are particularly strong in your jurisdiction?

Fintech covers a broad spectrum of technology-driven innovation in the financial services sector. In the Dutch Fintech census 2019 report of EY, nineteen types of services and one catch all service that are offered by fintech companies are distinguished, from payments and remittances, digital banking and SME lending to blockchain solutions, cryptocurrencies, regtech, insurtech and artificial intelligence and machine learning. Dutch fintech companies are mainly offering services in the following three subsectors: payments and remittances (17%), financial software (14%) and SME lending (10%). Dutch fintech companies are least active in artificial intelligence and machine learning, credit reference data and scoring, and trade finance and supply chain solutions (each representing 1%).

20. What is the status of collaboration vs disruption in your jurisdiction as between fintechs and incumbent financial institutions?

Although fintech companies are not disrupting the stability of the Dutch financial system, the fintech industry is expanding and growing exponentially – both globally and in the Netherlands. Fintech companies are increasingly gaining territory in the broader financial services landscape. PSD2 is helping to promote broader acceptance of Fintech developments, while incumbents are also embracing the potential of fintech solutions. Dutch incumbents are investing in fintech companies and exploring other ways of collaborating with them. Examples are Aegon's fintech investments – in particular, in alternative financing platforms and insurtech – via its venture funds Transamerica Ventures and Aegon's Growth Capital Fund; ABN AMRO's ventures fund which has EUR 100 million available for investments and ramped a considerable portfolio of investments in fintech companies; and ING Ventures, a EUR 300 million fund focused on fintech investments, such as in Dutch Fintech company Cobase, which obtained its PSD2 licence from the DNB, enabling it to launch its multibank platform.

21. To what extent are the banks and other incumbent financial institutions in your jurisdiction carrying out their own fintech development / innovation programmes?

The Netherlands is home to numerous start-up accelerator programmes. We refer to paragraph 9 above. The largest Dutch banks and insurance companies have acceleration programmes (eg, ING – www.ing.com/About-us/ING-Labs.htm), or have founded their own fintech start-ups (e.g., ABN AMRO's crowdlending platform New10 and the account information service provider services provided via its Gripp app; Rabobank's investment app Peaks; Nationale Nederlanden's insurance app Gappie; and Kasbank's currency overlay platform for professional investors, KasHedge).

22. Are there any strong examples of disruption through fintech in your jurisdiction?

Adyen and Mollie, both payment platforms, are examples of very successful fintech companies, which developed from Dutch start-ups to a global (Adyen) a European player (Mollie). We also note that mobile broker BUX has developed several app based platforms that is making commission-free investing possible in Europe. Besides that we see an increase of market share of non-bank lending parties on the SME business lending market as well as the Dutch mortgage market (both residential and buy-to-let) offering their products via online platforms.

Further, Dutch Fintech solutions appear not to be disruptive up until now. In the payment and banking chain, this is probably mainly caused by the relatively high confidence that Dutch customers, still, have in incumbent financial undertakings. The impact of PSD2, and in particular XS2A provisions therein, could however have a more disruptive effect. Increased disruption and competition should perhaps be expected from the tech giants - for example, as a result of the introduction of Apple Pay. The Dutch Authority for Consumers and Markets is currently conducting a market study into the intentions of BigTechs (such as Apple, Google, Amazon, Facebook, Tencent and Alibaba) in respect of the Dutch payments market (focusing on the question whether these companies contemplate to become active competitors on the Dutch payments market). This market survey was requested by the Minister of Finance and the report is expected to be published in 2020. See:

<https://www.acm.nl/en/publications/market-study-major-tech-firms-dutch-payments-market>