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# The Construction of the Legal Definition of Crypto-Assets under MiCAR, Including Legal Subcategories: A Very Brief Updated Summary Based on the Guidelines of the European Supervisory Authorities

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## ABSTRACT

With the entry into force of Markets in Crypto-Assets Regulation (MiCA or MiCAR), there are many questions regarding the complex case-by-case analysis of the legal framework of crypto-assets that fall within its scope. This article aims to contribute to the study and understanding of the legal definition of crypto-assets, as well as the legal framework of the respective subcategories. To this end, a critical-descriptive analysis structured into three chapters is carried out. The first explores the delimitation of the definition of distributed ledger technology, including the legal definition. For this purpose, among others, a distinction is made between blockchain technology and distributed ledger technology. The second develops the construction of the Latu Sensu concept of crypto-asset, which includes understanding of the main forms of issuance, the distinction between fungible and non-fungible crypto-asset, and the analysis of functional subcategories. The third develops the construction of the legal definition of crypto-asset, as well as the legal subcategories. The latest guidance from European Supervisory Authorities is taken into account.

**Keywords:** Nature-based tourism; Innovation; Sustainable tourism; Business model; Competitiveness

## INTRODUCTION

Over the last few years, since the creation and reception of blockchain technology, as well as financial operations related to crypto-assets, numerous atypical and differentiated legal situations have arisen, including camouflaged complex legal situations of a financial nature that are, in every way, identical to traditional securities. As one might expect, these situations have raised pertinent legal questions, especially regarding their definition and respective legal framework. In response, on September 24, 2020, the European Commission presented the MiCAR proposal which, in essence, is a "light" version of the combination of the e-money directive, the prospectus regulation, MiFID II, MAR, and the directive on payment services in the internal market.

In March 2022, proposals for amendments were tabled by the European Parliament and in October 2022 the final version was approved by the Council of the European Union. The MiCAR proposal was finally voted on and approved by the European Parliament in April 2023, having been formally approved by the Council of the European Union in May 2023 and published in the Official Journal of the European Union in June of the same year. The legal definition of "crypto-asset" introduced, along with the legal subcategories chosen and defined by the European legislator (*i.e.*, asset-referenced

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crypto-assets, e-money tokens, utility tokens and "other crypto-assets"), have been touted as the "backbone" of MiCAR. This is understandable, as it is these legal definitions that will allow the legal classification and legal framework of crypto-assets to be delimited, including the scope of application of MiCAR. However, these definitions have many inaccuracies and leave plenty of doubts as to their extraordinary scope [1]. In this sense, only by truly understanding the logic and principles of (the distributed ledger technology and the) crypto-asset in question, will it be possible to properly ascertain the legal consequences that may arise from its operation and, consequently, define its legal classification and an appropriate legal framework within the scope of the definitions adopted in MiCAR.

### The Delimitation of the Definition of Distributed Ledger Technology in MiCAR

**The origin of decentralization, blockchain and cryptocurrencies:** The need "to coordinate activities between a large number of people led to the invention of institutions and the creation of models of trust and relationships based on intermediation", *i.e.*, centralized models based on the centralization of information. Modern forms of social, economic and political organization depend on these models. It so happens that the financial crisis of 2007-2008 and the great recession that followed left the population very distrustful of the financial markets and the financial institutions themselves. As it turned out, this distrust was (and still is) justified by the danger associated with excessive centralization and the concealment of data records. In this scenario, blockchain technology, which, abstractly, comprises a technological platform where the coordination of activities between individuals takes place directly between individuals, without resorting to intermediary coordination mechanisms, has presented itself as a vehicle for decentralization, *i.e.*, a process of eliminating individuals or mechanisms that play a role in coordinating activities between individuals.

What distinguishes decentralized networks from traditional centralized networks is that, through algorithms, data records can be collaboratively created by all participants. It is the participants themselves who share the information, and this in a network that can consist of an infrastructure made up of several networks, geographies, institutions or even social bodies [2]. Within these networks, participants can access and view registrations or changes to registrations while still keeping those same registrations safe from unauthorized access *via* cryptographic keys and digital signatures (which, in turn, control each participant's respective access and power over form and content). The initial notoriety achieved by blockchain technology was due precisely to the use of this "decentralized" data recording system, which put the phenomenon of the issuance and dissemination of Bitcoin (BTC) and the accelerated dissemination of other cryptocurrencies into the background until today [3]. In fact, due to the strong connection between the two phenomena, there was initially an incorrect idea that blockchain and Bitcoin were indistinguishable, which is not the case in reality.

The blockchain as we know it today (and therefore BTC) was developed by an individual (or several individuals or entities?) using the pseudonym "Satoshi Nakamoto", who published the technical whitepaper describing the protocol on the internet in 2008 (still during the financial crisis). This protocol was implemented in 2009 and, since then, several other versions of cryptocurrencies have been created, which are nicknamed altcoin, in clear reference to the bitcoin alternative element.

## LITERATURE REVIEW

### Blockchain's Potential as a Disruptive Technology

Over the last few years, it has been argued that these technological innovations can affect the financial markets and the very structure of companies in such a profound way that only the revolution created by the US Securities Act of 1933 and the Securities Exchange Act of 1934 can "rival". The European Commission itself has already admitted that the potential scope of application of blockchain is quite vast and should be closely monitored, as it offers considerable potential to promote simplicity and efficiency through the creation of new infrastructures and processes. The commission also stressed that these technologies could become a central element of future financial services infrastructures and that in-depth collaboration between incumbents, innovators and regulators will be necessary to ensure the success and take advantage of the implementation of the most promising applications.

On the other hand, it is also not unreasonable to draw a parallel between the phenomenon of blockchain technology and the phenomenon of the Transmission Control Protocol and Internet Protocol (TCP/IP), *i.e.*, the communication technology that "created" the internet, an essential tool in the daily lives of human beings and companies. It is fair to assume that, between the 1970's and 1980's, only a minority of people imagined the enormous social and economic transformation that would take place after the implementation and application of the internet. It is mainly in this sense that the parallel between TCP/IP technologies and blockchain can be drawn, not only in terms of technological potential, but, above all, in terms of the potential for transforming society and human and business relations. However, it should be noted that blockchain is not an alternative to TCP/IP (at least, for now, as it presents the functionalities to do so), but a technology that develops in network protocols such as TCP/IP [4]. While TCP/IP-based Peer-to-Peer (P2P) networks were designed to transfer information about assets, blockchain networks actually transfer the values of those assets, and without backing them up. By allowing information and digital representations of value to be distributed and not copied, the backbone of a new type of internet has been created.

On the other hand, in functional terms, and just for educational purposes, the non-fungible token is usually divided into non-fungible tokens referenced to tangible assets (commonly known as "hard asset-referenced non-fungible tokens") and non-fungible tokens referenced to intangible

assets (commonly known as "soft asset-referenced non-fungible tokens").

### Functional Categorization of Fungible Crypto-Assets

Over the last few years, and in line with technological advances and progress, multiple and distinct functional subcategories of crypto-assets have been identified, both in the literature and in studies and reports published by economic or financial organizations (such as the Financial Action Task Force-FATF). Among the many others that are certainly possible (including subcategorizations of subcategories), the subcategories that make up the broad, composite and unsystematic notion of crypto-assets include the following: Crypto-assets with monetary functions, crypto-assets with utility functions, crypto-assets with investment functions and hybrid crypto-assets. This categorization is for educational purposes, but not only [5]. Both in the constituted law and in the law to be constituted, and with less or greater difficulty, it is possible to reconfigure each crypto-asset to one of the legal subcategories provided for in MiCAR (and perhaps still to be created *via* MiCAR II) and thus determine its legal regime. At this point, it's important to note that practically all the subcategories have characteristics that allow them to camouflage investment functions and complex legal situations of a financial nature. Most crypto-assets are tradable on the secondary market. In addition, the majority of crypto-assets are also priced based on supply and demand, giving them liquidity. In this sense, the negative delimitation of practically all the functional subcategories of crypto-assets as financial instruments (with the exception of those that purport to maintain a stable value) is questionable.

**Distinction between crypto-assets with monetary functions and electronic money:** Usually called payment tokens (or, in certain cases, currency or exchange tokens), they are commonly known as the classic cryptocurrencies or virtual currencies (such as BTC, based on the proof of work consensus mechanism). In recent years, the CJEU has classified crypto-assets with monetary functions (or payment tokens) within the scope of “monetary values of a book-entry nature”, so that we are dealing with a different type of means of payment. Also according to the CJEU, we are dealing with a sub-category which, in addition to intending to function as a means of payment for goods or services (outside the platform or ecosystem of platforms where it is issued), also intends to be used in the virtual community (and even outside it, as in the case of BTC) as a common unit or measure of account, and as a store of value, thus covering the three typical functions of legal tender. In other words, the crypto-asset with monetary functions is purely and simply a cryptocurrency in the classic sense, fulfilling the functions of a medium of exchange, unit of account or store of value.

Given their functional similarities to legal tender and, in particular, traditional electronic means of payment, crypto-assets with monetary functions are even confused with e-cash/electronic money. In some cases, crypto-assets can even be qualified as electronic money, which is defined by Decree-Law no. 91/2018, of November 12, which approves the Legal Framework for Payment Services and Electronic Money, as an electronically stored monetary value, including in magnetic form, represented by a claim on the issuer and issued after receipt of banknotes, coins and/or book money, to carry out payment transactions and which is accepted by a natural or legal person other than the issuer of electronic money. In this sense, crypto-assets qualify as electronic money if their value seeks to maintain the value of a legal tender by reference, for example, if a unit of account of a crypto-asset always purports to correspond to the value of the Euro. In this case, the entities that issue them must register as electronic money institutions with the Bank of Portugal, under the terms of articles 11, 14, 18 and 19, all of the legal framework for payment services and electronic money [6].

Moreover, according to whereas (10) of Directive (EU) 2018/843 , “virtual currencies” should not be confused with electronic money , as defined in Article 2(2) of the E-Money Directive, or with the broader concept of “funds” as defined in Article 4(25) of Directive on Payment Services in the internal market, nor with monetary value stored in exempt instruments as specified in Article 3(k) and (25) of the same directive, nor to coins used in the context of gaming, which may be used exclusively in that specific environment. In this sense, Article 1(2)(d) of Directive (EU) 2018/843 defines “virtual currency” as a “digital representation of value that is not issued or guaranteed by a central bank or a public authority, is not necessarily attached to a legally established currency and does not possess a legal status of currency or money, but is accepted by natural or legal persons as a means of exchange, and which can be transferred, stored and traded electronically”. Although the Portuguese legislator decided to include the term “investment”, this definition is in line with the first express legal reference to this figure in the Portuguese legal system, specifically the definition of “virtual asset” contained in Law no. 83/2017, of August 18, which establishes measures to combat money laundering and terrorist financing. According to this law, a virtual asset consists of a digital representation of value that is not necessarily linked to a legally established currency and does not have the legal status of fiat money, but which is accepted by natural or legal persons as a means of exchange or investment and which can be transferred, stored and traded electronically.

## DISCUSSION

### Crypto-Asset with Investment Functions

Commonly known as “security token” or “investment token”, the crypto-asset with investment functions is considered a digital representation of a financial asset and is the subcategory that presents the most complex legal situations, in all respects identical to traditional securities (investment securities). In abstract terms, as with traditional investment securities, the acquisition of investment tokens is also aimed at making a profit, and this profit may derive from their transaction some posteriori (by obtaining a capital gain), from a passive remuneration (periodic or one-off) or from other

advantages derived from the "economic activity of third parties or the exercise of economic rights inherent to it". In concrete terms, these classification of crypto-assets give their holders the right to receive a cash flow generated by an underlying asset, containing a promise of participation by its holders in a pool of assets in a non-segregated manner or permission to participate in a particular asset separate from others".

Still within the scope of these rights, we highlight the "tokenized" form of positions held by company debt holders, shareholders or holders of shares in collective assets (such as, for example, the right to participate in the profits of a particular company or enterprise or project to be set up, or the right to vote or to subscribe to new assets in future issues, or to redeem) or even typical derivative contract structures which also hedge against the risk of high variations. In theory, any type of asset can be "tokenized, whether they are assets inherent to the functioning and organization of the structure associated with the blockchain (such as equity tokens/ governance tokens or even debt tokens) or pre-existing assets (such as fungible goods like natural gas or oil, *i.e.*, commodities, or even non-financial products considered to be infungible goods, such as real estate or even intellectual property in the form of royalties).

In Portugal (and within the European Union), the classification of a given crypto-asset with investment functions as a transferable security depends on a case-by-case analysis and the fulfillment of the respective requirements in the light of the applicable legislation, as follows from the cautious position adopted by the Portuguese Securities Market Commission (CMVM) and the European Supervisory Authorities. Even so, with its exclusion from the scope of MiCAR, it is clear that this sub-category of crypto-asset falls within the scope of financial law and financial instruments (MiFID II), which reinforces the position defended by much of the literature in recent years. This framework, according to the European Commission itself, was guided by the principle of technological neutrality, *i.e.*, it is not the fact that the technology underlying a given crypto-asset is different from that of a traditional financial instrument that justifies a different regime. This is the case, for example, with F-NFTs. In recent years, certain fractions (considered fungible) of fractional non-fungible tokens with investment functions, *i.e.*, which give their holder rights to a certain passive remuneration in exchange for an initial investment, have been associated with financial instruments [7].

In this regard, it should be noted that, given the complexity associated with the technical operating specificities that allow crypto-assets to be distinguished and in various subcategories that have financial structures typical of different financial instruments, it is questionable to what extent it is possible to consider that the efforts made by the legislator to classify crypto-assets as special assets can be seen as sufficient. From a material point of view, classifying crypto-assets without investment functions as special assets and under a special regime, and crypto-assets with investment functions as mere securities (based on DLT) under the current legal regimes does not seem to make sense. Everything indicates that crypto-assets and their classifications still do not receive the proper legal coverage, namely through an autonomous or separate regime, but as "digital financial instruments". In other words, as one of the notions that make up the broad, composite and unsystematic notion of financial instruments (which includes the notion of transferable securities, derivative financial instruments, money market instruments or any other considered as such by MiFID II).

## Hybrid Crypto-Asset

Just as it is possible to have a pure crypto-asset, which has the typical characteristics of only one subcategory, it is also possible to have a hybrid token (also known as convertible token), which have combinations of characteristics typical of multiple categories or subcategories. For example, a priori and for a certain period of time, they can include functions of use and, a posteriori, they can function as a means of payment or even have an investment function. In this sense, some say that trying to regulate this type of asset, which is constantly and rapidly changing, is like trying to "shoot down a moving target". Even so, as we will see in the next points in relation to the construction of the legal definition of crypto-asset under MiCA, ESMA has already released some interpretations in this regard.

**The construction of the legal definition of crypto-asset under MiCAR, including the legal subcategories:**

## Delimitation of the Legal Definition of Crypto-Asset under MiCAR

In whereas (16) of MiCAR, the legislator states that any legislative act adopted in the field of these digital assets should be "specific and future-proof, be able to keep pace with innovation and technological developments and be founded on an incentive-based approach". With this in mind, the term "crypto-asset" was defined as broadly as possible, with a view to covering all types of crypto-assets not currently covered by the scope of other EU legislation on financial services (such as MiFID II). Specifically, Article 3(1)(2) of MiCAR defines a crypto-asset as a "digital representation of a value or of a right that is able to be transferred and stored electronically using distributed ledger technology or similar technology". As explained above in point two of this chapter, this new and independent legal definition follows recent literature and the economic and financial entities of the various jurisdictions in selecting the elements that make up the broad concept of a crypto-asset. However, despite the recognized merit and pioneering scope of this law, there are still many questions regarding the delimitation of this scope.

First of all, neither the current definition of "virtual currency" (provided for in Directive (EU) 2018/843) nor the current definition of "crypto-asset" (provided for in MiCAR) make reference to its main differentiating element, *i.e.*, advanced cryptographic mechanisms. Although no such reference is included in the initial MiCAR proposal, there is at least an indirect reference through the definition of DLT, which includes the term "encrypted" when referring to DLT

(excluded from the final version). It has even been proposed that the definition be amended to include this element, specifically to "a digital representation of a value or a right that uses cryptography for security and is in the form of a coin or a token or any other digital medium which may be transferred and stored electronically, using distributed ledger technology or similar technology". In point 28 of the consultation document on the draft guidelines on the conditions and criteria for the qualification of crypto-assets as financial instruments dated 29 January 2024, ESMA itself presents crypto-assets as "a category of assets primarily based on cryptographic methods". However, just as no reference was included in the final version of the legal definition of DLT provided for in the DLT pilot regime, no such reference was approved in the legal definition of crypto-asset in MiCAR. Additionally, according to Article 3(1)(2) of MiCAR, in addition to DLT, crypto-assets may also be based on another "similar technology", which, combined with the lack of the differentiating element of cryptography, makes this definition extraordinarily broad and, at the same time, unclear. Since MiCAR seems to cover any type of digital asset, as long as it is issued through any type of DLT or any type of "similar technology" and is not excluded from its scope of application.

In this logic that, despite this issues, does not seem to conflict with the principle of technological neutrality, any digital asset that is not considered a digital representation of value or rights based on blockchain, but rather on other types of DLT, or other similar technologies (regardless of what this may mean) without any function or characteristic associated with blockchain technology, will inevitably be connoted with the terms "crypto" or even "cryptocurrency". In certain cases, this circumstance may not make sense in formal terms, may not be justified in material terms or may even be financially disadvantageous for the issuer. Distinguishing blockchain as one of the subcategories of DLT, associating designations beginning with "crypto" exclusively with blockchain-based digital representations of value or rights appears to be able to mitigate this problem, as all other non-blockchain-based digital representations of value or rights could be simply referred to as "digital assets", which can be considered a broader concept. The indeterminacy of these concepts could limit innovation in the European space, since any type of DLT technology, or similar, that issues digital assets representing value or rights will eventually be subject to a robust legal regime (which implies high initial costs in terms of due diligence and compliance and, most likely, the "death of the business at birth"). While DLT has had multiple years to develop, other "similar technologies" will be immediately subject to a regime that may not even be adequate.

## The Exclusion of Non-Fungible Crypto-Assets and Crypto-Assets Qualified as Financial Instruments

**Scope:** On the other hand, in addition to the extraordinary breadth of this legal definition, there is also the "extraordinary" exclusion of certain possible categories or subcategories of crypto-assets, mainly unique and non-fungible crypto-assets, and crypto-assets considered to be financial instruments (not forgetting deposits, structured deposits, securitizations and, to a certain extent, electronic money). In the first case, although NFTs are excluded from the scope of MiCAR in functional terms, the text of this new legal definition of a crypto-asset makes it possible to include fractions of F-NFTs within its scope. It follows from whereas (10) and (11) that, regardless of the designation adopted, NFTs which, in material terms, are considered neither unique nor infungible, are part of the scope of MiCAR. By way of example, the release of a unique and non-fungible crypto-asset through a vast collection of fractional parts can be considered an indicator of its fungibility. In the second case, a digital asset that is based on DLT and is covered by traditional financial regulation (such as MiFID II) will, in principle, be excluded from the scope of MiCAR [8]. In this sense, as stated in whereas (14), in order to draw a clear line between the crypto-assets that fall within the scope of this regulation and those that may qualify as financial instruments, ESMA is responsible for issuing clear guidelines on the criteria and conditions that should be taken into account by December 30, 2024 (as stated in Article 2(5) of MiCAR). These guidelines should also allow for the classification of NFTs or F-NFTs as financial instruments.

**Crypto-asset classified as a financial instrument:** In the public consultation of January 2024, ESMA begins by clarifying that the definition of crypto-asset under MiCA is distinct from the definition of a financial instrument based on DLT under Article 2(11) of the pilot regime for infrastructure based on DLT, which, in turn, refers to Article 4(15) of MiFID. Specifically, the second definition only refers to the limited number of types of financial instruments that can be issued, registered, transferred and stored *via* DLT. In this context, ESMA understands that the classification of a given crypto-asset as a financial instrument depends on the specific characteristics and its nature, and the functions, design, and associated rights, must be taken into account. First of all, among the types of financial instruments that can be considered for this purpose, traditional securities (such as, for example, shares, bonds, etc.) provided for in Article 4(44) of MiFID stand out. In this regard, ESMA draws attention to the fact that the legal systems of certain Member States interpret the examples mentioned in MiFID as a non-exhaustive list, and there are Member States with more extensive and broad lists of categories. Among others, criteria such as "investment function", "profit expectation" and "promise of return" are considered. According to ESMA's public consultation, establishing the existence of this type of situation is sufficient to qualify a given crypto-asset as a security, even if it is not directly owned or holds any associated governance rights. In addition to traditional securities, ESMA also identifies other types of crypto-assets that can be qualified as financial instruments. Specifically, it identifies:

- Money market instruments provided for in Article 4(17) of MiFID.
- Participation units in collective investment organizations referred to in Annex I, section C, point (3), of the same diploma.

- Derivative contracts provided for in Article 4(49) also of the same diploma.
- (Emission allowance provided for in Article 3(a)(b) of Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.

**Crypto-asset qualified as single and non-fungible crypto-asset and as fractional single and non-fungible crypto-asset:** In this case, ESMA considers that the non-fungible crypto-asset must be distinct and irreplaceable in terms of the characteristics it presents and/ or the rights it offers, that is, the same issuer, or another, does not issue, has not issued, nor intends to issue more crypto-assets with identical characteristics and/or offer of rights. National competent authorities should avoid basing the classification of non-fungible crypto-assets exclusively on their technical specificities, such as the assignment of a unique identifier, or the use of a certain technical standard (such as, for example, ERC-721 in the context of the Ethereum blockchain). On the contrary, they must carry out an “independent value test” in order to assess whether:

- The value of the crypto-asset results from the unique characteristic.
- What is the utility or benefits?
- The value has an intrinsic value or depends on the influence that results from the interconnection that exists between the non-fungible crypto-assets in a given collection and, if so, what is the extent of this influence on the price variation.
- The unique characteristics that distinguish the crypto-asset from others.

In this sense, regardless of their nature, certain crypto-assets labeled non-fungible can be considered fungible crypto-assets due to their interconnection with others in the same collection. The lack of elements that contribute to its distinct value is the determining criterion. In the event that a given crypto-asset becomes exchangeable due to the fact that its value results mainly from its connection and comparison with other crypto-assets with identical attributes, it may not be excluded from the scope of application of MiCA and, as such, fall within the scope of the broad legal definition of crypto-asset. The “independent value test” must be carried out regardless of whether the non-fungible crypto-asset is not traded on a secondary market, as it is sufficient for it to be considered exchangeable and issued within the scope of a vast collection to be considered fungible. ESMA also mentions the case of single and non-fungible fractionalized crypto-assets. In this case, it must be considered whether the fraction:

- Represents a type of ownership interest in the unique and non-fungible crypto-asset.
- Represents a unique and pure non-fungible crypto-asset when considered separately.
- Presents similarities with the attributes or characteristics of the other fractions.
- Presents the possibility of reconstructing the complete property of the unique and non-fungible crypto-asset when aggregated with the other fractions.

## The Role of European Supervisory Authorities

In order to promote the debate on these classifications and define a common approach, ESMA shall collaborate with the other "European Supervisory Authorities", namely the European Banking Authority (EBA) and the European Insurance and Occupational Pensions Authority (EIOPA). The competent authorities of each member state may request opinions from the European Supervisory Authorities on the classification of a given crypto-asset, namely the classification proposed by the offeror or person asking for admission to trading. The offeror or the person seeking admission to trading is therefore primarily responsible for the correct classification of the crypto-asset, which in turn will be based on the definitions contained in MiCAR (and may be challenged by the competent authorities). Based on the principle of equality, the crypto-asset that qualifies as a transferable security or as electronic money will have to be subject to the corresponding regimes, and the European Supervisory Authorities will have to clarify the conditions and criteria applicable, taking into account their specific nature. Also according to whereas (14), if the classification of a given crypto-asset appears to be incompatible with MiCAR or with other EU legislation on financial services, “in order to ensure a consistent and coherent approach to such classification”, the European Supervisory Auhorities shall make use of the powers conferred on them by Regulations (EU) 1093/2010, 1094/2010 and 1095/2010. In this regard, it should be noted that, in case of doubt in the classification of the crypto-asset, the authorities must adopt the principle of substance over form, which means that it will be the characteristics that will determine its qualification and not the name adopted.

## Asset-Referenced Token

This subcategory (ART) is defined in Article 3(1)(6) of MiCAR as “a type of crypto-asset that is not an electronic money token and that purports to maintain a stable value by referencing another value or right or a combination thereof, including one or more official currencies”. As in the case of EMTs, ARTs do not necessarily have to maintain a stable value by reference to the value of one or more assets, but only “purport” to maintain a stable value. In this case, this solution is quite pertinent, as maintaining a stable value by reference to certain assets or a combination of assets does not always seem possible, especially when the value of the asset in question is not stable. As can be seen from whereas (18) of MiCAR, this second sub-category covers any crypto-asset (with the exception of the first sub-category) whose value is guaranteed by one or more other assets, such as commodities, other crypto-assets or official currencies . These examples result from the first version provided for in Article 3(1)(3) of the initial MiCAR proposal, which states that ART means “a type of crypto-asset that purports to maintain a stable value by referring to the value of several fiat currencies that are legal tender, one or several commodities or one or

several crypto-assets, or a combination of such assets". With the proposed amendment, this version has been extended to include other types of assets, so that its scope of application is not limited. As such, the scope of this definition covers a wide range of digital assets, which will most likely result in significant differences in the stability of the value of the various ARTs. In this regard, in order not to be confused or considered an EMT, the ART cannot purport to maintain a stable value by reference to just one official currency, but rather, for example, to a crypto-asset, a commodity, or a combination of both, even if that combination includes one or more official currencies [9]. In case of doubt, the legal framework as an EMT should be initially assessed (essentially on the basis of how the stabilization of value is to be ensured) and, if necessary, excluded.

On the other hand, while the definition of EMT provided for in the initial MiCAR proposal expressly includes its function (as in the case of utility tokens, in which case, as we shall see below, it has been retained), in the case of ART none of the published definitions refers to any function. In this logic, as a hybrid crypto-asset, this category appears to be able to include the monetary functions of store of value and means of payment and/or even the functions of utility. However, in order to ensure that this subcategory is mostly used as a means of payment and not as a store of value, as follows from whereas (58) of MiCAR and as with EMTs, issuers of ARTs and CASPs should not pay interest to the holders of these ARTs for the period of time they hold them. Finally, with regard to the legal framework for derivatives based on crypto-assets, the initial MiCAR proposal is unclear as to whether they qualify as financial instruments or ARTs. With the approved amendments, whereas of MiCAR has been introduced, which clarifies this doubt. A derivative that is considered a financial instrument within the meaning of MiFID II and whose underlying asset is a crypto-asset is subject to regulation (EU) 596/2014 (on market abuse) when traded on a regulated market, multilateral trading facility or organized trading facility. This whereas also states that any crypto-asset that falls within the scope of MiCAR and is simultaneously an underlying asset for these derivatives should be subject to MiCAR's market abuse provisions.

## Utility Token

This subcategory was provided for in MiCAR because it essentially has non-financial purposes, but is related to the operation of DLT and digital services, as can be seen from whereas (9) of the initial MiCAR proposal. As such, in comparison with EMT and ART, despite having been expressly provided for, utility tokens have a much narrower scope and have not been given more rigorous treatment, falling within the scope of the negative delimitation. This means that if a given crypto-asset with a utility function, and therefore in theory categorizable as a utility token, purports to maintain a stable value by reference to the value of an official currency or another value or right, or a combination of both, depending on the case, it will be categorized as EMT or ART. Utility token is defined in Article 3(1)(9) of MiCAR as "a type of crypto-asset that is only intended to provide access to a good or a service supplied by its issuer". This version does not differ much from the first version set out in Article 3(1)(5) of the initial MiCAR proposal, which states that this subcategory consists of a "a type of crypto-asset which is intended to provide digital access to a good or service, available on DLT, and is only accepted by the issuer of that token" . The main elements are also set out in the version included in Article 3 of the proposed amendment to MiCAR, which states that a utility token consists of a "a type of fungible crypto-asset which is accepted only by the issuer, is used for purposes other than for the payment or exchange of external goods or services, and is intended to provide digital access to a good or service, available on DLT, and is only accepted by the issuer of that token". In all cases, it can be seen that, due to their specific nature, the legislator chose to expressly include the utility function, unlike with EMTs and ARTs.

Furthermore, in the version provided for in the proposed amendment to the initial MiCAR proposal, the functions of "payment or exchange of external goods or services" are expressly excluded, essentially with a view to limiting their tradability and combating crypto-assets with investment functions disguised as crypto-assets with utility functions. In the logic of these definitions, whereas (17) of MiCAR explains that digital assets that cannot be transferred to other holders are not covered by the legal definition of crypto-assets. In other words, digital assets that are only accepted by the issuer or offeror and whose direct transfer to other holders is technically impossible should be excluded from the scope of MiCAR. By way of example, whereas (17) mentions "loyalty schemes where the loyalty points can be exchanged for benefits only with the issuer or offeror of those points". Due to the extraordinarily broad legal definition of crypto-asset, there may be cases where a particular digital asset with utility functions is not considered a utility token but, because it is based on DLT or other similar technology, is simply considered "another crypto-asset". Intentionally or not, the scope of this sub-category could also include projects and products which, from the outset, because they have no financial backing, do not even justify the application of MiCAR or any other financial regulation. Still on the subject of the version of the definition of utility token set out in the proposed amendment to the initial MiCAR proposal, it should be noted that the reference to fungibility is intended to guarantee the exclusion of utility NFTs or utility F-NFTs, *i.e.*, non-fungible tokens with utility functions or their fractions. This reference should be read in conjunction with whereas (8b) of the proposed amendment, which states that consideration should be given to the possibility of the European Commission proposing a specific EU-wide regime for NFTs that are non-fractional and only accepted by the issuer, as well as crypto-assets that "that represent IP rights or guarantees, or that certify authenticity of a unique physical asset such as a piece of art, or that represent any other right not linked to the ones that financial instruments bear, and that are not admitted to trading on a crypto-asset exchange". Since NFTs are excluded from the scope of MiCAR from the outset, this reference doesn't seem to make much sense. In any case, the European Commission is considering creating a specific regime for NFTs (which should

also happen with decentralized autonomous organizations, or "DAOs").

### Other Crypto-Assets, Including Algorithmic Crypto-Assets

As can be seen from whereas (18) of MiCAR, the third sub-category includes all other crypto-assets that are not considered to be either EMTs or ARTs. In principle, everything indicates that it will be possible to include a wide range of digital assets (so many that it's not even clear which ones). In this case, the question is whether there are other subcategories of crypto-assets beyond the three legal categories and, if so, which ones and whether they are covered by MiCAR. As explained in relation to functional categorization, the functional modelling of crypto-assets has practically infinite potential. By way of example (the most basic that exists), there could be crypto-assets based on DLT or other similar technology with utility tokens or monetary functions, which do not purport to maintain a stable value, and which are accepted by entities other than just the issuer. This example of a sub-category of crypto-asset, which basically represents classic cryptocurrencies, *i.e.*, crypto-assets with monetary functions that do not purport to maintain a stable value, is not expressly provided for in MiCAR. Nonetheless, it seems to fall within its scope. This is the case, for example, with Bitcoin. Although it is not covered by the legal subcategories, it seems to be covered by this residual category. Since, as a rule, this type of crypto-asset is issued in a decentralized manner (in the case of Bitcoin, *via* mining), in principle, the rules relating to the (centralized) offer do not apply, but only those relating to secondary and associated activities. For example, to provide advice on Bitcoin it is necessary to have authorization as a CASP. In view of the above regarding the legal definition of crypto-assets (including the forms of issuance), as well as the comparison between the functional categorization and the legal categorization, this third category (which includes utility tokens) appears to be extraordinarily broad and aims to cover any type of digital asset, even if it does not fall within the scope of any of the legal subcategories. This broad scope will make it increasingly difficult for both the issuer and the competent authority to analyze the legal framework of the crypto-asset on a case-by-case basis.

On the other hand, it should be noted that in the initial MiCAR proposal, whereas (26) states that algorithmic stablecoins "aim at maintaining a stable value, *via* protocols, that provide for the increase or decrease of the supply" depending on changes in demand, should not be considered as ARTs, as long as they do not "aim" to stabilize their value by reference to one or more other assets. Due to the contradiction it presents, at the time the initial proposal was published, this whereas was widely criticized in the literature, essentially because it was understood that if a given crypto-asset does not "aim" to stabilize its value by reference to one or more other assets, it would never even qualify as an ART for the purposes of MiCAR. On the contrary, if a given algorithmic stablecoin falls within the scope of MiCAR, either because it has been developed to stabilize its value with reference to one or more other assets, or because it has been developed to stabilize its value with reference to the value of an official currency, it should qualify respectively as an ART or EMT . With the changes to the initial MiCAR proposal, this whereas became whereas (41) and its content was altered. The new and current version is in line with this logic, *i.e.*, "a crypto-asset falls within the definition of an asset-referenced token or e-money token, Title III or IV of this Regulation should apply, irrespective of how the issuer intends to design the crypto-asset, including the mechanism for maintaining a stable value of the crypto-asset". With this last part, specifically the reference to the "mechanism for maintaining a stable value", it is intended to allude to the mechanism used by this type of algorithmic stablecoin and, most likely, to any type of mechanism that is used for the same purpose. This new version also explains that "offerors or persons seeking admission to trading of algorithmic crypto-assets that do not aim to stabilise the value of the crypto-assets by referencing one or several assets should, in any event, comply with Title II of this Regulation". This means that this "subcategory" should be included in the subcategory of other crypto-assets which, through a negative delimitation, are considered neither EMTs nor ARTs (but can be considered utility tokens). Despite the legal uncertainty resulting from all these extraordinarily broad and comprehensive definitions, the solution presented by the new version is understandable, based on the principle of technological neutrality and the principle of substance over form.

## CONCLUSION

Explicitly or implicitly, practically all crypto-assets, regardless of their original functions and the denominations, have an investment component. Even if it is in terms of negative delimitation, simply because the value is based on demand/supply and because they are tradable on the secondary market (which gives them liquidity). It is MiCAR itself that admits this component, as it is a "light" version of the combination of the multiple pieces of legislation that make up European financial law. From a purely formal and conceptual point of view, distinguishing DLT-based digital assets from traditional assets and creating a new class of special digital assets seems to make perfect sense. If they are not covered by European financial law, this new class of assets is subject to a special regime that is supposed to suit their technical specificities. However, the definitions adopted are too imprecise and often do not even seem to be compatible with each other or with other regimes, and it is not sufficiently clear how they are related. Neither the definition of DLT nor the definition of crypto-asset in MiCAR make any special reference to blockchain technology, or to the main characteristics that make up its specific functional definition, including what seems to be the main differentiating element, *i.e.*, advanced cryptographic mechanisms. Intentionally or not, this choice made by the legislator, which seems to be supported by the spirit of the principle of technological neutrality, makes the legal definition of DLT, and therefore of crypto-assets, extraordinarily broad and comprehensive. As cartoonish as it may seem, the current definition of crypto-

assets may come to encompass digital assets based on technologies similar to DLTs but whose main component is not even advanced cryptographic mechanisms. They will still be referred to as “crypto” assets or “crypto” tokens. This lack of harmony in aligning the economic and technical perspectives results in serious problems in delimiting the definitions and, consequently, in determining the scope of application of MiCAR. As a result, from a purely material point of view, the creation of a special regime seems not to make sense and constitutes no more than an additional burden for issuers.

## REFERENCES

1. Karp DS, Mendenhall CD, Callaway E, Frishkoff LO, Kareiva PM, et al. (2015) Confronting and resolving competing values behind conservation objectives. Proc Natl Acad Sci USA. 112(35):11132–11137.
2. Kristjánsdóttir KR, Ólafsdóttir R, Ragnarsdóttir KV (2017) Reviewing integrated sustainability indicators for tourism. J Sustain Tour. 26(4):583–599.
3. Kuzman T, Bellos SK, Đulić K (2019) Determinants of innovation-based sustainability in transition and developing economies. Economic Themes. 56(3):413–438.
4. Laarman J, Durst P (1987) Nature travel in the tropics. J Forest. 5:43–46.
5. Lahti T, Wincent J, Parida V (2018) A definition and theoretical review of the circular economy, value creation, and sustainable business models: Where are we now and where should research move in the future? Sustainability. 10(8):2799.
6. Lane B (2017) Sustainable tourism: its evolution and its future. Cuad Econ ICE. 93:9–28.
7. Lane B (2018) Will sustainable tourism research be sustainable in the future? An opinion piece. Tour Manag Perspect. 25:161–164.
8. Lang CT, O’Leary JT (2013) Motivation, participation, and preference: A multi-segmentation approach of the Australian nature travel market. Taylor & Francis. 159–180.
9. Lankoski L (2016) Alternative conceptions of sustainability in a business context. J Clean Prod. 139:847–857.