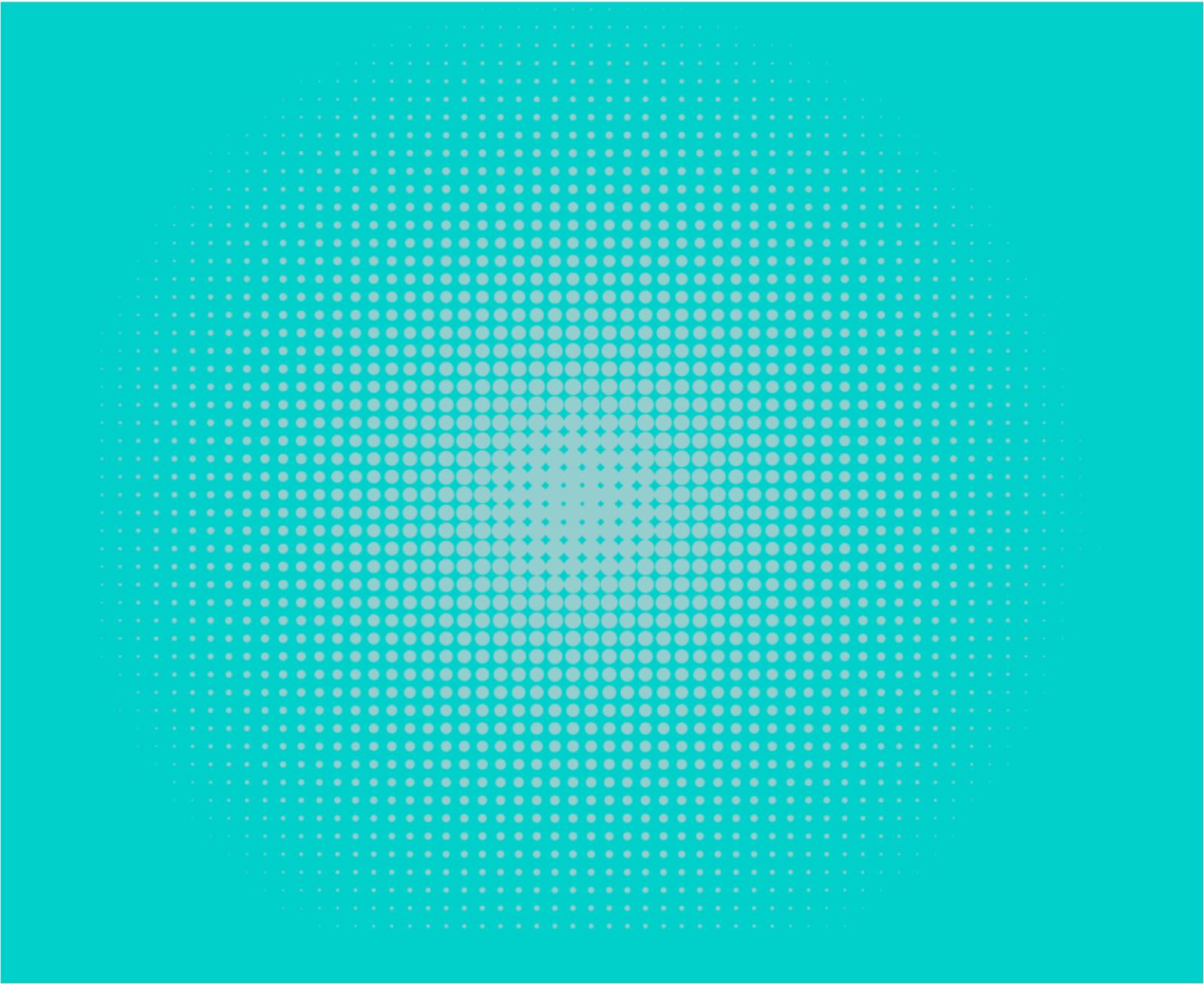# cmta.

## STANDARD

**for the tokenization of shares of Swiss corporations using the distributed ledger technology.**

December, 2021

# cmta.

Standard for the Tokenization of
shares of Swiss Corporations using the
distributed ledger technology.

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# 1. INTRODUCTION.

### § 1.1    Background

In October 2018, the Capital Markets and Technology Association ("**CMTA**") published a blueprint for the tokenization of shares of Swiss corporations. The legal aspects of the blueprint were based on a legal opinion that Prof. Dr. Hans Caspar von der Crone from the law school of the University of Zurich provided to CMTA.

Since then, the situation has evolved in various respects:

- a number of companies have used the principles of CMTA's blueprint to tokenize their shares;

- in November 2019, CMTA published a draft of its "CMTAT" open source smart contract for the tokenization of shares (under the name "CMTA20");

- in July 2020, CMTA conducted a large-scale live exercise that included the tokenization and transfer of shares in accordance with the blueprint;

- on 25 September 2020, the Swiss Parliament adopted a Federal Act on the Adaptation of the Federal Legislation to Developments in Electronic Distributed Ledger Technology (the so-called "**DLT Act**"). The DLT Act *inter alia* clarifies the legal framework for the tokenization of financial instruments. Certain parts of the DLT Act became effective on 1 February 2021, and the remaining parts on 1 August 2021.

To account for these developments, CMTA resolved to issue this standard, which replaces the blueprint of 2018. It has further requested Prof. Dr. Hans Caspar von der Crone to provide a new legal opinion regarding the interpretation of the DLT Act, which was delivered on 17 November 2021.

### § 1.2    Scope

This standard describes the manner in which the shares of corporations organized under Swiss law (*Aktiengesellschaften / sociétés anonymes*) can be associated with digital tokens recorded in a distributed ledger. This standard applies to both voting shares (*Aktien / actions*) and non-voting shares (*Partizipationsscheine / bons de participation*) issued by Swiss corporations. In this document, the corporation that issues the shares to be tokenized is referred to indistinctly as the "issuer" or the "company".

The tokenization process outlined herein can potentially be applied to tokens created on various types of distributed ledgers, either public or private. In this document, it is however assumed that the tokens will be created using the public version of the Ethereum distributed ledger, or another distributed ledger that supports smart contracts, for example, Tezos.

### § 1.3    Compliance with this standard - certification

#### 1.3.1    Requirements and recommendations

This document outlines the requirements for the tokenization of the shares of Swiss corporations under Swiss law as well as CMTA's recommendations in this respect. Issuers who wish to follow this standard must satisfy the requirements and follow the recommendations set forth herein.

1.3.2   Certification

Issuers that tokenize their shares pursuant to this standard can obtain a certification from CMTA. The certification entitles the issuer to use CMTA's certification mark "CMTA.Tokenized.Shares".

To obtain such a certification, issuers must:

01.   satisfy the requirements and follow the recommendations outlined in this standard;

02.   use the most recent version of the CMTAT smart contract (currently the version 1.0 dated October 2021), which is an open-source computer code published by CMTA under Mozilla Public License 2.0 or another smart contract recognized by CMTA;

03.   retain a technology service provider recognized by CMTA (the list of which can be found at: www.cmta.ch/recognized-experts) to deploy the smart contract for their tokenized shares on the relevant distributed ledger and allocate the tokens to the owners of such tokenized shares;

04.   obtain an opinion from a legal expert recognized by CMTA (the list of which can be found at: www.cmta.ch/recognized-experts) confirming compliance with this standard, and provide the legal expert's opinion to CMTA; and

05.   pay the fees for the certification process and the use of CMTA's certification mark.

The process to obtain a certification is further detailed in the regulations of CMTA's certification mark relating to this standard, which can be consulted at www.cmta.ch/certification/cmta-tokenized-shares-certification.


## 2.   KEY CONCEPTS

§ 2.1   The DLT Act

2.1.1   Basis of the tokenization process

In 2020, the Swiss Parliament took a significant step to foster the development of the distributed ledger technology by passing the DLT Act. The DLT Act is not a stand-alone piece of legislation, but a statutory instrument that amends various other laws, in particular the Swiss Code of Obligations (the "**CO**"). Specifically, the DLT Act amends the CO to add provisions specifying the manner in which financial instruments – including the shares of Swiss corporations – can be tokenized under Swiss law.

Under the DLT Act, the tokenization process does not involve the issuance of shares in the form of tokens, in the sense that the shares and the tokens would be one and the same instrument. Rather, the DLT Act provides a means to associate newly issued or existing shares with digital tokens, so that legal title in the shares can be transferred only via a transfer of the tokens via the distributed ledger.

2.1.2   "Ledger-based securities" and tokenized shares

Tokenization requires a resolution of the board of directors of the relevant company to issue some or all of its shares in the form of ledger-based securities. To be valid under Article 973*d* CO, ledger-based securities must be recorded in a register that satisfies certain requirements.

When shares are tokenized pursuant to Article 973*d* CO by using a distributed ledger such as Ethereum or Tezos, the relevant tokens are created and operated by means of a piece of software called "smart contract", which creates and

operates digital tokens recorded in a sub-ledger of the main distributed ledger. Any operation of the smart contract (such as a transfer of tokens from one distributed ledger address to another such address) is validated by participants in the distributed ledger referred to as "nodes" and recorded in the sub-ledger maintained by the smart contract. This process can be illustrated as follows:
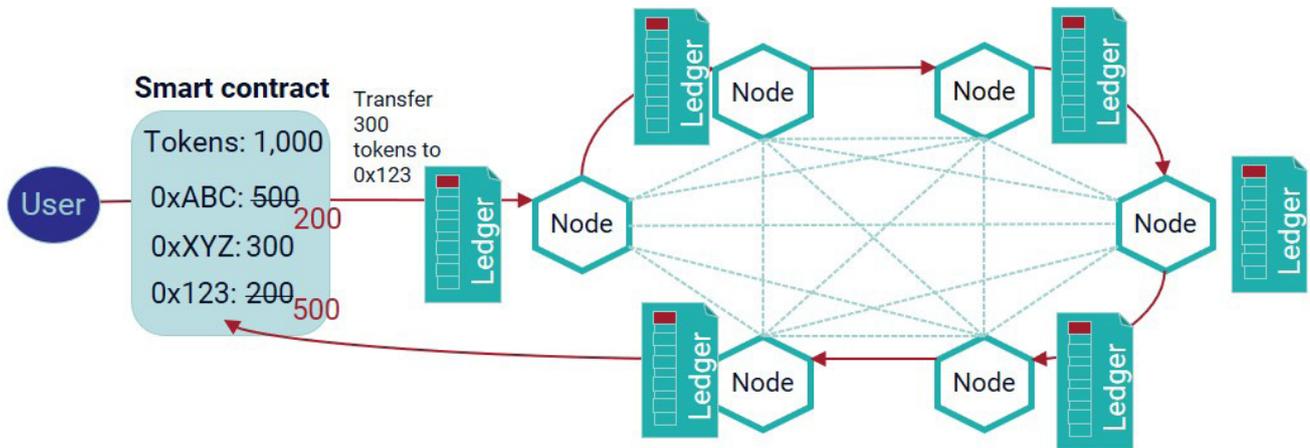


## § 2.2    The many "registers" contemplated by Swiss law

Swiss corporate and securities law refers to many different types of "registers", which serve different functions, are maintained by different persons and are updated at different intervals. The below table summarizes the main types of "registers" that may be relevant to Swiss corporations having tokenized their shares.

|   | Designation | Legal basis | Use | Maintained by | Update frequency | Technical infrastructure | Public character |
|---|---|---|---|---|---|---|---|
| 1 | **Register on which ledger-based securities are recorded** | Art. 973*d* para . 2 CO | Records ownership of the tokenized securities | A community of users (*i.e.* the nodes) and the issuer | Every time there is a transaction | Distributed ledger / smart contract | Yes. if the ledger itself is public (*e.g.* a public blockchain) |
| 2 | **Register of uncertificated securities (*Wertrechtebuch, registre de droits-valeurs*)** | Art. 973*c* para. 2 CO | Records the creation of new "simple" uncertificated securities (*einfache Wertrechte, droits-valeurs simples*) | The issuer | When "simple" uncertificated securities are created (no update in case of subsequent transfers) | None - usually on paper or in electronic form | No |
| 3 | **Register of beneficial owners** | Art. 697*l* CO | Records the beneficial owners of shares that have been notified to the issuer | The issuer | Every time a company is notified of changes to the beneficial ownership or the beneficial owner of shares | None - usually on paper or in electronic form | No |
| 4 | **Share register** | Art. 686 CO | Records recognized holders of registered shares (*Namenaktien, actions nominatives*) | The issuer | Various events (including every time the company (a) recognizes a new shareholder, or (b) ceases to recognize a shareholder) | None – usually on paper or in electronic form | No |

| | Designation | Legal basis | Use | Maintained by | Update frequency | Technical infrastructure | Public character |
|---|---|---|---|---|---|---|---|
| 5 | **Main register of intermediated securities** | Art. 6 para. 2 FISA | Records the number of intermediated securities in circulation in the custody system | A central securities depository or professional custodian | When "simple" uncertificated securities are added to the custody system | Systems of a central security depository or of professional custodians | Yes |
| 6 | **Commercial register** | Art. 927 *et seq.* CO | Records certain events and ensures their publicity | A cantonal authority | When new shares are created and under other circumstances contemplated by law | Systems of the relevant cantonal authorities | Yes |

The various ledgers or registers referred to above have various functions and obey to different legal requirements. Generally, the information about token holders recorded on the distributed ledger (1 above) will be protected by cryptographic functions. The issuer, however, will need to supplement that information with the information that has been provided to it about the legal and beneficial owners of the tokenized shares for purposes of maintaining the register of beneficial owners (3 above) or the share register (4 above).

## 3. TOKENIZATION OF SHARES - REQUIREMENTS AND RECOMMENDATIONS

### § 3.1 Articles of association

#### 3.1.1 Ability to issue shares as ledger-based securities

Tokenizing shares requires that the articles of association of the relevant issuer contain specific provisions and do not contain language that makes the process impossible. Under the DLT Act, shares may only be issed in the form of "simple" uncertificated securities (*einfache Wertrechte, droits-valeurs simples*) or ledger-based securities if the articles of association of the issuer so provide. This standard requires that the articles of association make explicit reference to the possibility to issue shares in the form of ledger-based securities. An example of the relevant provisions is set forth in Appendix 1.

**Requirement**

01: The issuer's articles of association contain provisions allowing the issuer to issue shares in the form of ledger-based securities.

**Recommendation**

02: The issuer's articles of association contain a provision contemplating the issuance of shares in the form of ledger-based securities, substantially in the form set forth in Appendix 1, §1.

### 3.1.2 Exclusion of the right of shareholders to request the delivery of certificates

If the shares to be tokenized are issued as ledger-based securities, the right of shareholders to request the delivery of physical share certificates should be excluded. Doing so is recommended because, once the shares have been associated with digital tokens, removing them from the tokens involves certain steps that the company will only want to take when it considers it appropriate, rather than when a shareholder wishes to receive a certificate. Excluding the right of shareholders to request the delivery of physical certificates requires the inclusion of a particular provision in the issuer's articles of association, similar to the one used by issuers whose shares are listed on a stock exchange. An example of such provision is set forth in Appendix 1.

> **Recommendation**
>
> 03: The issuer's articles of association exclude shareholders' right to request delivery of (physical) certificates for their shares, substantially in the form set forth in Appendix 1, §1.

The fact that the articles of association of the issuer exclude the rights of shareholders to request the delivery of physical share certificates does not prevent the issuer from cancelling the tokens with which its shares have been associated and to keep such shares as uncertificated or certificated securities if it considers this appropriate. In such a case, the last entries recorded on the distributed ledger before the tokens were cancelled are evidence of the shareholders' legal title to the relevant shares.

### 3.1.3 Identification of shareholders

When shares are issued as ledger-based securities, the transfer of the tokens necessarily involves a transfer of the ownership of the relevant tokenized shares. An *ex ante* control of the eligibility of the acquirer is only possible if the smart contract that governs the tokens makes it possible to make the transfer of the relevant tokens conditional upon an approval of the issuer, something that the current version of the CMTAT does not support (*see* § 3.1.4). To comply with the rules prohibiting the exercise of shareholder rights relating to shares whose beneficial owners have not been adequately identified (Article 697*m* CO) the issuer must be in a position to require token holders to identify themselves *ex post* (*i.e.* once the tokens and the legal ownership of the relevant shares have been transferred to the new acquirer) and to make the exercise of shareholder rights conditional upon such identification.

Exceptions to the duty to identify beneficial owners can be contemplated when the tokenized shares form the basis of intermediated securities within the meaning of the Federal Act on Intermediated Securities (the "**FISA**") and are held via professional custodians in Switzerland, as these shares are exempted from the obligation to notify the beneficial owner to the company (article 697*j* para. 5 CO).

> **Recommendation**
>
> 04: The articles of association of the issuer contain provisions allowing the issuer to only register a token holder in its share register (and as a result to only allow such token holder to exercise shareholder rights) if such token holder has identified both the legal and beneficial owner of the relevant token, substantially in the form set forth in Appendix 1, § 2, and Appendix 3, Section 3.
>
> 05: An exception to the duty of the token holder to identify the beneficial owner of the token can be contemplated when the tokenized shares form the basis of intermediated securities and are held via professional custodians in Switzerland. Such exception should be contemplated in the tokenization terms, substantially in the form set forth in Appendix 3, Section 3.2.3.

### 3.1.4    Transfer Restrictions ("*Vinkulierung*")

The articles of association of Swiss corporations can make the transfer of ownership of shares that are not listed on a stock exchange contingent upon the approval of the board of directors of the relevant issuer ("share transfer restrictions" *stricto sensu* - Articles 685*b et seq.* CO).

If shares are listed on a stock exchange, the articles of association cannot limit the transfer of ownership of shares in itself (Article 685*f* para. 1 CO), but they can provide that the registration of an acquirer of shares as a shareholder with voting rights is subject to the relevant acquirer confirming holding the relevant shares for its own account (Articles 685*d* para. 2 CO, so-called "*Fiduziarische Vinkulierung*"). In addition, the articles of association can provide that the registration of an acquirer of shares as a shareholder with voting rights is subject to a cap on the number of voting rights that can be exercised by one single shareholder or group of shareholders (Article 685*d* para. 1 CO, so-called "*Prozentvinkulierung*"). Voting rights may also be limited if required for regulatory reasons.

Because legal ownership of a ledger-based security requires control over the relevant token, issuers whose articles of association contain share transfer restrictions *stricto sensu* can only issue the shares in the form of ledger-based securities if the relevant smart contract makes it possible to condition the transfer of the relevant tokens upon an approval of the issuer. The CMTAT currently does not contain such a feature. Shares of issuers whose articles of association contain share transfer restrictions *stricto sensu* consequently cannot be tokenized under this standard.

However, issuers of tokenized shares, whether these shares are "listed on a stock exchange" within the meaning of Article 685*d* CO or not, may provide for a *Prozentvinkulierung* in their articles of association if the articles of association expressly provide that the legal ownership of shares is transferred to the acquirer upon the transfer of the shares (*i.e.* if the shares are tokenized, upon the transfer of the respective tokens).

By contrast, the limitation of the right of shareholders who do not confirm that they hold the relevant shares for their own account to exercise voting rights ("*Fiduziarische Vinkulierung*") will generally be of no practical relevance when the exercise of all shareholder rights (and not only of the voting rights) is contingent upon a satisfactory identification of the relevant legal and beneficial owners as is the case under this standard.

**Requirements**

06:    The issuer's articles of association must not contain transfer restrictions *stricto sensu*, *i.e.*, restrictions that make the transfer of ownership of shares conditional upon the approval of the board of directors, unless the smart contract used by the issuer properly reflects this mechanism at the technical level.

07:    If a company whose shares are not "listed on a stock exchange" within the meaning of Article 685*d* CO wishes to provide for any transfer restrictions that are not *strictu sensu* (*e.g.* a *Prozentvinkulierung*), the articles of association have to expressly provide that the legal ownership of shares is transferred to the acquirer upon the transfer of the shares.

**Recommendation**

08:    The issuer's articles of association may contain a *Prozentvinkulierung* substantially as set forth in Appendix 1, § 3.

## § 3.2    Validly-issued shares

The tokenization process involves associating shares with digital tokens. All shares to be tokenized must have been

validly issued pursuant to the issuer's articles of association and Swiss law. This share issuance may have occured immediately before the tokenization or (long) before that time.

> **Requirement**
>
> 09:   The shares to be tokenized are validly issued pursuant to the issuer's articles of association and Swiss law.

### § 3.3    Choice of distributed ledger and functions of the smart contract

#### 3.3.1    Swiss law requirements

Article 973*d* para 2 CO imposes certain requirements as to the dsitributed ledger that is used to administer the tokens that are associated with the shares. From the perspective of the issuer, the requirements of Article 973*d* para 2 CO are as follows:

01.   The distributed ledger must give the shareholders (but not the issuer) the power to dispose of the shares through technical means.

02.   The integrity of the distributed ledger must be protected from unauthorized modification through organizational and technical means, which may include consensus mechanisms and decentralization.

03.   The distributed ledger itself or documentation linked to it must include a description of the tokenized shares, information about how the register functions and the tokenization terms.

04.   Shareholders must be able to consult the relevant information and ledger entries and to verify the integrity of the ledger entries relating to themselves without the assistance of third parties.

#### 3.3.2    Choice of distributed ledger

To satisfy the requirements of Article 973*d* CO, the distributed ledger selected by the issuer should meet the following conditions:

- The distributed ledger must not be controlled by the issuer. The issuer should, in particular, not act as central validation authority for the entries made in the ledger (although the issuer can participate in a validation process).

- The distributed ledger's functioning must include appropriate mechanisms that ensure (a) that previously validated entries are immutable, and (b) that new entries into the ledger are processed in a manner that limits the risk of unauthorized use.

- The holders of the tokens must be able to access the records of the distributed ledger and to validate the integrity of the portion of the distributed ledger that relates to them without having to request approval to do so.

> **Requirement**
>
> 10:   The distributed ledger on which the tokenized shares are recorded complies with the requirements of Article 973*d* para 2 CO.

> **Recommendation**
>
> 11:   The issuer selects a distributed ledger for which CMTA provides a smart contract for tokenized shares. At the time of publication, these include Ethereum and other distributed ledgers that support the Solidity programming

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language.

### 3.3.3  Minimum features of the smart contract

The smart contract governing the functioning of the tokenized shares must comply with two sets of requirements. On the one hand, it must meet the requirements of Article 973*d* CO. On the other hand, the features of the smart contract must correspond to the properties of the shares of Swiss corporations. Tokens should in other words behave like shares and not prevent corporate actions that may have to be carried out with respect to such shares, such as capital increases or share splits.

With respect to the requirements of Article 973*d* CO, the smart contract has to:

- allow holders of tokens to initiate a transfer of tokens without the issuer having to approve the relevant transfer; the issuer may however be given the right to decide to pre-approve any transfer (for example if its articles of association include share transfer restrictions (*Vinkulierung*), *see* § 3.1.4), which is something that the CMTAT does not support at present;

- give the issuer the power to take the actions that are necessary to comply with Swiss law (in particular with court orders requiring the cancellation or re-allocation of tokens pursuant to Article 973*h* CO or otherwise); and

- make it possible for token holders to ascertain the number of tokens allocated to the distributed ledger addresses that they control.

The minimum functions a smart contract should have to adequately represent shares of a Swiss corporation and comply with this standard are set forth in Appendix 2.

It is possible (but not required) to add features to the smart contract that support corporate actions of the issuer such as dividend payments or other distributions.

To comply with this standard, issuers must use a smart contract approved by CMTA. To do so, issuers may either:

a.  use the "CMTAT" smart contract provided by CMTA for the tokenization of shares; or

b.  create a smart contract with different functions but that has been reviewed and approved by CMTA. CMTA will in such a case require that the functions of the smart contract be duly documented, that the code of the smart contract be submitted to an independent security audit and be made available for public inspection.

**Requirement**

12:  The smart contract complies with the requirements of Article 973*d* para. 2 and 3 CO.

**Recommendations**

13:  The issuer uses the smart contract CMTAT (i) in the latest version released (available at https://github.com/CMTAT) or (ii) in a modified version approved by CMTA.
**Note:** In order to be approved by the CMTA:
a:   the code of the modified version of the CMTAT must have been (i) duly documented and (ii) submitted to a security audit carried out by a qualified expert; and

> b:   the smart contract code and related audit report must have been made available for public inspection, *e.g.*, via blockchain explorer services or on a software development service.

### 3.3.4   Security measures regarding the smart contract

As part of the preparation of the smart contract, the issuer will obtain or be given access (*e.g.* in the form of a pair of private and public keys) to the functionalities that make it possible to administer the smart contract. Access to such functionalities is important, as it allows the issuer to create new tokens or retire existing ones, and to use certain other important functions such as the "mint", "burn" or "pause" features. Appropriate security measures should be taken to safeguard the relevant access keys. In particular, the issuer should assess whether it intends to keep the access keys by itself, or put them in safe custody with a professional advisor.

## § 3.4   Tokenization terms and additional information to be provided

### 3.4.1   Tokenization terms

Swiss law (Article 973*d* para. 1 Nr. 3 and Article 973*f* para. 1 CO) requires that the transfer of tokenized instruments be governed by terms agreed between the issuer and the first token holder ("*Registrierungsvereinbarung*", "*convention d'inscription*" or "tokenization terms"), and by which any subsequent acquirer of the tokenized instruments will be bound.

The purpose of the tokenization terms is to formalize the fact that the shares are represented by digital tokens recorded in a distributed ledger, that the shareholder rights can only be exercised and that the shares can only be transferred through the ledger, and that the tokenized shares are consequently ledger-based securities within the meaning of Article 973*d* para. 1 CO. The tokenization terms must specify, *inter alia*, the conditions upon which the legal title to the tokenized shares can be transferred or the tokenized shares can be encumbered. The tokenization terms are deemed accepted by the first token holder having taken possession of the tokenized shares.

There is no form for the tokenization terms or the additional disclosures mandated by law. For the sake of simplicity, CMTA recommends that the tokenization terms and the specific disclosures required by law be bundled in one single document.

> **Requirement**
>
> 14:   The issuer must adopt tokenization terms pursuant to which shares are represented by digital tokens and that specify the manner in which the tokenized shares can be transferred and encumbered.

> **Recommendation**
>
> 15:   The tokenization terms are adopted substantially in the form set forth in Appendix 3.

### 3.4.2   Information on the tokenized shares, distributed ledger and smart contract

Swiss law (Article 973*i* para. 1 CO) further requires that issuers of tokenized securities publish certain information regarding "the terms of the tokenized instruments and the functioning of the distributed ledger" ("*Der Inhalt der Rechte [und] die Funktionsweise des Registers*" / "*le contenu des droits [et] le mode de fonctionnement du registre*"). The required

information extends to the terms of the tokenized instruments, the characteristics of the distributed ledger and the terms of the smart contract.

Where the tokenized instruments are shares of a Swiss corporation, a reference to the articles of association of the relevant corporation is sufficient to provide the information on "the terms of the tokenized instruments" required by law.

Article 973*d* para. 2 Nr. 3 and Article 973*i* para. 1 Nr. 2 CO do not require that the functioning of the distributed ledger or the smart contract be described in detail. The CMTA, however, recommends that the information provided:

- indicate who validates entries in the distributed ledger and if the circle of validators is limited by the rules of the ledger (*i.e.* whether the distributed ledger used is a public or a private blockchain);

- if the distributed ledger used is a private blockchain, provide information about how the validators are selected and by whom;

- explain that the issuer may, one day, disable the tokens and decide to issue the shares in another form (including tokens recorded in a different distributed ledger); and

- explain that the tokens are operated through a smart contract and give information about the tokens' key functions, in particular those that may give the issuer the power to freeze or cancel tokens without the consent of the relevant token holder.

As a matter of simplification, CMTA recommends that the information on the distributed ledger and the relevant smart contract be included in the same document as the tokenization terms.

### Requirement

16: The issuer makes available to each token holder information regarding (i) the content of the tokenized share and (ii) the functioning of the distributed ledger and the smart contract (including the validation process, an explanation of the possibility for the issuer to freeze or disable the tokens and the tokens' key functions) as well as the technical and organizational measures to protect the functioning and integrity of the distributed ledger and the smart contract.

### Recommendation

17: The issuer has adopted regulations substantially in the form contemplated in Appendix 3, which include both the tokenization terms and the information on the distributed ledger and smart contract.

### 3.4.3   Share register

As mentioned above, the register in which tokenized shares are recorded is distinct from the share register of the company. The first records the legal ownership of the tokenized shares. The second records the persons that the company recognizes as shareholders. The requirements for registration in the issuer's share register are consequently different from those for the registration in the distributed ledger. For the sake of clarity and simplicity, CMTA recommends however that both sets of requirements (*i.e.* those that apply to registration in the share register and in the distributed ledger) be included in one single document.

**Requirement**

18: The issuer keeps a share register in compliance with Article 686 CO.

**Recommendation**

19: The issuer has adopted regulations substantially in the form contemplated in Appendix 3, which determine the conditions that a token holder must satisfy to be registered in the share register of the company and have the membership and financial rights associated with the shares held in tokenized form.

### 3.4.4 Publication of the tokenization terms and of the additional information required by law

The information contemplated in Article 973*i* para. 1 CO must be made available to holders of tokenized shares at all times. CMTA therefore recommends that the relevant information be included in a document that is easily accessible to all holders and subsequent acquirers of tokenized shares and be referenced in the smart contract, for example by including a URL or directions to obtain the relevant document in the code of the smart contract.

**Requirement**

20: The issuer makes the tokenization terms and the information contemplated by Article 973*i* para. 1 CO available to all token holders, and the location where such terms and additional information can be obtained is referenced in the smart contract.

**Recommendation**

21: The code of the smart contract includes a URL or another indication as to how the tokenization terms and the additional information set forth in Appendix 3 can be consulted free of charge by any interested party.

## § 3.5 Board decisions

### 3.5.1 Resolution to tokenize shares

The decision to tokenize shares is within the authority of the board of directors of the issuer. It is an important decision which should be appropriately documented. Examples of the manner in which the relevant resolutions can be drafted can be found in Appendix 4.

In practice, it will often be convenient for issuers to tokenize all the shares of a particular class. This, however, is not mandatory. An issuer can, for example, decide to tokenize the new shares resulting from a share capital increase, while keeping the existing shares of the same class in certificated or uncertificated form. The board resolution on the tokenization of shares should always clearly identify the shares that are being tokenized.

**Requirement**

22: The issuer's board of directors has resolved to tokenize certain shares (being all or a clearly identified portion of one particular class of shares).

## § 3.6 Allocation of the tokens

To allocate the tokens for the first time, the issuer must gather the shareholders' distributed ledger addresses. Once the distributed ledger addresses have been gathered, the tokens must be allocated to shareholders. This can be done either manually or with the help of a dedicated smart contract (distinct from the smart contract used to create the tokenized shares), which automatically transfers a number of tokens corresponding to the number of shares held by each shareholder on the distributed ledger addresses provided by such shareholders.

# 4. POST-TOKENIZATION ACTIONS

This § 4 describes certain actions that may have to be taken once shares have been tokenized in the manner contemplated in § 3.

## § 4.1 Monitoring the register

Pursuant to Article 973*d* para. 3 CO, issuers of tokenized shares must monitor the functioning of the infrastructure they use for the tokenization process. Issuers can delegate this responsibility to a third party (*e.g.* an advisor who may also keep the access keys to the smart contract in safe custody) or assume it themselves. At a minimum, the issuer should periodically monitor the transactions involving the tokens and investigate any anomalies that may be detected. CMTA also recommends that issuers keep themselves informed of the developments of the distributed ledger chosen for the tokenized shares.

## § 4.2 Tokenized shares as intermediated securities

### 4.2.1 Principle

Tokenized shares can be used as underlying for "intermediated securities" within the meaning of the FISA. For this purpose, the tokenized shares have to be transferred to a professional custodian (*e.g.* a bank, a securities firm or a DLT-based trading facility within the meaning of the Financial Market Infrastructures Act) and subsequently credited (as book-entry securities) on a securities account in the name of the relevant owner, maintained by the respective custodian. Contrary to what is the case of "simple" uncertificated securities, tokenized securities do not need to be recorded in a "main register" within the meaning of Article 6 FISA.

### 4.2.2  Transfers of tokenized shares held on a securities account

Once tokenized shares are credited on a securities account held with a custodian, the tokenized shares can be transferred or encumbered in the manner contemplated by the FISA, *i.e.* through the debit and credit of the securities accounts of the transferor and transferee (Article 24 FISA), or through the execution of a so-called "control agreement" with the relevant custodian (Article 25 FISA). The transfer of ownership does in such a case not require the transfer of the relevant token.

## § 4.3  Switch to non-tokenized shares or to new tokens

The decision to tokenize shares is not irreversible. Reversing such a decision may even be necessary in the event of a temporary or permanent malfunction or unavailability of the relevant distributed ledger or of the smart contract that governs the tokens (*e.g.* in the event of hack, governmental intervention or network congestion).

The process to de-couple shares from the digital tokens with which they are associated is similar to the one by which an issuer cancels share certificates that have been surrendered to it. In such a case, the company can either keep the relevant shares in uncertificated form or issue physical individual or global certificates in relation to such shares.

From a technical perspective, the cancellation of tokens can be achieved by using the issuer-only "Killswitch" function of the smart contract (*see* Appendix 2).

This function cancels existing tokens or performs actions to a similar effect, but does not affect the record of past transactions in the distributed ledger. Although the shares associated with the cancelled tokens can no longer be transferred on the distributed ledger, the last entries recorded before the token was cancelled are evidence of the shareholders' legal title to the relevant shares. These entries can consequently be used to identify the persons to whom new tokens or share certificates must be issued.

If the cancellation relates to some tokens only (but not all of them), the operation can be carried out by using the "Burn" function outlined in Appendix 2).

## § 4.4  Corporate actions

Unless specific functions have been created to that effect in the smart contract that governs the tokens, corporate actions such as dividend payments, other distributions, splits, grant of subscription rights or mergers cannot be carried out automatically. Such actions require either a separate payment or transfer carried out off-chain or a cancellation of the existing tokens and the allocation of new tokens to the distributed ledger address of the former holders.

## § 4.5  Cancellation of tokens when the relevant private key has been lost or stolen

The DLT Act introduced a specific procedure in the CO to address situations in which the private key of a particular token has been lost or stolen. Similarly to what is contemplated in case of loss or theft of certificated securities, Article 973*h* CO allows the court to cancel a token if the person controlling the relevant private key has not responded to notices published in the Swiss Official Gazette of Commerce.

Upon production of an enforceable court decision, the token holder whose private key has been lost or stolen can ask the issuer to cancel the relevant token and to issue a new one on the distributed ledger address of its choice.

To simplify the measures that must be taken in the event of loss or theft of private keys, CMTA recommends that, in

accordance with Article 973*h* para. 2 CO, the number of public notices required as part of the cancellation process be reduced to one and that the deadline imposed on token holders to produce the relevant private keys be reduced to one month.

**Recommendation**

25: The tokenization terms applicable to the tokenized securities provide that, if court proceedings are initiated pursuant to Article 973*h* CO to cancel tokens whose private key has been lost or stolen, the number of public notices required is reduced to one and the deadline imposed on token holders to produce the relevant private keys is reduced to one month.

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**APPENDIX 1: SPECIMEN OF PROVISIONS FOR THE ISSUER'S ARTICLES OF ASSOCIATION**

**1.      Specimen of provision authorizing the issuance of shares as ledger-based securities**

Article [•]: Types of shares

The company may issue its shares in certificated form (in the form of single or global certificates) or in uncertificated form (be it as simple uncertificated securities or as ledger-based securities). The company may, at any time and without the approval of shareholders, convert the shares it issued in one of these forms into shares issued in another of these forms. Shareholders have no right that shares issued in one of the forms referred to above be converted into another.

A shareholder registered in the company's share register may at any time request from the company a confirmation of the number of shares recorded in its name in the share register. Shareholders have no right to the printing or delivery of share certificates. The company may, however, at its option, print and deliver share certificates at any time.


Article [•]: Types d'actions

La société peut émettre ses actions sous forme de papiers-valeurs (certificats individuels ou globaux) ou sous forme de droits-valeurs (simples ou inscrits). La société peut, en tout temps et sans le consentement des actionnaires concernés, convertir les actions émises dans l'une de ces formes en actions émises dans une autre de ces formes. Les actionnaires n'ont pas de droit d'obtenir que les actions émises dans l'une des formes susmentionnées soient converties en actions émises dans une autre de ces formes.

Un actionnaire inscrit au registre des actions de la société peut demander en tout temps à ce que la société atteste du nombre d'actions inscrites à son nom au registre des actions. Les actionnaires n'ont pas de droit à l'établissement ou la remise de papiers-valeurs. La société peut toutefois décider en tout temps d'établir et de remettre de tels papiers-valeurs.


Artikel [•]: Arten von Aktien

Die Gesellschaft kann ihre Aktien in Form von Wertpapieren (als Einzel- oder Globalurkunde) oder in Form von Wertrechten ausgeben (als einfache Wertrechte oder als Registerwertrechte). Die Gesellschaft kann jederzeit und ohne die Zustimmung der betroffenen Aktionäre die Aktien, welche in einer der genannten Formen ausgegeben wurde, in eine andere der genannten Formen umwandeln. Die Aktionäre haben keinen Anspruch darauf, dass die in einer der genannten Formen ausgegebenen Aktien in einer anderen Form ausgegeben werden.

Ein im Aktienbuch der Gesellschaft eingetragener Aktionär darf von der Gesellschaft jederzeit einen Auszug der im Aktienbuch auf seinen Namen eingetragenen Aktien verlangen. Aktionäre haben keinen Anspruch auf die Ausstellung oder Zustellung von Wertpapieren. Die Gesellschaft darf jedoch nach eigenem Ermessen jederzeit solche Wertpapiere aus- und zustellen.

**2.** **Specimen of provision regarding the identification of shareholders**

Article [•]: Share register

The company shall keep a share register, which shall contain the names and addresses of the owners or usufructaries of the shares, together with the other information required under these articles of association or by the board of directors.

The company recognizes as shareholders the persons who are recorded in the company's share register as the owners or usufructaries of shares. Shareholders can only exercise or claim their shareholder rights (including their dividend and other financial shareholder rights) upon their registration in the company's share register. Rights to dividends and other financial shareholder rights that arise before the registration of a shareholder in the company's share register are forfeited to the company.

Persons having acquired shares of the company will be recorded in the company's share register as shareholders, provided that they identify themselves and the persons for the account of whom they hold their shares in the manner prescribed by the company. The company may request a shareholder at any time to confirm that the information provided is current.

After having heard the relevant person, the company may cancel the registration of a shareholder from the share register with retroactive effect with respect to some or all of such shareholder's shares if their registration in the share register turns out to have been made on the basis of inaccurate information provided by the shareholder or if the relevant shareholder refuses, upon request, to confirm that the information provided is current. The relevant shareholder must be informed of such cancellation without delay.

The board of directors may adopt regulations on the transfer of shares and their registration in the company's share register.

Article [•]: Registre des actions

La société tient un registre des actions, qui mentionne le nom et l'adresse des propriétaires et des usufruitiers d'actions, ainsi que les autres éléments requis par ces statuts ou par le conseil d'administration.

Est considéré comme actionnaire à l'égard de la société celui qui est inscrit au registre des actions en qualité de propriétaire ou d'usufruitier d'actions. Les actionnaires ne peuvent faire valoir que leurs droits (y compris les droits au dividendes et les autres droits patrimoniaux) liés à la qualité d'actionnaire qui prennent naissance après leur inscription au registre des actions. Le droit aux dividendes et les autres droits patrimoniaux liés à la qualité d'actionnaire qui prennent naissance alors qu'un actionnaire n'est pas inscrit au registre des actions échoient à la société.

Les acquéreurs d'actions sont inscrits au registre des actions de la société en qualité d'actionnaires s'ils s'identifient et identifient les personnes pour le compte desquelles ils détiennent les actions selon les modalités prévues par la société. La société peut en tout temps demander aux actionnaires de confirmer que les informations fournies sont à jour.

Après avoir entendu la personne concernée, la société peut radier avec effet rétroactif l'inscription d'un actionnaire du registre des actions pour tout ou partie des actions que ce dernier détient lorsque l'inscription a été faite sur la base d'informations inexactes fournies par l'acquéreur ou que ce dernier refuse sur demande de confirmer que les informations fournies sont à jour. L'actionnaire concerné doit être informé sans délai de sa radiation du registre des actions.

Le conseil d'administration peut préciser dans un règlement les modalités du transfert des actions et de l'inscription au registre des actions.

Artikel [•]: Aktienbuch

Die Gesellschaft führt ein Aktienbuch, das zusammen mit weiteren Informationen, welche unter den vorliegenden Statuten oder vom Verwaltungsrat benötigt werden, die Namen und Adressen der Eigentümer oder Nutzniesser der Aktien aufführt.

Gegenüber der Gesellschaft gelten diejenigen Personen als Aktionär oder Nutzniesser, die im Aktienbuch eingetragen sind. Aktionäre können Aktionärsrechte (einschliesslich Dividendenansprüche und andere Vermögensrechte) erst nach ihrer Eintragung im Aktienbuch ausüben oder geltand machen. Ansprüche auf Dividenden und andere Vermögensrechte, die vor der Eintragung eines Aktionärs im Aktienbuch entstanden sind, verfallen zugunsten der Gesellschaft.

Erwerber von Aktien werden als Aktionäre in das Aktienbuch eingetragen, sofern sie sich, sowie die Personen, für deren Rechnung sie ihre Aktien halten, gemäss den Vorschriften der Gesellschaft identifizieren. Die Gesellschaft darf von einem Aktionär jederzeit eine Bestätigung verlangen, dass die gemachten Angaben aktuell sind.

Nach Anhörung der betroffenen Person darf die Gesellschaft den Eintrag eines Aktionärs im Aktienbuch für einen Teil oder die Gesamtheit der von diesem gehaltenen Aktien rückwirkend löschen, wenn der Eintrag aufgrund falscher Angaben des Erwerbers getätigt wurde oder wenn dieser sich weigert auf Anfrage zu bestätigen, dass die gemachten Angaben aktuell sind. Der betroffene Aktionär muss unverzüglich über die Streichung informiert werden.

Der Verwaltungsrat kann die Modalitäten der Aktienübertragung und der Eintragung in das Aktienbuch reglementieren.

3. **SPECIMEN PROVISION RESTRICTING THE REGISTRATION OF SHAREHOLDERS WITH VOTING RIGHTS BEYOND A CERTAIN THRESHOLD (*PROZENTVINKULIERUNG*)**

Article [•]: Transfer Restriction

Legal title to the shares is transferred to the acquirer upon their transfer. The board of directors may refuse to register an acquirer of shares as a shareholder with voting rights in the share register to the extent that the number of shares held or acquired by such acquirer directly, indirectly, or acting in concert with third parties or as a member of an organized group reaches or exceeds [•]% of the total number of voting rights of the company recorded in the commercial register. Those associated through capital, voting power, joint management or in any other manner, or acting in concert for the purpose of acquiring shares, shall be regarded as one single acquirer for the purposes of this provision.

After having heard the relevant persons, the company may cancel the registration of an acquirer of shares as a shareholder with voting rights if such registration was made on the basis of inaccurate information provided by the acquirer. The relevant acquirer must be informed of such cancellation without delay.

Article [•]: Restriction à la transmissibilité

Les droits qui découlent des actions passent à l'acquéreur avec leur transfert. Le conseil d'administration peut refuser d'inscrire l'acquéreur d'actions comme actionnaire avec droit de

vote au registre des actions dans la mesure où le nombre des actions acquises ou détenues directement, indirectement ou de concert avec des tiers ou dans le cadre d'un groupe organisé atteint ou franchit [•]% du nombre total des droits de vote de la société inscrits au registre du commerce. Les personnes liées entre elles par des participations en capital ou en droits de vote, par une direction commune ou de toute autre manière ou qui se concertent pour l'acquisition d'actions sont considérées comme un acquéreur unique pour les besoins de cette disposition.

Après avoir entendu la personne concernée, la société peut radier l'inscription d'un acquéreur d'actions comme actionnaire avec droit de vote du registre des actions si cette inscription est intervenue sur la base d'informations inexactes fournies par l'acquéreur. L'actionnaire concerné doit être informé sans délai de la radiation.

Artikel [•]: Übertragungsbeschränkungen

Die Rechte an den Aktien gehen mit der Übertragung auf den Erwerber über. Der Verwaltungsrat kann die Eintragung eines Erwerbers von Aktien als Aktionär mit Stimmrecht im Aktienregister verweigern, soweit die Anzahl der von diesem direkt oder indirekt oder in gemeinsame Absprache mit Dritten oder als organisierte Gruppe gehaltenen oder erworbenen Aktien [•]% der Gesamtzahl der Stimmrechte der Gesellschaft gemäss dem Eintrag im Handelsregister erreicht oder überschreitet. Personen, die untereinander kapital- oder stimmenmässig, durch einheitliche Leitung oder auf andere Weise verbunden sind oder sich zum Erwerb von Aktien zusammenschliessen, gelten als ein Erwerber für die Zwecke dieser Bestimmung.

Nach Anhörung der betroffenen Person darf die Gesellschaft die Eintragung eines Erwerbers von Aktien als Aktionär mit Stimmrecht im Aktienbuch streichen, wenn diese durch falsche Angaben des Erwerbers zustande gekommen ist. Der Erwerber muss unverzüglich über die Streichung informiert werden.

**APPENDIX 2: MAIN FEATURES OF A SMART CONTRACT FOR THE TOKENIZATION OF SHARES**

A smart contract used for the tokenization of shares under this standard (such as the open source smart contract "CMTAT" published by the CMTA) must have the following characteristics, and determine the persons (issuer or token holders) who can perform the relevant operations. Functions labelled below as being "issuer functions" must be accessible to the issuer or a person designated by the issuer.

1. BASIC PARAMETERS OF THE TOKEN

To facilitate the token's use on wallets and trading platforms, the token should be given:

- a **name** that has preferably not been used for another token or another publicly traded security;

- a reference to (*e.g.* in the form of an Internet address) or a hash of the **tokenization terms and the information required by law** about the distributed ledger and the smart contract (*see* § 3.4 of this standard); and

- a **ticker symbol**.

2. NO FRACTIONS

The smart contract must define the tokens so that they can only represent whole numbers (as opposed to real numbers). Further, tokens must have a decimal place set to zero (meaning that the transfer of a fraction of token is not possible).

3. TRANSFERS

The smart contract must allow holders to transfer tokens from one distributed ledger address that they control to another distributed ledger address that they do not necessarily control.

4. MINT (ISSUER FUNCTION)

The issuer must be in a position to create new tokens by allocating new tokens to a distributed ledger address.

This function is meant to be used when the issuer tokenizes newly issued shares or existing shares previously issued in a different form (*e.g.* in the form of paper certificates).

5. BURN (ISSUER FUNCTION)

This function allows the issuer to destroy specific tokens that are recorded on a distributed ledger address.

This function is meant to be used if the issuer cancels tokenized shares (*e.g.* if it reduces its share capital, if it has decided to have the shares in a different form (*e.g.* "simple" uncertificated securities within the meaning of Article 973*c* CO or paper certificates), or to comply with a court order requiring the cancellation of tokens pursuant to Article 973*h* CO).

6.    PAUSE (ISSUER FUNCTION)

The issuer must be able to "pause" the smart contract, to prevent execution of transactions on the distributed ledger until the issuer puts an end to the pause. This function can be used to block transactions in case of a "hard fork" of the distributed ledger, pending a decision of the issuer as to which version of the distributed ledger it will support.

7.    ADDRESS FREEZE (ISSUER FUNCTION)

The issuer (or a third party appointed by it) must be in a position to freeze tokens on specific distributed ledger addresses (as opposed to pausing the whole smart contract) to prevent the transfer of tokens that have been earmarked for transfer to a third party (*e.g.* between the execution of a transaction on a trading platform and the settlement of the trade in the distributed ledger).

8.    "KILLSWITCH" (ISSUER FUNCTION)

Contrary to the "burn" function mentioned under 5 above, the "killswitch" function affects all tokens in issue, and not only some of them. This function is necessary to allow the issuer to carry out certain corporate actions (*e.g.* share splits, reverse splits or mergers), which involve cancelling all existing tokens and replacing them by new ones.

The "killswitch" function can also be used if the issuer decides that it no longer wishes to have its shares issued in the form of ledger-based securities within the meaning of Article 973*d* CO, but rather as "simple" uncertificated securities within the meaning of Article 973*c* CO or as certificated securities. In such cases, the last entries in the distributed ledger make it possible to identify the owners of the uncertificated securities or the persons entitled to receive share certificates.

A smart contract for tokenized shares can – but does not necessarily need to – include additional features that can be used to perform certain corporate functions.

For example, a smart contract can contain a function that makes any transfer of a token on the distributed ledger subject to a confirmation from the issuer. Such a feature can be used to give effect to share transfer restrictions (so-called "*Vinkulierung*") for shares that are not listed on a stock exchange (*see* § 3.1.4 of this standard).

Likewise, a smart contract can include functions that make it possible for the issuer to transfer additional (separate) tokens to the token holders. Such separate tokens can be payment tokens, security tokens or service tokens (according to the classification developed by FINMA in its February 2018 guidelines "*for enquiries regarding the regulatory framework for initial coin offerings*"). Such additional tokens can be used by the issuer to pay dividends or make distributions to the holders of tokenized shares. Even if a dividend payment or distribution is not carried out "on chain" by the delivery of a token, a transfer of a "marker" token (*i.e.* a token that is not associated with any asset and is not intended to be used as a means of payment) to the holders of tokenized shares can be helpful. The transfer of the "marker token" to the holders of tokenized shares can, in such a case, work as a record of the due payment of the dividend or of completion of the distribution by the issuer, and therefore as evidence that the issuer has duly discharged its obligations towards the holders of the tokenized shares.

# cmta.

**APPENDIX 3: CMTA TEMPLATE TOKENIZATION TERMS AND INFORMATION DOCUMENT**

Tokenization and registration regulations of [name of the company]

The board of directors (the "**Board**") of [Name of the company] (the "**Company**") has established the following regulations, which (i) provide the information that the Company is required to provide under article 973*i* para. 1 of the Swiss Code of Obligations, (ii) set forth the tokenization terms ("*Registrierungsvereinbarung*", "*convention d'inscription*") in relation to those shares of the Company that have been or will be issued from time to time in the form of ledger-based securities (*Registerwertrechte/droits-valeurs inscrits*) within the meaning of Articles 973*d et seq.* of the Swiss Code of Obligations (the "**tokenized shares**") and (iii) set forth the modalities pursuant to which acquirers of the Company's shares can be recognized as shareholders of the Company and recorded in the Company's share register, as contemplated by Article [•] of the Company's articles of association.

## 1.    INFORMATION REGARDING THE TOKENIZED SHARES; THE DISTRIBUTED LEDGER AND THE SMART CONTRACT

### 1.1    Rights associated with the tokenized shares

The Board has resolved to tokenize and may in the future resolve to tokenize from time to time some or all of the Company's [registered / non-voting] shares pursuant to Articles 973*d et seq.* of the Swiss Code of Obligations and these regulations.

The rights associated with the tokenized shares are set forth in the articles of association of the Company and Swiss law, in particular Articles 620 *et seq.* of the Swiss Code of Obligations.

### 1.2    Functioning of the distributed ledger and smart contract

The Board has resolved that the tokenized shares will be associated with digital tokens created by means of the CMTAT smart contract (*see* Section 1.2.3) and recorded in the [Ethereum] distributed ledger (*see* Section 1.2.2) and created by means of the CMTAT smart contract.

#### 1.2.1    The distributed ledger technology

[Ethereum] is a distributed ledger. The distributed ledger technology is a technology that allows the operation of a distributed ledger, *i.e.* a ledger that is not kept by a trusted intermediary but by a community of independent participants.

The distributed ledger technology, as implemented on the [Ethereum] distributed ledger is based on complex mathematical and cryptography concepts, which are described in this document at a high level only. The technology makes it possible to keep records of data relating to persons whose identity is protected by asymmetric cryptographic methods. Such methods are based on the interplay between a public key and a private key, which are two numbers that are mathematically related. The public key  (often referred to as the "distributed ledger address" is available to all ledger participants, while the private key must remain secret. The holder of the private key can generate "signature messages" that can be identified as authentic (*i.e.* as having been generated with the private key) by the ledger participants. Such signature messages can be used to initiate "transactions", *i.e.* new entries in the ledger. In a distributed ledger that functions as a "blockchain", the participants validate transactions in blocks, by adding a new set of data (or

"block") to a chain of pre-existing blocks.

Each ledger participant maintains its own copy of the ledger, and updates such copy when a participant includes a new "block" in a manner consistent with the chain's protocol. This regime aims to ensure the transparency and immutability of the transactions recorded in the ledger.

### 1.2.2    Functioning of the [Ethereum] distributed ledger

The Board has resolved that the tokens associated with the tokenized shares will be recorded in the [Ethereum] blockchain (the "**distributed ledger**").

[For Ethereum:]

The distributed ledger has two functions.

The first is related to Ether (or ETH). Ether is a cryptocurrency (or digital currency) that is recorded and traded on the distributed ledger. Users of the distributed ledger can trade Ethers on the distributed ledger and use such Ethers as a means of payment.

The second is the use of "smart contracts". The distributed ledger allows for the creation of computer codes called "smart contracts", which can perform a large number of functions, including creating a record of digital tokens on distributed ledger addresses.

A "token" is an entry in a register that is maintained by means of the smart contract. Each token is attributed to a particular distributed ledger address. The fact that the register maintained through the smart contract contains a corresponding entry is evidence that a token is attributed to the relevant distributed ledger address.

Entries in the distributed ledger are validated by a large number of participants. Any person or entity may act as validator and validate transactions in the distributed ledger, subject to technical requirements unrelated to the identity of the person or entity (*e.g.* technical infrastructure requirements and/or minimum amount of Ethers "staked" (*i.e.* locked on a distributed ledger address for a certain period of time)).

### 1.2.3    The CMTAT smart contract framework

The tokenized shares are created and managed by means of the CMTAT, an open-source computer code framework published by the Capital Markets and Technology Association (the "**smart contract**") pursuant to the "Standard for the tokenization of shares of Swiss corporatons using the distributed ledger technology" of 2021, as may be amended from time to time[1]. The smart contract defines the manner in which the tokens are created, transferred and cancelled. The smart contract also serves to record the ownership of the tokens.

[For *Ethereum*:]

The [Solidity] source code and the distributed ledger address of the smart contract are published

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1        Alternative provision: "The tokenized shares are created and managed by means of a smart contract that is based on the CMTAT, an open-source computer code published by the Capital Markets and Technology Association (the "smart contract") pursuant to the "Standard for the tokenization of shares of Swiss corporations using the distributed ledger technology" of 2021. The smart contract has been approved by that association for purposes of creating and managing tokenized shares."

at [https://etherscan.io/token/[•]].

The code of the CMTAT has been released under Mozilla Public License 2.0. Under the terms of that license, the code is provided on an "as is" basis, without warranty of any kind including warranties that the code is free of defects, merchantable, fit for a particular purpose or non-infringing.

## 2. TOKENIZATION TERMS

### 2.1 Definitions

In these regulations:

"**Company**" has the meaning set forth in the preamble to these regulations.

"**Distributed ledger**" has the meaning set forth in Section 1.2.2.

"**Distributed ledger address**" has the meaning set forth in Section 1.2.1.

"**Hard fork**" means a disagreement among participants of the distributed ledger resulting in a split into two or more incompatible versions of such distributed ledger, and which results in the tokens recorded in the distributed ledger being duplicated (one version of the tokens remaining on each version of the distributed ledger).

"**Smart contract**" has the meaning set forth in Section 1.2.3.

"**Transaction**" has the meaning set forth in Section 2.2.

"**Token**" means the account unit created by means of the smart contract.

"**Token holder**" means any person with *de facto* control over the private key associated with the distributed ledger address on which one or more tokens are recorded.

"**Tokenized shares**" has the meaning set forth in the preamble to these regulations.

### 2.2 Transactions in tokenized shares

Unless applicable law provides otherwise (*e.g.* in the event of universal succession further to the death or merger of the token holder, or if the transfer or encumberment is carried out pursuant to the Federal Act on Intermediated Securities), the transfer of legal title to a tokenized share, and the creation of a security or other interest on such tokenized share (such as a pledge or usufruct) (each such transfer or creation of interest a "**Transaction**"), requires the transfer of the relevant token to a distributed ledger address controlled by the acquirer, in accordance with the rules and procedures of the distributed ledger and the functions of the smart contract.

A transfer of a token will be deemed to have been recorded in the distributed ledger when [30] blocks or more have been validated after the one relating to the Transaction.

Once a Transaction has been recorded in the distributed ledger, the Transaction will remain valid if the agreement based on which the Transaction was carried out is invalidated, for example further to a material error of one of the parties or of a fraud. In such a case, unwinding the Transaction will require a return of the relevant token to a distributed ledger address controlled by the transferor.

### 2.3 Hard forks

In the event of a hard fork or under similar circumstances that may endanger the reliability of the distributed ledger, the Company may activate the "pause" function of the smart contract to prevent Transactions on both versions of the distributed ledger pending its decision on which

version it will support and the communication of such decision to the shareholders.

If the Company decides to support the version of the distributed ledger that follows the rules and protocols of such distributed ledger that were in force immediately prior to the occurrence of the hard fork (*i.e.* the "legacy" version of the relevant distributed ledger), all Transactions on "forked" versions of the distributed ledger will be invalid, and any token existing on a forked version of the distributed ledger will not be associated with tokenized shares.

If the Company decides to support a forked version of the distributed ledger, all Transactions on the "legacy" version of the relevant distributed ledger will be invalid, and any token existing on the "legacy" version of the distributed ledger will not be associated with tokenized shares.

### 2.4 Cancellation of lost or stolen tokens

If a token holder initiates proceedings to have one or more tokens cancelled pursuant to Article 973*h* CO, the number of public notices required pursuant to Article 973*h* para. 2 will be one, and the deadline imposed on token holders to produce the relevant private keys will be one month.

The Company will cancel and re-issue a token upon delivery of an enforceble (*vollstreckbar, exécutoire*) court decision ordering such cancellation and re-issue.

### 3. RECOGNITION OF ACQUIRERS OF SHARES AS SHAREHOLDERS

### 3.1 Share register

According to Article [•] of the Company's articles of association, the Company recognizes as shareholders the persons who are recorded in the Company's share register as the owners or usufructaries of shares. Shareholders can only exercise or claim their shareholder rights (including their dividend and other financial shareholder rights) upon their registration in the Company's share register. Rights to dividends and other financial shareholder rights that arise before the registration of a shareholder in the Company's share register are forfeited to the Company. Persons having acquired shares of the Company will be recorded in the Company's share register as shareholders only if they have followed the rules and procedures set forth in this Section 3.

These requirements apply to the acquirers and holders of the Company's shares irrespective of whether such shares have been issued as ledger-based securities or otherwise.

The rules and procedures set forth in this Section 3 do not limit the powers and rights of the Company and its board of directors under applicable law and the Company's articles of association.

### 3.2 Registration request

The Company will register in its share register acquirers of shares who have submitted a duly completed registration request in the manner contemplated in this Section 3. The Company may, at its discretion, register acquirers of shares in its share register if it has otherwise satisfied itself that such acquirer satisfies the relevant requirements of the Company's articles of association and applicable law.

### 3.2.1 Form of the registration request

Registration requests must be made in writing at the following address:

[*Company*]

Attn. Share register

[*Address*]

or electronically, by email to [•] or through the Company's dedicated portal at www.[•].

### 3.2.2   Content of the request – Shares acquired by the beneficial the owner

All acquirers of shares must provide the following information:

(i)     first and last name (for individuals) or corporate name (for legal entities and unincorporated partnerships) of the applicant;

(ii)    details of the applicant;

- place of residence (for individuals) or registered office (for legal entities and unincorporated partnerships) and valid postal address;

- date of birth (for individuals) or date of constitution (for legal entities and unincorporated partnerships);

- nationality(ies) (for individuals);

- email address;

- telephone number;

- copy of a document used to verify the identity;

(iii)   confirmation that the applicant holds the shares for its own account and not as a fiduciary for a third party;

(iv)    total number of shares acquired by the applicant, split by the form of the shares (ledger-based securities, share certificates, etc.); and

(v)     IBAN of a bank account opened in the name of the shareholder with a bank established in Switzerland or in another member State of the Organization for Economic Co-operation and Development (OECD).

Acquirers of tokenized shares who hold their tokenized shares on distributed ledger addresses that they control (*e.g.* through a wallet that they control) must provide the following additional information:

(vi)    distributed ledger address(es) on which the tokenized shares are recorded;

(vii)   confirmation that the applicant has sole control over the distributed ledger address(es) referred to under (vi) above; and

(viii)  total number of tokenized shares held on each distributed ledger address referred to under (vi) above.

Acquirers of tokenized shares who hold their tokenized shares through professional custodians within the meaning of the Federal Act on Intermediated Securities (*e.g.* banks, securities firms or DLT-based trading facilities within the meaning of the Financial Market Infrastructure Act) must provide the following additional information:

(ix)    name and address of the professional custodian; and

(x)     total number of shares acquired through the professional custodian, split by the form of the shares (ledger-based securities, share certificates, etc.)

### 3.2.3   Content of the request – Shares held through a fiduciary

All persons and entities who have acquired shares through a third party (fiduciary) must

themselves or through the fiduciary provide the following information:

(i)     first and last name (for individuals) or corporate name (for legal entities and unincorporated partnerships) of the beneficial owner;

(ii)    details of the applicant:

- place of residence (for individuals) or registered office (for legal entities and unincorporated partnerships) and valid postal address;

- date of birth (for individuals) or date of constitution (for legal entities and unincorporated partnerships);

- nationality(ies) (for individuals);

- email address;

- telephone number;

- copy of a document used to verify the identity;

(iii)   name and address of the fiduciary;

(iv)   confirmation from the fiduciary that the identified beneficial owner beneficially owns the respective shares;

(v)    total number of shares acquired by the fiduciary, split by the form of the shares (ledger-based securities, share certificates, etc.); and

(vi)   IBAN of a bank account opened in the name of the fiduciary with a bank established in Switzerland or in another member State of the Organization for Economic Co-operation and Development (OECD).

All persons and entities who have acquired shares through a fiduciary who itself holds the tokenized shares on distributed ledger addresses that the fiduciary controls (*e.g.* through a wallet that the fiduciary controls) must themselves or through the fiduciary provide the following additional information:

(vii)   distributed ledger address(es) on which the tokenized shares are recorded;

(viii)  total number of tokenized shares held on each distributed ledger address referred to under (vii) above; and

(ix)   confirmation from the fiduciary that the fiduciary controls the ledger address(es) referred to under (vii) above.

Professional custodians within the meaning of the Federal Act on Intermediated Securities (*e.g.* banks, securities firms or DLT-based trading facilities within the meaning of the Financial Market Infrastructure Act) may request to be recorded as nominees in the share register by providing solely the information contemplated under (iii), (v) and (vii) to (ix) above.

### 3.2.4   Supporting evidence

The Company may request supporting evidence in relation to a registration.

If the shares are held in tokenized form, the Company may, in particular, request that a beneficial owner or fiduciary acting on behalf of a beneficial owner performs a so-called "satoshi test", *i.e.* makes a small transaction from the distributed ledger address purported to be the applicant's,

or otherwise request that the respective beneficial owner or fiduciary demonstrates that it has control over the distributed ledger address on which the tokens are recorded.

### 3.2.5 New confirmation

The Company can, at any time, request a shareholder to confirm that the information provided in a previous registration request remains accurate and up to date.

### 3.2.6 Disclosure of beneficial ownership

Shareholders who reach or cross a relevant threshold for the disclosure of the beneficial ownership of the shares must, in addition, comply with applicable legal requirements.

### 3.2.7 Consequences of registration

Once recorded in the Company's share register, a shareholder is entitled to exercise all the membership and financial rights associated with the shares recorded under its name in the share register.

By contrast, as per the Company's articles of association, an owner of tokenized shares who is not registered in the share register does not have any right as a shareholder of the Company. Such owner of tokenized shares is in particular not entitled to dividends or other distributions made by the Company, to attend general meetings or to vote on the occasion of such general meetings. In the event of a subsequent registration in the share register, shareholder rights will only arise and accrue for the period that follows the registration. Rights to dividends and other financial shareholder rights that arise before the registration of the shareholder in the Company's share register will be forfeited to the Company.

### 3.2.8 De-registration

Upon being informed or otherwise having obtained knowledge of a transfer of shares by a shareholder, the Company will strike off the corresponding entry from the share register.

In any case, Article [·] of the Company's articles of association applies with respect to the de-registration from the share register.

### 4. AMENDMENTS

The Company may amend these regulations at any time and without prior notice. Amendments to these regulations will be validly made and binding upon all shareholders upon being published in accordance with the Company's articles of association or otherwise communicated to shareholders, including through a publication on the Company's website. Amendments to these terms will only affect the acquisition, encumbrance or disposal of shares (including Transactions) entered into after the amendments became effective and will not affect such transactions (including Transactions) previously completed (in the case of ledger-based securities, recorded in the distributed ledger).

### 5. APPLICABLE LAW AND JURISDICTION

These regulations are governed by and must be construed in accordance with the laws of Switzerland, excluding the rules on conflict of laws thereof.

Any dispute, controversy or claim arising out of or in relation to these terms, including the validity, invalidity, breach or termination thereof, will be subject to the exclusive jurisdiction of the ordinary courts of [*registered office of the Company*], Switzerland.

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**APPENDIX 4: BOARD RESOLUTIONS FOR THE TOKENIZATION OF SHARES**

The resolution of the board of directors to tokenize shares can be drafted as follows:

The board of directors resolves what follows

1.  The Company will issue an aggregate of [number] [type] shares having a par value of CHF [•] each (the "**tokenized shares**"), in such numbers and to such shareholders as set out in Appendix [•][2], in the form of ledger-based securities within the meaning of Article 973*d* of the Swiss Code of Obligations.

2.  The tokenized shares will be represented by digital tokens recorded in the [Ethereum] distributed ledger (the "**distributed ledger**"), using the CMTAT smart contract in its version [•] dated [date], as published by the Capital Markets and Technology Association (the "**smart contract**")[3].

3.  The Company's regulations attached as Appendix [•] to these resolutions, and which (i) provide the information that the Company is required to provide under article 973*i* para. 1 of the Swiss Code of Obligations, (ii) set forth the tokenization terms of the tokenized shares, and (iii) set forth the modalities pursuant to which acquirers of the Company's shares can be recognized as shareholders by the Company and recorded in the Company's share register (the "**regulations**"), are hereby approved and adopted with immediate effect.

4.  [The executive management] is hereby authorized and instructed to (i) take actions to deploy the smart contract on the distributed ledger and (ii) transfer digital tokens created by means of the smart contract and evidencing tokenized shares on the distributed ledger address(es) provided by the owners of such tokenized shares, including by mandating such service provider as [the executive management] may in its reasonable judgement consider necessary, appropriate or useful to carry out such tasks and by paying the corresponding fees, expenses or other amounts due to such service provider for such service.

5.  [Each member of the board of directors] is hereby authorized and instructed to update the Company's share register to reflect the creation of tokenized shares as resolved in these resolutions.

6.  [Each member of the executive management] is hereby authorized and instructed to take such actions and execute such documents as may be necessary, appropriate or useful to give effect to these resolutions.

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2       *Note:* The annex could, e.g., be draft excerpt from the share register showing which shareholders will be the original holders of the tokenized shares.

3       *Alternative provision:* "The tokenized shares will be represented by digital tokens recorded in the [Ethereum] distributed ledger (the "**distributed ledger**") using a smart contract that is based on the CMTAT, an open-source computer code published by the Capital Markets and Technology Association (the "**smart contract**"), and which has been approved by that association."