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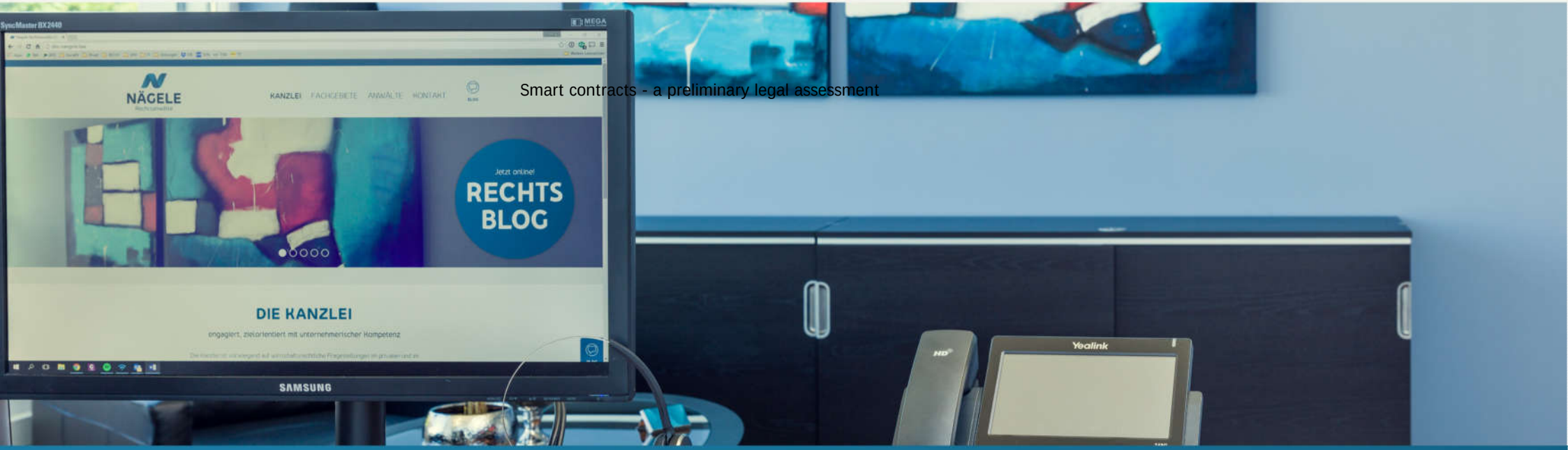
15. Februar 2017 – Café Kunstmuseum | RA Mag. iur. Thomas Nägele



4th Blockchain-Meetup Liechtenstein

Smart contracts - a preliminary legal assessment

Thomas Nägele – Nägele Rechtsanwälte GmbH

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- Der Vortrag und die Präsentation stellen keine Rechtsberatung dar. Diese muss individuell unter Berücksichtigung der Umstände des Einzel-falls erfolgen.

Agenda

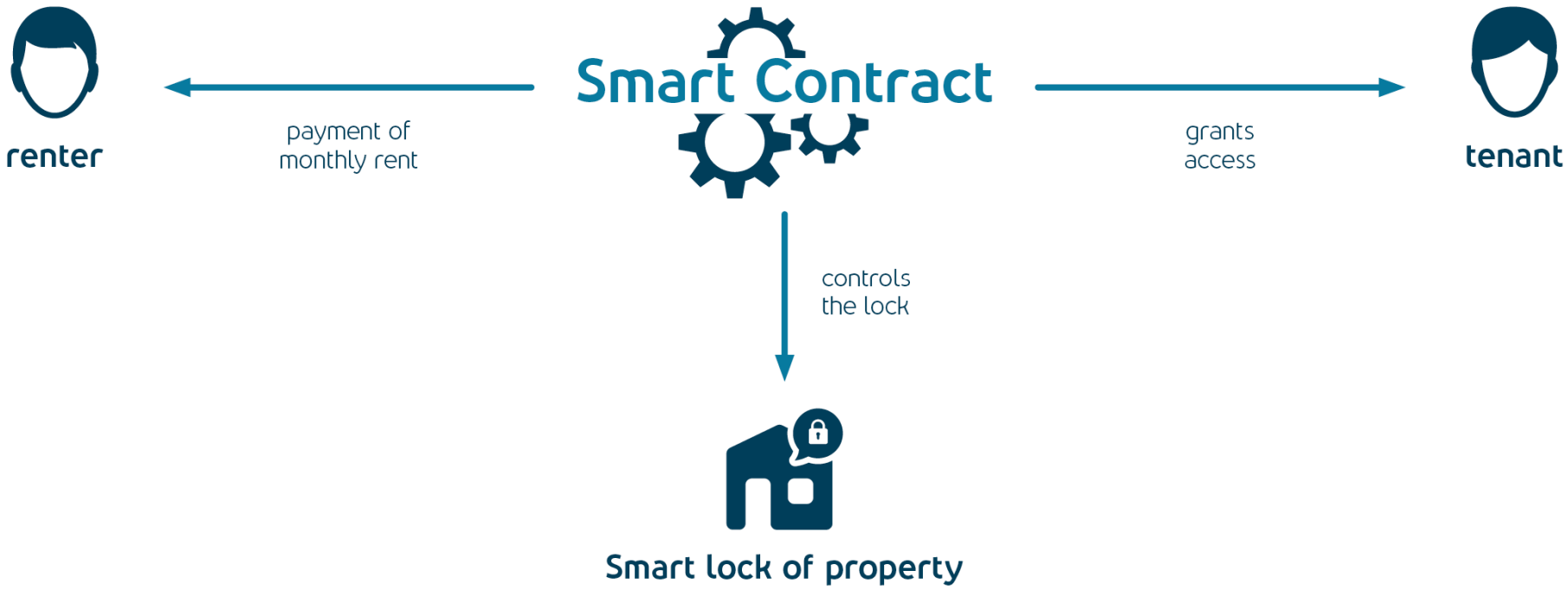
- What is a smart contract?
- Is a smart contract a legal contract?
- Code is law?
- Case study
- Conclusion

What is a smart contract?

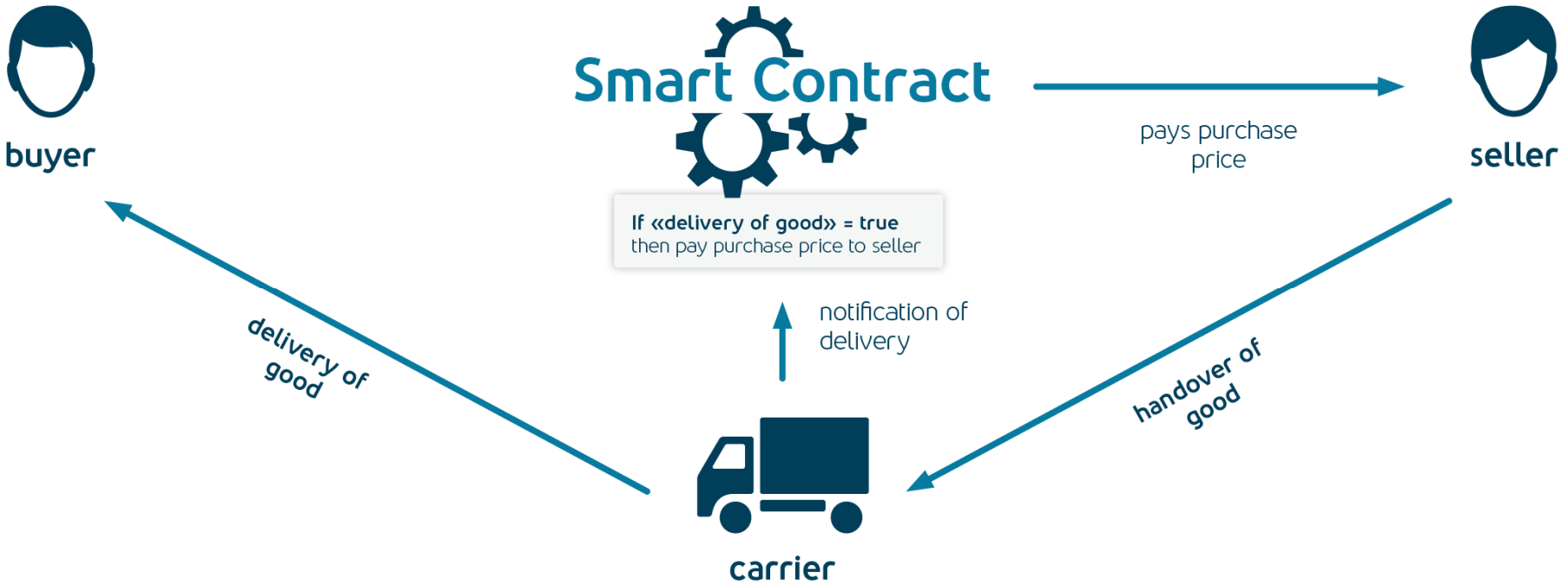
- *"A smart contract is a set of promises, specified in digital form, including protocols within which the parties perform on these promises."*

(Nick Szabo, Smart Contracts: Building Blocks for Digital Markets, 1996)

Example I – smart rental agreement



Example 2 – smart sales agreement



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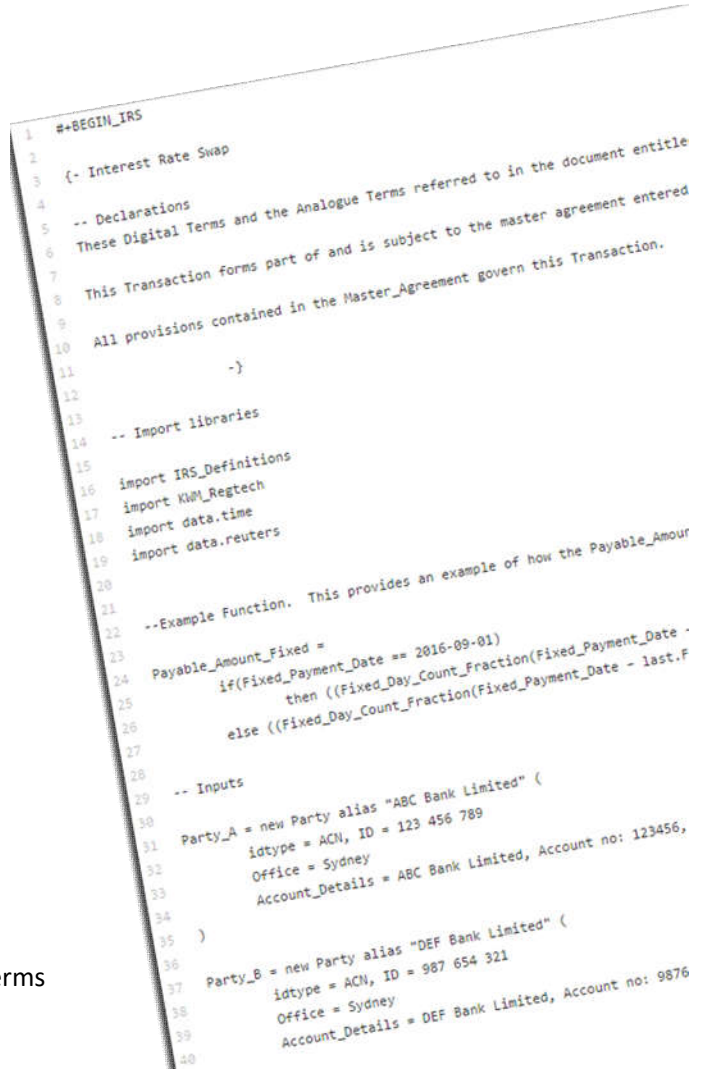
Is a smart contract a legal contract?

Is a smart contract a legal contract?

- The statement of the concurring intentions of the parties causes the inception of a contract.
- Obligation versus Execution
  - Obligation / title: concurring intentions: clicks,...
  - Execution: self executing code
- Germany:
  - Readability is crucial.
- Liechtenstein:
  - Freedom of contract & form.



```
#+BEGIN_IRS

{- Interest Rate Swap

-- Declarations
These Digital Terms and the Analogue Terms referred to in the document entitle

This Transaction forms part of and is subject to the master agreement entered

All provisions contained in the Master_Agreement govern this Transaction.

            -}


-- Import libraries

import IRS_Definitions
import KWM_Regtech
import data.time
import data.reuters


--Example Function.  This provides an example of how the Payable_Amour

Payable_Amount_Fixed =
        if(Fixed_Payment_Date == 2016-09-01)
                then ((Fixed_Day_Count_Fraction(Fixed_Payment_Date -
        else ((Fixed_Day_Count_Fraction(Fixed_Payment_Date - last.F


-- Inputs

Party_A = new Party alias "ABC Bank Limited" (
        idtype = ACN, ID = 123 456 789
        Office = Sydney
        Account_Details = ABC Bank Limited, Account no: 123456,

)

Party_B = new Party alias "DEF Bank Limited" (
        idtype = ACN, ID = 987 654 321
        Office = Sydney
        Account_Details = DEF Bank Limited, Account no: 9876
```

code source: https://github.com/KingandWoodMallesonsAU/Project-DnA/blob/master/Project%20DnA%20Digital%20Terms

A smart & legal contract?

- The parties want to enter into a smart contract (agreement).
- The parties declare concurring intentions.
- There is no formal requirement.

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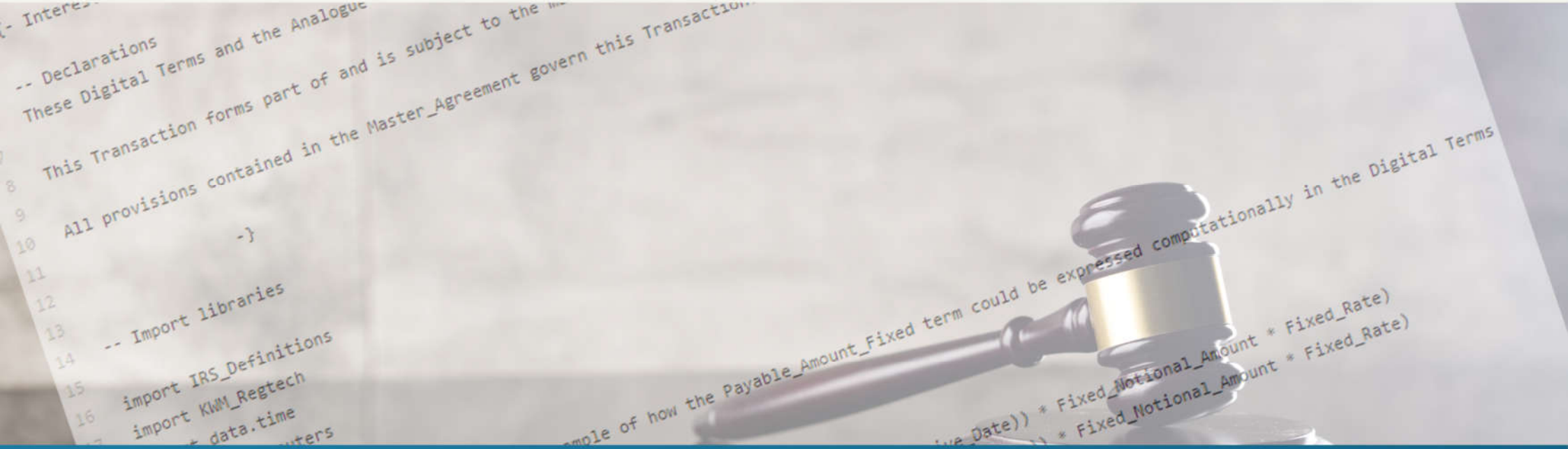


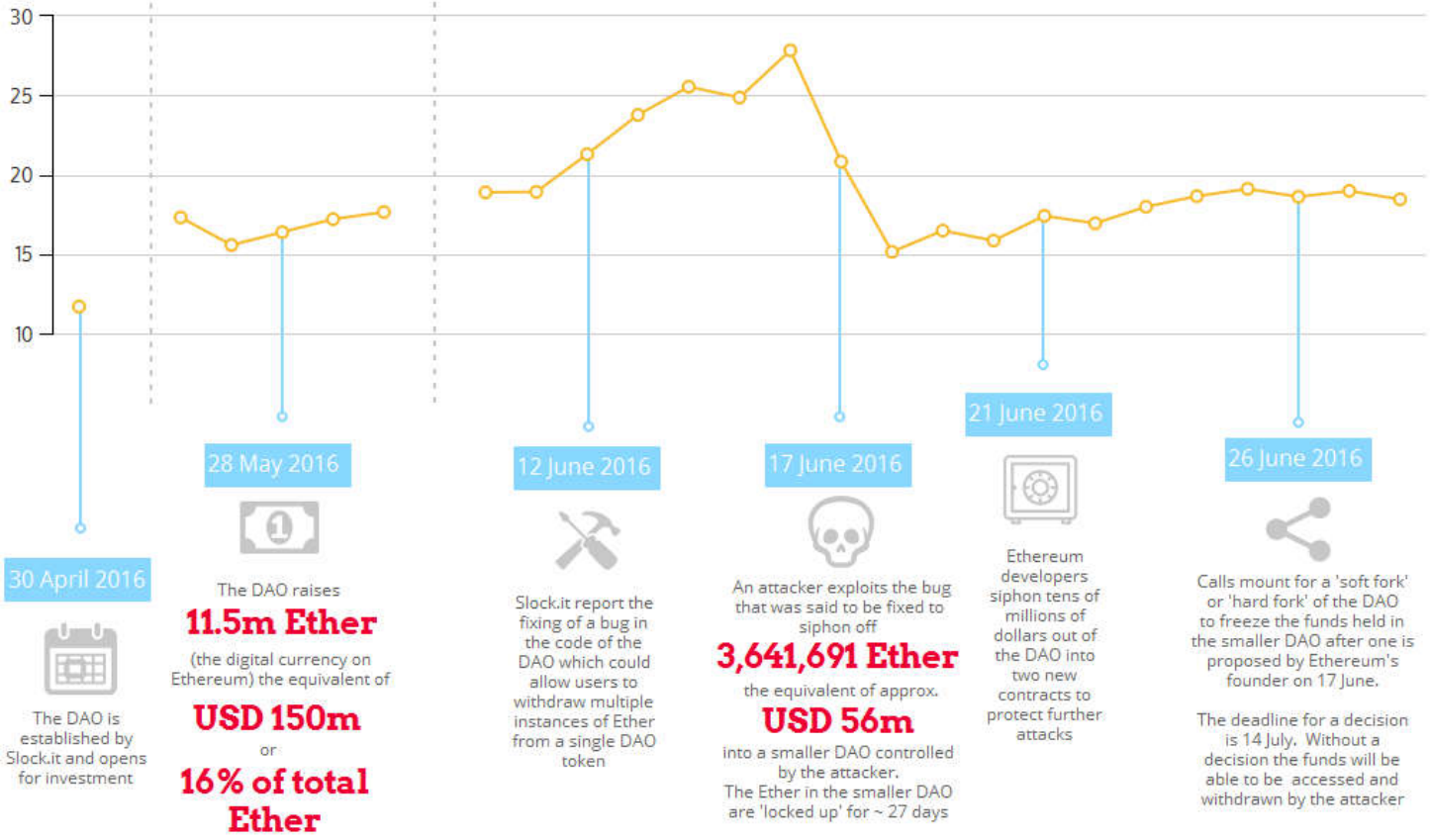
«Code is law»?

code source: https://github.com/KingandWoodMallesonsAU/Project-DnA/blob/master/Project%20DnA%20Digital%20Terms

Code is law – is it that simple? I/2

- Law - no human interpretation?
  - Early attempt in the 18th century with Bürgerliches Gesetzbuch (BGB)
- The DAO Attack

The DAO Attack



Source: http://www.kwm.com/~/media/SjBerwin/Images/Knowledge/Insights/au/2016/06/30/dao-attack-times-figures-infographic.ashx?w=100%25&la=en

Code is law – is it that simple? 2/2

- Good manners § 879 ABGB
- Consumer protection laws, transparency rules
- Mandatory forms, e.g. renunciation of inheritance, last will,...
- Warranty, notification of defects, dissent & errors

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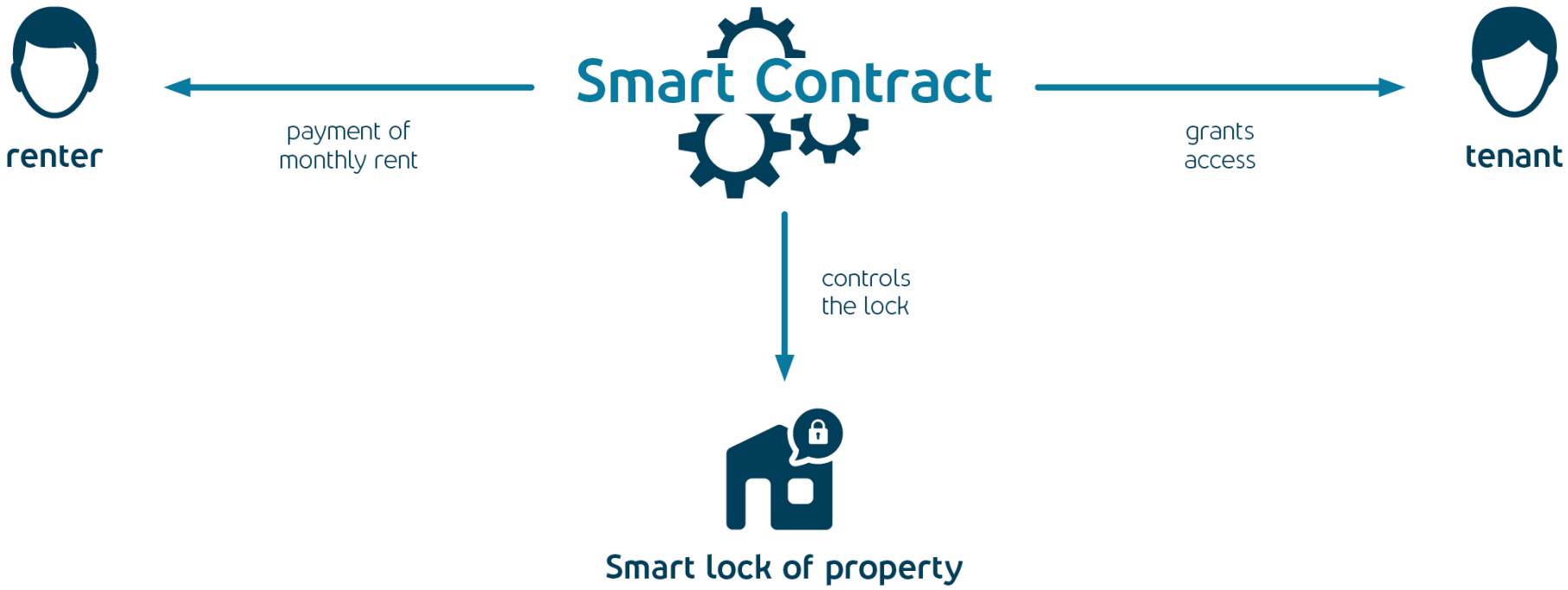
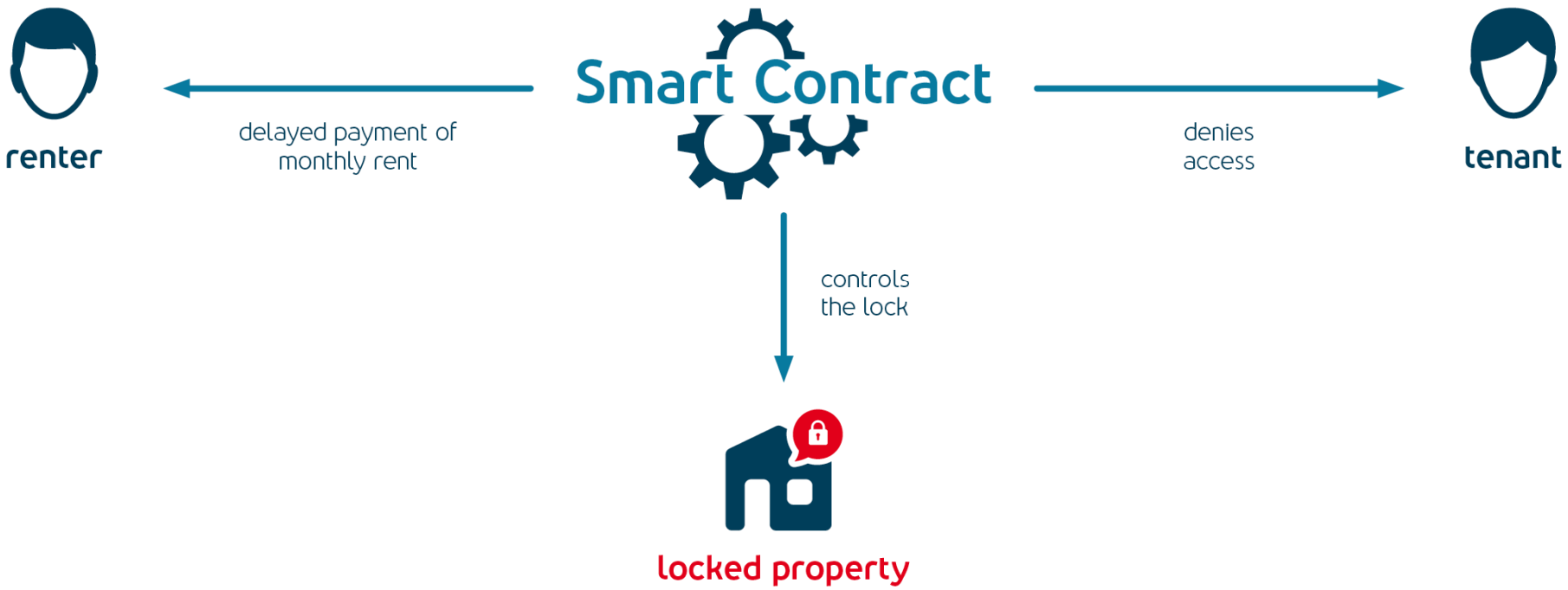
Smart rental contract

Limitations by mandatory law

Case study – smart rental contract 1/3



Case study – smart rental contract 2/3



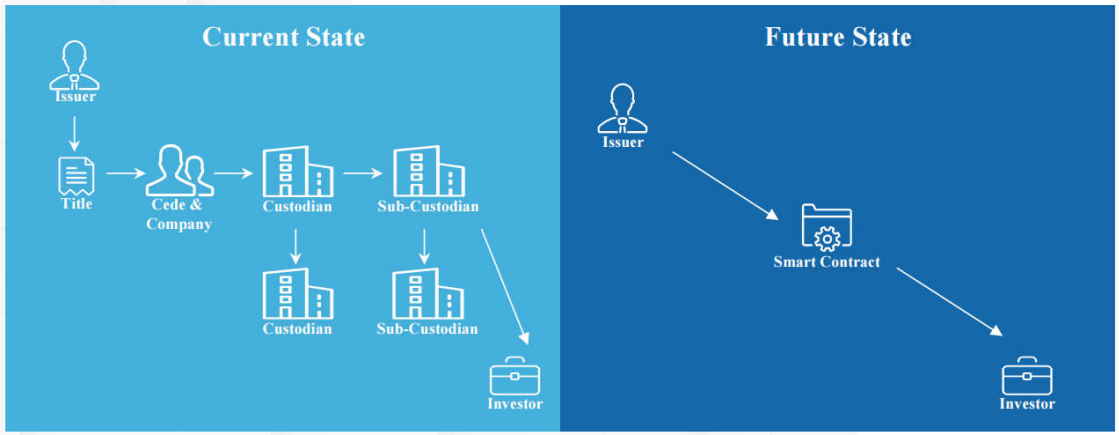
Case study – smart rental contract 3/3

- Limitations by mandatory law?
  - Tenant protection laws
  - Good manners § 879 ABGB
- Liabilities?
  - Error in code: missing national holidays?

Conclusion

- A smart contract is not necessarily a legal contract.
- «Code is law» is only half of the story, it is limited by mandatory laws.

12 use cases for smart contracts



Current Challenges

- Paper-based, manual corporate registration processes
- Companies that fail to keep their corporate registrations up-to-date require clean-up and certificate of good standing before issuing securities
- Intermediaries increase cost, counterparty risk and latency

Smart Contract Benefits

- Digitized end-to-end workflows due to securities existing on a distributed ledger
- Trade date plus zero days (T+0) securities settlement cycles
- Facilitates automatic payment of dividends and stock splits, while enabling more accurate proxy voting
- Removes counterparty and operational risks created by intermediaries

Link and source: http://digitalchamber.org/smart-contracts/

Questions?

- You may contact me via e-mail: tn@naegele.law
- Visit our blog: www.naegele.law/blog

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Many thanks for your attention!

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