

Your World First

C/M/S/  
Law . Tax

# Smart Contract Dispute Resolution

blockchain, law, blockchainlaw?

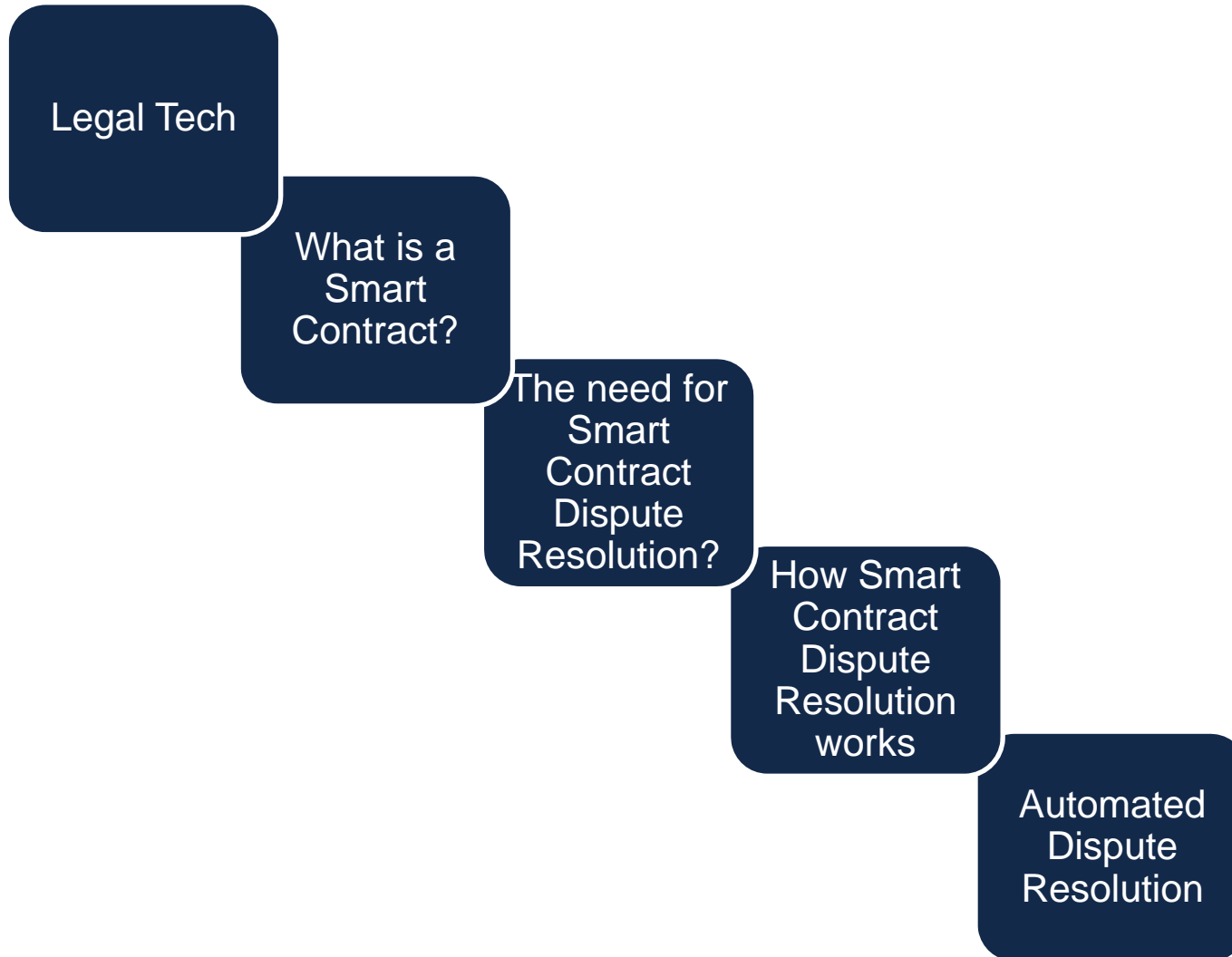
14 September, Bern

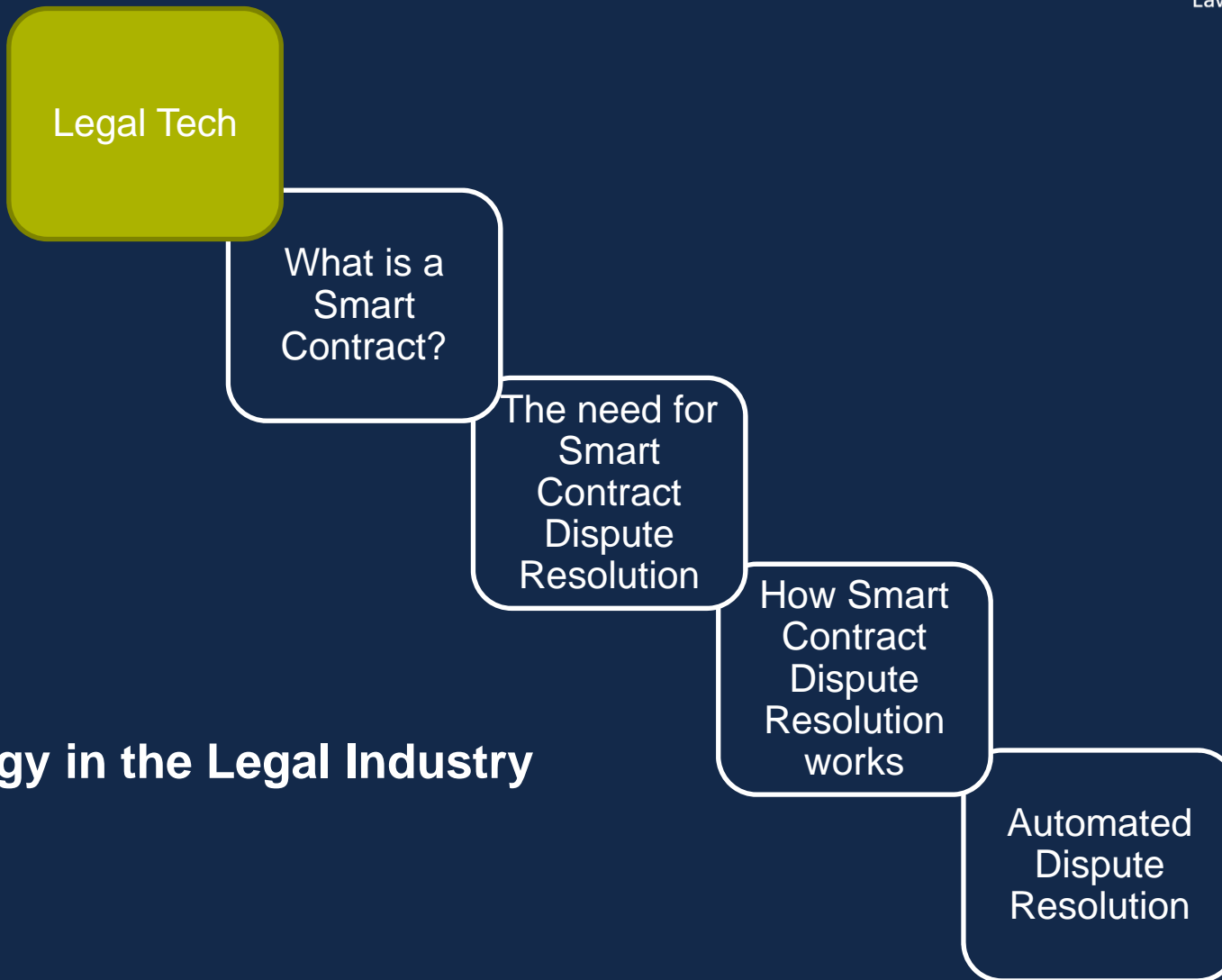


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# Content

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## Technology in the Legal Industry

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# Legal Tech: **Nothing but hot air?**

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## Hype

- With the help of complex neural networks (i.e. in an enormously structured/suitable environment) Google's AlphaGo wins against the World Champion in Go (2016)
- "LegalBase will revolutionize the legal market" (2016)

## Reality

- AlphaGo's successor, DeepZenGo, loses all games at the World Championship 2017, just to win some games later, but to start losing again.
- LegalBase goes bankrupt (2017)

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# Legal Tech: Nothing but hot air?

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## Hype

- "AskKelson will soon answers all legal questions using artificial intelligence" (2012)
- "The rental control will take effect not least thanks to LegalTech / Access to Justice" (2015)

## Reality

- AskKelson was found to have copied the results of *Frag-Einen-Anwalt.de* (2015)
- Miethelden (and many other funded startup companies) are bankrupt (2018), *Mietpreisbremse* is considered a fail

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## Legal Tech: Risks?

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### Hypothesis 1:

Legal Tech will not replace highly qualified legal work or make it redundant in the foreseeable future. The more legal, complex and individual the process, the less suitable it is for the use of Legal Tech

### Hypothesis 2:

Within standardized procedures and/or matters with a high repetition rate, Legal Tech can already make a considerable contribution to accelerating and simplifying even those procedures that were previously reserved for processing by lawyers.

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## Legal Tech: Opportunity?

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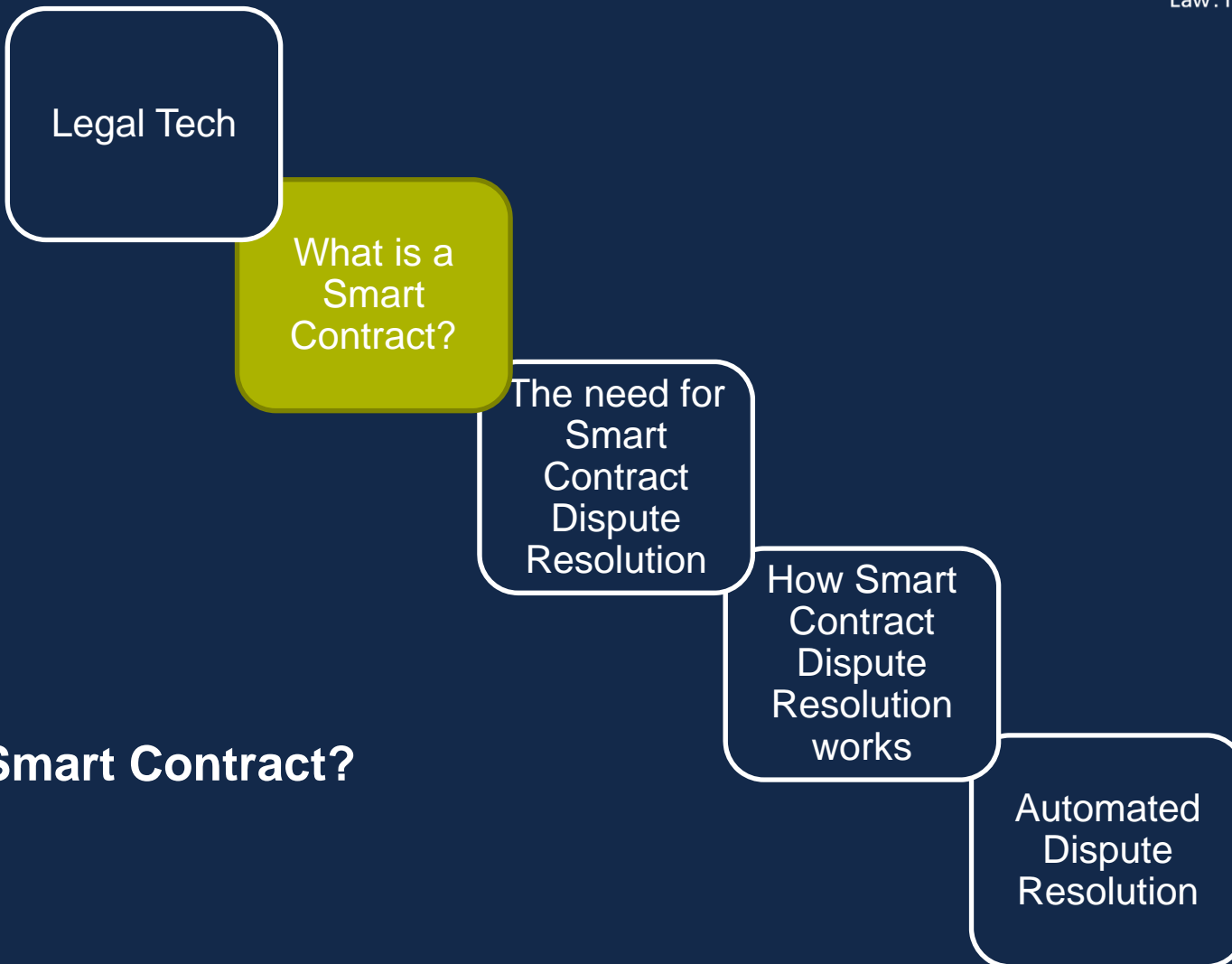
### **Opportunity!**

Legal Tech is a great opportunity for legal departments as well as for lawyers to relieve themselves of tasks that require the involvement of a qualified lawyer for control purposes only.

Legal Tech allows users to focus on challenging and complex tasks.



This is also true for dispute resolution procedures.



## What is a Smart Contract?



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# Innovation

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# No Innovation

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# Court Proceedings

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**Requires AI**

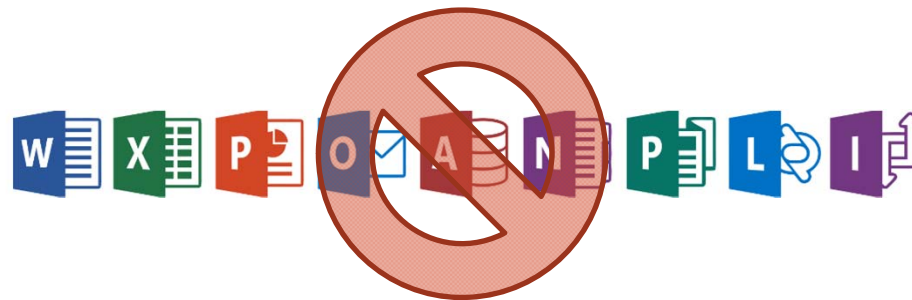
licated cases  
assessment

**Requires Smart  
Contract**

assessment of facts

Smart Contracts are neither *smart*  
nor *contracts*. (In most cases.)

# A Smart Contract is software.



A Smart Contract is (usually) only used to  
perform an obligation.

The obligations are performed when predefined  
conditions are met.

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# Smart Contracts perform a (legal) contract

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0x123



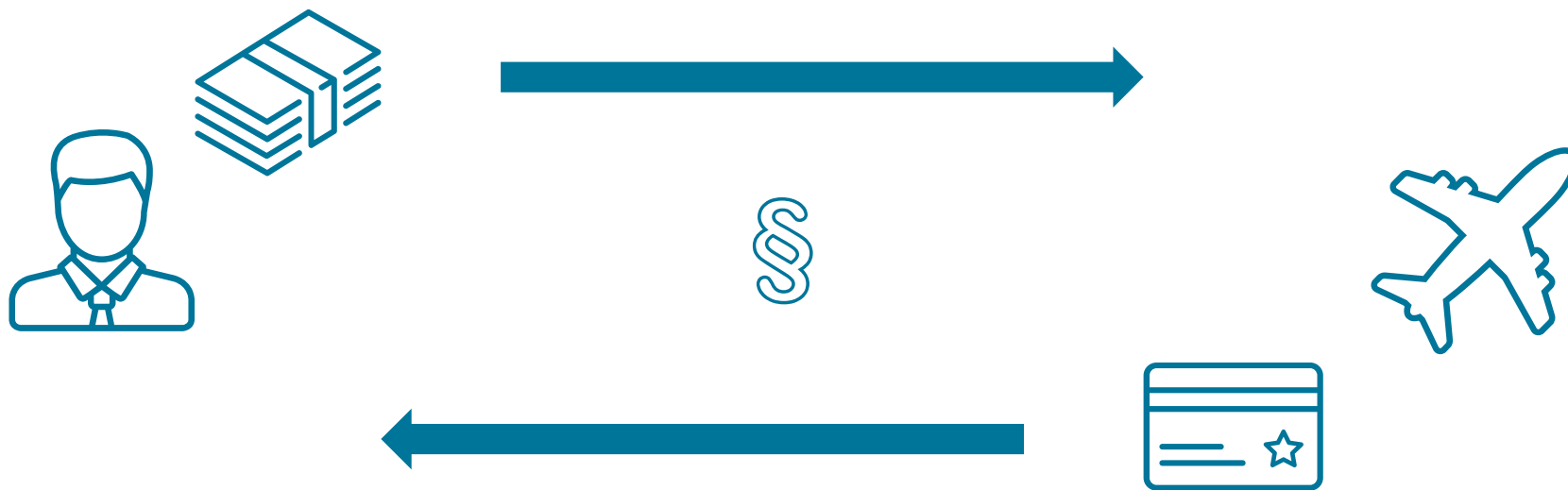
```
If($a>$b) { print $a } else print $b; if $a == $b { $dbh = new PDO('odbc:example', 'mydatabase', 'mybase'); $count = $dbh->exec("INSERT INTO `db` SET `value` = ".$a.""); print "successfully inserted"; } If($a>$b) { print $a } else print $b; if $a == $b { $dbh = new PDO('odbc:example', 'mydatabase', 'mybase'); $count = $dbh->exec("INSERT INTO `db` SET `value` = ".$a.""); print "successfully inserted"; } If($a>$b) { print $a } else print $b; if $a == $b { $dbh = new PDO('odbc:example', 'mydatabase', 'mybase'); $count = $dbh->exec("INSERT INTO `db` SET `value` = ".$a.""); print "successfully inserted"; } If($a>$b) { print $a } else print $b; if $a == $b { $dbh = new PDO('odbc:example', 'mydatabase', 'mybase'); $count = $dbh->exec("INSERT INTO `db` SET `value` = ".$a.""); print "successfully inserted"; }
```



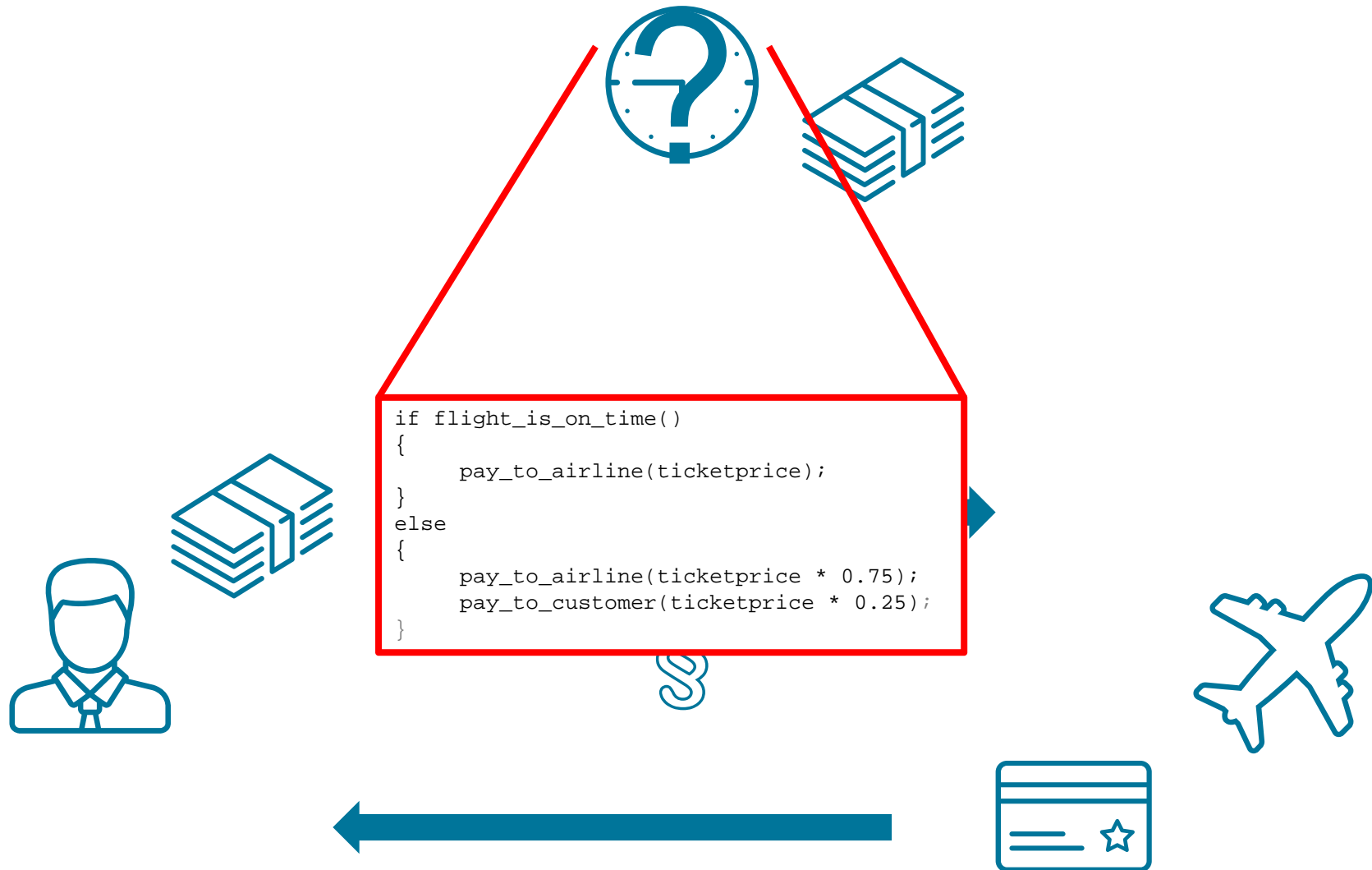
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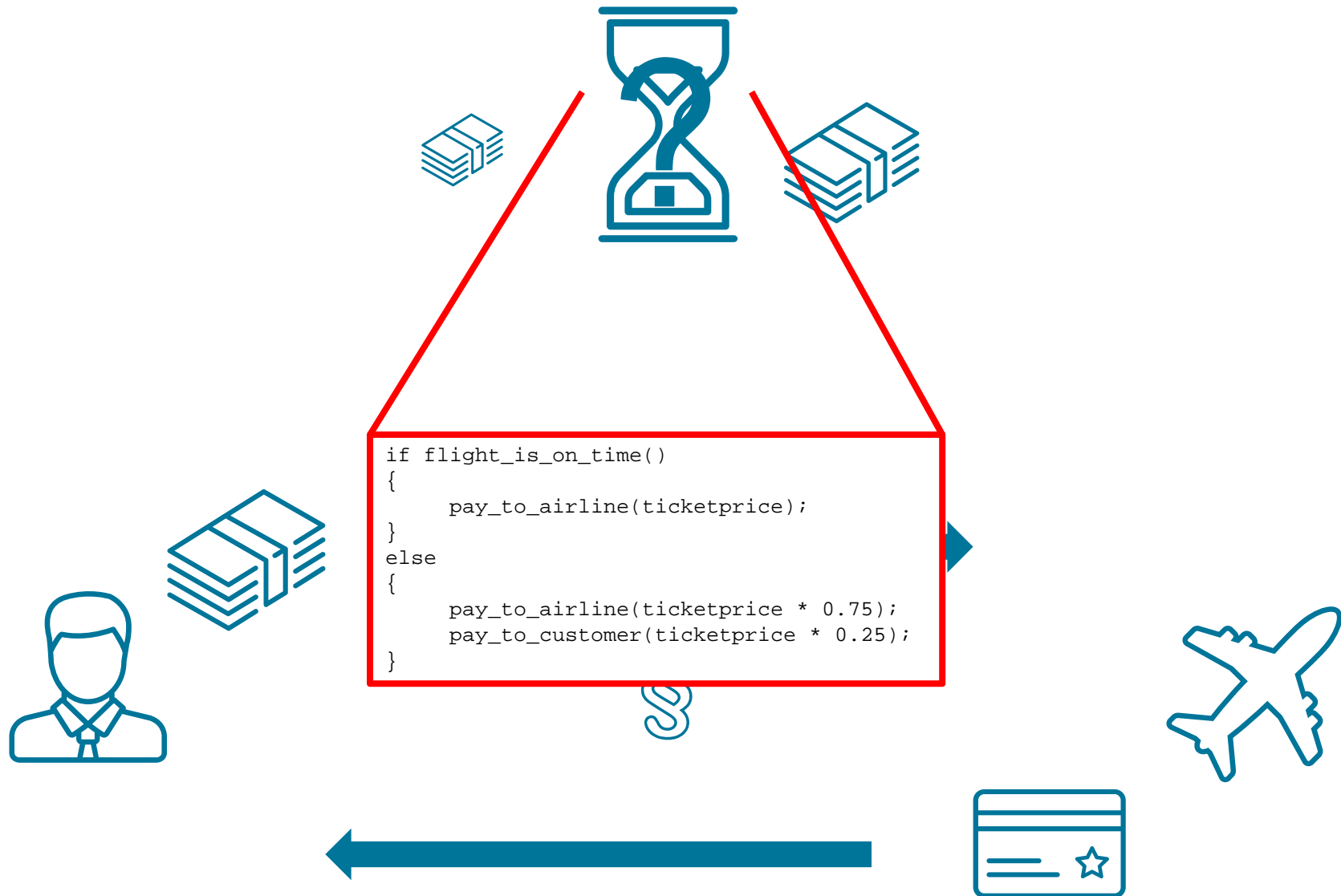


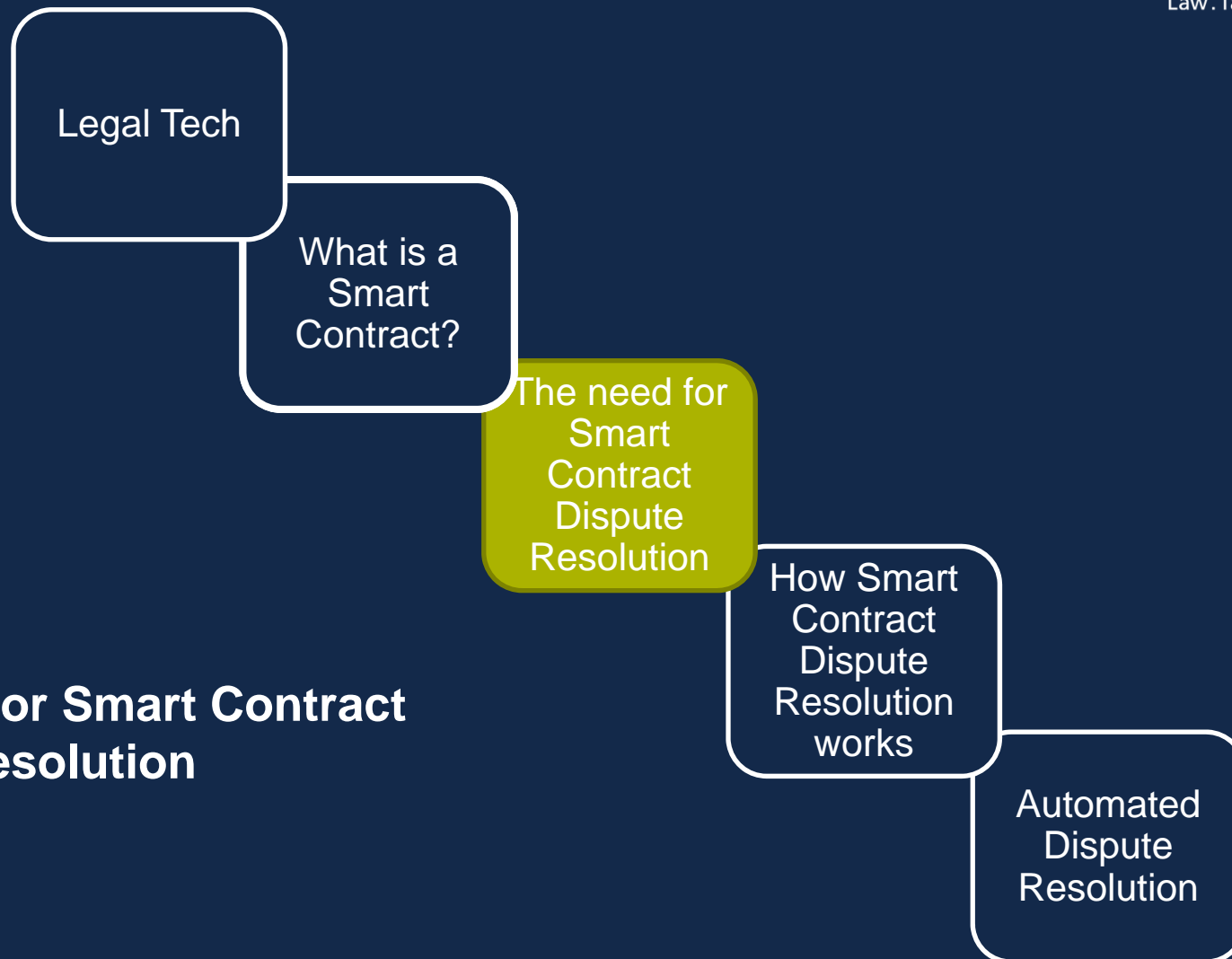
0x789











## The need for Smart Contract Dispute Resolution

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## False performance of (legal) contract

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1. Contract/law and SC do not comply with each other ("Non-Compliance").

2. Contract/law is not mapped in the SC completely ("loophole").

3. Contract/law contains undefined legal terms.

Contract	Smart Contract code
<p>[...] In case of flight delay, the customer receives 25% of the ticket price.</p> <p><b>Except when the ticket is not less than 100 Euro responsible for the delay.</b></p>	<pre>if flight_is_on_time() {     pay_to_airline(ticketprice); } else {     pay_to_airline(ticketprice * 0.75);     pay_to_customer(ticketprice * 0.25); }</pre>

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## False performance of (legal) contract

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4. Smart Contract is provided with wrong information.

5. Smart Contract is provided with inconsistent information.

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## No software is free of bugs

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- *"The only way of writing less bugs is writing less code"*
- Challenge: Smart contract perform obligations and move assets!

*Canadian stock market: 14 million dollar loss due to smart contract error*

Quelle: btc-echo.de

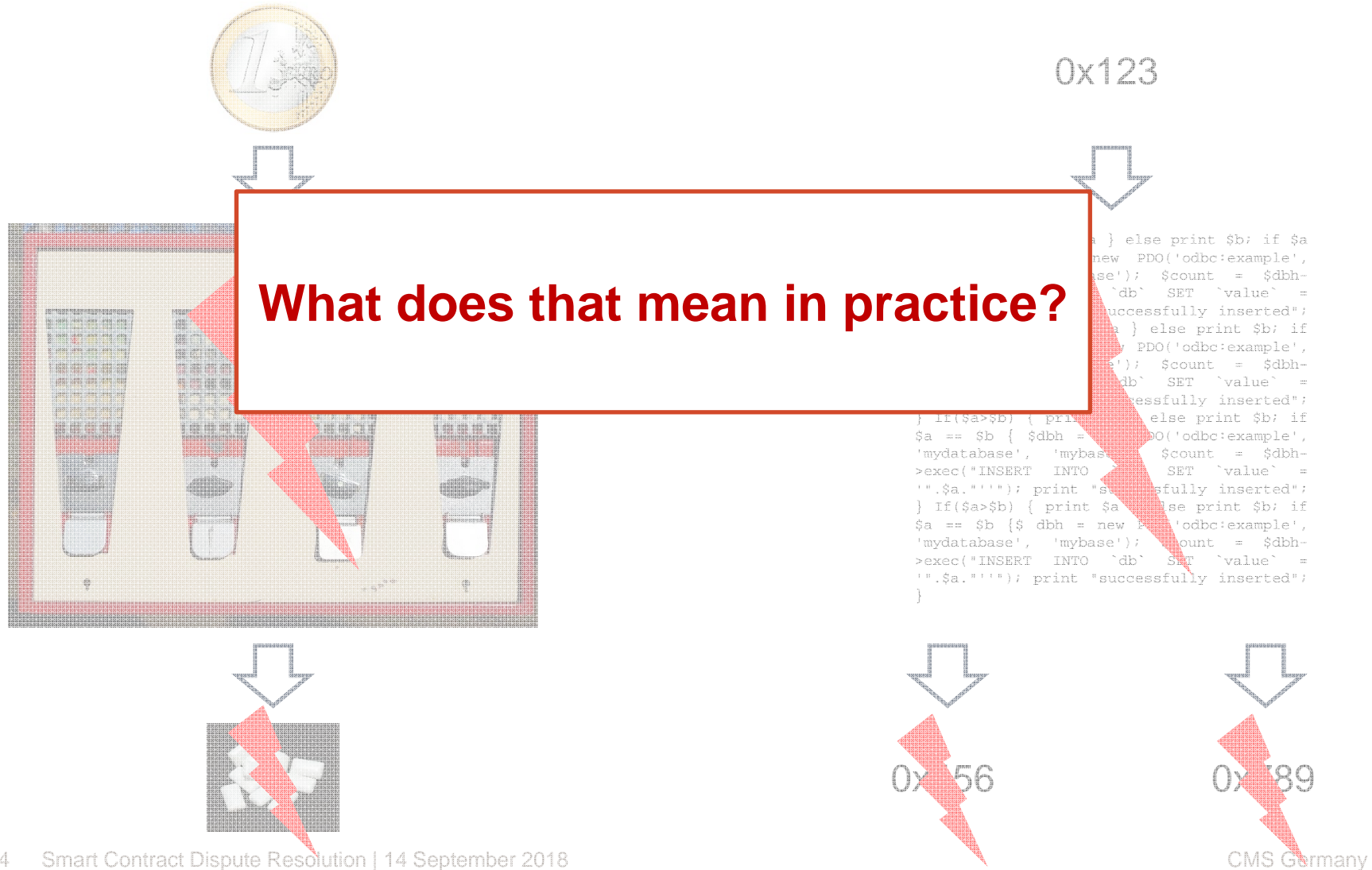
*Cryptocurrency Ethereum: Crowdfunding project DAO deprived of millions.*

Quelle: heise.de

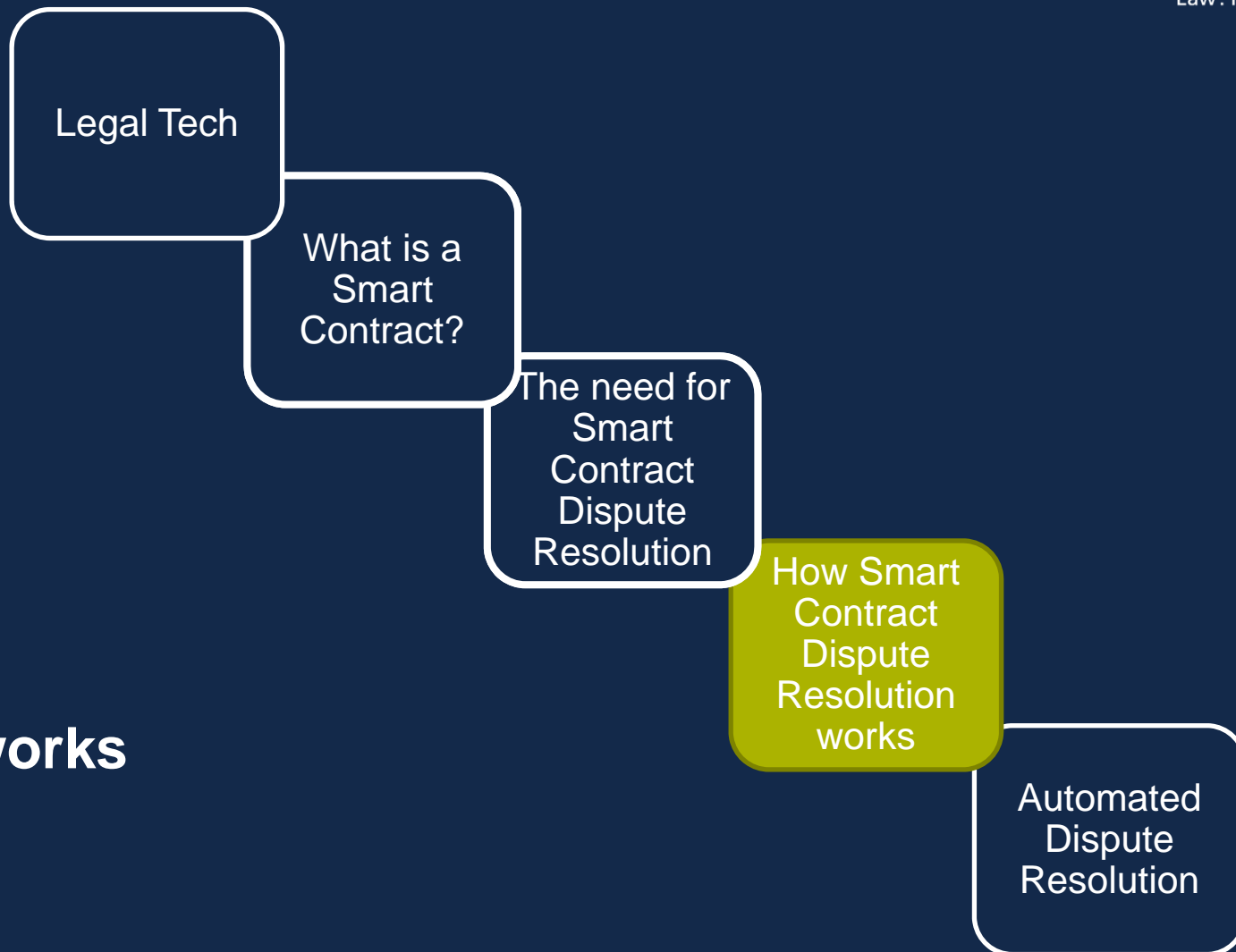
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# No proper performance of contract in case of bugs in code

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## How it works

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# PayPal Dispute Resolution

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## Step 1: Dispute notification

We'll notify you by email if a buyer opens a dispute. Then we'll place a temporary hold on all funds in the transaction.

**Simple question:  
Where is the money and  
where is the product?**

customer's address listed on the Transaction Details page.

## Step 3: Working it out

Once a dispute has been opened, you and your buyer have 20 days to come up with a resolution. In most cases, this is all that's needed. The buyer closes the dispute once you've worked things out. However, when disputes can't be resolved, either party can escalate the dispute to a claim.

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# PayPal: Claims

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## Escalating a dispute to a claim

Claims give PayPal the authority to investigate the case and determine an outcome. Buyers have 20 days from the time they open a dispute to file a claim.

If a buyer files a claim against you, we may ask you to provide some of the following information:

- A third party shipping receipt, tracking number, or signature confirmation to prove that an item was delivered
- Proof that you delivered a replacement or issued a refund if the buyer received their order, but there was a problem with it
- A signed contract or other proof to show that services were provided
- If you sold a digital good, we may request evidence that the buyer downloaded your product

The delivery of this information is time sensitive, so don't wait until the last minute or you might lose the claim.

## How to appeal a claim

When a claim's decision is reached in favor of the buyer, you may be able to appeal it. The decision could be reversed in the event of one of the following:

- The item is returned to you, but not in the same condition as the buyer first received it
- No item was returned at all – just an empty box
- The wrong item was returned to you

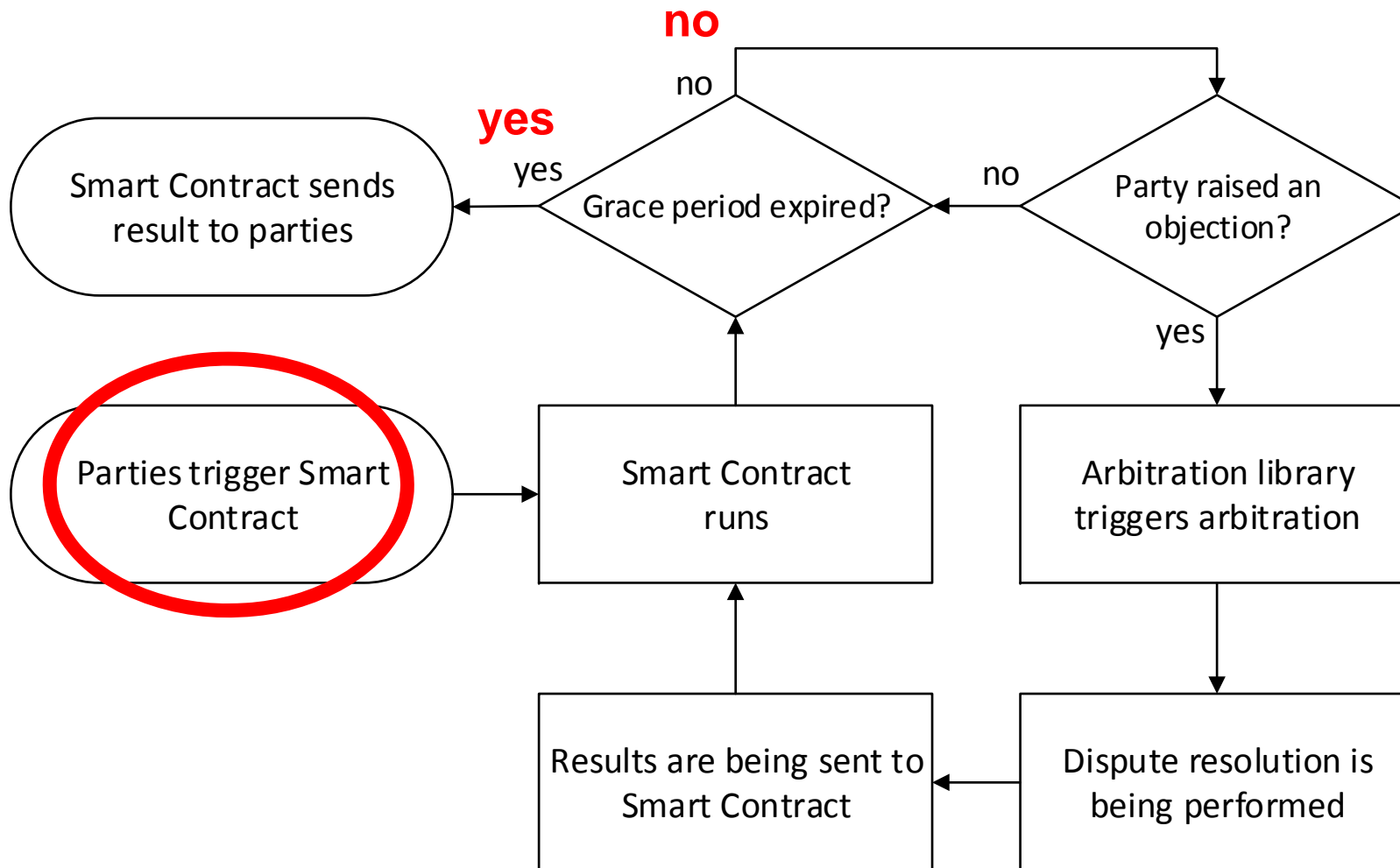
### You can file an appeal in just a few steps:

1. Log in to your account
2. Go to the Resolution Center
3. Select "Closed Cases" from the drop-down menu
4. Click the "Appeal" button

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# Dispute Resolution for Smart Contracts

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## Example: Request for Arbitration

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Jonatan wishes to refer a dispute to arbitration.

Agreement: Coffee Agreement of July 14, 2017

Smart Contract:

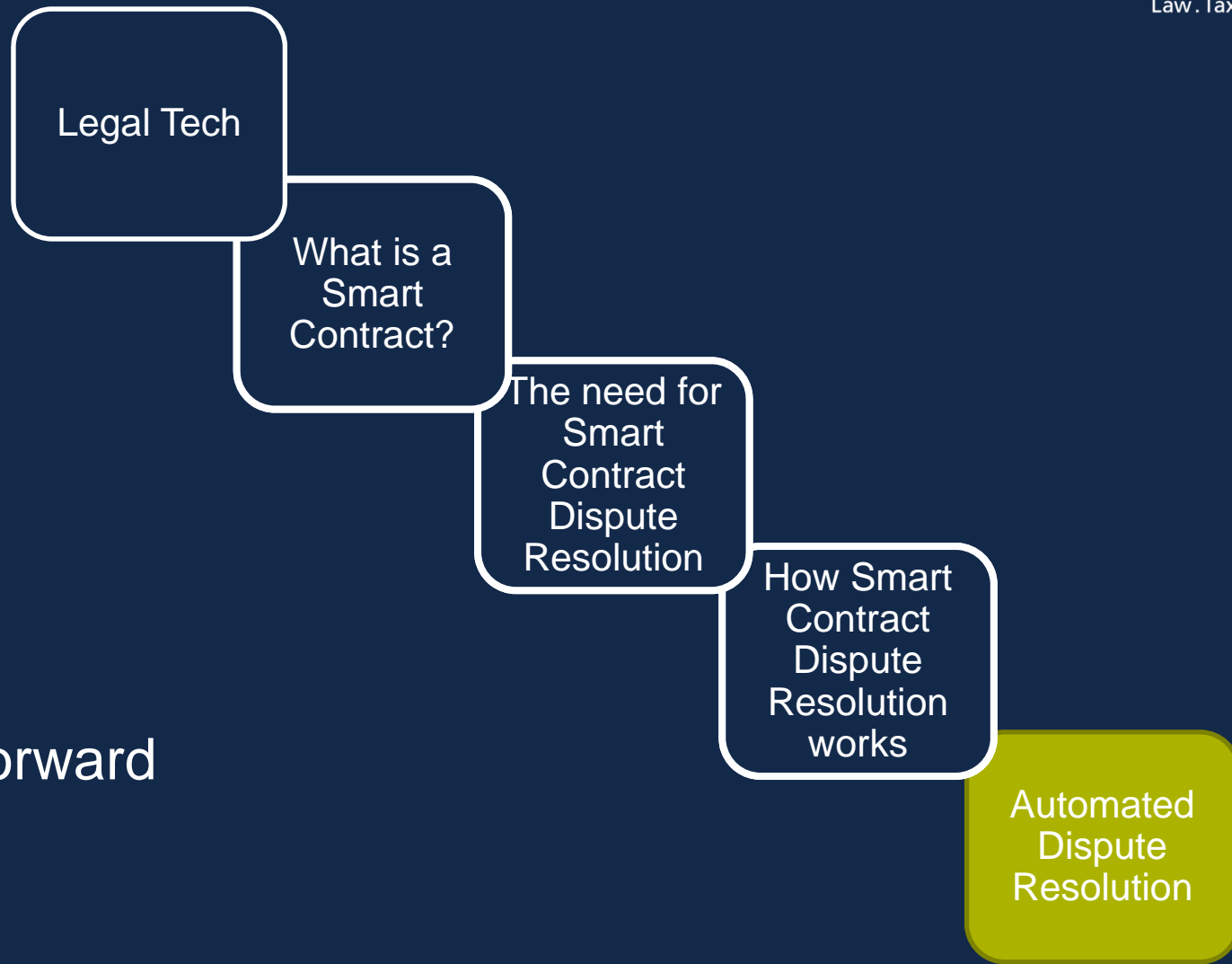
0xca34b7d915458ef540ade6068dfe2f44e8fa733c

Contact details Jonatan: jonatan@cms-hs.com,  
Nymphenburger Str. 75, 80636 Munich,

0x14724a09acff6d2a60dcdf7aa4aff308fddc160c

Contact details Joerg: joerg@cms-hs.com,  
Nymphenburger Str. 10, 80335 Munich,

0x4b0847b0513fdc7c541b6d9d7e929c4e5364d2db



# Moving Forward

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## Automation – Autonomous Driving

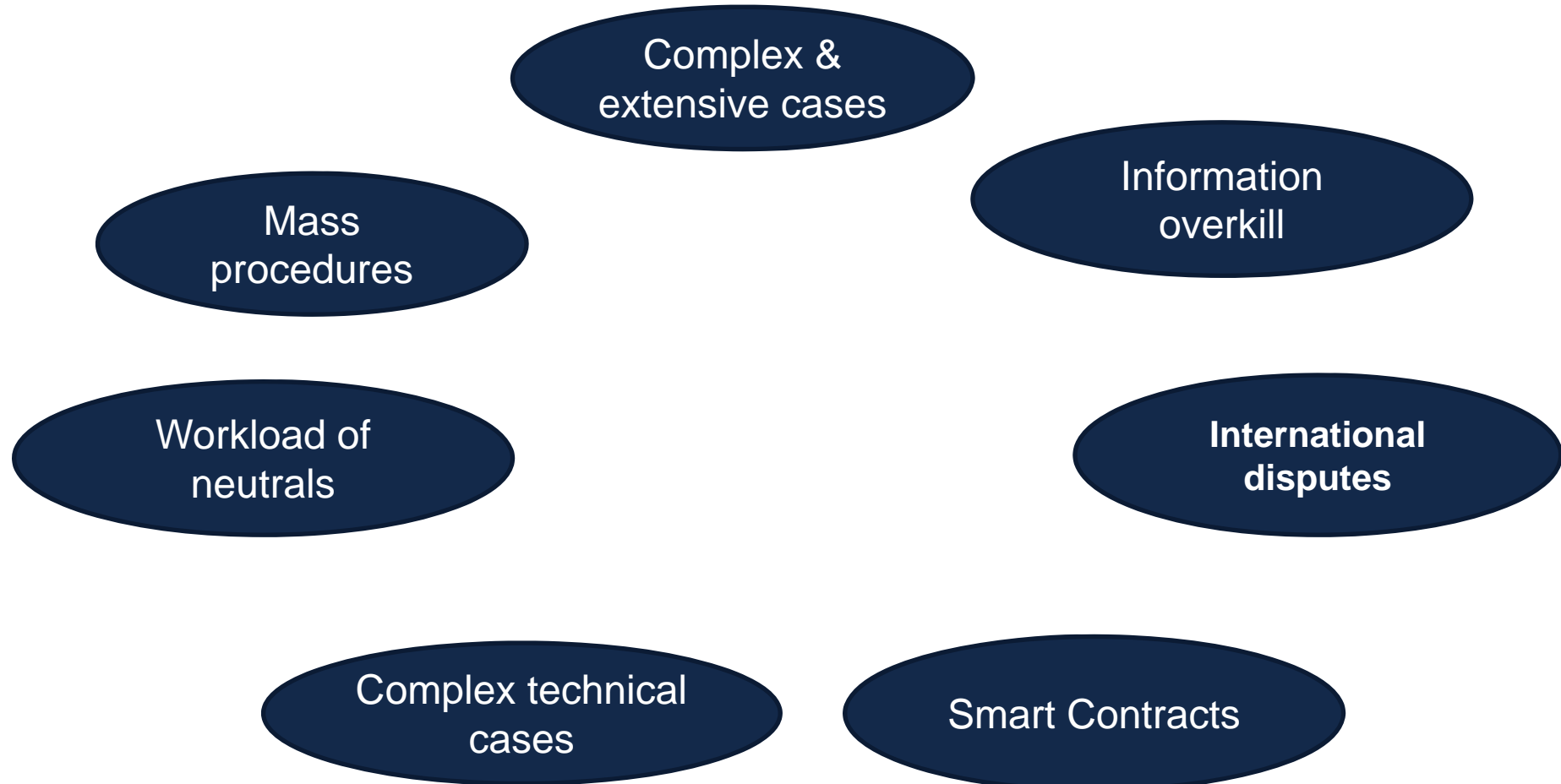
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Level 0	No automation
Level 1	Automation of driver assist function such as ABS and cruise control.
Level 2	Partial automation of central driving functions including steering and acceleration.
Level 3	Conditional automation of driving. A human is required to take over, if needed.
Level 4	All driving functions automated but is constrained to known use cases.
Level 5	Full automation.

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# Challenges for Dispute Resolution Procedures

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## Applications and Forms of Automatisations

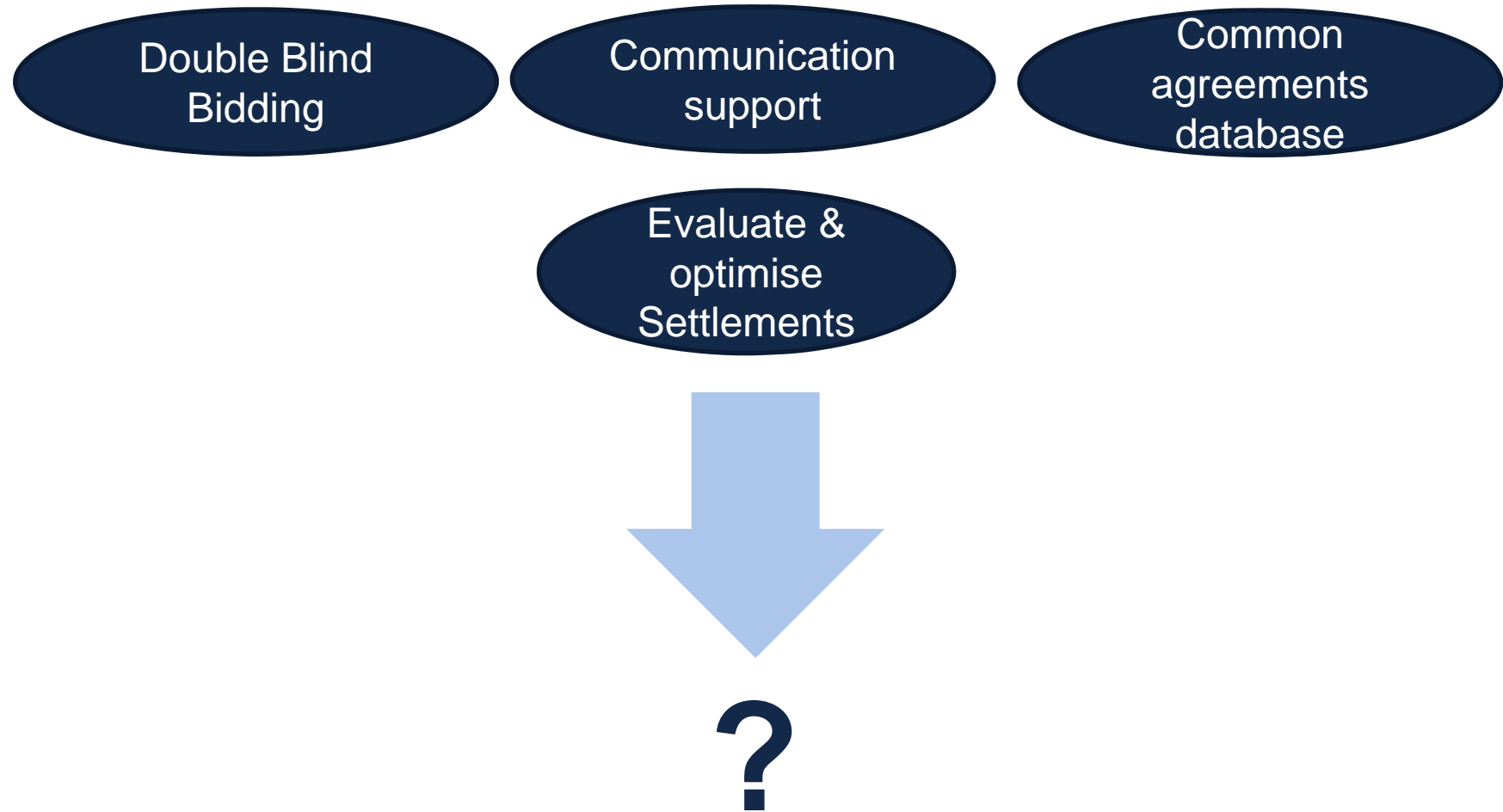
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- Consensual vs. Adversarial dispute resolution
- Resolving disputes on facts vs. Disputes on legal questions
- Assisted dispute resolution vs. Full automatisations

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# Automated Consensual Dispute Resolution Procedures

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# Automated Adverserial Dispute Resolution

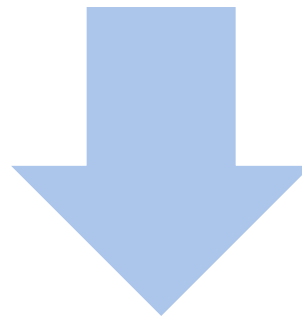
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UDRP

PayPal Dispute  
Resolution

Crowdjustice /  
Ujuf

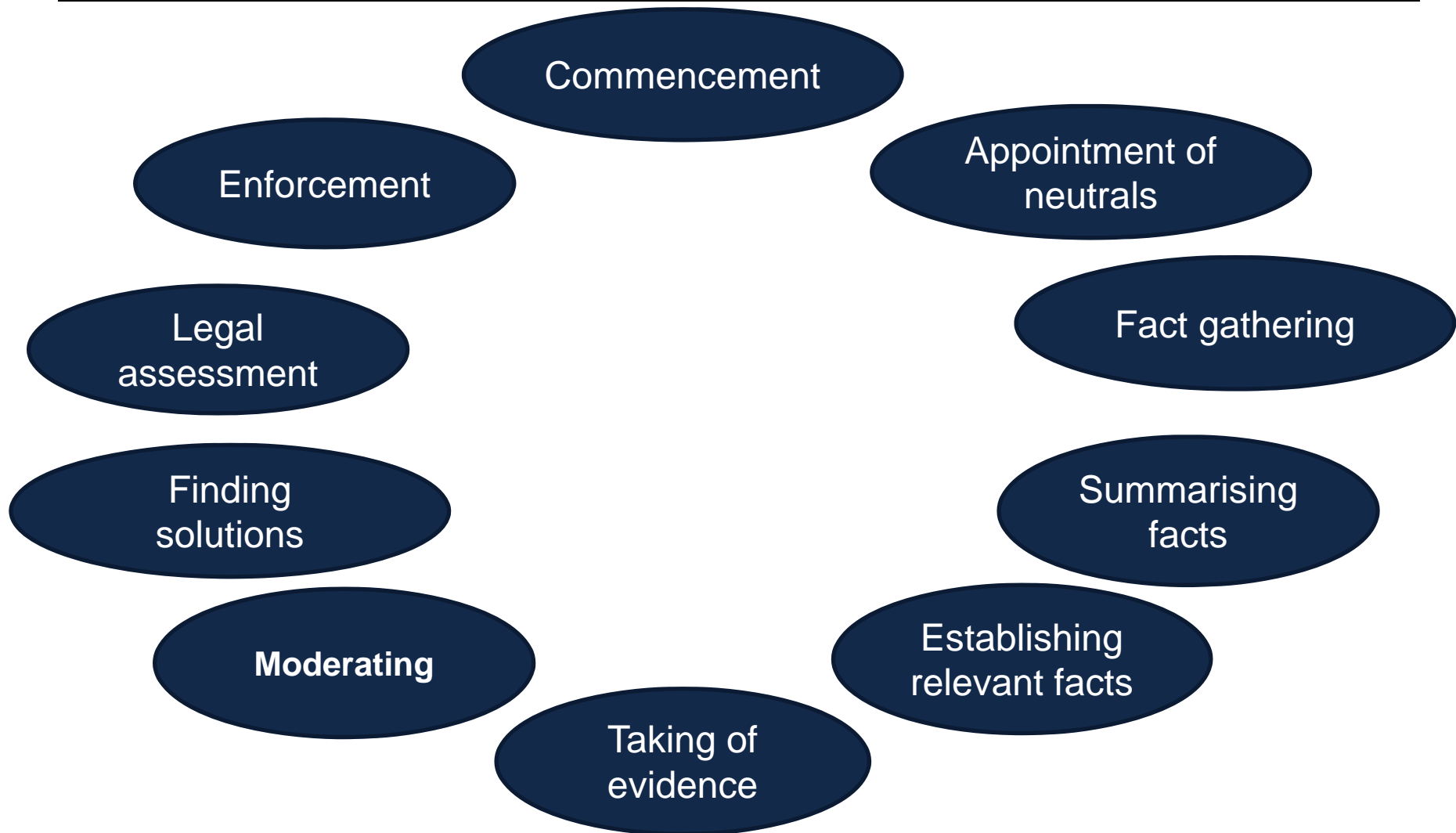
Smart Contract  
Arbitration



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# Automatisation in Different Stages of Proceedings

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# The Future?

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## Conclusion

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Thank you very much – Questions?

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