# HERBERT SMITH FREEHILLS

# LET'S TALK DIGITAL

## SUCCESSFUL DIGITALISATION REQUIRES MULTI-DISCIPLINARY COLLABORATION

# Start with the process, not the technology

Technology is helping companies to grow, be more inter-connected, make business processes more efficient and generate greater customer and shareholder value. Artificial intelligence, internet of things (IoT), data analytics and distributed ledger technologies (DLT) are changing how we generate, share, record and process information and, ultimately, the way that businesses operate. However, it is process improvement, not technology adoption in itself, which drives successful digitalisation.

### The 2020s will see a significant step-change in business practices

One thing is clear: the digitisation of products and services touches every area of business and offers enormous opportunity. But digitisation, in itself, is not a meaningful objective. Instead, the focus needs to be on existing business processes and how (with the emergence of new tools and technologies) those processes can be improved.

Successful digitalisation therefore requires a deep understanding of the existing processes within a business and how those processes could be improved through reliance on digital rather than physical information or processes. It also requires an appreciation (among other things) of the commercial, technological, practical, legal and regulatory opportunities and challenges that may arise from the disruption of existing processes.

### Multi-disciplinary collaboration is needed to make the most of new digital opportunities

Real and productive change requires the convergence of expertise. This multi-disciplinary collaboration is key to the ultimate viability and success of any changes that are implemented.

It is for this reason that, at Herbert Smith Freehills, we believe that in-house lawyers and their external counsel must work with, and be known as enablers of change.

Involving legal at the outset of (and throughout) a digital transformation project has huge upsides, both in ensuring that the design and proposed method of implementation of any potential technology solution is valid and effective as a matter of law but also that the new business processes and tools are adopted in a way that preserves the necessary legal protections that are important for business operation.

In turn, legal teams, both in-house and external counsel, need to draw on multi-disciplinary skill sets and collaboration to harness the benefits of digitalisation, including in seeking to improve processes within the legal team and the way in which legal advice is delivered to their clients.

Cutting through the jargon:

- **Digitisation**: converting information from physical to digital.
- **Digitalisation**: leveraging digitisation to improve business practices

# Collaboration breeds success

# Using technology and new legal processes to drive efficiency and quality within our firm

Our multi-disciplinary teams help clients' legal and business teams to develop and implement new and enhanced ways of working and delivering services. For example, our recently established Digital Law Group brings together specialist lawyers from across our different practice groups to work with technical specialists on digital transformation advisory work and on the design, implementation and adoption of smart legal contracts.

### Transformation succeeds if it starts from the process, not the technology

We understand that leading change is hard within both labyrinthine and small organisational structures — this is why we partner with our clients to prioritise the areas of their business and service delivery models that are ripe for disruption and where digital transformation will result in significant gains with the lowest possible investment of time and resource. Where suitable, we offer cost-effective technology-led processes through our Alternative Legal Services teams in China, New York, UK, Australia and South Africa. We understand that the best way to illustrate innovation and disruption is often through action or

minimum viable product demonstration — show rather than tell. We work closely with our clients to enable them to pilot changes in a sandpit environment to adequately ensure all necessary legal protections and regulatory requirements are in place by the time a new process or product goes live.

### Complex legal issues arise and need to be resolved during a transformation process

We also help clients to understand, and identify solutions to, the legal issues that arise from digitalisation. Those issues are often extremely far-reaching, complex and span many areas of law (eg corporate, competition, employment, tax, regulation and dispute resolution). They also regularly cover new ground and require an analysis of laws that were not developed for the digital age. Our leading expertise in each of these practice areas enables us to provide the first class, comprehensive legal advice that our clients need in order to proceed with internal changes that will future proof their business. We have a wide range of experience supporting clients in this way across many different sectors.

### Our Internal digital transformation

Herbert Smith Freehills is on a digital transformation journey of its own. We are investing heavily, both time and money, to ensure that our service offering remains as efficient and cost effective as possible for our clients. In doing so, we have identified processes within our core service offering that can be improved through the adoption of new technology, and we have implemented the tools necessary to drive that change.

### How we do it (example projects):

- Offering eDiscovery, a legal document automation portal, document review and other cost-competitive services through our Alternative Legal Services

- Drawing on the expertise of our Legal Operations team to improve matter management and service delivery (eg agile project management)

- Utilising Legal Process Design methodologies to co-design legal services through collaboration with clients, legal teams and third parties

- Hosting and participating in hackathons and design thinking workshops with clients

- Utilising our market-leading Decision Analysis Tool - which uses numerical capability to model outcomes for complex disputes by building bespoke decision trees

- Risk tool (under development) - a visual tool to enable better conversations at the start of a matter, fleshing out the instruction, discussing the risks involved and providing clients with the information they need to focus our efforts on the risks that matter to them.

### What we are doing

- Using data science and Artificial Intelligence to increase certainty, manage risk and streamline systems and processes. For example, AI tools which process large volumes of documents very quickly help us to analyse contracts, or clauses within those contracts, identify red flags, run analytics, produce comparisons and reduce man hours for large review tasks. Similarly, data analysis enables us to give our clients greater certainty about the likely duration and costs of any particular matter.

- Strategically using cloud services and related technologies helps us transform the delivery of services to our clients, increasing ease of access to files, mobility and efficiency.

- Actively using legal technology (eg machine learning, document automation, contract analysis and clause extraction, and expert systems/app building tools) allow us to provide enhanced quality advice and new cost effective services for clients. This has already transformed how law firms approach discovery processes in big litigation, unforseen just a decade ago. We now see this happening in respect of other practice areas, such as public M&A.

- Trialling other tools that streamline how we manage matters and projects, how we communicate and collaborate both within our firm and with our clients, and how we draft and review documents.

- Setting teams up for success and continuously challenging and improving how legal services are delivered, with a focus on client value and experience as well as efficiency, including weaving tech into the design as necessary.

- Using algorithmic approaches to evaluating the different possible financial outcomes from litigation by applying existing legal analysis to identify possible outcomes at each decision point and attributing probabilities to them.
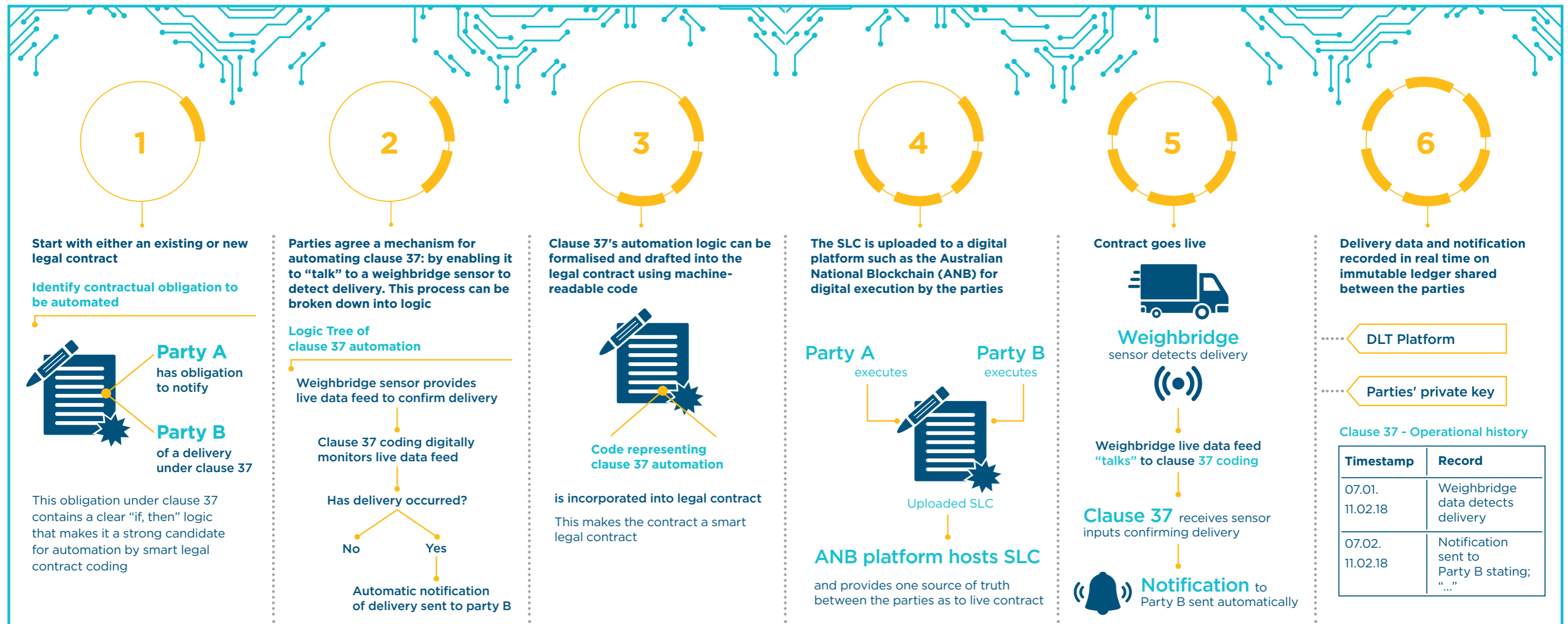
# The future of law (and of business practices): smart legal contracts

Herbert Smith Freehills is working to pioneer and roll-out smart legal contracts (SLCs). SLCs are a cutting edge legal technology that will digitise contracts, enabling them to effectively automate, administer and record contractual events in real time.

As is illustrated below, smart clauses within an SLC are written in computer code to execute or implement specified rights and obligations automatically, as agreed between parties. SLCs:

- 'talk' to external data sources - which can range from industrial sensors to interest rates - detecting events that update contractual conditions, notify parties, or trigger execution; and

- transform the traditional analogue contracts into the equivalent of a piece of software that can seamlessly interact with the real world - including both physical objects and business logic.

## 1

**Start with either an existing or new legal contract**

**Identify contractual obligation to be automated**

**Party A** has obligation to notify

**Party B** of a delivery under clause 37

This obligation under clause 37 contains a clear "if, then" logic that makes it a strong candidate for automation by smart legal contract coding

## 2

**Parties agree a mechanism for automating clause 37: by enabling it to "talk" to a weighbridge sensor to detect delivery. This process can be broken down into logic**

**Logic Tree of clause 37 automation**

Weighbridge sensor provides live data feed to confirm delivery

Clause 37 coding digitally monitors live data feed

Has delivery occurred?

No  Yes

Automatic notification of delivery sent to party B

## 3

**Clause 37's automation logic can be formalised and drafted into the legal contract using machine-readable code**

**Code representing clause 37 automation**

is incorporated into legal contract

This makes the contract a smart legal contract

## 4

**The SLC is uploaded to a digital platform such as the Australian National Blockchain (ANB) for digital execution by the parties**

**Party A** executes  **Party B** executes

Uploaded SLC

**ANB platform hosts SLC**

and provides one source of truth between the parties as to live contract

## 5

**Contract goes live**

**Weighbridge** sensor detects delivery

Weighbridge live data feed "talks" to clause 37 coding

**Clause 37** receives sensor inputs confirming delivery

**Notification** to Party B sent automatically

## 6

**Delivery data and notification recorded in real time on immutable ledger shared between the parties**

DLT Platform

Parties' private key

**Clause 37 - Operational history**

| Timestamp | Record |
|---|---|
| 07.01. 11.02.18 | Weighbridge data detects delivery |
| 07.02. 11.02.18 | Notification sent to Party B stating; "..." |

## Summary

- Parties can agree on a method to automate a contractual obligation, which is then incorporated into contract as machine-readable code, making the contract a smart legal contract (SLC).
- Independent infrastructure hosts the entire SLC and enables execution of its automated (ie coded) provisions.

- The DLT platform maintains one true live version of the contract and an immutable record of automated contractual events or amendments as between the parties.
- Parties are free to choose extent of automation, coding and data sharing to be incorporated into the contract and enacted on the DLT platform.

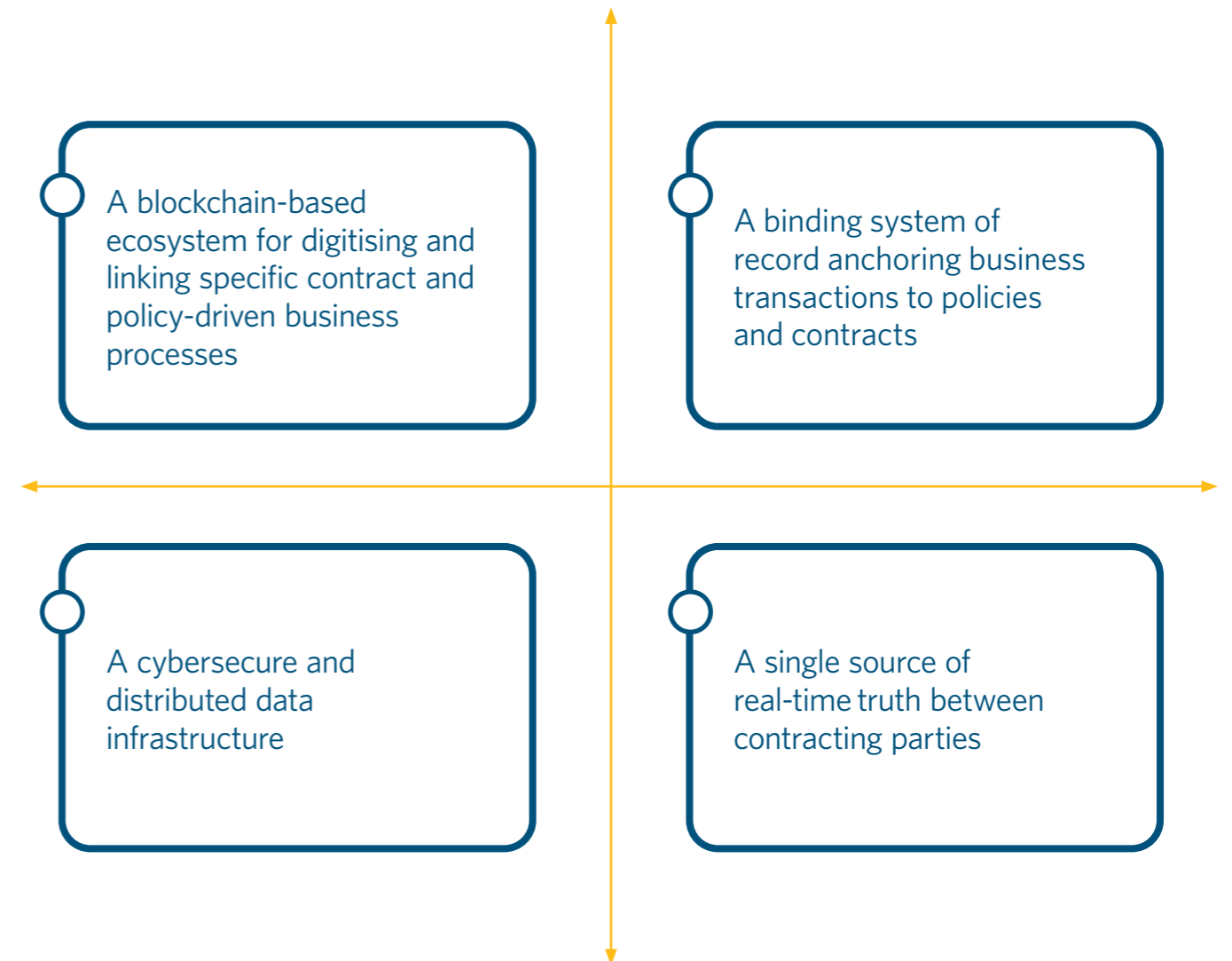# Using data to make contracts a more valuable business tool
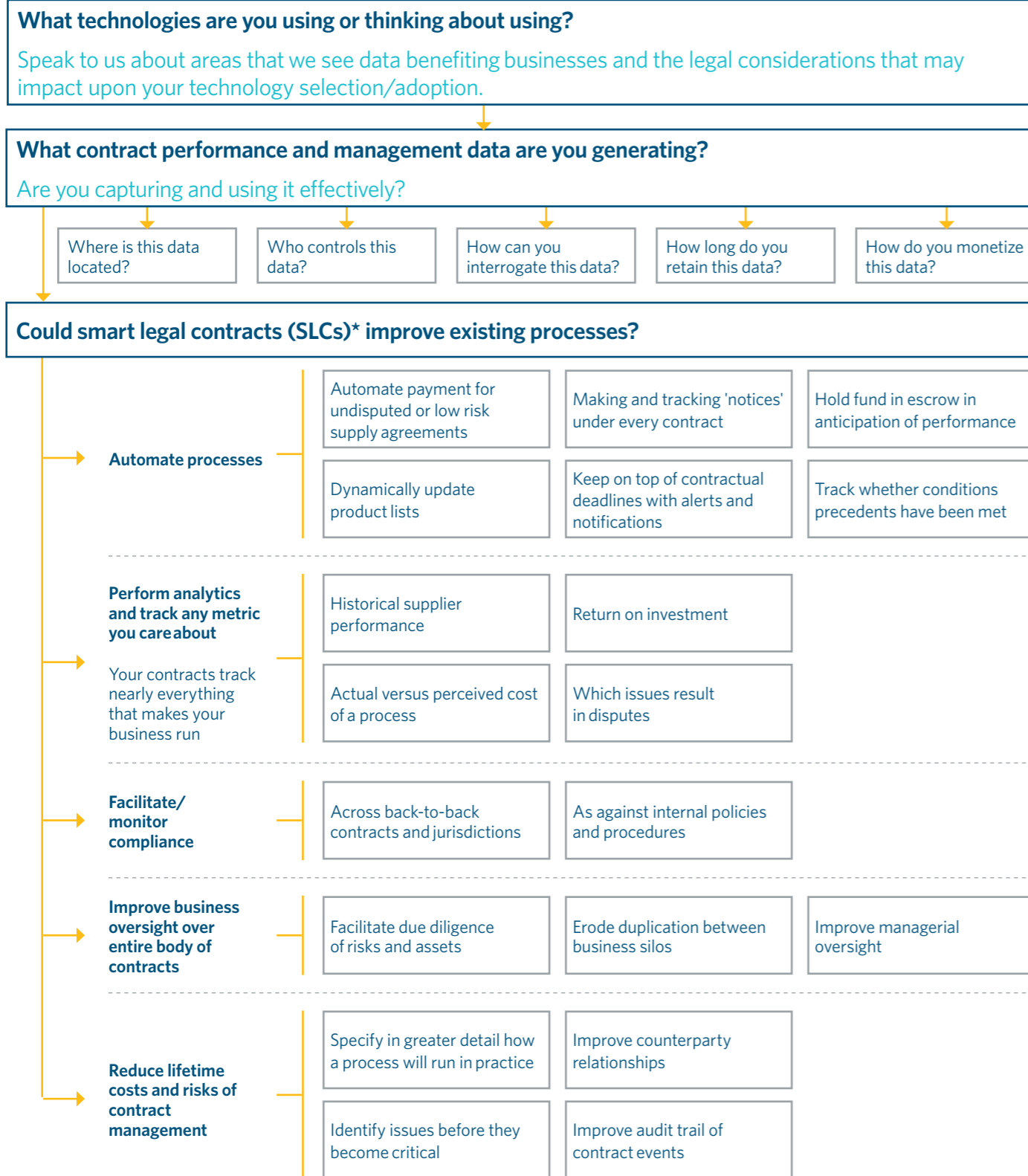
# Building a secure platform for smart legal contracts

SLCs will require a digital infrastructure or platform on which to run. Close integration of technical and legal infrastructure is necessary to enable companies to adopt SLCs and broader digitisation of their activities, all while ensuring they remain compliant with privacy, security and risk requirements.

**What technologies are you using or thinking about using?**

Speak to us about areas that we see data benefiting businesses and the legal considerations that may impact upon your technology selection/adoption.

**What contract performance and management data are you generating?**

Are you capturing and using it effectively?

| Where is this data located? | Who controls this data? | How can you interrogate this data? | How long do you retain this data? | How do you monetize this data? |
|---|---|---|---|---|

**Could smart legal contracts (SLCs)\* improve existing processes?**

**Automate processes**

| Automate payment for undisputed or low risk supply agreements | Making and tracking 'notices' under every contract | Hold fund in escrow in anticipation of performance |
|---|---|---|
| Dynamically update product lists | Keep on top of contractual deadlines with alerts and notifications | Track whether conditions precedents have been met |

**Perform analytics and track any metric you care about**

Your contracts track nearly everything that makes your business run

| Historical supplier performance | Return on investment |
|---|---|
| Actual versus perceived cost of a process | Which issues result in disputes |

**Facilitate/ monitor compliance**

| Across back-to-back contracts and jurisdictions | As against internal policies and procedures |
|---|---|

**Improve business oversight over entire body of contracts**

| Facilitate due diligence of risks and assets | Erode duplication between business silos | Improve managerial oversight |
|---|---|---|

**Reduce lifetime costs and risks of contract management**

| Specify in greater detail how a process will run in practice | Improve counterparty relationships |
|---|---|
| Identify issues before they become critical | Improve audit trail of contract events |

**Key features of an SLC platform**

A blockchain-based ecosystem for digitising and linking specific contract and policy-driven business processes

A binding system of record anchoring business transactions to policies and contracts

A cybersecure and distributed data infrastructure

A single source of real-time truth between contracting parties

\* see page 6 for definition of SLCs

# Smart legal contracts – use cases

### Automating financial transactions

The adoption of SLCs will reduce or remove settlement delays and continue the push towards the standardisation of certain financial instruments, such as credit swaps and ISDAs. This will bring clarity, predictability, auditability and ease of enforcement to these financial contracts. As a result, SLCs will help to reduce risks, lower administration overheads and create more efficient business processes across all major segments of the financial services industry.

### Supply chain monitoring

One of the key benefits of SLCs is that they can generate and record a secure audit trail of contractual events, thereby improving inherent trust in transactions. Distributed ledger technology can be used in supply chains to create a record of provenance information and any changes in ownership or custody. This record can improve supply chain processes by providing increased transparency for all market participants. SLCs will be able to encode necessary visibility across a supply chain and unlock certain provisions of a sub-contract to provide proof of certain regulatory compliance requirements.

### Monitoring KYC, AML and other regulatory compliance

Regulators are an essential piece of the jigsaw in any large and complex transaction. SLCs stand to streamline the process of regulatory reporting, and can be coded to give regulators transparency over certain transactional data or to automate regulatory filings upon a contractual trigger being met.

### Automating contract notifications

SLCs can automate communications and notifications between parties. For example, if a SLC detects an event which impacts on compliance with contractual obligations (eg the temperature in a van carrying perishables has risen above the contractual limit, or the quality of a product does not meet pre-determined specifications), an SLC can automatically enact aspects of the parties' agreement such as triggering notifications or even performing more substantive actions such as payments or regulatory reporting.

### Infrastructure projects

The multiple suppliers, contractors and sub-contractors generally involved in large infrastructure projects can often create a complex network of contractual rights and responsibilities. As things stand, analogue (static) contracts fail to keep up with the increasing digitisation of the projects that they are intended to enable and govern. SLCs promise to embed operational data within contractual obligations, for instance through the use of sensors installed across a development site. This should enable contractual rights and obligations to be more easily verified, maintained, updated and performed (and that performance tracked and evidenced). Human oversight will continue to be needed, but project management will likely become more efficient and be more closely driven by the information generated over time by the contract itself.

### Linking together smart cities

Sensors can track activity across a smart city, to help optimise the delivery of both public and private services. There is significant value to be gained from SLCs governing, co-ordinating and optimising that delivery though software that processes, learns from and autonomously reacts to relevant sensor data in real time. As our cities become increasingly smart, SLCs will play a key role in how those cities are managed effectively and efficiently, and according to legal requirements.

There are more IoT devices on earth than humans and their number is predicted to increase exponentially over the next 5-10 years. These devices form the bedrock of society's transition to an increasingly digital economy. Distributed ledger technology provides ways of recording on a digital ledger data about events or transactions and verifying through a distributed consensus model that those transactions or exchanges of value have occurred. By limiting the need for intermediaries and duplicated centralised processes, SLCs hosted on a distributed platform will help to reduce the frictions associated with those processes and will support machine-assisted economic development.

# Our team

**Tony Joyner**
Sector Lead Partner, TMT Global
Perth
T +61 8 9211 7582
tony.joyner@hsf.com

**Natasha Blycha**
Global Head Of Digital Law
Perth
T +61 8 9211 7298
natasha.blycha@hsf.com

**Nick Pantlin**
Head of TMT & Digital, Global
Co-Head, Technology Sector
Group, London
T +44 20 7466 2570
nick.pantlin@hsf.com

**Fleur Kitchingman**
Head of Clients & Tech Solutions,
UK, US & EMEA, ALT
London
T +44 20 7466 3299
fleur.kitchingman@hsf.com

**Libby Jackson**
Global Head Of Practice,
Alternative Legal Services
London
T +44 20 7466 2799
libby.jackson@hsf.com

**Andrew Moir**
Head of Global Cyber Security
and Intellectual Property
London
T +44 20 7466 2773
andrew.moir@hsf.com

**Rachel Lidgate**
Partner
London
T +44 20 7466 2418
rachel.lidgate@hsf.com

**Ariane Garside**
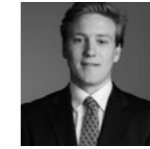Digital Law Lead- Global
Perth
T +61 8 9211 7714
ariane.garside@hsf.com

**Alan Peckham**
Chief Adminstration Officer
Melbourne
T +61 3 9288 1539
alan.peckham@hsf.com

**Cathy Mattis**
Head of Legal Operations, Client
Solutions, London
T +44 20 7466 3816
cathy.mattis@hsf.com

**Ian Gilbert**
Director of Legal Operations
London
T +44 20 7466 3959
ian.gilbert@hsf.com

**Charlie Morgan**
Digital Law Lead – UK
London
T +44 20 7466 2733
charlie.morgan@hsf.com

**Alex Cravero**
Digital Law Lead- UK, US
& EMEA
London
T +44 20 7466 2814
alex.cravero@hsf.com

**Susannah Wilkinson**
Digital Law Lead- Australia
& Asia
Brisbane
T +61 7 3258 6786
susannah.wilkinson@hsf.com

**Miriam Everett**
Partner, Head of Data
Protection and Privacy
London
T +44 20 7466 2378
miriam.everett@hsf.com

**Julian Lincoln**
Sector Lead Partner,
TMT Australia
Global Co-Head, Technology
Sector Group
T +61 3 9288 1694
julian.lincoln@hsf.com

**Mark Robinson**
Sector Lead Partner, TMT
Singapore
T +65 686 89808
mark.robinson@hsf.com

**David Coulling**
Partner
London
T +44 20 7466 2442
david.coulling@hsf.com

For a full list of our global offices visit **HERBERTSMITHFREEHILLS.COM**