

THE ROAD TO 2030

Legal Industry Technology & Innovation Roadmap Report



The Road to 2030

The Technology & Innovation Roadmap (TIR) is a sector-wide plan by the Ministry of Law (MinLaw) to promote innovation, technology adoption and development in Singapore's legal industry up to 2030.

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Introduction

The Pressing Need for Transformation

The legal industry is a key part of Singapore's economy. It generated S\$2.4B in nominal gross value add and employed more than 13,000 professionals in 2019¹. While the industry has endured for many decades, numerous challenges once on the horizon are now at its doorstep.

On top of a global pandemic, there is disruption from artificial intelligence, blockchain, multi-disciplinary professional services networks and NewLaw entrants to the legal industry. These trigger changing customer behaviour, rising cost pressures and new demands of value, speed and flexibility from the industry. Against this backdrop, many firms have long recognised the need for action.

2018 LawSoc Survey

85%

agreed that LegalTech is crucial to the development of the profession and sector

70%

agreed that there was a need to increase the level of LegalTech adoption in their firms

Supporting the Legal Industry

Transformation is no longer radical, but essential. However, the transformation journey is not easy. There are challenges in adopting technology, such as the lack of resources to identify and implement suitable LegalTech solutions.

This Legal Industry Technology & Innovation Roadmap (TIR) is here to help. It presents workshopped initiatives and recommendations, to support legal teams, both in-house and in private practice, in their transformation journeys. More importantly, to help those who are willing to keep an open mind and explore their options to spot and seize opportunities through transformation, to thrive in this new environment.

How the Roadmap Was Developed

The Technology & Innovation Roadmap (TIR) is a sector-wide plan by the Ministry of Law (MinLaw) to promote innovation, technology adoption and development in Singapore's legal industry up to 2030.

It identifies technologies that will impact and change legal services, and explores ways to support development and adoption of such technologies.

The roadmap is the result of a series of four inter-connected workshops conducted between April to October 2019, facilitated by the Agency for Science, Technology and Research (A*STAR), and brought together participants from across the legal industry and adjacent industries and disciplines to answer four key questions.

90

individuals in total answering 4 Key Questions

Representing 52 organisations:

- Academia
- Research Institutes
- LegalTech Firms
- Global Professional Service Networks
- Business Professionals
- Local Law Firms
- Foreign Law Firms
- In-House Legal Teams
- Dispute Resolution Institutions
- Legal Professional Associations
- Government

Four Key Questions Answered

Q1

What are the key global trends that would have the most impact on Singapore's legal industry from now till 2030?

KEY GLOBAL TRENDS IDENTIFIED

Participants²

83.3%	75%	62.5%
Rise of Tech Giants	Trade Wars	Rise of Asia
41.4%	(Subsequent Addition)	
Increasing Legal Industry Competition	COVID-19 Outbreak	

Q2

How would business demand for legal services change as a result of those global trends?



KEY LEGAL BUSINESS TRENDS IDENTIFIED

Participants

79.2%	62.5%	41.7%
Increased Cybersecurity Demand	Increase in Asian Demand for Legal Services	Demand for 24/7 Accessibility
41.7%	33.3%	25%
Increase in Legal In-Sourcing	Cost Pressures on Law Firms	Bifurcation of the Global Economy



Q3

What technology solutions and operational changes could help augment and support legal practices in meeting the new business demands?

TOP OPS-TECH SOLUTIONS IDENTIFIED

Participants

79.2%	47.5%	45%
Legal Cybersecurity Solutions	Alternative Legal Service Providers	Advanced LegalTech Solutions (Private Practice)
33.3%	30%	29.2%
E-Courts	Core of Tech-Ready Lawyers	Asian LegalTech Solutions
20%	20%	10%
Legal Operations (In-House)	LegalTech Solutions (In-House)	Legal Chatbots
17.5%		
Basic LegalTech Solutions (Private Practice)		

Please refer to *Ops-Tech Solutions*



Q4

How can the Government support adoption and development of the identified ops-tech solutions?

A range of initiatives across government and related stakeholders was identified and will be instituted over the next two years to support the legal industry.

- Law Firms
- In-House Legal Teams
- Law Professionals & Professionals-to-be
- The Broader Legal Industry

Please refer to *Government Support*

² Percentages do not add to 100% as participants were allowed to vote more than once

Global Trends Shaping the Legal Industry

These were the five key global trends participants expected to have the most impact on the Singapore legal industry from now to 2030.

Rise of Technology Giants

Today, seven of the top ten firms globally by market capitalisation are technology firms. They continue to grow not just in size but also in reach. They have disrupted industries from transportation and F&B, to retail and hospitality. The legal industry is not immune.

OPPORTUNITY IN CRISIS

The growth of technology firms has accelerated during the global pandemic, with a surge in demand for certain technology services, such as online entertainment, e-commerce, remote collaboration, video-conferencing and cybersecurity services.

TECHNOLOGICAL IMPACT

As technology giants become more prominent, and technology rapidly reshapes the way business is conducted, new complex legal issues (e.g. pertaining to privacy, ethics, competition, employment) will arise, creating new sources of demand for legal services.

Trade Wars

Continued political uncertainty between the U.S. and China has not only affected economic growth but will change the global norms for international businesses. This in turn, will shape the legal norms that facilitate business transactions between these superpowers and their allies.

NEW CYBERSECURITY CONCERNs

Countries may increasingly opt to use technology developed domestically or in allied nations.

CHINA'S GROWING INFLUENCE

In line with their economic growth, China has established new international organisations and initiatives, such as the Asian Infrastructure Investment Bank and the Belt & Road Initiative.

Rise of Asia

Asia now accounts for more than half the world's Gross Domestic Product by Purchasing Power Parity. With a growing middle class, the rising demand for goods and services in and from Asia signals new growth opportunities for businesses and hence, law firms in the region.

MORE MNCs PIVOTING TOWARDS ASIA

E.g. Dyson's plans to relocate their HQ from the U.K. to Singapore.

ASIAN FIRMS EMERGING AS MARKET LEADERS

E.g. Haier, a Chinese electronics manufacturer, has overtaken General Electric to become the world's largest "white goods" manufacturer.

COVID-19 Outbreak

The pandemic has disrupted industries and businesses globally. In heavily affected sectors, major shifts may result in more contractual and policy changes, debt restructuring, and acquisitions and mergers, all of which require legal services.

OPERATIONAL PRESSURE

Business practices will change, and remote working arrangements may become the new norm. This has forced the hand of law firms, legal departments, and other relevant stakeholders to increasingly consider digitalisation and the role it plays in the provision of legal services.

Increasing Legal Industry Competition

New entrants like multi-disciplinary practices are competing with traditional law firms by offering a range of professional services such as accounting and consultancy along with legal services. There are also service providers utilising digital tools to automate and provide on-demand legal services and operations.

WIDENING REACH OF NON-TRADITIONAL LEGAL SERVICE PROVIDERS

Today, the Big Four professional services firms collectively boast around 10,000 lawyers globally. One of them, PwC, would be the sixth largest law firm in the world by lawyer count. With increased scale, the Big Four are able to offer a wider range of legal services across many jurisdictions.

HIGH-VOLUME SERVICES

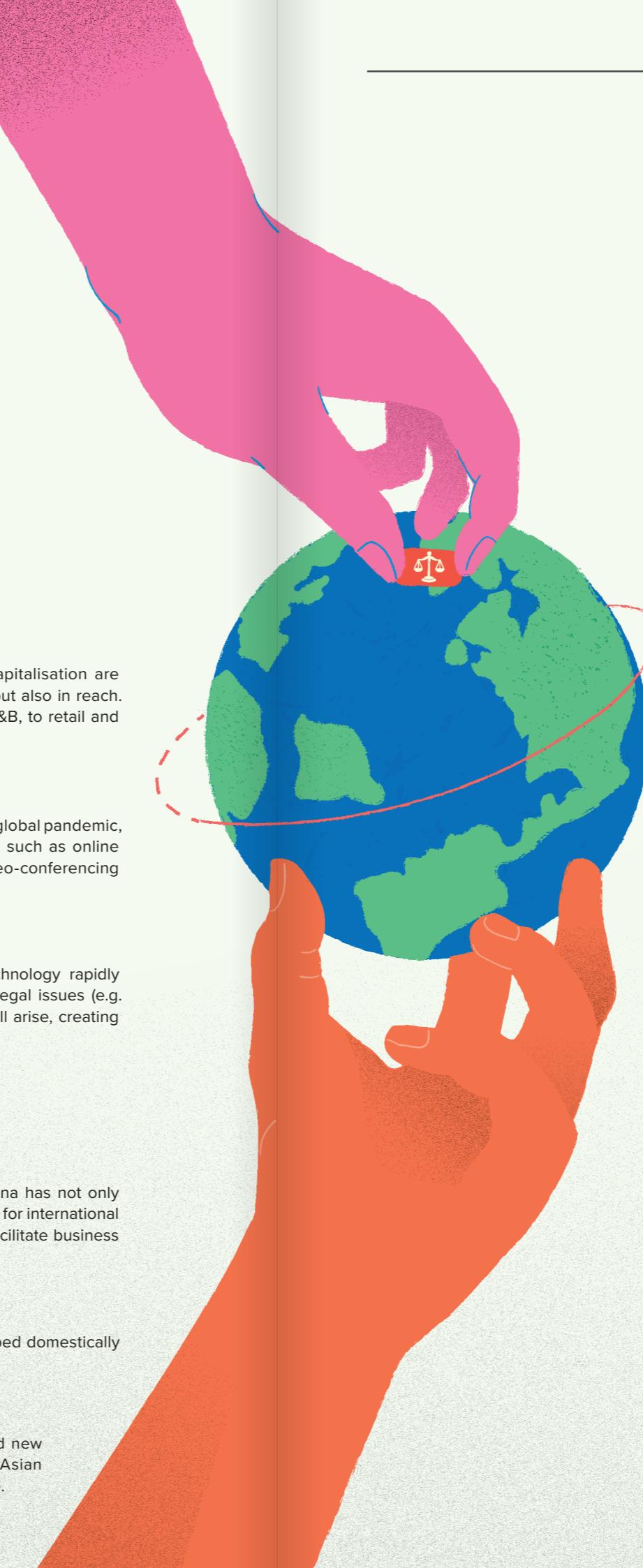
Legal process outsourcing firms like Consilio and DTI perform rote legal work such as drafting letters and conducting due diligence in bulk.

DIGITAL SERVICE DELIVERY

NewLaw firms such as Axiom and Rocket Lawyer deliver their services digitally.

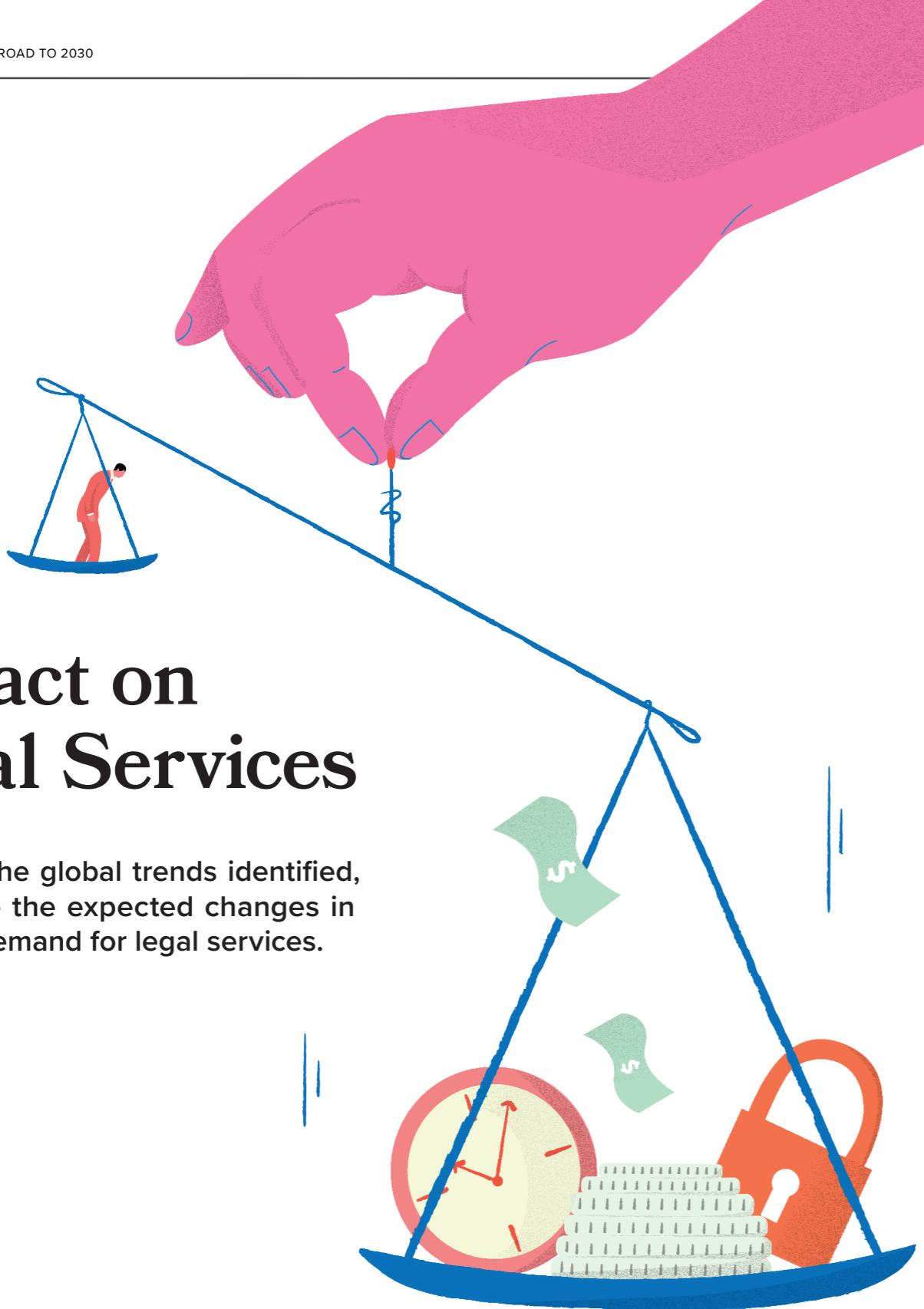
MANAGED SERVICES

Firms like Thomson Reuters Legal Managed Services handle legal operations on behalf of their clients.



Impact on Legal Services

Based on the global trends identified, these were the expected changes in business demand for legal services.



Increased Cybersecurity Demand

COSTLY CYBERATTACKS

As global tensions rise, so have cybersecurity threats. These fallouts are costly, with an estimated £11M in client money stolen from U.K. law firms in 2017 alone³. Law firms must now assure clients that their sensitive data can be well-protected.

GROWTH OPPORTUNITIES

Law firms like DLA Piper, Norton Rose Fulbright and Rajah & Tann already have a foot in this fast-growing market by looking to provide cybersecurity solutions.

US\$173B

Market value of the cybersecurity market in 2020. It is set to grow 7.2% annually over the next six years⁴.

"If legal departments are to keep using law firms, they must step up their cybersecurity measures."

Loretta Yuen,
General Counsel, OCBC

Increased Asian Demand for Legal Services

NATIVE TONGUE

As Asian companies flourish, they will expect legal service providers to be proficient in their native language, local laws, and business customs.

"Legal departments are already choosing tech solutions over external providers. The in-house counsel's job is changing. They now also do what was previously done by external counsel."

Tan Zhifeng, Senior Associate,
Allen & Gledhill LLP

USE OF ASIAN LAWS

As intra-Asian investments increase and Asian laws mature, investors may prefer using regional laws rather than English law, which has seen its market share in Asia decline steadily over the years⁵.

SOFTER APPROACHES

Relationship-focused Asian businesses may increasingly eschew litigation in favour of alternative dispute resolution methods like arbitration or mediation for commercial disputes, such as for China's Belt & Road investment agreements⁶.

Demand for 24/7 Accessibility

ALWAYS-ON CULTURE

The rise of technology giants and impact of a global pandemic have reshaped consumer behaviour. Clients expect on-demand legal services that can be accessed anytime, anywhere.

ADAPTING INTELLIGENTLY

While global law firms can meet round-the-clock demands through their international network of offices, smaller regional firms with manpower constraints must seek innovative methods. They stand to benefit most from tech-driven solutions.

Increase in Legal In-Sourcing

RISE OF IN-HOUSE

Technology giants who require niche legal expertise have found it more efficient to develop in-house legal capabilities than to outsource. Some in-house legal departments are now larger than the biggest Singapore Law Practices (SLPs) and function almost as law firms in their own right.

49% of clients insourced at least ¾ of their legal work in 2018⁷.

Companies' in-house legal departments are increasingly reducing their legal spend and in-sourcing legal work, aided by technology⁸.

Cost Pressures on Law Firms

COMPETITION FROM ALSPS

For cost-efficiency, in-house legal departments are also increasingly outsourcing work to alternative legal service providers (ALSPs).

This will increase cost pressures on law firms as clients grow accustomed to paying lower fees for high-volume, basic legal services.

60% of in-house departments in the U.K. and U.S. used ALSPs for at least one type of legal service in 2019⁹.

Bifurcation of the Global Economy

GLOBAL FLUX

If countries around the world split into U.S.- and Chinese-led blocs¹⁰, the affiliation of law firms will have larger consequences. Should either economic bloc lose ground in the other, law firms face significant readjustment in legal markets as new market leaders emerge.

ADAPTING TO THE DIVIDE

Firms which want to serve both markets may have to change their operations systems, such as having to maintain separate localised databases for the two blocs. Meanwhile, law firms in neutral countries could have opportunities in serving as a crucial bridge between the two.

"In addition to trade restrictions, cross-border data flows may face data localisation measures as well. This nationalistic trend has started and will escalate in the next one to four years. We must act now."

Rajesh Sreenivasan,
Head (Technology, Media & Telecommunications),
Rajah & Tann Singapore LLP

³ The Law Society of England and Wales (2018). *Cybersecurity and Scam Prevention*.

⁴ Forbes (2020). *Roundup of Cybersecurity Forecasts and Market Estimates*.

⁵ Singapore Academy of Law (2019). *Study on Governing Law & Jurisdictional Choices in Cross-Border Transactions*.

⁶ Financial Times (2019). *China Belt and Road Disputes Set to Fuel Mediation's Global Rise*.

⁷ Exterro, ACEDS (2018). *In-House Benchmarking Report 2018*.

⁸ Susskind, Richard (2013). *Tomorrow's Lawyers: An Introduction to Your Future*.

⁹ Thomson Reuters (2019). *Report on the State of the Legal Market*.

¹⁰ Straits Times (2019). *US-China Trade Tensions Could Cause Split in Global Economy: PM Lee Hsien Loong*.

Ops-Tech Solutions

To meet the new challenges in legal demand, participants identified these technology solutions and operational changes that could be adopted by the industry.

FOR LAW FIRMS

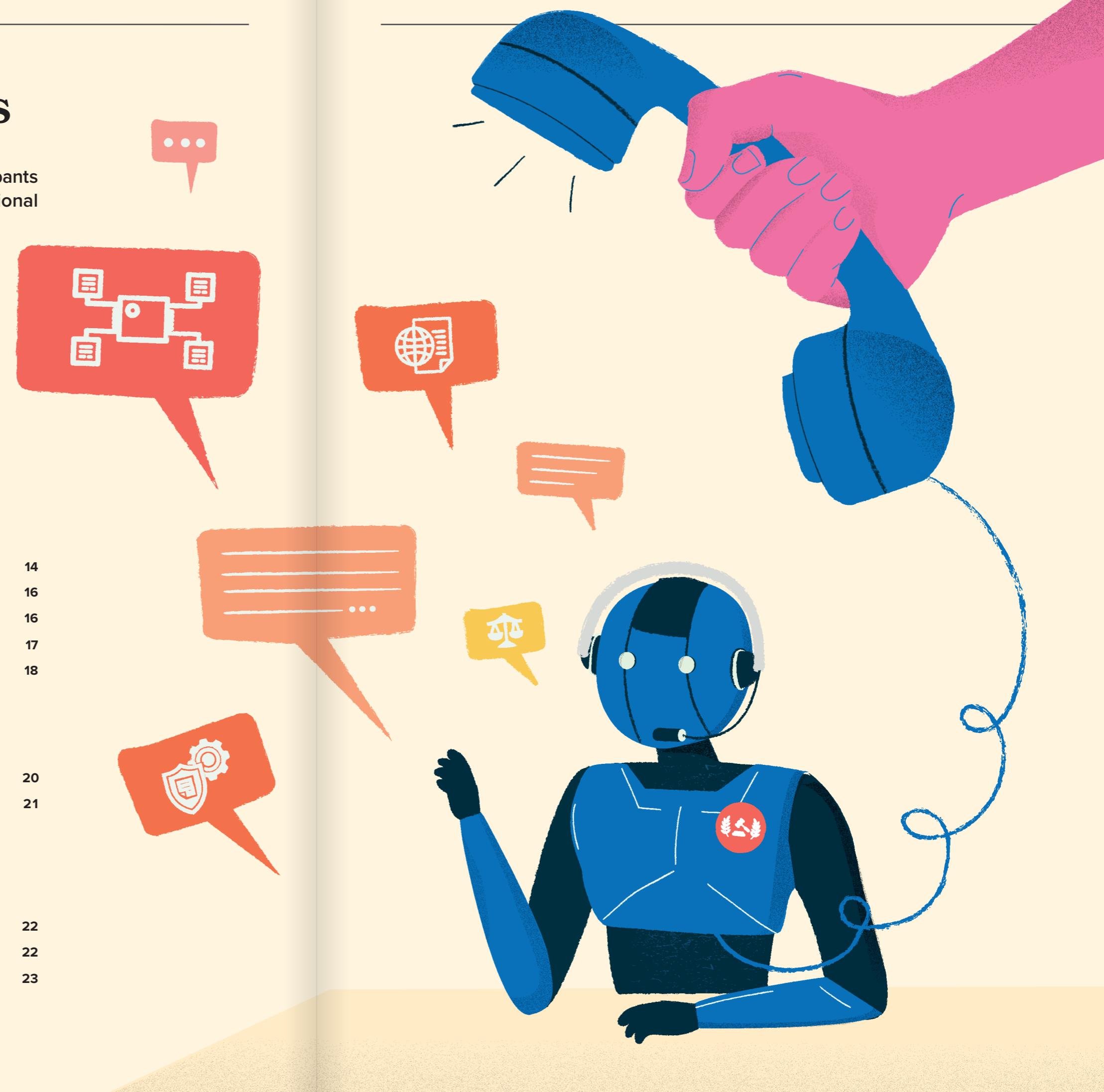
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• FOR LAW FIRMS

Basic LegalTech Solutions

Lawyers have to increasingly leverage basic LegalTech solutions to automate lower-value tasks, freeing up their time for higher-value activities. These baseline solutions are usually ready-made automation tools, off-the-shelf software that law firms can adopt with little or no customisation.

Basic LegalTech solutions come in **three** broad categories:

1

Enabler Technology

System-level technology that facilitates digitalisation throughout firms' operations.

EXAMPLE

DOCUMENT MANAGEMENT SYSTEMS

- Used to store, organise and manage legal documents
- Allows easy access and retrieval, and secure sharing
- Document types include emails, motions, orders, pleadings, complaints and contracts
- Streamlines law practices' daily work processes
- Uses a single system in a secure environment with performance transparency
- Manages records and files via centralised databases
- Monitors performance using analysis tools and reports
- Tracks billable hours and generates invoices
- Manages deadlines and appointments
- Tracks correspondence and manages contacts
- Some allow remote access to client matters

2

Back-Office Technology

Enhances efficiencies of back office functions.

EXAMPLE

PRACTICE MANAGEMENT SYSTEMS

- Streamlines law practices' daily work processes
- Uses a single system in a secure environment with performance transparency
- Manages records and files via centralised databases
- Monitors performance using analysis tools and reports
- Tracks billable hours and generates invoices
- Manages deadlines and appointments
- Tracks correspondence and manages contacts
- Some allow remote access to client matters

BENEFITS

- Automation tools help streamline daily legal rote work
- Reduces risk, time, effort and enhances compliance
- Frees up lawyers for higher-value work
- Ready-made, can be adopted with little or no customisation

Solution Examples

TESSARACT.IO

A collaborative platform that manages workflow, scheduling and billing of cases from initial execution to eventual completion.

[Learn more at tessaract.io](#)

CLIO

A cloud-based practice and case management solution and client intake and legal customer relationship management (CRM) software with mobile applications.

[Learn more at clio.com](#)

3

Front-Office Technology

Supports lawyers in the execution of rote legal tasks.

EXAMPLES

KNOWLEDGE MANAGEMENT SOLUTIONS

- Allows lawyers to harness previous legal research and documents
- Quickly and accurately searches the knowledge captured in client files to be repurposed
- Saves time on cross-referencing research of legal opinions provided in similar situations, legislation and other legal materials
- Helps lawyers work more efficiently as they can compare opinions provided in similar situations

DOCUMENT ASSEMBLY SOFTWARE

- Transforms frequently used documents and forms into templates for swift production of customised documentation
- Reduces risk, enhances compliance and improves operational efficiency via automation
- Gives law firms better control of the content
- Reduces time taken to produce documents

DOCUMENT REVIEW SOFTWARE

- Offers deeper insights into document reviews
- Uses pattern-recognition algorithms to discover anomalies within documents
- Uses advanced statistical probability analysis to assess risk within the document set and identify similar issues
- Learns and develops its capabilities, both autonomously and through interaction with the lawyer (supervised and unsupervised machine learning)
- Can load documents digitally, enable advanced search, recognise standard clauses, locate patterns from specific templates in isolated scenarios and identify clause-level differences

eDISCOVERY SOFTWARE

- Enables the process of discovery¹¹ to be carried out electronically
- Encompasses emails, instant messaging chats and databases
- Offers further insights and analysis by pulling information from massive volumes of case-related content
- Reduces time and effort in the review process
- Can remove duplicates, identify closely-related items, recognise spam and determine documents that are more likely to be relevant

Solution Examples

INTELLEX

Automates categorisation of a law firm's existing documents into a ready-to-use, easily searchable knowledge repository for reuse of legal research.

[Learn more at intellex.com](#)

HOTDOCS-LAWCLOUD

A cloud-based document assembly software with an in-built client-matter structure.

[Learn more at plus.lawnet.sg/legal-apps/hotdocs-law-cloud](#)

LITERA MICROSYSTEMS

A suite of document review and productivity applications. They include Contract Companion, a Microsoft Word toolbar that ensures documents meet quality standards; DocXtools, a robust way to help repair documents; and Clause Companion, a clause library for easy storage, retrieval and distribution of content.

[Learn more at litera.com](#)

¹¹ Discovery is a pre-trial procedure in a lawsuit. The procedure allows each party to obtain evidence from the other party through discovery devices such as interrogatories, requests for production of documents and requests for admissions and depositions.

• FOR LAW FIRMS

Asian LegalTech Solutions

Today, most LegalTech solutions remain focused on Western markets and laws. But as Asian nations and companies become increasingly prominent in the global economy, more LegalTech solutions will be developed to specifically serve the growing legal markets across Asia.

These solutions benefit law firms in **two** key areas:

LANGUAGE DIVERSITY

It can quickly and accurately translate and transcribe documents in different languages, or documents featuring multiple languages.

JURISDICTIONAL FLEXIBILITY

Certain legal concepts found in common law systems may not be relevant in civil law systems and vice versa. Effective Asian LegalTech solutions can navigate legal issues that differ between jurisdictions.

It will allow law firms to easily serve clients that have business in other jurisdictions, or clients from other jurisdictions interested in doing business locally.

BENEFITS

- Designed to meet specific legal demands of Asian businesses, in terms of language or jurisdiction
- Helps legal service providers serve a wider group of clients

Solution Example

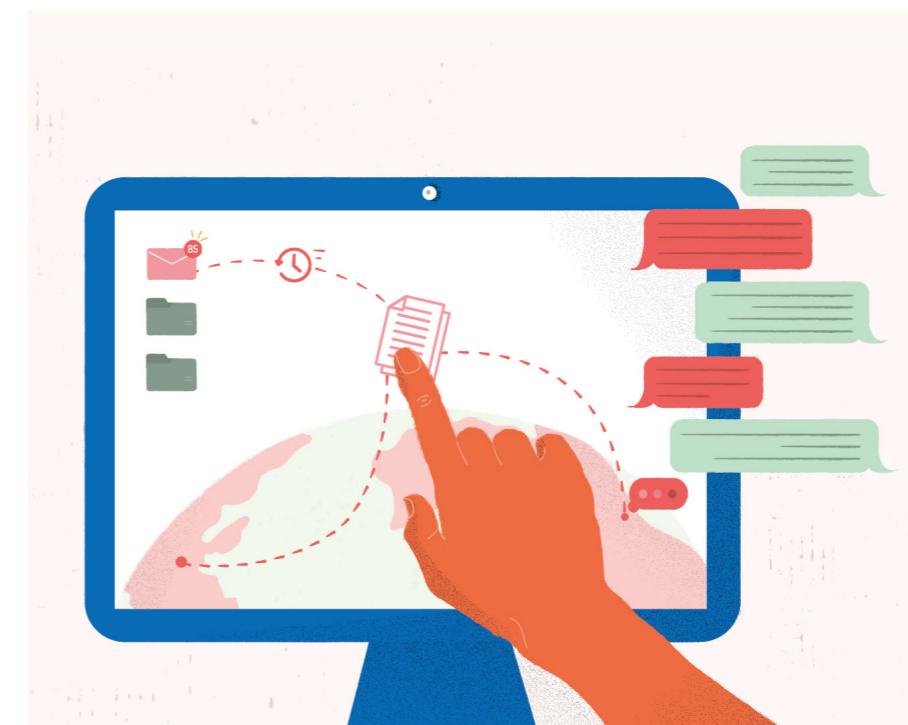
METASOTA

Developed for the Chinese market and designed for civil law systems, Metasota is a legal text translation tool for document drafting, intelligent search and document management.

[Learn more at metasota.ai](#)

• FOR LAW FIRMS

Advanced LegalTech Solutions



"This is an opportunity for lawyers to move up the value chain from client to developer. They can build LegalTech solutions internally and sell them externally."

Paul Neo,
Chief Operating Officer, SAL

• FOR LAW FIRMS

Legal Chatbots

Legal chatbots may serve as the frontline for law firms in the future, dispensing basic legal advice and directing work to the relevant professionals on a 24/7 basis.

They are usually AI-powered technologies that can:

- provide basic legal information
- compile information on the client's queries
- automate conversations with clients using natural language
- collect data
- arrange appointments
- generate emails using information captured in conversations
- provide detailed, extensive, on-demand coverage impossible for a human lawyer

Legal chatbots are already implemented in many areas:

Solution Examples

DONOTPAY CHATBOT

A robot lawyer that helps users:

- appeal parking tickets in any U.S. city
- get compensation for delayed flights
- sue in small claims court

[Learn more at donotpay.com](#)

VISABOT

An immigration robot that helps foreigners with U.S. Visa applications

LAWDROID

A personal assistant that helps lawyers schedule appointments, dictate notes and assign tasks.

- [Learn more at lawdroid.com](#)

BENEFITS

- Allows clients to quickly get basic information, 24/7
- Streamlines rote work for lawyers
- Frees them up to focus on higher-value tasks

"Technology can help deliver some basic services. For bespoke services, clients can approach law firms."

Loh Kia Meng,
Chief Operating Officer,
Dentons Rodyk & Davidson LLP

AUGMENT, NOT REPLACE

Beyond basic solutions, advanced LegalTech uses Artificial Intelligence (AI), big data, and blockchain to transform the way legal service providers work. They enhance the value of legal talent by reducing or eliminating rote tasks, freeing lawyers up for more valuable work that benefits greatly from human attention.

HELPING LAWYERS FOCUS ON WHAT MATTERS

A legal associate might have once had to spend hours proofreading a single contract. Now, that time can be reduced to minutes, even allowing the same associate to work on multiple contracts simultaneously. Such use of advanced LegalTech can expose them to a wider range of matters during their pivotal early years of practice and increase their familiarity with legal issues in preparation for partnership.

RESEARCH PROGRAMME IN COMPUTATIONAL LAW BY SMU & LEGALESE

A five-year research programme with the ambitious goal to represent law – be it contracts, regulations or business logic and processes – as code that computers can understand and reason over.

[Learn more at sis.smu.edu.sg/news/2020/apr/01/legalese-singaporean-start-partners-singapore-management-university-make](#)

SMART CONTRACTS

Blockchain technology can enable self-executing contracts, performing credible transactions without third parties. Smart contracts are a key focus of the Computational Law project.

ALREADY IMPLEMENTED BASIC LEGALTECH SOLUTIONS?

Law firms and in-house legal teams who have done so should maximise their advantage as an early adopter. They can consider establishing or participating in innovation labs or take up joint ventures with or invest in LegalTech startups and providers in order to co-develop LegalTech solutions.

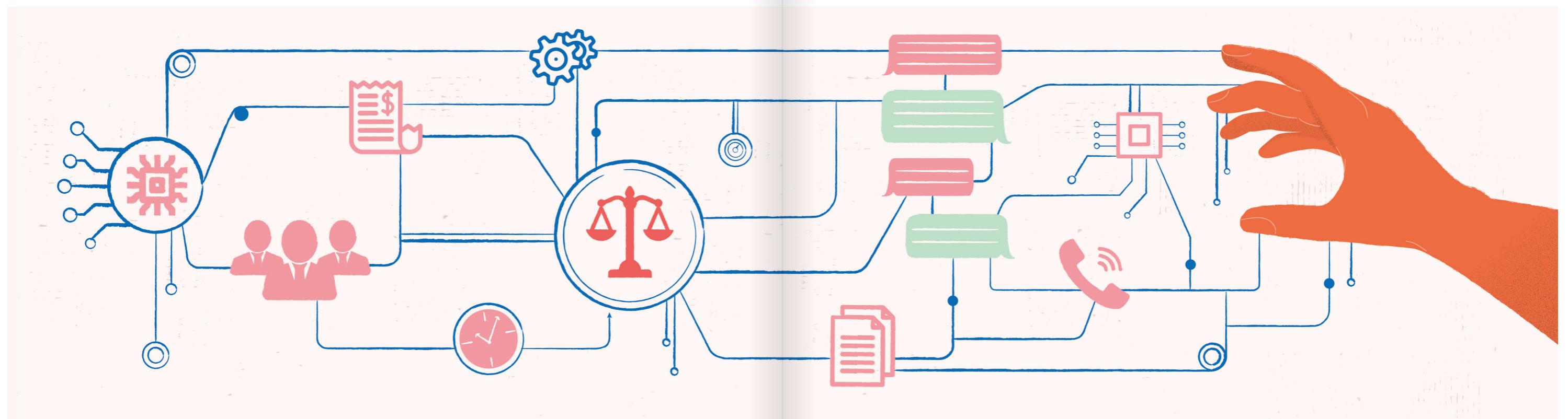
Some leading law firms and in-house legal departments have already embarked on this journey, reaping productivity rewards.

BENEFITS

- Can greatly enhance service delivery and turnaround time
- Helps lawyers perform better at or completely sidestep rote tasks
- Frees them up to focus on areas where they can add more value
- Early adoption and optimisation of these solutions can give law firms a long-term competitive advantage

- RELEVANT TO LAW FIRMS

E-Courts



By fully digitalising its systems and work processes, the Courts can deliver its services in new ways, providing new efficiencies and empower all members of the legal ecosystem.

Here are **four** examples:

SYSTEM INTEGRATION

Ensuring that E-Court tools are fully integrated with the IT systems used by law firms will make information machine-readable, rather than simply "digital" documents. This would enhance convenience of preparing for court processes and ensure end-to-end services (e.g. identity verification, document filing, mediation/negotiation, outcome predictors, billings and payments, etc.)

SPEECH-TO-TEXT

Adopting speech-to-text technology via Natural Language Processing and voice recognition will greatly improve real-time recording and transcription.

AI-POWERED DECISION-MAKING

Using AI to carry out risk assessments and outcome simulation can help litigants be more informed on possible outcomes of a case and serve as guidelines for judges, along with post-judgment deviation analysis.

MORE VIDEO USE

By expanding video conferencing to Court hearings and Court procedures (e.g. Pre-Trial Conference), it can:

- save solicitors' time
- reduce costs for litigants
- overcome social distancing barriers
- increase trust between lawyers and clients (compared to standard phone calls)

BENEFITS

- All information needed for court processes are transparent and can be easily, securely accessed
- Arbitration/mediation processes may become more convenient via video conferencing without the need for physical travel
- Saves time and legal costs in processes like document filing or billings and payments
- Easier and faster legal transcription
- AI can empower litigants and lawyers with new ways to present a case, assess risk and make decisions
- Cases can be filed, and mediation can be conducted entirely online

Solution Example

"WITNESS VISUALISATION"

In 2018, a Beijing courtroom utilised VR technology for a witness to recreate a crime scene, signalling a new avenue for lawyers to present evidence.

Online Dispute Resolution (DR)

As with E-Courts, DR institutions can leverage technology to extend the geographical reach of their services and enhance them for users. Such technology will prove especially useful with travel disruptions severely limiting the ability to conduct physical hearings.

Four examples from around the world:

VIRTUAL ARBITRATION / MEDIATION ROOMS

Remote arbitration hearings and mediation sessions (joint and caucuses) are held in real time through video conferencing, audio calls and messages.

ONLINE CASE MANAGEMENT SYSTEMS

Parties can file cases and make submissions entirely online. These systems are integrated with videoconferencing and chat rooms, etc.

TRANSCRIPTION & TRANSLATION

Online hearings are translated and transcribed in real time.

AUTOMATED NEGOTIATION

Negotiation and settlement for simple disputes are facilitated between parties without the need for human intervention.

The Singapore Academy of Law has embarked on a pilot to automate and bring online the process of filing and case management of adjudication at the Singapore Mediation Centre. They will look to do the same for mediation and over time, drive online resolution for low-value, high-volume disputes.

Dispute resolution is already happening on a global scale within e-commerce marketplaces, such as when a company handles consumer disputes internally. Online dispute resolution will become more prominent and will shape legal demand."

Michael Lees,
Head (Legal Technology & Innovation Office),
Attorney-General's Chambers

• FOR IN-HOUSE LEGAL

In-House LegalTech Solutions

To cope with heavier workloads, in-house legal departments may also turn to LegalTech solutions to improve efficiency.

A 2018 LawSoc survey¹² of in-house lawyers found that:

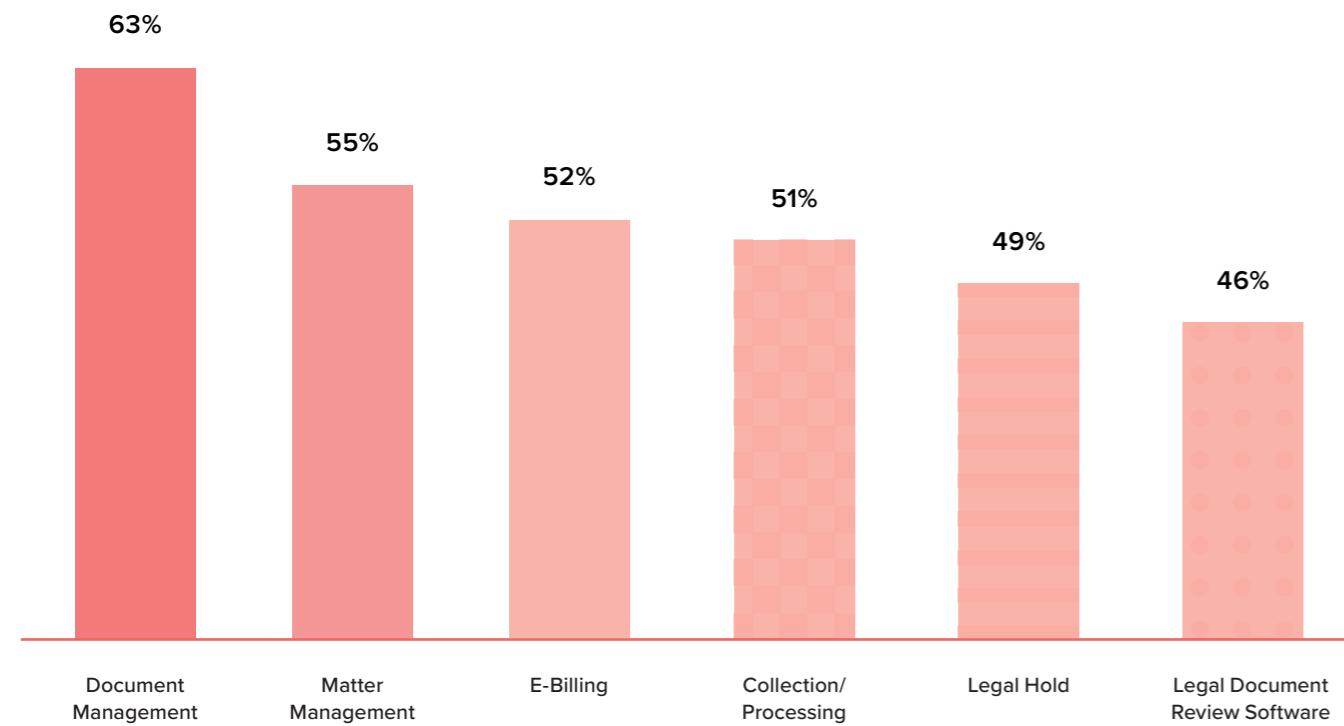
33%

were already using LegalTech solutions

59%

planned to implement new technologies in the near future

COMMON LEGALTECH TOOLS ADOPTED BY IN-HOUSE LEGAL DEPARTMENTS¹³:



BENEFITS

- In-house LegalTech solutions can help in-house legal departments cope with heavy workloads and limited resources
- In-house legal departments can better manage their workflows and the performance of their external counsel

Solution Example

COUNSELLINK BY LEXISNEXIS

A matter management software solution that helps in-house legal departments manage and track billings, correspondence, and performance of their external counsel.

Learn more at counselink.com

• FOR IN-HOUSE LEGAL

Legal Operations

Restructuring Workflow

More in-house legal teams are creating dedicated legal operations roles to drive internal change management, manage the company's relationship with legal service providers, and implement new technology. Such roles do not require legal training and usually cover these areas¹⁴:

47%

of chief legal officers had at least one dedicated legal operations staff in 2018

(up from 21% in 2014)¹⁵.

STRATEGIC

- Working with general counsel to formulate and drive team's vision
- Create and monitor KPIs
- Manage talent pipelines
- Develop strategic plans to guide in-house legal team

FINANCIAL

- Manage the finances and external spending
- Create and monitor budgets
- Implement e-Billing systems
- Financial reporting

TECHNOLOGICAL

- Implement and manage LegalTech platforms
- Analyse legal data and metrics to derive insights for the team

OPERATIONAL

- Scheduling and staffing
- Regulatory compliance
- Contract management

Empowering In-House Lawyers

Such roles strengthen the capabilities of internal legal operations to perform high-volume, basic in-house legal work, freeing up the time of in-house lawyers for higher-value, niche legal work.

More Efficient Staffing

Such roles also create opportunities to bring in specific expertise needed to augment operations, such as accounting professionals to perform financial work, or technology experts to work on LegalTech. This can not only reduce costs, but also improve service quality.

BENEFITS

- In-house counsel's time is freed up to perform higher-value work
- Resources are freed up to bring in niche expertise to further augment the capabilities of the in-house legal team
- Can reduce costs and improve overall service quality

12 Law Society of Singapore (2019). Legal Technology in Singapore – 2018 Survey of Legal Practitioners.

13 Exterro, ACEDS, In The House (2019). In-House Benchmarking Report 2019.

14 Sterling Miller in Thomson Reuters Legal (2019). Legal Operations: Change How Your Law Department Works.

15 Association of Corporate Counsel (2019). ACC Chief Legal Officers 2018 Survey.

• FOR LAW FIRMS & IN-HOUSE LEGAL

Legal Cybersecurity Solutions

This was the ops-tech solution that participants deemed most crucial to the success and viability of the legal industry. It is also the most readily adoptable branch of solutions for legal practices.

NECESSARY UPGRADES

As data becomes increasingly valuable, law firms have to adopt increasingly sophisticated cybersecurity solutions.

“Law firms hold increasingly important data. Yet, their capabilities to handle cyber-threats is disproportionate.”

Lam Chee Kin,
Managing Director & Head
(Group Compliance), DBS

BENEFITS

- Protects client data in a time when data is increasingly valuable yet vulnerable
- Especially important due to less secure home networks (and more remote working arrangements)
- Adoption of industry-trusted solutions can help attract and assure clients
- Shared guidelines can create a measurable industry standard on cybersecurity and empower law firms to be accountable

INTERNAL PRACTICES

On top of trusted solutions, cybersecurity readiness requires implementation of:

- best practices in areas such as data-management and use of software and hardware infocomm technologies
- relevant cybersecurity training for lawyers and law firm staff
- robust cyber-hygiene guidelines and policies

• FOR LAW FIRMS & IN-HOUSE LEGAL

Alternative Legal Service Providers (ALSPs)

ON THE RISE

With growing demand for legal services, ALSPs will only continue to increase their market share. However, traditional law firms can still benefit.

A COST-EFFICIENT SOLUTION

Law firms and their employees will realistically need time to adopt LegalTech and adjust to its implementation before reaping the full rewards. In the meantime, it may prove cost-efficient to outsource certain high-volume, low-value work to ALSPs.

US\$10.7B

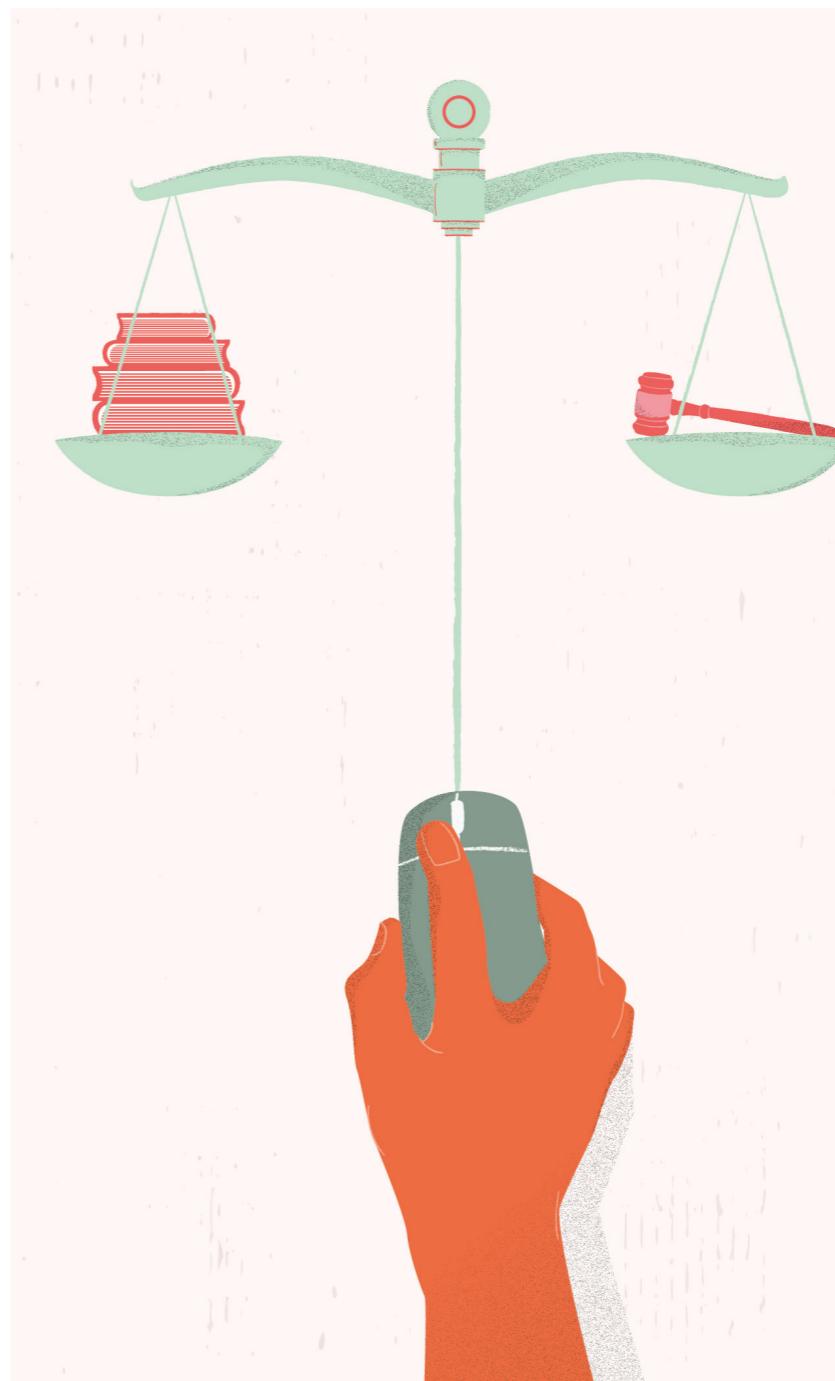
Revenue generated in 2018 by multi-disciplinary practices such as Consilio, Axiom, Rocket Lawyer, Thomson Reuters Legal Managed Services and Cobra Legal Solutions.

BENEFITS

- Outsourcing helps traditional law firms to be more cost-efficient
- Players who offer multi-disciplinary services have plenty of growth opportunities

• FOR LAW FIRMS & IN-HOUSE LEGAL

Core of Tech-Ready Lawyers



Professionals in the legal sector, whether legally trained or not, must be familiar with technology and be ready to adopt and implement LegalTech in their daily back-room operations and front-end services to clients.

BENEFITS

- Tech-ready lawyers will be able to smoothly transit into any tech-driven environment and hit the ground running
- Non-legally trained professionals can play a huge role in helping their law firms adopt and reap the benefits of LegalTech solutions

“We need lawyers who know the business and industry, who can spot and manage legal and non-legal issues today and anticipate the issues and trends of the future.”

Tan Hsiang Yue,
Coordinator for Commercial,
Operations & Legal, ExxonMobil

Government Support

Law firms, legal professionals and the industry will get support from a wide range of initiatives to be rolled out over the next two years, to help them develop and adopt relevant ops-tech solutions.

More details on each initiative will be progressively released following the launch of this report.

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• FOR LAW FIRMS

LegalTech Adoption Support

Entry Funding

1

Defraying the high initial cost of LegalTech adoption.

2

Bridging the knowledge gap by providing a curated list of tried-and-tested solutions and vendors.

2016 2018 2020 2021

2017

2019

Tech Start for Law

- By MinLaw, LawSoc and SPRING (Now Enterprise Singapore, or ESG)
- **S\$2.8M** of funding support
- Qualified Singapore Law Practices (SLPs) were funded for up to 70% of their first-year implementation cost
- Three solution categories
- 143 solutions successfully adopted in total by 115 SLPs

Learn more at

ipi.lawsociety.org.sg/tech-start-for-law/

Tech-celebrate for Law

"TECH START FOR LAW 2.0"

- By MinLaw, LawSoc, ESG and Infocomm Media Development Authority (IMDA)
- **S\$3.68M** of funding support
- Qualified SLPs are funded for up to 80%¹⁶ of their first-year implementation costs
- **Seven solution categories**
- **Added 16 pre-approved Legal Techsolutions** to the existing pool (baseline and advanced)
- **Programme is ongoing:**
The application deadline has been extended to January 2021 from May 2020
- SLPs can apply now at
ipi.lawsociety.org.sg/tech-celebrate-for-law

Learn more at

ipi.lawsociety.org.sg/tech-celebrate-for-law-pre-approved-vendors-solutions/

Operational Support

LONGER-TERM FUNDING AND UPDATED CURATION

MinLaw will work with relevant partner agencies to:

- continue curating and updating the list of LegalTech solutions based on changing needs of law firms and new developments in LegalTech software
- earmark additional funds to support law firms in LegalTech adoption

LEGAL INDUSTRY DIGITAL PLAN

In the next stage of the LegalTech programme, MinLaw will work with the IMDA and industry partners to develop a Legal Industry Digital Plan (IDP).

The IDP provides a step-by-step guide for law firms to assess their digital readiness and identify digital solutions to adopt at each stage of their growth. The IDP may include a Digital Training Roadmap to meet the needs of legal professionals performing redesigned job roles in a digital work environment.

AGGREGATION PLATFORM

Law firms can expect lower barriers to entry for LegalTech adoption.

MinLaw will work with relevant partners (e.g. SAL) and agencies to explore the possibility of an affordable and secure cloud-based platform for LegalTech. This platform could aggregate plug-and-play solutions, making it convenient for law firms to find and adopt the right software.

What Will This Platform Do?

It can help law firms:

- manage core services for high productivity, security and interoperability
- set up and coordinate workflows and data
- provide service bundles by practice areas
- free lawyers up to focus on clients
- discover, test or even build and sell products and services via developer- and integration-friendly APIs
- function as a trusted LegalTech marketplace

Support in Dispute Resolution (DR)

DR institutions will receive knowledge and infrastructural support from MinLaw to:

- implement end-to-end digitalisation of DR processes
- co-create front-end and back-end LegalTech solutions to enhance DR services
- consider cybersecurity and other requirements



• FOR LAW FIRMS

Cybersecurity Framework

There will be regular updates on the latest software to adopt and recommended training programmes for employees to enhance cybersecurity readiness.

BEST PRACTICES

LawSoc has launched a cybersecurity guide, covering best practices for key areas such as:

- governance
- asset management
- computing devices and networks
- data security
- accessing data

Learn more at

lawsociety.org.sg/wp-content/uploads/2020/03/Guide-to-Cybersecurity.pdf

• FOR LAW FIRMS

AI Adoption Framework

AUGMENTING EMPLOYEES' CAPACITY WITH AI

Law firms that are deploying AI can look out for an upcoming guide by IMDA and the Lee Kuan Yew Centre for Innovative Cities (Singapore University of Technology and Design) supported by MinLaw.

The guide aims to assist organisations (such as law firms) using AI, to prepare their employees for the future of work through work redesign, reskilling and upskilling.

DEPLOYING AI RESPONSIBLY

Law firms looking to implement AI can adopt and benefit from the Model AI Governance Framework and accompanying initiatives by the IMDA and Personal Data Protection Commission (PDPC).

The framework guides organisations on how to deploy AI responsibly, and translates high-level principles into practical measures that apply to common AI deployment processes.

Learn more at

imda.gov.sg/AI

• FOR CURRENT AND PROSPECTIVE LEGAL PROFESSIONALS

Skills Identification & Building

Through various stakeholders, there is a comprehensive, forward-looking jobs and skills framework for legal professionals to continually identify the new skills they need to thrive and how to acquire them.

LIFTED FRAMEWORK

Since 2016, SAL has developed a **Legal Industry Framework for Training and Education (“LIFTED Framework”)** for legal professionals. Developed in consultation with the industry, the framework covers a range of domains such as technical lawyering, inter-intrapersonal skills and technology. Legal professionals can easily identify the type of training they must undertake to strengthen their competencies.

SAL will periodically review and update the LIFTED framework, taking into account evolving competencies and skillsets required. This framework can also provide guidance in developing relevant training programmes.

Learn more at

sal.org.sg/Resources-Tools/Legal-Education-LIFTED/Learning-Professional-Development



• FOR IN-HOUSE LEGAL

LegalTech Adoption Support (In-House)

Recognising differences in size, structure, job scopes and business practices between private practice and in-house, MinLaw will work closely with the in-house legal community and other relevant industry partners to support in-house legal teams in the initial adoption of LegalTech.

Details of these initiatives will be shared in **2021**.

They can look forward to initiatives in key areas:

- Tools to help in-house legal teams restructure their workflow and identify the most suitable LegalTech solutions for their needs
- A curated list of basic LegalTech solutions most suitable for in-house legal teams in Singapore

DATA AND DIGITAL ECONOMY SPECIALIST ACCREDITATION

SAL is exploring the launch of a new practice area on Data and Digital Economy (D2E) law as part of its Specialist Accreditation Scheme. The D2E accreditation will seek to recognise legal practitioners and in-house counsel who have gained substantial expertise in this practice area as well as provide a pathway for junior lawyers who wish to specialise in it. Further details will be announced by SAL.

IMPROVING PROGRAMME ACCESSIBILITY

MinLaw will continue to work with programme developers and training providers such as SAL and LawSoc to provide legal professionals with:

- curated, refreshed upskilling and reskilling programmes
- SkillsFuture support for these programmes

INCENTIVISING PERSONAL UPGRADING

Legal professionals will be able to count LegalTech upskilling programmes as part of their Continuing Professional Development (CPD). MinLaw will work closely with the Singapore Institute of Legal Education (SILE) to review and recognise the relevant programmes.

• FOR CURRENT AND PROSPECTIVE
LEGAL PROFESSIONALS

Legal Education Reforms

To provide legal employers with a quality pool of tech-ready lawyers in the long-term, more will be done to further infuse technology into the law school curriculum. This will better equip law graduates with relevant digital skills, and seed progressive mindsets that embrace technology.

There are already strong efforts within tertiary institutions here:

CROSS-DISCIPLINARY CURRICULUM

NUS has in place three relevant minors in Business Analytics, Computer Science, and Information Systems that law students can complete; students may also pursue electives from other faculties.

SMU has also recently introduced a university-wide core curriculum, including mandatory technology primers for law students. For students desiring deeper interdisciplinary study, SMU has also recently launched a BSc in Computing & Law.

INDUSTRY PARTNERSHIPS

NUS is exploring collaboration opportunities with industry partners such as Clifford Chance.

Through the Centre for Computational Law, SMU has partnered with the Supreme Court to develop new access-to-justice models aided by technology. SMU has also partnered with SAL's Future Law Innovation Programme (FLIP) to provide research and teaching opportunities. Such partnerships will help expand the scope of LegalTech application.

RESEARCH CAPABILITIES

NUS has established a Centre for Technology, Robotics, Artificial Intelligence and the Law (TRAIL).

SMU has also set up two law and technology centres: the Centre for AI & Data Governance and the Centre for Computational Law. Such research helps deepen understanding of technology and its possibilities.

• FOR THE LEGAL INDUSTRY

LegalTech Development

Becoming a Global LegalTech Hub

CURRENT INITIATIVES

There is presently a range of initiatives, workshops, technology demos and conferences to build Singapore's global branding as a LegalTech hub.

TechLaw.Fest

An annual event held in collaboration with SAL that brings together the international community to debate, deliberate, act and innovate in both the law of technology (policies, regulations, legislation, case law and governance) and the technology of law (infrastructure, business transformation and people development).

[Learn more at techlawfest.com](http://techlawfest.com)

Future Law Innovation Programme (FLIP) by SAL

An industry-wide initiative to drive innovation and encourage adoption and invention of new technology amongst law firms, legal departments and LegalTech startups in Singapore.

[Learn more at flip.org.sg](http://flip.org.sg)

FUTURE PLANS

MinLaw will work with the Economic Development Board (EDB) and ESG to step up efforts to create innovation hubs by attracting leading global law firms and LegalTech firms to establish operations in Singapore. It will also work to:

- attract more accelerators and incubators
- foster collaborations between Singapore based law firms with global LegalTech firms or local LegalTech startups

Becoming Asia's LegalTech R&D Anchor

R&D COLLABORATION PLATFORM

To capture more opportunities within Asia, MinLaw is working with local research institutions and Singapore-based law firms to identify suitable industry-level problem statements that could be addressed through joint research collaborations.

PUSH FOR MARKETABLE INNOVATION

More R&D activities will be anchored in Singapore to:

- build up Singapore's base of expertise in developing LegalTech solutions
- help catalyse innovation in technology and service delivery in the legal ecosystem
- ensure a strong and steady pipeline of new products designed and customised for the Singapore, ASEAN and wider Asian markets.

• FOR THE LEGAL INDUSTRY

Regulatory Reforms

MinLaw recognises that regulatory reform may be needed to support law firms and legal service providers in carrying out successful and effective LegalTech adoption. MinLaw will regularly review the regulatory regime and existing legislative framework to ensure that it is sufficiently flexible to permit technology adoption, while adequately safeguarding the interests of users.

What to Expect Following This Report

This TIR report is intended to provide the industry with a broad, first-hand look at the range of initiatives that will be instituted to support the legal industry in its adoption and development of LegalTech from now till 2030.

MinLaw will roll out the initiatives contained here over the next two years. Dates and details will be progressively announced.



Workshop Participants

The Professional Services Programme Office sincerely thanks the following participants¹⁷ for sharing their time, expertise and insight to make this roadmap and report possible:

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7. Celia Sia	Singapore Economic Development Board	Director (Hub Services)
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¹⁷ List is arranged in alphabetical order of participants' names. All information is accurate at the time of publication.

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32. Joel Cheang	Linklaters Singapore Pte Ltd	Managing Associate
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55. Lynn Soh	Eng & Co. LLC	Partner
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68. Robert Tay	Infocomm Media Development Authority	Director (Modern Services)
69. Saswata Mukherjee	Unilever Singapore	General Counsel (M'sia, S'pore, Myanmar, Cambodia and Laos & M&A-SEA & Australasia)
70. Serene Wee	Singapore Academy of Law	Chief Executive Officer
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The mission of the Singapore Ministry of Law (MinLaw) is to advance access to justice, the rule of law, the economy and society through policy, law and services.

MinLaw drives legal reforms, oversees the policy for development, promotion and regulation of Singapore's legal sector, and advances Singapore's national interests through international legal policy and cooperation.

In addition, MinLaw regulates moneylending and pawnbroking, licences law practices, registers foreign-qualified legal practitioners, supervises precious stones and metal dealers, and provides community legal services such as legal aid, community mediation, insolvency administration, and public trustee services.

MinLaw also oversees land policy and administration, and the development of Singapore's intellectual property sector supported by its statutory boards.

For more information, please visit MinLaw's website at
mlaw.gov.sg

