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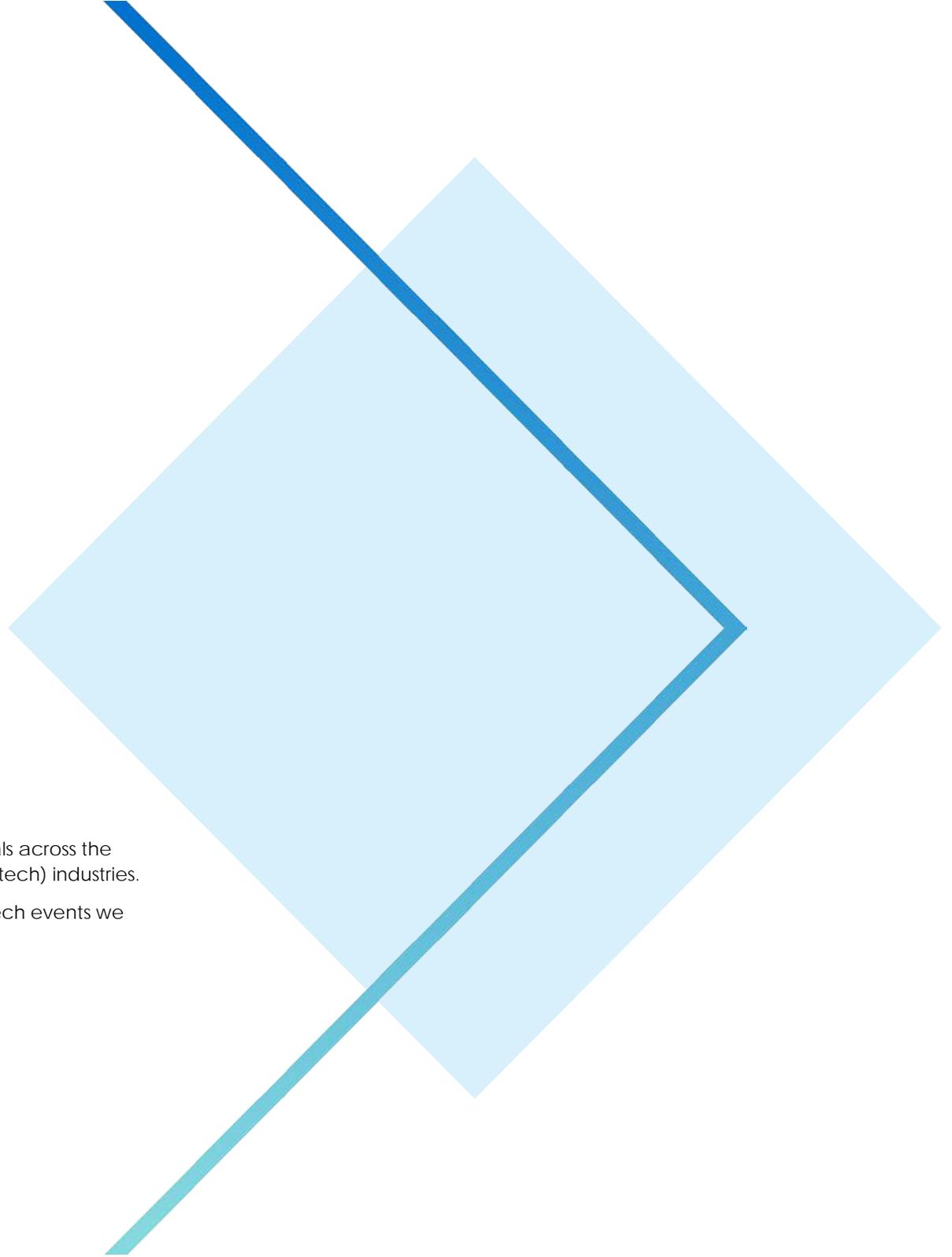
ASIC's regtech initiatives 2019–20

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About this report

This report is for representatives, service providers, and professionals across the regulatory technology (regtech) and supervisory technology (suptech) industries.

It summarises the regtech initiatives ASIC undertook and the regtech events we held during the 2019–20 financial year.



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About ASIC regulatory documents

In administering legislation ASIC issues the following types of regulatory documents: consultation papers, regulatory guides, information sheets and reports.

Disclaimer

This report does not constitute legal advice. We encourage you to seek your own professional advice to find out how the Corporations Act and other applicable laws apply to you, as it is your responsibility to determine your obligations. Examples in this report are purely for illustration; they are not exhaustive and are not intended to impose or imply particular rules or requirements.

Executive summary

Regtech is developing in speed, size and capability

We consider that regulatory technology (regtech) has significant potential to help businesses enhance their risk management and compliance activities. These enhancements will help deliver ‘compliance by design’ business models, as well as better consumer and market integrity outcomes. See, for example, the Productivity Commission’s information paper [Regulatory technology](#), published on 9 October 2020.

Regtech is not new. It has been used in financial markets and services for some time. However, the nature and scale of the risk management and compliance problems that could be solved using advanced regtech applications has grown significantly. For example, machine learning and big data applications could deal with conduct-of-business problems at a speed, and with a capability of analysis, that we could not have envisaged in recent years.

We also note that the Australian regtech sector has developed into one of the world leaders for the concentration of regtech businesses: see Boston Consulting Group and RegTech Association, [Australia’s global RegTech hub poised for growth: A perspective on supporting the local RegTech sector to scale](#), 27 October 2020.

Our 2019–20 regtech initiatives were impacted by the COVID-19 pandemic

On 7 August 2018, ASIC received funding from the Australian Government to help promote Australia as a leader in the development and adoption of regtech. As part of that goal, we developed a series of regtech initiatives that commenced in the 2018–19 financial year. This first set of initiatives showcased how businesses could use regtech solutions to deal with a range of compliance issues. Our aim was to promote better outcomes for consumers and market integrity. For the findings from this first series, see [Report 653 ASIC's regtech initiatives 2018–19](#) (REP 653).

The COVID-19 pandemic affected our proposed 2019–20 regtech initiatives. We suspended a range of public showcases and regtech research initiatives, as we wanted to limit the demands on businesses as they handled the impact of COVID-19. In place of these suspended initiatives, we designed a small number of internal regtech (otherwise known as supervisory technology or 'suptech') initiatives.

Note: See the [ASIC regtech initiative series 2019–20 page](#) on the ASIC website.

We hosted two public regtech initiatives in 2019–20:

- › **Regtech remote services and supervision webinar (14 July 2020)** – A public information session. Its aim was to highlight the ability of regtech to contribute to the monitoring and compliance of financial services, as well as the remote supervision of staff.
- › **Regtech lending demonstration and webinar (20 August 2020)** – A public problem-solving event. We prepared a curated, synthetic dataset for selected regtech providers to use, to demonstrate how artificial intelligence and machine learning can be used to support good lending practices.

We undertook five suptech initiatives in 2019–20:

- › **Financial promotions tool trial – COVID-19 response** – A trial with a regtech business. The business used machine-learning capabilities to help ASIC identify potential misconduct in financial services promotions that targeted vulnerable consumers.
- › **Voice analytics framework** – We engaged a regtech consultancy firm to deliver an organisation-wide voice analytics operational framework. The purpose of the framework is to guide our supervisory and investigative projects that involve audio file reviews.
- › **Data automation and process workflow trial** – A proof-of-concept project seeking productivity improvements for our Licensing and Misconduct and Breach Reporting teams. The project aimed to do this by automating data flows and reporting of matters of interest.
- › **Natural language processing prospectus project** – A first-phase application of natural language processing to extract core prospectus information for supervisory analysis.
- › **Enhanced evidence document score project** – We engaged regtech consultants with a deep understanding of the analytics capabilities of ASIC's evidence document system (Ringtail). The specialist consultants developed an enhanced evidence score capability, which they trialled on live investigations.

The results from our initiatives show regtech's potential capability

The regtech initiatives we conducted in 2019–20 continued to show what regtech is capable of achieving. It is particularly useful for identifying and, in some cases, assessing indicators of concerning conduct or activities by financial businesses.

Specific findings from the 2019–20 regtech initiatives include:

- › **Businesses need to plan for a distributed workforce** – This should be a longer term plan. The plan should include reviewing, testing and upgrading the business's governance plan, risk-management monitoring and assessment plans, and business continuity plan.
- › **Good data management is fundamental** – Regtech can strengthen supervision through enhanced data analytics. This underscores the importance of good data governance, data strategies and skilled, data-literate staff.
- › **There are opportunities to use alternative datasets** – Participants in the responsible lending demonstration showed that there were opportunities to use alternative datasets in credit underwriting. For example, for borrowers with limited transactional data or complex situations.
- › **Subject matter experts need to be involved** – Regtech solutions cannot be effectively delivered without collaboration between machine learning experts and subject matter experts. For example, subjective legal tests need to be broken down into a series of rules.
- › **There are opportunities to check and digitise information** – Regtech can help with electronic proof of income, digitising content and

application programming interfaces (APIs) for alternative datasets and data mapping.

- › **Suptech has the potential to improve supervision and investigations** – Our suptech initiatives tested automation, text analytics, voice analytics and enhanced data search capabilities. In the near term, we may put some of these trial applications in production as part of ASIC's operations.

Observations from attendees and participants were positive, but pointed to areas for improvement

Observations from attendees and participants for this year's public regtech initiatives include:

- › **Regtech has a vital role in financial services** – Regtech solutions can provide tailored risk management and compliance functionality for firms of any size.
- › **Regtech provides efficiencies in costs, time, and resourcing** – Regtech can process voluminous and repetitive data with greater efficiencies in both scale and data variety, with higher accuracy in results.
- › **Consumers expect more from the lending process** – Consumers expect a seamless, straightforward lending application process. They demand the use of digital assisted and/or enabled mortgage processes and management.
- › **The law should be modernised** – There is an opportunity to modernise corporate and financial services laws by recognising the delivery of outcomes in a digital and remote environment.

- › **Human supervision and iteration are still critical** – While regtech applications have can bring cost and time savings, human review and input is still critical. Humans must develop the rules, review the results and analyse the outlier or high-risk incidences.

ASIC's future approach to regtech

We are committed to the continued promotion of regtech and its use by financial firms. We consider that it can deliver better consumer and market integrity outcomes.

Australia is seen as a world-leading regtech jurisdiction. We are keen to continue to collaborate with industry and other regulators to enhance regtech applications for risk management and compliance at scale. Without special budget funding for regtech, we will continue our industry engagement in the 2020–21 financial year. We will host our quarterly Regtech Liaison Forum and further problem-related webinars.

 **Regtech carries with it the capacity to improve outcomes for a wide cross-section of stakeholders.**

Commissioner Sean Hughes, Opening statement to the Regtech responsible lending demonstration and webinar, 20 August 2020

We suspended several planned 2019–20 regtech initiatives

We suspended several planned regtech initiatives in 2019–20 due to the COVID-19 pandemic:

- › **Digital record keeping of financial services** – Proposed research into financial services providers' current and potential future digital record-keeping practices. We planned to release our findings as a report.
- › **Digital financial reporting of public companies** – A proposed public event promoting the benefits of adopting digital and structured data financial reporting.
- › **Non-financial risk tools and applications for use by boards and executives** – A proposed public problem-solving event with selected regtech providers. We also intended to host a panel discussion on the potential for regtech to help boards and senior executives identify and oversee non-financial risk.

We will consider future opportunities to undertake these proposed regtech initiatives.

Regtech remote services and supervision webinar

Event overview (virtual, 14 July 2020)

This was a webinar discussion between industry, regulators and guests. The panel included representatives from ANZ, Computershare, IAG, and JP Morgan. It was conducted virtually to a global audience. It highlighted regtech's potential to support the provision and supervision of financial services while many staff work remotely as a result of the COVID-19 pandemic.

Note: For the event recording, see the [Regtech remote services and supervision webinar page](#) on the ASIC website.

Remote environments call for new working methods

The webinar focused on how businesses had to rapidly pivot to a remote work environment. This tested organisations' business continuity plans, technology ecosystems and business practice management. Organisations had to identify, develop and implement strategies to support staff working under a variety of remote conditions, balancing the delivery of services with staff wellbeing.

Successful remote services require investment in technology, data and people

The expert industry panel uncovered similar trends throughout their adaptation to new working models. Key themes from the discussion included:

- › **Effective communication** – The ability to quickly change to a virtual or hybrid model for staff and customers is based on effectively communicating changes. Businesses must maintain a range of engagement channels with major stakeholders.
- › **Continued investment in technology** – Businesses with a pattern of continued investment in technology were able to adapt to new working methods with greater agility. Many firms looked to digitise their processes, with a particular focus on supply chains. One organisation advised that they had reduced their printer footprint by 65–90% during 2020. Digital and multi-channel service provision improved communication for staff, clients and suppliers.
- › **Capitalising on data** – The impact of COVID-19 has provided many opportunities for enhanced analytics. Data strategies and data literacy were critical for good governance. One firm advised looking at non-traditional data sources. For example, workforce movement data (exit and entry patterns) helped inform their COVID-19 safety strategies, and also provided important information for staff wellbeing check-ins.

- › **Investing in people** – All panellists agreed people were still the key for successful change management. Flexibility in balancing ways of working with wellbeing had a positive impact on corporate culture and service delivery. Financial services firms required the adaptation of existing controls to ensure monitoring of staff continued adequately. This was essential in the remote working environment, although some firms confirmed their essential staff continued to work from offices.

Industry and government must change to respond to changes in the work environment

The webinar provided valuable insights into responses by industry to changes in the work environment.

There are opportunities to modernise corporate and financial services laws to recognise the delivery of outcomes in a digital and remote environment. Additionally, consumers and end-users have a heightened expectation for collaboration with Government, regulators and industry in policy measures and regulatory approaches.

The environment within which businesses operate has been changed forever by COVID-19. Essential services that are usually outsourced or offshored need to be reviewed for delivery locally or in house. Businesses will need to accelerate the adoption of flexible work environments, cross-functional teams and dynamic management responses.

Lastly, continued business investment in technology is fundamental to a firm's resilience.

“ Meanwhile, a third of staff expect to spend less time in an office environment, opting for a hybrid model instead.

Commissioner Cathie Armour, Opening statement to Regtech remote services and supervision webinar, 14 July 2020

Regtech good lending practice – demonstration and webinar

Event overview (virtual, 20 August 2020)

We designed a public problem-solving event focused on good lending practices. This was done to promote financial services organisations developing and using regtech solutions to deliver better business risk management and positive consumer outcomes.

Through a selection process, we chose three regtech firms to demonstrate their technical solutions: Skilful Analytics, enteruptors and Advice RegTech. Following their presentations, an industry panel discussion took place, with representatives from Latitude Financial Services, Loan Market Group, K&L Gates and Citigroup. The panel shared their experience and views on using regtech to fulfil responsible lending obligations.

Note: For the event recording, images, presentations, notes and trial reports, see the [Regtech responsible lending demonstration and webinar page](#) on the ASIC website.

Regtech solutions for good lending practices

The problem statement objective was to showcase and discuss regtech solutions that can analyse the contents of a consumer loan file. The purpose of using regtech solutions was to ensure and enhance compliance with good lending practices, as required by the lender or the law.

Tailor-made synthetic dataset

We provided a tailor-made dataset made up of 20 synthetic consumer loan files. The files were for different credit products, including home loans, unsecured personal loans and secured car loans. Each consumer loan file contained sample documents that a credit licensee might compile in the process of making a loan. The dataset contained a loan application form, file notes, income verification documents (such as payslips), expense verification documents (such as tenancy agreements), serviceability calculations and final assessments.

Each consumer loan file also contained six months' worth of banking transaction data, compliant with Australian Competition and Consumer Commission's (ACCC) [Consumer Data Standards](#). This enabled demonstrators to explore the potential benefits of open banking in the context of good lending practices. Various deficiencies were included in each consumer loan file, such as missing or incomplete documents, or inconsistent information across different documents. The dataset we provided to demonstrators does not consider the impact of COVID-19, and solutions that are tailored specifically to the pandemic were outside the scope of the event.

All demonstrators were encouraged to draw on public or third-party data in developing their solutions. We have made our [original dataset](#) available for public use as a testing dataset.

Regtech can bring efficiencies to good lending practices, but needs human input

Some of the challenges identified include:

- › **Lack of subject matter expertise** – Risk identification is only as good as the rules being built. To successfully curate key risk indicators, or refine analytics engines, collaboration with subject matter experts is crucial.
- › **Limited sample sizes and availability of data** – As the synthetic dataset consisted of only 20 files, it was limited in size and could not provide the opportunity for training machine learning technologies. In addition, loan portfolio data is not readily or widely available for the purposes of testing or training machine learning solutions.
- › **Complex scenarios still need human input** – For scenarios that were more challenging or complex, human input may still be necessary to identify patterns, trends or risk indicators present in a consumer loan file.

Some of the potential benefits include:

- › **Increased efficiency** – The regtech solutions demonstrated allowed process-driven compliance checking to be automated. They also help detect risk areas or compliance issues that may need a more thorough review. These all contributed to increased efficiency.
- › **The value of alternative datasets** – The demonstrations and subsequent panel discussion highlighted the opportunities to use alternative datasets in credit underwriting. For example, for borrowers with limited transactional data or complex situations.

- › **Decision making and visualisation** – The demonstration included workflow management systems with automated highlighting and bookmarking functions. These can make it easier for compliance officers to assess and scrutinise information. Dashboards and scorecards are also effective visual aids that enable insights to be actioned.
- › **Consumer data right (CDR) information** – We included bank transaction data in the synthetic dataset. This illustrated the potential for this CDR information, which is standardised and structured, to be considered in the process of deciding whether or not to provide a loan. Using this information enables a regtech solution to sort, analyse and verify financial data across a consumer loan file for an assessment of a credit application.

Collaboration with professionals and subject matter experts is key

We see potential for regtech solutions to help with good lending practices, but there are also challenges. Two particular challenges specific to the development of regtech solutions are around rule construction and data quality.

There are a variety of ways to integrate regtech, so businesses need to consider how the technology will meet the users' needs. The role of compliance professionals, managers and executives is critical in making the right decisions when adopting technology.

Any tool will only be as good as its inputs. There needs to be sufficient investment in time, resources and expertise. Collaboration with subject matter experts is key to the success of regtech; their experience and knowledge is essential.

ASIC's supotech initiatives

Financial promotions tool trial – COVID-19 response

Project overview

As a direct response to the COVID-19 pandemic, we initiated a supotech project for monitoring promotions of financial services and products. The project had a focus on promotions targeting vulnerable consumers. Digital advertising has spiked during the pandemic, which has created an increased need to ensure rapid supervision while maintaining efficient use of ASIC's resources.

Through a procurement process, we engaged Red Marker to trial the use of artificial intelligence and machine learning to monitor financial promotions. The supotech trial occurred from June to August 2020. Media searches covered a broad range of product areas, such as credit, insurance, wealth management and markets.

The supotech tool identified potential risk cases for human review

Over the initial six weeks the supotech tool scanned almost 1.7 million webpages and identified 1,950 potential risk cases. In a subsequent two-week analysis, the tool scanned 1,000 Google ads and identified over 100 potential examples of concerning advertising.

The trial demonstrated the potential efficiencies of automated web scraping and analysis of financial promotions when compared to human review. The trial identified incidences of potential misconduct for further review by ASIC staff.

The trial also demonstrated that there is a material demand on resources, including subject matter experts, to develop and implement the regtech solution.

Voice-analytics framework project

Project overview

We procured KPMG to draft and develop a fit-for-purpose voice analytics framework that would be available to any ASIC business team. The framework needed to include a workflow, a checklist and guidelines for selecting a voice analytics service provider.

Delivery of an organisation-wide voice-analytics framework

The project delivered an organisation-wide framework to guide ASIC work that involves audio file review. The framework provides ASIC with a roadmap to help implement future voice analytic supervisory and enforcement work.

KPMG used three existing ASIC voice datasets to test the application of the framework. These machine-learning processes increased the volume and accuracy of audio data reviewed. With the implementation of a tailored dictionary, using key industry terminology, further improvements in accuracy and efficiency could be achieved.

Data automation and process workflow trial

Project overview

We conducted a supotech project to improve efficiencies across the Assessment and Intelligence team's workflow. This business team includes staff that review licensing-related information and reports of misconduct made to ASIC.

Analysts compile various licensing and potential misconduct reports that are used by stakeholder teams. The information analysed for the purposes of these reports come from multiple sources in varying formats. Producing the reports is time intensive, as it involves the analysts manually sourcing, cleansing and transforming the information.

The supotech solution sought to automate this data extraction and simplify the process by eliminating human intervention. This project also aimed to deliver a solution that allowed ASIC to create intuitive dashboards using ASIC's enterprise business intelligence tool.

The workflow demonstrated efficiencies, but also uncovered limitations in our business intelligence tool

Most of the work was focused on extracting, reformatting and integrating relevant licensing and potential misconduct data into a form that would allow for its future automated collection. The project demonstrated efficiencies in the creation of reports on licensing and misconduct information. It also improved the accuracy of the reports.

We discovered limitations with our business intelligence tool, due to the breadth of data types and sources. This will help inform our future implementation of automated supotech solutions.

Natural language processing prospectus project

Project overview

We receive around 800 prospectus submissions each year from companies looking to raise funds. We manually review these documents as part of our supervisory work. This work is time intensive.

The project aimed to build a pipeline that would use text analytics and natural language processing techniques to automate the initial triage of prospectuses, pending further investigation. The triage work involves dealing with complex concepts, and this resulted in mixed performance outcomes. Initial automated responses were also tested against manual processes for accuracy, to assess the performance of the text analytics and the natural language processing application.

This project developed a proof of concept capability informed by regtech initiatives conducted in 2018–19. The proof of concept capability was constructed in ASIC's new Data Science Lab.

The initial findings are promising

This project served as a foundational study, with many of the techniques for automated text extraction created and used for the first time. There were logistical challenges and bottlenecks in processing the documentation. However, the initial findings were promising. We found:

- › significant reduction in the time taken to review submissions
- › improved accuracy in rating risks
- › we could more easily identify concerning prospectus features, which enabled more efficient risk rating.

Enhanced evidence document score project

Project overview

This project was designed to test the combination of the regtech capabilities of ASIC's evidence document system (Ringtail), data lake (a system or repository of data stored in its raw format), and historical enforcement data and results. The aim was to develop an evidence document score capability. This capability would help enforcement teams prioritise review efforts when receiving large volumes of evidentiary files. We engaged consultants with a deep understanding and knowledge of, and skills in, the analytics capabilities of Ringtail.

The project has shown potential to create efficiencies

The consultants worked with the ASIC enforcement and specialist teams. They demonstrated an enhanced evidence document score capability with Ringtail. They also provided advice on live investigations to produce faster outcomes by using the system's analytics capabilities.

The project still has some final stages to complete. To date, the project has shown potential for evidence document search efficiencies.

General observations on internal trials

Each of ASIC's internal supotech projects presented their business teams with opportunities and challenges in the application of supotech. Broadly, our observations fall under five key themes:

- › **Reducing manual processes creates efficiencies** – Most of the projects have demonstrated supervision efficiencies through simple applications of rule-based text analytics and machine

learning. The efficiency comes from reducing the time needed to manually review files or produce reports. Increasingly, this will mean we can undertake supervision on a larger sample of matters and staff can focus on matters of greater significance.

- › **Accuracy and scalability are possible** – All the projects demonstrated that the application of technology, combined with the careful consideration of data sources and structures, provides a scalable means of analysing large volumes of data with high accuracy. The technology we tested includes artificial intelligence, machine learning, natural language processing, automation, and voice analytics. Once established, these tools can also be used during times of increased demand or activity.
- › **Staff must be involved in development and supervision** – The creation of novel solutions requires ongoing monitoring and supervision. Staff must engage with technical solutions by learning from the use of the tool, reviewing the results, and iterating the technology. This ensures that solutions continue to run efficiently and accurately, improving with each new version. This also requires the investment of time and resources into data literacy for staff.
- › **We are collecting and storing higher quality data** – The financial promotions tool trial and the voice analytics project identified that businesses and we have continued to significantly improve collection and storage of high-quality data. In the short to medium term, our focus will shift toward easier analysis of these datasets.
- › **Supotech must be integrated with existing infrastructure** – Older systems continue to strain under new ways of working (e.g. because of limitations in processing information or in their capacity to communicate with newer applications). We must carefully consider balancing the benefits of existing tools with the advantages of newer technologies.

ASIC's future regtech approach

ASIC's general approach to regtech

We are committed to exploring and supporting the potential of regtech. We established the [ASIC Innovation Hub](#) in March 2015. It continues to engage, explore and network with financial firms including the regtech industry. Our approach to regtech will continue to be guided by a set of basic principles that include:

- › working towards outcomes in regtech that align with our strategic priorities and approach to innovation
- › undertaking a number of focused initiatives that will deliver outcomes in the near term
- › learning from industry input, good international case studies and our own experience from engaging with the regtech sector.

Regtech initiatives in 2020–21

We will continue to support engagement, networking, information sharing and problem solving with the regtech community. We will:

- › engage with and, where relevant, provide informal assistance to regtech firms through the Innovation Hub
- › host a quarterly Regtech Liaison Forum where ASIC, regulators and industry can share information and developments across the sector

- › act as an observer for regtech trials undertaken by industry when the subject relates to an ASIC priority
- › engage in international information-sharing opportunities on regtech. For example, we are a steering group member of the Global Financial Innovation Network (made up of over 50 regulators) and chair a regtech workstream for 2020-21.

We intend to host additional webinar-based regtech initiatives during the remainder of 2020–21. We are considering webinars on some of the following topics:

- › **breach reporting**
- › **debt collection with hardship**
- › **design and distribution of financial and credit products**
- › **digital financial reporting**
- › **cyber and operational resilience.**

We will update industry on the exact nature of our regtech webinars for 2020–21. We keep in touch with industry through the Regtech Liaison Forums, the [regtech news](#) on the ASIC website, and our [regtech email subscription list](#).

Key terms and related information

Key terms

ACCC	Australian Competition and Consumer Commission
API	Application programming interface
CDR	Consumer data right
data lake	A system or repository of data stored in its raw format
regtech	Regulatory technology
suptech	Supervisory technology

Related information

ACCC, [Consumer Data Standards](#)

ACCC, [Consumer data right](#)

Boston Consulting Group and RegTech Association, [Australia's global RegTech hub poised for growth: A perspective on supporting the local RegTech sector to scale](#), 27 October 2020

[REP 653](#) ASIC's regtech initiatives 2018-19

Productivity Commission, [Regulatory technology](#), 9 October 2020