

# Regulatory technology roadmap



8 APRIL 2021

A strategic report for the  
Attorney-General's Department  
covering the future of awards  
compliance and regulatory technology

#### ACKNOWLEDGEMENT

**We are a team living and working on the lands of the Wurundjeri and Boon Wurrung peoples of the Kulin nation. We acknowledge their ownership of the land and pay respects to their elders past, present and future.**

# Executive summary

The regulatory technology roadmap provides a series of potential approaches to support innovation that assists businesses, in particular small businesses, to better understand and comply with modern awards. Up to 2.2 million workers are directly paid under the award system. There are 121 modern awards, each with numerous role classifications, rates of pay, allowances and penalty rates. If businesses incorrectly apply the awards or have flawed payroll or compliance processes, this can result in staff being paid incorrectly and businesses facing back payments and fines. Technology can help businesses reduce the effort and cost associated with complying with awards, and this roadmap sets out opportunities for the government to enable and support the development and uptake of technology solutions.

Portable and the Attorney-General's Department followed a human-centered, collaborative design approach to create the roadmap, through in-depth interviews with small business owners, and a series of interviews and workshops with government agencies, software companies and other industry stakeholders. This approach ensured the roadmap initiatives targeted important pain points for businesses, and gave stakeholders an opportunity to influence the government's engagement with regulatory technology.

Initiatives will assist both those who are impacted by awards, such as businesses and employees, and those who use and interact with awards such as industry groups and software providers. Both the Fair Work Commission (FWC) and Fair Work Ombudsman (FWO) will have significant roles in creating the regulatory technology infrastructure. The FWC will act as the rules setter and single source of truth for award rules, while the FWO will help with rule interpretations, education and compliance. The roadmap provides short, medium and long term opportunities to support the development and growth of the award regulatory technology sector within Australia.



## SHORT TERM INITIATIVES

Short term initiatives are things that can be done now or in the next two years. These would support technology projects that aim to deliver initial solutions to support award compliance, while the government and stakeholders continue to review progress and work on more transformative change. These include:

- 1 Developing an API for the FWC Modern Awards Pay Database**  
Enable integration of this data into payroll and other business software.
- 2 Updating the FWO Pay and Conditions Tool**  
Improve the usability of this tool and make it suitable for future integration into business software.
- 3 Creating industry working groups**  
Foster a collaborative co-design partnership between government and the regulatory technology sector.



## MEDIUM TERM INITIATIVES

Medium term initiatives sit within a two to five year period. These steps would aim to boost award regulatory technology infrastructure and increase innovation in awards interpretation tools, addressing key market gaps. These include:

- 1 Creating a framework that supports the development of Rules as Code**  
Support further integration between regulations and technology.
- 2 Developing an API for the FWO Pay and Conditions Tool**  
Enable integration of this data into payroll and other business software.
- 3 Creating a digital partnership office**  
Further support and drive innovation and government or industry collaboration.
- 4 Working with the private sector to develop regulatory technology solutions**  
Support further innovation, focusing on key market gaps and new opportunities.
- 5 Drafting policy initiatives to support the uptake of regulatory technology**  
Ensure the benefits of regulatory technology for businesses are realised.



## LONG TERM INITIATIVES

Long term initiatives will require at least five years. These steps have potential for more significant awards compliance impacts and wider benefits such as more connected government services. These initiatives will need further investigation and changes to core workings of government, policy creation and implementation across government.

- 1 Creating a collaborative Rules as Code approach to policy**  
Support regulations being integrated into technology.
- 2 Developing Rules as Code and a policy pilot program**  
Test and refine the viability of issuing awards as code.
- 3 Sharing data across government services**  
Improve efficiency for businesses dealing with different areas of government.

# Strategic framework

This framework supports the roadmap structure, allowing us to clearly identify the purpose, outcomes and impacts of initiatives.

## 2.1

# Why are we using a strategic design framework?

We're using a strategic design framework so that we can meaningfully communicate the impact of the initiatives, and their role in supporting technologically-based solutions to increase the potential ease and level of awards compliance in Australia. This allows us to understand the potential tangible and intangible impacts of an initiative, who it benefits (and how), and the potential risks and challenges involved.

## 2.2

# Purpose

The roadmap vision is to make it simpler and faster to improve awards compliance across Australia with the help of the government. We want to empower businesses and employees to confidently understand and meet their award obligations.

## 2.3

# Goals

We want to change the way that people experience, interact, apply and maintain their award obligations, to increase compliance with, and understanding of awards.

For those who are impacted by awards, such as businesses and employees, we want to reduce:

- the difficulties in selecting, understanding and applying awards
- the reliance on manual data entry and any mistakes made when attempting to comply with awards
- non-compliance due to award changes
- any perceived inequity of access to payroll information

For those who use and interact with awards, such as industry groups and software providers, we want to:

- increase collaboration and communication between the government and the regulatory technology sector
- encourage innovation and standardisation where the government and market can work together to improve awards compliance
- increase the efficiency and effectiveness of service delivery for regulatory technology and awards compliance solutions

2.4

## Approach

We want to ensure that we use the standards that are being set across the government's digital transformation. Some potential initiatives seek to explore and expand on how work must be approached across the government, industry and technology sectors. These approaches include using principles and knowledge from existing government projects, such as:

- utilising the Digital Transformation Agency's (DTA) service design and delivery process to build services that are simpler, clearer and faster
- enabling and supporting digital service delivery, both government and market-based, in order to create accessible, cost-effective technological solutions to increase award compliance
- following open source government guidelines to ensure transparency, standardisation and accessibility of any digital solution

2.5

## Initiatives

The majority of the roadmap is made up of potential initiatives needed in order to meet the key outcomes listed as a part of our strategic framework. The initiatives are outlined in Section 4.



# The regulatory technology landscape

Regulatory technology covers a range of systems, solutions and implementations. This overview helps to define key terms, and the current state of awards-based regulatory technology in Australia.

### 3.1

## What is regulatory technology?

Regulatory technology refers to using information technologies to support regulatory processes such as monitoring, reporting and compliance. The aim of this technology is to support transparency and consistency of regulatory processes, help interpretation of regulations, and reduce the effort and cost associated with complying with regulatory processes.

Forms of regulatory technology have gained widespread use and acclaim internationally, specifically within the banking and finance sector. The use of regulatory technology to increase awards compliance comes with many opportunities and challenges, and requires a review of key structural and legal perspectives specific to Australia.

### 3.2

## What are APIs?

An application programming interface, or API, is a tool that enables safe and reliable software communication. APIs allow software developers to use standardised tools to get data from a system, edit it as required, and use it somewhere else. APIs are often used to automate manual processes, or create new tools. APIs may be internal to a government agency, shared with trusted partners or provided to the public.

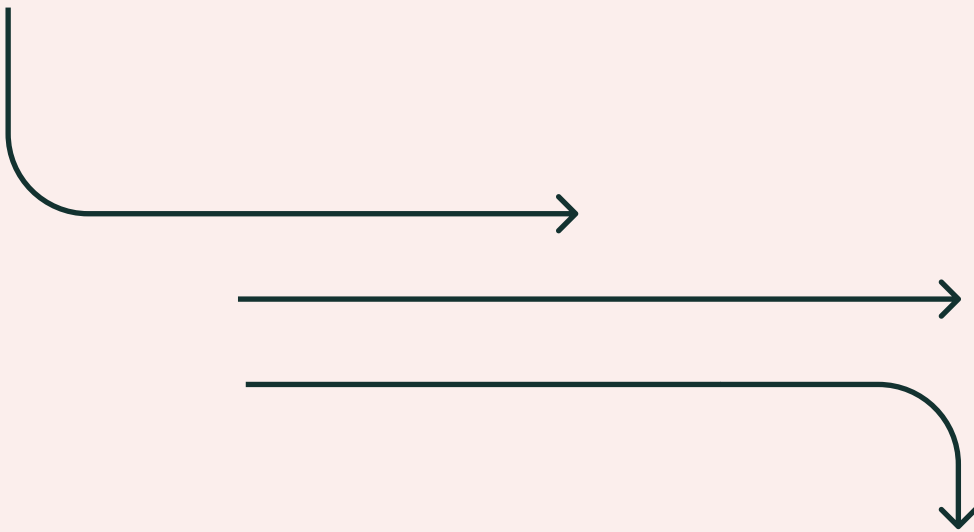
APIs are the medium through which specific information is sent. This can range from basic information, such as award pay rates, to more complicated logic-based awards interpretation. Content and complexity will vary between APIs depending on their use.

### 3.3

## Regulatory technology and Rules as Code

Existing regulatory technology platforms, such as commercially available payroll software, could make award compliance easier, but the widespread use and continued quality of these tools will rely on working towards new ways of using technology within regulatory frameworks. Re-writing the underlying regulation (in this context, awards) in ways that can be understood as machine readable data, also known as creating Rules as Code, will support more automation of regulatory processes and support new compliance standards. Applying Rules as Code principles to current regulations (which don't require new legislation) is also possible, especially through the use of data sets, decision tree logic and predictive modelling.

# Roadmap initiatives overview



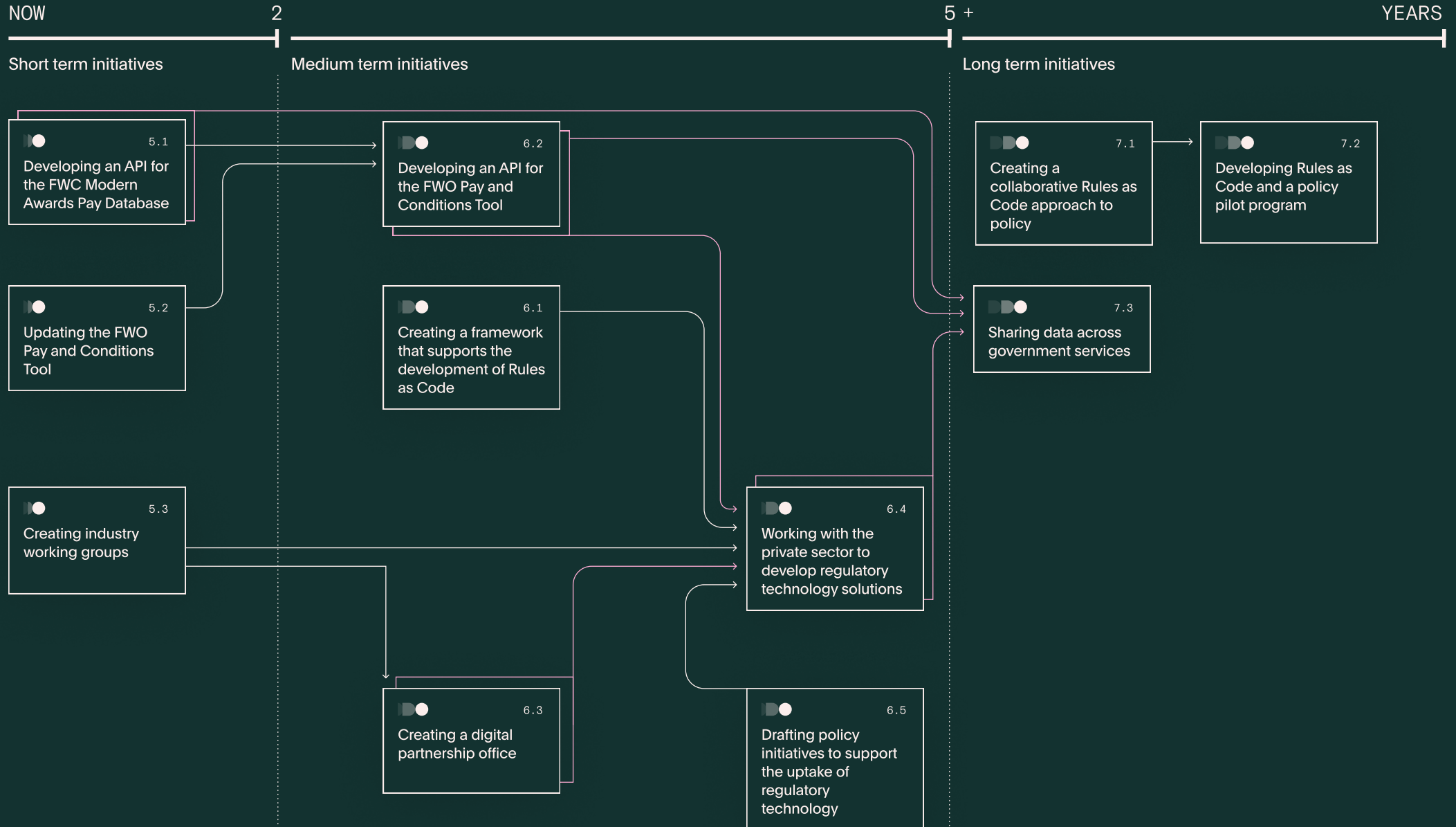
There are a range of initiatives that can fit within three periods – short, medium and long term. The timeline helps us to understand the steps required to get to the future of awards compliance regulatory technology.

# Roadmap visual

Attorney-General's Department

- Short term initiative
- Medium term initiative
- Long term initiative

- Prerequisite
- Complimentary







5.1

# Developing an API for the FWC Modern Awards Pay database

## OVERVIEW AND BENEFITS

The FWC MAP database contains the actual minimum dollar figure amounts of pay, allowances and penalty rates, but it is currently limited to spreadsheet format. This is a pain point for those who use this information, as they have to manually check and update any changes in their payroll software, so there is some risk in ensuring their pay calculations are correct. An API version of this data will provide a single, real-time, source for businesses, agencies and software companies to use this information. Being able to communicate changes, updates and information through one information source will enable payroll providers and software developers to more readily and cheaply create award compliance solutions, and therefore reduce this pain point for businesses.

## RISKS AND CHALLENGES

The FWC will be responsible for the accuracy of the data provided through the APIs. This means that processes need to be created to manage the risk associated with the data, support accuracy, and enable regular updates or revisions. The database and API will need resources to ensure the tool is maintained, up to date and covers all awards – which must be included in its cost. This should also be created with technology providers to help determine what’s needed, discuss how to use the tool, and any restrictions it may have.

## GOALS

● THOSE WHO USE AND INTERACT WITH AWARDS

1 Encourage innovation

2 Increase the quality of service delivery



5.2

# Updating the FWO Pay and Conditions Tool

## OVERVIEW AND BENEFITS

The PACT is an online resource that helps people to find and calculate their minimum pay rates and entitlements for employees, including leave, allowances and ending employment. This tool is invaluable in providing a model for automating award compliance. In order to provide easy access to the PACT, beyond the FWO online resource, it must be updated to include all awards and national employment standards. The platform behind the current tool is now 5-6 years old. The FWO currently has a project underway to update and improve the PACT tool, and the rules behind it, covering all awards and the national employment standards. This needs to be done before it is shared as an open source API across government agencies, industries and software providers. This would allow for individuals to use government interpretation models and create one central place for any future updates.

## RISKS AND CHALLENGES

The detailed nature of awards means creating automated rules that help people to apply and understand pay rates tailored to their employees will be a time consuming, and extensive process. This creates a risk for the government, as the FWO will be acting as the interpreter of awards. The FWO's interpretation of some award rules may also be open to challenge. Understanding the legal outcomes of different interpretations, the risks for the government and how this sits within our legal system will be critical issues to resolve. In order to successfully encourage use of the ruleset, the government will need to work with stakeholders and providers in a transparent and collaborative manner, to ensure they trust it, and understand its uses and limitations.

## GOALS

● THOSE IMPACTED BY AWARDS    ● THOSE WHO USE AND INTERACT WITH AWARDS

1 Support understanding of awards

2 Encourage innovation

3 Increase the quality of service delivery



# Creating industry working groups

## OVERVIEW AND BENEFITS

Government's role in the development of regulatory technology for awards is likely to be as a supporter for those creating solutions for businesses and employers. To do this effectively, the government will need to support collaboration between it and the private sector. This allows for ideas between the regulator and the industry to align on purpose and outcomes, before a solution is chosen and created. Working group models can focus on communication, or create spaces and opportunities for innovation. Examples include the Australian Business Software Industry Association (ABSIA) Industry Engagement Model used during the development of the Australian Tax Office's (ATO) Single Touch Payroll. The working model should be flexible, agile, able to be edited, updated, and suitable for the specific needs of awards regulatory technology.

## RISKS AND CHALLENGES

Diversity among the working group at an industry level is needed to avoid a monopoly on communication with the government, who may favour large players in the market. Having diversity supports a variety of issues, requirements and perspectives needed for a successful working group. Sharing and collaboration can be blocked by companies looking to protect intellectual property and a perceived competitive advantage by those in the working group.

## GOALS

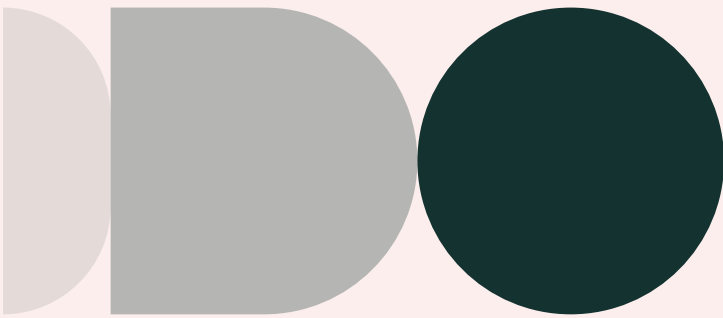
● THOSE WHO USE AND INTERACT WITH AWARDS

1 Encourage innovation

2 Increase collaboration and communication across the regulatory technology industry



## Medium term initiatives



Medium term initiatives will cover a two to five year period. Many of these initiatives will build upon the short term initiatives, to support the creation of new and novel solutions for businesses and employers to use.



6.1

# Creating a framework that supports the development of Rules as Code

## OVERVIEW AND BENEFITS

Developing regulatory technology to automate the process of applying legislation and rules (Rules as Code), requires a detailed understanding of how the proposed technology will maintain standards of transparency and clarity in calculations, fairness, data and privacy, and data collection. The government will need to take a key role in developing these frameworks and principles for the use of Rules as Code either from the start, or utilise existing resources such as the Australian Government's Artificial Intelligence (AI) ethics principles. Government agencies may need to develop new skillsets and ways of thinking.

## RISKS AND CHALLENGES

Turning current legislation into a machine usable format will be needed to resolve the tension between ease, automation and our legal system. Questions such as 'what does it mean for a government API to interpret legislation?', 'how visible is this?' and 'can it be challenged?' will need to be answered to guide the way that Rules as Code can and should be used across the government and private sector.

## GOALS

● THOSE IMPACTED BY AWARDS    ● THOSE WHO USE AND INTERACT WITH AWARDS

1 Support understanding of awards

2 Increase the quality of service delivery



# Developing an API for the FWO Pay and Conditions Tool

## OVERVIEW AND BENEFITS

Developing an API which provides the rules behind the PACT that interprets awards, is expected to support software providers in developing award interpretation solutions. This will increase the accessibility of the information to a range of software companies, reducing the effort and cost to create award interpretation features. It may also encourage a range of providers to reconsider the need to create their own award regulatory technology features. Some award interpretation features exist from specific software companies, though these are often limited to specific awards. Additionally they require significant effort to update and maintain. The PACT API will provide a focal point for award interpretation data which will be critical for award regulatory technology.

## RISKS AND CHALLENGES

Modelling the rules-based API on how the data is used will be critical; however, this may increase the complexity and cost of the API. The tool will rely on the scope and quality of the FWC MAP API, in relation to the accuracy of the data and the number of awards covered. The FWO will be responsible for the accuracy of the interpretation of the rules provided through the API. Because of this, processes will need to be developed to ensure accuracy, and reduce the possibility of incorrect interpretations. These considerations must be factored into the overall cost of the API.

While meeting individual rules and simple scenarios will likely be improved by this initiative, there may be complex interactions, or more difficult scenarios (such as the connection between awards and allowances). This will make it difficult to automate processes to meet compliance obligations. This is more likely to impact industries or businesses that have shift workers, as well as variable hours, locations, skill sets, penalty rates and allowances. Even if these rules are translated and can be used by a range of stakeholders, it may still be difficult to automate compliance for more complicated situations.

## GOALS

● THOSE WHO USE AND INTERACT WITH AWARDS

1 Encourage innovation

2 Increase the quality of service delivery



# Creating a digital partnership office

## OVERVIEW AND BENEFITS

Having a dedicated digital partnership office with ongoing funding that manages critical infrastructure (testing spaces, developer portals, communication avenues to government) will enable the government to support the regulatory technology industry. This can provide a first point of contact for digital service providers, both within government and the private sector, who want to be involved with regulatory technology for awards. It will allow for policy, technical and legal knowledge to be shared across government agencies, industry groups and software providers, allowing them to work together to agree on decisions for the technical application of solutions. This digital partnership model has successfully been used by the ATO and its rollout of Single Touch Payroll and JobKeeper legislation.

A digital partnership office could set up dedicated spaces (known as regulatory sandboxes) to experiment with web or software projects. Regulatory sandboxes allow software companies and other innovators to carry out experiments in controlled environments. This would allow developers to test their award interpretations and calculations with regulator(s), in order to align with regulator interpretations, reduce liability concerns and build confidence in releasing awards interpretation features. These sandboxes have been used extensively in the financial and banking sectors, in helping to attract a diverse range of entrepreneurs, encourage open source innovation, minimise the risk of feature implementation, and allow regulators to shape and provide input on projects.

## RISKS AND CHALLENGES

Creating a digital partnership office requires consistent funding and responsibilities. Understanding how this impacts responsibilities of other areas of government will be needed to ensure successful collaboration, reduce any overlap of projects and empower the digital partnership office. Any model would need to value partnerships and responsibilities, rather than acting as consultants who guide and support existing government agencies. This will ensure the office has access to dedicated resources and can make decisions that impact multiple areas of the government and keep key stakeholders engaged for the duration of projects.

## GOALS

● THOSE IMPACTED BY AWARDS    ● THOSE WHO USE AND INTERACT WITH AWARDS

1 Support understanding of awards

2 Reduce reliance on manual data entry

3 Reduce non-compliance due to award changes

4 Encourage innovation

5 Increase the quality of service delivery

6 Increase collaboration and communication across the regulatory technology industry



# Working with the private sector to develop regulatory technology solutions

## OVERVIEW AND BENEFITS

Government must support software providers in creating regulatory technology solutions by providing technological infrastructure – this includes open source APIs, testing environments and regulatory sandboxes. These initiatives make it more feasible for software developers to create solutions by making them more cost effective, accurate and easier to begin. The initiatives will also reduce the importance of intellectual property in developing and running awards compliance systems, due to widespread availability of data and automated updates through the APIs. Small businesses identified updates to awards as one of the key reasons for underpayments.

However, this may not help to prioritise awards compliance features, affordable solutions, or solutions that meet the complex demands of some awards obligations. The government could consider a range of incentives to address this.

## RISKS AND CHALLENGES

Many software providers are concerned with the level of risk and liability they will take on by creating automated awards compliance solutions, especially when it comes to understanding and addressing complex clause applications. Some solutions may be considered as providing advice, which would increase liability concerns. These concerns can be eased by creating an ongoing relationship of trust with software providers, and the government information that they need to rely on.

While the technical infrastructure can be created (APIs or otherwise), there is a possibility that many providers won't be able to take advantage of these due to the way their software is built. The investment they require to create award compliance solutions may be high, even with government provided and updated data.

## GOALS

● THOSE IMPACTED BY AWARDS    ● THOSE WHO USE AND INTERACT WITH AWARDS

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6 Increase collaboration and communication across the regulatory technology industry



# Drafting policy initiatives to support the uptake of regulatory technology

## OVERVIEW AND BENEFITS

It will be necessary for the government to explore ways to encourage businesses to use awards compliance software. This may include considering policies that:

- prevent businesses from being penalised due to unintentional mistakes or errors in the software (to help build confidence in using the software)
- provide financial incentives such as a voucher scheme to encourage businesses to adopt awards compliance software
- include a low cost model for businesses with a small number of employees similar to the ATO's Single Touch Payroll

The first point would be separate to employers entering intentionally incorrect data into the software, which they could be penalised for (noting that nothing can extinguish an employee's right to recover any underpayment that arises). Such policies need to be carefully considered to ensure that employees are paid any entitlements owed. A further possibility could be for the government to make the use of awards interpretation software a penalty for businesses found to be not complying with awards.

These are just some of the possibilities that could help to increase the number of businesses using awards compliance technology. Another key component will be supporting behavioural change amongst businesses i.e. how they manage their employee and payroll obligations. The software can be created, though it does not guarantee that businesses will be aware of it, see it as valuable, or use it.

## RISKS AND CHALLENGES

The broader systemic impacts of these policies needs to be reviewed, alongside the government's ability to enforce and create them. For example, changes to regulators' compliance and enforcement policies may make it difficult to differentiate between software errors and business non-compliance. Adoption of awards compliance regulatory technology may be an opt-in process (unlike the mandatory ATO's Single Touch Payroll requirements), which will be a barrier to the uptake of this technology.

## GOALS

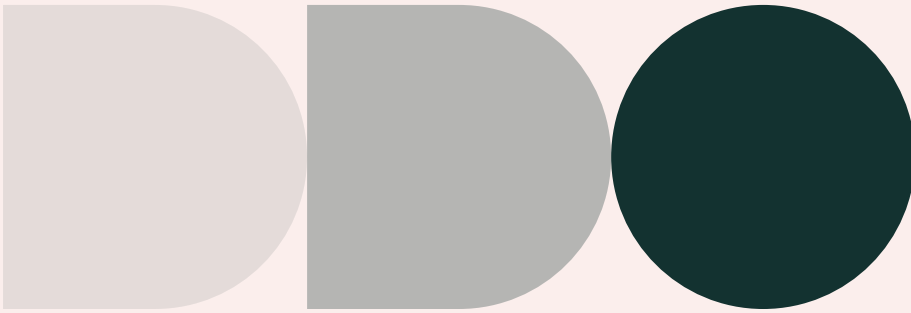
● THOSE IMPACTED BY AWARDS

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## Long term initiatives



Long term initiatives will explore opportunities at least five years into the future. These initiatives build on previous ones, and are often more complex in terms of scope and implementation.



7.1

# Creating a collaborative Rules as Code approach to policy

## OVERVIEW AND BENEFITS

Models to create, implement, use and improve industrial relations policies are often done without technology solutions in mind. Creating an approach to policy, legislation and rule setting, where a variety of stakeholders help to shape policy with service delivery, technology and other outcomes in mind, will create opportunities to draft a more accessible, machine-interpretable regulation. Without this level of involvement, awards will continue to be written in language that is difficult to translate into machine readable formats, limiting the possibility of developing rules and legislation into code. Rules as Code, automation and their legal impact is a growing point of interest across professional, academic and government spaces, indicating the increased capability across a range of disciplines and openness to Rules as Code concepts.

## RISKS AND CHALLENGES

Building consideration of technology and automation into regulatory development is a significant change from how regulation is currently developed. Court decisions can change interpretations of awards, so if these new interpretations do not follow 'Rules as Code' principles, it will create challenges for award interpretation solutions. Rules as Code-style legislation may not be suitable for all types of law, and this must be taken into consideration when choosing this approach.

## GOALS

● THOSE WHO USE AND INTERACT WITH AWARDS

1 Encourage innovation

2 Increase the quality of service delivery

3 Increase collaboration and communication across the regulatory technology industry





# Developing Rules as Code and a policy pilot program

## OVERVIEW AND BENEFITS

Creating Rules as Code from the start will significantly aid the FWC in creating, managing and setting awards. It can result in accessible and simplified awards, reduced interpretation risks, and other regulatory technology implications, as the written awards are shared alongside machine-interpretable rules. This will address one of the most impactful pain points that businesses and employees have, which is understanding and applying awards. Trialling this approach with specific awards, based on their use and impact, will be useful. Industries that have shift workers, and variable hours, locations, skill sets and allowances are currently the most difficult to develop automated interpretation software for, so these types of awards would be good test cases for trialling this approach.

## RISKS AND CHALLENGES

The complexity of the clauses in many awards is often connected to the longstanding practices of an industry. Any potential awards reform process needs to reflect this reality, to be useful for businesses and not compromise employee and business rights. The actual process of creating Rules as Code awards will be difficult, and will challenge traditional methods of creating awards.

## GOALS

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1 Support understanding of awards

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# Sharing data across government services

## OVERVIEW AND BENEFITS

Creating an award regulatory technology infrastructure will allow for government services to connect and create new, or improve existing, services. There are many opportunities to integrate services and data sets, such as award APIs, Single Touch Payroll, superannuation or MyGov. This would have vast implications for services provided by the government, such as the ability to add features, improve services and gather data for research purposes. This could create opportunities for multiple government services to share data, supporting the creation of new services, refinement of existing services and change how people use these services. Developing regulatory technology infrastructure could allow for wider data collection and analysis, such as tracking award types against compliance breaches related to specific industries, awards, or business sizes, which could inform future policy development.

## RISKS AND CHALLENGES

Data and privacy considerations will be critical barriers to sharing information across government. In particular, employer concerns about the privacy of their payroll information could be a significant barrier to entry. Different agencies have varied requirements with regards to privacy standards, in terms of what information they are allowed to collect, and what they are allowed to do with that information. This complicates the ease and likelihood of sharing data across these agencies. Combining features and integration with other government services will require greater collaboration, and shared technical infrastructure and standards.

## GOALS

● THOSE WHO USE AND INTERACT WITH AWARDS

1 Encourage innovation

2 Increase the quality of service delivery

