



MINISTRY OF FINANCE
ACCOUNTANT GENERAL'S DEPARTMENT OF MALAYSIA

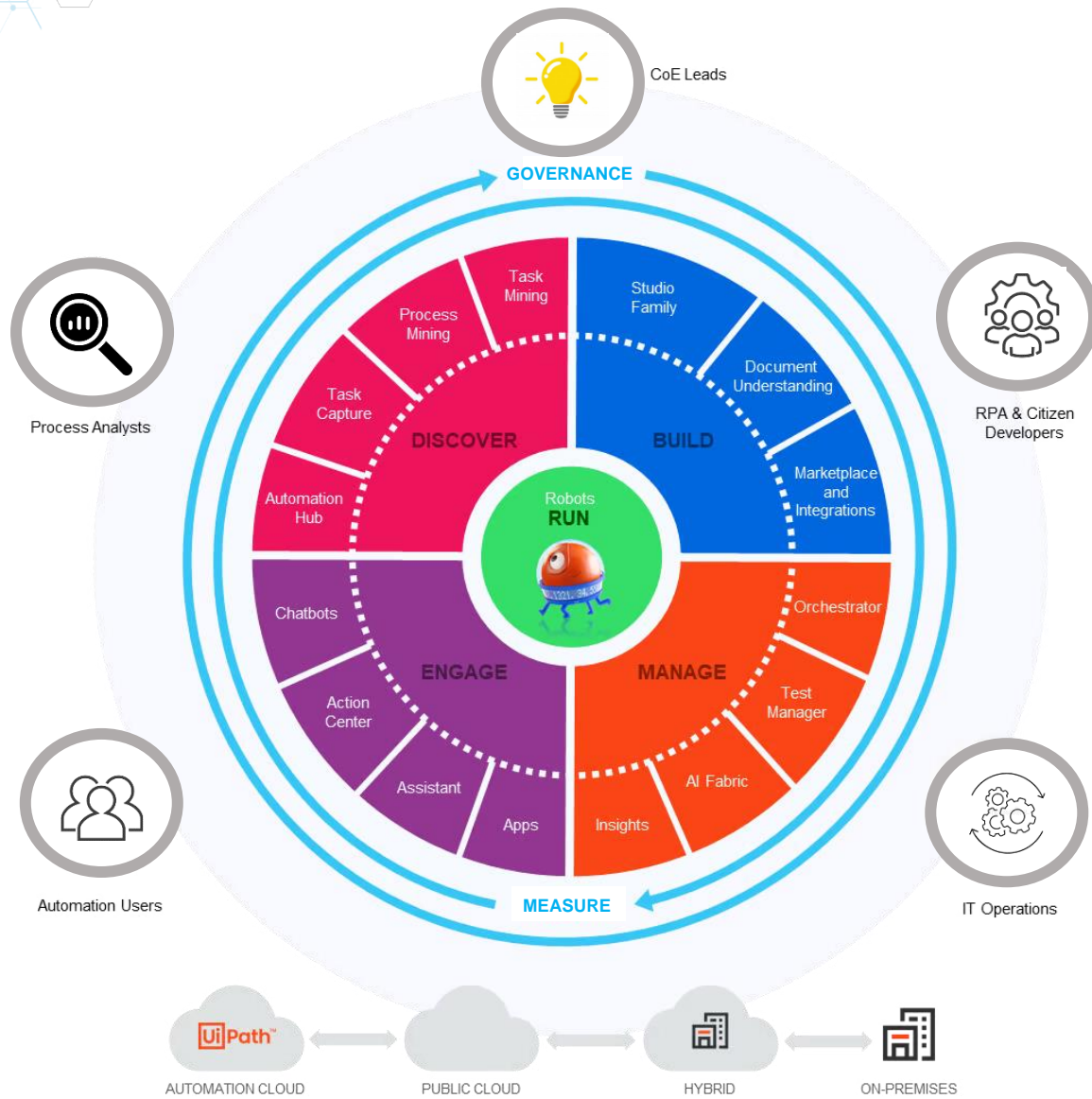
RPA COE PLAYBOOK

CENTER OF EXCELLENCE - COE
ROBOTIC PROCESS AUTOMATION - RPA

VERSION 1.0 YEAR 2024



FRAMEWORK FOR THE ACCOUNTANT GENERAL'S DEPARTMENT OF MALAYSIA ROBOTIC PROCESS AUTOMATION CENTER OF EXCELLENCE



RPA CENTER OF EXCELLENCE

The RPA community of the Malaysian Accountant General's Department (AGD) responsible for driving RPA strategy, governance and good practice. The RPA COE ensures RPA initiatives are implemented in line with AGD's Vision, Mission and Objectives, providing oversight, support and expertise in the automation lifecycle.

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PREFACE ACCOUNTANT GENERAL DEPARTMENT OF MALAYSIA

Assalamualaikum w.b.t, Salam Sejahtera and Salam Malaysia Madani,

Alhamdulillah, with His permission and grace, the Accountant General's Department of Malaysia (AGD) has successfully prepared AGD's Center of Excellence (COE) Robotic Process Automation (RPA) Playbook. This book contains AGD's RPA Vision and Mission, RPA COE development and formation as well as RPA COE methodology.

This book was drawn up based on the AGD Digitalization Strategic Plan 2024 – 2025 (DSP), the Digital First Strategy Shift of the National Digital Department for 2024 - 2025 as well as best practices from UiPath. The

preparation of this book has taken into account the views of all stakeholders with the Government's direction towards the delivery of people-centric Digital Government services as well as changes in the domestic and global financial and accounting landscape. In order to ensure the sustainability of the accounting profession in the face of RPA technology, we must be ready to change, be resilient and agile along with the digitization efforts of the public sector.

The publication of this guideline book shows AGD's commitment in utilizing disruptive digital technology towards service transformation. Good and effective Digitalization Strategic Planning of RPA implementation will increase productivity and provide added value to existing services. It is my hope that all parties benefit fully from the publication of this book.

Thank you.

Nor Yati binti Ahmad
Accountant General's Department of Malaysia (AGD)

PREFACE CHIEF DIGITAL OFFICER – CDO

Assalamualaikum w.b.t, Salam Sejahtera and Salam Malaysia Madani,

I would like to express my deepest appreciation to all parties involved in the implementation of Robotic Process Automation (RPA) at AGD. This initiative, which started in 2021, not only involves technological innovation, but is also a strategic step in driving digital transformation in the public sector. The implementation of this RPA directly supports AGD's 2024-2025 Digitalization Strategic Plan (DSP) in making the country's financial management more efficient, with integrity and user-friendly.

RPA is capable of automating work processes that are repetitive, standard and involve a high volume of transactions. The success of the RPA project at AGD, especially in the Unclaimed Money (WTD) payment process, has shown a significant increase in productivity and data accuracy. For example, the time it takes to process an application has been significantly reduced from 20 minutes to 3 minutes through the implementation of RPA. With the implementation of RPA, AGD people can focus on more complex and strategic tasks, while improving the quality of service to customers.

Digital transformation is not an option, but a necessity in facing the era of the Fourth Industrial Revolution. I am confident that, with the full involvement of all parties at AGD and continued support from technology providers, this automation will continue to grow and have a greater impact in creating a more modern and responsive public financial service. We are committed to ensuring that the implementation of RPA at AGD is not only the best example in the public sector, but also a catalyst for the transformation of digital innovation at the national level.

Thank you.

Zainani binti Jusoh

Deputy Accountant General (Corporate)





PREFACE ICT SECURITY OFFICER - ICTSO

Assalamualaikum w.b.t, Salam Sejahtera and Salam Malaysia Madani,

The implementation of automation initiatives not only reflects AGD's commitment to digital transformation, but also shows continuous efforts to improve efficiency and effectiveness in financial and accounting management through technology.

Automation is part of our efforts to ensure that AGD continues to be at the forefront of applying the latest technology, in line with AGD's 2024-2025 Digitalization Strategic Plan (DSP). I am confident, with the continuous development in this technology, we will be able to expand the application of automation to more work processes in the

future, at the same time leading to the digital transformation of Intelligent Automation in the delivery of AGD services.

I would like to express my deepest appreciation to all parties involved in the implementation of this automation, namely AGD Top Management, Divisions, AGD States and AGD Branches including AGD Citizen Developers, Business Users, technology suppliers and other parties who have provided support in making the project a success this. Hopefully the implementation of RPA will be one of the best examples in the public sector and inspire other Government agencies to integrate digital technology in an effort to improve the quality of service to customers.

Thank you.

Sharizon bin Salleh
Director
Information Technology Management Division

PREFACE CHIEF AUTOMATION OFFICER – CAO

Assalamualaikum w.b.t, Salam Sejahtera and Salam Malaysia Madani,

As the Chief Automation Officer at the Accountant General's Department of Malaysia (AGD), I would like to express my appreciation to all those involved in the development and implementation of automation initiatives at AGD. The implementation of RPA at AGD began with the clear goal of improving efficiency and accuracy in daily operations, as well as ensuring financial and accounting management in line with technological developments.

Since its implementation in 2021, RPA has made a significant impact in increasing productivity, reducing processing time, as well as increasing accuracy and consistency in the management of Unclaimed Money (WTD) payments. This project not only increases efficiency in the execution of routine tasks, but also reduces manual workload, optimizes human resources and further improves the quality of services to the people. This success illustrates how automation technology can speed up processes in the public sector, increase efficiency and at the same time, ensure accuracy and compliance with established regulations. It proves that technological progress does not have to sacrifice the principles of transparency and integrity that are the backbone of efficient and responsible administration.

In the long-term plan, the implementation of this automation will be continued and expanded according to the needs and current technological developments. With continuous support from all parties, I am confident that we can achieve the objective of increasing the level of efficiency and effectiveness in service delivery through automation.

Thank you.

Masayu binti Mustafa
Deputy Director
Information Technology Management Division





MINISTRY OF FINANCE
ACCOUNTANT GENERAL'S DEPARTMENT OF MALAYSIA

VISION

A Distinguished Leader in Financial
Accounting and Public Sector
Management Accounting

MISSION

Strengthen Public Sector Financial Management
prudently with progressive policies and an
efficient accounting system through professional
staff and strategic collaboration

TAGLINE

Excellent Accounting @ Your Service



MINISTRY OF FINANCE
ACCOUNTANT GENERAL'S DEPARTMENT OF MALAYSIA

THEME OF THE AGD DIGITIZATION STRATEGIC PLAN 2024-2025

Digital Finance and Accounting

VISION RPA COE

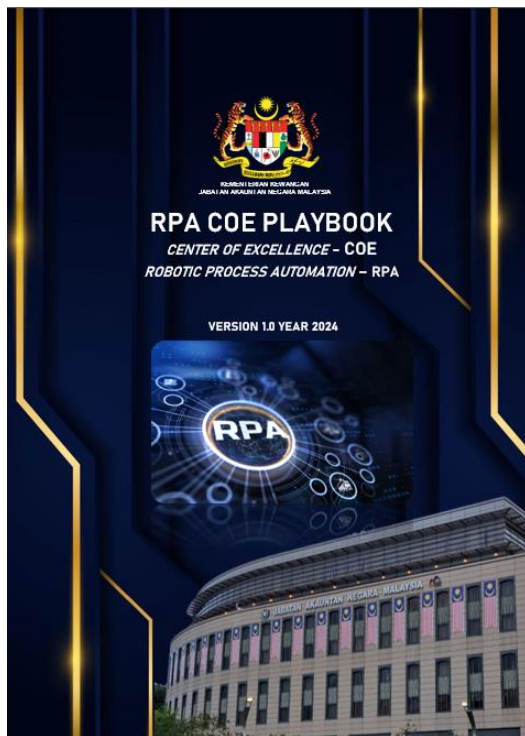
Empowering AGD services through digital innovation with the application of Robotic Process Automation (RPA) strategies throughout AGD Divisions and the Accounting Office

MISSION RPA COE

Increase efficiency and competitiveness through the implementation of RPA initiatives internally among employees related to the services offered by AGD

TAGLINE RPA COE

Streamlining Efficiency, Empowering Excellence
Through Automation



EXECUTIVE SUMMARY

The Robotic Process Automation (RPA) Center of Excellence (COE) Playbook is provided as an important document that aims to provide guidance to the Accountant General's Department of Malaysia (AGD) in developing, implementing and administering RPA initiatives efficiently and effectively.

This playbook is carefully compiled to provide a comprehensive framework to form an RPA COE that not only accelerates the development of automation in AGD, but also improves operational efficiency and stimulates a culture of continuous innovation through the application of intelligent automation technology. As the center of expertise and best practice leader for RPA initiatives in the

organization, the RPA COE will drive the effective and comprehensive implementation of automation at AGD.

The main purpose of this playbook is to facilitate the adoption of effective RPA across all AGD services, reduce the risks associated with automation and further maximize the strategic impact and long-term value that can be obtained from each automation initiative. RPA COE will also be the main catalyst in implementing the organization's automation strategy, standardizing standards and fostering a culture of continuous improvement which will be the main basis for the success of digital transformation in the public sector.

Among the main components presented in this playbook is the setting of a clear and focused RPA vision and strategy, in line with AGD's Vision, Mission, Objectives and Digitalization Strategic Plan for 2024-2025. This playbook also outlines a systematic approach in identifying work processes that have the potential to be automated, in addition to providing a practical action plan to expand the scope and scale of RPA use in AGD.

In addition, this playbook recommends a strong governance framework and integrity, with an emphasis on compliance with policies, standards and procedures to ensure that every RPA initiative is implemented with full transparency, accountability and protection against security threats. The book also details the clear division of roles in the COE structure that involves all stakeholders from top leadership to process owners, RPA developers, analysts, and IT teams to ensure the success of each phase of RPA.

In addition, this playbook provides practical guidance on the RPA life cycle covering every stage, from the discovery and design of work processes, to the development, implementation, and maintenance of automation bots. The playbook also emphasizes the important aspects of

change management, focusing on providing relevant and ongoing training to ensure AGD employees are fully prepared to work with the evolving RPA technology.

With precise definition of Key Performance Indicators (KPI) and holistic measurement criteria, this book enables a transparent and objective assessment of the success of RPA initiatives. This includes measuring productivity improvements, cost savings, and strategic impact on overall organizational performance. Continuous improvement will be encouraged by regularly monitoring and evaluating bot performance, collecting constructive feedback and identifying opportunities to expand the use of automation across AGD.

As a best practice, this playbook aims to standardize the RPA implementation process, reduce errors and inefficiencies and provide opportunities for human resources to focus on more high-value, customer-oriented, compliance, and strategic tasks. RPA COE will also strengthen the culture of innovation in AGD, as well as open space for the integration of intelligent automation technology such as Artificial Intelligence (AI) and Machine Learning (ML), making AGD more responsive, dynamic, and be competitive in facing the challenges of increasingly rapid digital transformation.



SECTION 1

IMPLEMENTATION OF RPA IN AGD

**AGD Automation
Journey Begins Here**



Excellent Accounting @ Your Service

Section 1: Implementation of RPA in AGD

The RPA initiative at AGD is implemented based on the Vision and Mission of RPA COE AGD. The history of the implementation of RPA in AGD began in 2021 and its continuation continued in the Digitalization Strategic Plan of AGD from 2024 to 2025.

1. Purpose of Implementing RPA in AGD

The purpose of implementing the automation initiative is to leverage the capacity of disruptive digital technology towards transforming AGD services.

2. RPA Implementation Objective

The objective of RPA implementation at AGD is to achieve the goals of the short-term and long-term automation program as follows:

2.1 Automation Program Goals

2.1.1 Process Efficiency

Improve operational efficiency by automating repetitive, manual tasks, reducing cycle times, and minimizing errors.

2.1.2 Resource Optimization

Optimize resource allocation and utilization by automating resource-intensive tasks, reallocating personnel to higher-value activities, and improving resource efficiency.

2.1.3 Productivity Enhancement

Increase productivity and throughput by automating routine activities, allowing employees to focus on higher-value tasks.

2.1.4 Quality Enhancement

Improve the quality and consistency of services by implementing automation solutions that enforce standardized processes and reduce variability. Stakeholders' Satisfaction: Increase stakeholders' satisfaction by providing faster response times, personalized services, and seamless interactions through automation tools and technologies.

2.1.5 **Compliance and Risk Management**

Ensure compliance with regulatory requirements, data privacy standards, and internal policies by implementing automation solutions with built-in controls and audit trails.

2.1.6 **Employee Engagement**

Enhance employee satisfaction and engagement by automating mundane tasks, freeing up time for more meaningful work, and empowering employees with automation tools and technologies.

2.1.7 **Proof of Concept Validation**

Validate the feasibility and potential benefits of automation through pilot projects, proof of concepts, or small-scale deployments to demonstrate value and build momentum for broader automation initiatives.

2.2 **Automation Program Long Term Goals**

2.2.1 **Strategic Alignment**

Align automation initiatives with long-term strategic objectives, service priorities, and digital transformation initiatives to drive sustainable growth and competitive advantage.

2.2.2 **Enterprise-wide Adoption**

Achieve widespread adoption of automation across AGD by scaling successful pilot projects, standardizing automation practices, and fostering a culture of automation and innovation.

2.2.3 **Continuous Improvement**

Foster a culture of continuous improvement by regularly evaluating, optimizing, and expanding automation solutions to address evolving service delivery.

2.2.4 **Innovation and Differentiation**

Drive innovation and differentiation by leveraging advanced automation technologies, such as Artificial Intelligence (AI), Machine Learning (ML), and Robotic Process Automation (RPA) to unlock new capabilities and service delivery.

2.2.5 **Ecosystem Integration**

Integrate automation solutions with existing systems, processes, and technologies to create a cohesive ecosystem that enhances interoperability, data sharing, and collaboration across the organization.

2.2.6 **Stakeholder-Centricity**

Enhance stakeholder-centricity by leveraging automation to deliver personalized experiences, anticipate stakeholders' needs, and provide proactive support through data-driven insights and predictive analytics.

2.2.7 **Automation Leadership**

Position the AGD as a leader in automation and digital transformation by leveraging automation capabilities to drive innovation, efficiency, and value creation in public sector.

2.2.8 **Talent Development**

Invest in talent development and workforce upskilling to build a skilled workforce capable of designing, developing, and managing automation solutions effectively.

2.2.9 **Partnership and Ecosystem Engagement**

Engagement: Collaborate with technology partners, vendors, and stakeholders to leverage external expertise, access emerging technologies, and stay abreast of industry trends and best practices.

2.2.10 **Sustainability and Resilience**

Promote sustainability and resilience by leveraging automation to optimize resource usage, reduce environmental impact, and build resilience against disruptions.

3. History of RPA Implementation at AGD

- 3.1 The AGD Business Digitalization Strategic Plan (BSP) 2019–2023 has outlined initiatives to leverage the capacity of disruptive digital technology for service transformation (BST3S1P2). These include developing practical and implementable applications such as quick-win projects like Robotic Process Automation (RPA), Big Data Analytics (BDA), Artificial Intelligence (AI), and financial blockchain applications.
- 3.2 In response to this challenge, the implementation of RPA at AGD began in March 2021 with an initiative focusing on the automation of payments for Unclaimed Money (Wang Tak Dituntut, WTD). The project development commenced in October 2021 following the appointment of a System Integrator (SI) by AGD. The RPA for WTD payments was implemented at the Unclaimed Money Division (*Bahagian Wang Tak Dituntut*, BWTD) starting on March 15, 2022.
- 3.3 With RPA, the performance of eGUMIS payment application processes within 30 days improved from an average of 65% to 95%. Additionally, the time required for document verification was reduced from 20 minutes to just 3 minutes.
- 3.4 As of October 31, 2024, RPA has processed 85% of applications submitted through eGUMIS, equating to 101,128 out of 118,360 applications received in 2024. Of these, 39% (39,439 applications) were non-action center submissions, while the remaining 61% (61,689 applications) were processed through the action center.
- 3.5 Regarding human resource management, prior to RPA implementation, 11 staff members handled WTD verifications, with a standard workload of 82 verifications per day. Post-implementation, the process requires only 7 staff members, with the standard workload increased to 96 verifications per day. Consequently, human resources have been reallocated to more critical tasks, enhancing efficiency and customer satisfaction.

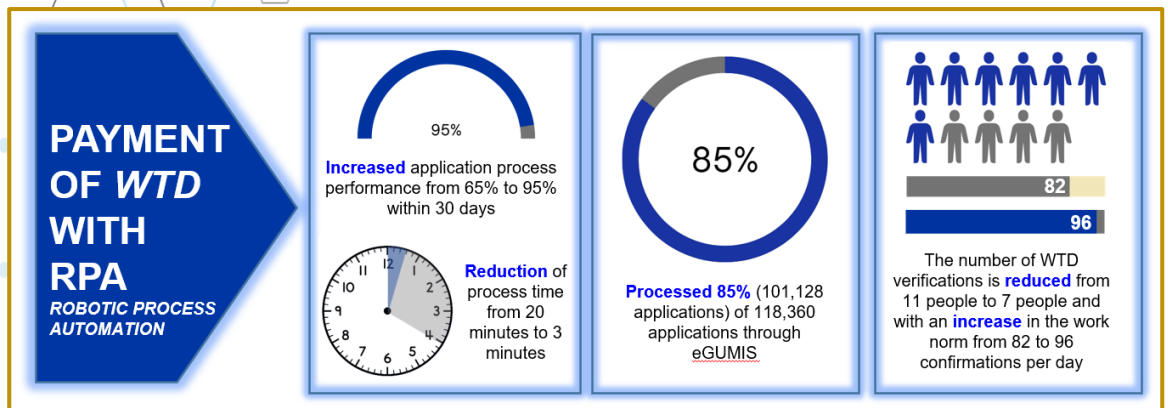


Figure 1: Achievement of Unclaimed Money (WTD) Through RPA

4. RPA Implementation Scope at AGD

Implementation of RPA at AGD Aligns with the 2024–2025 AGD Digitalization Strategic Plan

The initiative to leverage disruptive technologies (high-impact technologies) through RPA for decision-making transformation has been continued under the AGD Digitalization Strategic Plan (DSP) for 2024–2025, involving two Robotic Process Automation (RPA) projects: TST3S2P1-A and TST3S2P1-C. Project TST3S2P1-A involves the establishment of the RPA Center of Excellence (COE) and the internal development of automation processes by AGD personnel, while Project TST3S2P1-C focuses on the automation of refund claim processes for Unclaimed Money (Wang Tak Dituntut, WTD).

The automation process enhances AGD's service delivery in navigating an ever-changing environment, addressing increasingly complex challenges in line with the advancements of the Fourth Industrial Revolution (Industry 4.0) and the National Fourth Industrial Revolution (4IR) Policy.

A summary of the project information is as follows:

4.1 Project for the Establishment of the Centre of Excellence (COE) RPA AGD and the Internal Automation Process Development (TST3S2P1-A)

- 4.1.1 This RPA project involves the subscription of RPA software licenses, the preparation of the Playbook (Guideline for the Centre of Excellence (COE)) for AGD's RPA, supplier advisory services in the establishment of the RPA Centre of Excellence (COE), and the development of work process automation. As a value-added component of this project, the development of the automation process is carried out internally by AGD staff, with guidance and advisory support from the supplier.

4.1.2 The work processes chosen for automation involve repetitive tasks, have a standardized and uniform process flow, and a high volume of transactions in daily operations.

4.1.3 Work process automation can be applied to tasks involving data processing, report generation, and analysis. It helps increase efficiency, reduce human errors, and save working time by automating routine tasks.

4.1.4 The objectives of implementing this project are to:

- (a) Enhance the efficiency and effectiveness of service delivery through the implementation of automation initiatives for repetitive, standardized, uniform processes with high transaction volumes, so that focus can be directed to more complex and strategic activities and services.
- (b) Ensure that AGD keeps pace with new technological changes in line with its mission to strengthen public sector financial management with progressive policies and efficient systems.
- (c) Provide an internal project development team made up of competent AGD staff in automation technology (RPA) to ensure service quality, ongoing support, and effective cost reduction.

4.1.5 The expected output of this project is the establishment of the AGD RPA Centre of Excellence (COE), the AGD RPA COE playbook, RPA software license subscriptions, internal development, and the implementation of automated work processes.

4.1.6 The target group includes officers as follows:

- (a) Business Users (BU) who perform repetitive, standardized work processes with high transaction volumes in the AGD Department, AGD State, and AGD Branch.
- (b) Citizen Developers (CD) consisting of AGD staff who have an interest in and inclination towards developing work process automation using RPA software and have received UiPath RPA Associate Certification.

4.1.7 Among the benefits of implementing RPA for AGD are as follows:

- (a) Improved data accuracy and time savings;
- (b) Automation of routine and standardized tasks;
- (c) More efficient and faster transaction processing;
- (d) Automated report generation;
- (e) Ensuring regulatory compliance through consistent process implementation;
- (f) Providing an audit trail in the automated work process;
- (g) Reducing the risk of human error and consequently reducing repetitive tasks;
- (h) Managing the increasing workload of AGD staff;
- (i) Improving service quality through automation; and
- (j) (Helping AGD staff focus on more complex and strategic activities and services.

4.2 **Process for Claiming Unclaimed Money Refunds (WTD) (TST3S2P1-C)**

4.2.1 The proposed RPA automation process aims to assist the claim refund process for unclaimed money in the Unclaimed Money Management Division (BWTD) by automating the following processes:

- (a) Automating the document verification for online claim applications (eGUMIS);
- (b) Automating the preparation and certification of Payment Instructions (AP) for online applications;
- (c) Automating the printing of payment documents; and
- (d) Automating the generation of dashboard reports and audit trails for claim applications.

4.2.2 The objectives of implementing this project are:

- (a) To reduce the processing time for the unclaimed money refund application process;
- (b) To assist in processing the increasing number of unclaimed money applications each year with the existing staff capacity; and
- (c) To improve customer satisfaction, reduce complaints, and enhance the quality of Government service delivery.

4.2.3 The expected output is to accelerate 30% of the online application process and save 95% of the time spent on document verification for online applications.

4.2.4 The target group for RPA users is the officers from the Claims Unit, Unclaimed Money Management Division (BWTD) of AGD.

5. Steering Committee

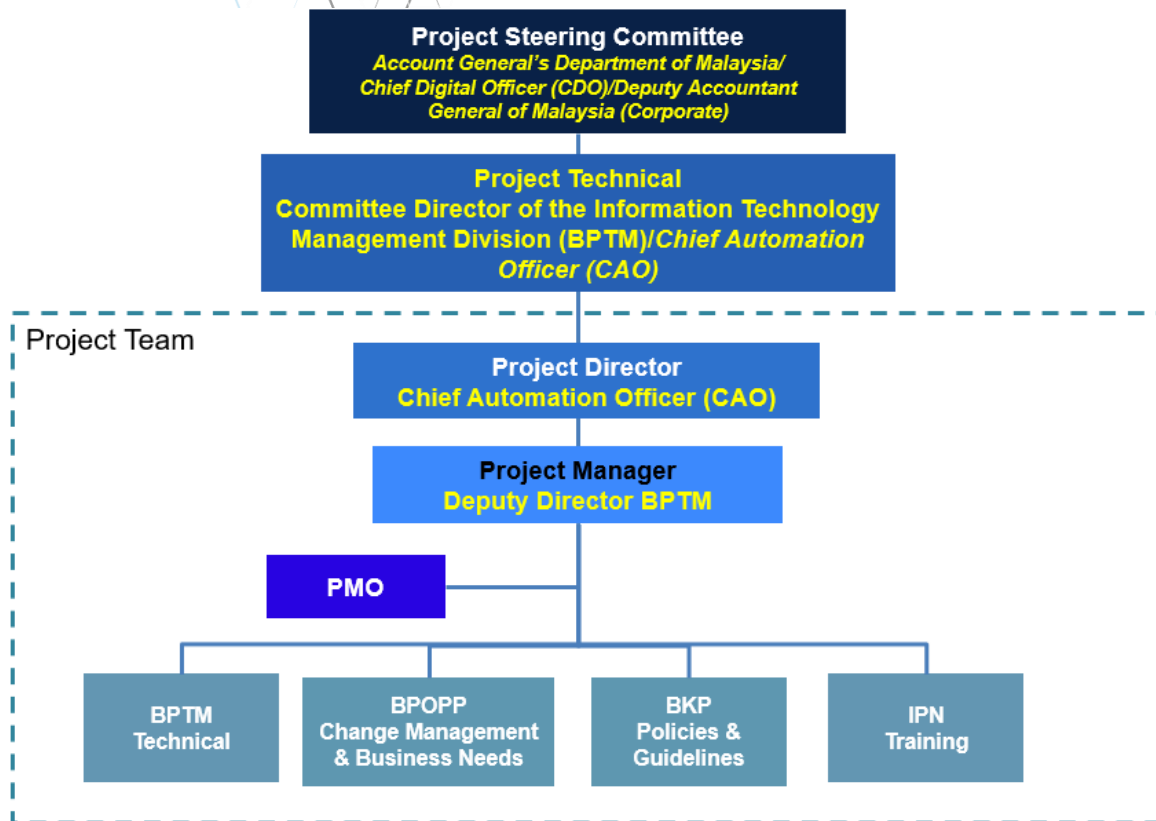


Figure 2: JANM RPA COE governance

5.1 Steering Committee

5.1.1 The steering committee will serve as the apex authority to drive, provide direction, and outline the implementation strategy for the AGD automation program.

5.1.2 The terms of reference for the Steering Committee are as follows:

- (a) To determine the direction of automation for AGD;
- (b) To define the automation strategy;
- (c) To communicate upcoming changes in work processes and the resulting impacts;
- (d) To assess strategic risks and work on mitigation solutions;
- (e) To implement governance and escalation management;

- (f) To set goals for the Automation COE;
- (g) To define measurement metrics to assess the success of the COE;
- (h) To consider project approvals;
- (i) To consider budget approvals;
- (j) To conduct technology assessments;
- (k) To monitor the performance of the COE; and
- (l) To manage change.

5.1.3 Frequency of Meeting
Twice (2) a year

5.2 **Technical Committee**

5.2.1 The Technical Committee's role is to monitor and ensure that the implementation of AGD's automation program is carried out according to the defined scope and schedule, to review issues and challenges arising during the implementation of the automation program, and to report the progress status of the automation program to the Steering Committee.

5.2.2 The terms of reference for the Technical Committee are as follows:

- (a) To monitor and ensure that the service implementation meets the scope and schedule as defined;
- (b) To review and ensure that the service delivery meets the established requirements;
- (c) To review policy issues that arise during service implementation and recommend solutions to the RPA AGD Steering Committee for approval;
- (d) To review and recommend enforcement of the terms of the Agreement to the RPA AGD Steering Committee;
- (e) To provide solutions to technical issues that arise during service implementation;

- (f) To recommend the service project delivery to the RPA AGD Steering Committee for approval;
- (g) To report the service progress status to the RPA AGD Steering Committee;
- (h) To endorse procedures and regulations that require amendments or additions for the RPA AGD Steering Committee's approval; and
- (i) To monitor and resolve functional and technical issues regarding development, implementation, and maintenance.

5.1.4 Frequency of Meeting Twice (2) a year

5.3 RPA AGD Project Management Team (PMO)

5.3.1 The Project Management Team (PMO), led by the Chief Automation Officer (CAO), is responsible for planning, identifying, and implementing the automation agenda at AGD.

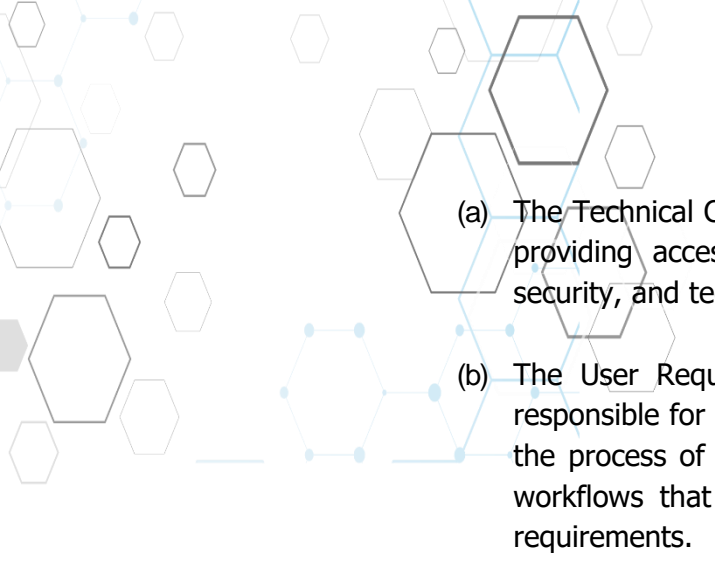
5.3.2 The terms of reference for the PMO are as follows:

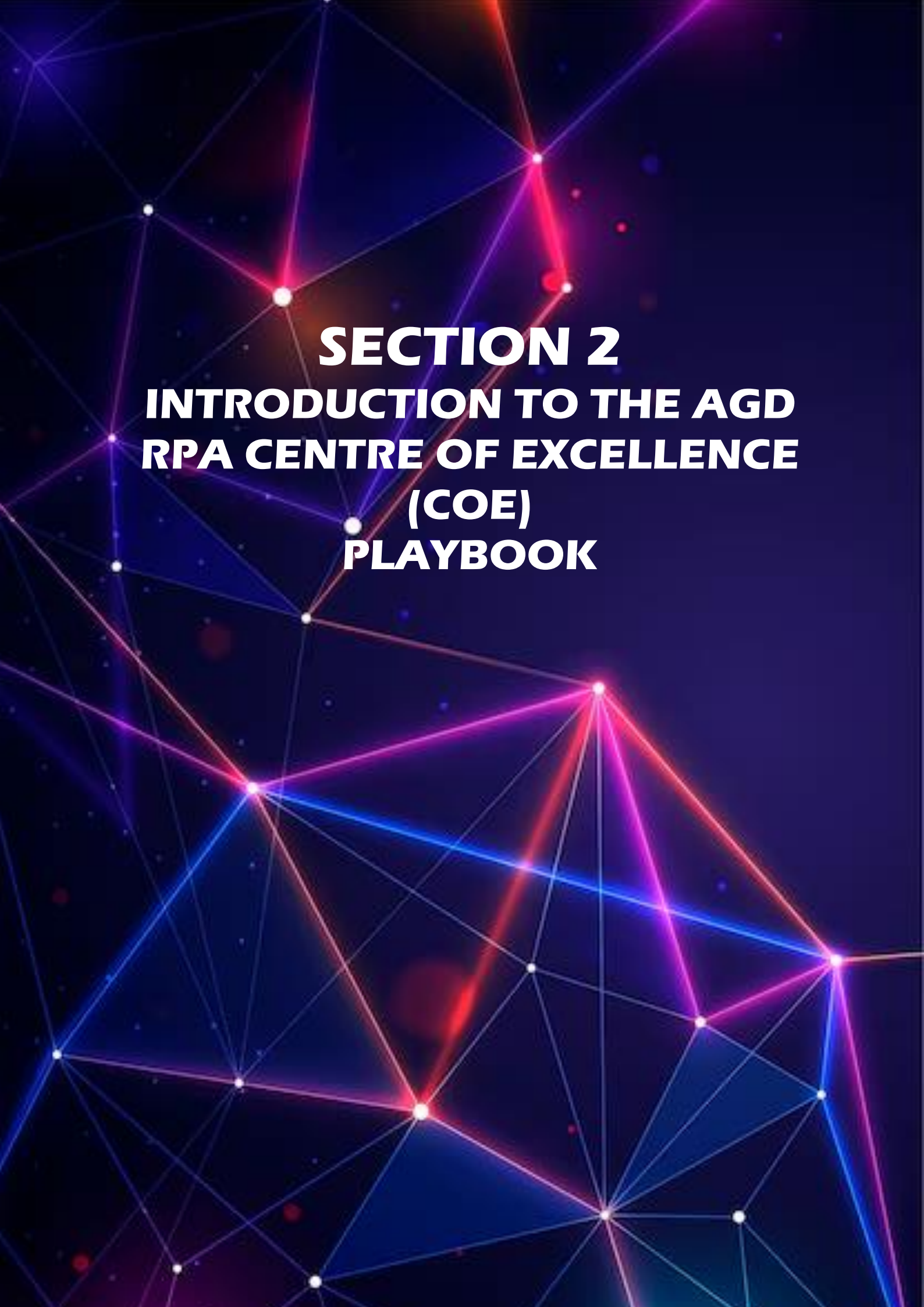
- (a) To assist in developing the overall plan and strategy for RPA development and implementation, while adhering to the terms of reference;
- (b) To monitor the implementation of RPA at the PMO and RPA Committee levels;
- (c) To assist in planning the project framework, including identifying all required resources;
- (d) To assist in managing and overseeing the implementation of all project activities to ensure they align with the planned scope, schedule, and budget;
- (e) To assist in ensuring that project deliverables meet the established specifications and quality standards;

- (f) To assist in preparing and reporting the project progress status periodically and provide ad-hoc reports on any arising issues;
- (g) To assist in managing risks and issues that arise and handle any change requests reported;
- (h) To be prepared to make decisions within the given authority to smoothen the execution:
 - i. To actively participate in all project activities;
 - ii. To prepare monthly/ad-hoc project progress reports for RPA;
 - iii. To prepare and update the Project Management Plan;
 - iv. To manage Steering Committee meetings and the RPA Technical Committee as the secretariat;
 - v. To manage correspondence;
 - vi. To prepare posters, flyers, certificates, and appointment letters;
 - vii. To prepare and update the RPA database;
 - viii. To compile a list of Citizen Developers, Business Users, RPA Developers, and Business Analysts;
 - ix. To compile the terms of reference for RPA Governance at AGD;
 - x. To compile the list of COE members;
 - xi. To create email accounts and shared folders for RPA project information;
 - xii. To perform other tasks related to RPA.

5.3.3 Frequency of meetings As required

5.3.4 The following committees are responsible for fulfilling the requirements to drive automation at AGD

- 
- (a) The Technical Committee assists in the preparation of the platform, providing access, managing networks and technical equipment, security, and technical documentation.
 - (b) The User Requirements and Change Management Committee is responsible for implementing change management and carrying out the process of gathering, evaluating, identifying, and coordinating workflows that can be automated, as well as documenting user requirements.
 - (c) The Policy and Guidelines Committee is responsible for reviewing policies and guidelines related to automation implementation, reviewing and updating this guideline, and other relevant documentation.
 - (d) The Training Committee is responsible for planning and implementing training, as well as identifying financial requirements and facilities for training implementation.



SECTION 2
INTRODUCTION TO THE AGD
RPA CENTRE OF EXCELLENCE
(COE)
PLAYBOOK

Section 2: Introduction to the AGD RPA Centre of Excellence (COE) Playbook

1. Purpose

This RPA Center of Excellence (COE) Playbook is prepared based on UiPath's best practices. This playbook is provided as a reference for the AGD RPA community to implement RPA automation initiatives. It explains the purpose, objectives, and scope of the Center of Excellence (COE), as well as defines the target groups and desired goals.

2. Introduction to the RPA Center of Excellence (COE)

The RPA COE refers to the internal RPA expert team within AGD. The goal of this internal RPA team is to act as the main driver of AGD's Vision through automation. The COE serves as a strategic catalyst, ensuring that automation capabilities are accessible and support continuous innovation.

By providing strategic guidance, developing internal expertise, and disseminating accumulated knowledge across various RPA implementations, the COE ensures that AGD can achieve efficiency, reduce costs, and enhance overall performance through RPA implementation.

3. Objective

The main objectives of providing this guide are as follows:

3.1 **Define the WHO, WHAT, and HOW of the RPA Program:**

Clearly identify the key stakeholders, objectives, and methodologies for implementing RPA within AGD. This includes defining the roles, responsibilities, and processes involved in the RPA program.

3.2 **Design the COE Structure:**

Develop a structured framework for the RPA Center of Excellence (COE) at AGD. This involves outlining the roles, responsibilities, functions, organizational structure, and ownership of the COE to ensure effective management and oversight of RPA initiatives.

3.3 **Design a Robust COE Governance Structure:**

Establish a governance framework to govern the RPA program across the enterprise. This includes defining decision-making processes, communication

channels, compliance requirements, and mechanisms for monitoring and controlling RPA initiatives to ensure alignment with organizational goals and objectives.

3.4 **Define Best Practices and Methodologies for Process Intake and Support:**

Define standardized best practices and methodologies for identifying, prioritizing, and supporting RPA initiatives at AGD. This includes establishing guidelines for process intake, evaluation, prioritization, and ongoing support to streamline RPA implementation and maximize its benefits.

3.5 **Define a Robust Implementation Plan to Operationalize the COE Design:**

Develop a comprehensive implementation plan to operationalize the COE design and roll out RPA initiatives effectively. This includes defining the activities, timelines, resources, and milestones needed to establish and manage the COE, as well as implementing RPA projects across the organization.

Overall, these objectives aim to provide a structured framework and guidance for AGD to establish and manage its RPA program effectively, ensuring alignment with organizational objectives and maximizing the value of automation initiatives.

4. Document Scope

The scope of this RPA COE playbook includes:

4.1 **Establishment of the RPA Center of Excellence at AGD**

4.1.1 **Purpose and Scope Definition:**

Clearly defining the purpose, objectives, and scope of the COE playbook, outlining its intended audience and goals.

4.1.2 **Stakeholder Input Gathering:**

Establishing processes for gathering input and feedback from key stakeholders involved in the RPA program..

4.1.3 **RPA Governance and Guidelines Documentation:**

Documenting governance policies, procedures, and guidelines for RPA implementation and management

4.2 RPA COE Methodology

4.2.1 **Process Selection and Prioritization:**

Outlining methodologies for selecting, prioritizing, and evaluating processes for automation.

4.2.2 **RPA Development Standards:**

Defining standards, best practices, and methodologies for RPA development and implementation

4.2.3 **Security and Compliance Guidelines:**

Establishing guidelines and protocols for ensuring security and compliance in RPA processes and implementations

4.2.4 **Change Management and Communication Strategies:**

Developing strategies and communication plans for managing change and promoting RPA adoption within the organization.

4.2.5 **Training and Skill Development:**

Providing guidance on training programs and skill development initiatives to upskill RPA practitioners.

4.2.6 **Monitoring and Performance Measurement:**

Defining metrics, KPIs, and performance measurement mechanisms for monitoring and evaluating RPA initiatives.

4.2.7 **Maintenance and Support:**

Outlining processes and procedures for maintaining and supporting RPA solutions post-implementation.

4.2.8 **Scaling RPA:**

Developing strategies and frameworks for scaling RPA initiatives across the organization.

4.2.9 **Case Studies and Use Cases:**

Documenting case studies and use cases to illustrate successful RPA implementations and outcomes.

4.2.10 **Continuous Improvement:**

Establishing processes for capturing lessons learned and driving continuous improvement in RPA practices.

4.2.11 **Review and Approval Process:**

Defining the process for reviewing, approving, and updating the COE playbook and associated documentation.

4.2.12 **Distribution and Accessibility:**

Ensuring the playbook is readily accessible to all stakeholders and distributed through appropriate channels.

4.2.13 **Feedback Mechanisms:**

Implementing mechanisms for gathering feedback and suggestions for improving the COE playbook and RPA practices.

4.2.14 **Pilot Testing:**

Planning and executing pilot tests to validate RPA solutions and gather insights for refinement.

4.2.15 **Launch and Training:**

Planning and conducting launch events and training sessions to introduce the COE playbook and RPA initiatives to stakeholders.

4.2.16 **Monitoring and Iteration:**

Implementing processes for ongoing monitoring, evaluation, and iteration of RPA initiatives based on performance feedback and lessons learned.

5. Document Audience

The users of this RPA Center of Excellence (COE) Playbook include the following stakeholders:

5.1 **Top Management**

5.1.1 Akauntan Negara Malaysia - ANM

5.1.2 Timbalan Akauntan Negara (Operation) - TAN(O)

5.1.3 Timbalan Akauntan Negara Korporat - TAN(K)

5.2 **Head of Divisions**

Head of division directly impacted by the automation program. Their input is essential for identifying automation opportunities, prioritizing initiatives, and ensuring alignment with business needs.

5.3 **Committee of the Center of Excellence (CoE)**

5.3.1 Chief Automation Officer (CAO) is also known as COE leader.

5.3.2 Deputy Chief Automation Officer is also known as Deputy COE leader.

5.3.3 Head of Business Requirement and Change Management

5.3.4 Head of Technical

5.3.5 Head of Training

5.3.6 Head of Policy and Guidelines

The AGD workforce, which includes Citizen Developers (CD), Business Users (BU), the IT team, process analysts, and other stakeholders.

SECTION 3
ESTABLISHMENT OF THE
AGD RPA
CENTER OF EXCELLENCE
(COE)



Section 3: Establishment of the AGD RPA Center of Excellence

1. Establishment Process

- 1.1 AGD has undertaken the endeavor to establish a comprehensive governance program designed to adopt and accelerate Robotics Process Automation (RPA) initiatives across the entirety of the enterprise.
- 1.2 The primary goal of the engagement was to establish a Center of Excellence (COE) that provides essential oversight and defines process specifications for the present, while also envisioning future developments to support the expanding adoption of automation throughout the organization.
- 1.3 AGD program leadership , have jointly mapped a series of topic-centric engagements that had explored needed content across the Business ,Technology groups, and supporting functions within the enterprise.
- 1.4 The resulting COE will provide role-based guidance and instruction for all participants in the Program – Steering committee , IT, support personas, technologies personnel, and business program team members.

2. Function and Roles

- 2.1 The Automation COE also defined as the "Automation Centre Of Excellence" shall act as the central team to drive and execute the RPA program at AGD.
- 2.2 The Automation Centre of Excellence would work with respective stakeholders and teams namely the divisions within AGD , IT applications and security teams and other teams as necessary to ensure a smooth functioning of the RPA and intelligent automation practice and drive Automation @Scale leveraging RPA as a technology. The COE would be the focal point and should be the final decision maker on matters related to execution of RPA on a given process for a department within AGD.

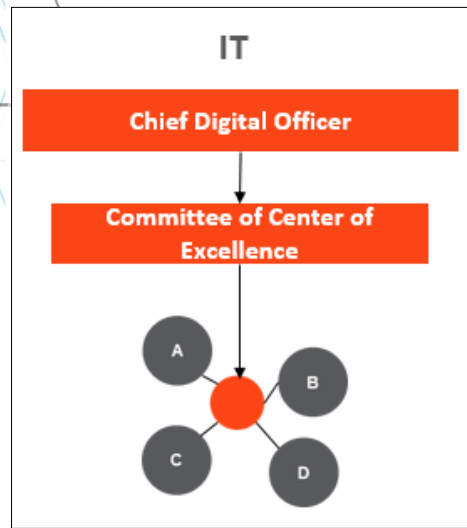


Figure 3: AGD RPA COE structure

- 2.3 It is recommended that the scope of the COE would be restricted to the AGD and its divisions only. All other business areas remain out of scope. The primary focus of the COE would be to drive process transformation through Robotics process automation (RPA) along with adjacent technologies like AI & ML.
- 2.4 It is recommended that the principal accountability of the automation program will lie with the Chief Digital Officer within the IT team at AGD which will pioneer key decisions with regards to automation strategy along with the proposed steering committee besides providing management oversight to the automation COE.

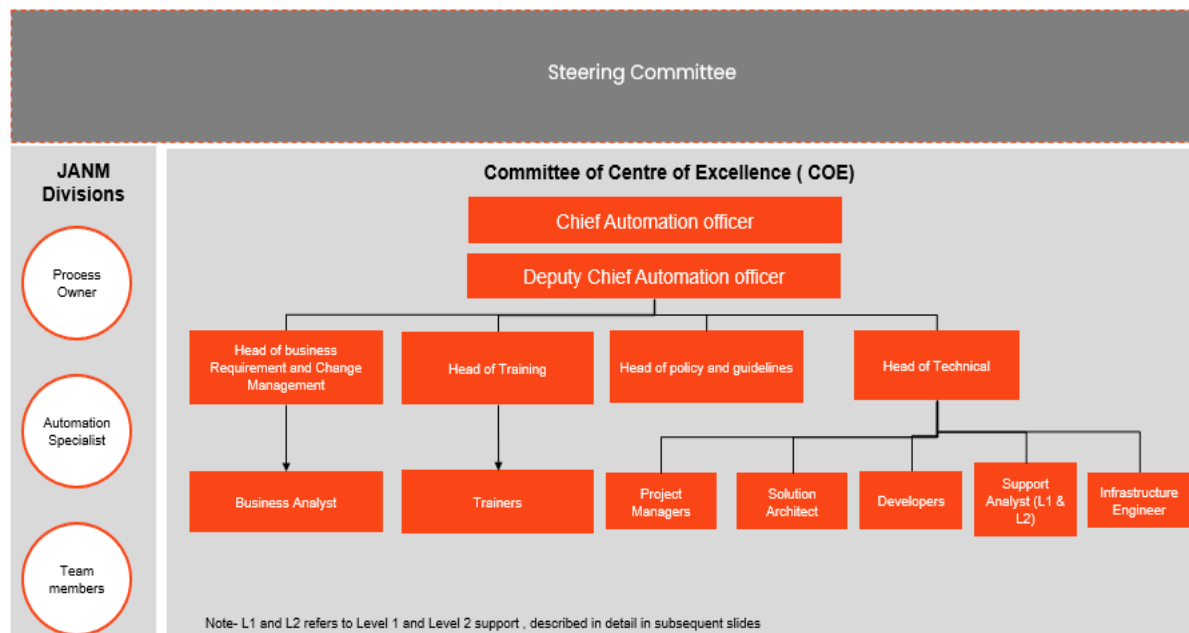


Figure 4: Proposed Governance Structure of RPA COE at AGD

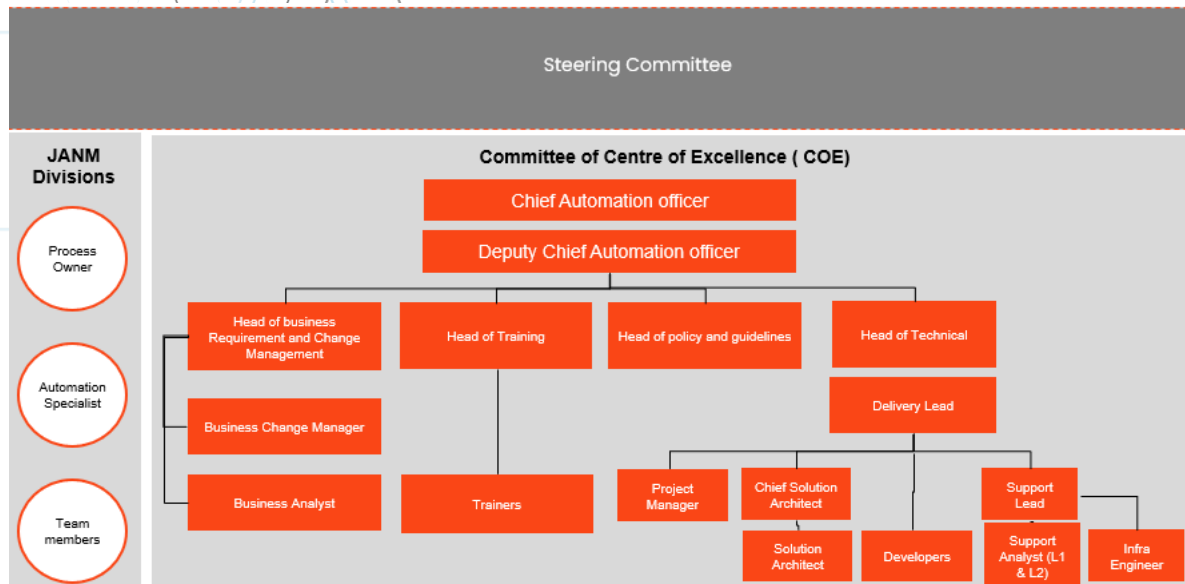


Figure 5: Recommended Matured COE Organizational Structure at AGD

2.5 The ownership of the CoE will be as below:

2.5.1 The Centre of Excellence (COE) will be part of the IT team within AGD.

2.5.2 The COE will report to the Chief Digital Officer who will be part of the leadership team of the steering committee.

2.5.3 he COE will be led by the Chief Automation officer

2.6 Role of COE across AGD’s automation program

The Automation COE at AGD will manage the following strategic program components as a centralized structure.

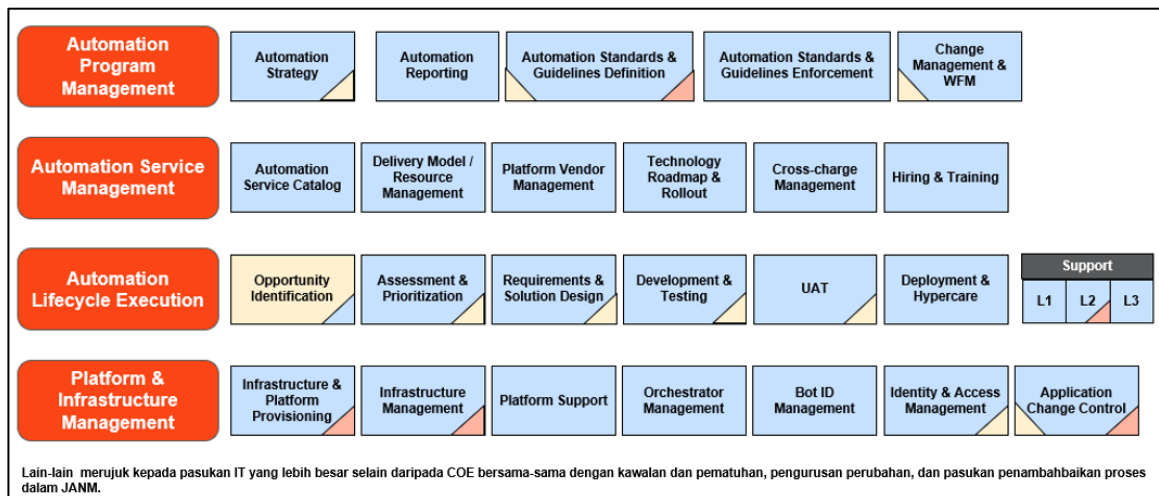
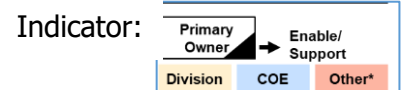


Figure 6: Centralized Strategic Program Components (centralized structure)



2.7 Key Functions of AGD COE at an operational level

2.7.1 Strategy Development and Planning:

Develop and refine the organization's automation strategy in alignment with business goals, digital transformation objectives, and industry trends. Define the strategic direction, objectives, and roadmap for automation initiatives.

2.7.2 Opportunity Identification and Prioritization:

Identify and prioritize automation opportunities across various business functions and processes. Assess potential benefits, feasibility, and impact to prioritize initiatives that deliver the most value to the organization.

2.7.3 Governance and Standards Establishment:

Establish governance policies, standards, and best practices for RPA implementation. Define guidelines for process assessment, solution design, development, testing, and deployment to ensure consistency, compliance, and quality.

2.7.4 Technology Evaluation and Selection:

Evaluate, select, and manage RPA tools and technologies based on the organization's needs, scalability, security requirements, and compatibility with existing systems. Provide guidance on technology adoption and platform integration.

2.7.5 Centre of Excellence Structure and Team Management:

Define the structure of the COE, including roles and responsibilities, and manage the COE team to ensure that it has the necessary skills and expertise for successful automation initiatives. Foster a culture of collaboration, innovation, and continuous improvement within the COE.

2.7.6 Training and Skill Development:

Develop training programs to enhance the skills of COE members and other employees in automation technologies and methodologies. Provide education and support to build a workforce proficient in RPA and related disciplines.

2.7.7 Project Management and Execution:

Oversee the planning, execution, and management of automation projects. Provide project management support, resources, and tools to ensure that projects are delivered on time, within budget, and with the expected level of quality.

2.7.8 Change Management and Adoption Support:

Develop and implement change management strategies to facilitate the adoption of automation solutions. Engage stakeholders, address resistance to change, and promote organizational readiness for automation initiatives.

2.7.9 Performance Monitoring and Reporting:

Define key performance indicators (KPIs) and metrics to measure the success, effectiveness, and impact of automation initiatives. Monitor progress against targets, track performance, and provide regular reports to stakeholders on the outcomes of automation projects.

2.7.10 Knowledge Management and Sharing:

Establish a knowledge management system to capture, document, and share insights, best practices, and lessons learned from automation projects. Facilitate knowledge sharing and collaboration among COE members and stakeholders.

2.7.11 Stakeholder Engagement and Communication:

Collaborate with key stakeholders, including business units, IT, and executive leadership, to ensure alignment with business objectives and priorities. Communicate the benefits of automation, share updates, and solicit feedback to build support and promote transparency.

2.7.12 Vendor and Partner Management:

Manage relationships with RPA vendors, consultants, and external partners to ensure alignment with organizational objectives and value delivery. Evaluate vendor capabilities, negotiate contracts, and oversee the delivery of services and solutions.

2.7.13 Continuous Improvement and Innovation:

Foster a culture of continuous improvement and innovation within the COE and the organization. Encourage experimentation, exploration of new automation technologies, and implementation of emerging best practices to drive innovation and value creation.

2.7.14 Resource Allocation and Budget Management:

Allocate resources, including budget, personnel, and technology infrastructure, to support COE activities and the successful execution of automation projects.

2.8 Performance KPI

2.8.1 Strategic KPI

The Chief Automation Officer (CAO) will drive the following KPIs and will be reported to on the performance.

KPI Definition	Numerator	Denominator	Unit
On time completion	Number of Total projects completed as per agreed or committed timelines	Number of Total projects completed within the calculation period	Percentage
Efficiency	Number of Man hours saved from automation	Number of actual manhours utilized originally.	Percentage
Return on investment	Actual Cost savings done through automation	Total investment done to drive automation including FTE cost post automation if any	Percentage
Average Savings per project	Average of savings obtained from number of projects done within a given calculation period		Absolute number expressed as an average
Process Automation rate	Number of processes or tasks automated within a given time-period		Absolute number
Average time to deploy per project	Average of time taken for each project from initiation to completion.		Absolute number expressed as an average
Stakeholder engagement satisfaction score	Number of participants rated as satisfied	Number of respondents	Percentage

Figure 7: Strategic KPI

2.8.2 Operational KPI

The Head of Technical will drive the following KPIs and will be reported to on the performance.

KPI Definition	Numerator	Denominator	Unit
On time Solutioning	Number of solutions completed on time	Number of solutions completed within the calculation period	Percentage
Solution Accuracy %	Number of Times solution has been revisited more than once after the original solution is created due to incorrect capture or design	Total number of unique solutions done during the calculation period.	Percentage
% of Reengineered process	Number of processes redesign or reengineering done	Total number of unique solutions done during the calculation period.	Percentage
% of projects completed with escalations	Number of projects which got escalated to COE leader level for reasons within the control of the operational teams	Total number of unique solutions done during the calculation period.	Percentage
% of processes with Complete Automation	Number of Processes which are automated completely E2E without any human intervention	Number of Processes automated during the calculation period	Percentage
utilization % of available resources within the COE	Time spend on active projects	Available time for the resource (excluding vacation and training times)	Percentage

Figure 8: Operational KPI

2.8.3 Robot KPI

The following BOT Performance KPIs are proposed to be tracked by COE and will be reported according to the appropriate reporting matrix.

KPI	KPI Definition	Numerator	Denominator	Unit
Number of BOTS deployed per process	Total number of Bots deployed per process			Absolute number
Bot Utilization Percentage		Number of Bots Deployed X Number of Hours the Bot is running	Number of Bots deployed X the maximum number of hours the Bot can run (24 has)	Percentage
Straight through process		Number of processes successfully completed by the Bot without any fall out	Total number of processes completed during the calculation period	Percentage
Bot Reusability		Number of Bots cross utilized across processes	Total Number of Bots deployed	Percentage

Figure 9: Robot KPI

2.9 COE RACI across strategic program components at AGD Automation Lifecycle Execution

ILLUSTRATIVE

		L	S	I							
		Lead	Support	Inform							
Kategori	Tugas Utama	COE	FULL SERVICE	Divisions	IT Apps	IT Infra	ITSM	Controls & Compliance	WFM & Change	Process Improvement	
Mengenalpasti peluang / Pengurusan Pipeline	<ul style="list-style-type: none"> Mengenalpasti peluang automasi Mengutamakan peluang automasi dan menguruskan <i>pipeline</i> Menilai peluang untuk mengembangkan peluang untuk skop yang lebih besar dan menyeluruh Menilai peluang untuk solusi yang paling sesuai (alternatif / pelengkap kepada RPA) 	S	-*	L	S	S				S	
	Penilaian dan Keutamaan <ul style="list-style-type: none"> Melengkapkan borang penerimaan kerja Menyemak laporan kebolehlaksanaan (kestabilan proses, kesesuaian, kerumitan, manfaat dan risiko) Menyediakan cadangan <i>business case</i> Menyediakan rancangan projek untuk pembangunan automasi 	L	-*	S							
		<ul style="list-style-type: none"> Menyemak penilaian risiko dan dokumentasikan <i>business controls requirements</i> Mendapatkan kelulusan dokumentasi <i>business controls</i> (jika diperlukan) 	L	-*	S				S		
		<ul style="list-style-type: none"> Kelulusan cadangan <i>business case</i> Penyelarasan dan persetujuan mengenai <i>cross-charges</i> dan <i>business case</i> 	S	-*	L						
Keperluan dan Solusi Reka Bentuk	<ul style="list-style-type: none"> Membangunkan rancangan peluang pelaksanaan RPA Membentangkan dan menerangkan proses dan melengkapkan <i>process definition document (PDD)</i> dan mendapatkan pengesahan 	L	-*	S						S	
	<ul style="list-style-type: none"> Menyediakan <i>solution design document (SDD)</i> untuk proses 	L	-*	S, I	S			S		S	
	<ul style="list-style-type: none"> Mengenalpasti penciptaan/penggunaan komponen yang boleh diguna semula. Mendapatkan pengesahan semakan SDD/reka bentuk 	L	-*	I				S			
	<ul style="list-style-type: none"> Mengenalpasti semua aplikasi dan test environment Menentukan ketersediaan data yang digunakan untuk diuji 	L	-*	S		S					
Penguatkuasaan Piawaian & Garis Panduan Automasi	<ul style="list-style-type: none"> Kuatkuasakan proses, piawai, templat, peranan, dan tanggungjawab yang seragam di seluruh perniagaan, serta pematuhan kepada kawalan perniagaan dan IT yang ditakrifkan. 	L	-*	S				S	S		
Change Management & Workforce Planning	<ul style="list-style-type: none"> Memajukan & melaksanakan strategi komunikasi perniagaan mengikut persona 	L	-*	S						S	
	<ul style="list-style-type: none"> Membangunkan & melaksanakan strategi komunikasi bahagian mengikut persona." 	L	-*	S						S	
	<ul style="list-style-type: none"> Menentukan dan menguruskan strategi perancangan tenaga kerja /pelatihan semula pengambilan perkerja Membangunkan & menguruskan pembangunan kerjaya & kemajuan. 	S	-*	S						L	
Katalog Perkhidmatan Automasi	<ul style="list-style-type: none"> Menakrifkan katalog perkhidmatan dengan perkhidmatan COE yang ditawarkan, tanggungjawab unit bahagian dan kos Manakrifkan prestasi SLA untuk perkhidmatan dan kredit perkhidmatan untuk pelanggaran SLA 	L	-*	I		S					
Delivery Model dan Pengurusan Sumber	<ul style="list-style-type: none"> Menakrifkan dan menguruskan <i>delivery model/resourcing plans</i> Menakrifkan keperluan untuk pembekal perkhidmatan Menguruskan servis pembekal perkhidmatan jika berkenaan. 	L	-*	S						S	
Pengurusan Platform Vendor	<ul style="list-style-type: none"> Menguruskan hubungan kontrak dan pelesenan dengan vendor teknologi 	L	-*	I			I				
Roadmap & Rollout Teknologi	<ul style="list-style-type: none"> Menguruskan sumber khusus yang menilai produk/penambahbaikan Mengulas produk/penambahbaikan baru untuk peralatan dan menyediakan <i>roadmap</i> pelaksanaan Melaksanakan sesi latihan kepada pihak berkaitan untuk menggalakkan penggunaan RPA 	L	-*	I		S					
Pengurusan Cross-charge	<ul style="list-style-type: none"> Menetapkan kaedah pengiraan cross-charge untuk perkhidmatan dalam katalog perkhidmatan. Menetapkan mekanisme untuk menyesuaikan cross-charge bagi penggabungan perkhidmatan, komponen yang boleh diguna semula dan keperluan setiap unit. 	L	-*	I		S					
Pengambilan dan Latihan	<ul style="list-style-type: none"> Menentukan peranan yang perlu dipenuhi untuk menyokong program automasi Mengenal pasti dan menyediakan FTE/pembekal perkhidmatan dari senarai vendor yang diluluskan Mengesahkan tamat Latihan/pensijilan. Mereka dan mengurus perkembangan kerjaya untuk sumber program automasi 	L	-*	S			I	I			

		L	S	I							
		Lead	Support	Inform							
Kategori	Tugas Utama	COE	FULL SERVICE	Divisions	IT Apps	IT Infra	ITSM	Controls & Compliance	WFM & Change	Process Improvement	
Pembangunan dan Ujian	Membangunkan automasi seperti yang didokumentasi dalam SDD	L	-*	S, I							
	Melakukan <i>unit testing</i> automasi	L	-*	I							
	Mengemaskini <i>components library</i> yang boleh digunakan semula (jika perlu)	L	-*	I							
	Merujuk dan mengemaskini <i>knowledge base</i> (jika perlu)	S	-*	L							
	Membangunkan pelan pengurusan perubahan & komunikasi	L	-*					S			
	Menyelesaikan semakan risiko & kawalan dan mendapatkan kelulusan (termasuk dokumentasi kawalan & ujian)	L	-*								
	Melaksanakan semakan kod dan melengkapkan senarai Semak kod	L	-*								
UAT	Menyediakan pelan ujian dan skenario ujian untuk UAT	S	-*	L							
	Memindahkan pakej kod automasi ke QA/UAT	L	-*								
	Melaksanakan ujian UAT dan mendokumentasi hasil ujian	S	-*	L							
Deployment & Hypercare	Memberikan pengesahan setelah ujian UAT telah berjaya dilaksanakan	S	-*	L							
	Mengemaskini dokumen (PDD, SDD) jika perlu	L	-*	S							
	Mengemaskini kod ke <i>code repository</i>	L	-*	S							
	Mengemaskini buku panduan automasi / panduan pengguna	L	-*	S							
	Membuat <i>change ticket</i> untuk <i>deployment</i>	L	-*	S			S				
	Melengkapkan senarai semak <i>deployment</i> untuk mengesahkan penyelesaian tadbir urus	L	-*	S							
	Melaksanakan pelan pengurusan perubahan & komunikasi	L	-*	L							
Sokongan L1	Melaksanakan pelan <i>deployment / go live</i>	L	-*	S		I					
	Deploy pakej, menjadualkan bot, memaklumkan kepada <i>business</i> dan <i>division</i>	L	-*	I							
	Memenuhi kriteria <i>hyper care</i>	L	-*	S							
	Mengenalpasti isu dalam pelaksanaan bot melalui <i>orchestrator</i> atau penggera <i>automatic</i>	L	-*	I							
	<i>Create incident</i> dalam system tiket	L	-*	I							
	Memantau <i>output</i> proses automasi dan mengenalpasti isu dalam pelaksanaan bot	I	-*	L							
	<i>Create incident</i> dalam system tiket atau menghubungi meja bantuan	L	-*	S, I							
Sokongan L2	Menyokong prestasi & pelaporan isu	L	-*	S, I							
	Menyemak log proses/ <i>error messages/</i> emel, prosedur <i>runbook/</i> pangkalan pengetahuan untuk menyelesaikan isu.	L	-*	S, I			S				
	Menyemak status infrastruktur dan platform	L	-*	S, I							
	Menentukan <i>root cause, reassign</i> tiket jika perlu	L	-*	S, I							
	Mengemaskini pangkalan pengetahuan jika perlu	L	-*	S, I							
	Menyelesaikan isu kod yang tidak kritikal / kompleksiti rendah atau (<i>asset changes, perubahan jadual, selector issues</i> dan lain-lain)	L	-*	S, I							
	Melakukan analisis <i>root cause</i> tambahan jika perlu	L	-*	S, I							
Sokongan L3	Mengenalpasti perubahan automasi yang diperlukan untuk menyelesaikan isu; menentukan usaha dan memperoleh kelulusan (jika ada)	L	-*	S, I		S	S				
	Menentukan anggaran usaha dan mendapatkan kelulusan (jika ada) untuk menyelesaikan isu	L	-*	S, I							
	Memperbaiki isu-isu infrastruktur, aplikasi & platform yang dikenal pasti	L	-*	S, I							
	Mengemaskini pangkalan pengetahuan jika perlu	L	-*	S, I							
	Melakukan Ujian UAT dan mendapatkan kelulusan; mengemaskini <i>control documentation</i> (jika perlu)	L	-*	S, I							
	Mengemaskini pangkalan pengetahuan jika perlu	L	-*	S, I							
	Redeploy automasi di persekitaran <i>production</i> mengikut prosedur <i>deployment</i>	L	-*	S, I			S				

Kategori	Tugas Utama	<div style="display: flex; justify-content: space-around; border: 1px solid black; padding: 2px;"> L Lead S Support I Inform </div>							
		COE	FULL SERVICE	Divisions	IT Apps	IT Infra	ITSM	Controls & Compliance	WFM & Change
Penyediaan Infrastruktur & Platform	<ul style="list-style-type: none"> Menyediakan mesin Pembangunan dan (UAT) dan menyelesaikan kesediaan persekitaran (aplikasi, UiPath) Mencipta sektor <i>UiPath Orchestrator / business unit tenant (Dev, UAT)</i> 	L				S			
	<ul style="list-style-type: none"> Penyediaan mesin PROD dan menyelesaikan kesediaan persekitaran (aplikasi, UiPath) Penyediaan sektor <i>UiPath/ business unit tenant (PROD)</i> 	L		I		S			
Pengurusan Infrastruktur	<ul style="list-style-type: none"> Penyelesaian Isu, Pemasangan Pembaikan, Naiktaraf, dan Penyelenggaraan Mesin Platform (Pembangunan, UAT) <i>Break-fix, patching</i>, menaiktaraf dan penyelenggaraan mesin <i>platform</i> (Dev, UAT) Sokongan Kapasiti Persekitaran dan sokongan DR untuk mesin <i>platform</i> (Dev, UAT) 	L				S			
	<ul style="list-style-type: none"> Penyelesaian Isu, Pemasangan Pembaikan, Naiktaraf, dan Penyelenggaraan Mesin Platform (PROD) Sokongan Kapasiti Persekitaran dan sokongan DR untuk mesin <i>platform</i> (PROD) 	L		I		S			
Pengurusan Platform	<ul style="list-style-type: none"> <i>Break-fix</i> pembaikan, dan penyelenggaraan Platform(Dev, UAT) 	L				S			
	<ul style="list-style-type: none"> <i>Break-fix</i>, dan penyelenggaraan (PROD) 	L		I		S			
Pengurusan Orchestrator	<ul style="list-style-type: none"> Pemantauan dan Pengurusan Platform (DEV, UAT, PROD), Akses Pengguna, Pengurusan Lesen, Penjadualan, dan lain-lain. 	L		I		S			
Pengurusan Bot ID	<ul style="list-style-type: none"> <i>Request creation of Bot ID</i> 	L		S			S		
	<ul style="list-style-type: none"> Meluluskan <i>creation of Bot ID</i> 	L					S		
Pengurusan Identiti & Akses	<ul style="list-style-type: none"> Memohon akses aplikasi ID Bot 	S	.*	L	S				
	<ul style="list-style-type: none"> Memohon <i>creation of division management tool vault (i.e. CyberArk)</i> untuk aplikasi non-SSO (sekiranya perlu) 	L	.*						
	<ul style="list-style-type: none"> Mengemaskini <i>credentials</i> untuk aplikasi non-SSO 	L	.*						
Kawalan Perubahan Aplikasi	<ul style="list-style-type: none"> Mengenalpasti perubahan yang akan datang kepada aplikasi yang mungkin memberi kesan kepada bot dalam <i>production</i> 	S	.*	L	S	S			
	<ul style="list-style-type: none"> Penilaian kesan perubahan terhadap bot & mencipta user story yang sesuai untuk mengurus perubahan dan <i>align release</i> 	L	.*	S	S	S			

Figure 10: COE RACI Across JANM's Strategic Program Components

* This RACI note was developed taking into account that there is a separate change management and process improvement team within JANM. If that is not the case, then the RACI will be modified accordingly.

3. Activities to Gather Stakeholder Input

Development activities refer to a structured set of tasks, actions, or processes undertaken to create, improve, or refine a specific product, solution, or system. In the context of automation, software development, or operational improvements, these activities are designed to ensure that the end solution aligns with the business's needs and objectives. Below are the development activities performed for the purpose of gathering the stakeholder input:

3.1 **Introduction sessions on AOM and requirement gathering:**

These sessions were organized to familiarize stakeholders with Automation Operating Model (AOM) principles, helping teams understand how to approach automation in a structured manner. This included training or workshops on how to effectively gather and document requirements for automation solutions, ensuring they meet the business objectives.

3.2 **Interviews:**

The team conducted interviews with key stakeholders, including business users, subject matter experts (SMEs), and IT staff. These interviews aimed to gather insights on current processes, pain points, expectations, and opportunities for automation. The information collected would have contributed to shaping the content of the playbook and tailoring the automation strategies to fit AGD's specific needs.

3.3 **Pre-workshop questionnaire:**

Before conducting workshops, a questionnaire was distributed to participants. This would help gather preliminary data, assess the participants' current understanding of automation, and identify areas of interest or concern. The results would ensure that the workshops were focused and relevant, addressing the specific needs and challenges of the stakeholders.

3.4 **Review and incorporation of feedback to ensure alignment to AGD working practices:**

After the initial sessions, workshops, and interviews, the team collected feedback from participants. This feedback would be carefully reviewed and incorporated into the COE Playbook to ensure that the recommendations, methodologies, and automation strategies were aligned with AGD's established working practices, culture, and operational goals.

Overall, these development activities were designed to ensure that the COE Playbook is practical, well-informed, and aligned with the organization's automation journey.

4. Governance

In this section, the governance structure for the RPA initiative will be defined, including roles and responsibilities, decision-making processes, and guidelines for selecting, prioritizing, and managing RPA projects.

4.1 The recommended roles and responsibilities in AGD RPA COE are as follows:

4.1.1 **CHIEF AUTOMATION OFFICER-CAO**

- a) Leads strategic automation program.
- b) Defines priorities, owns the governance model, and leads to opportunity identification and prioritization.
- c) Evangelizes and drives automation adoption across the organization as a guardian of the overall automation program.
- d) Develops and executes automation strategy, including review and assessment of new tool capabilities.
- e) Advocates & educates the business on RPA and manages top-down and bottoms-up ideation efforts.
- f) Manages and prioritizes the automation pipeline.
- g) Owns methodology & approaches to prioritization and initial opportunity assessment.
- h) Ensures a healthy automation pipeline, while overseeing the operational management of the virtual workforce

- i) Forms and manages the automation team to build the setup and to deliver the program across Client X Divisions
- j) Oversee program budget and long-term evolution strategy.

4.1.2 HEAD OF TECHNICAL

- a) Manages delivery of the technology platform, including SaaS and on-prem components
- b) Oversees both in-flight development and production support components of the automation program, including infrastructure and application dependencies.
- c) Owns the design and ongoing quality assurance for all operational procedures and policies.
- d) Ensures methodologies and policies are in place and being adhered.
- e) Oversees work being managed by both the delivery and support leads.
- f) Owns relationship & coordination with the aligned IT LOB organizations
- g) to ensure processes are in place to effectively support delivery teams.
- h) Manages the automation program administrative responsibilities, including:
 - i) Owns relationship with vendors and service providers.

4.1.3 HEAD OF BUSINESS REQUIREMENT AND CHANGE MANAGEMENT

- a) Identify, assess, and coordinate work processes that can be automated.
- b) Identify criteria and determine the prioritization of work processes suitable for RPA implementation.
- c) Manage complete documentation for end-to-end manual work processes and automated work processes, including the preparation of the Process Definition Document (PDD).

- d) Identify and manage the implementation of process changes before, during, and after RPA implementation, including the distribution of policies, directives, guidelines, promotional materials, and other related matters.

4.1.4 **HEAD OF TRAINING**

- a) Define the training curriculum for the automation team.
- b) Coordinate with stakeholders across the COE on training schedules.
- c) Monitor training effectiveness.

4.1.5 **BUSINESS ANALYST**

- a) Responsible for performing process analysis and delivering process requirements to the developer, while applying best practice approach. Advice on testing and business change.
- b) Performs requirements gathering from customer teams on the detailed process mapping and involves IT and automation teams where required to further identify and qualify opportunities.
- c) Refines complexity of automation process and creates deployment plan.
- d) Creates the process definition documentation and process maps used for automation to hand over to the automation development team.
- e) Works with developers to support solution design & UAT planning.

4.1.6 **DELIVERY LEAD**

- a) Responsible for planning, executing, and delivering automation solutions according to deadlines and within budget.
- b) Manages resource requirements and assignments for all operations work.

- c) Oversee all implementation / process development activities.
- d) Manage resource allocation across development work.
- e) Ensures appropriate on-boarding of development team members.
- f) Create & manage SDLC records (e.g., JIRA user stories)
- g) Communicate with all requisite teams to ensure that the required infrastructure is in place to start the RPA project.
- h) Provides operational support to COE resources.
- i) Manages the onboarding and provisioning of development resources into the automation program.
- j) Manages & actions JIRA tasks related to BOT to access to required applications for automation.

4.1.7 CHIEF SOLUTION ARCHITECT

- a) Oversees team of solution architects
- b) Owns and maintains centralized COE standards and policies around best-fit solutions, design, and development.
- c) Owns and maintains the Code Reusability library.
- d) Maintains constant communication with IT to ensure compliance with enterprise IT guidelines.
- e) Selects the appropriate set of technological tools and features and ensures the alignment of the solution with enterprise guidelines.
- f) Performs best-fit assessment and supports product owner in ideation efforts

4.1.8 **SOLUTION ARCHITECT**

- a) Assists in the development and implementation phases to ensure the quality of the automation by providing ad hoc guidance to BAs & developers.
- b) Executes code review of automation solutions following development & testing.
- c) Design, document, and deliver high quality infrastructure and automation architecture solutions, and address problems relating to integration.

4.1.9 **CITIZEN DEVELOPER (CD)**

A Citizen Developer refers to a member of AGD who has obtained the UiPath RPA Associate certification. A Citizen Developer is responsible for creating and developing applications, automation, or solutions without having formal programming skills or a technical background. Citizen Developers leverage low-code or no-code capabilities that enable non-technical users to build their own software solutions or automations. Citizen Developers with limited programming knowledge can use UiPath StudioX, which allows them to automate repetitive, standardized tasks with high volume by creating workflows through a drag-and-drop interface concept.

(a) **Analyzing and Understanding the Workflow to Be Automated**

- i. The Citizen Developer (CD) must have a deep understanding of the workflow to be automated. This includes identifying repetitive tasks that can be converted into automation and ensuring that the developed solution will add value to AGD and meet the users' needs.
- ii. The CD should collaborate with the Business Unit (BU) to produce the Process Design Document (PDD). Following this, the CD is responsible for creating the Solution Design Document (SDD) that meets user requirements to develop an automation that truly enhances operational efficiency and reduces human errors.



(b) ***Developing Automation Using Low-Code/No-Code Tools***

- i. The Citizen Developer (CD) uses tools such as UiPath StudioX to create automation workflows without writing complex code. The CD utilizes a drag-and-drop concept to arrange simple yet effective automations.
- ii. The CD leverages RPA technology to build solutions that are simple, efficient, and maintainable, using tools that match their technical skills.

(c) **Managing and Monitoring Automation**

Once the automation is developed, the Citizen Developer (CD) is responsible for managing and monitoring the performance of the implemented automation. This includes conducting User Acceptance Testing (UAT) and Factory Acceptance Testing (FAT) to ensure it functions properly, as well as tracking its performance and impact on daily operations. These actions are aimed at ensuring that the automated workflow performs as expected and meets user requirements.

(d) **Complying with Applicable Procedures and Guidelines**

The CD must adhere to the relevant guidelines, particularly those related to security, monitoring, risk management, and compliance. This is to avoid security risks or legal compliance issues, including audit requirements, that may arise from poorly managed automation.

(e) **Communicating with Stakeholders**

The CD should collaborate with stakeholders such as the IT team, management, and end users to ensure that the automation meets actual needs and aligns with the objectives of AGD.

(f) **Handling Issues and Providing Support**

If issues arise in the automation workflow (such as errors or disruptions), the Citizen Developer (CD) must address the issues promptly and provide solutions. This also involves continuously updating or improving the workflows to ensure that the automation continues to function well and provides long-term benefits to AGD.

(g) Managing Improvements and Maintenance

Automated processes must be reviewed and improved periodically. The CD should collaborate with the Business Unit (BU) to remain aware of changes in workflows and ensure that the automated workflows remain relevant to current needs.

(h) Documenting Processes and Automation

The CD is responsible for preparing and updating clear and comprehensive documentation on the developed automation processes. This includes descriptions of workflows, usage instructions, and recovery steps in case issues occur. This documentation allows other users or the IT team to understand and maintain the automation more easily.

(i) Performing Testing and Validation

Before launching the automation into the production environment, the CD must conduct tests to ensure the automated workflows function correctly. This involves functional testing, performance testing, and user acceptance testing (UAT). These activities ensure that the automation works smoothly without errors and is acceptable to end users.

(j) Contributing to a Culture of Innovation and Digital Transformation

As part of the larger team, the CD should contribute to AGD's digital transformation efforts by generating new automation ideas and raising awareness of the benefits of technology in addressing service challenges. By participating in Botathons, the CD can help increase the organization's competitiveness by promoting the use of innovative technologies to enhance

4.1.10 CHIEF CITIZEN DEVELOPER

The Chief Citizen Developer (Chief CD) is responsible for the following tasks:

- (a) Planning the strategy for the formation of CD in alignment with the Vision and Mission of AGD.
- (b) Identifying and implementing low-code/no-code development platforms and providing training and support services to CD.

- (c) Establishing policies and procedures to ensure that the applications developed by CD meet security, compliance, and quality standards.
- (d) Coordinating collaboration between CD, IT teams, and process owners to ensure that the applications developed meet the process owners' requirements and integrate with existing systems.
- (e) Implementing testing and quality assurance processes to ensure the reliability and usability of applications developed by CD.
- (f) (Monitoring the performance and impact of the applications developed by CD and ensuring CD makes improvements based on user feedback.

4.1.11 ASSISTANT CHIEF CITIZEN DEVELOPER

- (a) Assisting in planning the strategy for the formation of CD in alignment with the Vision and Mission of AGD.
- (b) Assisting in identifying and implementing low-code/no-code development platforms and providing training and support services to CD.
- (c) Assisting in establishing policies and procedures to ensure that applications developed by CD meet security, compliance, and quality standards.
- (d) Assisting in coordinating collaboration between CD, IT teams, and process owners to ensure that the applications developed meet the process owners' requirements and integrate with existing systems.
- (e) Assisting in implementing testing and quality assurance processes to ensure the reliability and usability of applications developed by CD.
- (f) Monitoring the performance and impact of applications developed by CD and ensuring CD makes improvements based on user feedback.

4.1.12 AUTOMATION DEVELOPER (AD)

- a) Develops and tests automations as best practices and creates detailed processes and design documentation.
- b) Designs, develops, and tests the automation workflows and supports the implementation of the solution.

- c) Works with the solution architects as required to ensure optimal design.
- d) Works side by side with the Process Consultant for creating the process documentation (Design Solution Documentation, Move to Production)
- e) Executes pre-UAT testing and partners with process consultants for output review and validation.
- f) Ensures stability of solution during hyper care and supports transition to monitoring team via KT once exit criteria have been met.
- g) Provides production support to business customers.
- h) Provides L2 and L3 support by performing troubleshooting to identify root cause and resolve the issue or reassign the ticket as needed.
- i) Owns maintenance / change control of existing artifacts.

4.1.13 **SUPPORT LEAD**

- a) Liaises across the IT organization to maintain a comprehensive view of application maintenance, including downtime, refreshments, and upgrades.
- b) Designs & executions change control policy.
- c) Owns automation release management & efficient bot scheduling.
- d) Migrates code across environments.
- e) Oversee the administration, orchestration, and control of the virtual workforce in the PROD operational environment.
- f) Focuses on continuously improving the robots' operational performance and resource allocation, by exploiting the advanced reporting and analytical tools within the organization.
- g) Manages monitoring team to allocate effort across operational responsibilities.
- h) Ensures the automation program has a strong and secure operational base to run on

- i) Serves as primarily liaison into the aligned IT LOB organization around infrastructure & access needs.
- j) Manages assets in the PROD orchestrator.
- k) Responds to anomalies in automation performance by triaging anomaly, identifying suspected root cause, and dispatching to pertinent support party(s)
- l) Maintains automation application inventory.

4.1.14 **SUPPORT ANALYST- LEVEL 1**

- a) Monitor automation performance.
- b) Perform load balancing.
- c) Monitors Orchestrator dashboards and outputs for anomalies in automation performance
- d) Manages L1 tickets and troubleshooting.
- e) Manages infrastructure monitoring efforts.

4.1.15 **SUPPORT ANALYST- LEVEL 2**

- a) Perform detailed review of platform logs & identify changes needed.
- b) Make required code edits/changes to resolve issues.
- c) Identifies if underlying code change is required to resolve an issue.
- d) Involves level 3 (COE developer support) in case the issue is not resolved at a L2 level.

4.1.16 **PROJECT MANAGER**

- a) Provides operational support to COE resources.
- b) Manages the onboarding and provisioning of development resources into the automation program.

- c) Manages & actions JIRA tasks related to BOT access to required applications for automation.
- d) Communicate with all the requisite teams to ensure that the required infrastructure is in place to start the RPA project.
- e) Manages projects on a day-to-day basis.
- f) Perform resource onboarding.
- g) Coordinates with AGD IT team for access and provisioning
- h) Monitors progress of the projects and report delays
- i) Manage escalations.
- j) Coordinates with AGD divisions to resolve any requirement related issues.
- k) Report project progress and variances.
- l) Manage stakeholder expectations.

4.1.17 **INFRASTRUCTURE ENGINEER**

- a) Manages infrastructure monitoring efforts.

4.1.18 **TRAINERS**

- a) Conduct training sessions as per predefined schedule.
- b) Monitor the progress of the candidates and provide feedback.
- c) Recommend retraining fir slow learners and non-performers.

4.2 COE Operations RACI - Decision Rights

Key Activities	Chief automation officer	Deputy Chief automation officer	Head of business requirement and change management	Head of Technical	Head of training	Head of Policy and Guidelines
Strategy Development and Planning	A	R	C	C	C	C
Opportunity Identification and Prioritization	I	C	R	C	I	C
Governance and Standards Establishment	A	R	C	C	I	C
Technology Evaluation and Selection	C	A	C	R	C	C
Centre of Excellence Structure and Team Management	R	R	C	C	C	C
Training and Skill Development	C	A	C	R	C	I
Project Management and Execution	C	A	R	R	C	I
Change Management and Adoption Support	A	R	C	C	C	I
Performance Monitoring and Reporting	I	A	C	R	I	I
Knowledge Management and Sharing	C	C	R	R	R	I
Stakeholder Engagement and Communication	R,A	R,A	R	R	C	I
Vendor and Partner Management	C	A	C	R	C	I
Continuous Improvement and Innovation	C	C	R	R	C	C
Resource Allocation and Budget Management	A	R	C	C	C	C
Risk Management and Compliance	C	R	A	A	C	I
Strategic Partnership and Collaboration	C	A	C	R	I	I

Figure 11: COE Operation RACI - Decision Rights

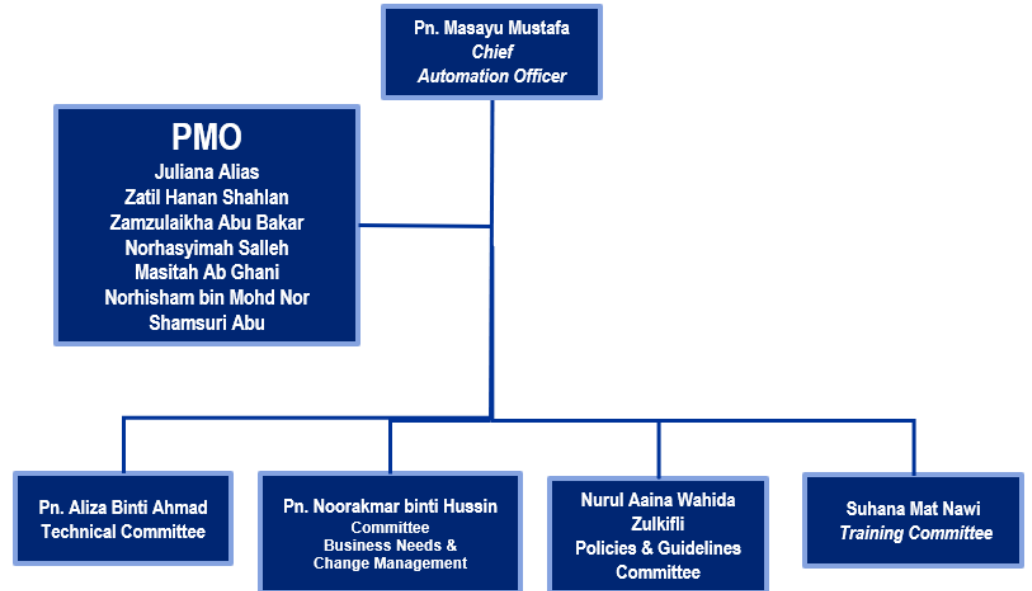
4.3 Escalation Matrix in COE

Who can escalate	Whom to Escalate	Time Lapse	Escalation Process
Chief Automation officer	Chief Digital Officer	As and when required	Email/ Call
Deputy Chief automation officer	Chief Automation officer	5 business days after 2 reminders	Email
Head of business requirement and change management	Deputy Chief automation officer Head of technical	5 business days after 2 reminders	Email
Business change manager	Head of business requirement and change management	3 business days after 2 reminders	Email
Business Analyst	Head of business requirement and change management Head of Technical	3 business days after 2 reminders	Email
Head of training	Deputy Chief automation officer	5 business days after 2 reminders	Email
Trainers	Head of training	2 business days	Email/ Call
Head of policy and guidelines	Deputy Chief automation officer	5 business days after 2 reminders	Email/ Call
Head of technical	Deputy Chief automation officer	5 business days after 2 reminders	Email/ Call
Delivery Lead	Head of technical	2 business days	Email/ Call
Project manager	Delivery Lead	2 business days	Email/ Call
Chief solution architect	Delivery lead	2 business days	Email/ Call
Solution architect	Chief solution architect /Project manager	2 business days	Email/ Call
Developers	Chief solution architect / Delivery Lead /Project Manager	2 business days	Email/ Call
Support Lead	Delivery Lead	2 Business days	Email/ Call
Support Analyst	Support Lead	2 Business days	Email/Call
Infra Engineer	Support Lead	2 Business days	Email/Call

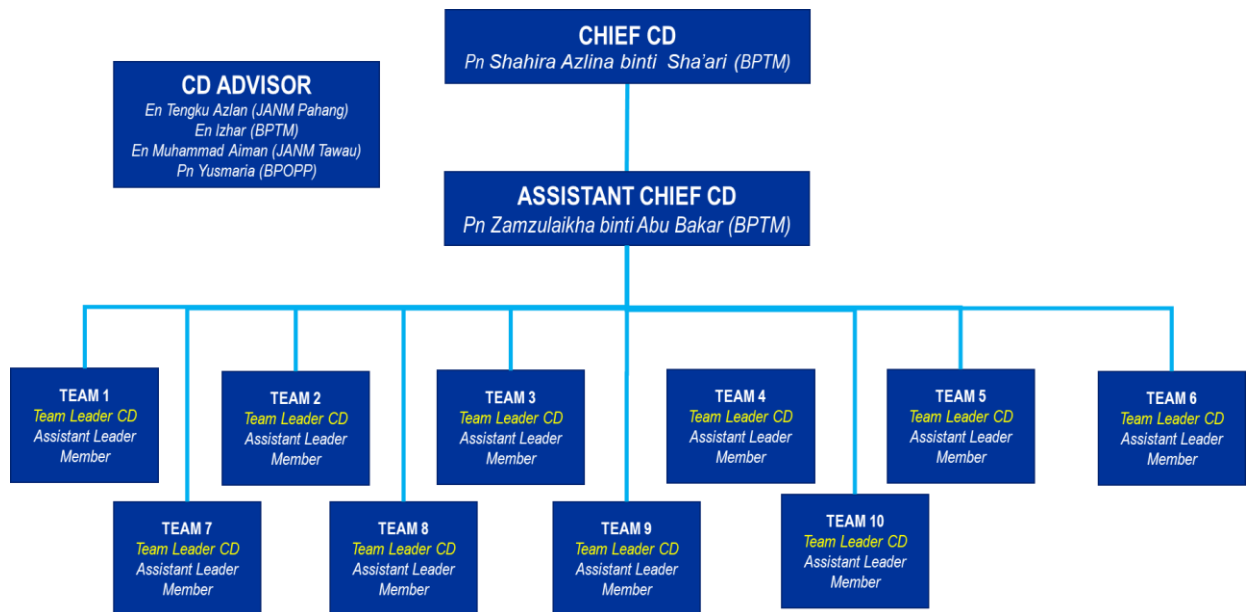
Figure 12 : Escalation Matrix in COE

4.4 AGD RPA COE Governance

4.4.1 AGD RPA COE Governance



4.4.2 Citizen Developer Governance



4.4.3 Business Users Governance

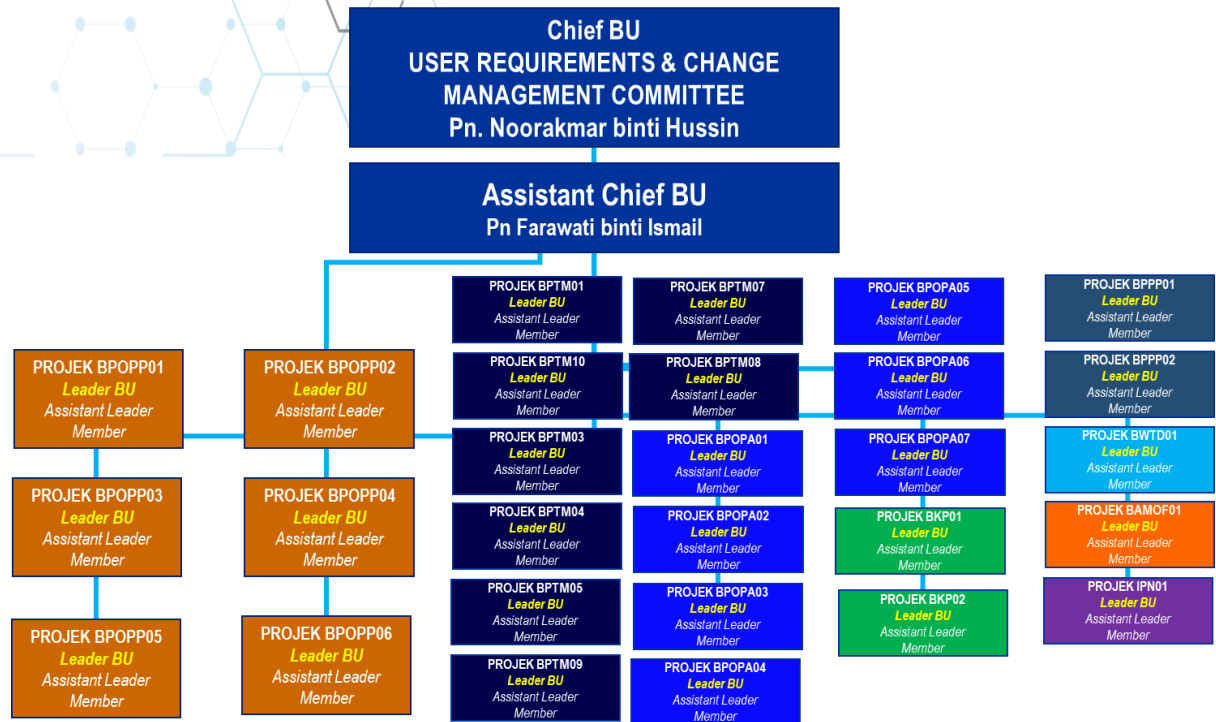


Figure 13 : AGD RPA COE Governance

4.5 AGD's RPA COE framework is as follows:

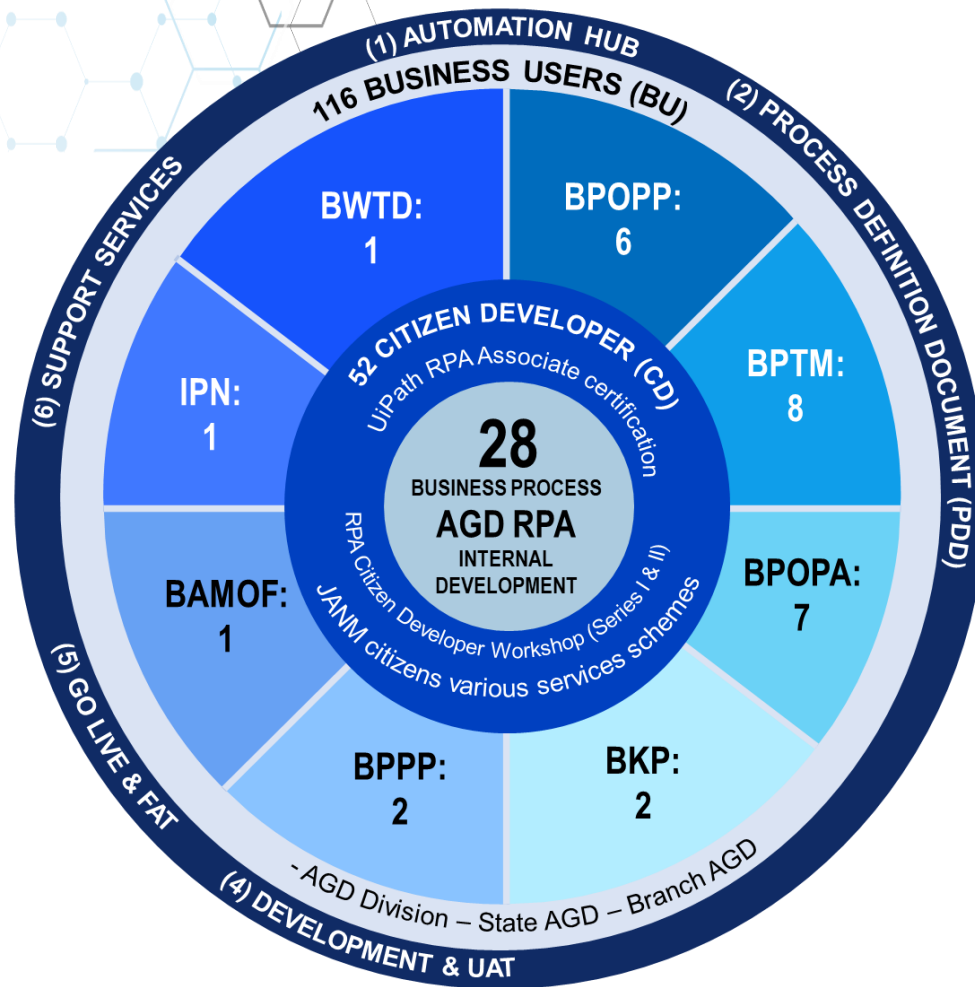


Figure 14 : RPA COE AGD framework



AGD RPA COE TAHUN 2024

4.6 Activities that have been implemented involving the RPA COE of AGD until November 8, 2024, are as follows:

Date	Activity
5 February 2024	Kick Off
16 February 2024	<i>Bengkel Pengumpulan Maklumat COE Playbook</i>
March 2024	(a) <i>Penyerahan templat-templat dokumen berkaitan RPA oleh pembekal</i> (b) <i>Penyerahan Draf 1 COE Playbook</i>
April 2024	(a) <i>Pembentangan Draf 2 COE Playbook</i> (b) <i>Bengkel RPA Citizen Developer (CD) Siri 1</i>
May 2024	(a) <i>Pembentangan Draf 3 COE Playbook</i> (b) <i>Bengkel RPA Citizen Developer (CD) Siri 2</i> (c) <i>Mesyuarat PMO Bil.1 Tahun 2024</i> (d) <i>Mesyuarat Bersama RPA COE AGD Bil. 1 Tahun 2024</i>
June 2024	(a) <i>Penyerahan Draf 3 COE Playbook</i> (b) <i>Pembentukan 168 RPA COE AGD:</i> i. <i>52 Citizen Developer (CD)</i> ii. <i>116 Business User (BU)</i> (c) <i>TOT Pemasangan Lesen dan dokumentasi AIT Siri 1, Siri 2 dan Siri 3</i>
3 – 4 July 2024 22 July 2024	(a) <i>Bengkel Pembentangan PDD Siri 1</i> (b) <i>Bengkel Pembentangan PDD Siri 2</i>
17-18 September 2024 26-27 September 2024	(a) <i>Bengkel Pembentangan SDD Siri 1</i> (b) <i>Bengkel Pembangunan Proses Kerja Siri 1</i>
9 October 2024 29 October 2024	(a) <i>Penyerahan Draf 4 COE Playbook</i> (b) <i>Bengkel Pembangunan Proses Kerja Siri 2</i>
5 November 2024 7 November 2024	(a) <i>Bengkel Pembangunan Proses Kerja Siri 3</i> (b) <i>Bengkel Pembangunan Proses Kerja Siri 4</i>

Table 1 :RPA COE Activities at AGD until November 8, 2024



**AGD RPA COE YEAR 2024
IN CONJUNCTION WITH THE CITIZEN DEVELOPER DEVELOPMENT WORKSHOP:
PROCESS DEFINITION DOCUMENT (PDD)
CRYSTAL HALL, MINISTRY OF HUMAN RESOURCES AND LOCAL GOVERNMENT
3 TO 4 JULY 2024 ATTENDED BY 88 PARTICIPANTS**



**AGD RPA COE YEAR 2024
IN CONJUNCTION WITH DEVELOPMENT WORKSHOP BY CITIZEN DEVELOPER:
SOLUTION DESIGN DOCUMENT (SDD)
AUDITORIUM, MINISTRY OF FINANCE MALAYSIA
SEPTEMBER 17-18, 2024**



AGD RPA COE YEAR 2024
RPA WORK PROCESS DEVELOPMENT
WORKSHOP SERIES 1:
BPTM10, BPPP02, BKP01, BKP02, BPOPP05
NATIONAL ACCOUNTING INSTITUTE (IPN)
CPD, CYBERJAYA
SEPTEMBER 26-27, 2024



AGD RPA COE YEAR 2024
RPA WORK PROCESS DEVELOPMENT
WORKSHOP SERIES 2:
BWTD01
PLACE: INFORMATION TECHNOLOGY
MANAGEMENT DEPARTMENT, JANM
OCTOBER 29, 2024



AGD RPA COE YEAR 2024
RPA WORK PROCESS DEVELOPMENT
WORKSHOP SERIES 3:
BPOPP02, BPOPP06
PLACE: INFORMATION TECHNOLOGY
MANAGEMENT DEPARTMENT, JANM
NOVEMBER 5, 2024

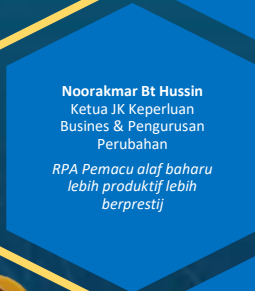


AGD RPA COE YEAR 2024
RPA WORK PROCESS DEVELOPMENT
WORKSHOP SERIES 4:
BPOPA01, BPOPA05, BPTM04
PLACE: INFORMATION TECHNOLOGY
MANAGEMENT DEPARTMENT, JANM
NOVEMBER 7, 2024

WORDS OF INSPIRATION AGD RPA COE



Masayu binti Mustafa
Chief Automation Officer
(CAO)
*With RPA, we unlock the
door to limitless efficiency*



Noorakmar Bt Hussin
Ketua JK Keperluan
Busines & Pengurusan
Perubahan
*RPA Pemacu alaf baharu
lebih produktif lebih
berprestij*



**Mirnawati Binti
Syaripuddin** Business
User Peningkatan
Kecekapan dan
Produktiviti dengan RPA.



**Shahira Azlina Binti
Sha'ari**
Ketua Citizen Developer
*Boleh, tak boleh,
InsyaAllah boleh*



**Tengku Mohd Azlan Bin
Tengku Dalam**
Penasihat Citizen
Developer
Usaha, tekun, jaya



**Yusmaria Binti Mohd
Soludi**
Penasihat Citizen
Developer
*Transformasi JANM
dengan Pemerkaasaan
Automasi RPA - Proses
Minimum, Prestasi
Maksimum*



Sherolanti Binti Joachim
Citizen Developer
*Enhancing Services with
RPA*



WORDS OF INSPIRATION AGD RPA COE



Hawa Binti Edwin Citzen
Developer RPA itu
anugerah & rahmat



Susie Anak Ambin Citzen
Developer RPA enhances
productivity



Husna Binti Hela Ladin
Citizen Developer
*Automation applied to
an efficient operation
will magnify the efficiency.
Automation applied to
an inefficient operation
will magnify the
inefficiency - Bill Gates*



Siti Maizia Binti Mahad
Citizen Developer *Buat
sampai jaya*



Masitah Binti Ab.Ghani
Citizen Developer

Kita Cuba!



Siti Suria Binti Razak
Citizen Developer

*RPA can make life easier
with right design and
development*



Zeno Bin Magan
Citizen Developer

*RPA Pemangkin unggul
digitalisasi*

WORDS OF INSPIRATION AGD RPA COE



Dewi binti Arabi Citizen Developer
RPA increases efficiency, enhances work-life balance.



Hazliza Binti Mahamad
Business User Bekerja, berdoaa, berfikir dan percaya



Shamshuri Bin Abu
Citizen Developer
If you define the problem correctly, you almost have the solution - Steve Jobs



Hasanah binti Abdul Rahman Citizen Developer
Empower Yourself By Upskilling Digital Skill. RPA is a major component in digital transformation



Masnitah Sujaree
Citizen Developer
Unlock Your Potential with RPA



Suhaidah bt Samsudin
Business User
Melangkah seiring masa

WORDS OF INSPIRATION AGD RPA COE



**Norfaizah Binti
Mahamad Omar**
Citizen Developer
Bersemangat
untuk terus maju
ke hadapan

**Nurul Fatimah
Binti Abdullah**
Business User
*Semua dihasilkan
dengan ketekunan*



**Mohd. Reduan
bin Aini** Citizen
Developer
*Merealisasikan
budaya
pendigitalan
robotik*

**Erica Anak
Barnabas**
Business User
*Automate to
Liberate*



Patrick Loo
Business User
*Work Smarter
with RPA*

**Sibylla Julius @
Sheila Kandu**
Business User
*Automasi
Memudahkan
Kerja*



Valentine Tsen
Business User
Boundlessness

SECTION 4

RPA COE Methodologies



Section 4: RPA COE Methodologies

The methodology of the COE for RPA will discuss the following eight (8) points:

- (a) Selection of processes and prioritization
- (b) RPA development
- (c) Change management and communication
- (d) Training and skill enhancement
- (e) Monitoring and performance management
- (f) Maintenance and support
- (g) RPA scaling
- (h) Case studies and workflows.

1. Process Selection and Prioritization

- 1.1 Process intake is the mechanism(s) by which AGD will build & sustains its automation pipeline. Within the enterprise automation lifecycle, this includes both outbound & inbound opportunity identification AND detailed assessment of identified opportunities prior to go-forward approval & prioritization.
- 1.2 Process intake has been an ever-evolving place in the IPA market. Forces such as new enabling discovery tools, a need to move beyond “low-hanging fruit” opportunities and the misconception of automation as a “band-aid” solution have driven the emergence of a new process intake philosophy that considers broader value levers to help achieve key business imperatives.

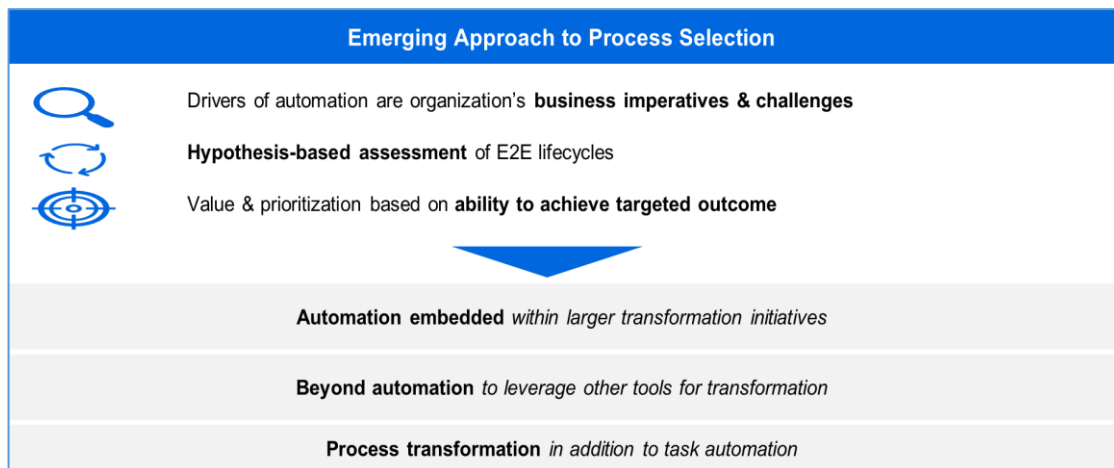


Figure 15: Process Selection And Prioritizing

1.3 Process Intake Objectives

Building a pipeline can be both a passive and/or initiative-taking effort by the organization. The process intake approach can evolve over time based on resource availability within the COE, the goals of the AGD & the availability of Divisional resources. Regardless of the approach taken, a successful intake strategy accomplishes these six objectives.

- 1.3.1 Build awareness & excitement around the possibilities of automation.
- 1.3.2 Identifies & prioritizes automation opportunities with the greatest impact aligned to the organization's unique definition of value.
- 1.3.3 Encourage & enables the business to assume ownership of intake activities and proactively encourages ideation from the leadership down through the business.
- 1.3.4 Manages business expectations around automation capabilities & development capacity to avoid loss of momentum.
- 1.3.5 Manages COE burden during intake activities to avoid distraction from in-flight development work or production support efforts.
- 1.3.6 Performs adequate due diligence on identified opportunities to sufficiently gauge suitability, value & complexity of use cases prior to implementation.

1.4 Recommended Opportunity Identification Model At AGD

- 1.4.1 The opportunity identification methodology defines the way the AGD divisions will identify an eligible use case to automate using RPA as a technology. The process intake method is applicable to the AGD divisions which is the primary stake holder to identify eligible use cases and the business analysis teams within the Automation COE who verifies the requirement and performs the second level review for qualification.
- 1.4.2 For AGD the process of identification of eligible use cases would be a bidirectional traffic. Whilst on one hand the AGD divisions will be entitled to identify use cases and qualify the same, The COE business analysis team can also at any point of time perform an end-to-end process study to identify eligible use cases as per mutual agreement with the AGD divisions .The focus of the COE team should also be to investigate the end-to-end system land-scape and identify a holistic solutions to drive automation.
- 1.4.3 The opportunity identification methodology would primarily be aligned to the business outcome that AGD team would attempt to achieve as a mandate given by the Steering Committee.
- 1.4.4 Operationally the AGD divisions and/ or the COE team would follow the given steps as a part of the methodology to identify use cases.
- 1.4.5 **Create Process Blueprint**
- Process Blueprint is a granular level documentation of the activities that are performed in each department or process. The activities are generally classified into Level 4 (also known as L4) level along with the key stroke level documentation also known as Standard operating procedure or SOP. The process blueprint is an extensive documentation of processes activities performed. The process blueprint shall be created by the AGD divisions
- 1.4.6 **Perform Data Collection**
- Once the process blueprint is finalized the next step would be to collect data or FTE equivalent who are performing the activities or processes as per the blueprint. The reason data collection is important at this phase is because it will provide a clear visibility to the process areas which has maximum manual operations and hence are high potentials to automate.

1.4.7 Identify Use Case

Once the process blueprint is created or finalized, and data is collected and mapped across the processes, The next step is to perform a deep dive on the process areas with maximum concentration of FTE's doing manual operations. This will enable AGD divisional teams (process owner) and or the COE teams a clear idea to identify the process areas eligible for automation.

Once the processes are identified, the processes shall be classified into four quadrants as shown below to assess the feasibility of automation through RPA or other technologies.

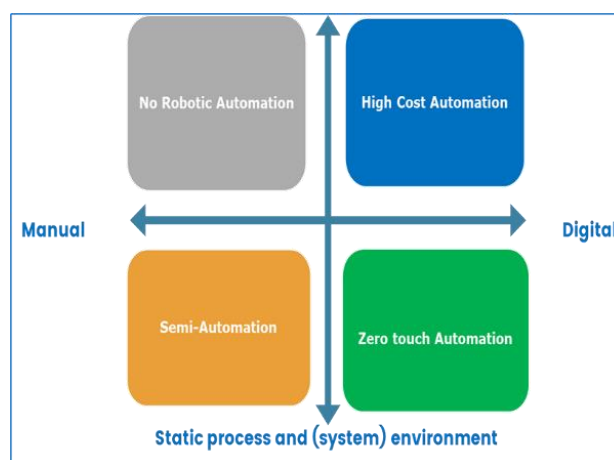



Figure 16: Identify Work Processes

Robotic Process Automation in general shall be split into one of these four quadrants.

- (a) No Robotic Automation
 - i. Where there are highly frequent process and system environment changes and where the processes are highly manual, there is no robotic automation possible
 - ii. Processes that require access to non-digital and physical equipment. Processes where user access are not permitted, where these are security tokens and authorization must be done by human users (human in the loop not possible) and the processes that require high level of skills and experience e.g., Software development



(b) Semi-automation

- i. Process and System environment is static, but the work is still highly manual.
- ii. Use cases that fit for semi-automation will include activity that requires manual intervention e.g., approvals, secure token entry, where most activities are performed on a PC and where activity is complex but can be written down as instructions or runbook

(c) High Cost Automation

- i. processes undergo frequent system and process changes, but they are more digital in nature.
- ii. Use cases that fit for semi-automation will include activity that requires manual intervention e.g., approvals, secure token entry, where most activities are performed on a PC and where activity is complex but can be written down as instructions or runbook.


(d) Zero Touch

- i. Automation where the processes are digital, and the system / process environment is highly static.
- ii. The applicable use cases are all activities that are done on a PC, activities that are complex but can be written down as simple work instructions or run book, activity sensor or trigger can be defined, Process and system environment changes are fixed and the ones that involve Cognitive Computing e.g. NLP and OCR of forms.

1.5 Process Assessment Best Practices

1.5.1 Key factors to be considered by AGD during process assessments as below:

- (a) The process must be assessed both functionally and technically.
- (b) Functionally the process must be assessed from an end-to-end

- 
- (c) standpoint with a view to automating the entire workflow rather than concentrating on individual tasks.
 - (d) The processes must be assessed both from a happy path as well as considering the exceptions.
 - (e) The process must be assessed to check if there will be any human in loop intervention required across the overall workflow.
 - (f) Processes are rule based or judgment based.
 - (g) Input types are standard or non-standard.
 - (h) Process and applications changes expected in the near term.
 - (i) Processes are manual and repetitive or not.
 - (j) The system landscape of the process- system touchpoints should be assessed carefully.
 - (k) Access to system (whether it is direct / or citrix /RDP enabled)
 - (l) Can the process be automated with only RPA OR it would need additional technologies like an OCR or AI?
 - (m) % of unknown exceptions
- 1.5.2 Considering the above parameters each identified process areas / activities will be assessed and feasibility analysis to be performed to qualify for an automatable use case.
- 1.5.3 Once the use cases are identified, the next phase will be prioritising the same to identify which one should be done first and what needs to be done as a secondary priority. To achieve that, the process prioritization matrix is designed based on complexity and the benefit. Each use case shall be evaluated in terms of complexity and benefit and the same would then be prioritized.

- (a) Number of screens – Number of screens involved in a process can be taken as a proxy for number of steps.
- (b) Type of Applications – Java Applications, Mainframe applications, SAP, Web based applications, Dotnet applications, MS Office etc.
- (c) Variations/ Scenarios* – Variations/ Scenarios within the process (Number of If Else kind of Rules)
- (d) Structured Inputs – Machine readable and digital inputs. Scanned PDF Images/ Free flow texts in emails are unstructured inputs.
- (e) Standard Inputs – Templated inputs, same format, or type of inputs across cases
- (f) Free Texts – Flow of information as free text (Unstructured informational flow) within the process
- (g) Image based automation – VDI/ Remote desktops/ Citrix.

1.5.4 Based on the considerations of the above factors a given use case shall be determined and classified as a High complex, Medium complex and a Low complex process. The parameters to decide the Complexity metrics are as under

(a) **Process Complexity Grid**

Parameter	Tasks			Process		
	Low Complexity	Medium Complexity	High Complexity	Low Complexity	Medium Complexity	High Complexity
Definitions	<ul style="list-style-type: none"> • Simple task in one application with completely rule driven and with very limited decision-making steps 	<ul style="list-style-type: none"> • Task which involves maximum of 4 screens, with digital inputs. 	<ul style="list-style-type: none"> • Tasks which involves multiple handshakes between systems, with digital inputs and limited exceptional workflow cases 	<ul style="list-style-type: none"> • Process does not have any manual non digital inputs like scanned images, unstructured, handwritten documents etc. where decision making has to be made by a human to proceed 	<ul style="list-style-type: none"> • Process have a maximum of simple binary decision-making steps like Yes/No etc. • Processes might require an attended version of automation 	<ul style="list-style-type: none"> • Processes have handoffs between sub-process and the linkages have to be accurately managed. • Processes with HITL (Human In the Loop) requirement • Unstructured inputs
# of Applications	1-2	2-3	2-3	0-3	3-5	5-8
# of fields	<25	25-50	50-75	0-75	75-150	150-200
# of Screens	2-3	3-4	4-5	0-10	11-20	21-30
# of Decision-making steps/scenarios	<=2	2-3	<=4	0-3	4-6	7-10
Input Type	Digital	Digital	Digital	NA	Yes	Yes
Strict process SLA to be adhered to	NA	NA	NA	NA	Yes	Yes
Citrix	NA	NA	NA	NA	NA	VDI/Remote desktops
Involves DU	NA	NA	TBD - basis scope of extraction & samples	No	Yes (* Refer slide 5 OCR –Complexity slide)	Yes (* Refer slide 5 OCR –Complexity slide)

Table 2: Process Complexity Grid

(b) Recommended Process assessment and prioritization model at AGD

Benefit headers	Description	Metrics to measure	How to Measure ?
Cost Savings	Cost savings through automation - It can be both in terms of FTE reductions or Hours saved expressed as a dollar value	Dollars saves	Hard savings due to efficiency gain delivered by automation
Productivity Gain	Increased volumes processed in the defined unit time due to decreased cycle time because of faster processing	Dollar savings	Hard savings due cost avoidance
Quality Improvement	Accuracy enhancement / Error reduction	Accuracy %	If automation of the use case would yield a higher accuracy % than what is currently measured
Stakeholder satisfaction	Faster time to deliver , decreased cycle times	Employee Satisfaction Score (ESAT) Customer Satisfaction Score (C SAT)	If automation of that use case would lead to a higher ESAT or a CSAT score
Compliance	Improved compliance	Audit Report	Whether the process will improve compliance post automation

Table 3: Evaluation Model and Recommended Process Prioritization at AGD

- i. Prioritization of the use cases shall be done based on both complexity and benefits factor, while complexity would be determined by leveraging the complexity grid, the benefits will be determined from the above parameters whichever deems fit for that particular use case.
- ii. From a financial benefit standpoint, each identified automation use case should be subject to a business case analysis as mentioned in subsequent slides.
- iii. The Automation process owner within the AGD business division shall perform the business case analysis.
- iv. The Automation COE will cross check the business case as necessary.
- v. The Business analysis team within COE would perform the process prioritization based on complexity and benefit.

(a) Benefit Calculation Methodology


- i. The financial business case shall be calculated typically over a period of 3 to 5 years and shall be obtained by subtracting the total input cost from the baseline cost.
- ii. The return on investment (ROI) can be calculated as under:

Savings achieved by Automation /Total investment expressed as a percentage.

	Grid	Year 1	Year 2	Year 3	Total
As is baseline cost	A	XX	XX	XX	XX
Cost of human post automation	B	XX	XX	XX	XX
Cost of Bot License	C	XX	XX	XX	XX
Cost of infrastructure	D	XX	XX	XX	XX
Cost of automation	E	XX	XX	XX	XX
Cost of support	F	XX	XX	XX	XX
Total Input cost	G=(B+C+D+E+F)	XXX	XXX	XXX	XXX
Total Savings	A-G	XXXX	XXXX	XXXX	XXXX

Table 4: Savings Achieved by Automation/Total Investment Expressed as a Percentage

- iii. Once the use cases are prioritized using the prioritization matrix, the next step is to create a process design.
- iv. The next phase after prioritization would be to do a deep dive or solutioning of the given use case. The steps at this stage would include the following but not limited to:
 - Gathering the business requirements
 - Performing As is process deep dive.
 - Creating the "To be" solution
 - Perform Key stroke level analysis.
 - Create the Functional Design Document or PDD
 - Develop the technical specs and create the Solution design Document (SDD)
- v. All the above tasks shall be performed in a workshop environment between the Process owners within the division, automation specialist or team members and Head of business requirement and change management and/or the business analyst within the automation COE.
- vi. The objective of such workshops will be to create a collaborative design of the automated process by analysing the "As is" process. The purpose of such workshop is to understand the current pain points, current practice deficits and design the "To be" process. Due emphasis shall be laid at this stage on the End-to-End process automation rather than task automation. The main reason behind this phase is to ensure that the processes are simplified, standardized and existing tools and technologies are fully optimized, and the processes is made amenable for automation leveraging the RPA or other intelligent automation technology.

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- vii. The output of such exercise would be the "To Be" process design with detailed narrative of the new attributes such as standard template, defined escalation process, approval matrix , human in the loop etc .
 - viii. Such process designs shall be documented in a standardized document known as Process design document (PDD). Once the PDD is documented it shall be sent to the Process owner for a sign off. Post signs the process design shall be considered as complete.
 - ix. Once the PDD is created the PDD is then passed to the solution architect who would define the technical specifications of the selected workflow and would document a Solution design document. The SDD shall also be sent to the process owner for sign off. Post signs off the SDD, Development would begin.

(b) **Recommended Process Design Model AT AGD**

- i. The collaborative process design workshops shall be done after gathering the business requirements and before getting down to capture the key stroke level requirement.
- ii. The business requirement gathering process is the first step to deep-dive a given use case and start the solutioning process the key information's that shall be captured as a part of the requirement gathering are as under:
 - a) Process Metrics can be captured with the help of existing workflow/ BPM tool, ML data & time and motion study (Provided by operations team)
 - Volume
 - AHTs (average handling Time)
 - Total FTE effort involved in the process.

b) Process Information

- Open and close time (Time dependencies) & SLA
- Expected increase in volume.
- Stakeholders involved and their role.
- Inputs & input Type (Structured / Unstructured & Standard / Non – standard)
- Output and output type.

c) Infrastructure Requirements

- Test environment availability.
- UiPath Hardware / Software requirements

d) Application Used

- Capture all the applications used in the process.
- Understand and capture the underlying technology of each application.
- Different instance of once application (Login module) – If applicable (e, g SAP/Mainframe) Thin 'or' Thick client?
- Citrix /VDI/Remote desktops – Thin Client
- Desktop application –Thick Client *Ujian dan Go Live*

(c) **Testing And Go Live**

- i. Post the build phase is done the UAT phase has to be executed seamlessly to ensure that the automation is done correct, and it is yielding the desired results as expected. The testing phase will be conducted by the COE business analyst team along with the business user in the AGD division and the SME under the supervision of the Process owner.

ii. The processes within the testing life cycle would include;

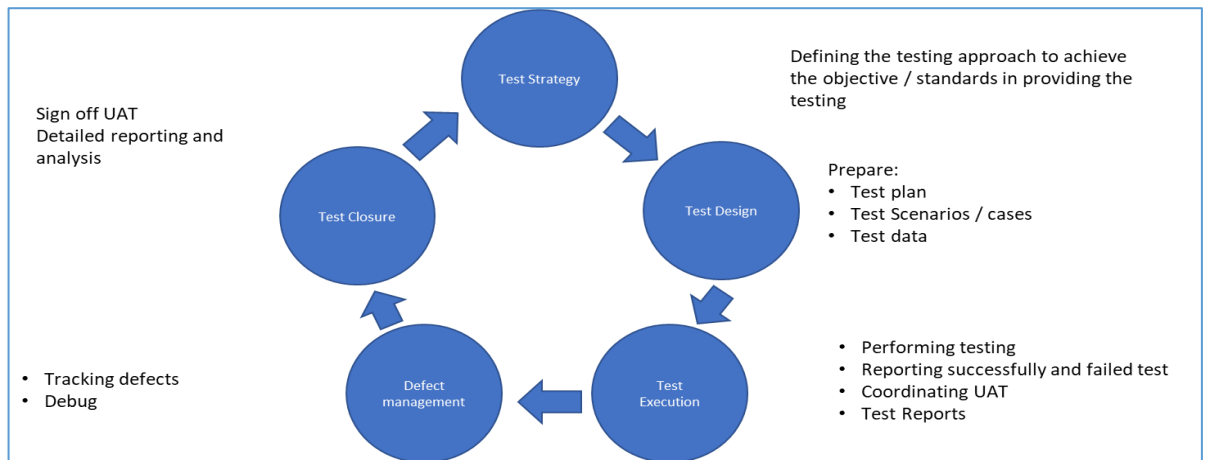


Figure 17: Processes in the test life cycle

iii. The following points shall be considered as the prerequisites for executing the testing phase:

- Test scenarios to cover all the business use-cases, all the exceptions and business rules.
- Test Data - input for the process (list of transactions/ open transactions left to be posted/ selected emails/documents for being processed, etc.)
- Test environments:
 - ✓ Process frequency (daily/ bi-weekly/ monthly/ quarterly) and if the environmental date needs to be updated and if EOD/ EOM needs to be run.
 - ✓ How many times can the data be restored.
 - ✓ Dependence on other projects on the same environment
 - ✓ Obtain from the developer the duration of the test in one run (how long it takes the robot to perform the expected action)
 - ✓ Clarify with the developer how can be verified an intermediary output.

iv. The following UAT plans structure shall be followed as a guiding principle to drive successful testing;

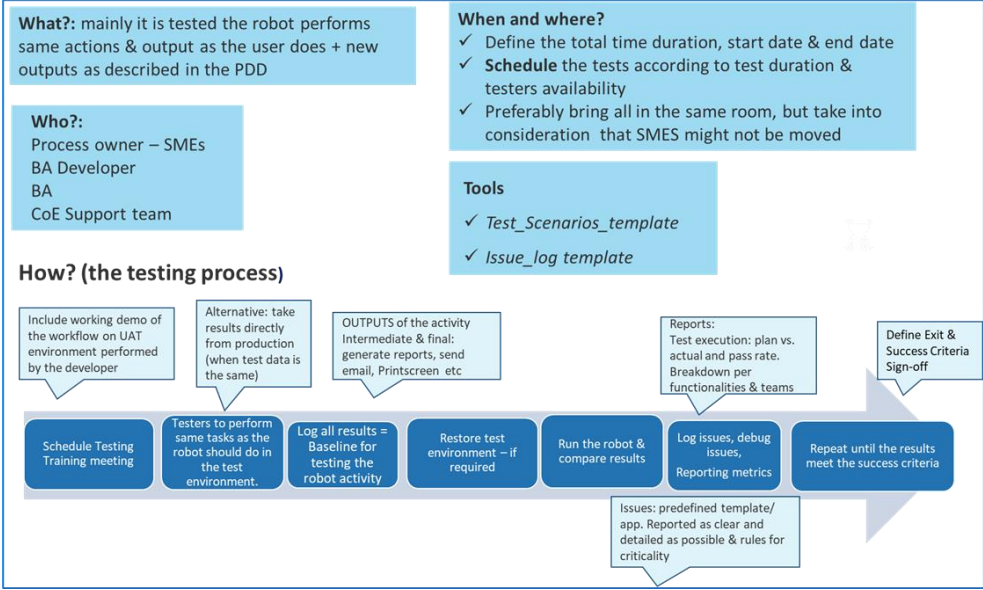


Figure 18: UAT Planning Structure

(d) Post the testing phase and after successful testing, adequate arrangements shall be made for successful hand over of the Go Live documents and user’s manual. Adequate trainings shall be imparted to the respective stake holders like Business users, IT operations, L1 support as necessary so that prompt support be provided there be any requirement for the same.

i. The detailed steps that would be performed during Go live phase are enlisted as under:

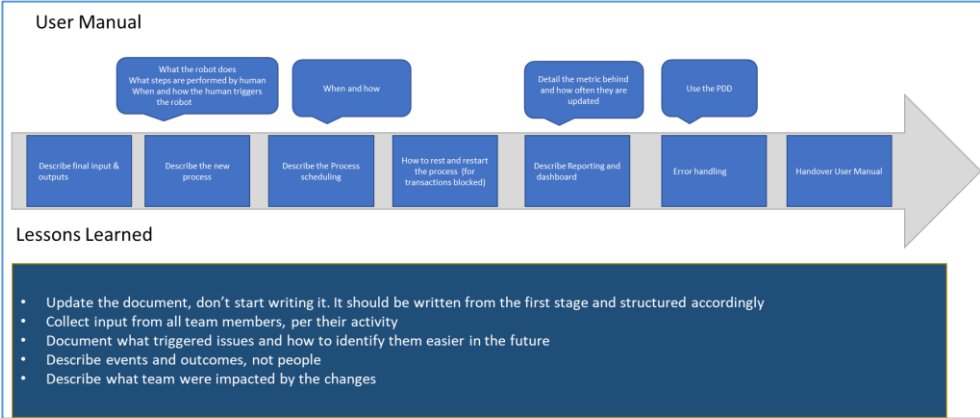


Figure 19: User Guide

2. RPA Development

Document coding standards and development practices for RPA bots, ensuring consistency in design, coding practices, and naming conventions to help maintain quality and facilitate collaboration among developers.

2.1 Recommended AGD Implementation Framework

Implementation Framework provides an overview of the stages involved in any RPA delivery implementation; summarizing the purpose of each phase, the key roles and responsibilities involved.

- 2.1.1 Kick Off – At this stage, the implementation team assesses readiness, creates the project, staffing and communication plans, sets up internal project meetings and begins reporting project status on a weekly basis.
- 2.1.2 Business case and Tech Validation – In this stage the implementation team validates the process' automation viability, assesses the clients' technical readiness and creates the access requirements plan.
- 2.1.3 Process Analysis - At this stage, the implementation team analyses and identifies the requirements of the customer's processes. The degree of automation is decided based on this analysis (and on the complexity of the process), and as-is and to-be process flows are documented to inform the creation of a future state solution.
- 2.1.4 Solution Design - Once the business requirements of a process are finalized, the technical team designs a future state flow and maps out the various modules that will have to be developed to complete the automation.
- 2.1.5 Development and Unit Testing - The modules outlined in the design whiteboard are created by the development team, using the PDD and SDD as references. Created modules are tested individually to ensure they run successfully in controlled test settings, prior to larger-scale integration testing; a Code Review is completed, and the Technical Test Plan (TTP) is executed.
- 2.1.6 User Acceptance Testing – UAT shall be conducted by the implementation team in coordination with the business. Based on a test plan created by the team, all potential happy-path and business exception scenarios are processed by the bot in the pre-production environment to ensure that it is performing per all agreed-upon requirements.

2.1.7 Development and Hypercare - Once UAT is complete (with business sign-off), the next stage is Deployment & Hypercare, where the final process packages, libraries, and assets are migrated to the production orchestrator and set to run on production bots (which must have access to production instances of all in-scope applications). Hypercare is a limited period immediately following deployment of an automated solution into production, characterized by close attention paid to each process run by both the CoE development team and associated process SMEs. Hypercare should entail daily sessions where cases run by the automation in production are reviewed by the CoE and process SMEs and any errors or issues are quickly patched and re-pushed to production.

2.2 Design Best Practices

2.2.1 Solution design best practices as below:

- (a) The Process Design Document (PDD) is written from the Business perspective and should be written in the language of the business using their source material. It describes the process "As Is" – meaning as the process is currently being done by humans.
- (b) A clear description of the Manual process should be described in business language including process steps, handoffs, and exceptions.
- (c) Clear description of the automation process outlining the intent of automation should be documented.
- (d) Detailed solution diagram should be included in the Process design document.
- (e) List of upstream and downstream systems, for example Ticketing tool, Excel, baseline applications should be clearly called out.
- (f) The technology that will be involved in automating the process should be clearly documented for example VBA, Macro etc.
- (g) The Programming language in which the RPA would be coded should be clearly documented. For example, VB.net
- (h) Expected users of automation to be called out explicitly.
- (i) Automation type – Attended vs unattended to be documented.

- (j) The SDD is written from a technical perspective in the “To Be” state – meaning as the process will be done by the BOT.

2.2.2 Naming Conventions for tasks, workflows sequences and variables

Naming conventions may seem like a bunch of unnecessary rules designed to make life difficult. However, to ensure consistency and reusability among projects, it is important that developers use good naming conventions for all components including arguments, variables, tabs, workflows, and activities

2.2.3 Naming Convention Best Practices

- i. Meaningful names should be assigned to workflow files, activities, arguments, and variables to accurately describe their usage throughout the project.
- ii. Firstly, projects should have meaningful descriptions, as they are also displayed in the Orchestrator user interface and might help in multi-user environments.
- iii. Only argument names are case sensitive, but to improve readability, variables also should align to a naming convention.
 - ✓ Variables should be upper Camel Case, e.g., FirstName, LastName
 - ✓ Arguments should be in upper Camel Case with a prefix stating the argument type, e.g., in_DefaultTimeout, in_FileName, out_TextResult, io_RetryNumber.
 - ✓ Activity names should concisely reflect the action taken, e.g., Click 'Save' Button. Keep the part of the title that describe the action (Click, Type Into, Element exists etc.)
 - ✓ Except for Main, all workflow names should contain the verb describing what the workflow does, e.g., GetTransactionData, ProcessTransation, TakeScreenshot

2.2.4 Usage of Variable Guideline

- (a) Use one variable for one and only one purpose.
- (b) Minimize the scope of each variable.
- (c) Keep statements that work with the same variable(s) as close together as possible.
- (d) Variables will always have meaningful names. The variable name should fully and accurately describe the entity the variable represents. State in words what the variable represents.
- (e) Use upper Camel Case (Pascal case) for naming variables. This practice used compound words, no other characters between the words, where each word will start with a capital letter. Ex: TransactionNumber, FilePath, ReportName, etc.
- (f) The length of the variable name should be between 6 and 20 characters long. If you feel that twenty characters are not enough, consider abbreviating longer words. Shorter variables names can be used when using a local scope (e.g., ind9ex, file, row).
- (g) Datable object: Start with dt_ prefix followed by the normal name. Ex: dt_Employees, dt_Reports
- (h) Boolean type: Give Boolean variables names that imply True or False. You can use the prefix is followed by the name. Ex. Application Exists, is Red, is Found, etc.

Always use positive names, negatives names (e.g., notFound) should be avoided if possible.

2.3 Coding Best Practices

2.3.1 The Process Structure should be familiar and easy to be handover/maintained. It is best if the 'Main' Workflow contains all high-level process steps. The process should be structured in a way that Business logic and Application interactions are separate. The Business logic of the process stays in flowcharts while the navigation and data processing are in sequences.

2.3.2 Guidelines

- (a) Use the templates for your project.
- (b) Use correct folder structure for the project – follow the pattern set by the templates.
- (c) A State Machine should be used as the main workflow for all processes. Sub processes should be called from the state machine using multiple states.
- (d) By developing complex logic within a sequence, you will end up with a labyrinth of containers and decisional blocks, difficult to follow and update. On the contrary, many UI interactions in a flowchart will make it more difficult to build and maintain. When Activities are arranged in a proper layout it improves readability.
- (e) Breaking the process in smaller workflows is paramount to good project design. Dedicated workflows allow independent testing of components while encouraging team collaboration by developing working on separate files. However, do not take this to the extreme – hundreds of smaller workflows will be cumbersome.

2.3.3 Prior to UAT, the original developer must have tested their code individually, and have their code reviewed by a Solution Architect. The review code checklist ensures the following:

- (a) Solution Design- Code is optimized for performance.
- (b) Code Reliability- Code contains robust error handling.
- (c) Code Logging- Code contains informative logging.
- (d) Maintenance - Code is broken down into simple, modular components that are easy to maintain.

- (e) Organization - Code folder is well organized; workflows are named well.
- (f) Readability - Code is well documented and easy to understand.
- (g) Security- Code does not contain credentials or risky data.

2.3.4 Citizen Developers are required to collaborate with the Solution Architect to finalize the Code Review process. All code reviews must be documented in the Code Review Checklist and approved by a Solution Architect.

2.3.5 The appended Code Review and Design Review document is recommended for use by AGD during code review procedures for RPA processes.

2.4 Security and Compliance Guidelines

2.4.1 The Security and Compliance Guidelines must align with the Government's IT security policies, financial auditing requirements, and personal data laws to ensure that the implementation of RPA complies with the organization's security policies and regulatory requirements. Below is a general structure that can be tailored to meet the specific needs of AGD.

2.4.2 Recommended Security Measures

(a) **Security By Design**

Ensure security requirements are integrated into the RPA development process from the beginning, ensuring that bots are developed with robust security configurations

(b) **Encryption**

Data in Transit: Use encryption (e.g., TLS/SSL) to protect data while it is in transit between systems, bots, and users.

(c) **Data At Rest**

All sensitive data stored in databases or file systems used by the bots should be encrypted to protect against unauthorized access.



(d) **Bot Credential Management**

- i. Store bot credentials securely using enterprise-grade credential vaults (e.g., CyberArk, Azure Key Vault).
- ii. Avoid hard-coding credentials into scripts or automation code.
- iii. Use dynamic credential management to ensure that bot passwords are changed frequently.

(e) **Firewall and Network Segmentation**

- i. Bots should operate in a network segment that is isolated, with strict firewall rules, to limit bot access to only the necessary services.
- ii. Use VPNs and secure communication channels for bots to prevent unauthorized access.

(f) **Endpoint Protection**

Install security software (anti-virus, anti-malware, endpoint detection) on systems where bots are used to mitigate the risk of cyberattacks.

(g) **Security Patch Management**


Ensure that RPA software, operating systems, and related applications are consistently patched and updated in a timely manner to avoid known security vulnerabilities.

2.5 **Change Management and Communication Strategy**

Explain strategies for delivering RPA initiatives, managing change, and gaining support from employees, ensuring a smooth transition and adoption of automation technology.

2.5.1 **Common factors for resisting RPA adoptions.**

- (a) Lack of understanding and awareness

- 
- (b) Fear of being redundant
 - (c) Ineffective change in communication
 - (d) Fatigue due to continuous change
 - (e) Top-down communication often frames the automation imperative as the result of organization / performance problems and only focuses on benefits that concern top leadership.
 - (f) There is often no clear picture of what to expect of the employees or what the transformation will look like for the organization.
 - (g) The employees do not feel regarded as part of the organization and yet are asked to support and change.
 - (h) Employees left in the unknown will fear the worst and actively push back against the transformation.
 - (i) The employees do not feel equipped with the right knowledge and skills to succeed in the new environment.
 - (j) Passive learning methods are not immersive enough in enabling employees to actively practice, embed new skills, and link new concepts and their application in their everyday work.
 - (k) Leadership verbally talks about change, but the mechanisms in place are obsolete.
 - (l) and continue to encourage old behaviors.
 - (m) Reinforcement strategies that do not include both formalized and organic mechanisms are ineffective to holistically perpetuate new behaviors.

2.5.2 Change management strategy guidelines.

- (a) The key to successful digital transformation is thoughtful and empathetic change management. Managing employee concerns is often forgotten or misguided, leading to failed or short-lived digital transformations.

(b) The key to successful adoption and scale of the RPA and automation across the organization involves careful consideration of a concerns management strategy of the users.

(c) The guiding principles in this regard would be as under:

- i. Create meaning in change for every employee.
- ii. Equip employees with skills of the future workforce!
- iii. Involve employees in open and constant dialogue.
- iv. Set up mechanisms to reinforce change.

(d) Below is a representation of an effective concern management strategy:

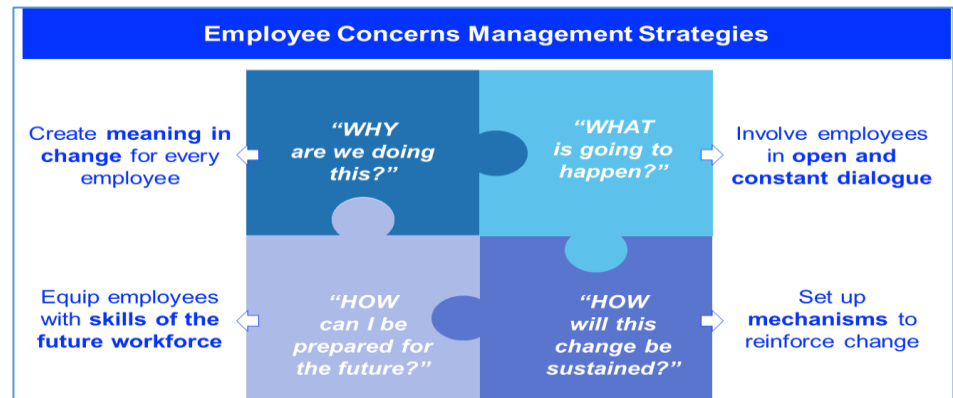


Figure 20: Effective anxiety management strategies

- i. Leaders can help employees feel personally invested in the change by appealing to things that matter to them.
- ii. Create and share compelling change stories touching on all five dimensions to build energy in a way that matters!
- iii. Encourage employees to create and share their own change stories so they make the automation journey their own.
- iv. Spend more time listening to employee change stories than broadcasting top-down messaging.

2.5.3 Recommended communications strategy for AGD

An effective communication plan will help employees understand the expected changes on an organizational and personal level.

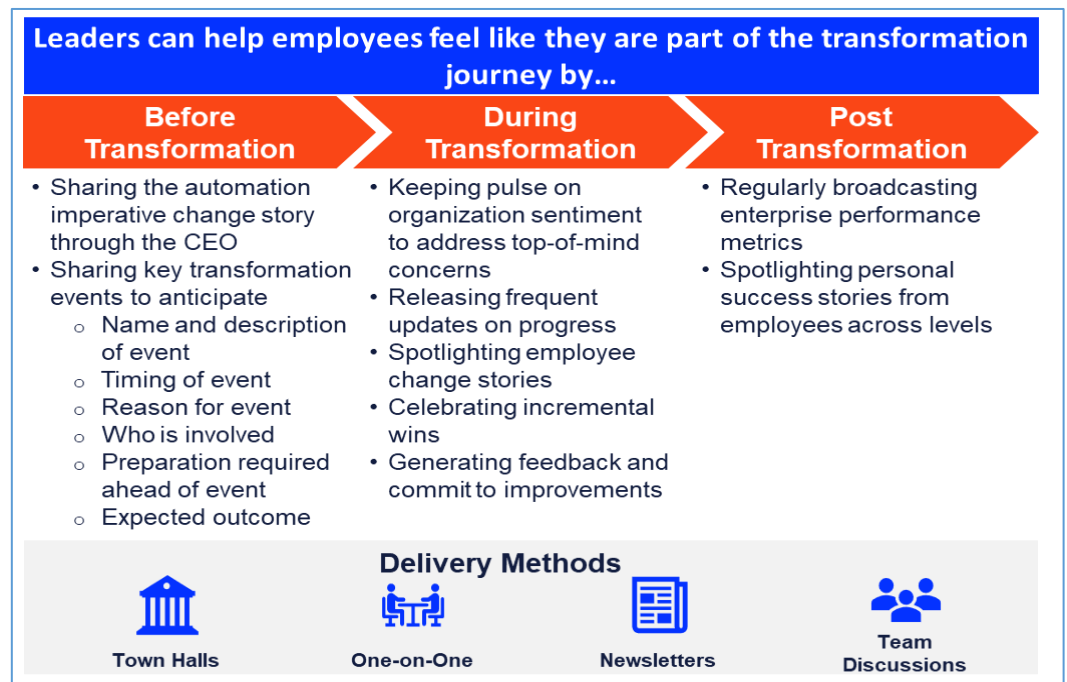


Figure 21 : Recommended communication strategy for AGD

- Develop a communication plan.
- Determine Audience: Identify, assess, segment stakeholders.
- Create Content: Develop messaging for each stakeholder segment.
- Determine Delivery Method and Schedule
- Coach executive leadership, functions heads, and managers on content, delivery, and communication strategies!
- Conduct skill assessment. Determine knowledge & skills needed and not needed for future. Identify skills of each employee & potential for re-skilling.
- Plan for future workforce needs & adjustments.
- Identify employees to be reskilled/redeployed.
- Identify & support employees that may need assistance in finding new opportunities.

(j) Develop curriculum content & delivery methods.

2.5.4 Communications Strategy best practices

Leaders can help reinforce new behaviors by implementing mechanisms that are...		
Formal	Structure	Govern roles, responsibilities, and interactions between different groups
	Processes	Enforce intake, development, testing, deployment, and maintenance processes
	Systems	Set up technology, security, controls to enable use of automation technology
	Benefits Tracking	Set performance metrics tied to automation
	Incentives	Align incentives to performance efficiencies driven via gamification and rewards
Informal	Mentoring	Set up formal mentor relationships, and encourage informal peer to peer support
	Environment	Foster "safe to fail" environment for innovation and celebrate failures as much as wins
	Role Modeling	Use top-down role modeling from leadership as well as peer-level influencers

Figure 22 : Communication Strategy Best Practices

2.6 Training and Upskilling

2.6.1 Provide guidance on training resources, skill development programs, and certification for RPA developers and stakeholders to enhance their knowledge and abilities.

2.6.2 The following training programs are recommended for AGD:

Course Name	Duration	Prerequisites	Required Skills
Advanced Developer	5 Days	Diploma for RPA Foundation	<ul style="list-style-type: none"> Extensive software development and/or RPA technologies experience (minimum 1 year) Strong knowledge in Object-oriented programming (C#, C++, VB.NET, Java, PowerShell, Python preferred)
Infrastructure	3 Days	Pass Infrastructure Assessment	<ul style="list-style-type: none"> Minimum 2 years experience with Microsoft IIS, Windows Server roles and features, TCP ports, SSL certificates Strong experience with 2-3 interactive web applications (e.g. ERP, CRM, Industry Applications) Preferred cloud experience with at least one of the leading cloud providers (AWS, Azure, GCP) Basic experience with SQL queries Experience with data visualization tools (e.g. Tableau, Kibana, Power BI)
Solution Architect	2 Days	Diploma for RPA Advanced Developer	<ul style="list-style-type: none"> Extensive software development and/or RPA technologies experience (+4 years) At least 1.5 years experience as an RPA developer OR 6 months experience as an RPA developer and 1 year as a solution architect in a different domain than RPA Strong knowledge in Object-oriented programming (C#, C++, VB.NET, Java, PowerShell, Python preferred)
Document Understanding	3 Days	Diploma for RPA Foundation	<ul style="list-style-type: none"> Experience with Machine Learning is recommended but not a must Software development and/or RPA technologies experience (1-3 years) Preferred knowledge in Object-oriented programming (C#, C++, VB.NET, Java, Python)
AI Center	2 Days	Diploma for RPA Foundation	<ul style="list-style-type: none"> Same as Document Understanding
Process Mining	4 Days	Pass PM Assessment (<ul style="list-style-type: none"> Extensive experience installing and managing databases (MSSQL, HANA, Oracle, MySQL / MariaDB, PostgreSQL, Cache, Firebird and Access) Strong knowledge (2+ years) of at least one programming language (e.g. Python, Java etc.) Experience with data visualization tools (e.g. Tableau, Power BI, Microsoft, Qlik)

Testing	5 Days	Diploma for RPA Foundation	<ul style="list-style-type: none"> • Experience with Testing is recommended but not a must • Software development and/or RPA technologies experience (1-3 years)
BA	2 Days	Task Capture	<ul style="list-style-type: none"> • Experience with business analysis is recommended (at least 6 months), but not a must • Software development life cycle (SDLC) knowledge and understanding, in general • Analytical thinking, problem solving and process modelling skills • Knowledge of RPA business structure
COE	3 Days	RPA Starter	<ul style="list-style-type: none"> • Experience with RPA POC or Pilot and UiPath Automation Platform • Strong real-world experience managing IT/Automation or Digital Programs • Consulting or operations background including governance and operational management • Background in BPM/BPA and general Business Process Reengineering
AREP	2 Days	RPA Starter	<ul style="list-style-type: none"> • Experience with RPA POC or Pilot and UiPath Automation Platform • Strong real-world experience managing IT/Automation or Digital Programs • Consulting or Operational background including strategy, governance and Sustainable L&D programs • Background in Sustainable IT learning and development programs
Citizen Developer	2 Days	Diploma for RPA Foundation	<ul style="list-style-type: none"> • Business user with an acumen to automate with RPOA technology • Analytical thinking, problem solving and process modelling skills • Knowledge of RPA business structure

Figure 23: Training And Skill Improvement

2.7 Performance Monitoring and Management

- 1.1.1 Explain strategies for monitoring the performance of RPA bots, collecting relevant metrics, and using data to continuously improve processes and achieve desired outcomes.
- 1.1.2 Once the processes are migrated into production, it is recommended to have a resolute team for monitoring the Bots in the production environment to ensure successful robotics process operations.
- 1.1.3 The recommended best practices in this regard would be as follows:
 - (a) Dedicated resources will be deployed for supporting deployed automations. One resource should typically support twenty production automations on average.
 - (b) The support team will monitor the performance of the BOTs in the production environment and perform load balancing wherever applicable.
 - (c) Monitor logs and identify failure issues.
 - (d) Troubleshoot BOT failure issues and identify root causes.
 - (e) Resolve Bot failure issues and restart the process.
 - (f) Update issue logs.
 - (g) In case the Bot failure is related to underlying application change, The Bot monitoring team will log a support ticket and will work with the support team for resolution.

- (h) In case the Bot failure is related to underlying product issue, The monitoring team will coordinate the support team for trouble shooting and resolution by opening a product support ticket.

1.1.4 The support team is also recommended to perform minor enhancements and process changes to optimize the functioning of BoTs in the Production environment. The best practice in this regard is recommended as under:

- (a) The need for improvements can be identified by the monitoring team at the time of monitoring the BoTs.
- (b) Enhancement requests can be received from the divisions and from the end users.
- (c) The monitoring team shall perform an effort estimation of such changes and will inform the Business teams about the same and secure an approval from the Head of business requirements and change management.
- (d) The monitoring team shall perform changes / enhancements if the total effort of such changes is less than 4 hours.
- (e) Monitoring existing Bots in production and resolving Bot failure issues shall be given more importance than enhancements.
- (f) If the effort to implement such enhancements requires more than 4 hours, the issue shall be referred to by the CoE team for implementing such change requests.
- (g) The number of enhancement requests to be handled by the monitoring team would depend on the workload and should be decided from time to time by the Deputy chief automation officer.

1.2 Maintenance and Support

Describe the maintenance and updating process for RPA bots, managing exceptions, managing errors, and providing continuous support to ensure the sustainability of automation initiatives

1.2.1 The support processes at AGD are designed to account for the following production support scenarios below.

(a) Inbound End User Issues

Production issues identified by the end user(s) who are aware of the automation and engage traditional L1-L3 support for resolution.

(b) COE Identified Issues during monitoring.

COE monitoring team identified issues during platform and workflow monitoring that will trigger internal investigation & triaging.

(c) Application Changes

Successfully executed change control process with Application Owners who notify of changes that may impact existing automations in production (leveraging application inventory)

(d) Process Change Scenarios

Inbound requests from the Business for changes to existing automation processes in production (design changes, run / schedule changes, configuration changes)

(e) Event Management / System Outage

Notification to COE of outage issues for other internal or external applications that may impact existing automations in production AND notification from COE of automation issues to end users.

1.2.2 Recommended Support Level for AGD

Tier	Description	Support Resources	Support Capabilities
Self-Service	<ul style="list-style-type: none"> End User Education 	Peers & Process SME	<ul style="list-style-type: none"> End User to consult Run Book / Support FAQ on common issues in production (key part of change management process during initial roll-out) Peer / Process SME to review automation run and determine if user error is driving bot issue <ul style="list-style-type: none"> If user error, educate end user If not user error, create Service Desk ticket Note: Ticketing & engagement guidance on JANM Intranet may be required to support end users
Level One Support	<ul style="list-style-type: none"> Issue triaging & orchestrator investigation 	Monitoring Team	<ul style="list-style-type: none"> Review & monitor Orchestrator and bot notification / alert mechanism Create Service Desk Ticket (if issue identified by RPA Support) & route to Support Lead Receive Service Desk Ticket (if issue raised by Business) & route to Support Lead Note: Long-term objective is to have Monitoring team perform initial RCA
		Support Lead	<ul style="list-style-type: none"> Review infrastructure and platform health/status and remediate as needed, escalate to L4 if Platform issue Basic troubleshooting by reviewing process logs/error messages/emails and documentation Determine root cause, provide guidance if no code changes / user education Reassign ticket to L2 (Support Lead) if Orchestrator changes are necessary Reassign ticket to L2 (Automation Developers) if unable to resolve, if code fix is required and provide RCA details
Level Two Support	<ul style="list-style-type: none"> Code break-fixes 	Automation Developers	<ul style="list-style-type: none"> Perform detailed review of Orchestrator logs or other relevant reports & identify changes needed Make required code edits/changes to resolve issue Redeploy automation into prod following deployment / change management procedures & update documentation Reassign ticket to L3 Support if unable to resolve and provide RCA details


Level Three Support Automation COE	<ul style="list-style-type: none">Final internal escalation point	Solution Architect	<ul style="list-style-type: none">Perform additional RCA as needed to diagnose problemIdentify & execute code change required to resolve issue and engage automation developers for execution; engage IT (infra / application owners) as needed to supportRedeploy automation in production following deployment / change management procedures & update documentationEngage UiPath if unable to resolve or if determined to be a platform issue
Level Four Support	<ul style="list-style-type: none">Product & platform support	Platform Support Services	<ul style="list-style-type: none">Receive ticket from COE Support regarding specific UiPath platform issuesPerform root case analysis into issue and provide recommendations from a product point of view

Figure 24 : Recommended Support Level for AGD

- (a) Support events can be identified in the following manner.
- i. End users notified through alerts from the automation platform on a particular malfunction through triggers and emails.
 - ii. Attended pop-ups and ad-hoc email alerts generated by the bot describing the incident encountered.
 - iii. Transaction status within an application queue describing the status of the transaction item (i.e., 'Completed,' Failed').
 - iv. Report generated at the end of bot execution, designed as a status report to inform end-users of bot performance.
 - v. The Level 1 (L1) support analyst within the COE while monitoring the automation identifies a potential support issue post analyzing the platform logs.
 - vi. Checking the job status of bot execution – 'Failed' status describes a fatal error in job execution.
 - vii. Checking the status of a queue transaction item – 'Failed' status describes an error within a single transaction item.
 - viii. Checking the logs of bot execution for any important error messages.
- (b) Irrespective of the teams identifying the issues, the first step will be to raise a support ticket, so the incident can be tracked and resolved within the prescribed guidelines mentioned below:

The Level 1 support analyst in the event of a process failure shall perform the following responsibilities.

- i. Inform AGD Divisions and Support Lead within 15 mins of such failure. In case the failure is identified the L1 team
 - ii. Review the support tickets raised by end users.
 - iii. Take necessary measures to reinstate the process like restarting the system.
 - iv. Perform trouble shooting by coordinating with AGD divisions to ascertain if such stoppage of process is related to any changes made by the divisions.
 - v. Perform trouble shooting by coordinating with the larger IT team (IT applications or security) to ascertain if such failure of processes is due to any upstream changes or patches introduced or not.
 - vi. Engage the infrastructure engineer to identify if there is any network issue.
 - vii. Check all areas like Network, infrastructure hardware as necessary to identify the reason for the issue.
 - viii. Upon identifying an issue, the L1 team will classify it and determine the time required for resolution. They will then update the relevant teams, accordingly, as deemed necessary. (The issue classification matrix is provided in subsequent slides for reference.)
 - ix. The L1 team would perform the required action or provide the necessary resolution to solve the issue.
- (c) In case the L1 team is unable to identify the issue within 2 hours of its identification or report the L1 team shall classify the issue as unknown issue recommend the issue to the L2 trouble shooting team for resolution.
- (d) The Level 2 support analyst in the event of a process failure shall perform the following responsibilities:

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- i. The L2 team post assignment of the ticket shall perform additional analysis as necessary to identify the problem and post identification of the problem shall classify the issue as per the above criteria and start resolving the same. Such actions would include the following.
 - a) Detailed analysis of the platform logs, triggers, alerts, codes, and workflow in general to identify the problem.
 - b) Perform the required code fixes or other necessary actions as deemed fit to resolve the issue.
 - c) Redeploy the automation into production to verify the resolution of the error.
 - d) Update the case logs and completes the documentation against the ticket service.
 - ii. In case the L2 team identifies that the reason for failure is due to a underlying system change and would need a design change and re-writing of the code, the level 2 team shall refer the incident to the Level 3 team which is the lead solution architect for further triage and root cause analysis.
 - iii. The L2 team shall also recommend the issue back to L3 support (Lead solution architect) in case it is not able to identify the same within 2 hrs.
 - iv. The Level 3 support analyst in the event of a process failure shall perform the following responsibilities.
 - a) The Level 3 (L3) support team in the context of the AGD support model refers to the Lead Solution Architect and the solution architects within the COE.
 - b) Once the L2 team assigns the ticket to L3, it will land up to the queue of the Lead solution architect, who can then assign the task to any of the team members available to resolve the issue. The solution architect s can also involve developers and /or business analysts as necessary in case there is a major development, or a design change required.
 - c) The Level 3 team shall perform further root cause analysis and check if the process can be reinstated within FOUR hours and accordingly notify the case log and documents the ticket history.

- d) In case the team could not identify the issue and estimates the resolution to take more than FOUR hours, the team shall classify the issue as an outage and intimate the required stake holders (Divisional process owners, larger IT team, Head of technical, Chief automation officer).
- e) In case the L3 team can identify the issue, the team will perform the necessary resolutions, code fixes, and redeploy the workflow in the production environment.
- v. In case the L3 team can identify the issue, the team will perform the necessary resolutions, code fixes, and redeploy the workflow in the production environment.
- vi. Upon successful resolution of the issue, the Level 3 team will update the case logs within the ticketing tools and proceed to close the incident. Additionally, they will document any necessary user manuals in the event of design or code changes.
- vii. In case the Level 3 teams inside the COE identifies that the issue is related to a product or platform, the Level 3 team will engage the vendor platform support team for further resolution.
- viii. The Level 3 team will maintain a centralized repository of all resolved scenarios for future reference and training. The L3 team shall from time-to-time conduct working sessions with L2 and L1 support analysts to share the best practices and experiences to enable the L1 and L2 support tiers to drive resolution of such issues if repeated in future.

1.2.3 Recommended Service Level agreements (SLA's)

Issue Type	Description	Resolution Time
Minor	Involves minor system fixes	Resolution time 1 hr
Major	Dependency on one team and/or one system but the issue is resolvable with changes within two hours.	Resolution time 1 to 2 hours
Critical	Dependency on multiple teams and /or systems but the issue can be resolved within 4 hours.	Between 2 to 4 hours
Very Critical	Dependency on multiple teams and /or systems and systems but the issue can be resolved within 8 hrs	4 to 8 hrs
Outage	Dependency on multiple teams and systems but the issue will take more than 8 hours to resolve such as a code fix, but the resolution is possible within a reasonable period	Beyond 8 hrs

Table 5: Recommended Service Level Agreement (SLA)

1.2.4 Communication matrix by support tier

Details	Owner	SLA's
Issue identification and reporting	Business	Immediate
Issue identification and first communication	L1 Support	15 mins from identification of the issue.
Issue referral to L2 team by L1 support	L1 Support	2 hours
Communication on issue type identification	L1 support	Up to 2 hours
Communication on Issue resolution progress	L1 Support	Recurring every 30 mins till issue is resolved.
Communication on Issue resolution progress	L2 Support	Recurring every 60 mins till issue is resolved.
Referral to L3 teams in case of failure to identify issue	L2 Support	2 hours
Referral to L3 team post identifying the issue as a Code fix or product issue requiring L3 support	L1 Support/ L2 Support	Immediate
Communication on Issue resolution progress	L3 Support	Recurring every 120 mins till issue is resolved.
Declaring the issue as a disaster in case of inability to identify and classify the issue	L3 Support	Within 4 hours

Table 6: Communication Matrix According to Support Levels

1.2.5 Support KPI

KPI	Description	Numerator	Denominator	Frequency
Issues communicated on time -L1	Percentage of issues identified by the L1 team and communicated as per the service level	Issues communicated within the SLA	Total issues identified or reported	Monthly
On time resolution of issues (Applicable to all team)	Percentage of issues resolved as per the classification SLA	Issues resolved as per the required SLA	Total issues identified or reported	Monthly
Issue resolution rate by I1 team	Percentage of issues resolved by L1 team without referral	Issues resolved to L1 team	Total issues reported or identified and worked by L1 team	Monthly
Issue resolution rate by I2 team	Percentage of issues resolved by L2 team without referral	Issues resolved to L2 team	Total issues reported or identified and worked by L2 team	Monthly
Resolution progress reporting accuracy – L1 team	Percentage of cases for which the resolution progress has been reported as per SLA	Cases for which the resolution progress were communicated on time	Total cases handled by L1 teams	Monthly

Table 7: Support KPI

1.2.6 Handling Application Change Events

(a) Guiding Principles

- i. The COE should not be seen as an unnecessary impediment / approve to existing change control processes followed by other application teams.
- ii. Use cases that involve applications with a frequent release schedule and / or planned major changes will be deprioritized.
- iii. Application-specific approach and extent of engagement with application teams will be evaluated and designed based on:
 - a) The criticality of the use cases that are dependent on the application.
 - b) The number of use cases dependent on the application

c) This application change control approach will evolve as AGD COE understands the type of impacts in production and degree of code changes required.

- iv. Automated notification processes will be leveraged where available & suitable.
- v. Additionally, as the COE matures it should explore approaches to automated regression testing of reusable components & high criticality processes.

(b) Proposed Approaches Internal AGD Applications

- i. Opportunity ID & Assessment: As the use case is evaluated, application teams are engaged for awareness & education.
- ii. Design: Once process has been designed, application teams are engaged to understand where there are RPA dependencies to the application screens / components

For new applications, COE will outline the notification & engagement approach when changes are expected that may impact existing automations. Extent of involvement is informed by the criticality of that application / use case

- iii. Support & Monitor: As application team identifies planned releases that may impact existing RPA bots, they notify COE.


COE is engaged to review change, determine impact & coordinate development / testing approach as needed.

(c) Third Party Applications (If applicable)

- i. A unique approach will be required for third party applications where AGD is unable to embed in the change control process. Approaches will be informed based on criticality and could include:
 - a) Regression testing in lower environments for reusable components.
 - b) Regression testing in lower environments for high criticality processes.
- ii. For successful dispensation of the RPA program within AGD, it is recommended to have a strong communication with the IT Applications Team and the COE. The IT applications team within AGD would be responsible for managing changes in the Base IT

systems such as ERP or any application. The coordination between the Automation COE team and the IT applications team and business team is particularly important because any changes made in the base systems will have an impact on the downstream automated processes.

- iii. To deal with such changes and its resultant impact the following action plan is recommended.
 - a) Change Management Communication process.
 - b) Change Management Approval process.
- iv. The above processes were designed to provide the IT team with adequate time and planning to ensure that the automated processes are not impacted because of such change.
- v. It is recommended that the IT Applications team will create a detailed write up of the details of the changes (change request) including but not limited to:
 - a) What is the proposed change?
 - b) What is the scope?
 - c) Why is the change necessary?
 - d) Which systems will it involve?
 - e) When would such changes be executed?
 - f) Whether there would be an outage or not
 - g) If yes, how long will be the outage for
 - h) What is the impact of such changes on the downstream process such as RPA?
- vi. The application management teams will make a detailed note of the same and would communicate to the Automation COE team. The solution architects within the Automation COE would assess the impact of such upstream changes and would put down its recommendation to the Change Management Board (recommended to be set up) for final decision.

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- vii. The IT applications team shall allow at least FIVE working days for the Automation COE to assess the impact on RPA because of changes and assess the risks and make the mitigation plan.
 - viii. Post receiving the application change information, the solutions architect's team within the automation COE would make a thorough impact assessment on the impact of such changes on the ongoing RPA processes.
 - ix. Such Impact assessment shall be initiated to understand the following:
 - a) Impact on the automated workflows because of such changes
 - b) Whether such impact will bring a complete stop to the existing automations
 - c) Is this system change going to impact the process design of the workflows and warrant a complete redesign or a recode?
 - d) Time that will be taken to fix such issues to make the workflows up and running.
 - e) Risks that would be associated in the event of such disruption.
 - f) Financial risk to business because of the change
 - g) A detailed mitigation plan to address the impact of such changes from RPA side.
 - x. While creating the impact assessment report, the Automation COE would consult the business as necessary to assess any risks or any queries as may be required to firm up the report.
 - xi. The solution architect team within the Automation COE would prepare detailed document post its impact assessment along with the mitigation plan recommendations and present it to the Change Management board.

Details	SLA	Owner
Review of the Change Request. document from IT Change management team. And completion of the impact assessment	5 working days	Automation COE Business analysis team
Review by the Change management board and provide decision	5 working days	Change Management Board

Table 8: Detailed Documentation after Impact Assessment along with Proposed Mitigation Plan, to be Submitted to the Change Management Committee.

(d) Change Management Board

- i. Recommend building a change management board with representations of the following participants.
 - a) Deputy Chief Automation officer
 - b) Head Of technical
 - c) Lead solution architect.
 - d) Head of business requirement and change management.
 - e) IT application leader
 - f) Head of Division
- ii. The Change management board should meet once every month as a scheduled cadence and, on an ad, -hock basis as deemed necessary.
- iii. The Change Management board shall consider the Impact assessment results and shall make the following decision.
 - a) Allow the underlaying application changes to happen.
 - b) Postpone the application changes to allow adequate preparation time for the RPA COE to mitigate the associated risks.
- iv. Process SMEs can submit enhancement requests for processes currently in production through an enhancement request ticket. COE will evaluate process enhancement requests for effort & criticality to determine appropriate handling.

- v. Each enhancement request shall be evaluated in the following manner.

Lever		Considerations	Suggested Handling	
Criticality to Fix	Effort to Fix	<ul style="list-style-type: none"> • What is the impact of the process continuing to run in production? <ul style="list-style-type: none"> • Consistent failure of bot • Unhandled scenario • Sub-optimal performance of bot • What is the impact or risk to the divisions in case unhandled or delayed (compliance risk, external communication risk, etc.?) • Is there a manual workaround available? 	High Criticality	Low Criticality
			High Effort	Low Effort
		<ul style="list-style-type: none"> • Can the fix be handled by existing support resources or absorbed within the development team without impacting current sprint efforts? • Is the fix code related? Or can the fix be handled through configuration changes without repackaging code? <ul style="list-style-type: none"> • What is the time required to make the fix (post-RCA)? • What is the extent of impact to overall process design & logic? • What is the extent of testing required to validate the fix? 	High priority item placed on top of COE Dev Team Backlog	New opportunity / enhancement added to the backlog
			Low priority item placed on top of COE Dev Team Backlog	New opportunity / enhancement added to the backlog OR low priority item placed on top of COE Dev Team Backlog

Figure 25: Subject Matter Experts

- vi. To facilitate promotion efficiently and in a controlled manner.
- vii. To facilitate efficient & controlled promotion to production, changes will be qualified as a standard change, change or non-change to expedite approvals and break/fix process. This is assessed based on impact and rating according to AGD’s incident management standards.

(e) **Standard Change**

- i. Illustrative

Standard changes are characterized by low-risk updates to production to resolve incidents and / or respond to requested updates from the divisions. These standard changes will follow an expediate approval process Scheduling updates:
- ii. Scheduled updates:
 - a) Asset updates (e.g., URLs, folder, or other resource locations)

- b) Code changes to non-reusable components that DO NOT impact BOT scope or logic, such as:
 - Code updates to resolve on screen / UI selector issues.
 - Code updates to resolve application behaviour changes (data input changes)

(f) **Non-Changes**

i. Illustrative

Any incidents that are reported and identified as the below are qualified as non-change.

- a) End user education / error.
 - b) Incident that is determined to be an enhancement to BOT functionality / scope and to be managed as a new opportunity through the E2E path-to-production.
- ii. Infrastructure maintenance activities may also be managed as non-changes:
- a) Virtual Machine restart and / or cache clearing.
 - b) Orchestrator connection issue & resolution
 - c) Application deployment or VM creation

(g) **Change**

i. Illustrative

The changes below will require the COE to follow the full change release procedure.

- a) Any updates to reusable components
- b) Any updates to bot code that materially change bot logic and / or bot scope.
- c) Any updates that require Business UAT prior to promotion

1.3 Scaling RPA

Outline strategies for scaling RPA initiatives across departments and functions, including methods for assessing and managing increased demand for automation.

1.3.1 For AGD to scale RPA across departments, the following strategy is recommended.

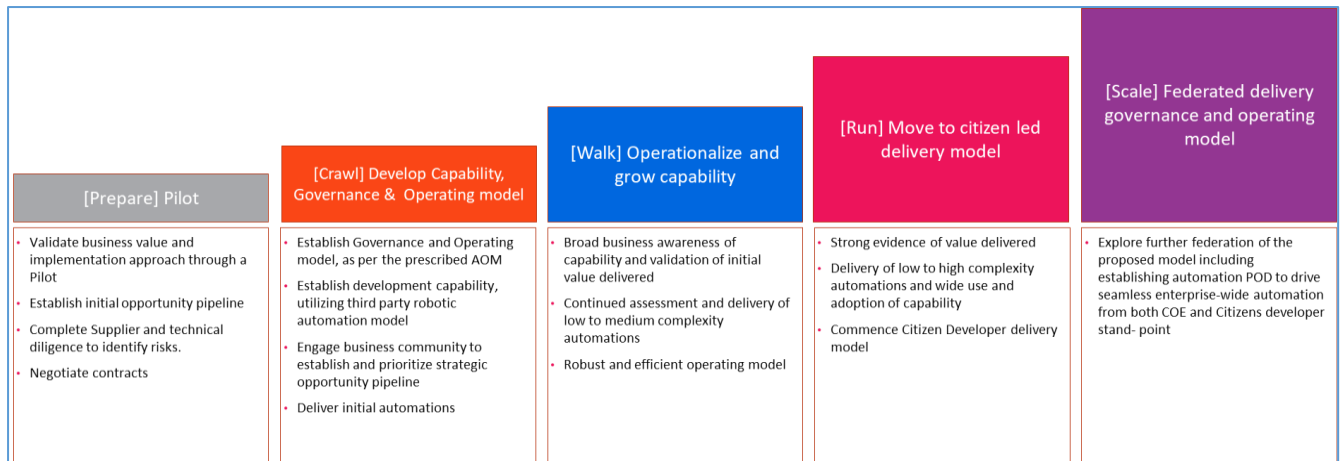


Figure 26 : Scaling RPA

Stage	Recommended practice for AGD
Pilot	<ol style="list-style-type: none"> 1. Recommend AGD to identify one select business division to launch the pilot program for RPA. 2. Ensure the division that is selected mostly has manual tasks performed by humans. 3. Ensure that the division selected has a high volume of manual tasks. 4. The accuracy of processing must be measured prior to starting the automation. 5. Select the process which is easy to deploy and is of simple to medium complexity. 6. It is recommended to initially avoid selecting ancillary technologies such as OCR (Optical Character Recognition) or Document Understanding for the first use case. However, if the specific use case requires the utilization of such technologies, it should not pose an issue. 7. Ensure that the system and applications are stable and will remain stable for the next six months for the process targeted for automation.

Stage	Recommended practice for AGD
	<ol style="list-style-type: none"> 8. Develop the pilot use case, measure the benefit of automation after the deployment and present to the larger organization as a case study. 9. Ensure that a process of continuous discovery is implemented across the division to identify additional use cases for automation
Develop capability and operating model	<p>Once the pilot project is implemented and socialized across the organization, the next step should be to develop larger automation capability and establish the governance model at AGD in line with the directions provided in the operating model. The key activities in this regard will include the following:</p> <ol style="list-style-type: none"> 1. Build an expansion plan to outline the business divisions that will be included for automation in the next 6-12-18 months. 2. Extend the scope of automation to three divisions in the first 6 months post pilot 3. Scale the COE team with additional resources like business analyst, solution architect and developers to cater to the three business units in the first 6 months. 4. Partner resources, third party resource models can also be explored by AGD instead of direct hiring to augment capability. 5. Launch a campaign to identify automatable use cases by the respective divisions, Alternatively the COE can also start identifying targeted use cases by launching a discovery exercise across the three selected divisions. 6. Qualify use cases as outlined in the process intake model. 7. Automate use-cases and migrate to production. 8. Build the BoT performance and monitoring team in line with the implementation plan of the use cases. 9. Establish the governance cadences. As outlined in the governance model 10. Monitor performance of the program and course correct wherever applicable. 11. Publish the benefits of the use cases automated to the AGD Management
Operationalize and Grow Capability	<ol style="list-style-type: none"> 1. Extend the scope of automation from 3 Divisions to 6 Divisions in the 12 months post pilot.

Stage	Recommended practice for AGD
	<ol style="list-style-type: none"> 2. Grow the BOT performance and motoring team to support processes that are already automated. 3. Add resource capability and increase team size. 4. Monitor performance and perform course correction as needed. 5. Publish the benefits of the use cases automated to the AGD Management
Steady State	<ol style="list-style-type: none"> 1. Extend the scope of automation across all divisions within AGD. 2. Optimize team size by building a hybrid capability of AGD and partner resources. 3. Publish the benefits of the use cases automated to the AGD Management 4. Monitor value delivered and performed course correction to correct variances. 5. Continue to monitor BOT performance and enhancements, as necessary. 6. Focus on maintaining the Automations delivered. 7. Build a support eco-system to support production issues.

Table 9: Recommended Practices for AGD

1.3.2 **Methods to assess and manage increased demand for automation.**

Recommended best practices:

- (a) Build an implementation roadmap clearly outlining 6-12-18 months plan. The implementation plan should include the following.
 - i. The number of business divisions considered for automation.
 - ii. The number of processes that should be targeted for automation.
 - iii. Resource planning should be done in accordance with the implementation roadmap.
 - iv. Continuous monitoring should be in place to check plan adherence.
 - v. Variances should be quickly identified, and course corrected.

- (b) In case there is a surge in demand to automate use-cases other than estimates, the following best practices are recommended:
- i. Prioritize processes based on business-case.
 - ii. Follow the approval matrix to secure approvals of such exceptional cases.
 - iii. Plan capacity to automate the use cases in case the existing capacity is insufficient to cater to the surged demand, options should be explored to ramp up from partner capability to automate such use cases.
- (c) Below mentioned are the guidelines for resource planning by complexity of the use case.
- i. Simple Complexity Use cases – Recommended Duration 6 weeks.

Resources	W1	W2	W3	W4	W5	W6
	Assessment	Development			UAT	Hyper care
BA	100%	20%				
SA	100%	25%				
RPA dev		100%				
PM		20%				

Table 10 : Simple Complexity Work Process – Recommended Duration: 6 weeks

- ii. Simple Complexity Use cases – Recommended Duration 8 weeks.

Resources	W1	W2	W3	W4	W5	W6	W7	W8
	Assessment	Development					UAT	Hypercare
BA	100%	20%						
SA	100%	25%						
RPA dev		100%						
PM		20%						

Table 11: Medium Complexity Work Process – Recommended Duration: 8 weeks

- i. Simple Complexity Use cases – Recommended Duration 12 weeks.

Resources	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12
	Assessment		Development								UAT	Hypercare
BA	100%		20%									
SA	100%		25%									
RPA dev			100%									
PM	100%											

Table 12: High Complexity Work Process – Recommended Duration: 12 weeks

1.4 Case Study and Use Cases

1.4.1 Enhancement of RPA for Unclaimed Moneys Process in Malaysia (WTD)

(a) Background of the RPA Process to Improve Unclaimed Moneys in Malaysia (WTD)

- i. AGD (The Accountant General's Department of Malaysia) is the department responsible for managing the financial and accounting administration of Government agencies. One of its important responsibilities is handling unclaimed moneys. The existing manual process for managing unclaimed moneys involves receiving claims, processing documentation, and verifying information with various stakeholders before payment. This process is time-consuming, prone to information leakage, human errors, and often experiences delays due to the high volume of claims.
- ii. To improve efficiency and reduce operational delays, AGD decided to automate this process. The project aims to streamline the entire process from start to finish in handling unclaimed moneys, from claim submission to payment, to ensure accuracy and timely processing.

(b) Problem Statement

AGD faces several challenges with its manual process for unclaimed moneys:

- i. High Number of Claims: The department processes thousands of claims every year, which burdens the workforce and causes backlogs.

- ii. **Manual Errors:** Human errors in data entry, document verification, and cross-referencing with databases lead to prolonged backlogs.
- iii. **Time-Consuming Process:** The manual verification process, with various checks and validations between departments, takes from weeks to months for each claim.
- iv. **Workforce Productivity:** The workforce spends too much time on repetitive, mundane tasks, which could be better utilized for more valuable activities.

(c) **Objective of Automation**

The primary goal of the RPA project is to automate repetitive and rule-based processes within the unclaimed moneys management system, reducing processing time and improving accuracy. The specific objectives of this process include:


- i. **Reducing Processing Time:** The automation process aims to reduce the average claim processing time from weeks to just a few days.
- ii. **Eliminating Human Errors:** By automating data entry, verification, and validation, human errors can be significantly minimized.
- iii. **Increasing Efficiency:** By automating repetitive tasks, the workforce is given more time to focus on more complex cases, customer-oriented services, and compliance activities.
- iv. **Improving Customer Satisfaction:** With faster resolution times and reduced errors, customer satisfaction will be enhanced.

(d) **Result and Outcomes**

The automation project resulted in significant improvements in various areas, including:

Time Savings

- a) The processing time for unclaimed moneys claims was reduced by 80%, from an average of 6-8 weeks to just a few days.

- 
- b) The automation process resolved issues related to document verification, data validation, and enabled faster payment processing.

i. **Improvement in Accuracy**

- a) Manual errors in data entry and verification were reduced, improving the accuracy of the processed claims.
- b) The automation system identified only about 5% to 10% of claims for manual review, allowing the workforce to manage their time and focus on more complex activities.

ii. **Increased Productivity**

- a) The bot handles the majority of repetitive tasks that are time-consuming, enabling AGD staff to focus on customer service, strategic tasks, and compliance.
- b) Workforce productivity increased by 40%, as they are able to prioritize more important tasks.

iii. **Improvement in Customer Satisfaction**

- a) Faster resolution times and reduced errors lead to an increase in customer satisfaction, with fewer complaints about processing backlogs.
- b) The department reports a 30% increase in customer feedback and a reduction in inquiries related to claim status.

1.4.2 RPA Improves the Quality of Life for Workers and Citizens of Copenhagen

(a) Background

- i. Copenhagen is experiencing rapid growth. Today, more than 600,000 people live and work in the city, marking an increase of nearly 20% in just 10 years. With this population growth, there is increasing pressure on the City Council to continue providing high-quality services.
- ii. Currently, the city provides job opportunities for 45,000 employees across seven sectors, including finance, social services, healthcare, and caregiving. Doing more work with fewer resources is essential for the council to meet the demands of its citizens with limited resources.
- iii. Rasmus Lund Stisager, Head of the RPA Team at the City Council, explained that Copenhagen needs to serve its growing population with the same or even lower budget. Therefore, the city is always looking for new ways to automate processes and improve efficiency.
- iv. RPA is the ideal technology to help meet this responsibility as it offers Copenhagen the potential to streamline processes and provide better services to all citizens. In 2015, the City Council initiated a project to determine what benefits RPA could bring to its operations.
- v. According to Stisager, their City Council has been intensively digitalized over the years, using various forms of automation. However, RPA provided them with a new advantage. It can navigate data, operate across different systems, and avoid the need for integration. These are features they had not encountered before. They realized that many administrative service processes could be automated.

(b) From Pilot Project to Project Expansion

- i. The City Council was informed about the potential benefits of RPA in terms of cost reduction and increased efficiency. They

sought a Proof of Concept (POC) and realized that UiPath offered a trial that would allow the organization to quickly and easily start the automation process.

- ii. Stisager stated that the UiPath trial provided an easy way to get started. By browsing the website, downloading the software, and exploring its features, they realized that they had an effective and user-friendly tool. It became clear how UiPath and RPA could be leveraged to benefit both employees and citizens.
- iii. He added that by automating repetitive, rule-based tasks, employees could manage their time more effectively. For example, activities such as manually transferring information between colleagues could be handed over to a bot. This allowed employees to focus on more meaningful work and increase the time spent focusing on customers.
- iv. The company chose a process in human resources that manages individuals leaving the council as their pilot. This process includes all the paperwork and administration—such as official resignation letters, final departure dates, last paycheck, etc.—which is carried out in the HR department. This process was selected because it is highly digitalized, and many tasks in the process could easily be automated using RPA.
- v. Starting in December 2015, the company only needed four months to transition from concept to production for the first RPA automation. However, many lessons were learned during this process. Stisager mentioned that using UiPath and developing effective automation was easy. They found that robots could experience malfunctions, so it was important to understand their actions when problems arose. They invested significant effort into creating automation that enhanced interactions between robots and employees, and they established strong feedback mechanisms to ensure high-quality input and output. The initial pilot project convinced the City Council that automation could provide significant benefits by optimizing internal workflows. This led to an increase in the number of robots from one to ten. However, there was still work to be done before Copenhagen's City Council could fully realize the benefits of RPA.



(c) **Building a Strong Structure**

- i. The next step in the RPA journey for Copenhagen is to establish the COE and begin promoting its potential in the seven committees. They need to decide whether to centralize all RPA work within the COE or use the COE to encourage the committees to develop their own RPA capabilities. The decision is to combine both approaches.
- ii. Stisager shared that discussions with the committees showed that initial doubts were quickly overcome as interest in RPA grew. Since no one likes handling tedious tasks, the COE decided to maintain overall control of larger automation efforts while providing guidance and support for smaller projects within the committees.
- iii. By building very close working relationships with the IT department, Stisager decided that developers should have a technical background. Developers would be supported by automation consultants who work with the committees to identify suitable processes and the anticipated business benefits. Today, there is a team of 15 people working in the COE.
- iv. From four months for the initial pilot, the average process, including the introduction of initial processes, process improvements, robot development, and delivery, can now be completed in six to eight weeks. Simpler processes can go live in less than one week.
- v. Good governance is a key factor in this. Stisager explained that significant efforts were invested in establishing proper governance. They have developed detailed coding guidelines for building and operating robots, which facilitate knowledge sharing with the committees and allow external consulting companies to expand RPA efforts.




(d) **Development of Success**

- i. To date, Copenhagen has automated 75 processes across its seven committees. They have built a digital workforce consisting of six unattended robots and 50 attended robots. This is an impressive achievement, as the council has only been working with attended robots for four months. Council members and their staff are beginning to see the benefits.
- ii. For example, the Council needs to respond quickly to requests from citizens who want to know the exact information the Council holds about them. This process is very time-consuming. It requires access to multiple systems, combining information, altering sensitive data, creating reports, and sending them to the public.
- iii. This process could take up to 10 hours for a worker to complete, with potential for errors and oversights. Robots can reduce this time by half and provide highly accurate information. This automation is being introduced to all committees, with one committee reporting that the automation alone has freed up almost 8,500 hours per year to help meet the growing demand for its services.
- iv. Stisager emphasized that RPA has had a positive impact on employee satisfaction as well as the citizen experience. Process improvements have led to faster response times and better service delivery.

(e) **Adopting a Hybrid RPA Approach**

- i. The Council believes that it is still early in their RPA journey and the true potential will emerge when they combine attended and unattended robots into a hybrid RPA environment. This will allow Stisager and his team to automate more complex tasks using RPA and help automate processes from start to finish.

- 
- ii. Stisager explained that their initial focus was on using unattended robots for large, repetitive tasks, which enabled workers to focus on more important work. Now, they are exploring the use of attended robots and digital assistants, and combining these technologies enables workers to use the most appropriate robot for each step in the process. This hybrid approach has great potential.
 - iii. Copenhagen has launched its first hybrid robot platform, which allows workers to start a process with attended robots to help collect information before handing it over to unattended robots to manage data retrieval and coordination. This saves a lot of time, with case workers only receiving a small number of cases that truly require manual review.
 - iv. Stisager believes that hybrid robots will be expanded in Copenhagen over the next few years and offers advice to government bodies. He summarized that while some municipalities begin enthusiastically with the launch of initial pilot projects for a few processes, they often lose momentum and see their projects stall. The key to success is identifying and involving the right individuals across the organization who are committed to the automation journey and continually expanding automation efforts. By doing this, it will bring significant benefits to the organization, the workforce, and the community.

1.5 Review and Approval Process for the RPA COE Playbook

- 1.5.1 Establish a process for regularly reviewing and updating the COE playbook, ensuring its ongoing relevance and alignment with organizational goals.
- 1.5.2 The recommended strategy and practices with respect to the above will include the following:
 - i. The Chief digital officer should be the sole custodian of the CoE playbook.
 - ii. The CoE playbook should maintain a version control process. The first version of the CoE Playbook should be named as Version 1,

other subsequent versions would follow the same naming conventions.

- iii. The CoE playbook should be reviewed at a regular interval, recommended every six months.
- iv. The CoE playbook should be updated from time to time based on changes warranted by circumstances, executive decisions taken by AGD and changes in policy within AGD.
- v. The decision to amend the CoE playbook will rest with the Chief Digital Officer who should be the sole decision maker with respect to making such changes.
- vi. The process of requesting amendment should be as follows
 - a) The requester should be able to clearly articulate the nature of the change along with the reasons for the same.
 - b) The request should be sent to the Chief digital officers office for consideration.
 - c) Post receiving the request the chief digital officer shall review the change and determine whether the change is required or not.
 - d) The Chief digital officer shall consult other team members (the Deputy Chief digital officer, head of business divisions or other members of the steering committee as necessary before taking a decision to execute the change.
 - e) Once the decision is taken to execute the change the change shall be executed to the CoE playbook with the new naming convention as recommended

1.6 **Distribution and Accessibility**

- 1.6.1 The COE Playbook is an important document that outlines processes and best practices for COE operations. To ensure that all stakeholders have access to this document and can collaborate effectively, a robust distribution and access strategy has been established. This strategy aims to ensure that the playbook is easily accessible, updated regularly, and securely managed.

1.6.2 To distribute the COE playbook, the following platforms are recommended. Each of the items below offers different advantages based on the organization's specific needs for collaboration, security, and version control.

(a) **Centralized Portal**

A centralized portal, such as SharePoint or a dedicated COE website, is ideal for publishing guides. This platform ensures that all users access the most up-to-date version and facilitates updates. Key features include:

- i. **Version control:** Stakeholders always have access to the latest version, with the ability to view change logs.
- ii. **Role-based access:** Different permission levels can be granted to ensure that only authorized users can make changes.
- iii. **Integration:** The portal can be integrated with other COE resources, such as training materials and governance documents, to ensure that all relevant resources are in one place.

(b) **Cloud-Based Document Repository**

A cloud-based document repository, such as Google Drive, OneDrive, or Dropbox, enables easy sharing and real-time collaboration. This solution should be equipped with security features that comply with security regulations and applicable record storage regulations. The advantage of this channel is that it is highly effective when organizations require flexibility and remote access. Its benefits include:

- i. **Real-time Collaboration:** Multiple users can collaborate on the guide simultaneously.
- ii. **Version History:** Changes are recorded, allowing stakeholders to review previous versions if needed.

- iii. **Permission Controls:** Access to folders and documents can be restricted to specific users or groups.

(c) **Collaborative Platforms**

Collaborative platforms, such as Microsoft Teams, are used to distribute and access COE guides. Within this platform, dedicated channels can be created for COE-related documentation. Guides can be shared and pinned for easy access through:

- i. **Direct Communication:** Stakeholders can discuss updates and other matters directly within the platform.
- ii. **File Pinning:** Guides can be pinned, ensuring they are always easy to find.
- iii. **Integration:** Integration with cloud-based repositories ensures stakeholders always have access to the latest version.

(d) **Access Control dan Permissions**

Ensuring that the right stakeholders have appropriate access to the guides is crucial for maintaining document integrity and security. The following guidelines will control access:

- i. **Role-Based Permissions:** Stakeholders will be assigned roles that define their level of access. For example, COE leaders may have the right to make changes, while others may only have view access.
- ii. **Collaboration Rights:** Teams responsible for contributing content to the guides will be given collaboration rights for specific sections.
- iii. **Approval Process:** Updates to the guides should go through a governance approval process to ensure changes are reviewed and approved before being published.

(e) **Review and Update Schedule**

Regular updates are essential to ensure that the COE guides remain relevant and accurate. The following mechanisms can be used to ensure stakeholders are informed of any changes:

- i. **Update Log:** A version history will be maintained to track all changes, including the modification date and the individual responsible for the update.
- ii. **Review Schedule:** A regular review schedule will be established to ensure the guides are updated periodically.

(f) **Collaboration and Version Control**

Maintaining control over the versions of the COE guides is essential to ensure that stakeholders refer to the same source. The following steps will be implemented:

- i. **Version Control Systems:** The platform used to host the guides will support version control, allowing for the tracking of changes and the recovery of previous versions if necessary.
- ii. **Collaboration Tools:** For sections of the guide that require input from multiple stakeholders, tools that support real-time collaboration will be used, such as Google Docs or Microsoft SharePoint.
- iii. **Change Approval:** Significant changes to the guides will be reviewed and approved by the designated COE leaders before being published.

1.6.3 The following is a summary of the critical factors for distributing and accessing the COE playbook:

- (a) **Centralized Access:** The guidebook should be stored on a centralized platform accessible by all stakeholders in the COE.
- (b) **Role-Based Permissions:** Different levels of access will be granted based on the roles of stakeholders in the COE.
- (c) **Version Control:** A robust version control system should be implemented to manage revisions and changes.

(d) **Collaboration:** Tools that support real-time collaboration will be used to streamline changes and updates from various stakeholders.

1.7 Feedback Mechanism

- 1.7.1 The success of the RPA COE depends on the continuous collaboration and input from all stakeholders. As the guidebook evolves, it is important to establish a structured mechanism for stakeholders to provide feedback, ask questions, and suggest improvements. By fostering an environment of open communication and continuous learning, the guidebook will remain a dynamic and effective resource, ensuring that the automation journey aligns with business goals and stakeholder expectations. This document outlines various channels through which stakeholders can interact with the COE team, ensuring a consistent flow of information and collaborative problem-solving.
- 1.7.2 A dedicated centralized digital platform, such as SharePoint or Microsoft Teams, can serve as the primary hub for accessing the guidebook, submitting feedback, and sharing knowledge. Stakeholders can easily reference relevant sections of the guidebook, submit comments or suggestions in real-time, and engage in ongoing discussions. These platforms also function as repositories for frequently asked questions (FAQs), previous feedback, and updates, ensuring that all stakeholders have organized access to information.
- 1.7.3 For stakeholders who prefer traditional communication, a dedicated email channel for inquiries and suggestions related to the guidebook can be set up. This channel allows for more personalized and structured feedback, with the added benefit of tracking communication and follow-up actions. The COE should ensure that these emails are regularly monitored and managed to ensure timely feedback and resolution of stakeholder inquiries/suggestions.
- 1.7.4 Conducting periodic surveys or using tools like Google Forms or Microsoft Forms allows for systematic collection of feedback. These forms can be designed to record detailed views on specific sections of the guidebook or general suggestions for improvements. Additionally, structured feedback forms can help standardize the type of input received, facilitating analysis and the implementation of relevant changes.
- 1.7.5 Holding regular review meetings, workshops, or town halls dedicated to the guidebook encourages direct and open communication between the

COE team and stakeholders. These meetings can serve as forums for discussing major updates, addressing issues, and generating new ideas. Participation in live discussions allows for more dynamic interaction and immediate clarification of any confusion or issues.

- 1.7.6 Creating discussion forums or chatbots on platforms such as Microsoft Teams can facilitate ongoing dialogue between stakeholders. These forums provide a space where stakeholders can raise issues, share ideas, and collaborate to improve the guidebook. This will promote real-time collaboration and problem-solving, fostering a sense of community and shared responsibility for the continuous improvement of the guidebook.

1.8 Pilot testing

- 1.8.1 Launching the COE playbook. Providing training sessions with relevant teams, ensuring team members understand their content and can implement recommended practices.

- 1.8.2 Once the COE playbook is approved by AGD. The next step is to socialize the playbook and make it acceptable to all stakeholders within AGD. The strategy for launching the CoE playbook and socializing the same is enlisted as under:

- (a) **COE Communication**

- i. Prepare a communication plan and agree with COE leader.
- ii. Communicate stake holders about the formation of the COE.
- iii. Organize a Webinar to formally launch the COE.

- (b) **COE Design Adoption**

Workshop with AGD Divisions explaining the playbooks and addressing doubts if any.

- (c) **COE Set up Advisory**

- iv. Understanding the current set up.
- v. Identify resources gaps.
- vi. Making coaching plan for each Team member in the COE

1.8.3 Recommended plan:

Key Activities	Description	Estimated number of sessions / workshops / efforts	Duration per session
COE Communication	<ul style="list-style-type: none"> Prepare a communication plan and agree with COE leader. Communicate stake holders about the Formation of the COE Organize a Webinar to formally launch the COE 	1	Up to 4 hrs
COE Design Adoption	<ul style="list-style-type: none"> Workshop with Divisional leaders explaining the playbooks and address doubt if any 	Up to 5	Up to 4 hrs
COE Set up Advisory	<ul style="list-style-type: none"> Understanding the current set up. Identify resources Gaps Assist Singh Health in filling resource gaps with new hire orientation, Responsibility briefing etc 	Up to 5	Up to 4 hrs

Table 13: Recommended Plan

1.9 Launch and Training

1.9.1 Comprehensive training sessions will be provided to ensure that all team members involved in RPA implementation are equipped with the necessary knowledge and skills to execute automation processes effectively. These sessions will cover all aspects of RPA workflows, from the technical details of automation to best practices for handling exceptions and ensuring smooth operational handovers.

1.9.2 The training will be tailored to meet the needs of various teams, including developers, business analysts, and process owners, ensuring that each group understands their specific roles in the RPA process. Key areas to be covered include:

- i. Understanding the RPA architecture and how it integrates with existing systems.
- ii. Detailed explanations of each automation process to ensure mastery of workflows.
- iii. Best practices for managing exceptions and resolving errors.
- iv. Techniques for maintaining and scaling bots to meet future business needs.
- v. Practical, hands-on exercises to reinforce learning.

1.9.3 The training will use an interactive approach to engage participants, ensuring that they not only understand the content but are also able to apply the recommended practices.

1.10 Monitoring and Retention of Workforce to the RPA COE

1.10.1 To ensure the Center of Excellence (COE) playbook remains relevant and effective, we must implement a continuous monitoring and improvement strategy. This will involve regularly tracking the playbook's usage and impact, collecting user feedback, and making necessary updates based on real-time experiences and the evolving needs of AGD.

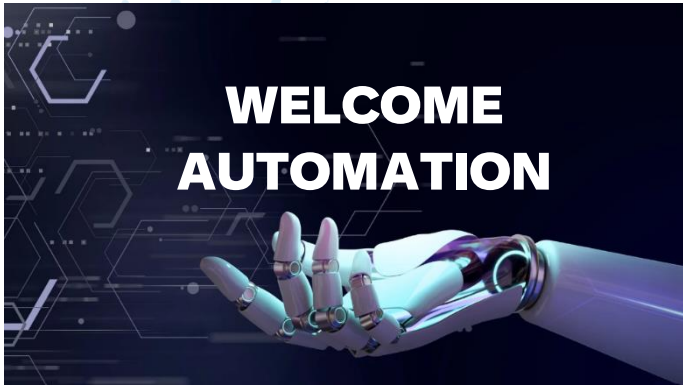
1.10.2 The key components of this approach include:

- (a) **Ongoing Usage Monitoring:** Regular reviews should be conducted to assess how the COE playbook is used across the organization, identifying areas with high engagement and business units (BUs) that may need further clarification or support.
- (b) **User Feedback Collection:** Feedback from users at various levels, including BUs, Change Directors (CDs), and business analysts, should be actively gathered. This input is crucial for identifying opportunities to improve the playbook and better support the operational and strategic objectives of the COE for RPA.
- (c) **Regular Content Updates:** Based on user feedback and effectiveness analysis, the playbook should be updated regularly to include new best practices, address emerging challenges, and reflect changes in organizational processes or technology.
- (d) **Real-World Experience Integration:** As practical experience in automation implementation grows, the playbook can be enhanced by incorporating real-world insights and lessons learned to provide actionable guidance.
- (e) **Adapting to an Evolving Environment:** Recognizing the ever-changing needs of the organization, the COE playbook will remain a dynamic tool capable of adapting to new priorities, processes, and technologies.

1.10.3 A proactive approach to monitoring and updating the COE playbook is essential to ensure its continued effectiveness, driving success and operational efficiency in automation initiatives.



CONCLUSION



Conclusion

This book aims to provide guidance and a clear understanding of the establishment and management of the Center of Excellence (COE) for AGD's Robotic Process Automation (RPA) initiative. Through explanations related to strategies, processes and

best practices in RPA, it is hoped that this playbook can help AGD to be more confident and directed in implementing and expanding automation initiatives that will have a positive impact on AGD services.

For us to continue moving forward, we cannot deny that digital transformation is increasingly becoming a necessity in the delivery of Government services. Automation will not only have an impact on time management, cost reduction or efficiency improvement alone, but also change the way we work to be more innovative, flexible and strategic. By developing an RPA COE, AGD will be better prepared to face technological challenges and take advantage of the potential of Intelligent Automation (IA) in services.

The COE's RPA commitment will be a catalyst for the implementation of the automation strategy at AGD. It is not just about improving the technical skills of AGD people, but also as a center of knowledge and culture that encourages the use of automation and innovation.

The effectiveness of RPA is influenced by good governance. It is important to ensure that strong governance is implemented in each stage of automation. This includes choosing the right process for automation, risk assessment, as well as quality assurance and data security.

The world of automation is evolving rapidly. Therefore, continuous learning and exploration of new technologies should be part of the RPA COE's culture. This is to ensure that the automation initiative remains relevant and can add value to AGD in the long term.

The success of automation depends not only on the COE, but also on the collaboration between the IT team, users, process analysts and other stakeholders. This collaboration is key to creating a sustainable and effective automation ecosystem.

With this book, it is hoped that AGD's RPA COE can play a strategic role, changing repetitive, standard work processes and having a high volume of transactions to automation and accelerating the journey of AGD's digital transformation. Automation is an opportunity, and with smart management, it can provide continued benefits to AGD.

Good luck on your AGD automation journey and may this RPA COE continue to be a catalyst for greater success.



APPENDICES

Appendices

List of Acronyms and Abbreviations

Acronym	Detail
AD	Automation Developer
AI	Artificial Intelligence
AOM	Automation Operating Model
AGD	Account General's Department of Malaysia
BDA	<i>Analisis Data Raya</i>
BSP	<i>Pelan Strategik Business</i>
BST3S1P2	Disruptive digital technology towards service transformation
BU	Business User
CAO	Chief Automation Officer
CD	Citizen Developer
CDO	Chief Development Officer
COE	Centre of Excellence
FAQs	Frequently Asked Questions
IT	Information Technology
AGD	Accountant General's Department of Malaysia
ML	Machine Learning
PDD	Process Definition Document
PMO	Project Management Office
POC	Proof of Concept Validation
DSP	Digitization Strategic Plan
RPA	Robotic Process Automation
SDD	Solution Design Document
SDLC	Software Development Life Cycle
SI	System Integrator
SME	Subject Matter Expert
WTD	<i>Wang Tak Dituntut</i>



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AGD RPA COE



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