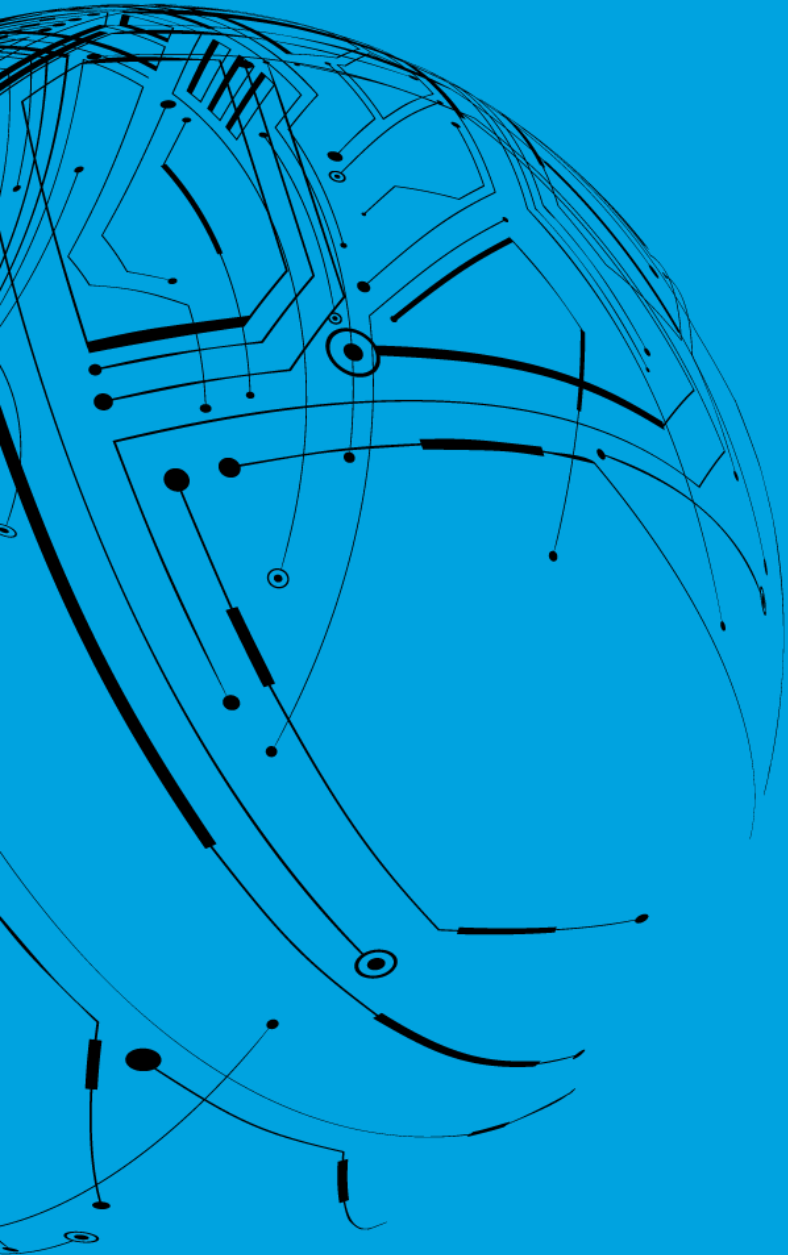


**Corporate Tax Spring Training**  
Trends in Tax Technology

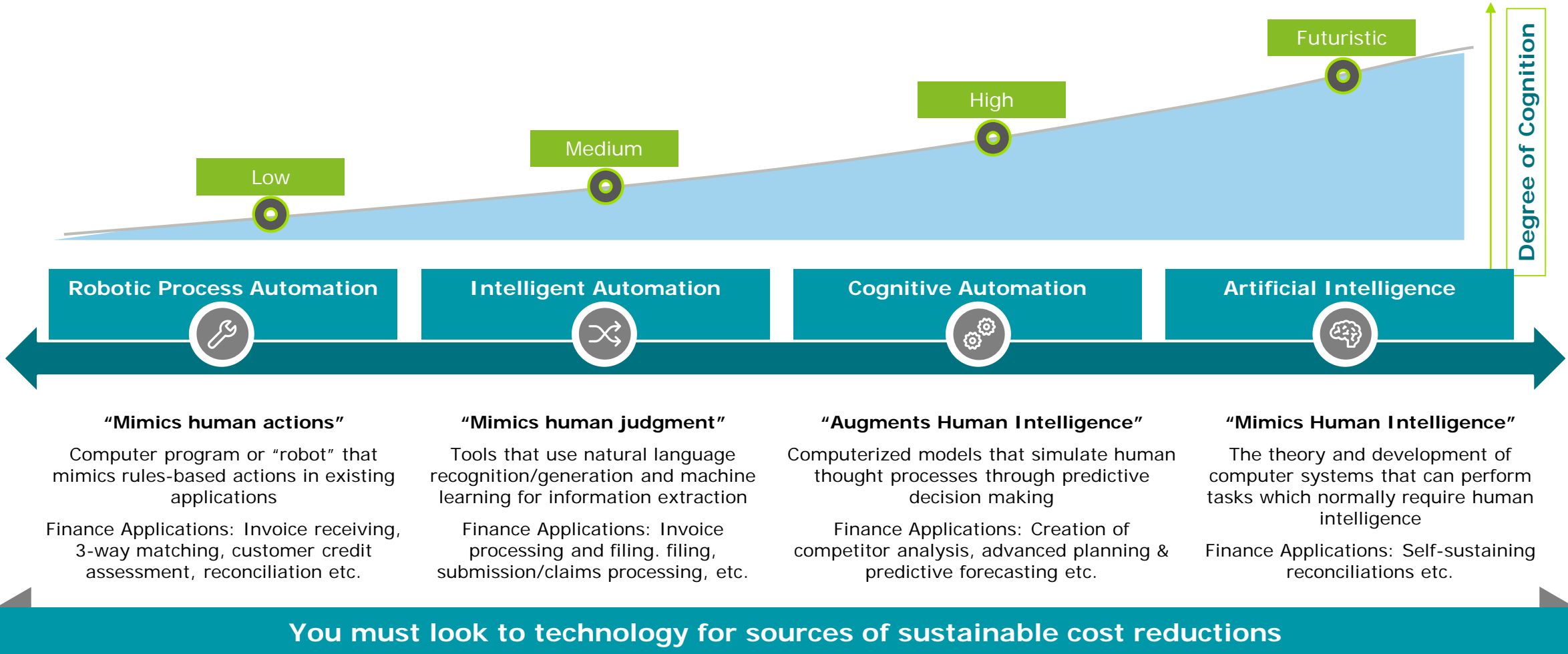
# Agenda

1. Introduction to Robotic Process Automation
2. Portals
3. Analytics



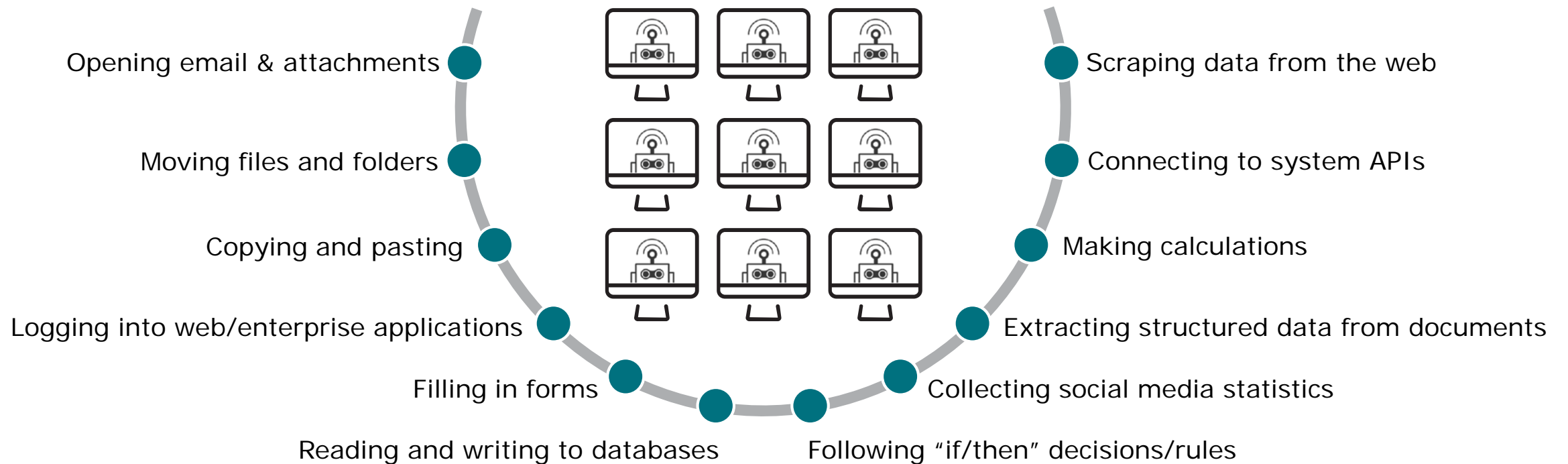
# Introduction to RPA

# Robotic and Cognitive Automation



# Tax technology

In an RPA solution, robots are capable of mimicking most user actions



# Robotic process automation defined

Computer-coded, rules based software that automates manual activities by performing repetitive rules-based tasks



Bot is software **programmed to perform repeatable tasks**

Using recorders and easy programming language, robots are programmed to replicate repetitive human tasks



RPA **operates in the User Interface layer**

It is able to automate rules-based work without compromising the underlying IT infrastructure



RPA **replicates human interactions** with proven technology

It mimics common tasks such as queries, cut/paste, merging, and button clicks



RPA can be **implemented at the desktop or in the virtual environment**

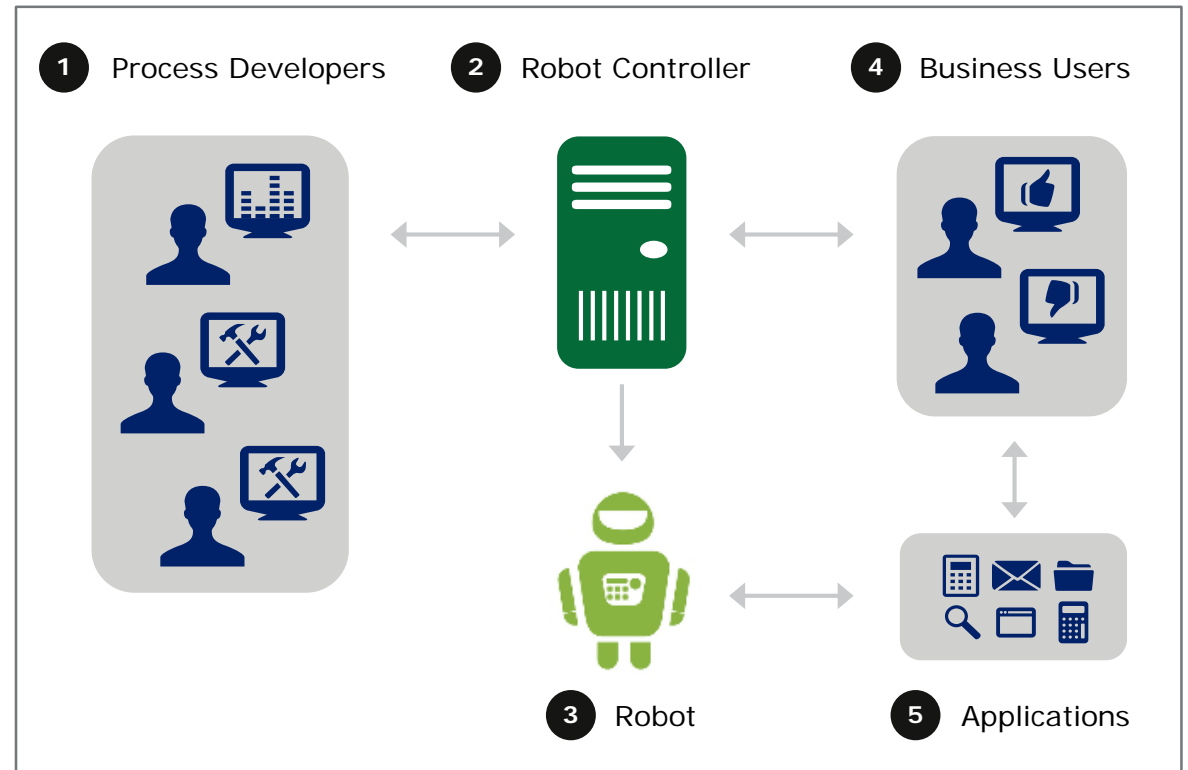
Flexibility to quickly deploy robots directly onto existing desktops (PCs, laptops) or virtually (virtual machines) to save on additional hardware costs

**Robotic process automation tools help businesses improve the effectiveness of services faster and at a lower cost than current methods**

# How does RPA work?

RPA can be easily deployed and managed from a central controller to interact with a wide range of business applications

- 1 **“Process Developers”** specify the detailed instructions for robots to perform and “publish” them to the robot controller repository
- 2 The **Robot Controller** is used to assign jobs to robots and to monitor their activities
- 3 Each **Robot** is located on an organization environment – which may be virtualized or physical (e.g., desktop computer) – where it interacts directly with business applications
- 4 **Business Users** review and resolve any exceptions or escalations
- 5 Robots are capable of interacting with a wide range of **Applications**



Illustrative

# Process Automation Selection Criteria

RPA can address the bulk of manual tasks involving data sourcing and validation due to complex integrations and multiple handoffs



1



## Well defined process

Automating a bad process leads to an invisible bad process!  
Select processes with clear scope, execution steps and existing controls in order to reduce risk in automating the process



2



## Rules based primarily

Process that are well-documented and driven more by rules than judgement, lend themselves well to earlier adoption of automation.



3



## Measurable tasks and outcomes

Clearly-defined success criteria and metrics are indispensable for successful automation



4



## High transaction volume and manual effort

Select processes with higher transaction volume and manual intervention for faster automation benefits at greater scale and quality

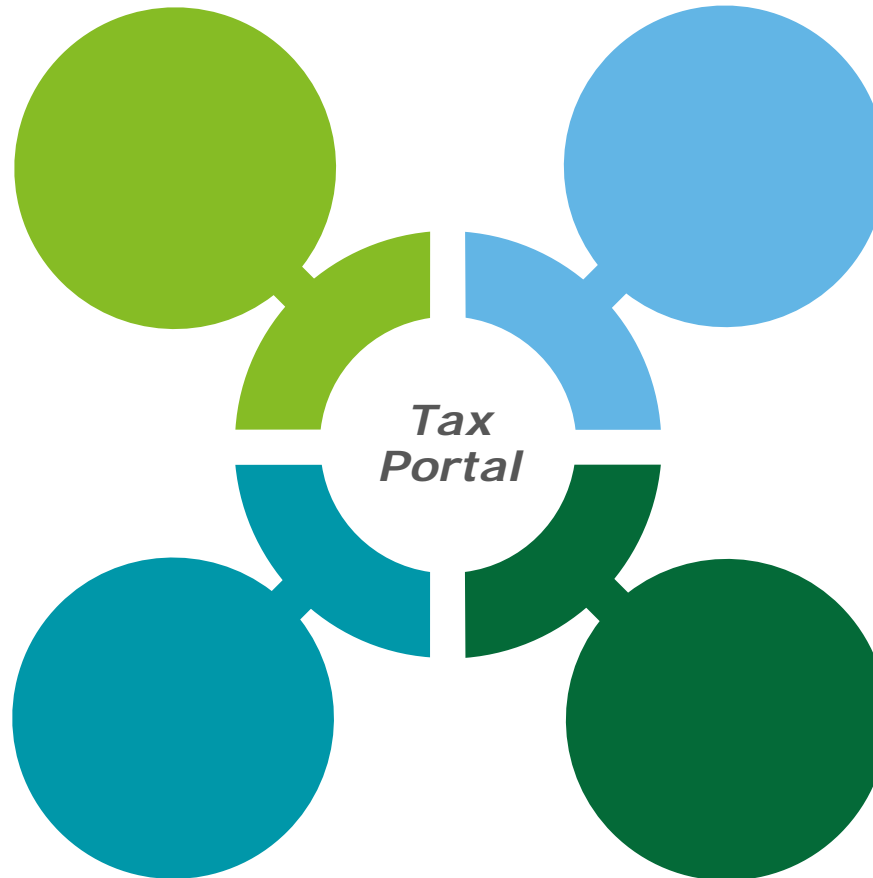




# Portal Technology

# What is tax portal?

A **common framework** to tie tax functions and locations together in a common approach, user interface, and platform. Entry point for all things tax.

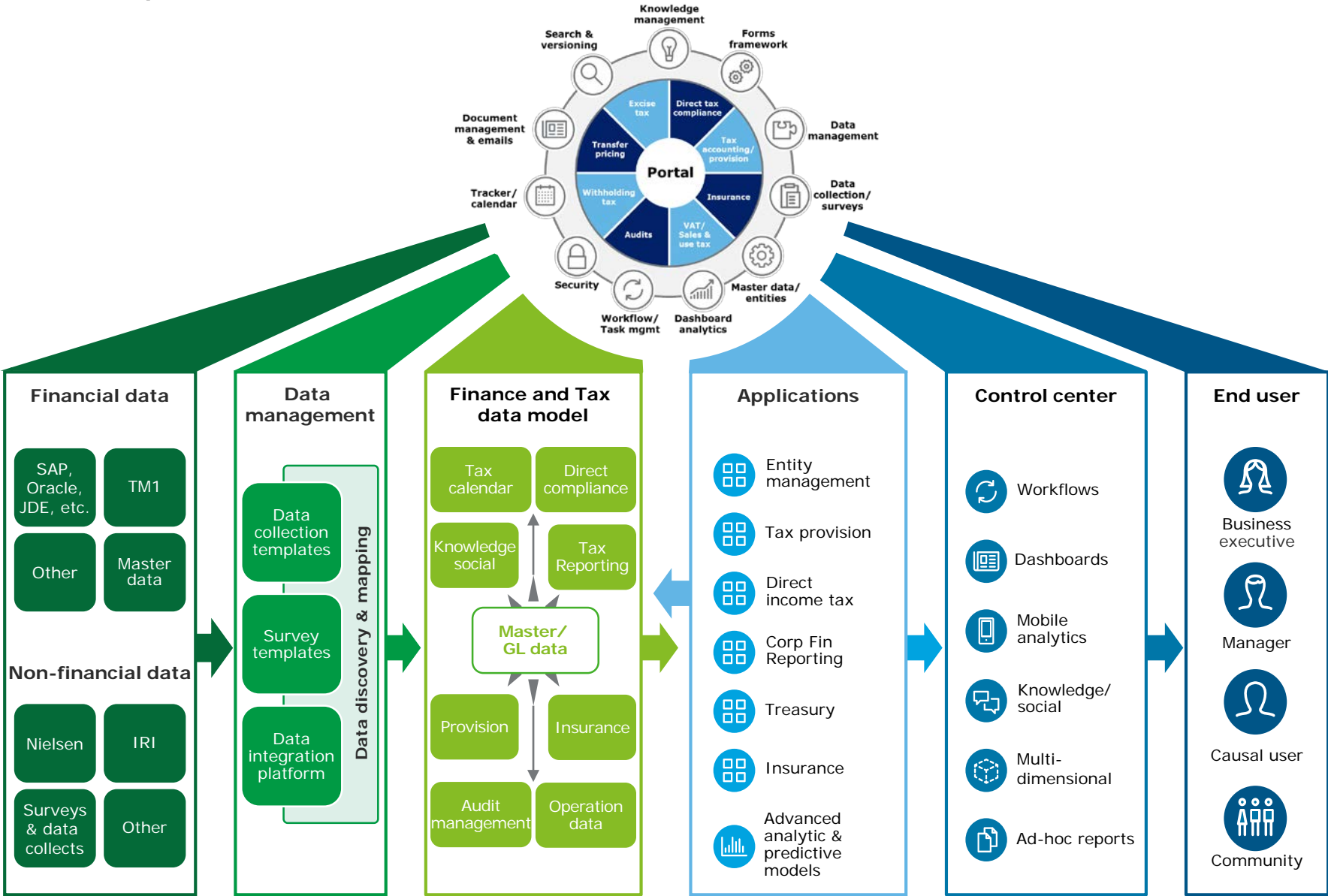


A **common and standardized set of collaborative tools and processes** to gain efficiencies and reduce operational risks

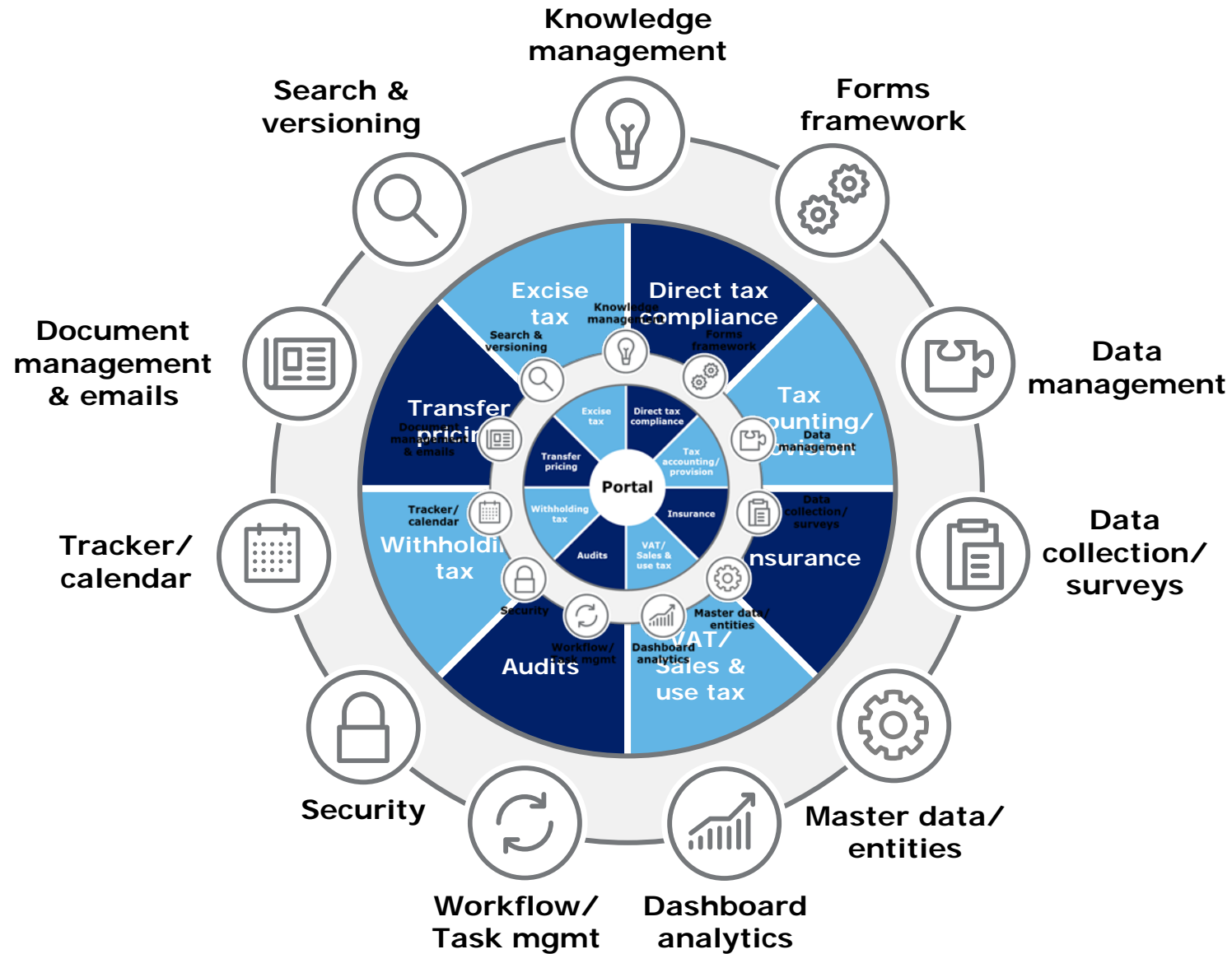
A **central management set of standardized tools** to provide insight and access, reporting to operational information and controls

A **central mechanism** to collect, report, and to provide analytics of tax data from data collected inside or outside of tax portal

# Tax portal landscape



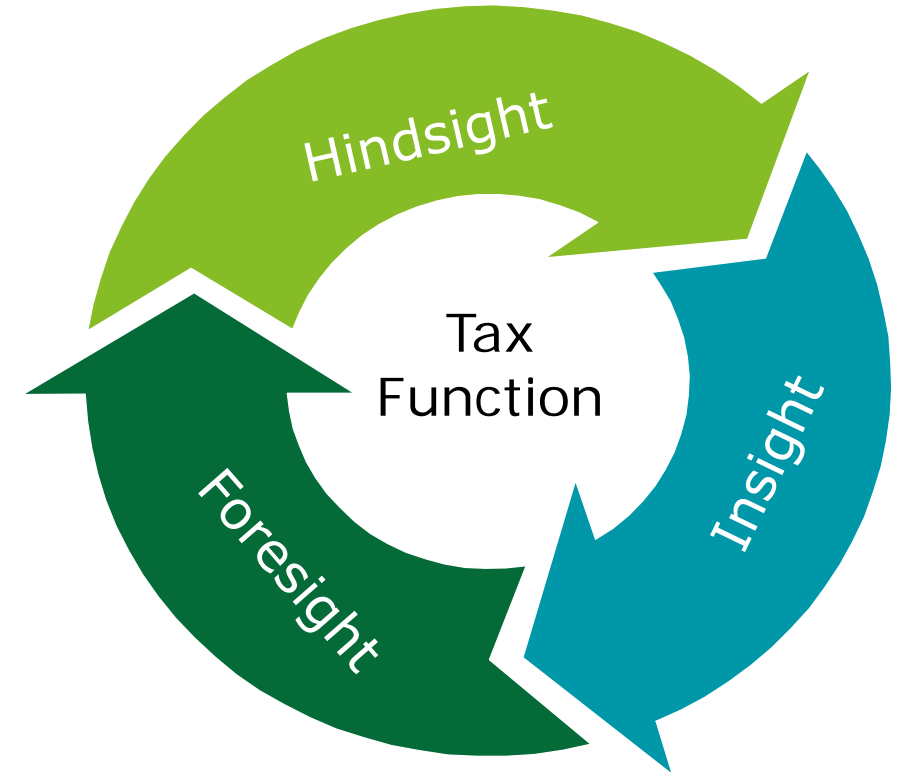
# The tax portal



# Analytics

## What is tax data analytics?

Tax data analytics combines **tax technical knowledge** plus **large sets of data** plus **new technology** tools to generate insights and deeper understanding. It can help an organization's Tax function make smarter, real-time decisions to potentially improve performance of businesses and drive strategy.



**Change the mindset from  
"what I need to do" to  
"what I need to know"**

# The evolution of analytics

**Analytics** is a discipline which focuses on the conversion of data to information, and information to actionable insight, which can be leveraged across the entire analytics spectrum.

## Foresight

Determine the signals being generated across your ecosystem to shape the future

Foresight

Predictive and Prescriptive

Optimization algorithms

Simulation and modeling

Quantitative analyses

Advanced forecasting

## Insight

Use data from within the organization to drive changes here and now

Insight

Role-based performance metrics

Exceptions and alerts

## Hindsight

Conduct assessments based on data generated by past operations

Hindsight

Descriptive

Slice and dice queries and drill-downs

Management reporting

Enterprise data management

Increasing business advantage and sophistication

## Data visualization tools

**Data visualization** transforms data sets into a more graphical, interactive form. This allows users to easily analyze data, gain insights, and discover connections.

Tableau	Qlik	SEMOSS	D3	Python	Watson Analytics
Tableau is a business intelligence tool to integrate data and create quick, interactive visualizations.	Qlik Sense and QlikView are two business intelligence tools for creating data visualization dashboards. Qlik Sense is free to download!	SEMOSS a data middleware, which brings together data trapped in multiple repositories and presents it for analyzing.	D3 is an open-source JavaScript library that provides a catalog of visualizations using HTML, CSS, and SVG.	Python has various interactive data visualization libraries, such as Bokeh and Plotly.	IBM Watson Analytics is a tool that incorporates data exploration, visualization, and predictive modeling for insights.





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