Deloitte.

Deloitte's IFRS 9 solution
Where automation meets simplicity and compliance

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IMPACT THAT
MATTERS
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IFRS 9 background

IFRS 9 is the accounting standard for financial instruments. It replaces IAS 39 and brings a more forward-looking and risk-sensitive approach to how financial assets and liabilities are reported.Understanding IFRS 9 helps ensure compliance with accounting standards and strengthens confidence in financial reporting. This improves credit risk reporting, provisioning, and financial statement accuracy — areas closely monitored by regulators and auditors.

IFRS 9 Impact on the entity

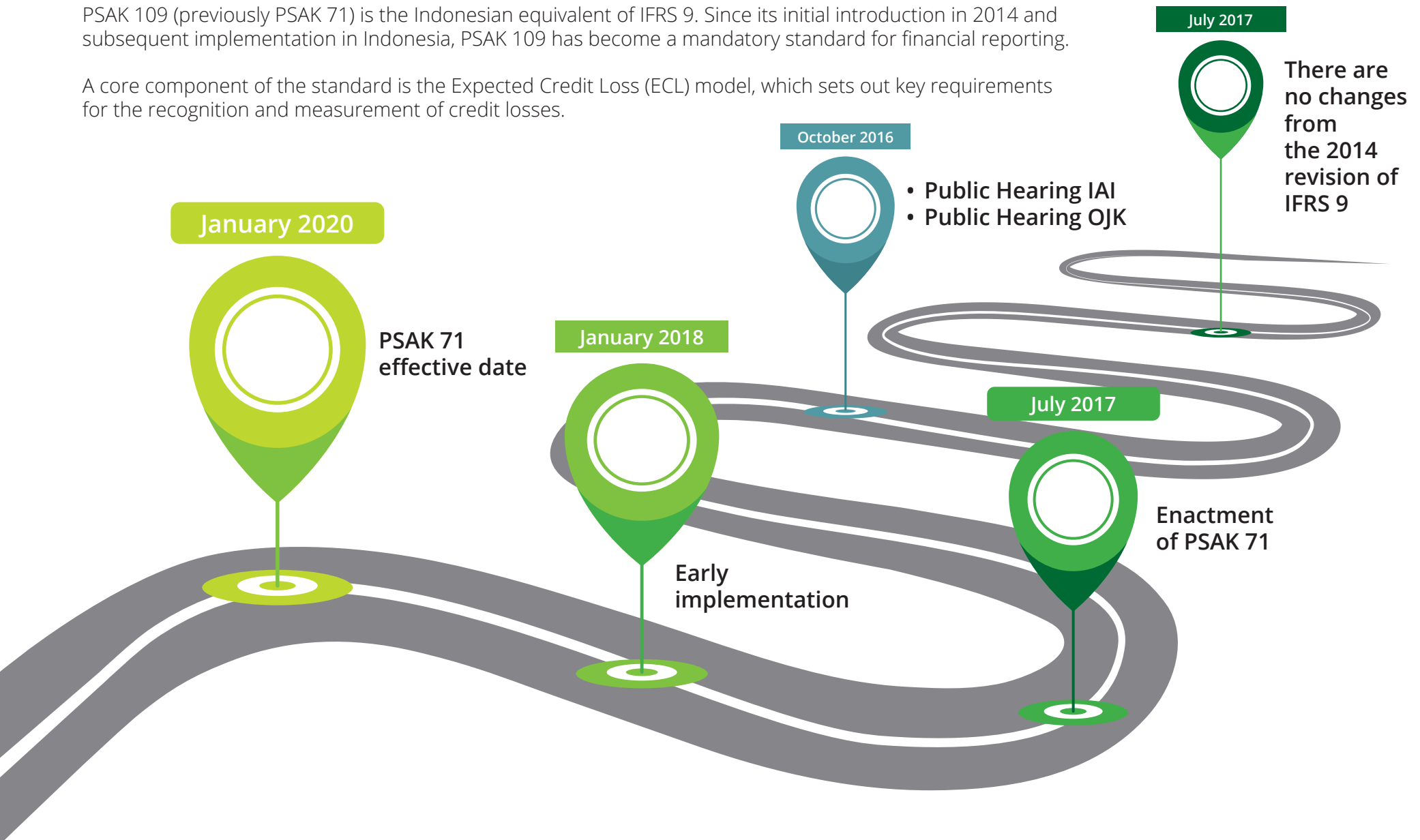| Financial	Business	Operation	Reputation
• IFRS 9 Expected Credit Loss (ECL) adopts a more conservative approach to measuring financial instrument and recognising provisions. As a result, it can have **significant impact** on the company's **asset** and **Profit and Loss statement** and in more severe cases, may lead to **capital deficiencies**. Additionally, the increased volatility may impact tax adjustments.	• Risk adjusted **pricing** based considering IFRS 9 ECL. • **Product & Portfolio management** to ensure reasonable provisioning/ ECL. • **Market approach** to ensure prudent growth.	• IFRS 9 requires **specific competencies**, understanding about **financial modeling** as well as managing the business to ensure company ECL can reflect its risk properly. • Implementing IFRS 9 also demands investment in personnel, data processing, policies, knowledge, systems, and infrastructure.	• As an accounting standard, IFRS 9 shall become one of the main focuses of financial audits and a **key indicator for assessing a company's financial condition**. • IFRS 9 ECL may also impact an entity's external rating and reputation.

PSAK 109 in Indonesia

Timeline

PSAK 109 (previously PSAK 71) is the Indonesian equivalent of IFRS 9. Since its initial introduction in 2014 and subsequent implementation in Indonesia, PSAK 109 has become a mandatory standard for financial reporting.

A core component of the standard is the Expected Credit Loss (ECL) model, which sets out key requirements for the recognition and measurement of credit losses.

July 2017

There are no changes from the 2014 revision of IFRS 9

October 2016

- Public Hearing IAI
- Public Hearing OJK

January 2020

PSAK 71 effective date

January 2018

Early implementation

July 2017

Enactment of PSAK 71

IFRS 9

Lessons learned during IFRS 9 implementation

Volatility of IFRS 9 ECL Model during stressed period

Background:
In general practice, IFRS 9 ECL model is developed by establishing the relationship between a company's default trends to prevailing macroeconomic variables (MEV).

Implication:
During periods of heightened volatility, such as Covid-19 pandemic, geopolitical conflicts, Oil and Trade wars, and recent stock market declines, certain MEV (e.g., GDP, inflation, FDI) may come under stress. Historically, such conditions have resulted in the multifold increase of ECL estimates when using roll rate approach. In such circumstances, the company's ability to flexibly assess potential root causes and perform simulations under different assumptions becomes crucial to ensure its ECL reporting is timely and appropriate.

Flexibility in IFRS 9 implementation is crucial to ensure compliance amidst business dynamics

Background:
In practice, IFRS 9 ECL requires complex data processing and modeling, starting from segmentation which is undetermined by the standard. As such, entities must develop their own segmentation based on their business model and product offerings. In many cases, business dynamic such as the introduction of new products or the acquisition of new businesses or portfolio can significantly impact existing segmentation rules.

Implication:
The IFRS 9 standard requires entities to calculate provisions for certain financial instruments that fall under the amortised cost category. Generally, this modelling process relies on long-term historical data (typically 3 to 7 years), classified by segment. Therefore, data pre-processing must be regularly adjusted whenever changes in business processes lead to modifications in segmentation. When done manually, this activity can be highly time-consuming, as users are required to carry out data cleansing and modification tasks themselves.

IFRS 9

ECL Calculation problem statements

- Reliance on third parties to support ECL calculations due to internal resource limitations.

- Scarcity of knowledge and skillsets in developing forward-looking models.

- Significant effort is required to re-perform calculations in order to align with management's risk appetite and address auditors' comments.

- Multiple iterations of the modelling process are often required to identify a compliant and best-fit model.

- High human error rate in performing repetitive yet complex calculation.

- Challenges in compiling data from multiple sources.

- Inefficient idle time between the completion of various statistical runs and calculations.

- Limitation of desktop computing power to process big data volume.

Deloitte's IFRS 9 end-to-end solution

Our IFRS 9 solution offers a structured, automated, and independent platform for ECL calculation and reporting. Designed to handle flexible data sources and complex modelling needs, it enhances risk transparency, streamlines compliance, and empowers faster, forward-looking decisions. With features such as ECL simulations, parameterised configurations, and an integrated queueing system, the solution delivers scalability, accuracy, and operational efficiency at every stage of the credit loss lifecycle.

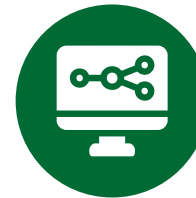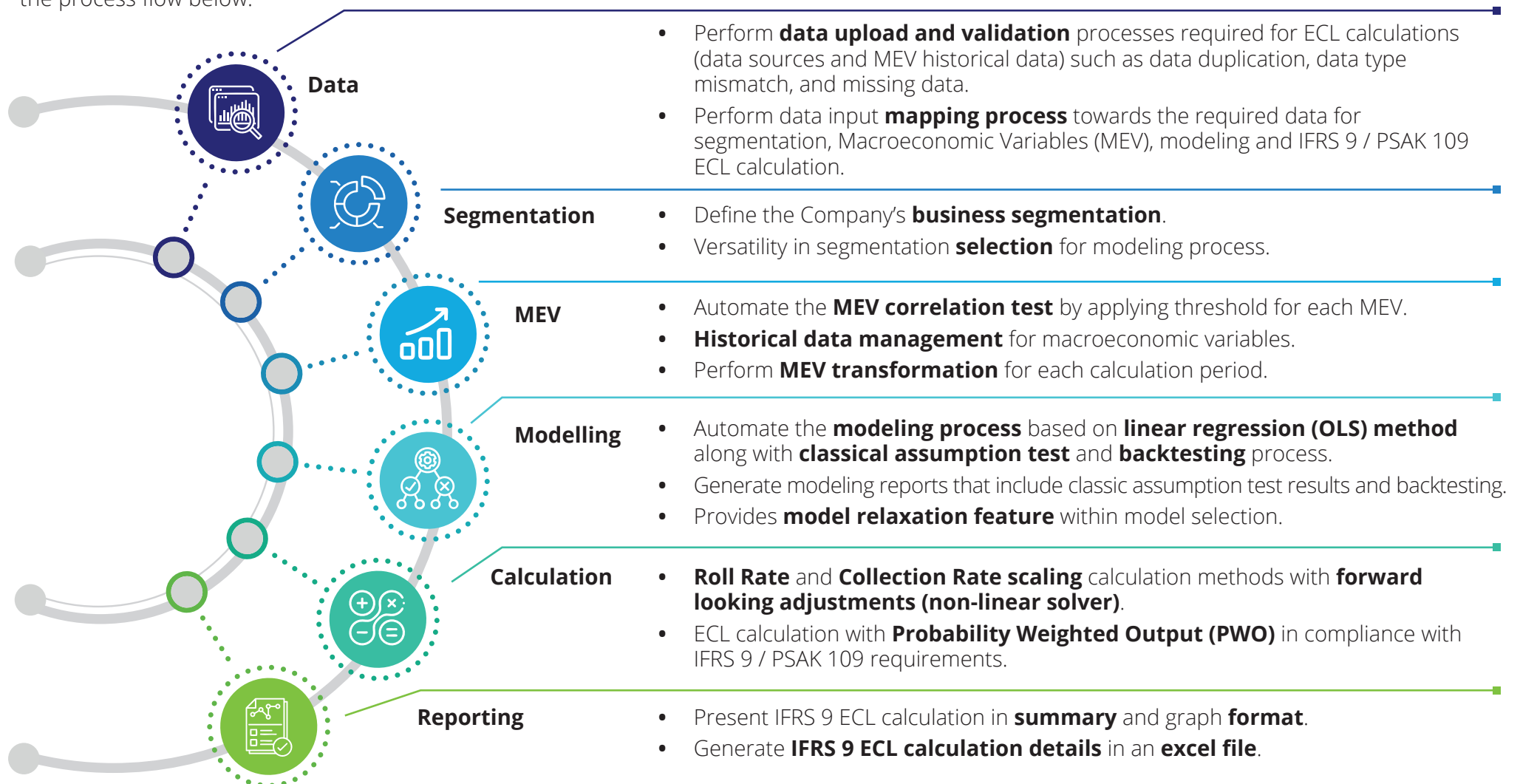| **Independent**	**Flexible source data**	**Auto scale**	**ECL simulations**	**Parameterised configuration**	**Integrated queueing system**
The client takes full control of data preparation, modelling, and calculation, and operates independently in producing the expected ECL report.	Users can define data source templates for uploading data into the application, with each dataset versioned to support backdating processes.	From an architectural perspective, the application supports autoscaling to minimise downtime and enhance the efficiency of resource-intensive processes.	Users can perform ECL calculation simulations using various models to align with management's risk appetite while remaining compliant with the standard.	All modules within the application include a set of parameters designed to simplify tasks for the user.	The application features a queuing system that synchronises worker demand with hardware availability, helping to prevent crashes during resource-intensive processes.

Deloitte's IFRS 9 end-to-end solution

Automate your process

Deloitte's IFRS 9 solution is designed to simplify the complexity of ECL modelling and reporting. Built with flexibility and scalability in mind, it accommodates a wide range of portfolios, segmentation approaches, and macroeconomic scenarios. With robust analytics, automation, and auditability features, our solution enables clients to meet regulatory expectations while improving efficiency, transparency, and control through the process flow below.

Data

- Perform **data upload and validation** processes required for ECL calculations (data sources and MEV historical data) such as data duplication, data type mismatch, and missing data.
- Perform data input **mapping process** towards the required data for segmentation, Macroeconomic Variables (MEV), modeling and IFRS 9 / PSAK 109 ECL calculation.

Segmentation

- Define the Company's **business segmentation**.
- Versatility in segmentation **selection** for modeling process.

MEV

- Automate the **MEV correlation test** by applying threshold for each MEV.
- **Historical data management** for macroeconomic variables.
- Perform **MEV transformation** for each calculation period.

Modelling

- Automate the **modeling process** based on **linear regression (OLS) method** along with **classical assumption test** and **backtesting** process.
- Generate modeling reports that include classic assumption test results and backtesting.
- Provides **model relaxation feature** within model selection.

Calculation

- **Roll Rate** and **Collection Rate scaling** calculation methods with **forward looking adjustments (non-linear solver)**.
- ECL calculation with **Probability Weighted Output (PWO)** in compliance with IFRS 9 / PSAK 109 requirements.

Reporting

- Present IFRS 9 ECL calculation in **summary** and graph **format**.
- Generate **IFRS 9 ECL calculation details** in an **excel file**.

Deloitte's IFRS 9 end-to-end solution

Modeling advantages

Modeling comparison		
	Deloitte's IFRS 9 end-to-end solution	**General statistical tools**
Modeling time	Cater a lot of tests with parameterized threshold. Scalable based on the number of available workers.	Limited by the computing power of the device.
Number of generated models	Capable of generating all possible model combinations, which often results in millions of models.	Limited by number of generated models.
Reporting format	Modelling reports are designed for general users, with no programming or statistical background required.	More relevant for advanced users.

Supported statistical algorithms		

Segmentation	**MEV test**	**Modeling**
• ANOVA • T-Test • Clustering	• Pearson correlation test • Trend test • Stationarity test	• Linear regression • Classical assumption test • Insample and outsample error metrics

Strengthening governance through IT General Controls (ITGC)
Securing the IFRS 9 lifecycle with embedded ITGC

Workflow
This feature is used to define approval levels and configure the approval workflow for creating, updating, and deleting each configuration within the application.

Audit log
This feature records all user activities within the application modules, including Create, Read, Update, and Delete (CRUD) operations, along with corresponding timestamps.

User access management
This feature enables the creation of user accounts for accessing the application, along with role assignments to define permissions for each module. It also supports the configuration of user hierarchies to establish levels of authority, such as maker and checker roles.
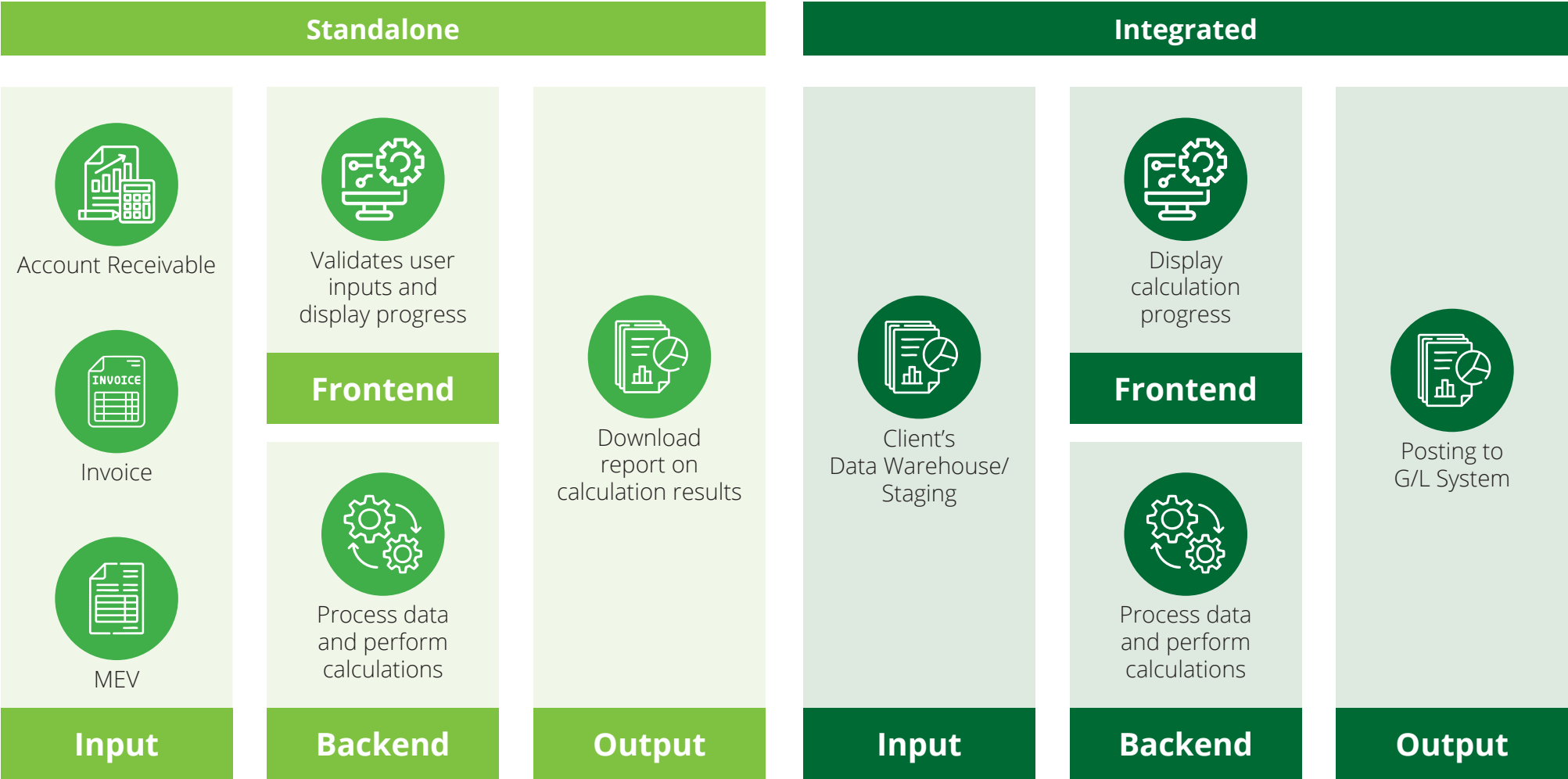
Security standard
The application is also equipped with security measures based on Open Web Application Security Project (OWASP) standards. These include protections against XSS and CSRF attacks, SQL injection, clickjacking, and various other common security threats.

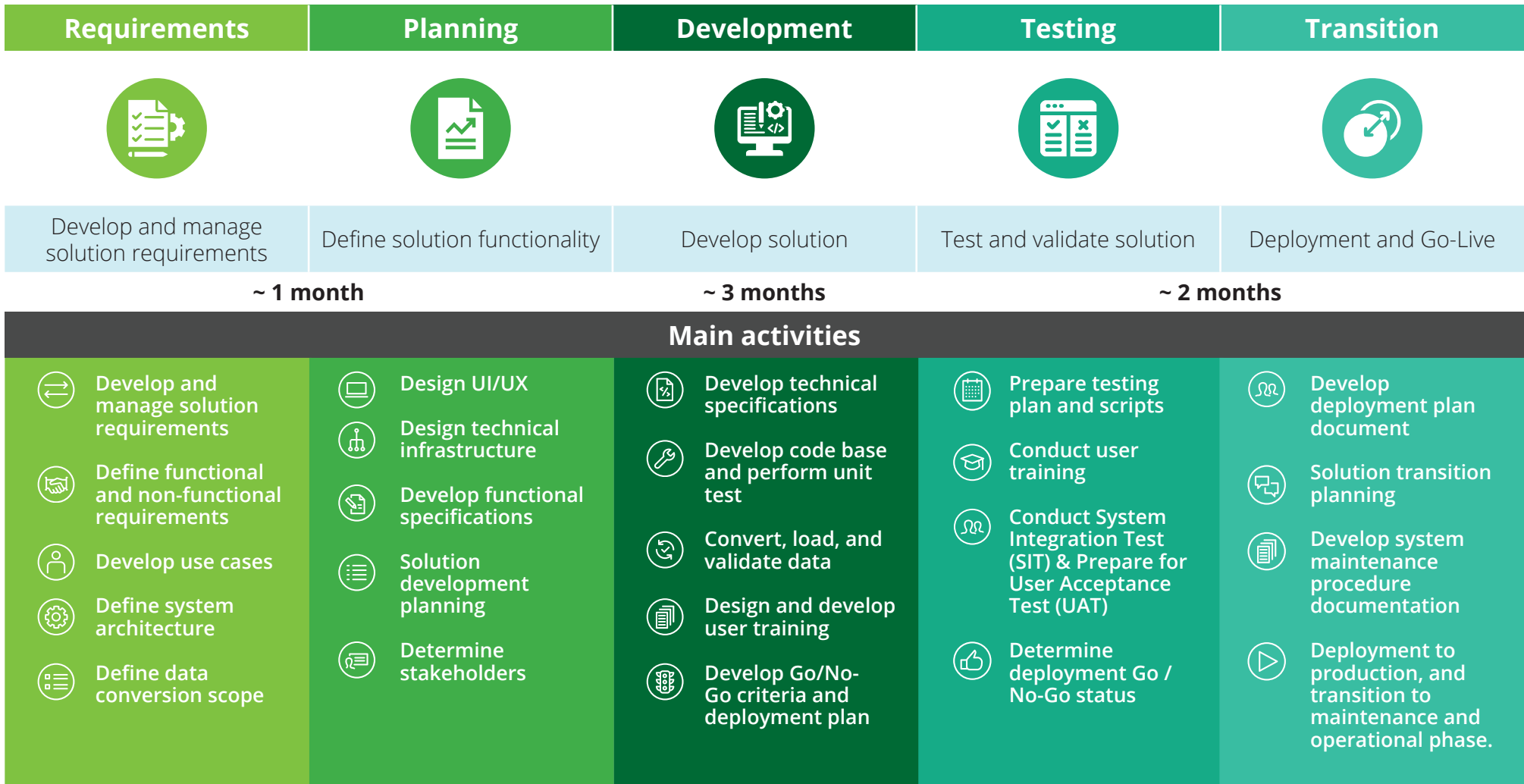# Implementing Deloitte's IFRS 9 end-to-end solution

Our solution supports flexible architecture implementation to fit client's needs.

Standalone			Integrated		

Standalone

- Account Receivable
- Invoice
- MEV

Input

- Validates user inputs and display progress

Frontend

- Process data and perform calculations

Backend

- Download report on calculation results

Output

Integrated

- Client's Data Warehouse/ Staging

Input

- Display calculation progress

Frontend

- Process data and perform calculations

Backend

- Posting to G/L System

Output

Deloitte's IFRS 9 end-to-end solution
System Development Life Cycle (SDLC)

Solution development and integration phases

Requirements	Planning	Development	Testing	Transition
Develop and manage solution requirements	Define solution functionality	Develop solution	Test and validate solution	Deployment and Go-Live

~ 1 month   ~ 3 months   ~ 2 months

Main activities

Requirements	Planning	Development	Testing	Transition
Develop and manage solution requirements	Design UI/UX	Develop technical specifications	Prepare testing plan and scripts	Develop deployment plan document
Define functional and non-functional requirements	Design technical infrastructure	Develop code base and perform unit test	Conduct user training	Solution transition planning
Develop use cases	Develop functional specifications	Convert, load, and validate data	Conduct System Integration Test (SIT) & Prepare for User Acceptance Test (UAT)	Develop system maintenance procedure documentation
Define system architecture	Solution development planning	Design and develop user training	Determine deployment Go / No-Go status	Deployment to production, and transition to maintenance and operational phase.
Define data conversion scope	Determine stakeholders	Develop Go/No-Go criteria and deployment plan		

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