EXECUTIVE SUMMARY

COGNITUS

Hamilton IFRS 17 Comply

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Currently, in insurance industries, recognition of revenue is taken mainly from gross premium, hence the performance of the company roughly can be measured by looking at their gross premium in the income statement. Under IFRS 17, this distinction no longer applies to insurance industries. Through the new provisions, all insurance contracts revenue must be calculated using three given approaches, such as General Measurement Model (GMM), Premium Allocation Approach (PAA), and Variable Fee Approach (VFA). Under the commonly used model, GMM, the insurance contracts must recognize Contractual Service Margin (CSM) through subtracting the PV of Cashflow by the Risk Adjustment and Deferred Acquisition Cost (DAC) on the balance sheet. Later, these CSM will be amortized slowly in each reporting period to be recognized as revenue. This new implementation will have a big impact because the main sources of revenue recognition are shifted from gross premium to CSM. This might result in the performance of insurance companies all over the world will seem a decrease in their financial reporting. The key difference from this new reporting standard implementation is the calculation of amortization and readjustment of CSM that need to be done every reporting period. Its already takes a big effort to calculate the initial CSM through many considerations and judgement of future risk. Hence, with only using human labour alone might seems impossible to recalculate the adjustment of CSM based on the changing risk factor and claim development that in every period.

"*Deloitte expects that implementing these new IFRS 17 requirements will entail major changes to insurance companies' actuarial and finance reporting processes, systems and data. This effort will likely generate implementation costs for many insurers as large as those incurred in the European Union for the adoption of the Solvency II regulations*" -***Pert Pruner, Partner, Deloitte Romania***

Challenges to Overcome

Hamilton engine provides a comprehensive, integrated, and complete solution for IFRS 17 use cases and its mandatory quantitative disclosures.

Key features and benefits:

■ Simplicity. IFRS 17 is inherently complex, Hamilton engine pushes this complexity to the machine and simplicity to the users, hence adopting IFRS 17 compliance with ease.

■ Adaptability. Regulations and business requirements are evolving. Hamilton engine with its unique use-case driven approach and framework can be extended to address evolving requirements and act as a foundation for future finance transformation.

■ Predictive Accounting Engine. It enables a holistic simulation of business events in the future and provides a better understanding of the unbiased future numbers which is the key to success in this competitive era. All the processes inside the engine are designed and configured using predictive accounting engine, with primary objective to achieve the end goals: Reports and Disclosures.

■ It is a one stop solution for IFRS 9, IFRS 15, IFRS 16 and IFRS 17.

■ Total cost of ownership (TCO) is arguably the lowest in the market for IFRS 17 solution.

Consequences of Non-Compliance

■ Non-compliance could cause problems with company audits.

■ Ability to source credit lines and find investors will be slim to none.

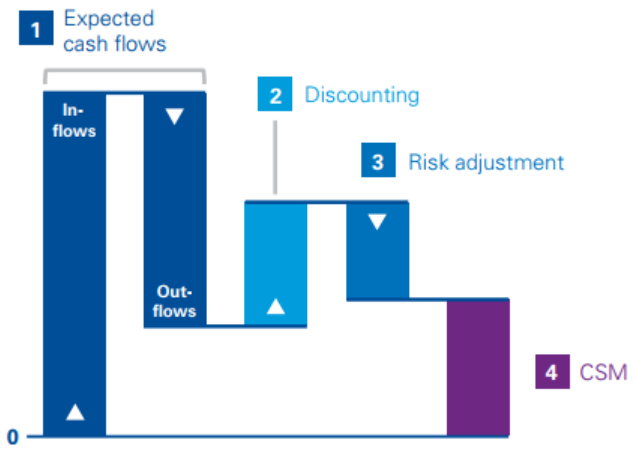
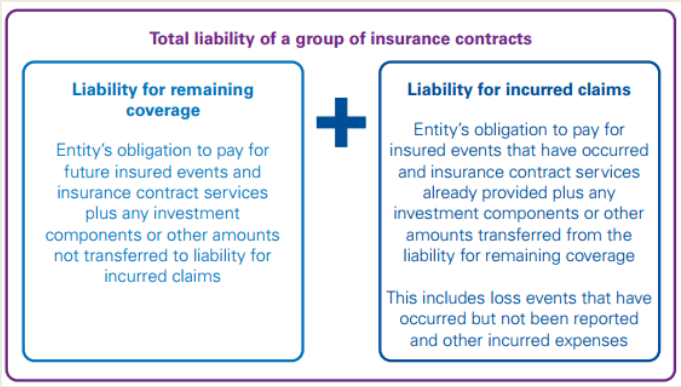
■ Delaying could mean more complexity and very costly.

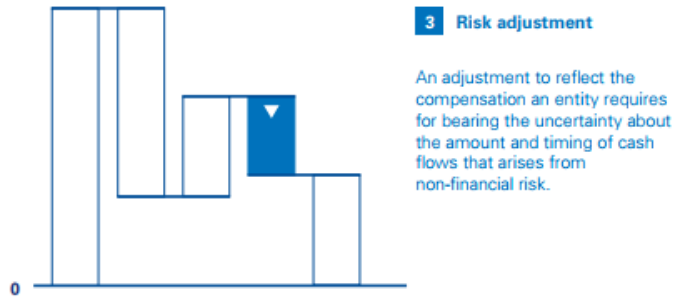
■ Implementation is a time-consuming exercise.

■ Outdated key performance indicators.

Features in Hamilton Engine

No.	Features/Functionalities	Description
1	Measurement Model	It supports GMM, PAA and VFA.
2	Predictive Accounting	It is Hamilton's signature solution which is proven very powerful when implementing IFRS requirements (such as IFRS 9, IFRS 15 and IFRS 16). Under IFRS 17, it is even more important and critical, because all the calculations are forward-looking, based on future numbers. This distinct feature in Hamilton unlocks the insight of future information under IFRS 17.
3	Level of Aggregation	It supports mandatory level of aggregation: ▪ Portfolio ▪ Annual cohort ▪ Profitability group Additional level of aggregation can be configured to support the complex aggregation requirement
4	Initial Measurement	The liability (or asset) recognized for a group of insurance contracts is measured, on initial recognition and subsequently, as the sum of: – the fulfilment cash flows, which are a risk-adjusted, explicit, unbiased and probability-weighted estimate of the present value of expected cash flows that will arise as the entity fulfils the contracts; and – the CSM, which is the amount that represents the unearned profit that the entity will recognize in profit or loss as services are provided. IFRS 17.32 The fulfilment cash flows consist of the following components. – Estimates of expected cash flows that will arise as the entity fulfils the contracts. – An adjustment to reflect the time value of money – i.e. discounting – and the financial risks related to the expected cash flows (to the extent that they are not already included in the estimates of expected cash flows). – An explicit risk adjustment for non-financial risk: to reflect the compensation that the entity requires for bearing the uncertainty about the amount and timing of cash flows that arise from non-financial risk.

		
5	Subsequent Measurement	Subsequent to initial recognition, the total liability of a group of insurance contracts comprises the following.  The liability for remaining coverage is measured as the fulfilment cash flows that relate to coverage that will be provided under the contract in future periods, plus the remaining CSM. The liability for incurred claims is measured as the fulfilment cash flows for claims and expenses already incurred but not yet paid.
6	Onerous Test	For each reporting period, system will automatically determine whether group of insurance contracts is profitable or onerous.
7	Probability weighted expected future cash flows	It estimates of the present value of expected cash flows that will arise as the entity fulfils the contracts
8	Tiered Pricing	Insurance contract with different pricing for different period.
9	Direct Attributable Costs	Cost/expense that occurred prior to contract inception can be capitalized and included as part of CSM calculation.

10	Insurance acquisition cash flows	For many insurance contracts, the main cash flows paid before initial recognition of a group of contracts are the insurance acquisition cash flows. Recognizing insurance acquisition cash flows paid as assets until the related group of insurance contracts has been recognized ensures that these cash flows are not recognized immediately as an expense. This accounting treatment may appear similar to recognizing the related insurance contracts from the date on which those insurance acquisition cash flows occur. However, in many cases the initial recognition requirements for the group will not have been met at that time. Therefore, there will be no need to determine the CSM until those requirements are met.
11	Risk adjustment	The risk adjustment conveys information to users of financial statements about the amount the entity charges for bearing the uncertainty over the amount and timing of cash flows arising from non-financial risk. It measures the compensation that the entity would require to make it indifferent between: – fulfilling a liability that has a range of possible outcomes arising from nonfinancial risk; and – fulfilling a liability that will generate fixed cash flows with the same expected present value as the insurance contract. **Adjusting for non-financial risk** 
12	Discount rate	Discount rate/interest rate can be stored based on several factors: e.g., inception rate (locked-in rate), contract tenure, currency, country, etc. However, the operational system needs to determine the discount rates to be stored in the system.
13	New business (additional insurance contracts)	New additional contracts within the same LoA can be added to the existing group.
14	Changes for future service	Due to changes of expected cash flows, business assumptions or any future data, group of contracts can be modified. However, CSM and interest expense/income (P/L) need to be calculated using the locked-in rate.
15	Interest Accretion on CSM	For each reporting period, system will automatically calculate interest accretion on CSM opening balance, however if group of contracts is onerous, it will be charged to P/L and no interest accretion is calculated.
16	Effect of discount rate changes to P/L or OCI	Changes of future service may give rise on differences due to different discount between current rate and locked-in

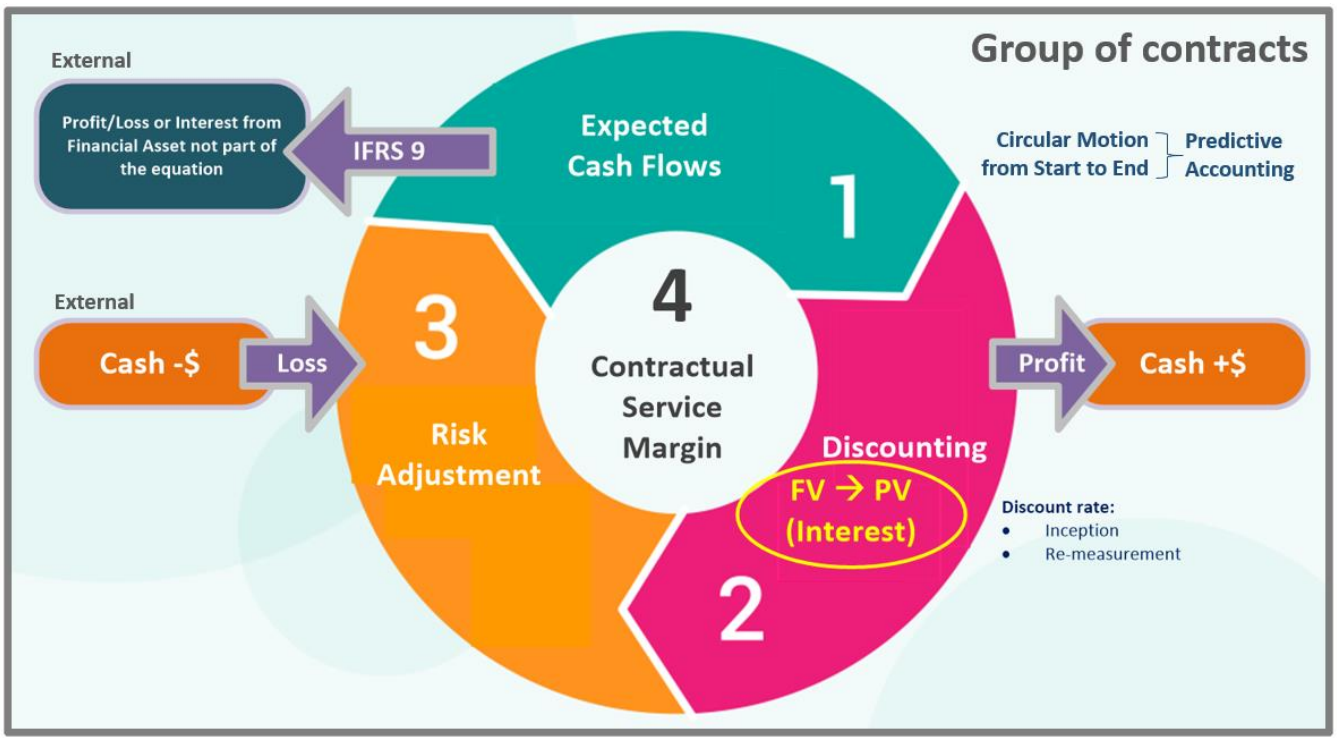
		rate. Hamilton supports P/L or OCI option to capture the differences.
17	Experience Adjustments for Current Services	Experience adjustments (current services) on claims, risk adjusments and (non-premium related) insurance expenses are to be accounted for in profit or loss in full.
18	Foreign Currency Revaluation	IFRS 17 states that when applying IAS 21 – The Effects of Changes in Foreign Exchange Rates to a group of insurance contracts that generate cash flows in a foreign currency, an entity should treat the group of contracts, including the contractual service margin, as a monetary item.
19	Re-insurance	A 'reinsurance contract' is a type of insurance contract that is issued by an entity (the reinsurer) to compensate another entity (the cedant) for claims arising from insurance contract(s) issued by the cedant. It supports reinsurance method treaty or facultative.
20	Payment method	Whether it is paid in advance (ADV) or in arrears (ARR).
21	Payment cycle	Cycle of payment e.g., monthly, quarterly, yearly, ad-hoc etc.
22	G/L Account Determination	Insurance contracts may have different set of account regulation based on use cases, insurance contract type, and other parameters.
23	Cumulative Catch-Up	If changes already in the past, delta changes can be cumulative and updated in the current period.
24	Transition: Full, Modified Retros or FV approach.	Transition approach for calculating initial balance for insurance contract asset and liability.

Reports and Disclosures in Hamilton Engine

No.	Reporting/Disclosures	Description
1	Projection of SFP/SPL	Projection of balance sheet and income statement for all insurance contracts.
2	Amortization of CSM	Depreciation/amortization of CSM for all insurance contract contracts.
3	Liability for Remaining Coverage	An entity's obligation to investigate and pay valid claims under existing insurance contracts for insured events that have not yet occurred (i.e., the obligation that relates to the unexpired portion of the coverage period).
4	Liability for Incurred Claims	An entity's obligation to investigate and pay valid claims for insured events that have already occurred, including events that have occurred but for which claims have not yet been reported, and other incurred insurance expenses
5	Roll Forward	BEL/CSM/RA roll forward is a schedule showing the beginning balance, additions, new business, changes for future service, interest accretion, fx changes, service provided and ending balance for a particular

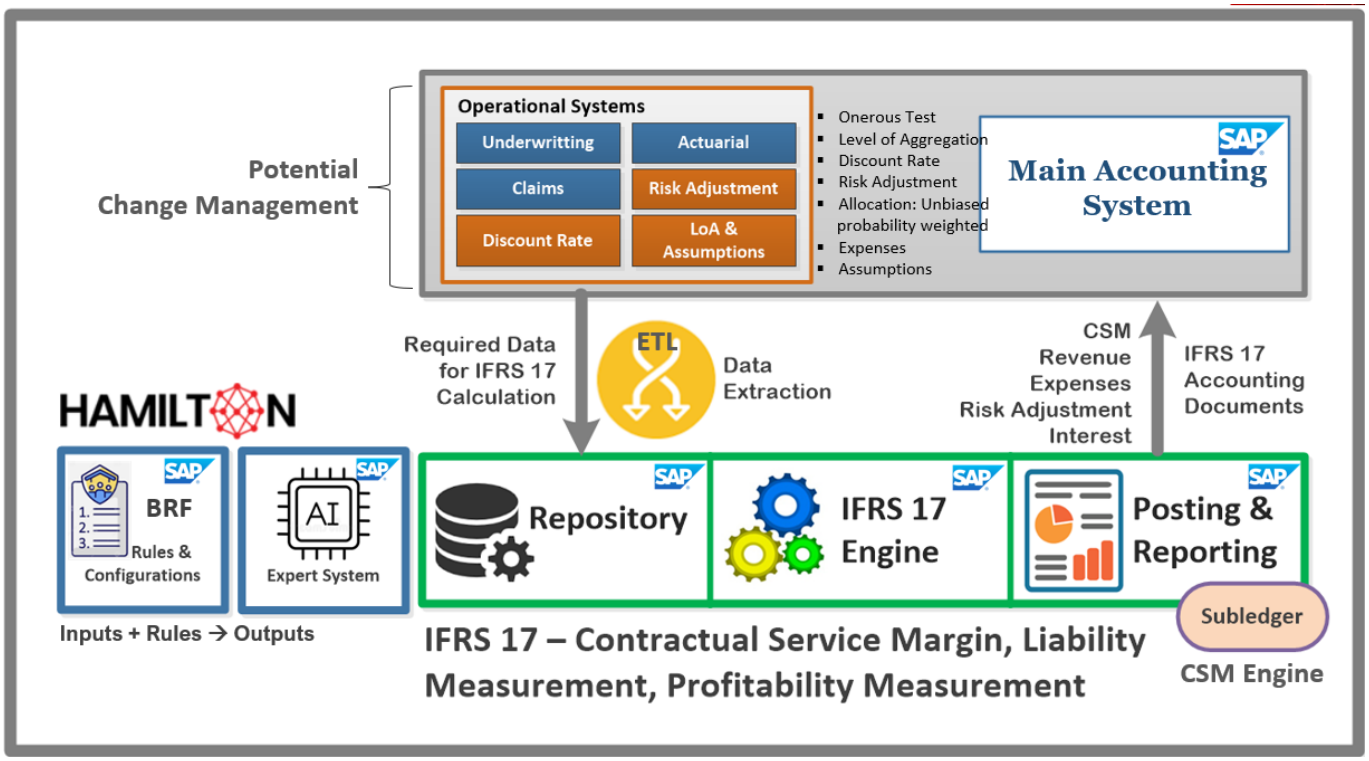
		account. The accounts can vary among fixed assets.
6	CSM Maturity Analysis	CSM maturity analysis is the date on which the life of a CSM ends. It provides information in a configurable time-buckets to see the CSM amortization effect in each time-bucket.
7	Information System	Flexible reporting for insurance contracts.

Predictive Accounting: Building Block Approach in Circular Motion

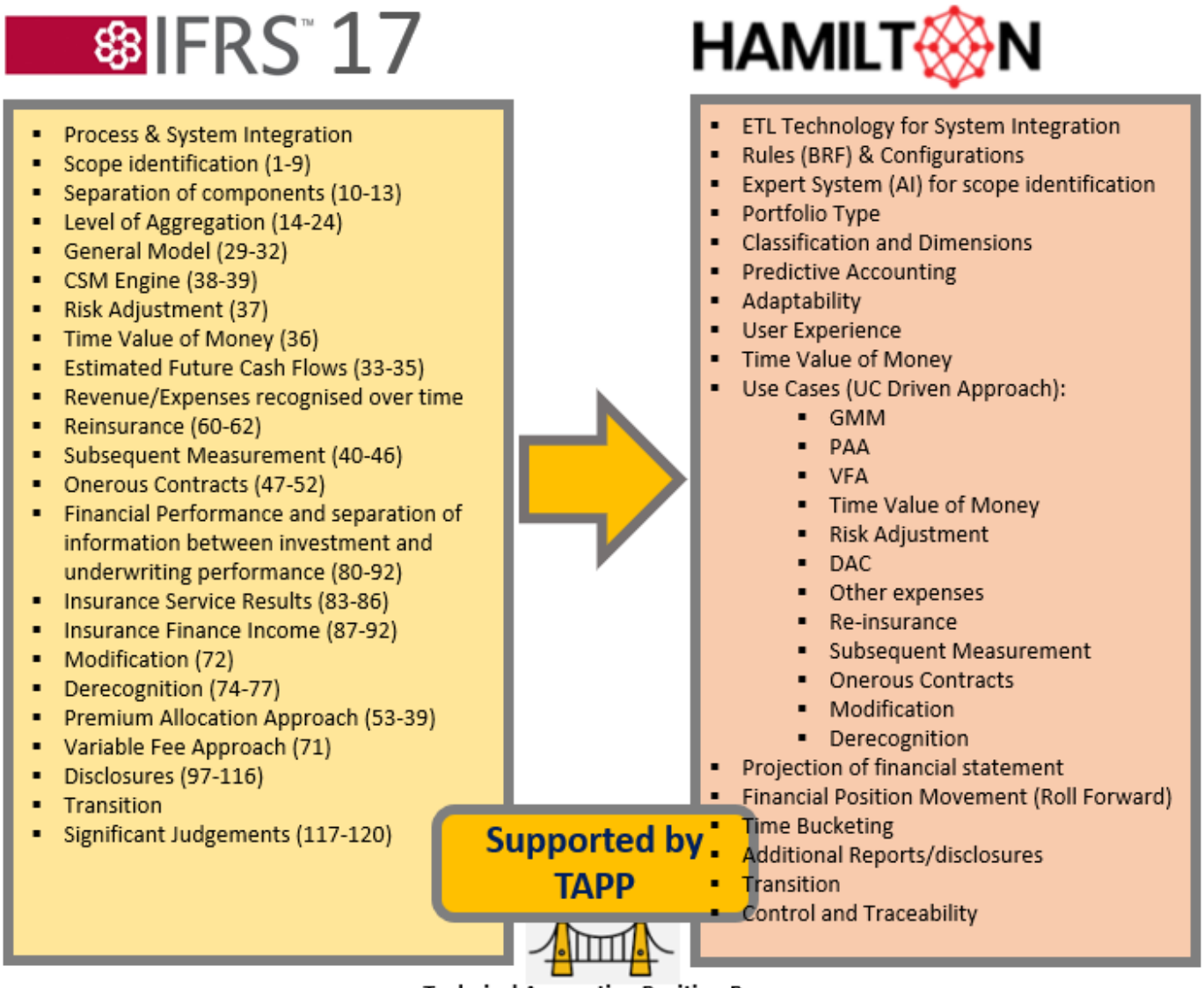


CSM subsequent measurement is arguably the complex calculation under IFRS 17. Hamilton has its own unique method to solve this complex CSM calculation using use-case driven approach, and it can track all changes to the CSM with all the details and high level of accuracy.

Hamilton CSM Engine: High Level Architecture



Key Functionalities Mapping:



Technical Accounting Position Paper