



# SAP market trends:

**Creating value through  
S/4HANA Finance**



# Management Summary

The increasing wealth of financial information is one of today's key challenges for CFOs. Recent surveys show that powerful financial intelligence is vital for successful companies. Applying this intelligence will enable the CFO to assess new markets, improve performance and reshape the enterprise's strategic business needs – above and beyond running the finance function.

S/4HANA Finance as part of SAP Enterprise Management, release 1610, is SAP's latest solution for the CFO office. This solution will form the new financial core for the coming decades. S/4HANA Finance aims to respond to CFO's challenges by providing (1) improved reporting functionality (agility and speed), and (2) enhanced process efficiency (e.g. a more rapid monthly closing process, improved user experience). The performance provided by the HANA-database combined with the enhanced Fiori user experience, provides organisations with an improved way of doing business: it is now possible to combine analyses of real-time data with transactional processing on device-independent apps. The key question is 'what is the value case for your organisation?'

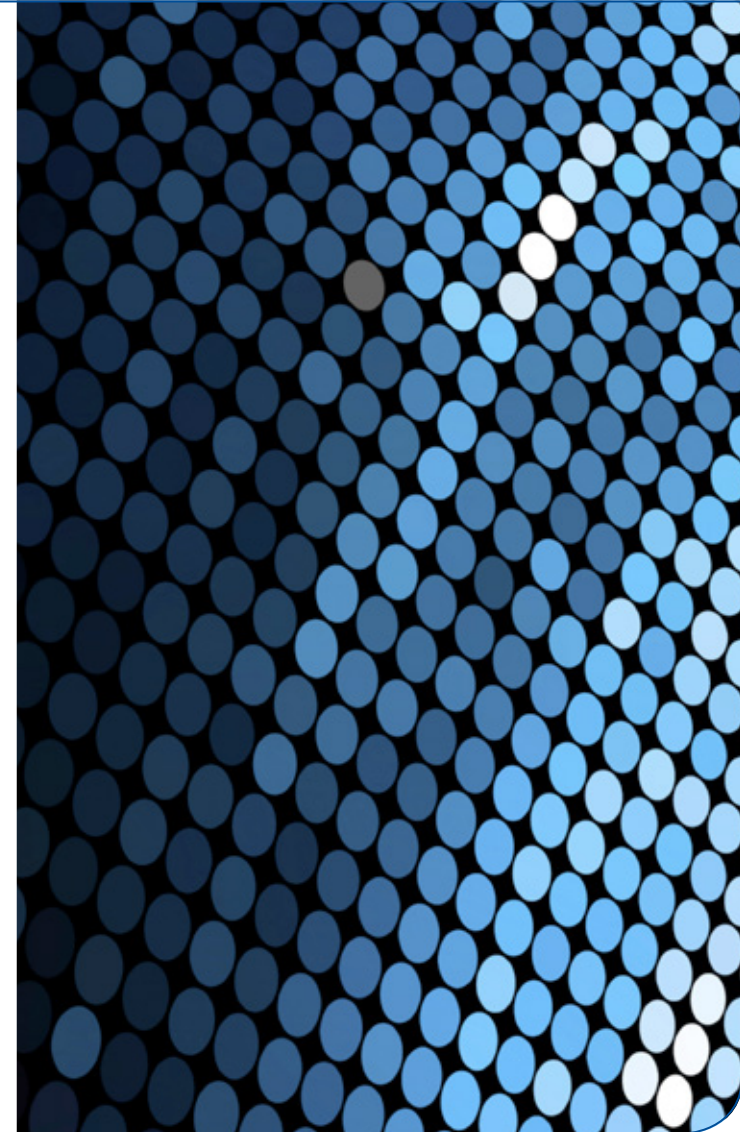
S/4HANA Finance provides support in several finance areas as part of an integrated ERP environment: financial

planning and analysis, accounting and period close, treasury and financial risk management, collaborative finance operations and enterprise risk and compliance management.

Other benefits include (3) less maintenance and development required due to a simplified data model, and (4) your IT landscape is primed for planned SAP innovations.

In order to fully leverage these benefits, more than just a technical solution is needed. Although SAP provides the IT elements to the solution, it is up to the CFO and his team to prepare and organise the department and processes in such a way that the S/4HANA Finance functionality is fully utilised. For example, organisational strategy cascades into reporting requirements, which in turn should be determining factors in the design of the financial administration; processes should be standardised, harmonised and free of all superfluous complexity.

This publication provides an overview of S/4HANA Finance, to help organisations understand the details behind S/4HANA Finance; it addresses the key components and considerations when building the value case for the implementation of S/4HANA Finance.





# Preface

SAP S/4HANA Finance is currently a hot topic among both finance and IT experts. This finance solution is part of the emerging S/4HANA Enterprise Management platform, the successor to SAP ECC which was first introduced 25 years ago. The S/4HANA Enterprise Management platform is maturing rapidly, with new releases issued on a regular basis. This publication provides an overview of current SAP market trends and provides insights into how deploying the S/4HANA Finance solution will create value for your organisation. Please note our hands-on experience with S/4HANA Finance business cases, roadmaps and implementations, as well as training, enables us to maintain an independent view on the business value of S/4HANA Finance.

# Contents

Management summary	2
Preface	3
CFO challenges	5
S/4HANA Finance, an overview	7
End-user functionality and experience	9
Data model and reporting	18
Security & compliance considerations	20
Adoption and migration	23
Value case	29
Closing words	34
About KPMG	35
Contacts	36



# CFO challenges

## Unleashing the potential: making it reality

### Introduction

Along with the potential offered by S/4HANA of faster insights, reduced database complexity, improved user experience, and improved functionality comes also the challenge for the CFO of making this a reality. Simply installing S/4HANA is not enough; adapting the processes, skills and capabilities of the entire finance function to the newly-available technology and functionality is imperative to unleashing the potential of S/4HANA Finance.

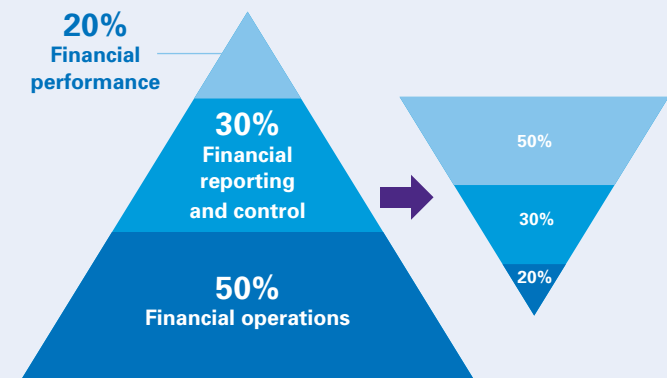
### Business driven, technology enabled

While recognising the benefits that HANA technology could potentially bring, the move towards S/4HANA Finance should be business driven first and foremost, and all the stakeholders should have a clear vision of the value it will bring by improving the financial and operational drivers of the organisation.

One should not however lose focus on the fact that the technology provided by S/4HANA also comes with new, disruptive, opportunities that require a more two-way and “open-minded” approach to building the value case: don’t just understand how S/4HANA Finance can meet your current business requirements, but challenge how you can maximise the business value that HANA technology and S/4HANA capabilities bring to your organisation. One of our clients has implemented HANA technology as part of its complexity reduction programme, resulting in a period-end close six times faster than previously.

### Building the value case

As the role of finance functions is being redefined, CFOs are challenged to drastically change their traditional finance processes and operational support models in an effort to deliver faster, more accurate and more insightful analysis and reporting – while at the same time managing risk and reducing costs.



Source: “Being the best: Inside the intelligent finance function Insights from our latest global CFO research” - KPMG International

**Figure 1:** Goal of finance function transformation is to turn the pyramid upside-down

The value case for S/4HANA should acknowledge these challenges and be constructed taking into account the business value drivers that actually matter for the finance function: business performance improvement, back-office effectiveness & efficiency, and cost avoidance.

When developing the business case, it is important to link the benefits that S/4HANA Finance could bring to the financial and operational value drivers of an organisation and evaluate to what extent S/4HANA Finance will require subsequent adaptation of your organisation, skills and processes to reap the full benefits (the 'value' case).

### **Evaluating S/4HANA Finance business benefits**

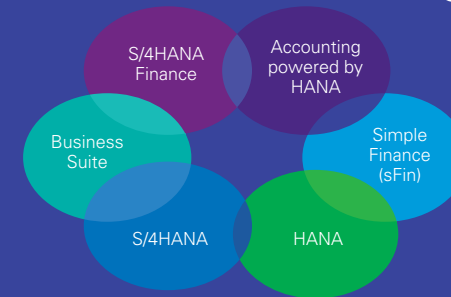
For each of the underlying financial and operational drivers, the S/4HANA Finance functional and technical capabilities should be evaluated and assessed to understand what business benefits it could bring, and what business change is required for the potential benefits to be fully realised.

KPMG's finance function delivery model can be used as a framework to evaluate how S/4HANA capabilities could impact the finance function and to assess what organisational, process & people changes are needed to fully utilise the S/4HANA capabilities.

This publication helps CFOs to understand the key capabilities and benefits that S/4HANA Finance can bring to the organisation. In addition, this publication serves as a reference guide to the more detailed capabilities of S/4HANA Finance.



# S/4HANA Finance, an overview



SAP's history dates back to 1972 when it released its first product onto the market. In SAP's first product (R/1), the architecture was based on what is known as a one-tier system. This means that the three layers (presentation, application and database) required for an ERP system were installed on one single system/server. In the R/2 product (mainframe version), which was released in 1979, the three layers were installed on two systems/servers. The latest version of the SAP tier-architecture era was R/3, using three systems/servers. SAP's R/3 product (client/server version) was more user-friendly, with the introduction of the SAP GUI (Graphical User Interface). Among other aspects, SAP R/3 enabled IDOC/ALE processing, allowing interfacing between SAP and other SAP/non-SAP systems. The R/3 product was launched in 1992.

After the tier-architecture versions, SAP changed its architecture completely with the introduction of ECC (ERP Central Component) in 2004. ECC enables users to run the applications Business Warehouse (BW) and Strategic Enterprise Management (SEM) within one instance. ECC was the first SAP solution to extend business

applications to a web browser or the internet. Until 2012, R/3 was considered the most innovative product in SAP's history and innovation has (only) been incremental. This has changed with the introduction of HANA. A lot of people are familiar with the term HANA. However, the distinction between HANA, S/4HANA and S/4HANA Finance is not always clear. HANA is SAP's new high-performing database, S/4HANA is the new version of Business Suite (now called S/4HANA Enterprise Management), and S/4HANA Finance is the application for financial and management accounting.

The difference between 'conventional' databases and the in-memory database, is that the new HANA database uses the latest technological innovations to boost its performance: it is an 'in-memory column database', with a calculation engine and functionality for massive parallel processing. SAP positions this database as the central location for data, so that it uses only one copy of data for transactions and analysis: a single source of truth. Traditional databases may contain three copies of data to represent an event (separate copies for transactions, analysis and acceleration),

leading to inherent data latency and the risk of data inconsistency in the event of poor development. The HANA database has one single common database approach for OLTP and OLAP (online transaction processing and online analytical processing). This approach, which requires an optimised hardware setup, eliminates unnecessary complexity and latency and enables acceleration of data processing throughout the whole data flow. As of november 2016, a new version of HANA, HANA2, is released. This version leverages additional functionalities on data management, analytical intelligence and further compatibility with third party applications.

SAP's Business Suite is a set of business applications enabling end-to-end processes to run within SAP. Business



Suite consists of SAP ECC, CRM, SRM, SCM and PLM. Running the Business Suite in combination with a HANA database is a viable deployment option that is followed by several large organisations with complex SAP landscapes. However, SAP re-programmed the application logic to optimise the performance of Business Suite in combination with HANA. This Business Suite, optimised for HANA, is called S/4HANA Enterprise Management, and the applications within this Business Suite run on the HANA platform/database.

The modules for financial and management accounting within SAP ECC: Finance & Controlling, or FICO, are the first modules that have been optimised for HANA. The name S/4HANA Finance has been used since the product's release in November 2015, with the previous version having been called SAP Simple Finance. Regardless of the version, the application contains the functionality for organisations to optimise, accelerate and simplify the finance function.

We elaborate on SAP Accounting as part of S/4HANA Finance in the next section.

With every S/4HANA release, more and more functionality is transformed to the new, simplified table structure. Since release 1511 (November 2015), the Logistics module has been set up in a similar way as the S/4HANA Finance module. With release 1610, more functionality becomes available in modules around Finance and Logistics (for example, advanced Available to Promise (aATP), Integrated Quality Management etc.).

As outlined before, S/4HANA Finance was the first application that SAP launched for its new Business Suite and contains functionality that allows organisations to optimise, accelerate and simplify the finance function. It operates on a fully integrated basis with all other solutions in SAP (sales, supply chain, etc.), that are all gradually being reprogrammed for optimisation with HANA. This provides an evolving 'digital core': SAP's S/4HANA Enterprise Management. SAP offers complementary products for all lines of business to further enhance the solution, for example B2B purchasing via a network of suppliers using Ariba and for Concur for the management of travel and expenses.

We see the following main stepping stones with increased value as part of progressing towards S/4HANA:

1. Leverage technical performance of HANA DB
2. Refinements of existing processes
3. Implement new functionality from S/4 HANA
4. Leverage embedded BI on S/4 HANA
5. Implement user friendly and flexible User Interface and Mobility
6. Implement new solutions / components
7. Integrate with Business Partner Networks

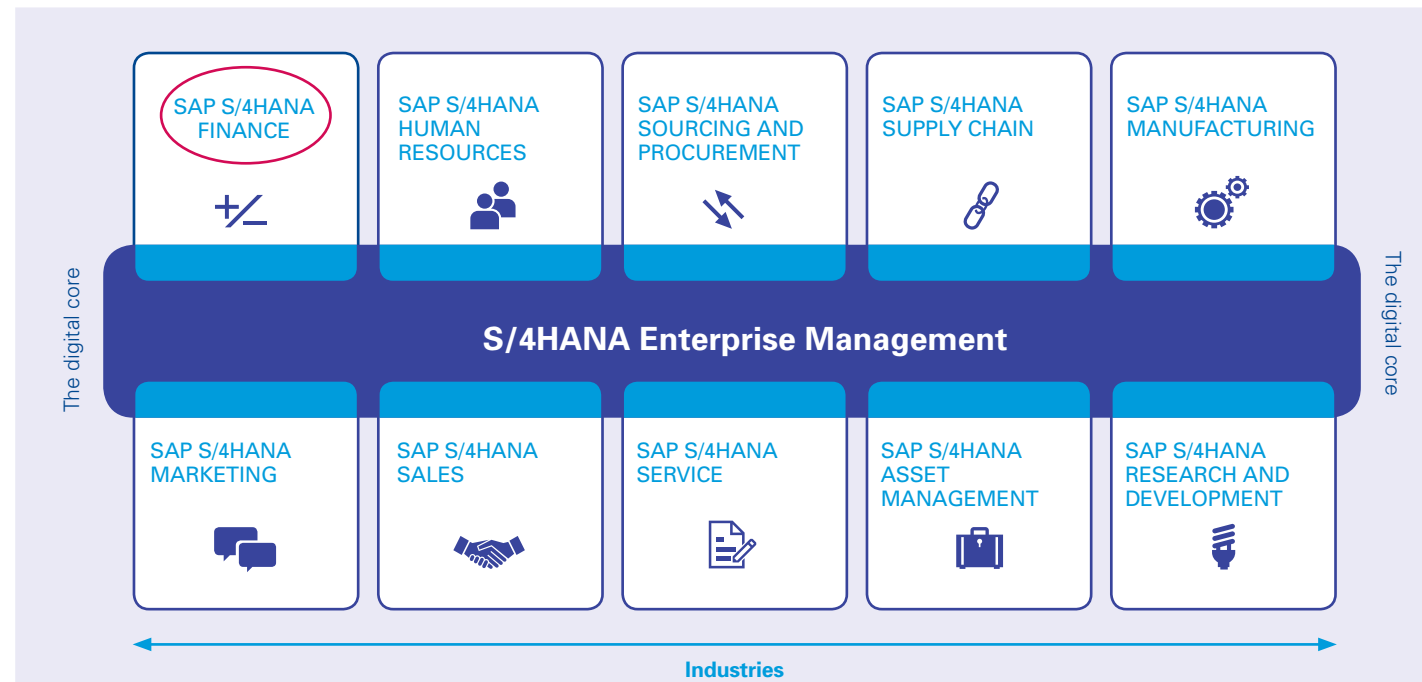


Figure 2: SAP's digital core: S/4HANA Enterprise Management Source: SAP SE



# End-user functionality and experience

This section discusses the functionality of the three different S/4HANA Finance components. Both 'SAP Cash Management' and 'SAP BPC' are optional, whereas SAP Accounting is essential for any S/4HANA architecture. Therefore, this section primarily focusses on functionality provided by SAP Accounting. The functionality provided by SAP Fiori UX, the new user experience, is also described.

## SAP Accounting, powered by SAP HANA

The component SAP Accounting contains core functionalities for financial and management accounting. With the introduction of S/4HANA Finance, the main focus of SAP has been to simplify the data model and simplify application logic. This chapter is not an exhaustive list of changes, but will highlight some of the main topics for simplification, such as New Asset Accounting, profitability analysis, material valuation and period-end closing. Details on other topics that have been changed can be found in SAP documentation, examples are the mandatory use of business partners instead of customer / vendor, and the

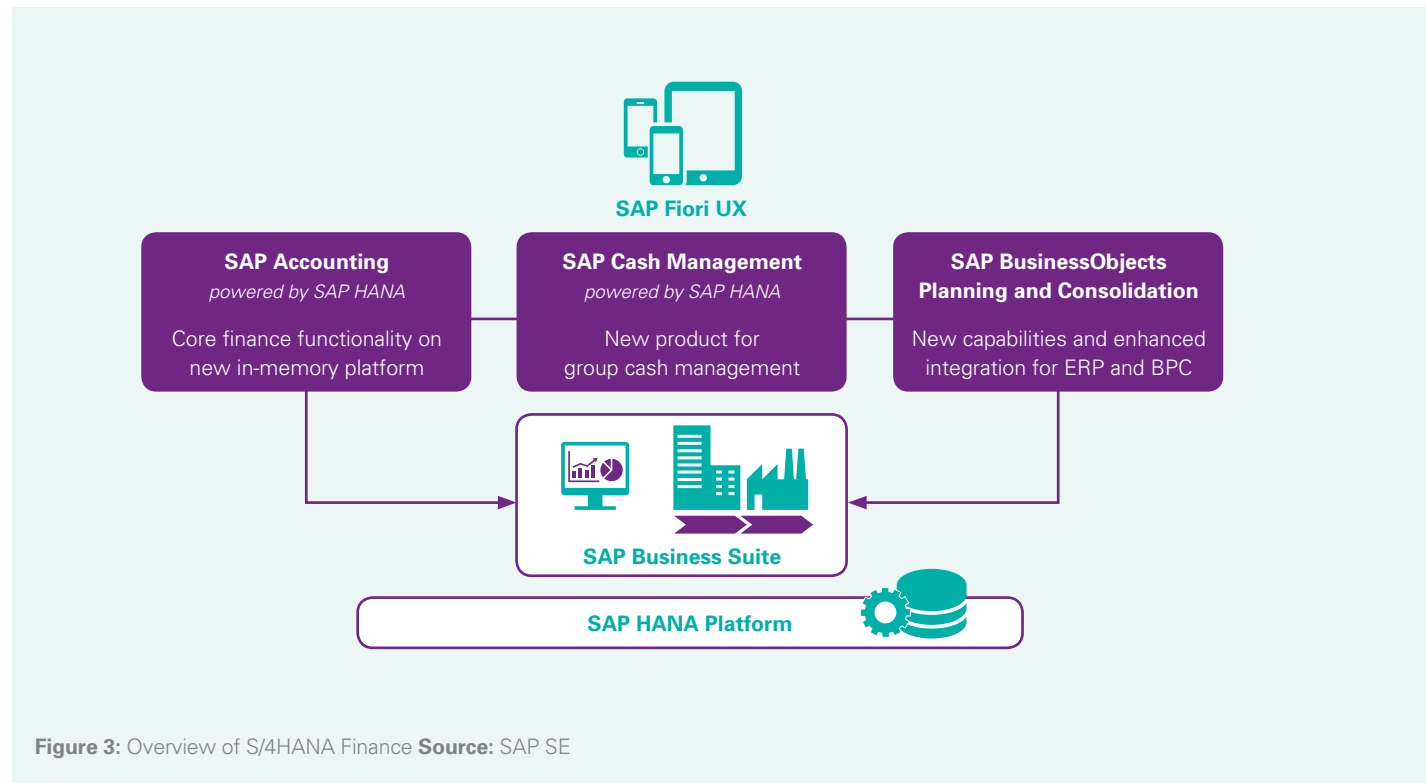


Figure 3: Overview of S/4HANA Finance Source: SAP SE

replacement of the credit management solution with functionality coming from the 'SAP Financial Supply Chain Management', enabling organisations to use internal payment history in determining credit risk ratings.

### Overall

Financial postings are triggered by means of Prima Nota. The Prima Nota is not a new functionality within SAP but becomes part of the standard solution for financial accounting. The Prima Nota is the source document which is the trigger for creating journal entries in the central ledger(s) and is now called the Universal Journal. The Universal Journal is regarded as the single source of truth for all sub ledgers as this journal has one line item table that contains all the data. As there is one single source for all journal entries, it enables a full reversal of the whole process which has been initiated by the Prima Nota. One of the advantages of the Prima Nota is that it retains the initial values of the journals before any processing is performed (e.g. derivations, enrichments, splits, etc.). Mainly, a Prima Nota is a document produced as a result of a business process (e.g. expense postings, invoices or payroll postings).

One change within the general ledger accounting is that G/L accounts and cost elements are no longer separated within S/4HANA Finance. The G/L account management screen has an additional field called the 'cost element category'. Hence, cost elements are created in the same manner as G/L accounts with the cost element category added. The cost element category 'secondary costs' can

be used, but only for allocating costs or revenues. From a business and/or IT support point of view, this will impact the authorisation setup. Furthermore, this change has been applied to transactions supporting the 'old' management accounting module (CO) as well: any direct postings are supported by two new fields: document type and ledger group.

S/4HANA Finance provides HANA-optimised transaction codes. Most of the transaction codes remain the same, however there are transactions/programmes which have been optimised to run on HANA. For example, FBL5N is the transaction code for displaying customer line items within SAP: with the adoption of S/4HANA Finance, the transaction FBL5H will provide the end-user with a number of additional fields (such as customer details). In the past, displaying additional fields was not possible, because of performance limitations. With the power of the HANA database, the performance has improved and allows for more detailed information to be displayed much faster. Note that some of the functionalities of SAP ECC that are not commonly used are not (yet) supported by S/4HANA Finance. For example joint venture accounting, classic real estate management and parallel activity-based costing (to simulate cost allocations within the general ledger, using statistical postings). As with any selection of an ERP solution, a comparison of your (key) business requirements with the available functionality will reveal the gaps. More information can be found in the section 'Data model'.



### New Asset Accounting

The functionality for asset accounting within S/4HANA Finance, is SAP's New Asset Accounting. It is the only asset accounting solution on HANA; the former asset accounting solution is no longer available as part of S/4HANA Finance. S/4HANA Finance contains a new depreciation calculation engine that makes better use of the HANA database. It is now possible to run the depreciation calculation in real time, what will help to run the period-end close more efficiently.

One of the main features of the New Asset Accounting functionality is based on the Universal Journal: data redundancy is eliminated and reconciliation between asset accounting and the general ledger becomes obsolete. Furthermore, there are benefits related to the posting logic which has been simplified; for example only a single depreciation area is required per valuation and so-called delta areas are not necessary in order to demonstrate parallel valuations. There is also a new feature in the document display which shows in detail the impact of any transaction within the books. Finally, posting runs within the former asset accounting solution required postings

to non-leading ledgers; within New Asset Accounting, specific transactions are available for each ledger group.

If you are using only one ledger before the migration to S/4 HANA Finance, it is possible to link two ledger groups to that single ledger. In this way you can technically benefit from the New Asset Accounting functionality, without the use of leading and non-leading ledgers. This means that the use of multiple ledgers can be abandoned or postponed to a later stage.

The posting logic of New Asset Accounting has significant differences compared to the classic asset accounting. The main change is that all asset postings are always done to a technical clearing account (TCA) rather than directly to the asset. These TCAs balance to zero in all cases.

### Profitability analysis

S/4HANA Finance supports two different approaches to enable profitability analysis: (1) account-based and (2) costing-based. The account-based approach is based on the idea that profitability reporting should be based on the P&L. This approach is 'reconciled by design' to cost and revenue

elements in the P&L and is leveraged by means of the Universal Journal.

The costing-based approach continues to use the table structure as in the conventional ERP, thus this will not make a periodic reconciliation obsolete. With the cost-based approach, margin can be reported with an adjustment for cost components that have not yet been posted (e.g. transport costs as a result of sales, where the invoice of the logistics partner is not yet received and no accrual is posted). Cost of goods sold is recognised after goods are billed and before they are shipped.

A pre-S/4HANA Finance challenge of the account-based approach was that no split was available to register the cost components that are summed to calculate cost of goods sold (CoGS). Materials, labour and fixed & variable overhead surcharges were all posted in one amount on the CoGS account. By having this split, it is now possible to report on different contribution margins, while maintaining 'reconciliation by design' with the P&L. As a result, both efficiency gains in period-closing and increased reliability of profitability reporting are achieved. SAP expects that account-based profitability



analysis will be favoured by most organisations, as the benefits of permanent reconciliation to the P&L outweigh the benefits of the statistical postings.

Although the account-based setup is beneficial, it does require a significant change to your financial template. We see that larger organisations therefore tend to postpone the decision to go to account-based profitability analysis.

Additional functionality that S/4HANA Finance offers, is the real-time derivation of profitability characteristics. This allows a posting to register any relevant profitability characteristics, simplifying the ability to analyse profitability up to the initial posting, enabling real-time insight in profitability and eliminating the requirement for settlement to profitability segments at period close.

### Material valuation

Material valuation in S/4HANA Finance is per release 1511 registered in the SAP Material Ledger (ML), making ML a mandatory component. This provides for a broader base-functionality, as compared to the former material valuation in SAP Materials Management: it offers multiple currencies, requires less additional effort to activate 'actual costing' for valuation, and makes use of the Universal Journal to register postings. Organisations using SAP ML prior to implementing S/4HANA Finance should be aware of some additional data migration steps.

### Period-end closing

S/4HANA Finance has a different way of managing period closing than the previous versions of SAP. Formerly periods were closed based on account types. Benefiting from the Fiori application, an additional lock on company code level for controlling can be imposed on posting periods. It is also possible to lock the leading ledger separately from the other non-leading ledgers, offering more flexibility and control. This can be especially useful when the extension ledger is being used (also known as the appendix ledger).

### SAP Cash Management, powered by SAP HANA

The SAP Cash Management solution offers drill-down functionality into global bank balances and cash positions in real time. This enables treasury and cash management departments to run their bank account management processes more cohesively as they don't have to switch between different modules of SAP to get their integrated view.





Previous SAP solutions did not provide a completely integrated look and feel and had limited 'out of the box' possibilities for cash positioning and liquidity planning. A fully integrated cash management system should enable organisations to plan cash levels accurately at any point in time.

The main areas of the SAP Cash Management on S/4HANA toolkit are:

- Bank Account Management
- Cash Management
- Liquidity Planning

#### Bank Account Management

Security is an increasing concern for all organisations but, for organisations which are constantly growing, even keeping control of bank settings can be a challenge which nonetheless must be stringently controlled. SAP's Bank Account Management (BAM) is the single entry-point for changes to bank settings and bank accounts, providing workflow control for all changes. Implementing a workflow where (multiple) managers need to approve changes to the bank master enables (fraud-sensitive) settings to be controlled. BAM also offers a reporting/bank account review process (e.g. a yearly review by local CFOs of all bank accounts that have been entered into BAM). This tool also works for multi-system landscape such as the one shown in figure 4 right where the changes to bank settings in multiple systems are controlled by workflow, thereby enhancing control and traceability.

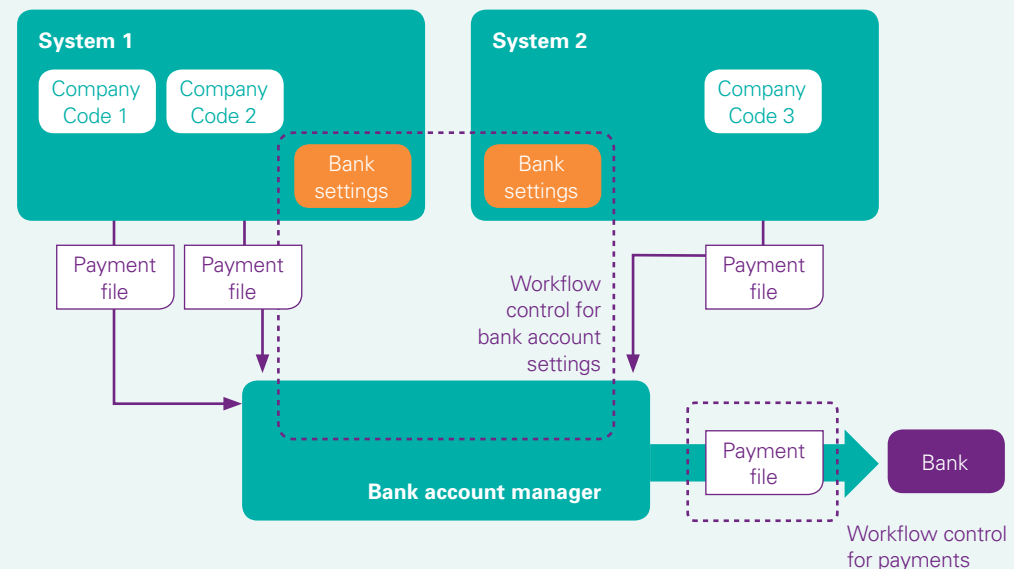
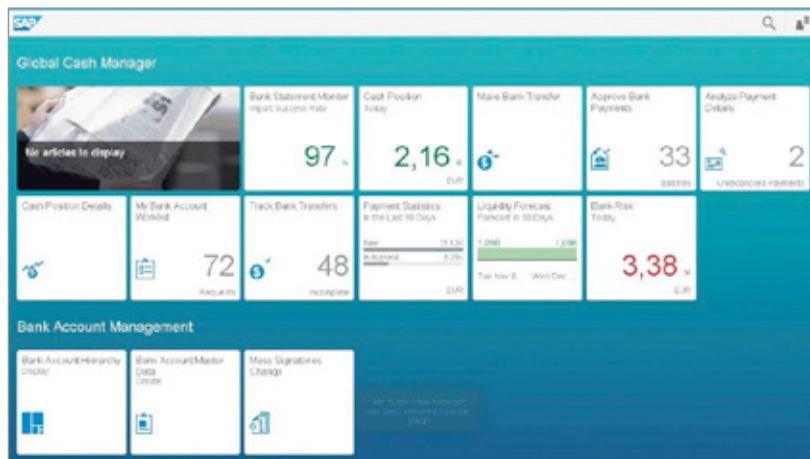
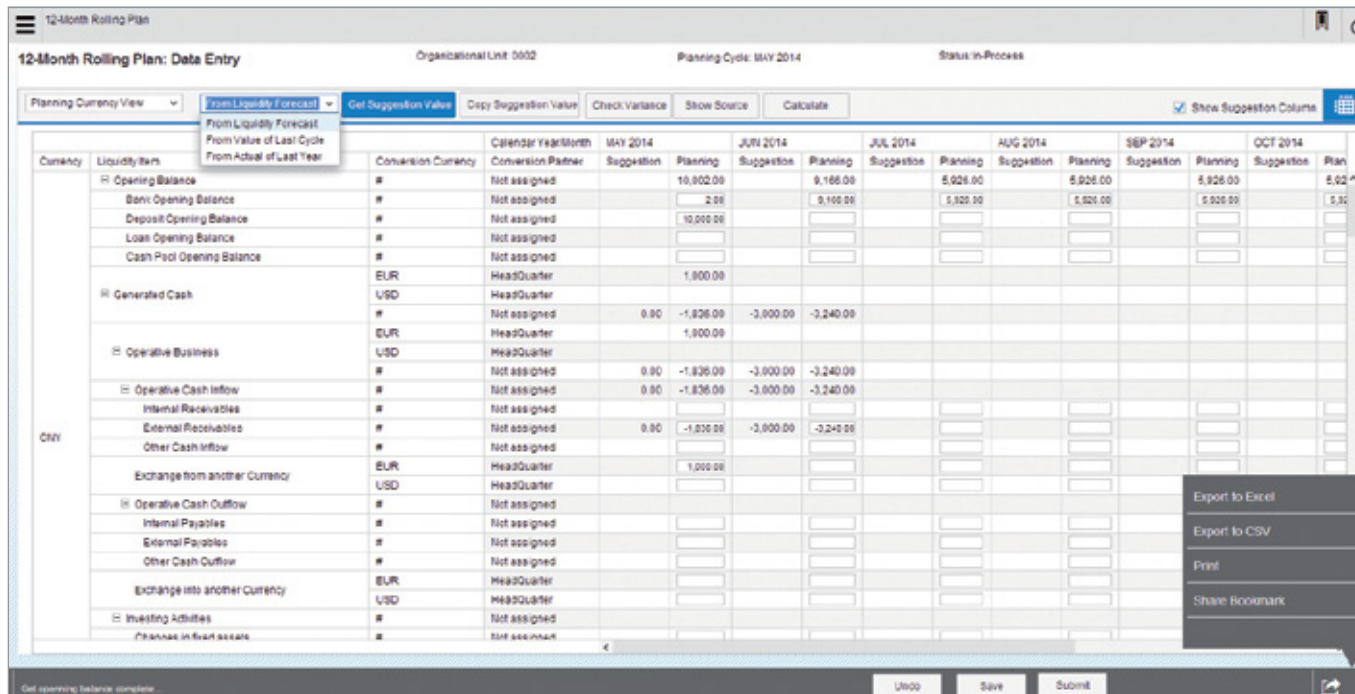


Figure 4: Bank Account Management setup



**Figure 5:** Example of Fiori screen with Bank Account Management-specific tiles,  
Source: SAP SE



**Figure 6:** Sample report based on SAP Cash Management powered by SAP HANA, Source: SAP SE

### Bank Account Management lite

SAP offers a basic version of the Bank Account Management tool for organizations without the licence for SAP Cash Management powered by SAP HANA: BAM lite. This is an enhanced tool compared to the basic house bank creation/change functionality provided by SAP in recent decades but without the workflow functionality to approve changes provided by the complete BAM tool. The main advantages compared to classic ECC customising (transaction FBZP) are that bank accounts can be displayed in a list view and that a search function is included. Also, cash managers and banking accountants can use an import/export tool for bank accounts, enabling easier bank account management.

### Cash Management

Cash Management is SAP's solution to simplify and automate daily cash operations, including forecasting based on transactional data (accounts receivable, accounts payable) and the functionality to approve payments via workflow (this was previously part of the SAP FSCM (Financial Supply Chain Management) and is now replaced by SAP Cash Management). The Fiori apps and reporting tools allow full drill-down functionality, offering the group treasury or cash management department easy analysis of payment details. Additionally, it offers the ability to report on short-term forecasts and real-time cash positions, thereby avoiding costly overdrafts. Figures 5 and 6 show examples of Fiori screens and reporting. In older versions, SAP offered only static cash position reporting with little flexibility to change layouts (mainly

changed via customised cash management groups). The Cash Management solution as part of S/4HANA Finance replaces the Cash Management solution as part of the Financial Supply Chain Management (FSCM): these solutions cannot be used in parallel.

Another fundamental change is bank statement posting. This is now recorded in the tables before posting, enabling SAP to give the cash position on bank statement processing. It is now also possible to directly initiate a bank account transfer from the cash position reporting (drill-down and action).

### Liquidity Planning

It has become more important for organisations to be able to recognise liquidity deficits or surpluses as soon as they arise. Liquidity Planning enables company decision-makers to have a clear picture of the company's future financial position. For liquidity planning to be successful, both an accurate system that is able to pull data from the full end-to-end process and a solid business process of accurate (sales) planning are needed.

When looking at liquidity planning, it is apparent that the further you plan into the future, the harder it is to predict the future liquidity state accurately.

With the new Cash Management solution, SAP has integrated Liquidity Planning with Cash Management.

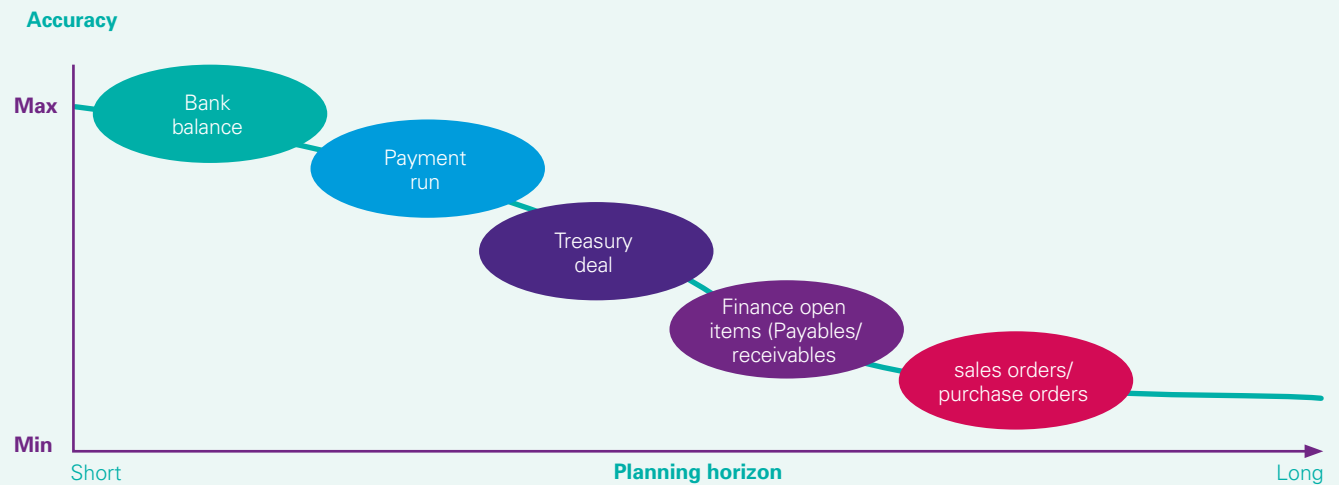


Figure 7: Liquidity planning accuracy throughout time

No separate licence is required. With S/4HANA Finance, liquidity planning based on sales and purchase orders is now enabled, giving a longer planning horizon. One downside is that planning on external sales and purchase orders is not (yet) possible. However, the accuracy of liquidity planning on sales or purchase orders is limited (as shown in figure 7).

In the new SAP Cash Management powered by SAP HANA, Liquidity Planning is embedded in BPC functionality. Classic

liquidity planning in SAP was performed on a separate BW/BPC system. Data quality and integration has also been improved by aligning the planning categories between short-term cash forecasting and liquidity planning.

With the new release, SAP has taken a significant step forward, making it easier for treasury management and cash management departments to report and perform drill-down analysis.

### SAP BusinessObjects Planning and Consolidation, powered by SAP HANA

SAP's BusinessObjects Planning and Consolidation (BPC) solutions currently come in a wide range of different applications to support planning and consolidation processes. These include applications such as Integrated Planning (BW-IP), BPC 10.1 for NW/MS, and Cloud for Planning which currently cater for the different types of planning and consolidation processes required by different organisations. SAP has introduced BusinessObjects Planning and Consolidation for S/4HANA (SAP BPC for S/4HANA). What is new in this application and how does it differ from SAP's current application portfolio? Furthermore why is it part of S/4HANA Finance?

BPC leverages SAP's current solution portfolio, in essence encapsulating SAP's BPC functionality built up over the last decade.

The new application can be considered a best-of-breed for different planning functionality. The innovation with this product is the closer integration of the 'BPC 10.1 Embedded' solution with the HANA database. This means that the source data needed for planning and consolidation

can be accessed in real time, and data replication to a separate BW instance is no longer necessary. BPC can directly access the actual figures/planning data from the HANA database. This embedded concept is called BW Embedded in BPC on S/4HANA.

To fully leverage the power of HANA, SAP redesigned the planning functionality to what it calls Integrated Business Planning for Finance (or IBPF). IBPF is based on the current BW-IP planning functionality and was already native to the BPC 10.1 Embedded solution.

As part of the 1610 release, the data model for planning & consolidation has changed to bring postings closer to actual postings. Where a universal journal for actual postings was introduced as of the first release in November 2015, ACDOCA-table, two new tables have been introduced for planning, ACDOCP, and consolidation ACDOCC. These tables will be the main table for accounting documents with regard to planning and consolidation.

New functionality with respect to consolidation, is that real-time consolidation insights are available, based on both the actual postings and additional consolidation postings (e.g. based on specific business rules, or intercompany

elimination). As all data resides in one database, this allows for real-time drill-down analysis straight from the consolidated financial statement, to line-item level postings.

The new solution for planning is based on the combination of the ACDOCP planning-table with BPC InfoCubes. This solution for planning aims to be both robust as well as agile. The integration with other accounting documents (e.g. planning as part of production orders) can be made using the ACDOC\*-table structure, creating a robust interlinked data model. Meanwhile, Infocubes allow for agility with free creation of organization specific dimensions as part of the planning data model (e.g. gross national product). On SAP's roadmap further enhancements are indicated with respect to planning in the field of profitability and product cost simulation, as well as further integration of financial planning with sales & operations planning. This provides functionality for control on business performance, combining simulation functionality with actual postings, e.g. 'is overhead still covered if we lower prices with 5%, and increase production volume with 10%?'

Using BPC Embedded functionality, SAP has moved its less integrated planning solutions into S/4HANA Finance.





Integration means central master data used for planning can be reused throughout the S/4HANA Finance suite. This in turn means that master data can be used for different planning areas (for example: P&L, profit centre, cost centre and sales & operations planning). Furthermore, master data is used in standardised templates for planning functions, sequences, areas, and loads among IBPF building blocks. Such templates therefore provide more than standard business content, because templates are defined from a business perspective rather than a data or technical perspective as is the case for standard business content. By adopting IBPF, clients are able to integrate their different existing planning features into one application and to benefit from the power of HANA and S/4HANA Finance's new table structure. For example, the simulation functionality has been brought to the next level with IBPF, as the planning engine for calculations has been moved from the application layer to the HANA database layer. This improves the speed of simulation exercises.

So is BPC for S/4HANA the one business planning and consolidation application that organisations should move to? In our opinion SAP is taking the right steps in harmonising the scattered application landscape for planning and consolidation. Further enhancements on planning-functionality are planned on SAP's roadmap, linking finance planning to sales & operations planning and enabling a fully integrated planning-functionality as part of S/4HANA Finance.

### SAP Fiori user experience

Fiori is SAP's latest user interface which SAP calls its user experience. This user interface is an additional platform which can be configured and used either as a complement to or replacement for the SAP GUI. It enables the creation of apps on iOS, Android and Windows mobile platforms and changes the user experience and way of working for SAP users. As such, Fiori unlocks new ways of working by having more condensed oversight, drill-down possibilities and system user-friendliness for SAP users. With the latest release (1610) of S/4 HANA, SAP made Fiori 2.0 mandatory. SAP Fiori launchpad will be the single entry point for all the apps.

With Fiori, SAP is introducing 'Analysis driven Transactions' for parts of its core functions (i.e. Procurement, Production, Sales, Plant Maintenance, Finance etc.). While executing simple transactions (i.e. creating a Master Data for GL / Cost Center etc. or Raising a Material Requisition), an end user can do an Analysis first and then run a transaction based on the insight gathered from the Analysis. The key thing to note here is that both these steps are done by the users in a single app. Thus, life cycle of a transaction is Analysis – Execution – Analysis. This would help to increase business effectiveness of the processes (as transactions or processes would be executed with 'real time', 'in right context' analytics). It would also reduce time required to spend on subsequent Analysis, as some of the potential reasons for variances or deviations would have been addressed because of the 'on transaction point analysis'.

The setup of Fiori is role-based and focuses on user responsibilities via the Launchpad in the Fiori screens. Fiori is available on multiple devices which enables users to access reports/transactions at their desks or on the move. Furthermore, according to SAP, the URLs used are sufficiently stable for bookmarking and sharing. Fiori also has 'active tiles' which enable end-users to have real-time information and KPIs on their Launchpads. The tiles (square buttons which trigger transactions or show KPIs) can be personalised by each end-user.

Although Fiori gives users a more intuitive user experience, some apps provide a more enhanced experience than others. Some of the currently available apps for the finance function, mimic the traditional user experience with a Fiori look-and-feel. We expect that these apps will be further developed by SAP on short notice. For users who are very experienced in SAP and use the same set of transactions regularly, the lack of intuitive use is of less significant than the quick processing methods of the old SAP GUI with its transaction codes.

Besides its tiles setup, Fiori also has a Google-like function to search for specific criteria. For example, when an end-user enters his/her own name, he/she will find all the entries in the various SAP systems which relate to that name. This search can reveal posted documents, HR data and even the vendor master data which has been created for his/her expenses to name just a few.

# Data model and reporting

Besides improving end-user functionality and experience, S/4HANA Finance will change the underlying data model. The new S/4HANA Finance data model revolves around the Universal Journal, which allows for simplification of reporting and reduction of data footprint and complexity.

## Overcoming the challenges of the SAP ECC data model

In previous SAP solutions and in other ERP packages, the architecture is based on multiple sources of the truth. For example entries are made into different ledgers, requiring numerous reconciliation activities across individual fiscal years. Within SAP ECC, the material ledger is not able to store G/L accounts or profit centres, while within asset accounting there is no profit centre or G/L account information available in the asset accounting (AA) totals table. These are examples that require organisations to reconcile their material ledgers and asset accounting with their general ledgers. Reconciliation work was also required to reconcile CO data with the general ledger, and to reconcile CO-PA data with the general ledger, as the

general ledger and the profitability tables were updated based on different business events in different entities (e.g. accounts).

To handle potential performance issues on retrieving data from SAP ECC, data was stored in different levels of detail and in differently structured components. Hence multiple BI extractors were required to cover the complete set for reporting purposes.

### 1. Single source of truth

S/4HANA Finance overcomes these challenges through SAP's introduction of the Universal Journal. This Universal Journal is the single source of truth for all sub ledgers as this journal has one line item table with complete details for all components. Data from G/L, CO-PA, CO, AA and ML is all stored in the Universal Journal. Hence, the data is stored once and therefore no reconciliation by architecture type is required.

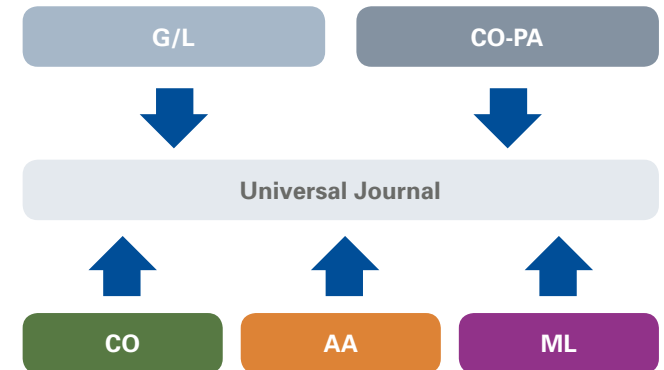


Figure 8: Universal Journal

### 2. Simplification for reporting

The new data model offers the possibility of fast multi-dimensional reporting based on this single source of truth. If an organisation has a BI system, one single extractor is sufficient. All actual postings are registered in the same table, with the available dimensions as part of the same table. This simplifies the creation of data cubes.

SAP ECC’s aggregate tables have been replaced by compatibility views. Compatibility views are non-materialised views which means that the data is not stored in tables, in fact it is not stored at all. With the high calculation power of HANA, the views are calculated instantly when a report is called up by an end-user. These compatibility views do not disrupt the business or reporting processes. However, in cases of custom developments (such as custom ABAP queries), the performance may be affected where ABAP queries are intended to write data back into aggregate tables, as this is technically no longer possible with views.

From a compatibility perspective, SAP still provides the same reporting functionality in S/4HANA Finance as in SAP ECC. When combined with the power of the HANA database, the performance and reporting of transaction postings can drastically improve.

S/4HANA Finance also optimises memory usage by distinguishing between ‘hot data’ (recent) and ‘cold data’ (non-recent), with the different types stored in different sections of the HANA database.

### 3. Reduced data footprint

As several sub ledgers have been integrated into the single ledger (i.e. Universal Journal), data redundancy is eliminated and the data footprint is reduced. In addition to this integration, several SAP ECC tables (totals tables, index tables) have also been removed. In SAP ECC, the

function of these tables was to improve performance, a requirement now met by the HANA database.

An example regarding the reduction of the data footprint and its complexity: previously a vendor invoice with three accounting line items required more than 10 database tables to be updated more than 15 times, whereas with the new architecture potentially just four database tables need to be updated five times.

As mentioned, some indexing and aggregate tables will no longer be used, e.g. FAGLFLEXA (line items for new G/L), and ANEP (line items for fixed assets); BSIS (index for G/L accounts) and BSID (index for customers); GLT0 (G/L totals) and LFC1 (vendor master transaction figures totals). The table COEP (cost line items) no longer contains all actual secondary postings, as these are now stored in the Universal Journal (table: ACDOCA). However, the COEP table does still exist, for statistical secondary postings.

For the G/L accounts master data on chart of accounts level (table SKA1), there is one other change: this table is enhanced with a new field: ‘G/L account type’ (field: GLACCOUNT\_TYPE). This means that cost elements are not managed as different objects compared to G/L accounts i.e. cost elements are managed as G/L accounts in S/4HANA Finance.

The ACDOCA table is used for line items, therefore the BPKF (document header table) is still used to store financial transaction header data. The BSEG table (document line items) is not replaced by ACDOCA; this table will be used for line items for financial transactions.

Enabled by HANA database technology, the simplified data model and table structure of S/4HANA Finance will reduce data storage and maintenance requirements, and improve data consistency.

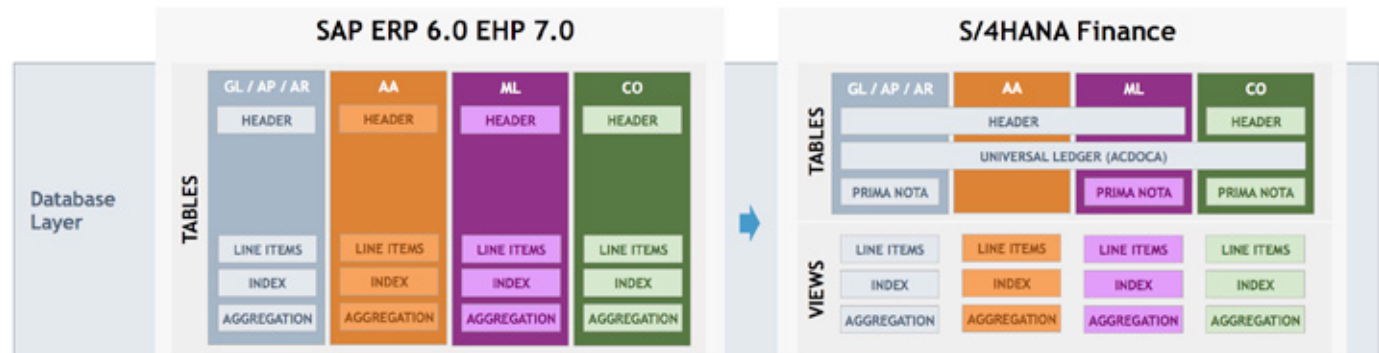


Figure 9: Revised data model

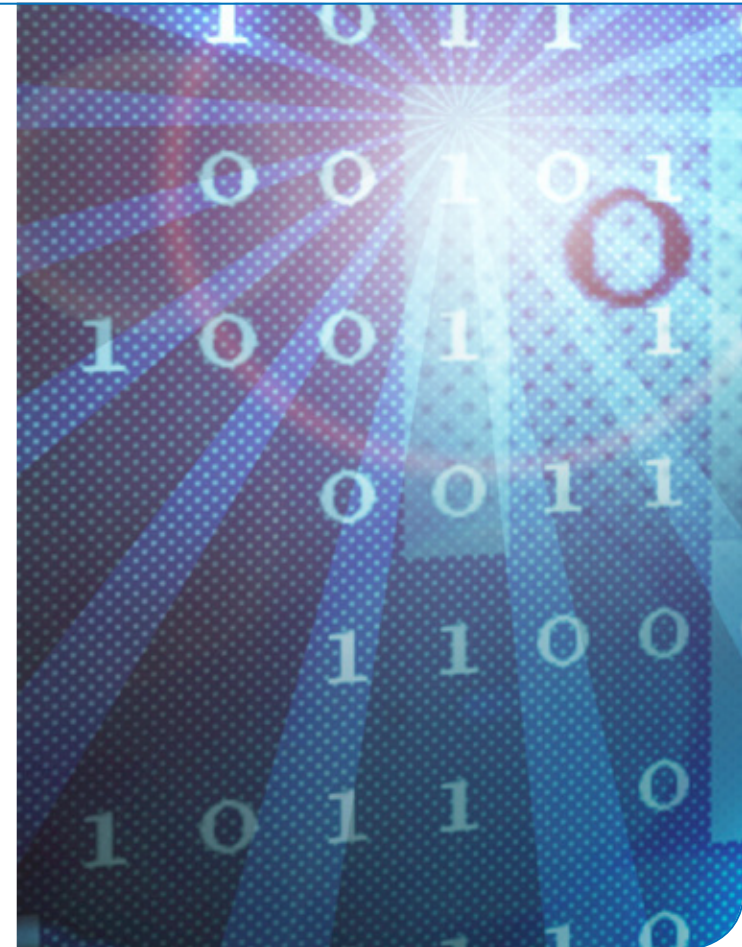
# Security & compliance considerations

## Security aspects

The classic three-tier architectural approach with distinct layers – data presentation, processing and storage – undergoes major changes with the introduction of SAP HANA database technology. In the classic three-tier architecture, the database layer was only accessible via ECC (the processing/application) layer. In the S/4HANA solution, the database layer is extended with an application functionality, which allows the processing of large volumes of data without its retrieval to the application layer, as well as the preparation of results that can be displayed on back-end devices such as mobile phones or tablets (i.e. Fiori Apps). This innovation led to the following architectural and use case modifications on database layer:

- Increased number of database interfaces (SLT, Fiori, BODS, SolMan etc.);
- Potential direct access of business users to S/4HANA data layer (native HANA);
- Access to all/sensitive information in real time;
- Increased number of users and, in particular, user groups (business users, developers etc.);
- Business logic is developed and executed directly on data layer (due to delegation of the data intensive operations to a database);
- Increased number of use cases (Analytics on ERP, mobile apps etc.).

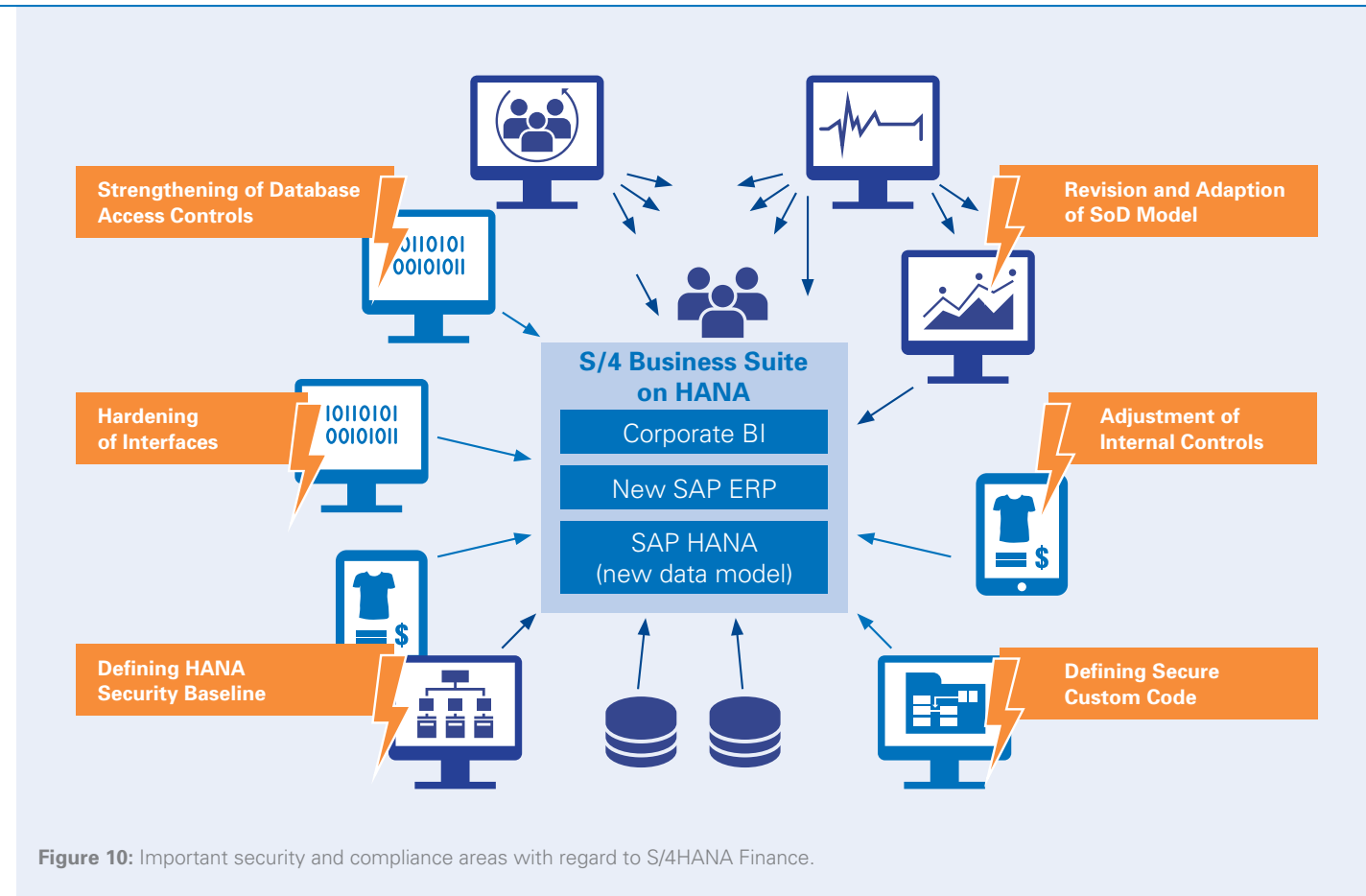
These changes have an even more significant impact on security with the implementation of S/4HANA as they apply to database as well as application layer. Based on our insights, we recommend paying special attention to following security and compliance areas during S/4HANA design and implementation:





- Strengthening of database access controls: avoid unauthorised access to sensitive data and unauthorised or erroneous changes to a program code;
- Hardening of interfaces: harden HANA interfaces to prevent any unauthorised access to sensitive data of other systems;
- Defining HANA security baseline: define security baselines for HANA platform (database and operating system) and HANA web-application server;
- Securing of transport management: secure S/4HANA transport management of HANA views and Fiori Apps to avoid any unauthorised or erroneous changes to a program code;
- Revision and adaption of Segregation of Duties (SoD) model: exclude potential violations and conflicts across systems and processes caused by new HANA transactions and Fiori Apps;
- Adjustment of internal controls: revise control framework by eliminating redundant controls (e.g. reconciliation as data is 'reconciled by design') and adding new controls (e.g. authorisation control on new transaction codes);
- Defining secure custom code: define and implement secure development standards for custom code (ABAP and HANA).

Our experience shows that apart from the implications of the S/4HANA implementation on security, many companies still do not consider SAP security with an appropriate sense of complexity and criticality. A broader,



holistic approach to addressing the related challenges is imperative. It is important to focus on the protection of all components within the core business process and not just those of the SAP system as such. Furthermore, special attention should be paid to the potential for attacks

using the infected workplaces of employees. Lastly, the implementation of an enterprise-wide, real-time and behaviour/scenario-based security monitoring process completes the set of well-balanced preventive, detective and responsive security measures.

Beside security-related aspects that accompany the new technology, S/4HANA involves considerable changes on functional side, which should be taken into consideration from compliance and internal controls point of view.

### Impact on internal controls

Changes to data model and transactional changes impact the internal control environment of every organisation moving to S/4HANA.

Simplification of the data model, with integration of sub ledgers into main ledger, is making certain error check reports redundant (i.e. the consistency checks in accounting

and controlling). A real-time asset depreciation functionality of S/4HANA Finance, which replaces traditional batch job-based approach, requires adjustments to related user controls and procedures.

S/4HANA involves new transactions, while certain other transaction codes become obsolete. For example maintenance of credit account master data is done using new transaction UKM\_BP, which replaces transaction FD32. In some cases pre-existing transactions are replaced and in other cases some new – HANA-optimised – transactions are introduced in addition to the existing transactions, which remain available. All these changes make it necessary to review and adjust the existing SAP authorisation model.

It is a common better practice to conduct this assessment based on the business processes specified in the business blueprint. The outcome is then incorporated into the blueprint in the form of risks identified for each process step, together with the internal control measures identified to mitigate these risks.

SAP security and compliance is crucial for any business, relying on ERP systems. Introduction of S/4HANA Finance adds complexity to this topic and requires additional attention to be paid in order to meet the related requirements.

# Adoption and migration

The choice for a migration scenario will impact the degree to which S/4HANA Finance capabilities are utilised. The degree required depends on the organisation's IT landscape maturity and complexity (e.g. level of customisation). Furthermore, an organisation's growth path for its finance function and its ambition to transform the business are key to the level of migration to S/4HANA Finance and possible extensions to the S/4HANA core.

When assessing the possibilities for migrating to S/4HANA Finance, the first prerequisite is to install and deploy the HANA database. The scenario where SAP Business Suite is combined with the HANA database is called 'Business Suite on HANA'. This means that organizations thinking about migrating to S/4HANA Finance have the opportunity to first migrate to Business Suite on HANA and experience the performance effect of the HANA database, before migrating to S/4HANA Finance.

A next step would be to 'extend the S/4HANA Finance core' and fully migrate to the S/4HANA Digital Core as part of SAP Enterprise Management. This means that other functional

areas (e.g. logistics) can be enhanced with the latest HANA-optimised application logic. Implementing these additional enhancements would mean an increase of scope of the migration project with impact on both ERP as well as

business processes operating on ERP. Identifying the value drivers will help in determining the required scope and migration path. Figure 11 below depicts the possible migration paths and the supporting functionalities of SAP.

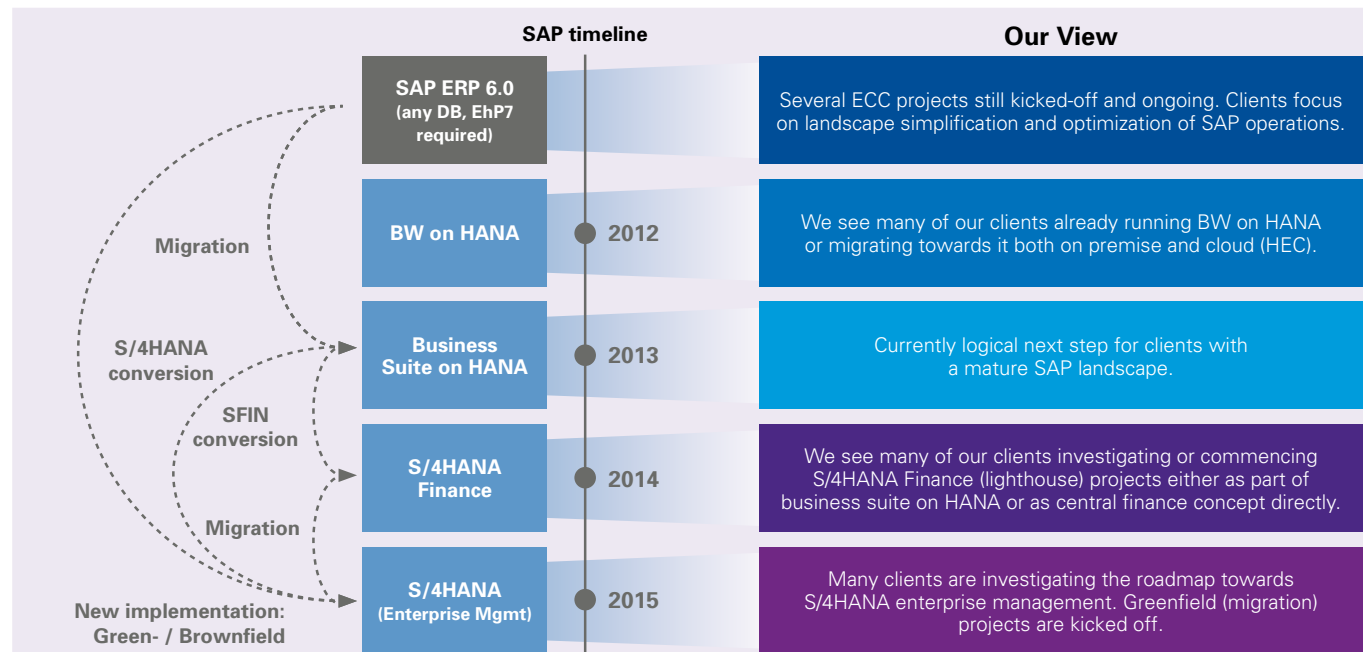


Figure 11: Migration options for Business Suite

The next section describes three migration scenarios in which the S/4HANA Finance solution could be adopted.

## Scenario 1: System conversion

### Upgrade (and keep multi-instance architecture)

This scenario is suitable for landscapes with multiple ERP instances on SAP and where there is no desire to consolidate the different SAP ERP instances into one. In this case, a migration process will be required for each ERP instance. This will have the benefits of flexibility on country/business unit level and minimal business disruption and can be done in a relatively short migration timeframe, leveraging the SAP migration cockpit.

The SAP migration cockpit is delivered with S/4HANA Finance. It guides you through the conversion activities step by step. The conversion takes place during a full outage window and populates the newly created universal ledger and replaces former tables with compatibility views which are sourcing from the universal ledger after conversion.

Data consistency is a prerequisite to convert the data into the universal ledger correctly. It is therefore advised to run one or more full data conversions on a production clone in the early stage of the project to see which data cleansing activities are required.

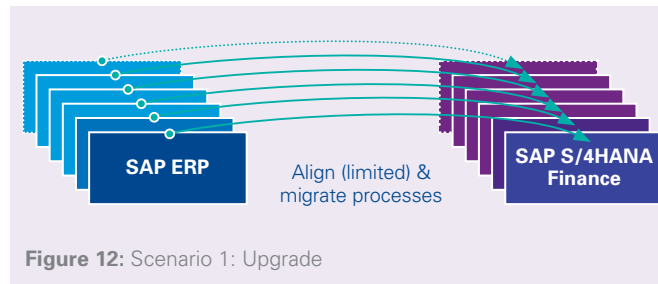


Figure 12: Scenario 1: Upgrade

The disadvantage of this scenario is the minimal level of process, data and reporting standardisation. Therefore, the infrastructure and related maintenance costs will not be reduced. Interfaces will need to be implemented, redesigned and thoroughly tested between instances. The higher number of interfaces between instances and with other applications may result in complexity and higher maintenance work and costs.

## Scenario 2: New implementation

### Implement and consolidate (greenfield implementation)

The second scenario is one in which SAP S/4HANA Finance is installed from scratch and the existing ERP instances are migrated to this single instance with S/4HANA Finance. This will give organisations the opportunity to optimise business processes, data and organisational structures. And, unlike one of the disadvantages of scenario 1, in this scenario there will

be the opportunity to standardise processes, data and reports throughout the organisation. Finally, the single instance in this scenario helps underline the 'global template' philosophy and the (global) shared service model.

This scenario is mainly a business standardisation project, where SAP is used as a tool to embed the agreed standardisation. Therefore, this scenario has a greater number of advantages than scenario 1: it enables the introduction of shared service centres, increases efficiency in business operations, allows for better comparability and consolidation of data, and reduces the IT maintenance and security work required. In order to realise these benefits, significant efforts will be required to define template processes, harmonise master data setup, and streamline change management. While any downtime will have a greater impact (as more users will be affected) and application data security will require additional maintenance (in order to set up and maintain separate views on business units/ company codes in one instance).

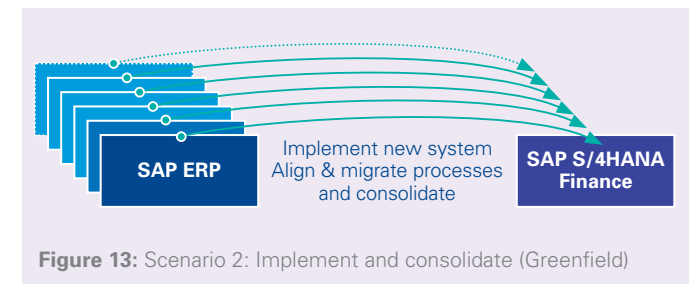


Figure 13: Scenario 2: Implement and consolidate (Greenfield)



Key points to consider with scenario 2 are:

- The balance between efficiency and tailoring processes: any deviation from the standard should have benefits (e.g. regulatory requirements or differentiating factors) that justify the deviation;
- Data migration is required, but for non-SAP legacy systems it is more complicated due to complex mapping of data fields;
- When instances are consolidated for an organisation that operates on a global level, monitoring of system resources will become more important. For example, idle system time at night in the US that was used to run batch jobs may now become heavily used by the EU business. On the other hand, as system usage will be better spread throughout the day, fewer (than previously) system resources may be sufficient to cover the overall performance requirements.

Furthermore, it retains the advantages of the greenfield implementation with the exception of the opportunity to improve current business processes, organisational structure and data.

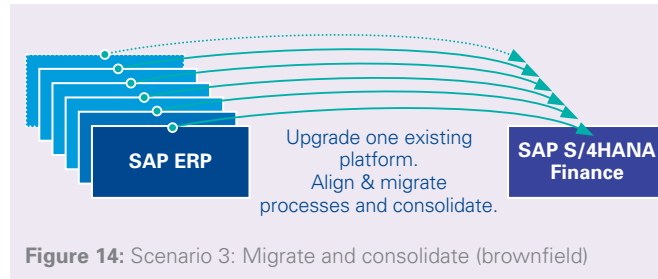


Figure 14: Scenario 3: Migrate and consolidate (brownfield)

Although the implementation lead time of scenario 3 is shorter than for a greenfield implementation, it is still a lengthy process compared to scenario 1, because the consolidation effort is significant. The disadvantages of this scenario are comparable to those of the greenfield implementation scenario.

### The Central Finance approach

Under the Central Finance approach, a single instance is designated as the 'Central Finance' instance. This instance runs S/4HANA Finance, with all its application functionality. Transactional data that resides in existing instances (SAP or non-SAP) is copied in real time to the 'Central Finance' instance using SAP Landscape Transformation (SLT) tooling

with the DMIS add-on. This software is required in order to check whether any changes are made to tables. After an update of values in a table, the SLT replicates the values from the ERP system(s) onto the Central Finance instance. Compared to traditional BW solutions which require ETL (extract, transform and load) software, data transferred to the Central Finance instance with SLT software is not processed in batches and, hence, is transferred in real time. SLT can be used for SAP and non-SAP source systems (all commonly used non-SAP databases are supported by SLT). In addition, part of this solution's functionality is that reports in the Central Finance environment allow drilling back to source documents in the source system, providing a seamless navigation as long as the source system is also a SAP ERP system.

Once the 'Central Finance' instance is set up, and the data replicated, the first benefits can be exploited, for example, real-time reporting. From this stage on, it is up to the organisation what roadmap they wish to follow: from no further steps, to a complete integration of all legacy instances into the 'Central Finance' instance and decommissioning of the legacy instances that are no longer used. At this stage the centralisation effort can be justified with a specific business case, for example, centralising the processing of all incoming invoices using a payment factory.

## Scenario 3: Landscape transformation

### Migrate and consolidate (brownfield implementation)

In a brownfield scenario, one existing SAP ERP instance is upgraded to S/4HANA Finance and the other instances are migrated to this S/4HANA Finance instance. The main benefit of this scenario is the opportunity to leverage the existing system which reduces implementation time (compared to a greenfield scenario).

This Central Finance approach can be combined with the three scenarios outlined previously:

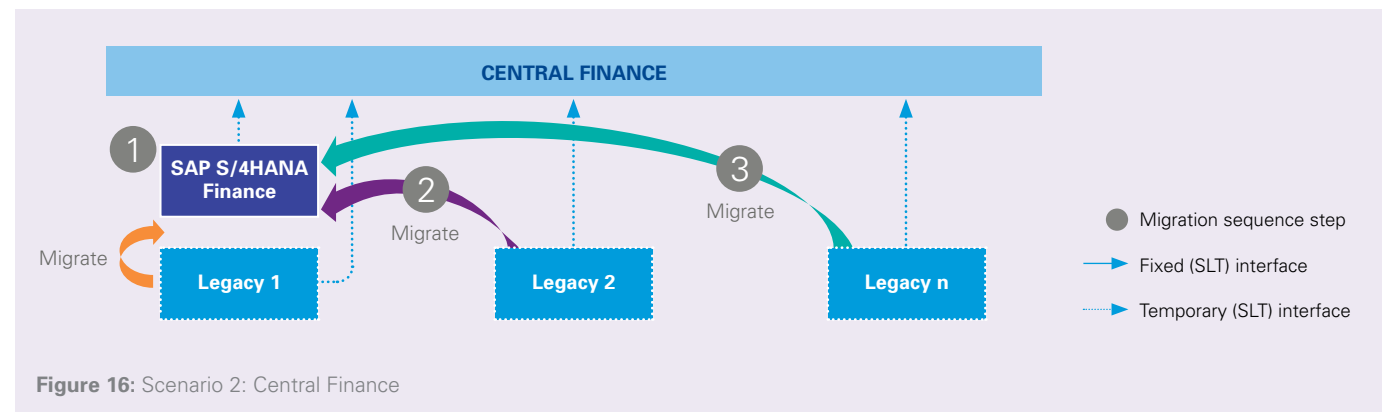
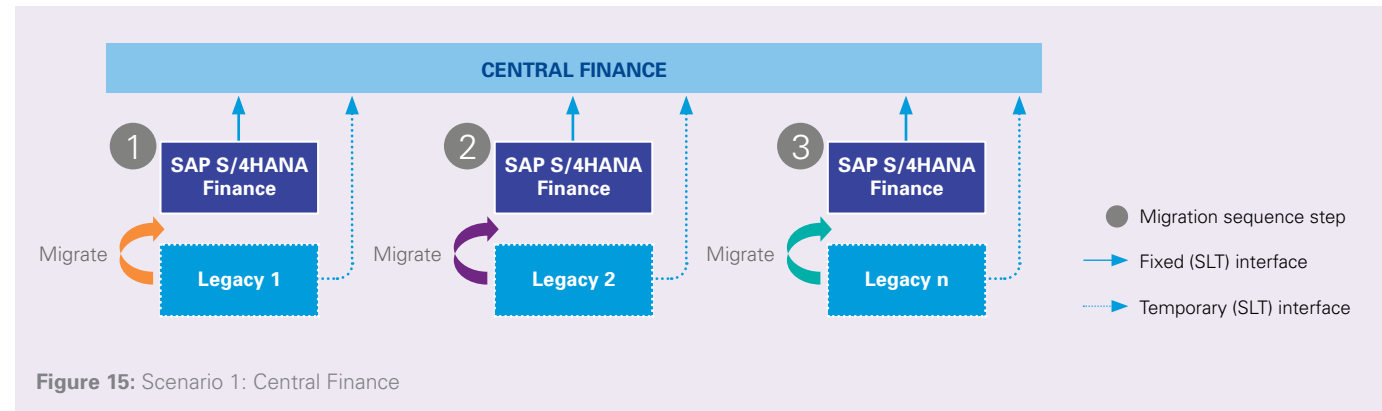
## Scenario 1

### Upgrade and keep multi-instance architecture

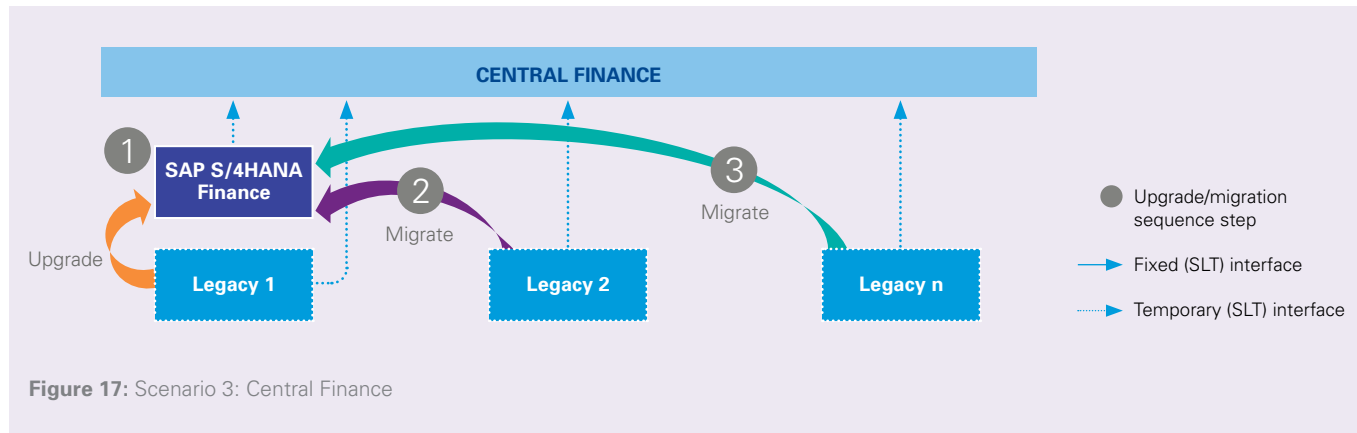
as a separate Central Finance instance can be used, in addition to the multiple instances that are upgraded as part of the project. As the Central Finance instance can be set up in a relatively short timeframe, the benefits of real-time consolidated reporting can be exploited at an early stage of the project. Furthermore, replicating data to the Central Finance instance allows the upgrade project to incorporate risk mitigation, as production data is fed live into the S/4HANA Finance instance and processing by source systems can be compared with processing by the Central Finance instance. The downside of this approach is that business logic on master data mapping is required in order to replicate the data from the different source systems into one Central Finance instance.

## Scenario 2

**Implement and consolidate** the new instance which will function as the Central Finance instance for as long as the consolidation project is running. This means that the benefits of real-time consolidated reporting can be exploited at an early stage of the project. Furthermore, replicating data to the Central Finance instance allows the



project to incorporate risk mitigation, as production data is fed live into the S/4HANA Finance instance and processing by source systems can be compared with processing by the Central Finance instance.



## Scenario 3

**Migrate and consolidate** the designated existing ERP instance which will function as the Central Finance instance for as long as the consolidation project is running. This means that the benefits of real-time consolidated reporting can be exploited at an early stage of the project. Furthermore, replicating data to the Central Finance instance allows the upgrade project to incorporate risk mitigation, as production data is fed live into the S/4HANA Finance instance and processing by source systems can be compared with processing by the Central Finance instance.

The challenges of using the Central Finance approach are:

1. Additional licence costs will be incurred to set up and maintain the real-time data replication between the source systems and the Central Finance instance;

2. Data replication goes against the principle of 'one source of truth'. As finance data is available in both the source systems and the Central Finance instance, different reports/versions of the truth may be possible (e.g. on open items – accounts receivables or payables) without proper governance. Until the source systems are decommissioned, operational data will be split between the source systems and the Central Finance instance;
3. Decommissioning of source systems will be a strong driver of any centralisation project. However, this requires more than centralising any functionality provided by these source systems and is likely to cover more areas than just finance (e.g. supply chain, HR, marketing, etc.).

### Key scenario-independent migration considerations

- As part of building a business case, as well as to anticipate for organisational complexity and follow-up (change for the organisation or custom development), an analysis of the current operating model is advised. This includes current business processes and use of ERP, including inefficiencies, pain areas and custom developments.
- When S/4HANA Finance is installed, it is installed on system level and not on client level. Hence, after its installation, it is not possible to post documents within the whole system (development, test, etc.) until the migration is finalised. After the S/4HANA Finance On-Premise edition is installed, a migration is required for each client as part of the system. This means a separate migration for development, test, quality assurance (if applicable) and production clients.
- Migration can take place at any time, with the only requirement being that the latest period-end close is finalised. Based on closing calendars, this means migration is executed at the end of any month i.e. there is no requirement to migrate at the end of fiscal years as would be the case for a migration to New G/L.
- Migrating from SAP ERP to S/4HANA Finance is comparable to upgrading SAP Classic G/L to New G/L in terms of impact on the application/data model. The migration team should possess at a minimum in-depth knowledge of the as-is and to-be data model and the SAP Finance (FI) and Controlling (CO) modules.

- Performing several migration cycles in test systems is key to testing the migration approach, familiarizing the team with the procedural steps and to identify required cleansing and housekeeping activities. Please note that the quality of testing and resulting value is mainly driven by the data quality of the test dataset. It is recommended that at least one of the test systems is based on production data (quality and volume wise).
- It is difficult to provide guidelines on migration throughput times. This depends on a lot of factors such as database size, number of systems, number of clients, complexity of data, etc. An essential part of the total migration throughput time is the business outage that is required in order to migrate to S/4 HANA. This business outage is mainly affected by the total data volume of the migrated dataset. In theory, the business outage duration is likely to increase when the total data volume increases. From a costing perspective, an extension of business outage may result in higher cost due to an increase of idle time. A possible solution to limit the business outage, is to divide the data loads into multiple increments by making use of the Near Zero Down Time (NZDT) technique that was developed by SAP.

- As with all migrations to a new IT landscape with changed end-user functionality, an organisation should carefully assess and manage the impact on its business processes, IT organisation, required end-user skills and capabilities. This will require a strong focus on organisational change management, in addition to the usual attention on project management and data migration.

### Deployment options

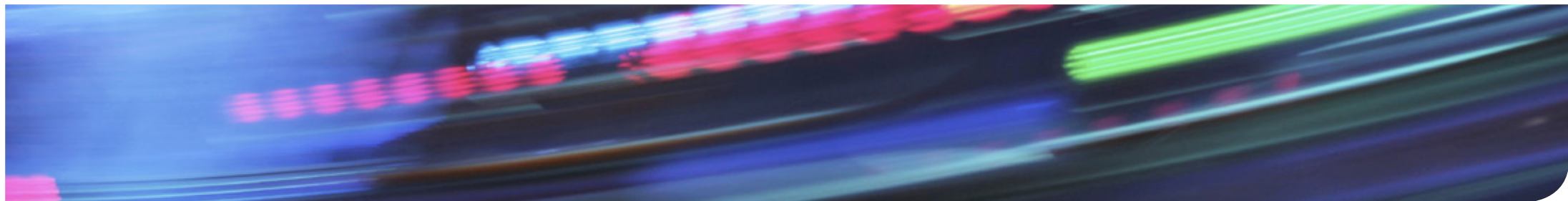
SAP offers three options to deploy S/4HANA Finance:

1. On-Premise: S/4HANA is deployed on-site at the client. The client is in full control of the implementation and the level of configuration and modifications. Security and Governance is managed by the client and the client can migrate to S/4 Business suite on HANA, Central S/4HANA Finance or other point solutions in their premise.
2. Cloud: A model for organizations who would prefer to use a complete subscription based service. SAP or a third party will manage the security and governance of

the systems. Note that a limited scope for customisation and enhancements is allowed. Quarterly releases are provided to allow the introduction of innovations in a rapid pace (releases for on-premise are provided once a year). Depending on the requirements, the Cloud set up can be Managed, Private or Public with various levels of control.

3. Hybrid: Combination of On-Premise S/4HANA deployment, with point solutions provided via cloud for business processes that can be separated. Organizations can use Ariba, Success factors, Concur, Field glass and other products that can be separated. Integration between cloud and On premise system should enable seamless reporting across systems.

In our experience, most organisations choose to deploy S/4HANA On-Premise. For the organisations that choose to deploy S/4HANA as a cloud-solution, a managed private cloud is chosen. This solution still allows for a high level of customer modifications compared to a public cloud solution.





# Value case

As stated earlier, the move towards S/4HANA Finance should be business driven first and foremost, and all stakeholders should have a clear vision of the value it will bring by improving the financial and operational drivers of the organisation.

The benefits and costs involved in adopting S/4HANA Finance, which are regarded as the key components and considerations for creating a value case and deciding whether or not to adopt S/4HANA Finance, will differ for each organisation, based on its current and future status.

## Benefits

New S/4HANA Finance functionality can positively impact all aspects of the finance function delivery model.

Reduced data model complexity, increased speed of transaction processing, and enhanced end-user functionality and experience will allow organisations to improve, among other areas, the efficiency of finance

operations, ease-of-work, data consistency & storage, and reporting capabilities.

The following key benefits are recognised as those that bring the most value from S/4HANA Finance.

- **Enhanced reporting functionality.** Reporting is based on transactional data that is stored in a high-performing database. This means that a regular overnight ETL, for example into BW, is no longer required to enable reporting. As business processes are dependent on a specific insight being available, this speeds up these processes (e.g. contacting overdue debtors). Realtime profitability insight, enabling organisations to make data-driven decisions in order to increase profitability, is possible: ETL is no longer required and real-time derivation of profitability characteristics is introduced. Furthermore, this means that root cause analysis is speeded up, as drilling down to individual line items is much easier. This is due to the data model design where the Universal Journal, the primary source for reporting, already contains all the detailed line items.

- **A more rapid monthly closing process.** Due to the speed of HANA, existing application logic can be reprogrammed to be performed in real time (e.g. intercompany eliminations). In addition, existing batch jobs (e.g. variance analysis) will run faster. As the impact of correction postings will be visible in (near) real time, the next steps in the closing process will not have to wait. Furthermore, with the introduction of the Universal Journal, no more reconciliation will be required between your FI and CO (sub)modules. By design, postings in both FI and CO are always reconciled, as they are written in the same table (ACDOCA).
- The **Fiori user experience** contains apps that are specifically designed with a user perspective in mind. This is a major improvement compared with the old SAP GUI. The number of screens, fields, mouse clicks etc. required for mass volume tasks, e.g. processing overdue receivables, is significantly reduced. The Fiori also provides a single entry point and unified experience across devices. This increases user productivity, requires less training when onboarding new employees and

results in fewer errors (that would require additional reworking). There are over 800 apps that are available in Fiori as of March 2016. Note that selecting the best-fitting set of apps is an important activity to reap the benefits of an enhanced user experience. The best set may contain both a selection of currently available apps, as well as additionally developed apps as part of the S/4HANA Finance implementation.

- Depending on the specific situation, the approach known as the **'Central Finance'** implementation approach provides various benefits. This approach allows for a gradual introduction of S/4HANA Finance into a complex IT landscape. It enables the increase in reporting speed described above, without a long implementation project, by replicating data to the Central Finance instance in real time. This approach will suit organisations making the move towards a finance shared service centre, where a complex landscape may currently hold back such a transition. Decommissioning the source systems by starting to use the Central Finance accounting functionality (a full-fledged S/4HANA Finance instance) is a next step that can be taken when all the required functionality can be provided by the Central Finance system.

By linking these benefits to an organisation's financial and operational drivers (e.g. the financial driver 'reduce finance costs' and related operational drivers 'reduce time to close month-end' and 'increase finance personnel efficiency'), the value case of S/4HANA Finance will become more structured and transparent.

## Finance delivery model

### Service delivery model layer

Describes how finance services are delivered. Includes shared service centre, centres of excellence, and outsourcing concepts.

### People layer

Describes how the people are organised, including lines of reporting and range of control. Outlines skills, roles, responsibilities and support activities for each process area.

### Functional process layer

Outlines how specific process steps link to the functions or departments that perform each step and accompanying policies/procedures to be followed when performing the process steps.

### Supporting technology layer

The applications that are used to enable the processes, policy compliance, internal controls, and generation of reports.

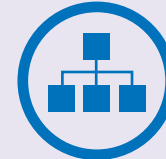
### Data and reporting layer

Includes information requirements to drive key business insights and enhanced decision making, which responds to key financial reporting needs, management reporting needs, and analytics.

### Governance/control layer

Identifies the specific controls that are in place to mitigate the risk of processing, financial and operational errors to help mitigate operational and financial risks and exposure, and provides governance to manage data, processes and reports.

Business & information strategy alignment



## Potential S/4HANA Finance benefits

### Service delivery model layer

- Central Finance can support shared services delivery model
- Single source of data

### People layer

- Simplified user interface with FIORI
- Mobility

### Functional process layer

- Fewer reconciliations and faster closing process
- Planning and actuals on the same platform
- Integrated workflows

### Supporting technology layer

- Optimised data storage
- Cloud capability
- Transactional and reporting on single platform

### Data and reporting layer

- Ability to support large volumes of data quickly and in real time
- Uniform reporting with common code block
- Capable of predictive analytics

### Governance/control layer

- Less data redundancy
- Process control and fraud management

Business & information strategy alignment

Figure 18: KPMG Finance function delivery model and potential S/4HANA Finance benefits

## Costs

This section describes the costs associated with S/4HANA Finance, which can be split in categories: hardware, software, operational effort, and change/migration effort. For each category, both capex and opex are taken into consideration: what are the costs of acquiring S/4HANA Finance (capex) and what are the costs of running the solution (opex)?

## Hardware

When considering hardware costs, an essential element is the deployment option. S/4HANA Finance can be acquired by organisations in three different versions: (1) On-Premise, which is on your organisation's own hardware, (2) cloud-based, and (3) hybrid, which is partly On-Premise and partly from the cloud. Within the hybrid scenario, organisations can distinguish between SaaS (Software as a Service) and PaaS (Platform as a Service) i.e. decide whether the platform and/or the software will be acquired as a service. Note that the decision regarding the deployment option should be considered in a wider context than 'just' costs. In order to

reach an informed decision, the current IT landscape, IT strategy and business strategy should also be considered.

S/4HANA Finance no longer includes aggregated tables or indexing tables. This significantly reduces the required number of terabytes (TB). According to SAP, an ERP running on any database sized 7.1 TB can be reduced to 1.8 TB because of the removal of the aggregated tables and indexing tables. SAP has replaced its aggregated and indexing tables with a solution called compatibility views. The related functionality and technology are discussed in the 'Data model' section of this publication.

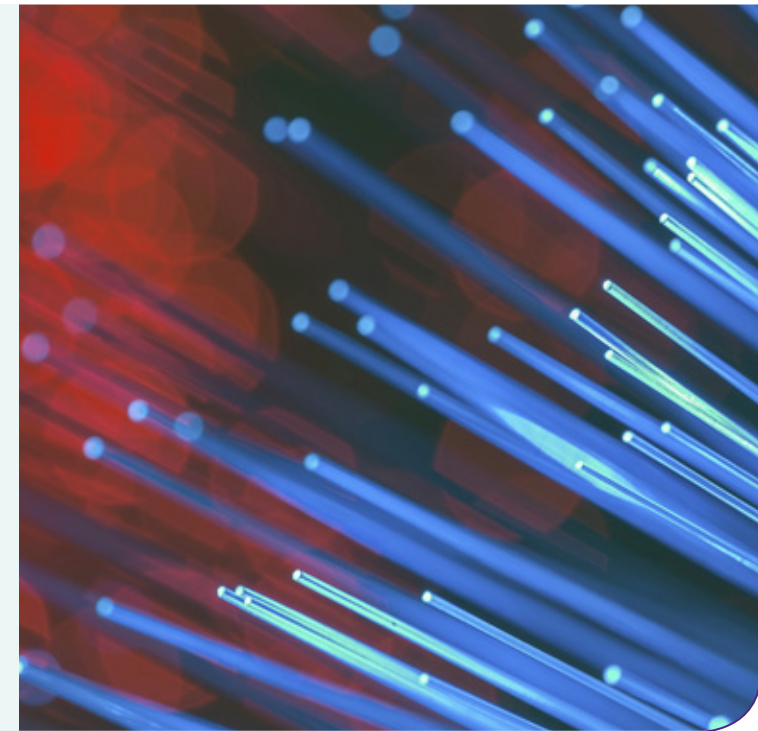
### Capex

- ✓ Initial licence fees and implementation effort for HANA hardware and software
- ✓ Initial licence fees and implementation effort for SAP Landscape Transformation (SLT) replication server
- ✓ Initial licence fees and implementation effort for EhP 7.0 on ECC
- ✓ Initial licence fees and implementation effort for S/4HANA Business Suite (incl. S/4HANA Finance On-Premise)
- ✓ Acquire S/4HANA Finance knowledge/experience in-house
- ✓ Conduct impact assessment on the current system landscape
- ✓ Define and execute the migration process (project in itself)
- ✓ Conduct impact assessment on the organisation and users
- ✓ Define and execute change management exercises (e.g. usage of appendix ledger, changed period-end closing, etc.)

### Opex

- ✓ Licence maintenance fees for Business Suite
- ✓ Licence maintenance fees for SAP Accounting
- ✓ Optional licence maintenance fees for:
  - Central Finance
  - Cash Management
  - BusinessObjects Planning and Consolidation
- ✓ Data storage

**Figure 19:** Capex/opex components of S/4HANA Finance migration



## Software

Software costs can be divided into two categories: licences and implementation costs.

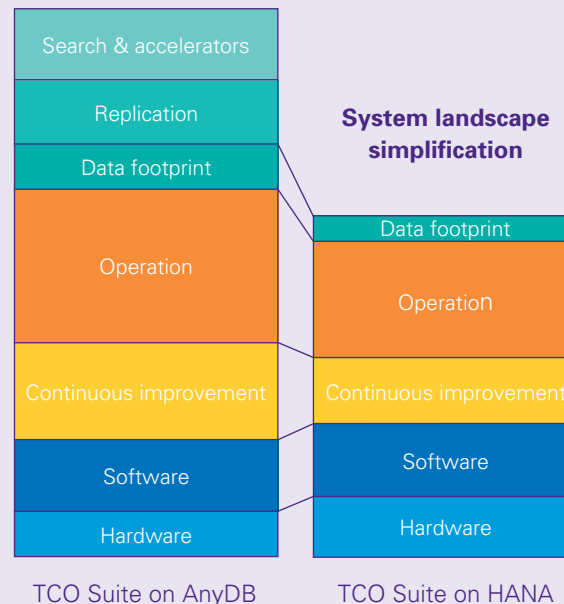
With regard to the licence structure, SAP has introduced several new licences, some of which are optional:

1. The S/4HANA Enterprise Management license, a prerequisite for running S/4HANA that contains amongst others functionality for the Accounting-module. Furthermore, it includes enhancements to be released as part of the foundation, e.g. specific line-of-business functionality.;
2. Licences for SAP Cash Management and BusinessObjects Planning and Consolidation are optionally and only required when these solutions are to be implemented;
3. The S/4HANA Finance Central Finance Foundation, a separate licence which is required when the Central Finance approach is used as part of the implementation approach. This approach is optional and described in the section 'Adoption and migration'.
4. A database licence: HANA Run Time or Full Use

The licence fees for S/4HANA Finance users (On-Premise version) are on top of the normal licence fees.

The licence fees and architectural costs are costs which can be estimated relatively accurately in advance of an S/4HANA Finance implementation. It is a comprehensive exercise to estimate the costs of implementing S/4HANA, including all relevant activities such as data migration, standardizing and optimizing business processes, implementing master data management, defining KPIs and reporting requirements, training employees, preparing the IT run organisation, etc. To a large extent,

the migration approach will determine the lead time and related costs of the migration. Possible migration approaches are described in the chapter 'adoption and migration'.



- Hardware is approximately 10% of TCO
- With HANA the DB server needs to be exchanged, these costs will influence less than approximately 5% of the overall TCO
- Higher DB server hardware costs are more than compensated by lower operating and development costs (opex)

- Reduced DB administration
- Increased development efficiency
- Reduced time and effort for report development and publishing
- Impact depending on physical landscape

Figure 20: Impact of S/4HANA Finance on TCO, Source: SAP SE



### Operational effort

The impact of S/4HANA Finance on operational effort stems from:

- The reduction in data replication, as both reporting and transactional processing are performed using the same set of tables, within the same database. This means interface monitoring will require less effort. Furthermore, changes may have less impact as the interface to the data warehouse may have become obsolete;
- A simplified data model, which is less sensitive to errors. This affects the development and maintenance of datacubes, as well as reports that are built on top of the datacubes.

### Business readiness effort

The implementation of S/4HANA Finance has impact on various aspects of an organisation. In our experience, ERP projects too often focus on the ICT and application-side and too little effort is made on realizing business goals as well as preparing the business for the new way-of-working. This

results in either a system that technically works but is not sufficiently used by users, or users that know which button to push, but do not understand what business value comes from their activities. An integrated approach includes all relevant aspects to deliver the intended business value. We address the following aspects as part of a S/4HANA Finance implementation:

#### Management and Organisation

The alignment of governance within an organisation towards its strategy is vital. An S/4HANA Finance implementation provides an increase of reporting capability, but it can only be effective if the division of accountability and reporting responsibility is aligned from operational execution to business strategy. Furthermore, multi-dimensional analytics on profit, revenue and costs enable the business, or business controllers, to act on business events or trends.

#### Business processes & Applications

An end-to-end business process approach is introduced to facilitate cross-departmental collaboration. The new business processes should be based upon standard S/4HANA Finance functionality, that includes real-time

reporting capability. Product-, organisational- or process-complexity should only when it adds sufficient value to be rewarding. As S/4HANA Finance may not provide 100% of the required functionality, point solutions may be required to complement the application landscape.

#### ICT

The technical application landscape is replaced by the ERP platform with a big impact (e.g. cloud based solutions, realtime data and analytics, mobile devices) for both users and the IT professionals that manage the systems. The IT operating model requires revision as part of the implementation, to make sure that the new system is maintained the desired way.

#### People & Culture

The changes in processes, applications, new roles and technology will all impact on people in their daily way of working. This means that people have to say goodbye to the old and well to be prepared for the new way of working. This could mean that functionality in a specific functional area is reduced, making it important to explain the context and business value of the change.

# Closing words

With the release of S/4HANA Finance, as part of the new S/4HANA Enterprise Management platform, SAP has taken a major step in innovating its solution landscape. Although the platform as a whole is still in development, the S/4HANA Finance solution has been around for some time now. As its supply chain solutions are also maturing, SAP's new ERP system, based on the latest technological innovations, is promising.

In order to create value through SAP S/4HANA Finance, a sound value case is required. The key benefits include the increase in reporting functionality (speed and line-item granulation), as well as technical simplification (reduced IT effort in terms of running and developing the system). Moreover, as S/4HANA Enterprise Management will be the central focus of all new SAP developments, e.g. solutions on predictive analytics, pattern recognition, or digital boardroom. This strategic advantage of being an early adopter could persuade more organisations to adopt SAP S/4HANA Finance sooner rather than later.

This publication has provided an overview of S/4HANA Finance: the functionality it provides as well as the major changes compared to SAP's previous Business Suite. Furthermore, several scenarios have been described that may serve as a starting point for a migration roadmap, including the 'Central Finance' approach.



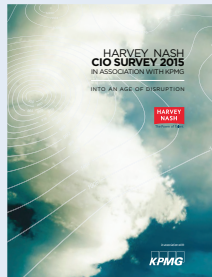
# About KPMG

## Thought leadership

KPMG issues a range of surveys in the areas of Finance and IT transformations and SAP-specific matters. KPMG also proactively organises roundtables and other events to collaborate with clients and to promote innovation. We regularly contribute thought leadership articles to leading publications.



Whitepaper on S/4HANA Strategy



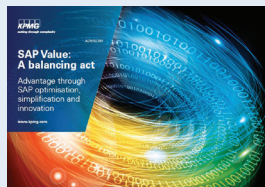
HARVEY NASH CIO SURVEY 2016  
In association with KPMG



The Digital Revolution



Building trust in analytics



SAP Value: A balancing act



Being the Best



The view from the top

## About KPMG

KPMG provides audit, tax and advisory services. We work for a wide range of clients: major domestic and international companies, medium-sized companies, non-profit organisations and government institutions.

## About KPMG Advisory

KPMG is one of the largest global providers of professional services and has a dedicated team of financial management, SAP business and risk consultants within its Advisory practice. KPMG Enterprise Solutions, as part of KPMG Advisory, is the linking pin between business and IT and supports organisations with SAP implementations, optimizations and strategic challenges to create business value from SAP investments. With our experience and capability in the area of SAP HANA, S/4HANA and S/4HANA Finance, KPMG can support you as business integrator and/or system integrator. We have build this capability through our excellent stakeholder management, integrated transformation methodologies and frameworks, hands on implementation capability and project management & QA skills. Above all KPMG is independent in our advisory on costs, IT partners, ERP solutions and roadmaps.

SAP SE is not a co-author of this publication. This publication is not meant to promote the usage of SAP system solutions, or any other ERP solution.



# Contacts

## Austria

### Michael Gardumi

T: +43 1 31332 3929

E: mgardumi@kpmg.at

## Belgium

### Reinaart Claesen

T: +3238211774

E: rclaesen@kpmg.com

## Belgium

### Anthony van de Ven

T: +3238211859

E: avandeven@kpmg.com

## Canada

### Norbert Huber

T: +1 604 691 3574

E: norberthuber@kpmg.ca

## Denmark

### Lars Lindberg

T: +4552150111

E: larslindberg@kpmg.com

## Denmark

### Danny Golan

T: +4552150282

E: dgolan@kpmg.com

## France

### Cedric de Lavalette

T: +33155686712

E: cdelavalette@kpmg.fr

## France

### Pascal Morizur

T: +33155686420

E: pmorizur@kpmg.fr

## Germany

### Marco Lehmann

T: +49 30 2068-4886

E: mlehmann@kpmg.com

## Germany

### Holger Pott

T: +49 30 2068-4726

E: hpott@kpmg.com

## India

### Hitesh Kapadia

T: +912261349200

E: hiteshkapadia@kpmg.com

## India

### Mandar Joshi

T: +912230902418

E: mjoshi@kpmg.com

## Italy

### Paolo Coacci

T: +390514392611

E: pcoacci@kpmg.it

## Italy

### Fabrizio Ricci

T: +3902676431

E: fabrizioricci@kpmg.it

## Netherlands

### Gerben de Roest

T: +31206 568707

E: deroest.gerben@kpmg.nl

## Netherlands

### Keesjan van Unen

T: +31206 567424

E: vanunen.keesjan@kpmg.nl

## Poland

### Andrzej Tajchert

T: +48225281101

E: atajchert@kpmg.pl

## Portugal

### Rui Gonçalves

T: +351212487375

E: ruigoncalves@kpmg.com

## Russia

### Alexandra Ivanova

T: +74959374444 x11128

E: alexandraivanova@kpmg.ru

## Sweden

### Magnus Sjöström

T: +46 8 7239556

E: magnus.sjostrom@kpmg.se

## Switzerland

### René Koets

T: +41 58 249 42 69

E: rkoets2@kpmg.com

## Switzerland

### Johan Steenstra

T: +41 58 249 57 29

E: johannessteenstra@kpmg.com

## United Kingdom

### Peter Trace

T: +44 7881 504742

E: peter.trace@kpmg.co.uk

## United Kingdom

### Wei-Han Lim

T: +44 20 73114819

E: wei-han.lim@kpmg.co.uk

## United States

### Mark Wojje

T: +1 973 912 6360

E: mjwojje@kpmg.com

## United States

### John Carlucci

T: +1 312 665 8352

E: jcarlucci@kpmg.com

## United States

### Rahul Wagh

T: +1 312 665 1117

E: rwagh@kpmg.com