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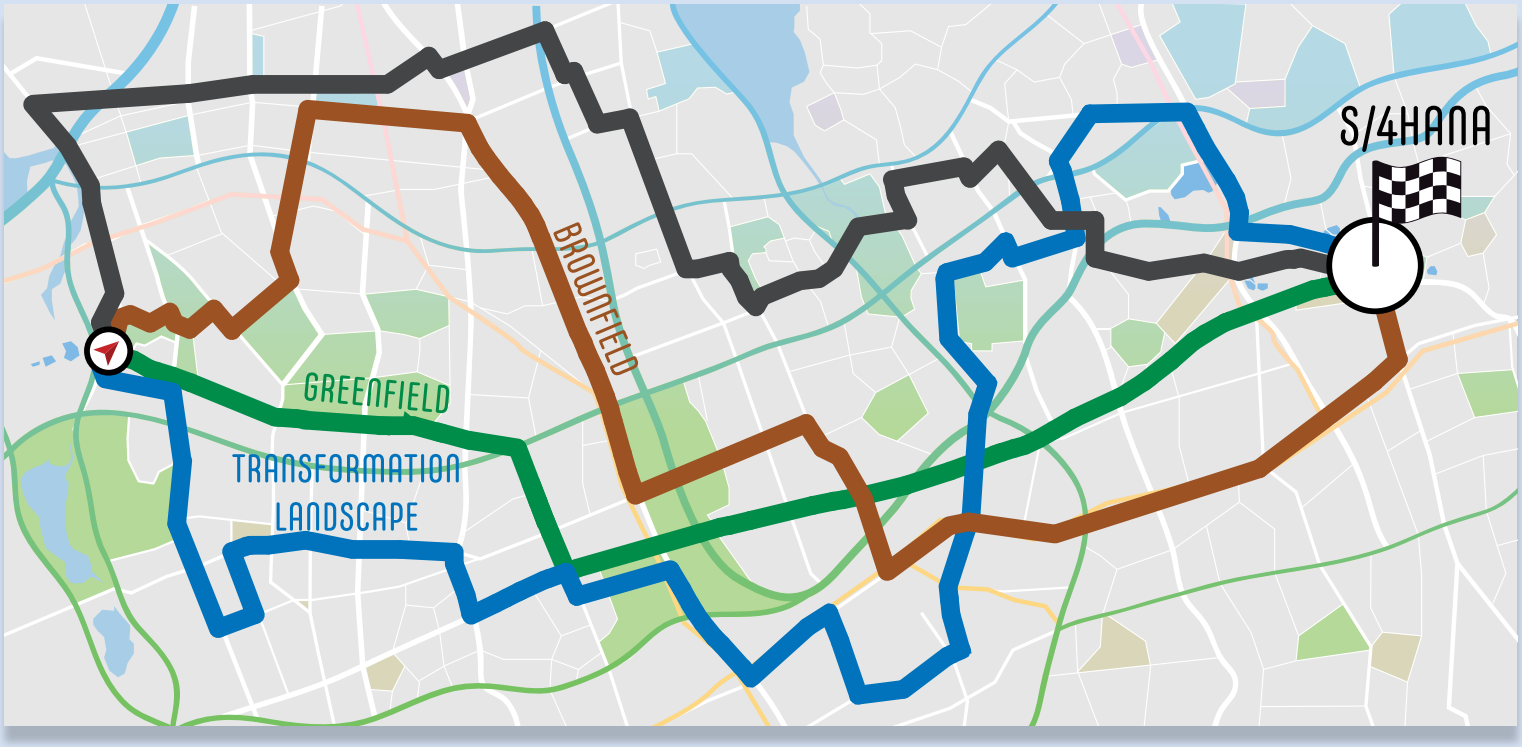

SAP S/4HANA
The paths to get there

October 2019

POSITION PAPER

EXCHANGING AND SHARING

in collaboration with inventy pwc SAP®

USF
Utilisateurs SAP Francophones
(French Speaking SAP User Group)
64, rue du Ranelagh
75016 Paris - France
E-mail: contact@usf.fr
www.usf.fr

Coordination for publication: **Magali Nogueira - USF**
Graphic design: **Anthony Guillot - USF**

USF in collaboration with:

Inventy
2000, route des Lucioles
06410 Biot Sophia-Antipolis
France
E-mail: contact@inventy.com
www.inventy.com

PwC
63, rue de Villiers
92200 Neuilly-sur-Seine
France
E-mail: arnaud.remy@pwc.com
E-mail: philippe.thierry-mieg@pwc.com
www.pwc.fr

SAP
35, rue d'Alsace
92300 Levallois-Perret
France
E-mail: info.france@sap.com
www.sap.com/france

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- Christian Charvin, Head of "Move to S/4HANA" Program France - SAP.
- Philippe-Thierry Mieg, Senior Manager - PwC.
- Arnaud Remy, Director - PwC.

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Paris, october 2019

Bernard Cottinaud

Chairman of Organization & Governance Commission and WG Leader

Bouygues Construction IT - Technical Manager of the Purchasing/Finance Centre of Competence

Table of Contents

Introduction

In 2014, SAP released "Simple Finance", a new generation of the Business Suite backed by the SAP In Memory database (SAP HANA), an upgraded user interface (Fiori), and a simplified data model. The "Simple" range was planned to be cascaded for all major ERP modules (Simple Finance, Simple Logistics...). Despite the high expectations of SAP clients for a general modernization of ERP ECC6 that no longer matched the current standards, Simple Finance was not greeted with any great enthusiasm.

SAP quickly clarified its strategy by launching SAP S/4HANA based on the same principles, with a roadmap intended to replace ECC6 for all SAP clients before end 2025, a date announced by SAP as the end of ECC6 mainstream maintenance. Since the first release of S/4HANA (1511) delivered at end 2015, SAP had targeted the release of one major On Premise version per year and two Cloud versions up to 2025, by gradually rewriting the various ECC6 modules and adding new functionalities (some possibly licensed). The purpose of a rewrite was to keep the full benefit of the SAP HANA In Memory database and to rethink the user experience via Fiori. The large majority of modules not yet rewritten continue to run as is post migration; this principle enables switching over to SAP S/4HANA without losing any functionalities, but without however benefiting from the novelties for these modules. This was detailed in the Compatibility Pack and the Simplification List, both discussed at length in this document.

For rewritten modules, it is also possible in most cases to choose between using the new ergonomic features under Fiori or continuing to use them via the SAP GUI.

It is worth noting that SAP has kept its commitments and delivered every year new ECC functionalities rewritten under SAP S/4HANA in order to significantly improve their functional scope. While, at the time of the Simple Finance release, it seemed legitimate to question the appropriateness of a switchover with its related risks, the question is now more about the timeliness of launching the project. Even though the number of SAP clients who migrated to SAP S/4HANA is still low, the experience feedback shared in the WG shows that SAP S/4HANA has now reached a good level of maturity enabling both large multinationals with thousands of users and smaller businesses to make the switch.

One of the strong points of SAP S/4HANA, apart from its in-memory database and new ergonomics, is that it is both a novel product and a logical continuum of ECC6, reusing its concepts and structures. Consequently, it opens up the scope to many implementing options, from migration (or "conversion") up to new implementation:

- You can choose to re-design your business processes by starting over from the new standard proposed by SAP (Greenfield) and then retrieving the data from ECC6.
- You can choose a technical migration without modifying the business processes initially, by activating or not the new ergonomics (Brownfield - "conversion"). The new functionalities can be activated in a second phase, which enables the project to be conducted in successive steps.
- You can choose to consolidate into a single instance an SAP landscape scattered into multiple organizations, often due to historical reasons or further to successive company acquisitions.

SAP now offers the possibility of hosting SAP S/4HANA in the Cloud, but this point will be reviewed in another publication.

The question of the best way to get there, depending on the context specific to the enterprise on one hand and on its strategic goals on the other hand, then becomes the crucial issue to be addressed during the scoping phase of a project. Accordingly, this document reviews the main guidelines to build the Business Case and to review the main tools available from SAP or other software publishers to support impact assessments.

In addition, SAP S/4HANA generates a change of paradigm for users; with ECC6, dozens of transaction codes had to be memorized and frequently daunting modus operandi had to be rolled out just to be able to use the software. With SAP S/4HANA, the user interface provides a synthetic overview of actions to be carried out and pushes useful information to the user in the context of the tasks to be accomplished. This is the first step towards the "Self-Running Enterprise" at the core of the SAP strategy.

The discontinuance of ECC6 mainstream maintenance at end 2025 seems like a major, if not unbearable constraint for companies who had not considered upgrading their ERP and did not want to invest. For others, this fateful deadline can also be used as a trigger to justify the launch of a project of this type with their business lines. SAP currently provides only technical and legal maintenance for ECC6 up to 2025; from now on, all innovations are implemented in SAP S/4HANA. Consequently over time, this will amplify the obsolete look of ECC6, and it may become even more problematic for enterprises that have not made the switch.

This Position Paper is intended primarily to assess the market status of SAP clients as related to SAP S/4HANA in France, to address the questions that need to be asked regarding any S/4HANA implementation project, to review the various implementing possibilities, to look at licensing issues, and to share the lessons learned by enterprises who have switched over.

NB: Several SAP partner companies and solutions are cited in this document for illustration purposes. These citations should not under any circumstances be regarded as an exhaustive list, nor as a reference, nor as a recommendation from USF.

This Position Paper focuses primarily on the SAP S/4HANA ENTERPRISE MANAGEMENT On Premise version. For convenience purposes, this version is called "SAP S/4HANA" in this document. A second publication dedicated to SAP S/4HANA Cloud offers (Single-Tenant "STE" and Multi-Tenant "MTE") is planned at a later date.

Market status overview

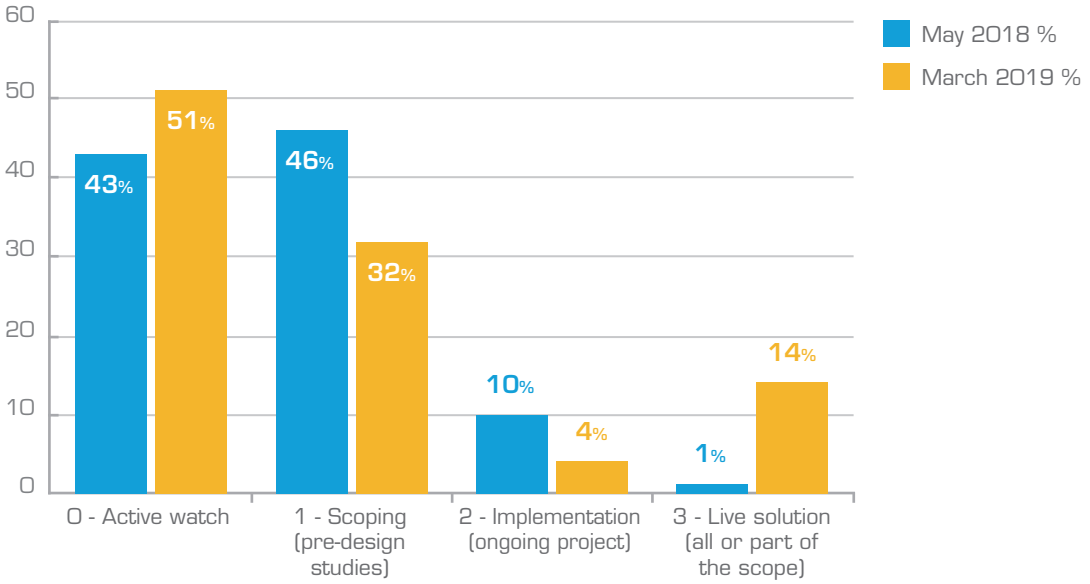
1 Maturity of SAP clients with SAP S/4HANA

Surveys conducted by the Working Group (GT SAP S/4HANA) in May 2018 and March 2019 measured the organizations' evolving maturity with their SAP S/4HANA project.

The surveys addressed a sample of 80 persons representing around 40 organizations, primarily large and medium size enterprises, including a few public sector organizations.

Two major questions were asked in the survey to assess the maturity of the French market:

Question #1: What stage of your S/4HANA implementation project have you reached?



Key lessons learned from the surveys:

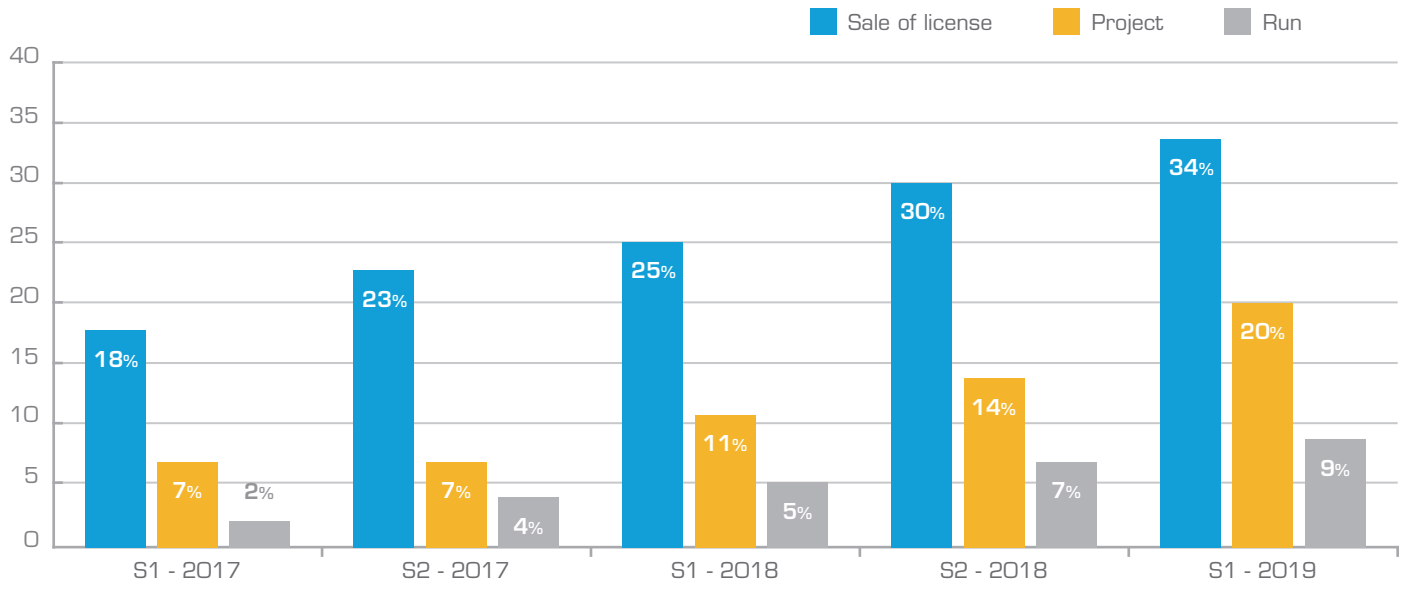
1 • Virtually all SAP clients (> 90%) are taking a close look at the SAP S/4HANA issue and have initiated pre-design reviews, either informally as an active watch, or more formally as scoping studies (preliminary/feasibility) to analyse the impacts of the various components (functional, technical, financial) of this new solution and to define implementation scenarios.

2 • In March 2019, nearly 20 percent of survey respondents had reached the SAP S/4HANA implementation phase, or even the go-live phase. In the case of key accounts, this often relates to part of their scope (pilot trial or first step in a targeted functional scope). This 20% is consistent with the statistics of SAP on the switchover rate of their installed clientele base, both in France and internationally.

Statistics supplied by SAP - Data at end July 2019 - Clients worldwide

Number of clients who purchased an SAP S/4HANA licence[1]	12 000
Number of clients in SAP S/4HANA live phase	3 200

Trends with S/4HANA since HY1 2017 out of 35,000 clients base



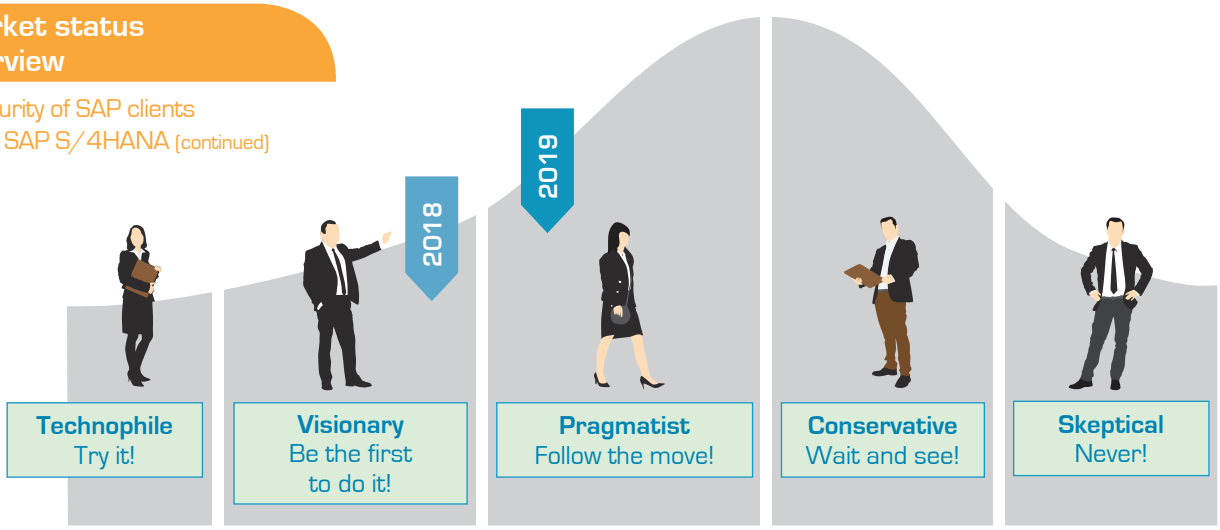
Sources : Gartner and SAP together

On the technology adoption curve (the "Hype cycle"), it would seem that the French market has now reached a maturity level #3, the so-called "pragmatist" stage, materialized by:

- A majority of SAP clients are now looking at adopting the new technology delivered by SAP S/4HANA, in one way or another and at various stages.
- The solution has reached a satisfactory level of technical maturity.
- Upgrades provided by SAP S/4HANA are now relevant to justify the projects (technical coverage, user experience, task automation).
- The installed base of clients who have migrated is sufficiently significant and representative.

[1] The purchase of a S/4HANA licence implies the purchase of licences for HANA database or a Cloud subscription.

1 Maturity of SAP clients with SAP S/4HANA (continued)



This diagram and its contents are inspired by Geoffrey Moore's book entitled "Crossing the Chasm: Marketing and Selling Disruptive Products to Mainstream Customers", Harper Business, revised edition 20 August 2002.

2 Identifying expectations

During one of the SAP S/4HANA Working Group meetings, "Design Thinking" sessions were organized with workshop participants in an effort to understand the main reasons and obstacles for moving to SAP S/4HANA.

3 Origin of SAP S/4HANA projects within organizations

At the beginning of SAP S/4HANA, projects were driven more from IT Departments and SAP Competency Centres, rather than from the business lines, due to the role of "active watch" handled by IT Departments.

At that time:

- There were still no real reasons to switch to SAP S/4HANA identified by the business lines, but rather technical motivations (efficiency and modernization) driven by IT or by SAP Competency Centres.
- One of the key challenges was to respond to issues of obsolescence and technical debt.
- Many questions initiated at least at IT level started to take root at business level. The new ergonomic features provided by Fiori and the simplified use with redesigned processes found a favourable echo with business departments.

In practice, SAP S/4HANA projects rarely fit natively into a strategy to revamp the company's Business Model. Conversely, in the French market, a number of "early adopters" have moved to SAP S/4HANA, driven either by the will to transform their business processes or to innovate. This transformation and/or innovation ambition was intended in particular to respond to the main following issues[1] (as expressed by the USF S/4HANA Working Group):

1 • Poor user experience.
2 • Excessively high IT costs.
3 • Lack of agility of SAP ECC solution.
4 • ECC solution unsuitable for governance and reporting needs.

[1] Main current difficulties reported by SAP user companies regarding their existing system (ECC).

The works of the USF Working Group on initial expectations also highlighted the following main points as key success factors:

- Necessity of defining a Business Case beforehand to clarify the value added by the solution.
- Necessity of involving the business units and the General Management from the outset.

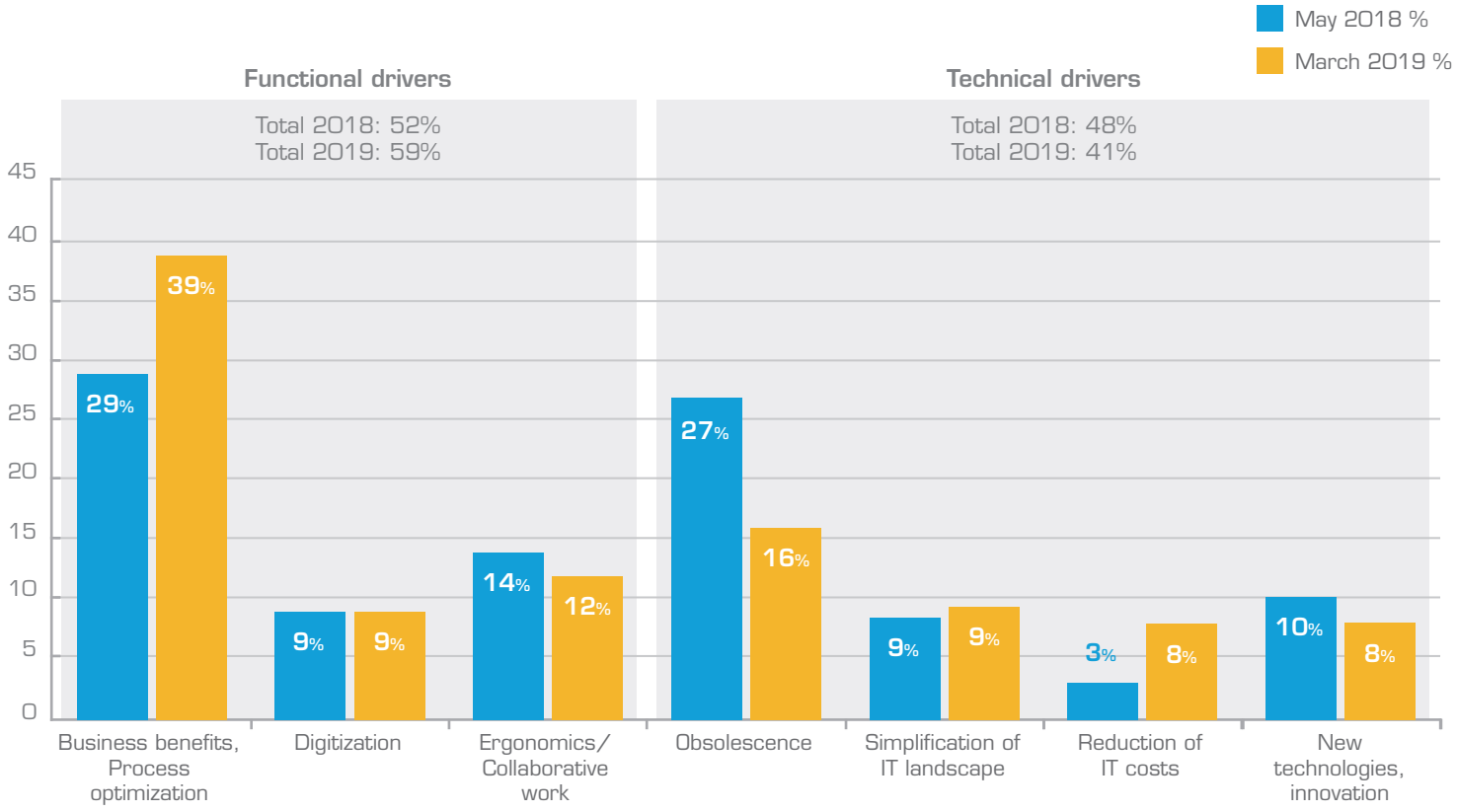
Regarding technical aspects, although some potential seems to be recognized (In Memory database, technical/functional inputs, user experience, etc), it is however hard to measure.

Lastly, the Working Group reminded in its initial analyses that SAP S/4HANA projects were seen as an opportunity for IT Departments or SAP Competency Centres to digitize their ERP to confirm it in its governance role.

4 Reasons for moving to SAP S/4HANA

In this respect, and in response to the difficulties currently encountered by SAP clients with the ECC version of the ERP, the Working Group members were asked to identify the main reasons motivating a move to SAP S/4HANA in their companies.

Question: For what reasons are you contemplating a migration to SAP S/4HANA?



4 Reasons for moving to SAP S/4HANA (continued)

The initial analysis of replies revealed **3 main points**:

1 • Within one year since the creation of the Working Group, the **functional motivations have surpassed the technical motivations**, with projects initiated more by IT Departments or by SAPCCs (52% to 59%).

2 • The obsolescence criterion, materialized by SAP's announcement about discontinuing mainstream maintenance for the SAP ECC solution in 2025, emerged in 2018 as the **main technical criterion justifying a change of the existing systems**. In 2019, this reason lost nearly half of its score to the benefit of functional motivations, which reflects the growing interest of business lines for the solution.

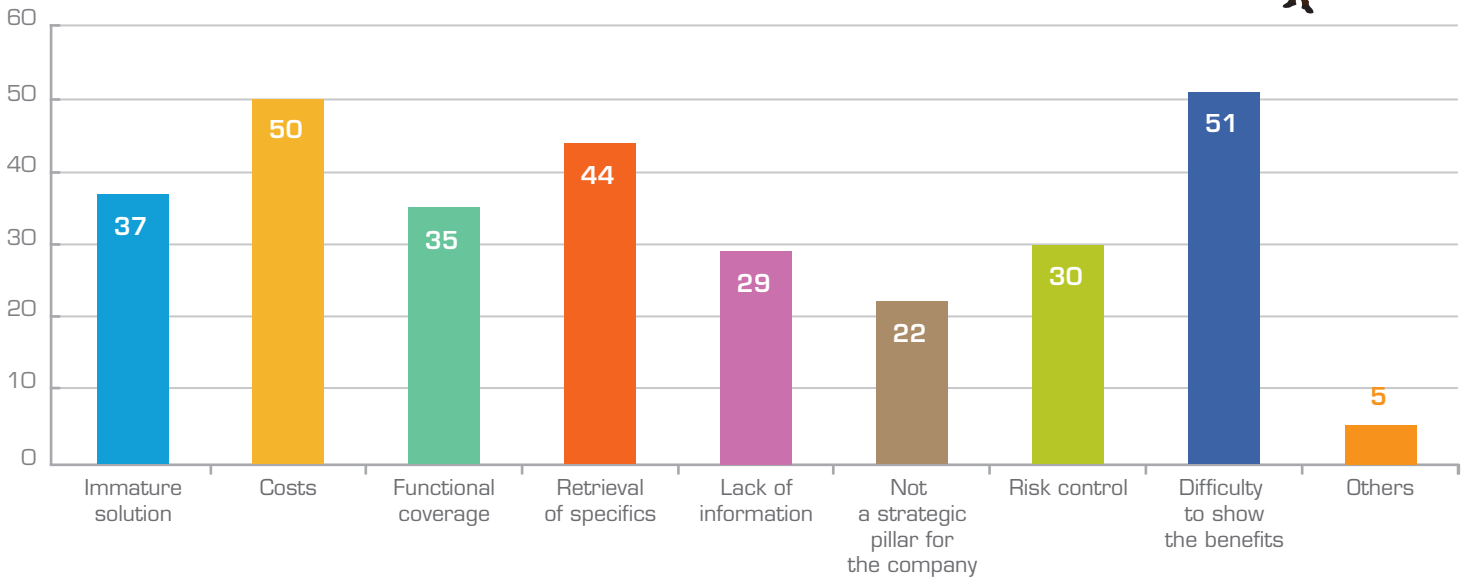
3 • Among the functional motivations, **optimization of business processes is the main driver cited**, i.e. the source of the higher score.

5 Obstacles for moving to SAP S/4HANA

Further to the previous question about the motivations for moving to SAP S/4HANA, it proved interesting to analyse and try to understand the obstacles and difficulties slowing down the process as perceived by the USF Working Group.

Question: What obstacles prevent you from moving to SAP S/4HANA today?

71 respondents



In 2018, three main types of obstacles were identified:

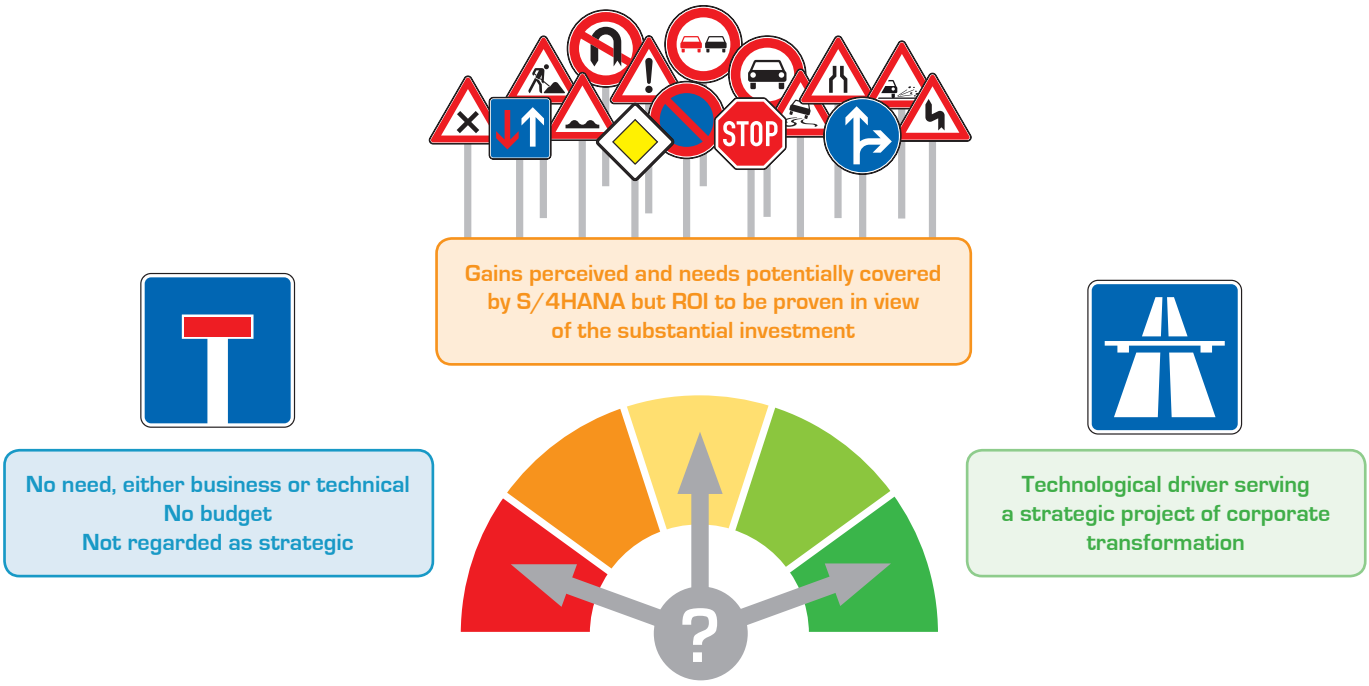
- Technical (retrieval of specifics, immaturity of the solution...).
- Financial (costs...).
- Difficulty to demonstrate the benefits (lack of information, functional coverage...).

This showed that the business functions were not really involved as stakeholders in the projects that were driven more by IT (ITD, SAPCC). In 2019, this situation has changed thanks to communication by SAP and its partners, enabling business functions to be more involved on the demand side and in the projects.

6 Adoption status

Each enterprise (or organization) is unique, with its own specific internal and external requirements. Consequently, each SAP client company evolves at its own pace. Three main types of enterprises/organizations may be identified, although this classification is neither limited nor exhaustive:

- Those who have not started their review or have not yet identified to date any other driver apart from obsolescent hardware or software. It is worth noting that this category seems to be shrinking today, although it accounted for a majority just a few years ago.
- Those who have launched initial reviews on SAP S/4HANA and have identified a number of benefits, but have opted to schedule their migration in the medium term for reasons of priority, budget or availability.
- Those who have identified one or several reasons sufficient to trigger their move to SAP S/4HANA: e.g. a new key corporate process to be covered, a new business activity, a rationalization of the IT system landscape, a new model to be built further to a merger/acquisition...



In all cases, the first review step frequently consists in seeking Returns on Investment. SAP S/4HANA has now reached its 5th version and it is therefore important to review the major benefits for usual **projects**.

The first driver of benefits addresses the streamlining of architectures and optimizing of IT costs. SAP has successfully met several challenges with SAP S/4HANA:

- **Real time**: Creation of an In-Memory database (SAP HANA) able to store data for both transactional and reporting needs. For instance, it is possible to have an operational reporting process done directly from the ERP in real time, without any need to install and administrate a data warehouse and related processing tasks.
- **Performance**: Optimized data model and code for the HANA database improves the processing time, in particular for back-office and closing tasks. For instance, several tasks like the MRP execution time have been significantly reduced enough to be executed several times a day.

- **Simplification of data model**: Data are stored in a sharply reduced number of tables, and some aggregation tables have been eliminated. For instance, the universal table/journal (ACDOCA...) compiles all accounting data; reports and analyses thus benefit from the "Single Source of Truth" principle. Transactional data are now accessible via drill-down from the reports, which provides for enhanced traceability. In addition, thanks to these universal tables, inter-module reconciliations (e.g. FI-CO) are greatly facilitated (data unicity).
- **Optimized size of the database**: SAP S/4HANA significantly reduces the volume of the database, thereby facilitating IT operations (back-up, etc) which in turn can postpone the archiving timelines.
- **Simplification of application landscape and data model**: Reincorporation of solutions that were previously satellites into the same instance (and therefore a single server), e.g. solutions of finite capacity planning1 (PP/DS), transport management (TM), warehouse management (eWM), purchasing management (some SRM functionalities) now share the same data model and the same machine as the core ERP. This leads to reduced operating costs (interfaces, database administration, etc) and machine costs.
- **Flexibility of process consumption thanks to different architecture options**: hybrid Cloud or own Cloud, resulting in optimized OPEX and CAPEX ratios. This flexibility also combines an additional option to optimize the costs proposed by hyperscalers (Google, Amazon Web Services, Microsoft...). Lastly, the SAP HANA database includes functionalities able to generate substantial savings:
  - Virtualization: With the multi-tenant edition (MTE), it is possible to have several databases on a single server without having to use any external tool like VmWare.
  - Replication: The SAP HANA database includes a replication solution with many options (synchronous/asynchronous replication, standby database, metro cluster...) no longer necessarily requiring the use of external solutions and/or additional licences.

A second driver of benefits relies on the revamped user experience able to generate substantial productivity gains. Firstly, a change of paradigm should be noted when using SAP with SAP S/4HANA. For standard transactional flows, there is no longer any need for complex transaction codes or expert modus operandi. Navigation is now supported by the new "Fiori" user experience.

- The SAP HANA database can process data in real time, both for transactional and decisional needs.
  - The solution pushes data to the user in the form of graphical reports with high capabilities of customization and navigation.
  - It highlights any alerts, with a concern for proposing direct access to the resolution transaction. For instance, the analysis of blocked customer orders can be screened by country and by type, and provides direct access to the resolution of blocked customer credits or incomplete orders.
- All key business roles have a cockpit (sales, purchases, projects, etc) able to provide operators and their managers with real-time visibility on their situation, and the ability to focus on the resolution of issues.

[1] Solutions provided at extra cost.

- The user experience is boosted by a "Google-like" search tool where all data can be scanned, sorted and categorized according to freely chosen search criteria.
- It is further boosted by the presence of a digital assistant (copilot1) with the ability to:
  - Pilot the interaction with SAP S/4HANA.
  - Enhance collaboration between employees. It is possible for instance to start a discussion between several departments, insert a dynamic screen shot containing the informational context, and enabling everyone to access the relevant data directly.
- Its use is now accessible from mobile devices via Fiori for all major tablet and smartphone models.

Lastly, even though the user experience is greatly simplified, therefore facilitating the adoption, this should not rule out providing support to manage the change when implementing SAP S/4HANA.

This improved user experience is particularly tangible for occasional users (managers, Management Boards, executive assistants...) and provides operational benefits, gains in visibility and mobility, but also for the digital natives who are able to use the ERP even with limited training.

These upgrades should enable users to have more time to focus on improving the company's key performance indicators, which is actually the **third driver of benefits**. In all areas, SAP S/4HANA proposes new ways of optimizing processes by embedding intelligent technologies: Machine Learning, new concepts to help enterprises shorten their account closing time, reduce their inventory levels, or improve their customer service or their profit margin.

A few examples worth mentioning:

- The DDMRP[1] guidelines (certified by the Demand Driven Institute) help optimize inventories and customer service. This is a new concept embedded in the calculation of needs in SAP S/4HANA.
- Adjustment of delivery lead-times by Machine Learning to improve customer service.
- The Predictive Accounting section provides improved visibility on future cash flows based on capital employed.

Increased productivity, business gains, rationalization of architectures and IT cost optimization can justify the costs of upgrading to SAP S/4HANA for enterprises/organizations. However, enterprises/organizations may sometimes expect more and in particular may require assistance to support the adoption of other new technologies. Accordingly, a **fourth driver of benefits** is the ability to adopt and integrate some new technologies to create new sources of revenues. For instance, Internet of Things, Industry 4.0, hyper-connectivity, Big Data, or Blockchains provide new ways to invent new business models, new consumer experiences that SAP S/4HANA, combined with the SAP Cloud Platform (SCP, innovation platform), can incorporate into the corporate processes.

As an example, Nataïs (a French leader of pop-corn in Europe) decided to reinforce the "food safety" of its products by implementing the SAP Cloud Platform blockchain to track its popcorn from the farmer to the consumer. Based on blockchain principles, data can be shared safely and reliably between different companies without any possibility for any of the partners to tamper with the data.

[1] Solutions provided at extra cost

Once the value drivers (or benefits) are identified and validated, enterprises/organizations generally initiate their move to SAP S/4HANA with different strategies that we have categorized into three groups:

1 • Enterprises/organizations who want to innovate at their own pace while remaining aligned with the SAP strategy: migration of their existing version without changing their processes, and subsequent phased adoption of some innovations.

2 • Those who want to take advantage of a transition to SAP S/4HANA to revamp their corporate processes, to simplify, automate or modernise them.

3 • Those who want to change business model, with impacts often extending beyond the mere ERP scope, and initiate a full "corporate transformation".

In all cases, SAP and its partners (SAP ecosystem) provide available programs and tools to help everyone build their own path (detailed in chapter 5 page 29). Thus, they offer methodologies to make the switch to SAP S/4HANA while controlling time and costs. These methodologies may vary in scope and nature:

- They focus on technical migration for clients who want to keep the parametering and organization of their ECC while adopting as early as possible the new advances of SAP S/4HANA.
- They include phases of ROI identification, definition of innovation pathways, adoption of best practices, simplification of legacy assets, rationalization of system landscape, etc, for clients who launch into a transformation process.

The frequency and functional inputs of each new S/4HANA release are much greater than what the ECC6 EhPs used to provide; this is a fundamental trend of the software market, driven by new technologies and by the Cloud. This is also a new challenge for enterprises that enables them to access the innovations faster, but requires rethinking their organization around the ERP in order to leverage the benefits (SAPCC, business lines and processes). Historically, SAP clients tended to postpone the integration of EhPs as late as possible, but with SAP S/4HANA the functional inputs of each new release should incite them to speed up sharply the pace of upgrades under the impulse of business lines.

The current challenge for enterprises is indeed to be able to upgrade their "Core Model" and/or its related functionalities on a regular basis, whether annually or otherwise, in order to shorten their business cycles, be better aligned with their market (and regulations) and/or maximize their own added value.

Deadline 2025 for ECC

From now on, SAP is no longer integrating any innovations into ECC6 and will only provide the technical and regulatory maintenance up to 31/12/2025. Innovations are now implemented in SAP S/4HANA.

Beyond 31/12/2025, SAP has announced that ECC6 would no longer receive any mainstream maintenance. Memo no. 1648480 released on 17/09/2019 states that no strategy has been defined yet after 2025:

<< The maintenance outlook for SAP Business Suite 7 is currently to 2025. There is no decision yet on availability, timeframe and conditions of extended maintenance after 2025. >>

To date, SAP clients who will not have migrated by 01/01/2026 will have to deal at least with the following points:

- Absence of publisher support for their solution in run mode in case of a bug.
- Absence of delivery of any regulatory changes.
- Gradual obsolescence of technical platforms supporting SAP.
- Absence of delivery of security patches on platforms no longer maintained.
- Absence of functional upgrades for their SAP solution.

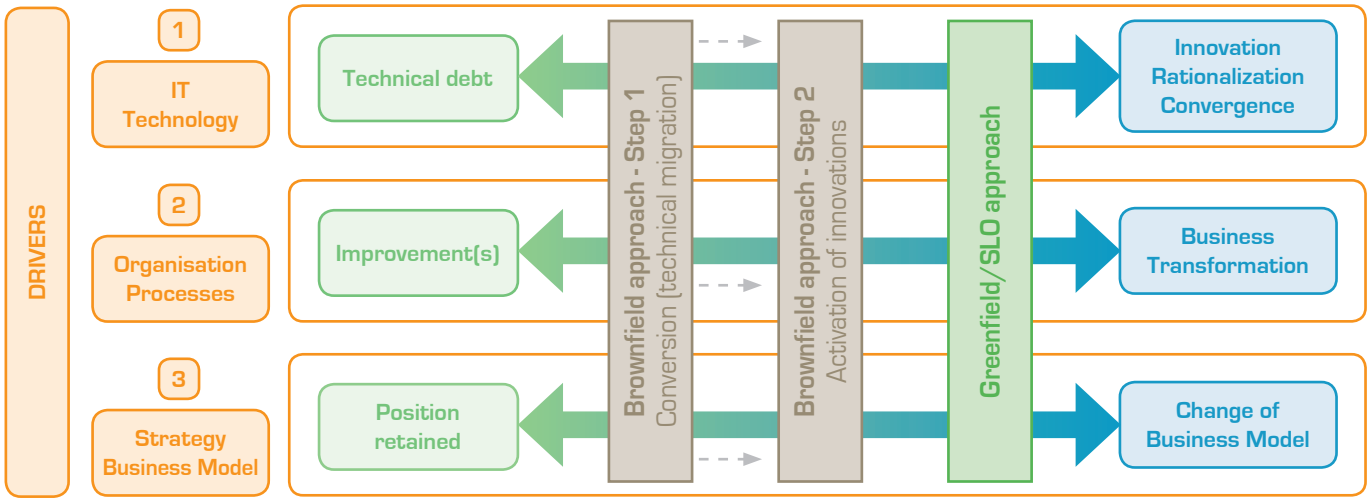
Business case

1 Main drivers and approaches

For clients whose ERP is already under SAP, three main drivers motivate a move to SAP S/4HANA:

- IT and Technology.
- Organization and Processes.
- Strategy and Business Model.

The various possible approaches (Brownfield, Greenfield or SLO) may be summarized as shown in the diagram below according to these 3 main drivers. These drivers can of course be "cumulative" depending on the enterprises and organizations.



Possible pathways
(for clients who already have SAP and excluding the "Central Finance" scenario)

Brownfield approach:

Step 1:

- This approach involves a necessary "conversion" of the existing system, very similar to an EhP.
- It retains the existing processes.
- Whenever possible, it duplicates into SAP S/4HANA the parameter settings and programs specific to the ECC solution.

Step 2:

- Once the migration to SAP S/4HANA is completed, it is possible to select the priorities and calendar to:
  - Activate the new SAP S/4HANA functionalities step by step.
  - Simplify or delete some specific parameter settings or programs.
  - Review some processes either partially or comprehensively.

Greenfield approach:

- Approach starting from the SAP S/4HANA standard, relying on a Business Process Alignment between the corporate processes and SAP S/4HANA.
- In order to maximize the benefits of this approach, it seems preferable to start from the SAP S/4HANA standard processes, while disregarding as much as possible the existing processes. Conversely, an approach based on gaps versus the existing system will generate less value and may represent a potential source of specific developments.

SLO approach:

- Approach combining Brownfield and Greenfield (see chapter 7 - page 41).

2 Focus on the 3 drivers

Focus on "IT and Technology" driver:

- As a rule, the IT/Technology driver "alone", even driven by a strong will to rationalize the existing, heterogeneous application landscape, and/or a wish for convergence towards a corporate "Core Model", cannot warrant (or rarely so) a subsequent "Greenfield" type approach.
- This driver alone cannot really - apart from a few exceptions - demonstrate any ROI conclusively enough or shown to add any tangible value to the business.
- Conversely, it does respond appropriately to an issue of hardware or software obsolescence (OS, database...).

Focus on "Organization and Processes" driver:

- As a general rule, the Organization and Processes driver, provided that it is backed by a wish for "Business Transformation" that is both deep enough in terms of changes in processes and organization, and broad enough in terms of scope, can substantiate a Greenfield approach.
- Obviously, when combined with the IT & Technologies driver, the company will benefit from key sponsors "embedded" into the project: business units and IT departments. This is the right configuration for a project of this scope.

Focus on "Strategy and Business Model" driver:

- Under the impulse of their general management, some companies are facing deep changes of their business activities, market positioning or related services. Some historical businesses are subjected to sharp competition from new players backed by new technologies (taxis, hotels, retail, e-commerce...).
- To date on the French market, there are very few examples of Business Model transformation supported by SAP S/4HANA.
- The example of Kaeser Kompressoren (Germany) who transformed its Business Model by switching from equipment invoicing to selling cubic metres of air, is an illustration of this driver. The innovations provided by SAP S/4HANA in terms of real time, predictive analysis, pricing, integration with the SAP Cloud Platform (SCP) (for IoT in particular) were the main vectors of this transformation.

3 Content of the Business Case

Four key benefit drivers have been detailed:

1 • **Rationalization of the application landscape and IT architecture including the following components:** real time, efficiency gains, simplified data model, optimization of database size, simplification of application landscape and data model, flexible consumption of processes thanks to the various architecture options.

2 • **User experience**: Graphic activity reports with major capabilities of customization and navigation, interface highlighting alerts, in a concern for proposing direct access to the resolution transaction, business cockpit (finance, sales, purchases, projects, etc) able to provide operators and their managers with real-time visibility on their situation, and the ability to focus on the resolution of issues, a "Google-like" search tool where all data can be scanned, sorted and categorized according to freely chosen search criteria, presence of a digital assistant (copilot*) to enhance collaboration within organizations, accessibility for mobile use from tablets and smartphones.

3 • **Optimization of processes via "intelligent" technologies**: RPA, Machine Learning/Artificial Intelligence.

4 • **Enhanced capability of interconnection/integration with new technologies surrounding the ERP**: Industry 4.0, blockchain, Internet of Things, Big Data, ...

How to evaluate tangibly these 4 benefit drivers?

For each gain component (see components listed below), a dual valuation analysis is now required (quantitative & qualitative/direct & indirect):

- **1.1 *Direct* quantitative evaluation ("standard" processes)**: financial gains (OPEX and/or CAPEX) generated by:
  - Shorter lead-time for a given process (productivity gains).
  - Reduction of staff (in FTE - full time equivalent) necessary to carry out a given task.

- Reduced number of errors in a given process impacting de facto:
    - Improved lead times and/or reduced staff assigned to the relevant process,
    - Reduced number of errors (or reduced cost of non-quality).
- Nature of profiles necessary to carry out some tasks: from previously expert profiles (e.g. with high technical skills or knowledge) to less expert profiles.
- IT gains from a rationalized application landscape…
- Reduced number of support resources (number of IT resources dedicated to SAP RUN, number of requests for upgrades, requests for user support…).

• **1.2 *Indirect* quantitative evaluation ("one-off" processes):**

- Business functions more autonomous in their analyses due to limited requests to SAPCCs/IT departments or business experts.
- Improved knowledge/business insights thanks to more comprehensive and more relevant analyses: richer cross-referencing, drill-down, alerting, predictive analyses and simulations…
- Improved control over ad hoc requests (ability of managers to run some tasks and/or analyses directly), shorter response time for ad hoc analyses…

• **2.1 *Direct* qualitative evaluation ("standard" processes):**

- Shorter time devoted to change management - during the project: acceptance of change, easier process formalization, training…
- "Happy" users, talent acquisition and retention: impact on staff turnover, absenteeism rate, sick leaves, socio-professional risks, aspiration for continuous improvement…

• **2.2 *Indirect* qualitative evaluation ("one-off" processes):**

- Transformational "flexibility" of the company:
    - Organizational flexibility resulting from process simplification (facilitated internal mobility, etc).
    - Improved adaptability of Business Model:
        - Organic via the implementation of new processes/organizations for products and/or services.
        - Inorganic via capabilities of disposals and/or acquisitions of new entities (easier integration…).
- Upscaling:
    - Increased ability (time, cost and quality) for scaling up innovative/one-off processes to become "standard" processes.
- Opening to new technological potentials via:
    - Internet of Things, Big Data, Industry 4.0…

4 Towards a change of paradigm

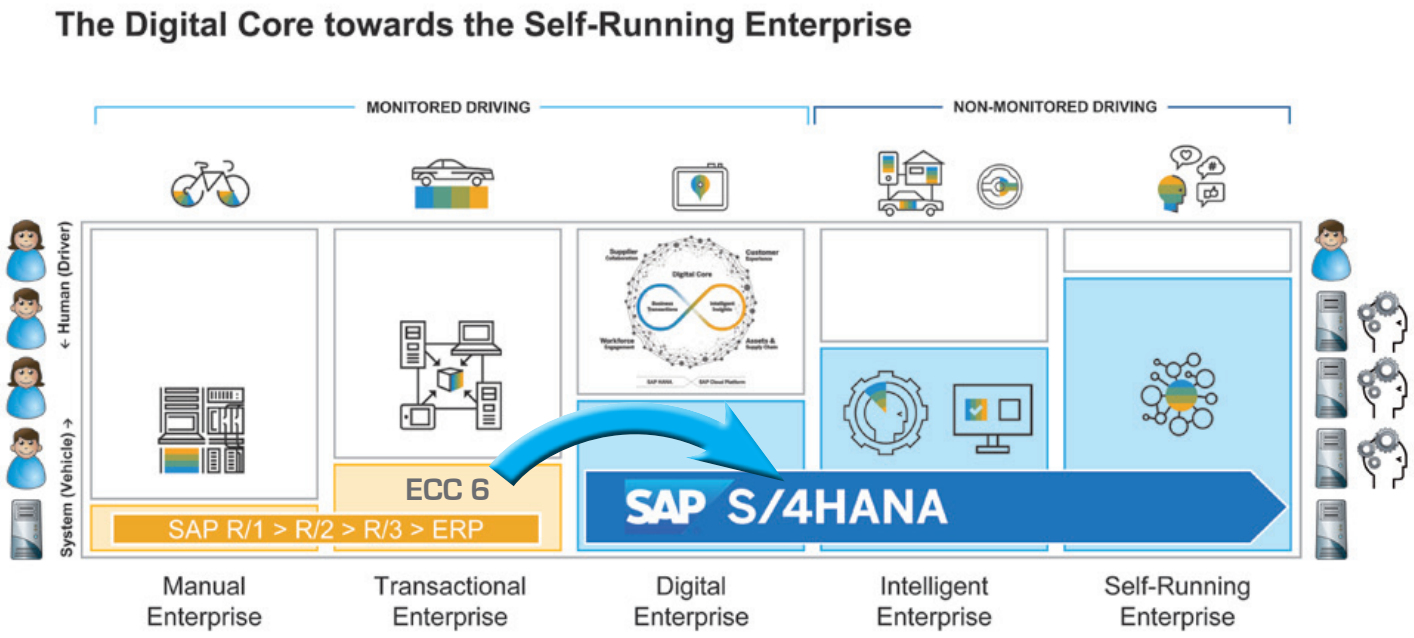
The shift to SAP S/4HANA implies - as described in the previous sections of this Position Paper - some deep changes in the company and in the operation of its processes. These changes will of course take place gradually over time.

The enterprise is shifting gradually from a transactional rationale to a "digital" logic; in other words, from an "expert" world generally organized in silos, per function or department, the company will open up possibilities for more ease of use, more transparency, more interactions and more upgrading options by optimizing its processing of the data to which it has access.

While perceptible during the SAP S/4HANA upgrade project, the transformation may also have to take place post project (in run mode). The SAP Competency Centres, historically focused on maintenance in operational conditions for most of their activities, will have to adapt, similarly to business functions, to a more sustained pace of evolution required to integrate innovations as they occur.

The innovations integrated into each release of SAP S/4HANA (minimum once a year) can potentially lead to new processes or process improvements. The enterprise will truly be able to enter into a more fluid logic of continuous improvement, not so much via "optimization" but rather via regular transformation cycles where upscalability will be accelerated.

Illustration: SAP strategy towards the Intelligent Enterprise and subsequently the "Self-Running Enterprise"



Source: SAP

Diagram shown on page 63

From ECC to SAP S/4HANA: Transposing the functional components and modules

When switching over from SAP ECC to SAP S/4HANA, it should be understood that SAP S/4HANA is not a new version of ECC from a contractual standpoint, even if the technical migration ("conversion") is possible. SAP S/4HANA is a new SAP product.

SAP specifies that there is no obligation to take over (identically or not) all existing modules and functionalities from SAP ECC. This is why for existing ECC clients, it is especially important to identify the following gaps during the project scoping phase: :

- Functionalities used in SAP ECC that no longer exist in SAP S/4HANA. For instance, cost support datasheets will have to be replaced by another cost support such as cost centres, internal orders...
- Functionalities used in SAP ECC, transposed into SAP S/4HANA that have an advanced module in SAP S/4HANA or in a satellite solution, but are subject to licensing (e.g. Industrial & Commercial Plan - PIC).
- Functionalities used in SAP ECC, transposed into SAP S/4HANA that require a specific migration project due to a change of data model (e.g. transport "LE-TRA" to TM).
- And of course any new functionalities specific to SAP S/4HANA that the clients might use.

Details about functionality upgrades are provided by SAP in two documents: the Compatibility Pack and the Simplification List. SAP and other software publishers also offer tools designed for gap analysis (see chapter 5 - page 29).

1 The Compatibility Pack

SAP simplifies its product proposition by keeping only one solution per Business need in S/4HANA. The Compatibility Pack is provided by SAP to help execute the transition.

This document lists the functionalities, Business solutions (LoB) or verticals not taken over in SAP S/4HANA, but for which SAP nevertheless undertakes - provided they are granted under the contract - to ensure their accessibility in SAP S/4HANA up to a deadline set at this point on 31 December 2025. As of 01/01/2026, SAP clients must therefore stop using the functionalities listed in the Compatibility Pack.

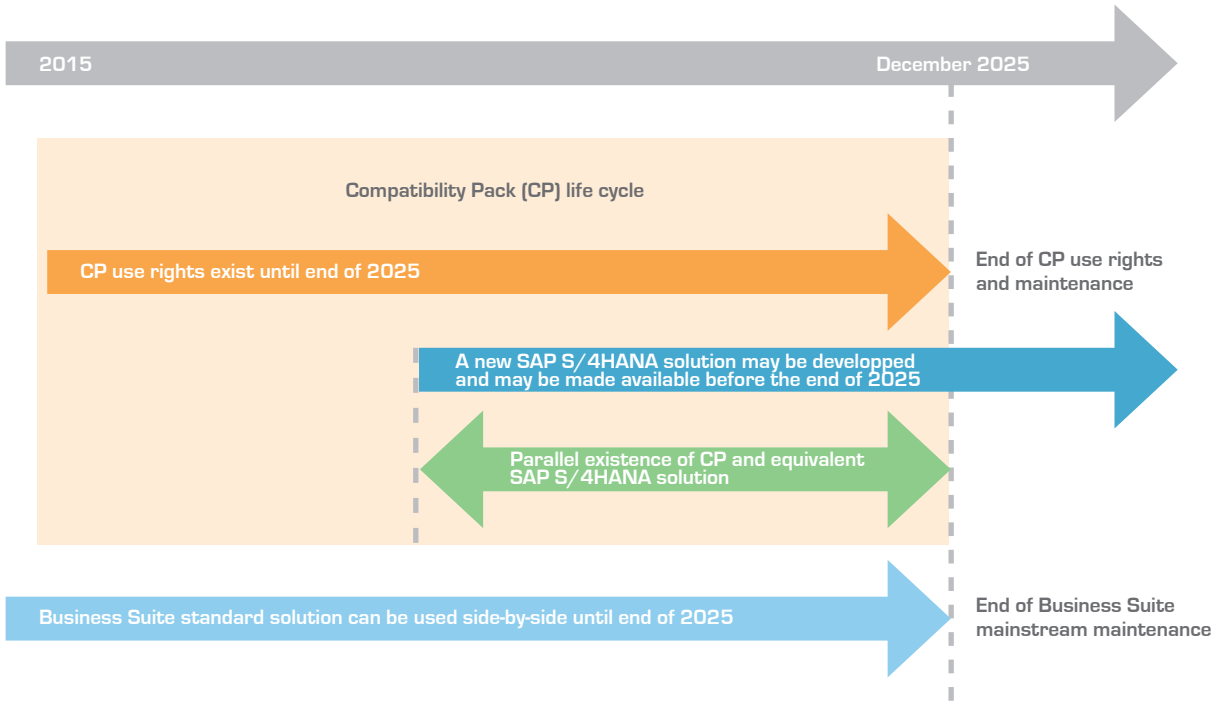
The use rights to the Compatibility Pack features will not be charged extra and are granted for the same duration.

The purpose is to enable SAP clients to use these functionalities until:

- SAP clients implement the functionalities that might be developed by SAP within SAP S/4HANA,
- Clients opt for an alternative solution (another SAP product, SAP Cloud service, other solutions, etc).

1 The Compatibility Pack (continued)

It should be noted that solutions not listed in the Compatibility Pack and that are not Native SAP HANA Applications solutions[1] may not be present on the S/4HANA server post migration, and must therefore be installed on a separate server.



Source: SAP

The list of products and components included in the Compatibility Pack is therefore very important. It is accessible together with memo OSS 2269324. It lists components such as FI-TV (management of travel expenses) or LE-TRA (transportation management). For these products, it is therefore possible to migrate to SAP S/4HANA and then migrate to the target SAP solution prior to 2025, i.e. Concur and TM (SAP Transportation Management) in this instance, or choose other products.

[1] Native HANA Applications designate software packages shown in the SAT price list that are not part of the SAP S/4HANA universe but operate natively on the SAP HANA platform, and only on SAP HANA. These software packages can be rolled out on the same system dedicated to SAP S/4HANA.

2 Special case of WM (warehouse management)

The WM module is part of the Compatibility Pack list. Its use rights will therefore disappear in 2025. Until now, the only SAP proposition was to switch to the eWM solution included in SAP S/4HANA:

- Under an option without any licensing impact (basic mode) provided it stayed on the same functional scope.
- With a licensing impact in order to activate one or several eWM functionalities unavailable in WM.

In all cases, the switch from WM to eWM implies a change of data model and flows, and impacts the project.

Since June 2019, SAP has been offering a new alternative with SAP S/4HANA Stock Room Management. This SAP S/4HANA embedded solution relies on the same data model and virtually the same functional scope as WM in ECC. It is therefore an opportunity to keep using the basic warehousing functions in SAP S/4HANA beyond 2025 without having to cope with a conversion to eWM. The use of SAP S/4HANA Stock Room Management is covered under the SAP S/4HANA Enterprise Management licences. To date, the following flows will not be covered under this solution: Task & Resource Management (WM-TRM), Warehouse Control Unit interface (WM-LSR), Value Added Service (WM-VAS), Yard Management (WM-YM), Cross-Docking (WM-CD), Wave Management (WM- TFM-CP), and Decentral WM (WM-DWM).

3 Special case of SAP ERP HCM

To date, the status of SAP's strategy regarding SAP ERP HCM (HR) is still evolving, as described in the paragraph below (as of Q3 2019).

SAP ERP Human Capital Management (HCM) is a special case for SAP:

- Part of the SAP ERP HCM solution is not present in the Compatibility Pack.
- SAP SuccessFactors, that could be the logical continuation of SAP ERP HCM, is a Cloud-only solution, while SAP ERP HCM is an On Premise-only solution.
- SAP has announced an SAP HCM solution for SAP S/4HANA that should be available as of 2023. This solution will run only under SAP HANA and may be installed on the same server as SAP S/4HANA. It will take over most of the SAP ERP HCM functionalities and will offer optimizations and new functionalities. Some historical functionalities will not be taken over, such as SAP E-recruiting (present in SAP SuccessFactors), components of SAP Learning Solution or management of business trips (present in Concur)... This list could still change.

There are different migration paths for HCM:

Case 1:

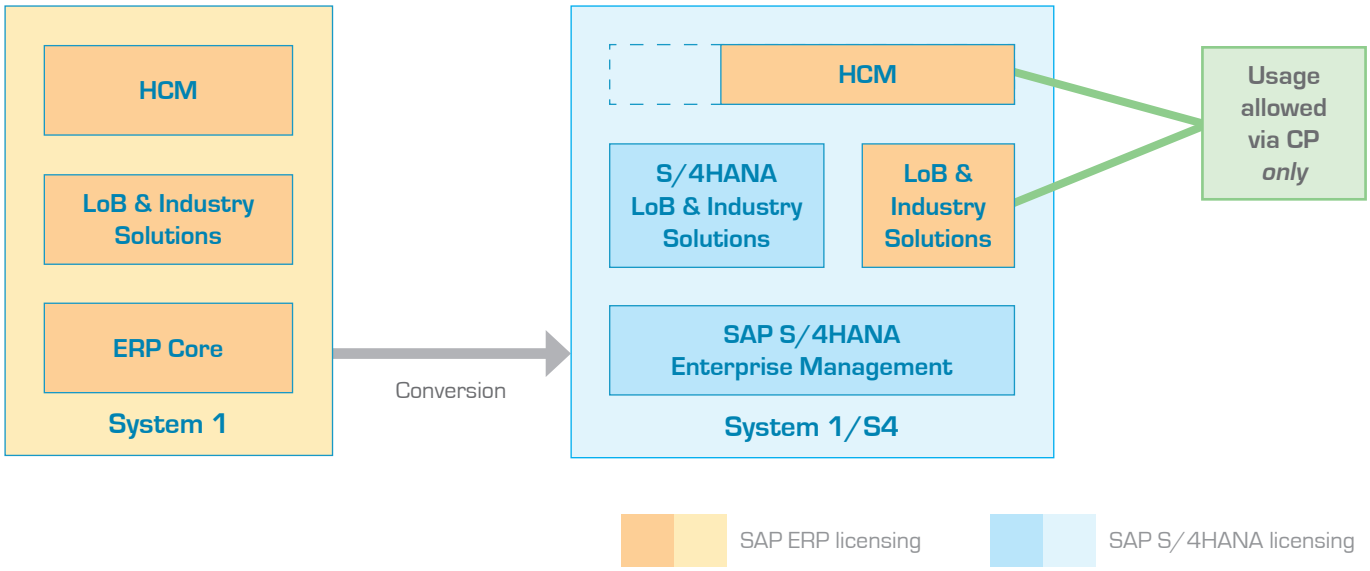
When the HCM solution is already installed on a server separate from ECC and on any database supported by SAP, it is possible to migrate from the ERP ECC to SAP S/4HANA and to keep HCM as is.

In December 2025, HCM will no longer be supported by SAP in this configuration. SAP currently recommends migrating the HCM system to SAP HCM for SAP S/4HANA as of 2023 to ensure that maintenance will still continue to be provided beyond 2025 (maintenance provided up to 2030).

Case 2:

The HCM solution is installed on the same server as the ERP ECC core (same instance). Since only part of HCM is listed in the Compatibility Pack, the alternatives are as follows after migration:

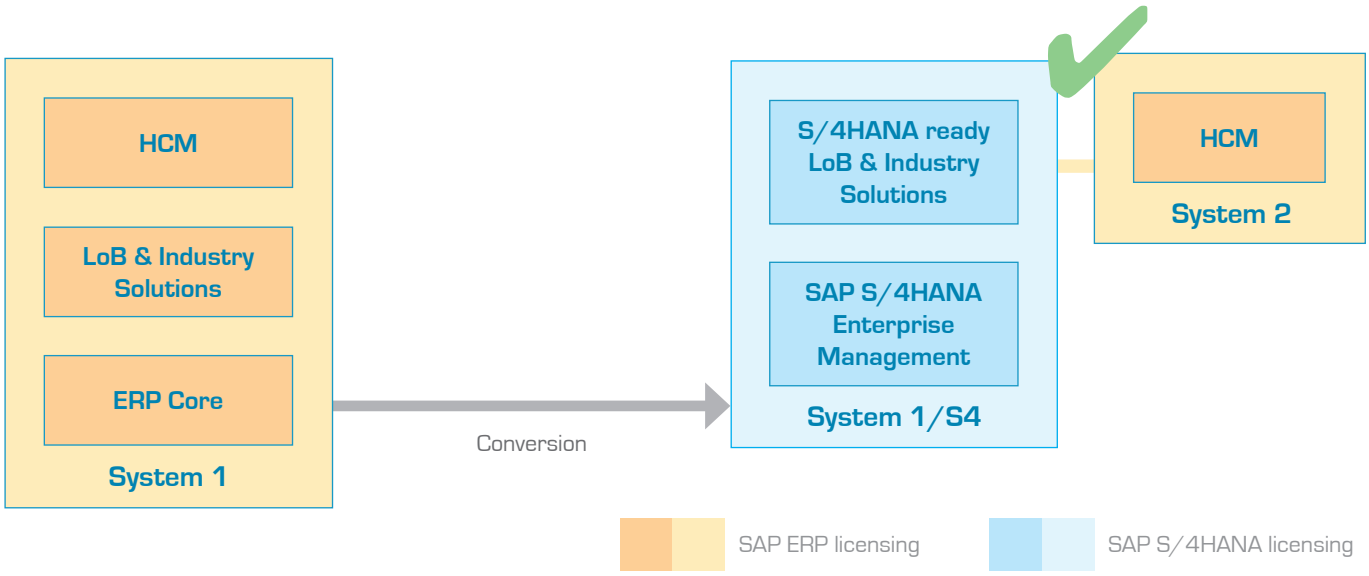
1 • Stick to the functional scope covered by the Compatibility Pack, and then migrate to SAP HCM for S/4HANA as of 2023 and before 31/12/2025.



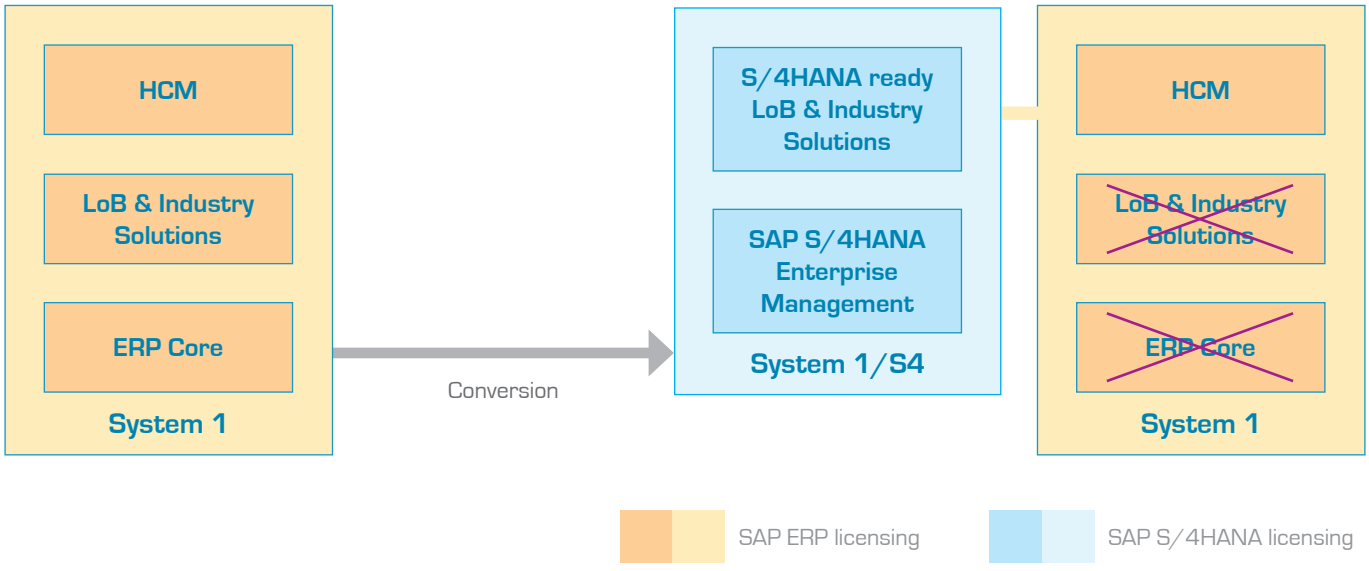
Source: SAP

2 • Keep the ERP ECC server where HCM is installed or install HCM on another server. In this configuration, HCM will be supported until 2025. Today, SAP therefore recommends migrating the HCM system to SAP HCM for SAP S/4HANA as of 2023 and before 31/12/2025.

Install SAP HCM on another server (System 2)



Keep System 1 unmigrated to continue using HCM



Source: SAP

3 • Find and implement a solution other than SAP HCM.

There are two other options apart from the above migration scenarios: consider migrating to SAP SuccessFactors or find another HR and payroll management software.

4 The Simplification List

The Simplification List is a document listing all changes between SAP ECC 6 and SAP S/4HANA. This 1000 plus page-long document describes changes in the data model, the new functionalities and the discontinued functionalities. It is a highly technical document, used by SAP tools such as Readiness Check or by third-party tools such as Inventy to facilitate the analysis. These tools are discussed in chapter 5, page 29.

The Simplification List helps identify the projects to be carried out in preparation for the migration to SAP S/4HANA. Some of these preparatory projects may be more or less impactful.

Thus, migrating customers and suppliers to Business Partners may have a significant impact depending on the nature and volume of the task to be processed.

Likewise, the Credit Management facility as it existed in the SD module has been replaced with more advanced functionalities within the SAP S/4HANA Finance for Receivable Management module (corresponding to the former FSCM Credit Management module). It therefore has a project impact when switching over to SAP S/4HANA. Clients using Credit Management or FI-AR functionalities will have to migrate to FSCM Credit Management prior to converting their SAP system to SAP S/4HANA.

There is not necessarily any licensing impact: a client wishing to keep a basic control similar to what they previously had under SD, can still use "Basic" Credit Management. If the clients want to activate more advanced functions (e.g. automatic rating and definition of thresholds, multi-system controls, threshold calculation formulas, etc), then they would have to pay for Receivables Management licences.

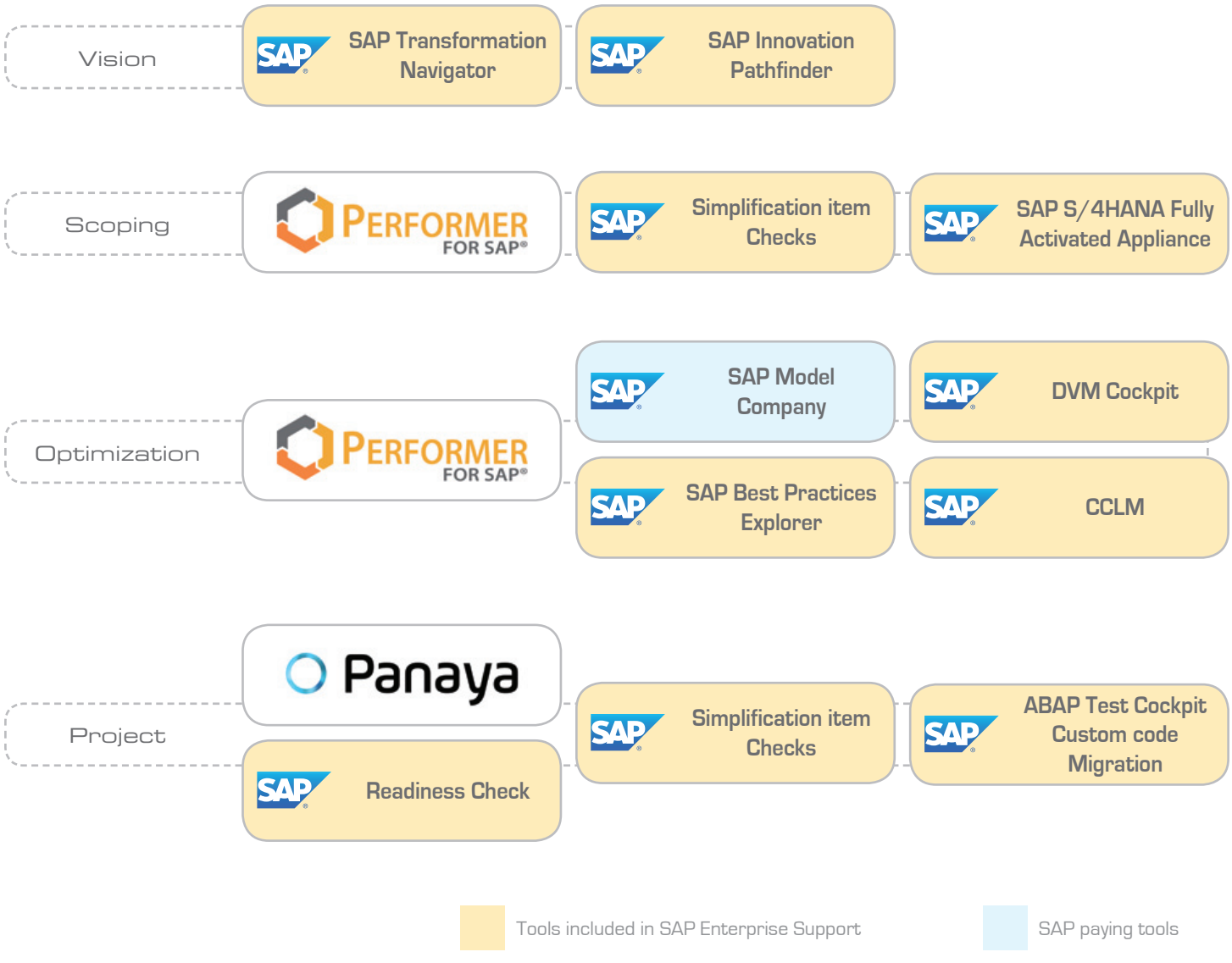
Impact on licences is not systematic either for warehousing management. It is also possible to migrate from WM to eWM Basic in SAP S/4HANA while keeping the same functional scope without any licensing impact. There is however a project impact since the data model and eWM flows are different from WM.

As a general rule, there is no licensing impact when keeping equivalent functionalities. Conversely there is a licensing impact whenever an add-on module exists with additional functionalities. In this case, the ROI will need to be analysed, comparing the functionality used versus ECC, the additional benefits of the SAP S/4HANA module and the costs of licences to be purchased. In all cases, it is essential to identify these impacts during the project scoping phase in order to pool all licence purchases when negotiating with SAP.

Programs and tools to support migration

SAP and its partners make numerous support tools and programs available to investigate the move to SAP S/4HANA. Below is a selection of such tools to help identify the ROIs, solutions to be implemented, or ways to accelerate the conversion.

The diagram below, presented at the "Printemps USF 2019", shows a condensed view of the tools available from SAP and partners such as Inventy and Panaya.



1 SAP programs

SAP proposes several support programs combining the main tools. The following two support programs are most commonly used:

1.1 Adoption Starter program

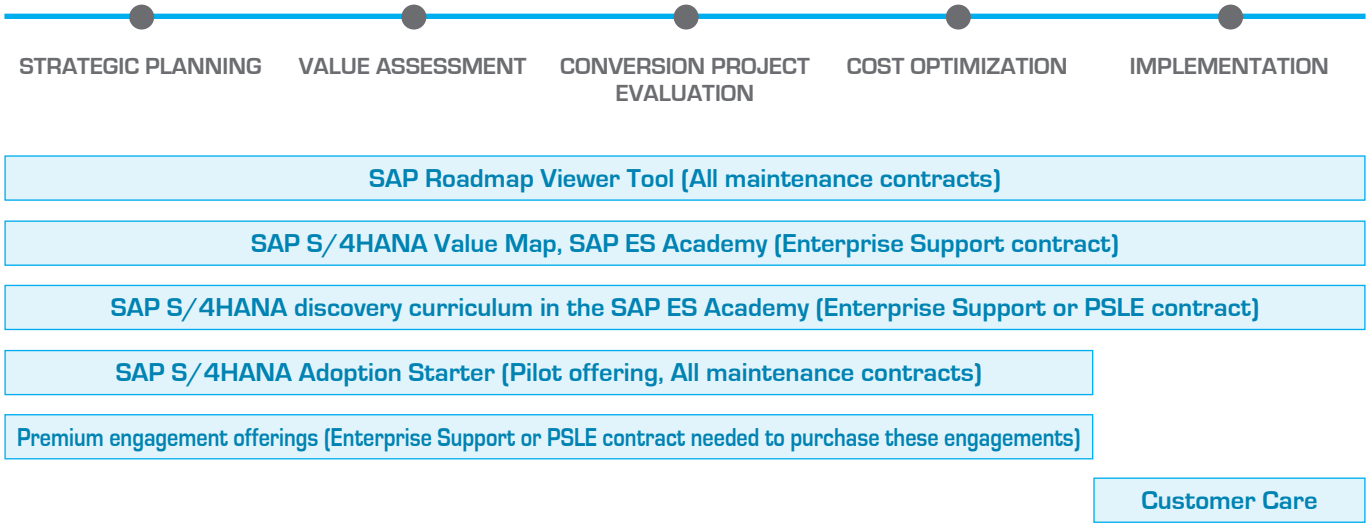
https ://support.sap.com/en/tools/upgrade-transformation-tools/s4hana-adoption-starter.html
This program (free of charge regardless of the SAP support level) proposed by SAP for 3 months includes interactions with SAP experts and other clients (10-12) to learn how to build a migration plan to SAP S/4HANA. SAP offers sequenced support to understand and launch all self-service tools designed to identify all benefits, points of attention, technical impacts and methodology to move to SAP S/4HANA.

1.2 Value Map SAP S/4HANA

The SAP support proposition includes many services and webinars (pre-recorded or live) to help their clients transition to SAP S/4HANA (accessible only with Enterprise Support level).

In order to facilitate the use of these services, they are listed in a structured manner in the Value Map SAP S/4HANA (per project phase, project team or theme), while also providing an interactive dialogue with experts or other peers.

The diagram below shows a summary overview of support programs or other support services:



Source: SAP

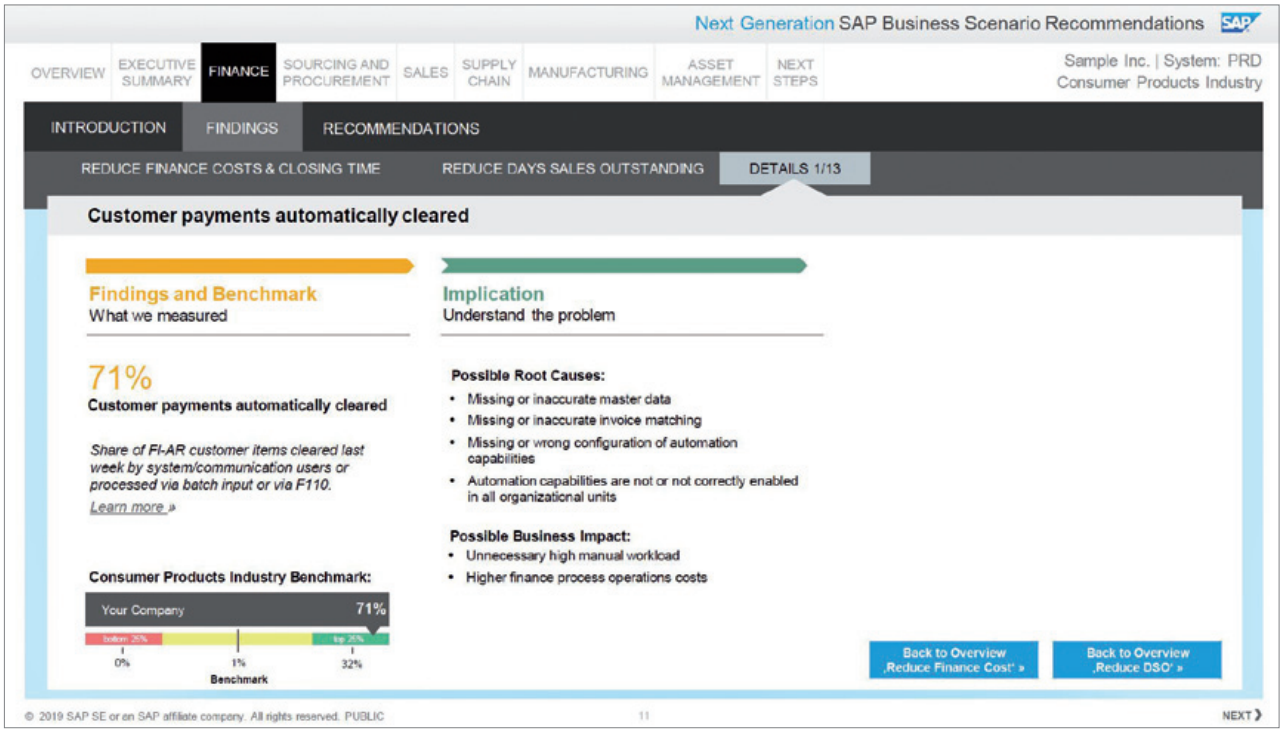
It should be noted that all programs support the migration projects from the DISCOVER phase onward, i.e. well ahead of their starting point, in line with the publisher's recommendations: the SAP S/4HANA project must be carefully planned and anticipated with the proper available tools.

2 SAP tools

Planning and conducting an SAP S/4HANA project involve many phases, from value assessment to adaptation, from execution to identification of critical gaps. These phases are supported by various tools. Only the major tools are detailed below.

2.1 BSR Report ("Business Scenario Recommendation")

This report provides a graphical assessment of the inputs and benefits of SAP S/4HANA per business line, as well as the possibility for an enterprise to benchmark itself against its peers based on some indicators. It is therefore particularly useful during the creation phase or to substantiate a Business Case. It relies on an analysis of logs, i.e. of transactions actually used on a daily basis. It points out the upgrades provided by SAP S/4HANA for the most used flows, and most of all it benchmarks their use against other clients in the same business sector.

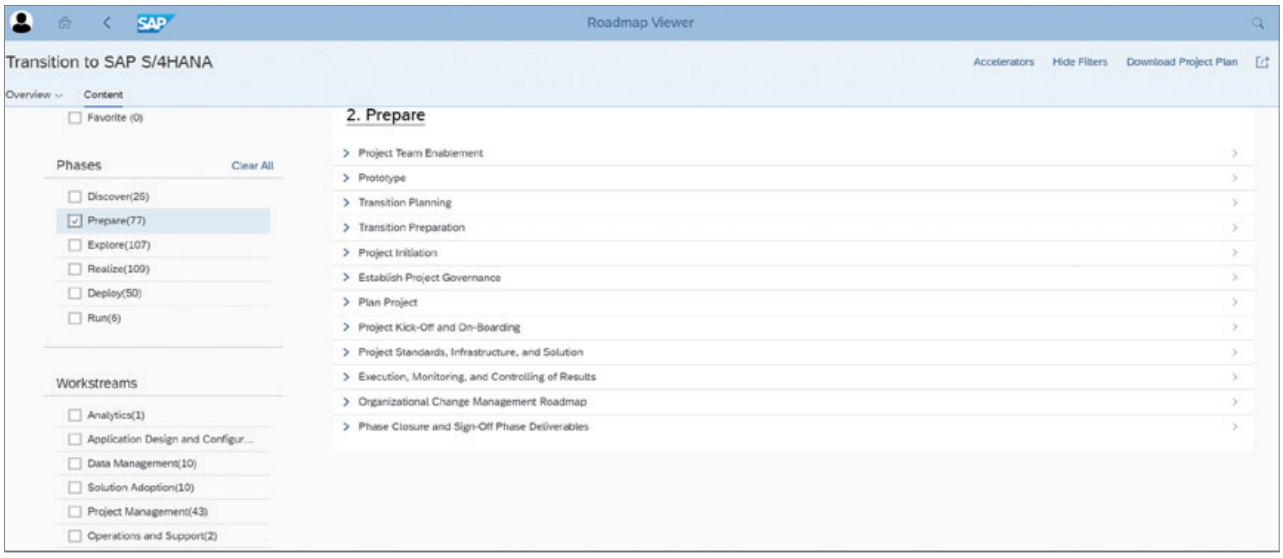


Source: SAP

2.2 SAP Roadmap Viewer

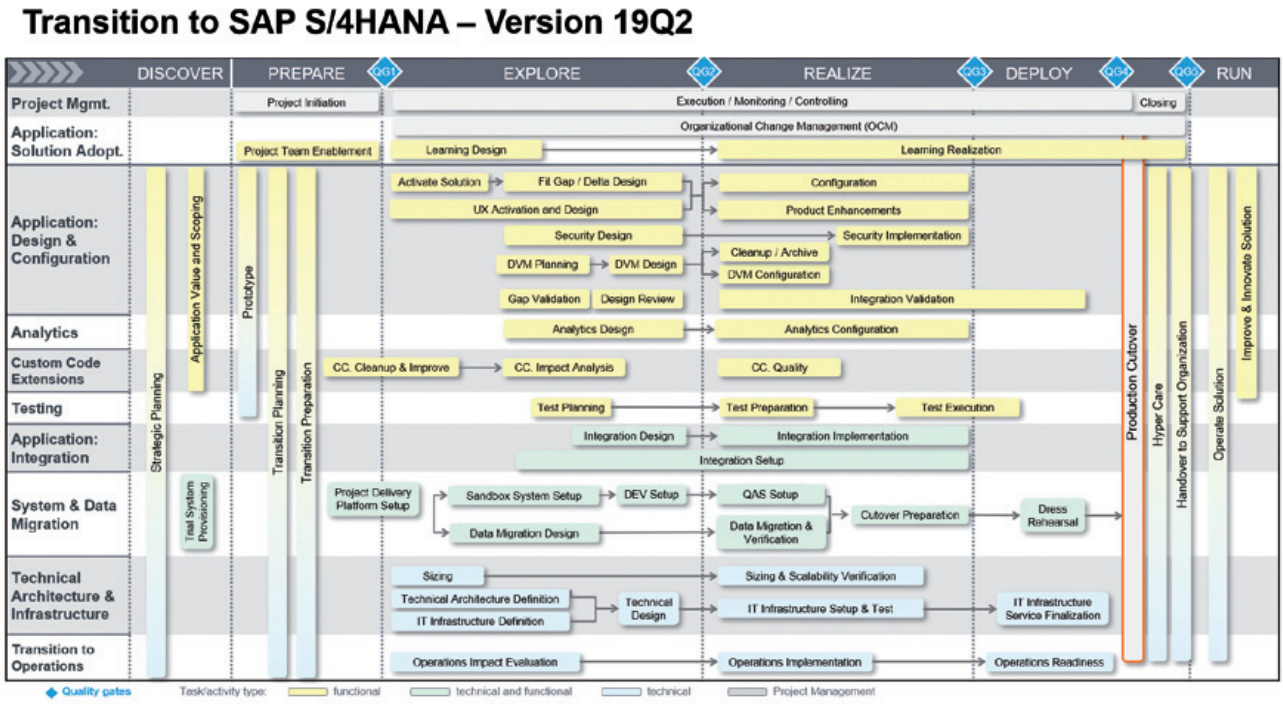
Roadmap Viewer is the key tool to apply the SAP Activate methodology to an SAP S/4HANA project.

SAP Roadmap Viewer is a Cloud-based tool designed to provide access, phase per phase, team per team, and per type of implementation, to accelerators, deliverables or steps recommended by SAP to convert or implement SAP S/4HANA. It is accessible to all clients who have an SAP maintenance contract.



Source: SAP

Example of an accelerator provided in SAP Roadmap Viewer in editable PowerPoint format: Transition Map



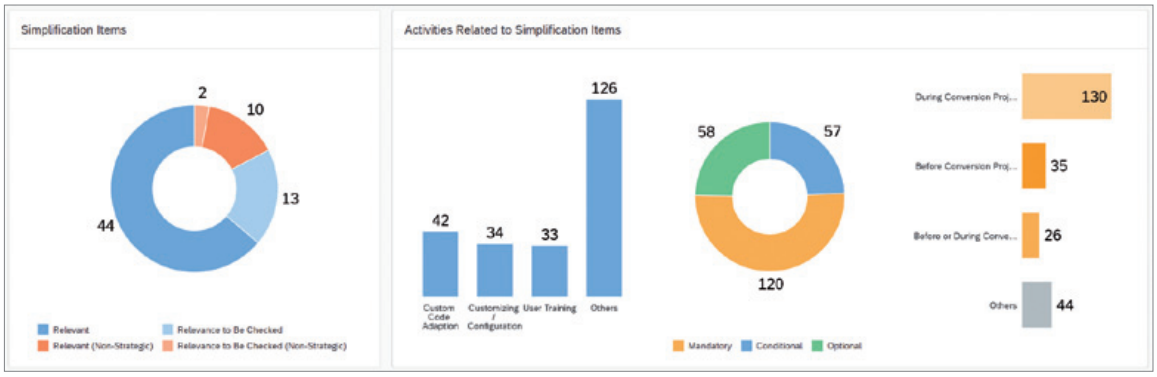
Source: SAP

2.3 SAP Readiness Check for SAP S/4HANA

This tool is designed to identify any significant gaps between:

- The functionalities used in SAP ECC in particular.
- The functionalities available in the chosen version of SAP S/4HANA.

In other words, it helps to reduce or contextualize the list of the potential 500 Simplification Items down to a shorter list valid for one system. It should be run as early as possible in the project phase and at the latest at the start of conversion.



Source: SAP

The Readiness Check also provides other useful insights during the planning phase, such as:

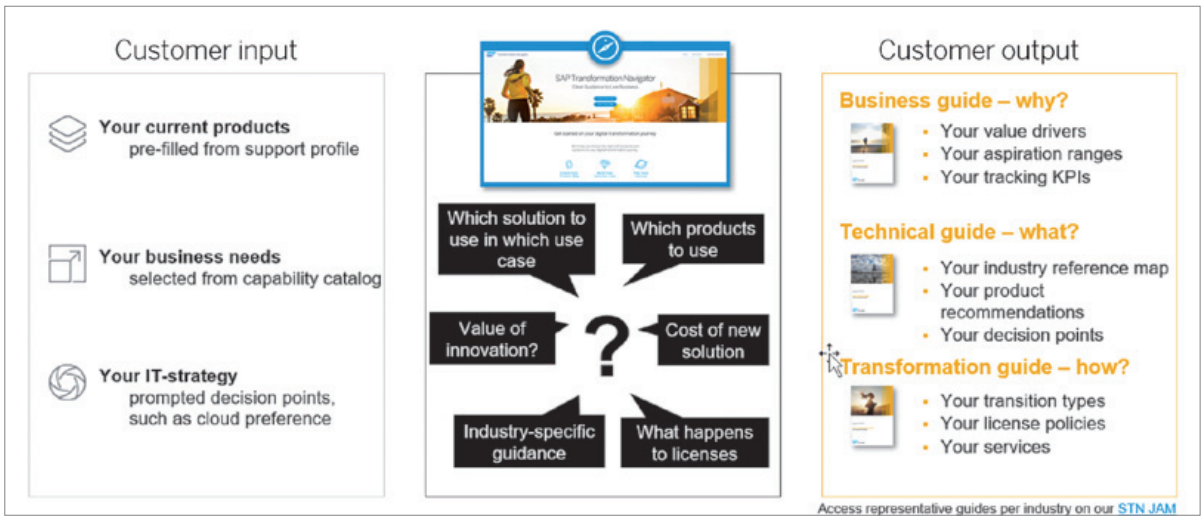
- Presence of incompatible add-ons or business functions.
- Size of target database.
- Fiori Apps recommended based on the transactions used.

It is dedicated primarily to conversion projects, but can also provide information of interest for Greenfield projects.

2.4 SAP Transformation Navigator

Transformation Navigator is designed to identify SAP products that could complement SAP S/4HANA. The tool identifies the target products based on the following criteria:

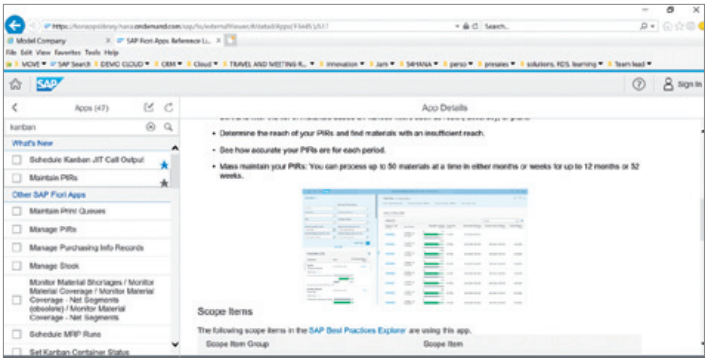
- Roll-out strategy: Cloud/On Premise/Hybrid.
- Current use of system/Future business needs.



Source: SAP

2.5 Fiori Application Library

This URL link: www.sap.com/fiori-apps-library gives access to the list of all available Fiori thumbnails per version and per business. It provides access in particular to the technical information related to the thumbnails and to the standard roles (best practices) for which they are available.



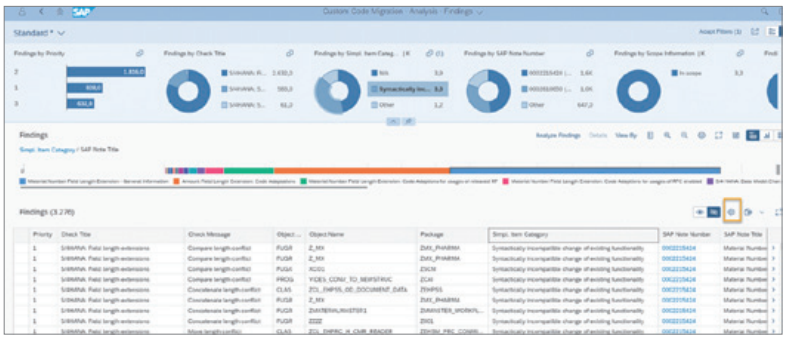
Source: SAP

2.6 ABAP Test Cockpit

The ABAP Test Cockpit (ATC) is an SAP tool designed to identify precisely the specific code impacted by the transition to SAP S/4HANA in the context of a conversion. The tool is therefore useful in the project assessment phase to build the budget needed to adapt the specific code, and will also be used to monitor the progress of the code adaptation process.

This solution is relatively unwieldy to implement as it requires a new system. There are two options to roll out the ABAP Test Cockpit in an SAP S/4HANA project:

- Installation of an independent SAP NetWeaver 7.52 system on a new SAP instance. This configuration is more limited; it does not require any SAP S/4HANA licence nor any SAP HANA database.
- Installation or use of an SAP S/4HANA 1809 or subsequent system. This option provides more functionalities. It enables the use of SAP Fiori App Custom Code Migration providing a more user-friendly interface and also takes into account the use of the specific code in order to reduce the adaptation workload.



Source: SAP

2.7 SCMON (successor of UPL)

SCMON (SAP Call MONitor) is designed to collect the uses of the specific code launched on the productive SAP ERP system. This usage information can then be analysed via SAP Solution Manager or SAP Fiori Custom Code Migration App. It is recommended to activate UPL and SCMON if possible 13 months prior to using the results, in order to take into account the programs that are run only on a yearly basis, i.e. annual accounts closing. This will help better target the priorities for any corrections to be made and for the test plans to be scheduled according to usage.

2.8 SAP S/4HANA Trial

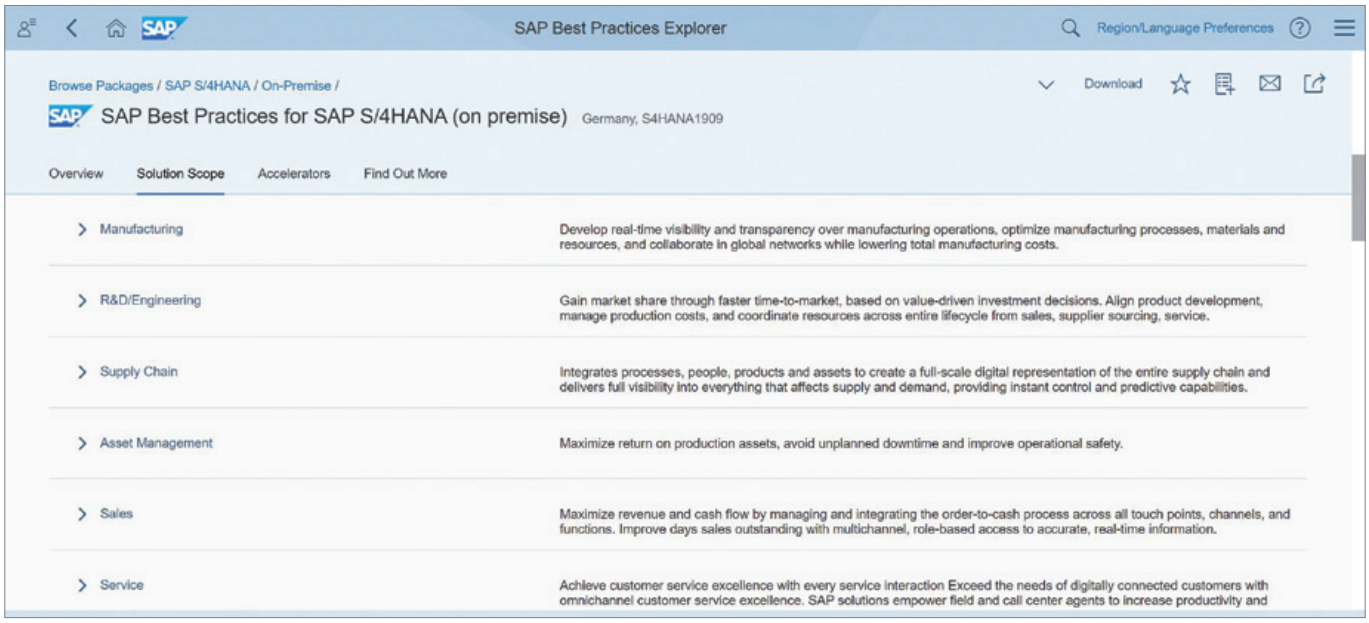
It may sometimes prove difficult to comprehend the inputs of SAP S/4HANA and its new graphic interface, or the gaps with SAP ECC, via presentations only. SAP S/4HANA Trial helps to better understand the SAP S/4HANA solution by demonstrating it to business users.

Two options are possible to discover SAP S/4HANA :

- SAP S/4HANA Cloud Trial (useful even for On-Premise pathways) can be launched in a few minutes without any need to install it at the client's site. It contains predefined scenarios highlighting the business inputs provided by the new functionalities under SAP Fiori. This free trial environment is accessible for 30 days, including test licences; conversely, there is a charge for storage. It is possible to extend the access time subject to the purchase of CAL type licences (SAP CAL Subscription Licence).
- The Fully Activated Appliance is an SAP S/4HANA system parameterized from a given version, incorporating a set of databases and transactions, available in compressed format for installation at the SAP client's site or at a hosting site for a longer time period. It can then be decompressed either in the SAP Cloud Appliance Library (subject to having an account with a Hyperscaler) or on the client's hardware. This configuration requires buying the SAP S/4HANA licence.

2.9 SAP Best practices

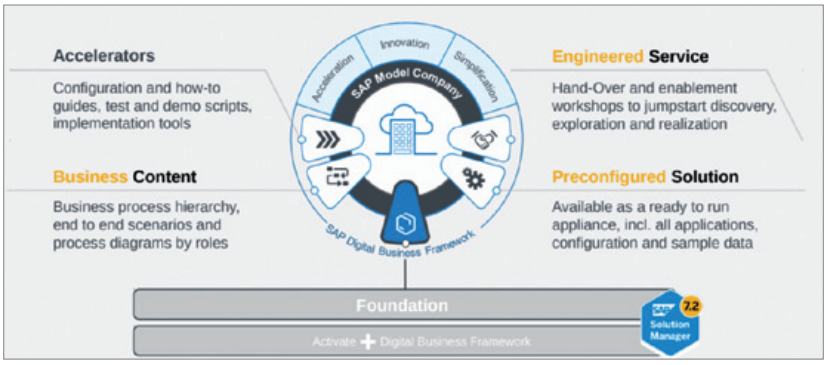
Accessible at https ://rapid.sap.com/bp/#/BP_OP_ENTPR, the best practices help to configure quickly some standard processes or technical functionalities (e.g. Embedded Analytics). For each process covered, they include an explanation of the functional scope, a workflow diagram, a set of pre-parameterized data, to produce a quick presentation of the flows to the business lines based on examples. Parameter settings can then be retrieved in a development environment.



Source: SAP

2.10 SAP Model Company

SAP Model Company solutions are pre-packaged, paying SAP reference solutions. They use the Best Practices but take it a step further by covering also End-to-End processes, localized per country and per business (over 90 processes covered in 150 countries). Apart from pre-configuration, the contents include templates of master data, documentation and printing. It is also possible to use SAP S/4HANA application extensions such as Cash Management.



Source: SAP

3 Tools offered by other software publishers

3.1 ERPSIM by Baton Simulations

This is a "serious game" designed for immersion into SAP S/4HANA. Baton Simulations, an SAP partner, provides a real SAP S/4HANA environment with a simulator of market behaviour. As an example, in the Production scenario, several teams can manipulate prices, inventories, issue manufacturing orders or purchase orders, conduct real time reporting and sell their products to simulated consumers. The winner is the team that generates the highest profit margin. The game generally lasts two hours in several rounds. It was tested by the USF SAP S/4HANA Working Group with over 70 participants, and received a very positive feedback.

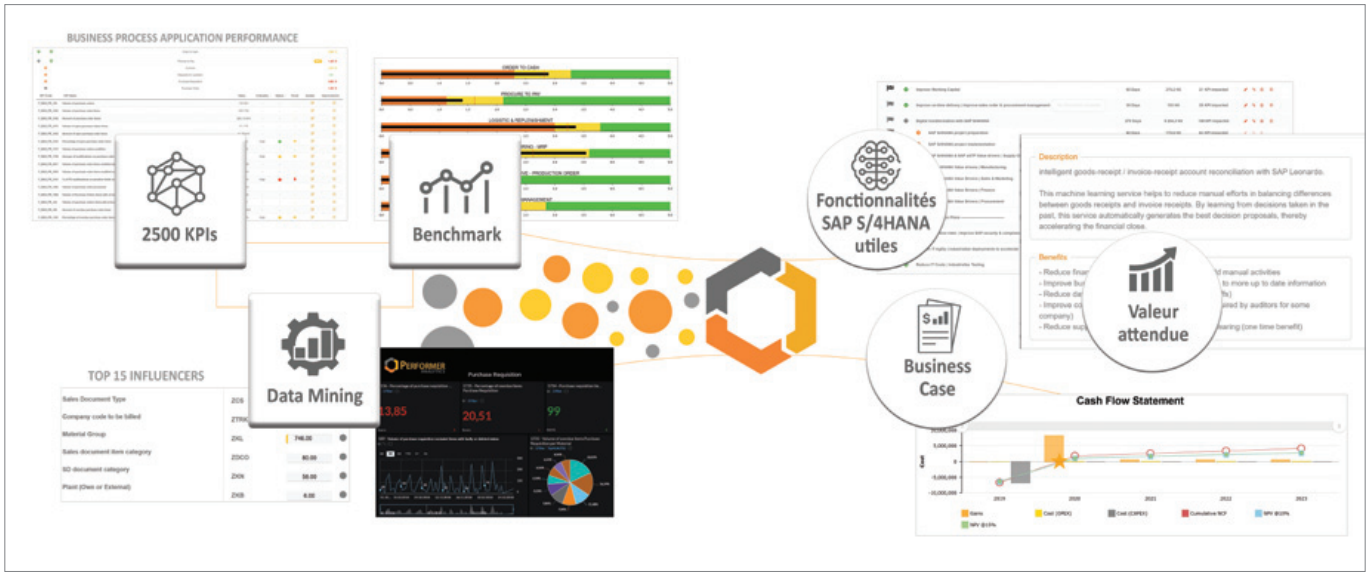
This ERP Sim Game can be played on request from SAP clients and enables business users to manipulate the solution in real life to help them better understand its benefits.

3.2 Performer for SAP® (by Inventy)

Apart from SAP tools, other software publishers have developed solutions to support the migration to SAP S/4HANA. For instance, Performer for SAP® designed by Inventy accelerates the scoping phase and materializes the expected business value of the migration.

Performer for SAP® establishes a secured connection with the SAP source system and generates over 2,500 business and technical performance indicators, security control and compliance points from productive data extracted for years N and N-1. The solution obviously does not rule out the use of workshops, but it optimizes the engagement of key business resources by giving the teams a fact-based overview of the performance of the SAP system.

Results from this analysis are then benchmarked against external and internal organizations. This step identifies the functional and organizational scopes where potential gains delivered by new SAP S/4HANA functionalities (e.g. Machine Learning...) are the most profitable in the company's specific context. Thus Performer for SAP® provides not only an inventory of points of vigilance that should not be neglected in the project, but also an SAP S/4HANA pathway that is comprehensible and intelligible for the General Management. This tool is distributed by Inventy and by many other partners.



Source: Inventy

3.3 Panaya Release Dynamic for SAP® (by Panaya)

The software publisher Panaya offers a solution called Panaya Release Dynamix (RDx) for SAP®. This solution is based on Panaya's well-known tools combining impact assessment, code analysis and test monitoring.

The analysis details any incompatibilities between existing programs and SAP S/4HANA prior to the switchover, and proposes to manage the corrective plan. The solution describes the necessary efforts, based on data extracted from existing programs downloaded from the Panaya platform.

It provides for powerful project management and monitoring, with a master plan, scheduling plan, estimate of efforts required and follow-up of project execution.

Source: Panaya

3.4 "Conversions Factories"

Some integrators offer a solution designed for an automated conversion. To date, three integrators in France have been certified as "Conversion Factory" by SAP under the Move in Motion Program (PASàPAS, Delaware, Itelligence).

For instance, their product can handle the flat-fee migration of a "simple" solution to SAP S/4HANA in about 20 weeks for a price of a few hundred thousand euros. This "Conversion Factory" option is backed by a set of tools enabling a full end-to-end conversion (programs and data), automated to the greatest possible extent and fully handled by the provider. It takes into account the technical operations, functional migration operations (Migration New GL, Conversion of clients and suppliers into "Business Partners"), adaptation of the code, implementation of Fiori applications in some apps, tests, documentation and project updates. This is a major advance on the way to a fully automated conversion solution, of course within a predefined framework such as number of company codes or specifics to be migrated.

Decommissioning of ECC system after migration

Decommissioning is another important point of an SAP S/4HANA project that is often underestimated. Regardless of the migration scenario chosen, it is crucial to ensure compliance with legal obligations relative to data retention and proof of processing in the event of tax audits or other types of controls. Complying with these obligations requires retaining the pre-migration production environments (or ensuring that the required data are available) throughout the legal retention period that varies depending on the country.

As an example of changes that occur when implementing SAP S/4HANA, in order to migrate it is frequently necessary to uninstall some add-ons or other software programs not supported in SAP S/4HANA (listed in the Simplification List). It should be remembered that during migration some tables are actually erased by the migration tool, for instance tables linked to the former cash management tools. Yet such uninstalls or data deletions could have a major impact in the event of audits or controls as the audit trail is irremediably impaired due to the deleted data. The laws differ among the various countries, but in many cases it is necessary to be able to produce not only the data but also proof of the related processing operations that generated the data, or even be able to repeat the data processing, for a period of time that varies depending on national legislations. This applies even more with programs generating VAT entries for instance, or integrating modifications such as “Enhancement Point” or other exits.

Some software publishers, like TJC Group, have specialized in SAP-related decommissioning and archiving solutions. It may be of interest to look at this type of solution when preparing the servers prior to migration (Archiving), saving data, and for programs linked to the migration, or for decommissioning older servers in case of a Greenfield approach or even for a Brownfield approach.

Switchover scenarios

The goal is to start from a solution, whether on the SAP ERP or not, in order to move either to an On-Premise SAP S/4HANA solution, or to a Cloud-based SAP S/4HANA solution.

Possible solutions:

- On Premise : any solution requiring the acquisition of licences from SAP.
- Cloud SAP : any solution requiring a subscription from SAP.

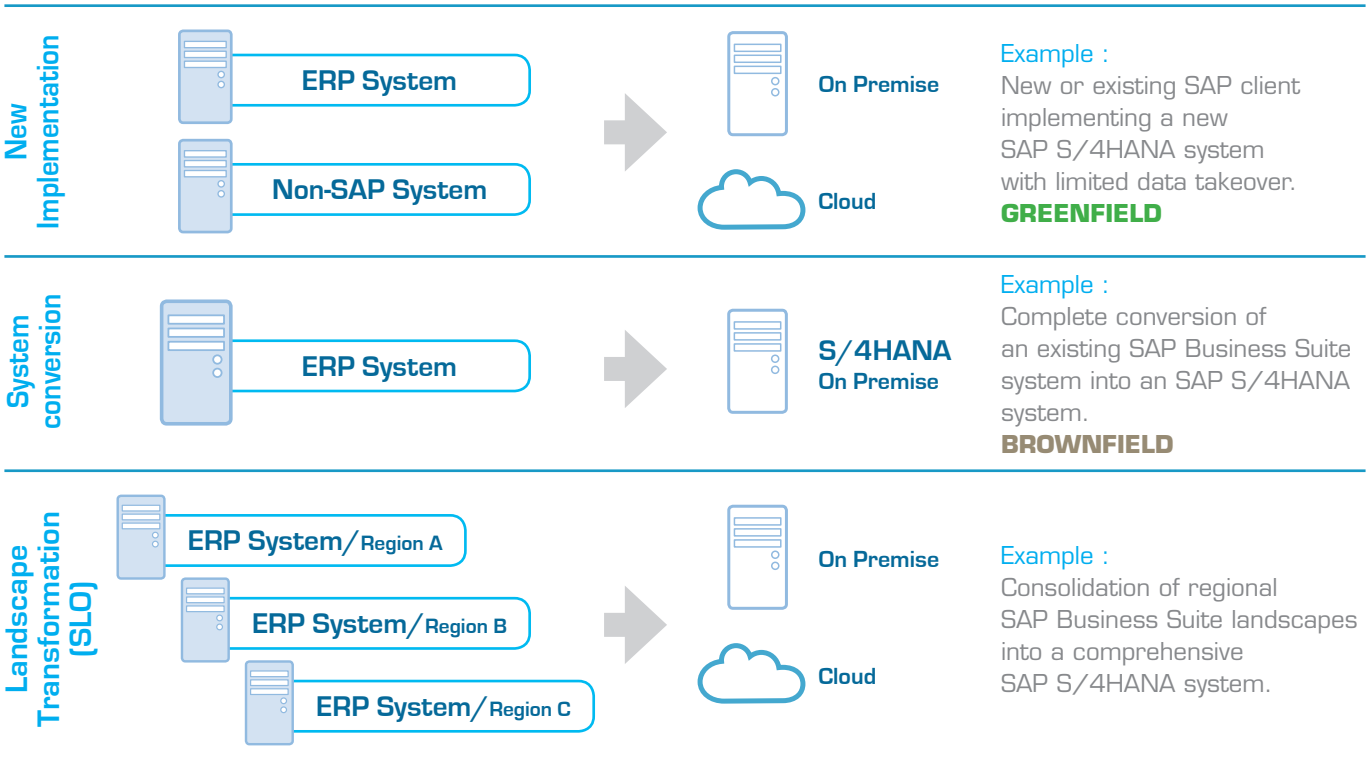
The SAP S/4HANA solutions hosted in the Cloud of a facilities manager or in the Cloud of a hyperscaler like Web Service (AWS), Microsoft Azure or Google Cloud Platform (GCP) are regarded as On Premise solutions in this context since the client must buy their SAP licences.

There are three main scenarios to migrate to SAP S/4HANA:

1 • New implementation, also called Greenfield.

2 • System conversion, also called Brownfield.

3 • SLO or System Landscape Optimisation.



Source: SAP

Each solution contains numerous variants. The purpose of such variants is generally to adapt the migration solution to a given context or to a special use case. The variants enrich the migration solutions, but also complicate the clients' choice since several choices are often possible.

1 New implementation or Greenfield approach

The Greenfield approach was the first solution offered by SAP. It consists in re-creating a new installation on SAP S/4HANA and migrating a limited portion of its data. It is therefore possible to start from any SAP ERP version, or even from a non-SAP system, and move to a Cloud or On Premise SAP solution. This is usually the solution that should deliver the maximum benefits from the new ERP release, since parameter setting needs to be fully done or redone, and the clients will therefore not be constrained by past choices or by any technical debt (originating from numerous specific developments), and will opt for functionalities that will deliver a definitely better return on investment.

This solution is chosen by clients who want to start again from scratch. The main use cases identified are the following:

- Clients who want to launch into a comprehensive business transformation.
- Clients who see an opportunity to return to best practices.
- Clients who are dissatisfied with the parametering of their former solution. This is often the case for clients who want to return to more standard and simpler solutions.
- Clients whose solution has become too complex over time with numerous specific developments, and difficult to control and maintain.
- Clients who want to consolidate several heterogeneous systems, and therefore want to build a new solution.
- Clients who want to move to the Cloud.
- Clients who are beginners with SAP.

One of the major benefits of the Greenfield solution is to enable a start-up in several phases. It is possible to build the new system in parallel with the existing system, and to start with one company, one module, one system... while keeping part of it on the former solution.

However, while the phased start-up is very interesting, it can also quickly become a constraint to start a module or an entity with many interactions with other modules or entities not yet migrated. This can quickly end up with multiple interfaces, double entries, manual work, control statements...

The biggest constraint is the time necessary for the business lines to define a new version of their processes and the ability to make the business decisions converge.

Other constraints relate more to the tool itself and its implementation:

- The first constraint of this solution is often linked to the higher cost and longer duration of the project since parametering needs to be completely redone. It is possible to copy manually some parameter points or to start from pre-parameterized solutions like “Best Practices” or “Model Company” to speed up the parametering time.
- The second constraint is linked to the non-takeover of history logs. In a Greenfield approach, it is generally necessary to take over the balances and outstanding accounts, but not the history logs. If it is indispensable for the business lines to keep historical track records in the target system (purchase orders, sales orders, production orders, stock movements, etc), then this solution is probably not suitable.

2 System conversion or Brownfield approach

The Brownfield approach is a solution designed for SAP clients using SAP ECC 6.0. It enables them to migrate to an On Premise SAP S/4HANA solution. It is not possible to migrate to a Cloud-based SAP solution.

This is the path generally chosen by clients who want to capitalize on their existing solution. The data and structures are taken over, and converted by SAP tools to make them run under SAP S/4HANA.

- These clients are generally satisfied with their current parameter settings that use relatively recent solutions.
- Many small- and medium-size clients will prefer this solution for economic reasons.
- Some clients regard it as a first, rather technical step to gain access to S/4HANA innovations in a second phase.

One of the major benefits of the Brownfield approach is definitely its cost and its ability to have control over the schedule that focuses essentially on the technique, versus a comprehensive project to revamp entirely the company's business processes with all business lines involved and more difficult to control. Since this solution does not require redoing the entire parametering, the needs and costs of IT support service providers will generally be lower. With this solution, it is possible to keep all historical data records. The archived data can generally even be read from SAP S/4HANA.

On the constraint side, this solution does not enable a phased start-up over the scope (per company, per SAP module or per process); the switchover occurs in "big bang" mode for all users. Since the source is an SAP ECC 6 system, all data in this system will be migrated at the same time to the target SAP S/4HANA system. Experience feedback from Vinci Energie has shown that this path was possible even on a large international installation, of course taking the time necessary for test iterations to secure the operation.

In order to leverage all the benefits from SAP S/4HANA, this technical migration phase should be regarded as a necessary step before moving on to a more functional second step with strong business implications, and focused on optimizing the company's business processes and/or adopting SAP S/4HANA upgrades. This second step may be initiated gradually, one process at a time.

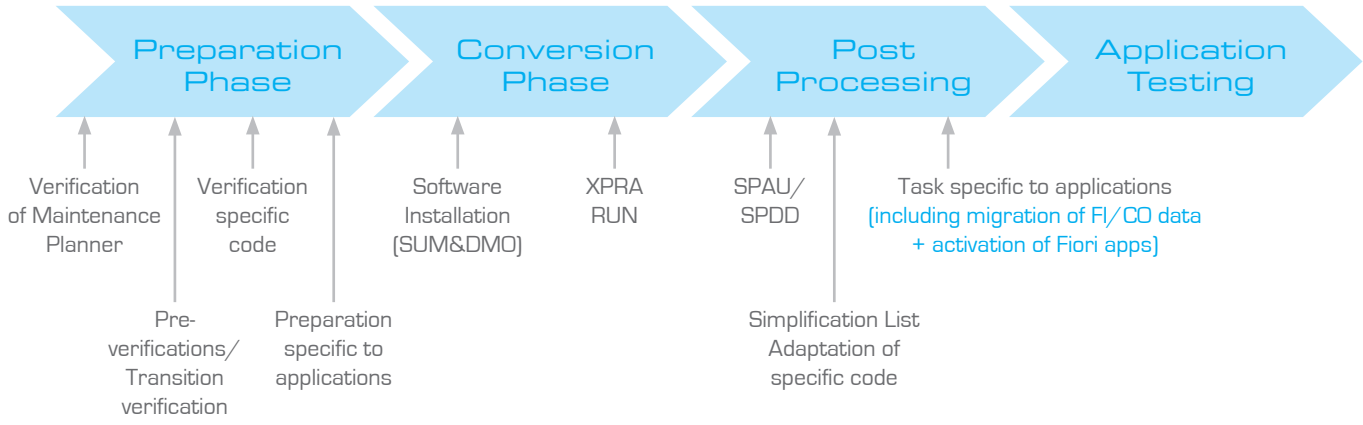
Companies whose processes are highly integrated into an SAP system (many modules, many inter-company or inter-factory flows over international scopes) tend to prefer this solution, since a full parameter resetting and the go-live switchover can often be very complex. It also enables all or part of the specifics developed under older SAP versions to be taken over. The specifics will need to be reviewed to ensure that they run properly with the new data model and the new SAP HANA database.

In this scenario, the SAP migration converts ECC 6.0 into an SAP S/4HANA solution. The pre-conversion preparation phase is very important and should not be underestimated. As a reminder, it will be necessary to convert suppliers and clients into Business Partners, to anticipate an upgrade of some modules (e.g. Credit Management to FSCM Credit Management) or to uninstall some unsupported add-ons.

Similarly to the Greenfield approach, it is therefore indispensable to conduct an analysis of the data quality and project scoping in order to identify the potential risks and business benefits for the purpose of defining a realistic roadmap.

2.1 Brownfield approach, a "push button" migration?

Many SAP clients imagine the migration to SAP S/4HANA in the Brownfield scenario as a simple technical operation similar to an EhP upgrade based on the same principles. It is true that the technical migration operation in itself is close to an EhP upgrade, with the use of similar tools, like Maintenance Planner, SUM, DMO, SPAU and SPDD.



Step	Name	Description
1	Verification of Maintenance Planner	Verification of add-ons and business functions to ensure compatibility with SAP S/4HANA. Creation of file stacks used for the conversion process underway.
2	Pre-verifications/Transition verification	Verifications of ledger statements via OSS note. Identification of further steps, ensure the system is compatible with conversion process.
3	Verification of specific code	Verification of specific code with the list of simplifications developed for SAP S/4HANA.
4	Preparation specific to applications	• Basic data: Activation of Business Partners (Integration Client-Supplier) • Inventory valuation: Switchover to Material Ledger (activation via an SAP statement).
5	Software Update Manager	Automate the conversion process, including kick-off of XPRA.

Source: Inventy

However, one of the major differences versus an EhP upgrade relates to the scope of the steps prior and subsequent to the technical operations:

- Infrastructure project (switch to SAP HANA).
- Security project at network level.
- Project to take into account the Compatibility Pack and Simplification List.
- During the preparation phase, the migration programs will check the compatibility of modules or other add-ons. In case of incompatibility, they will need to be uninstalled, which is not always easy to do. And even in case of compatibility in the preparation phase, some actions may be needed in the post-project phase, e.g. solutions included in the Compatibility Pack to be migrated before 2025.
- Post-migration projects are recommended in order to adopt gradually the benefits of SAP S/4HANA that will deliver business advances.
- For instance: the migration solution transfers the data - Finance in particular - from ECC to the new data model of SAP S/4HANA and migrates to the New GL, with some additional operations necessary after the migration project. In Finance, Document Splitting (balance sheet per activity), and multiple ledgers are the best solutions to leverage the most value from the new accounting functionalities in SAP S/4HANA. These projects, most of which will have to be conducted around an accounts closing exercise, may require substantial preparatory work with a need for significant internal resources.

3 SLO, or System Landscape Optimisation

This migration scenario is based on services offered by SAP and supported by some of its partners. The goal is to migrate the parameter settings and the ECC data model to an empty base (a shell) that is then converted into SAP S/4HANA and into which the data are re-injected.

Basically, SLO is a solution that splits the activities within an SAP system during operations such as business disposals, company mergers or changes of scope. These operations require major technical knowledge and specialized tools in order to guarantee the continuity of business. SAP proposes an innovative migration solution based on this service offering.

From an SAP system, regardless of its version, even earlier than ECC, it is possible to migrate to SAP S/4HANA. Down time is minimized to migrate part of the business or only some processes.

On the benefit side, this is the solution that provides the most flexibility and guarantees since a large part of the services is performed by SAP. Generally, SAP and the partner (consultant and/or integrator) collaborate to parameterize the SLO. It is thus possible to secure the benefits of a Greenfield implementation thanks to the transformation of business processes, as well as the benefits of a Brownfield approach, with a transfer of data and Core Model.

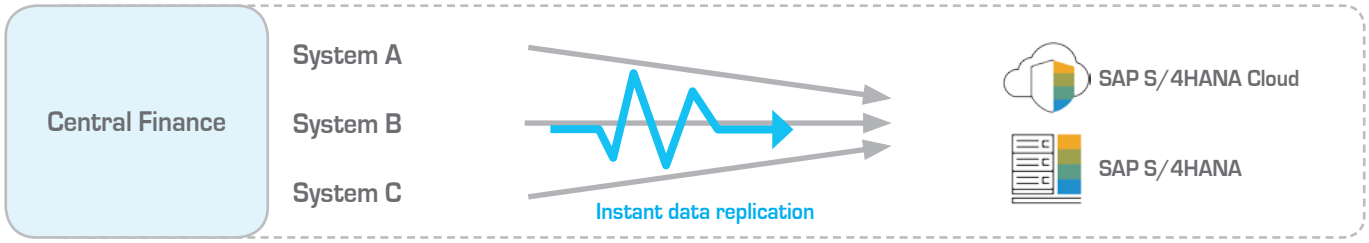
The main drawback of this solution is its cost. However, it can be of interest to look at it when migrating complex landscapes (e.g. consolidation of several SAP systems) or in particular circumstances (e.g. migration of 4.6C to SAP S/4HANA with data takeover and very short down time).

4 SAP Central Finance

SAP Central Finance is an SAP S/4HANA system on its own (i.e. containing all the functionalities of an SAP S/4HANA system), designed to aggregate financial data, both for decisional and transactional purposes, originating from different ERPs (SAP or non-SAP), into a single system.

SAP Central Finance therefore addresses large groups of companies who want to aggregate several instances. For clients who have Finance source ERPs, SAP Central Finance is the ideal pathway for migration. It makes it possible to decommission all source systems gradually by aggregating the financial data into a single SAP S/4HANA target system that becomes the group's transactional system.

For clients who have multi-domains source ERPs (Manufacturing, Logistics, Finance...), SAP considers that a migration path is also possible. However, initial trials have revealed some complexity of implementation.



Source: SAP

Main principles of SAP Central Finance:

Some usually centralized processes can be handled by the following functionalities of SAP Central Finance system: intercompany reconciliation (ICR), central payables, management of receivables, and financial closing cockpit provide new possibilities of efficiency, particularly in an environment of shared accounting/financial services.

Local process

- Logistics and sales.
- Inventory processing.
- Procurement GR/IR.
- Plant level/local close.
- Local regulatory reporting.

Centralized process

- Advanced business segment, entity and group reporting.
- Group wide BS and P&L in real-time.
- Intercompany reconciliation.
- Central cash position/liquidy forecast (AP/AR based).
- In-house/Cash Management.
- Central credit, collection and dispute management.
- Central AP/AR payment processing.
- Central Financial Planning.
- Real-time Consolidation.
- Lease Accounting/Real Estate Management.
- Central Indirect Procurement (Ariba).
- Central travel expense management (Concur).

Source: SAP

Zoom on the replication principle of Central Finance:

Each financial transaction recorded in a source ERP is replicated via SLT and mapped with the target structures of the SAP Central Finance system. The transactions are replicated by recording the financial documents in Central Finance updating the Universal Journal database table (ACDOCA).

Ultimately, Central Finance can remain an SAP S/4HANA aggregation system, and in this case it would not constitute a migration pathway, or it can become the SAP S/4HANA target system containing some non-finance processes (manufacturing, sales, etc).

5 Choosing an SAP S/4HANA implementation scenario The SAP flash test

SAP provides assistance to choose a path of migration to SAP S/4HANA in the form of a flash test. There are 6 questions with replies scored 1 to 5. If the total score exceeds 18 points, then the Brownfield scenario should be selected, otherwise the Greenfield scenario should be chosen preferentially.

1. Can you migrate to SAP S/4HANA in a single step?

- ❒ **1 point** for systems earlier than ECC6
- ❒ **2 points** for Non-Unicode systems
- ❒ **5 points** for ECC6 systems with recent EHPs with New GL

2. Do your business processes support your long-term corporate strategy?

- ❒ **1 point** if the business lines wish to revamp their core processes
- ❒ **5 points** if the business lines are satisfied with their current processes

3. Do you wish to adopt the SAP Best Practices to modernize your core processes? Or do you want to reuse your specific developments?

- ❒ **1 point** if you want to return to the standard, and implement the Model Company
- ❒ **3 points** for one-off application re-developments
- ❒ **5 points** to keep your specific developments

4. Is the consolidation of the SAP landscape a key criterion of your migration to SAP S/4HANA?

- ❒ **1 point** for consolidation
- ❒ **5 points** if you do not have several systems to consolidate (except for BW)

5. Do you need to have your transactional data in SAP S/4HANA?

- ❒ **1 point** if no imperative need
- ❒ **5 points** if your data are necessary

6. Is your "Why" for the project more IT/Technology oriented or more Business oriented?

- ❒ **1 point** if Business
- ❒ **5 points** if IT

SAP S/4HANA Cloud offer

Analysts believe that 60% of ERP solutions will be SaaS solutions based in the public Cloud by 2020. The benefits of the Cloud are not just on the side of IT and cost predictability, they are primarily on the Business side. Enterprises or organizations often find in the Cloud a way to accelerate and fluidify their best practices and innovation.

The SAP S/4HANA Cloud solution is designed to support SAP clients in their digital transformation. Two variants of this solution are possible:

- STE solution (for "Single-Tenant Edition").
- MTE solution (for "Multi-Tenant Edition").

The aspects of latitude as regards parametering and adoption of best practices vary greatly from one company to another. The MTE solution restricts the possible parametering to the scope of best practices available in MTE. The number and functional depth of best practices available in MTE are limited (Scope Items), which helps accelerate and simplify the project, as well as facilitate the daily management. However in the MTE solution, there is still a possibility of customization, either via the available Fiori Apps, or based on extensions, e.g. via the SAP Cloud Platform.

If these limitations are regarded as too restrictive, the STE solution provides the entire scope of SAP S/4HANA parametering, and specific programs can be added without any possibility of modifying the native SAP code. The adoption of best practices is still recommended, although it is no longer mandatory in this case.

SAP provides regular updates based on the release strategy, regardless of the solution chosen. In MTE, updates are done quarterly, without any possibility of dispensation. In STE, updates are half-yearly, with the obligation of applying at least one every year, offering the possibility of benefiting faster from SAP S/4HANA upgrades while giving the client the choice of activating them or not.

To date the SAP S/4HANA Cloud - MTE solution is hosted in the SAP data centers and operated by SAP.

To date, the SAP S/4HANA Cloud - STE solution is also available in the data centers of Amazon Web Services, Google Cloud Platform and Microsoft Azure.

SAP S/4HANA licences

1 Key principles of On Premise licensing

The SAP S/4HANA licensing model fits into the simplification approach implemented by SAP for several years.

In order to better understand the topic, it is important to:

- Make a semantic distinction between:
  - The SAP S/4HANA "world" and the ECC "world" that SAP calls "classical". The term "ERP" is generally restricted to the "classical world" (and therefore designates ECC).
  - Within the SAP S/4HANA world: SAP S/4HANA Enterprise Management (i.e. the digital core as a successor to ECC) and the other software products (sometimes called "engines") in the SAP S/4HANA portfolio.
- Give a brief reminder about the model applicable to the "classical world": for each product, the client must buy not only a licence for the relevant software package (subject to its own metrics: number of users, revenue, cores, etc) but also a "Named User" licence for each person who will be using that software. It should be noted that even in the "classical world", many other software products are exempted from this Named User licensing requirement.

The key principles of the SAP S/4HANA licensing model are as follows:

- For SAP S/4HANA Enterprise Management software:
  - The default model is to grant a licence only for the software, based on the number of users and according to 4 profiles (Professional Use, Functional Use, Productivity Use and Developer Access).

    This model applies only (i) to new clients (i.e. who had never bought ECC) and (ii) to existing clients who want to adopt the Contract Conversion approach (see below).
  - For existing clients who do not want to adopt the Contract Conversion approach, considering that, apart from this approach, SAP does not authorize the investment spent for Named User licences to be taken over, SAP has put in place a specific model called "SAP S/4HANA Enterprise Management for ERP Customers".

    This specific model is intended precisely to enable a client to keep benefiting from this investment in the SAP S/4HANA world.

    The SAP S/4HANA Enterprise Management licence is granted on the basis of a flat fee metrics (currently 9,000 euro ex-VAT) and the volume of users continues to be managed with Named User licences.

- The model is even simpler for the other software packages in the SAP S/4HANA portfolio, and is applied identically, regardless of the client's situation or the model chosen for SAP S/4HANA Enterprise Management: the licence is granted only for the software, based on a single metrics per solution (revenue, number of users, etc).

  More specifically, the software user does not need to be covered by a Named User licence, nor by an SAP S/4HANA Enterprise Management Professional Use, Functional Use, or Productivity Use licence.

  It is also important to remember that, in application of the "SAP Application Access" principle, this is also the case when a person uses SAP S/4HANA Enterprise Management via and for the needs of an engine other than SAP S/4HANA (e.g. when the use of the SAP S/4HANA engine requires running transactions in SAP S/4HANA Enterprise Management via that engine): no other additional licence is required; the licence on the SAP S/4HANA engine is sufficient.

In other words, in the SAP S/4HANA world, the only product for which Named User licences are still required is SAP S/4HANA Enterprise Management for ERP Customers.

A final key principle to be kept in mind is that the "SAP S/4HANA world" is available only with the SAP HANA database (Runtime Edition or Enterprise Edition).

2 Key principles for the Cloud

For the Cloud, several paths are proposed: SAP S/4HANA Cloud services in the public Cloud (Multi-Tenant Edition, "MTE"), SAP S/4HANA Cloud services in a private Cloud (Single-Tenant Edition, "STE"), or HANA Enterprise Cloud services (HEC).

The principles mentioned above for On Premise are generally applicable, with the caveat that the model "SAP S/4HANA Enterprise Management for ERP Customers" does not exist in the Cloud.

For the MTE and STE Cloud offers, the metrics applicable to the SAP S/4HANA Enterprise Management digital core is "Full Usage Equivalents" (FUE) that provides great flexibility of allocation between the different use profiles available (SAP S/4HANA for advanced use, SAP S/4HANA for core use and SAP S/4HANA for self-service use).

3 Conversion paths

Two conversion approaches exist: "Product Conversion" or "Contract Conversion"

Remembering that converting the existing portfolio over to the SAP S/4HANA world is absolutely not a contractual obligation, SAP currently proposes two approaches for On Premise solutions: "Product Conversion" or "Contract Conversion".

It should be noted that initially choosing the Product Conversion approach (or acquisition of SAP S/4HANA Enterprise Management for ERP Customers) does not in any way deprive the client of the option of adopting the Contract Conversion approach later on (provided of course that it is still available).

Several principles are common to both approaches:

- Similarly to any other SAP licence conversion:
  - The client is given a credit applied to the net licensing fee for the new acquisition - the credit amount can reach up to 100% of past investments made in the converted software.
  - The converted licences are then terminated.
  - The corresponding maintenance base is taken over.
- For a conversion to SAP S/4HANA, in spite of the termination of the converted licences, SAP grants to the client the right to keep using them until the migration to SAP S/4HANA is completed, up to the 31 December 2025 deadline. SAP will also continue to provide maintenance on the software packages being converted (up to the expiry date applicable to these programs). Regarding the permitted level of use, the rule is that during the migration phase, the cumulative use level of the converted software and of the corresponding SAP S/4HANA package must not exceed the use level granted for the SAP S/4HANA package.

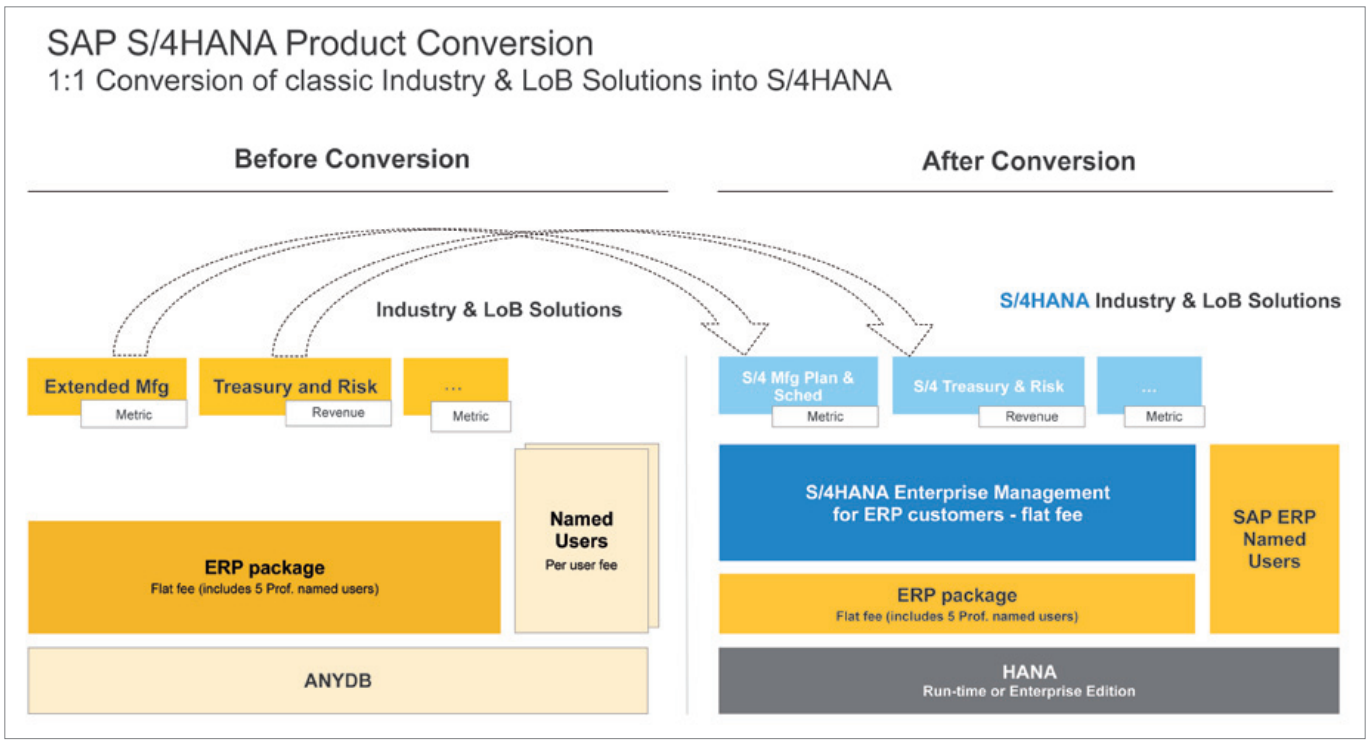
3.1 Product Conversion approach

The acquisition of the SAP S/4HANA Enterprise Management digital core takes place via the SAP S/4HANA Enterprise Management for ERP Customers model mentioned earlier.

For other software packages, the client converts the "classical" packages to the SAP S/4HANA successors over time, package by package.

The operation is possible only if SAP has established a conversion path.

Apart from a few exceptions (in particular for SAP Digital Access), the Named User licences are not part of the conversion (in particular, they are not credited). The corresponding maintenance flow can however be stopped fully or partially under the Terms & Conditions of the On Premise Extension Policy and Cloud Extension Policy.

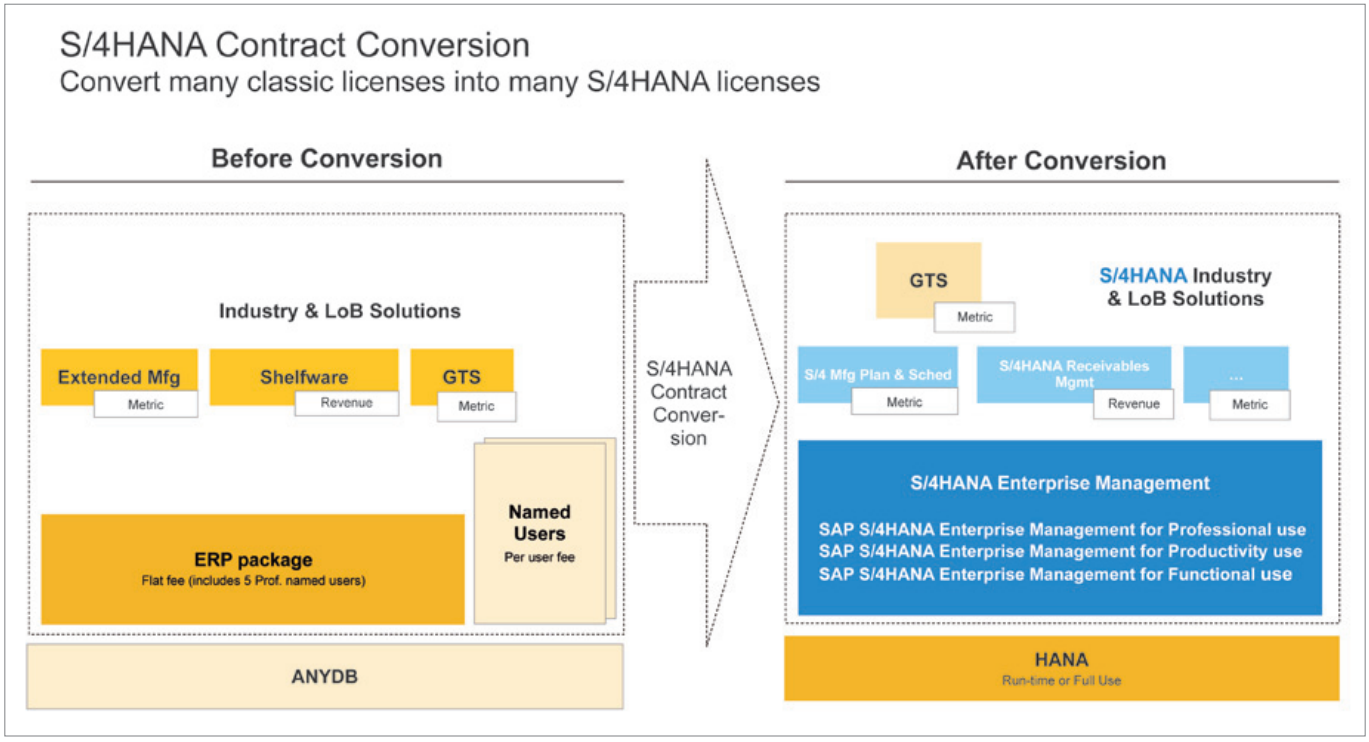


Source: SAP

3.2 Contract Conversion approach

Unlike Product Conversion, the Contract Conversion approach:

- Enables the switchover to the SAP S/4HANA world in a single operation.
- Clients are entitled to a credit for the entire existing portfolio (except for some packages, e.g. in particular third-party database), whether or not there is a conversion path.
- In particular, it enables the clients to include into their conversion credit some products that are no longer used, and therefore to address their entire shelfware as appropriate, in particular Named User licences.
- The credit can be applied against the acquisition of SAP S/4HANA (or classical) packages, even if the client did not previously have the corresponding "classical" package.



Source: SAP

3.3 Switch to SAP S/4HANA Cloud world

Clients can benefit from the Cloud Extension Policy for the Cloud-based version, consisting in terminating all or part of their On Premise portfolio (and related maintenance flow) in counterpart for a subscription to Cloud services.

It is possible to cumulate the various approaches: On Premise Product Conversion or Contract Conversion and Cloud Extension Policy.

Some best practices from experience feedback

This chapter addresses a number of lessons learned from testimonials of companies who agreed to share their experience with the Working Group.

The list makes no claim to be exhaustive or serve as a reference, but may prove useful to benefit from some lessons and best practices derived from real projects before launching one's own project.

1 Some general best practices

1.1 Pre-project phase and building the Business Case

One of the key success factors of an SAP S/4HANA project is close implication of business functions, even if they are not the project sponsor themselves. The first step is therefore to demonstrate the potential benefit of SAP S/4HANA so that business functions will buy into the project themselves rather than resist the change. They will become valuable allies to get the budget approved by General Management.

In the preliminary phase, there are multiple options to help the business functions take ownership of SAP S/4HANA and manipulate it:

- ERP Sim Game.
- Trial SAP S/4HANA Cloud (one-month free access to SAP S/4HANA Cloud).
- Fully Activated Appliance (paying installation of a pre-parameterized appliance for a longer period).
- PoC or migration prototype starting from your own ECC and own data.

Whatever the reasons for the SAP S/4HANA project, it is recommended to begin with a phase of Business Case qualification and assessment of the various drivers identified (technologies, business or change of Business Model). This phase will be more efficiently carried out with back-up from SAP ecosystem partners familiar with this exercise.

1.2 Choosing partners

At this point in the SAP S/4HANA roll-out, it may still be difficult to find partners able to provide complete teams having extensive experience with SAP S/4HANA. Certifications/qualifications of the partner by SAP or partnerships at SAP level should be carefully reviewed.

If the potential partner already has experience with one or several SAP S/4HANA projects, it may be useful to seek feedback from their clients for reference purposes.

If the partner does not have any prior experience with any SAP S/4HANA project, then a win-win partnership may prove mutually fruitful to enable the partner to gain a first experience in counterpart from special negotiated terms. In this case, it is recommended to involve SAP in the project for added security.

1.3 Training of internal staff

Training must be planned ahead of time for internal teams since SAP S/4HANA adds a number of new technologies that need to be learned proficiently.

On infrastructure if hosted On Premise:

- Proficiency is required for SAP HANA, Linux and SAP HANA Appliances, which may be a significant technological disruption for the SAPCCs who have not implemented the SAP HANA technology yet.
- Proficiency must be gained on the Gateway for Fiori if not previously implemented yet.

On customization (SAP parametering):

- Parametering for SAP S/4HANA does not seem to be very different from ECC. Companies who completed the migration report that their staff have become quickly familiar with it.

On development:

- There are no fundamental programming changes on the ABAP side, but proficiency will however be needed to handle the changed and simplified data model.
- To the greatest possible extent SAP S/4HANA ensures compatibility with the specific development made in ECC during the switch to SAP S/4HANA, but experience feedback has highlighted some needs for optimization in certain cases. In which case, proficiency is necessary with CDS Views that ensures program compatibility further to the simplification of the data model and also provides real time access to the reporting feature.
- Proficiency also needs to be acquired in using the SAP HANA platform, SAP HANA Studio and Data Base Explorer.
- Training will imperatively be required in Fiori development, HTML5 language and OData in order to access data under SAP, and in new development methods and tools (WebIDE). The impact of these changes on ABAP developers unfamiliar with these technologies should not be underestimated. Conversely Web-world developers should become easily familiar with Fiori development, but may become quickly restricted by the ABAP world. The proportion of development in Fiori will most likely increase with the implementation of SAP S/4HANA and the multiplication of apps.

On authorizations and security:

- The wider opening of the platform will require rethinking aspects of authorizations and security in the broad sense.
- It will be imperative to work on this topic since Fiori also adds a new dimension to authorizations.

On new functionalities:

- Since SAP S/4HANA adds a number of new functionalities, it is necessary to take the time prior to the migration project to train the staff in order to leverage its benefits during and after the project (avoid continuing to make specific developments, acquire the reflex of finding new opportunities to rethink existing processes).

It is also worth stressing that this training step is a major motivation driver for the teams that will be onboarded in the project.

1.4 Involving SAP closely in the project

Since SAP S/4HANA is still a relatively young product and the related expert skills are still scarce, it is recommended to involve SAP in the project as much as possible.

SAP can be contractually involved in the form of a tripartite contract with the partner, which helps secure the project by avoiding any potential disclaimer of responsibility in case of problem.

L'éditeur SAP propose également, outre les programmes et outils SAP fournis, trois modes d'accompagnements principaux :

1 • Execution of all or part of the migration itself (preparation, assessment, implementation or increase of capacity) via Professional Services offers, similar to service propositions from SAP partners.

2 • Training on the use or implementation of such projects to speed up the pace of expertise ramp-up both for partners and clients via their Education offers. The training catalogue includes classroom training or virtual e-learning sessions, in French or in English, as well as customized training curricula. Training contents may address technologies, functional items or migration aspects.

3 • In the event of major challenges, e.g. linked to business, policy, exposure to General Management, requiring a strong need to secure the projects, SAP Premium Engagement partnerships are SAP's primary consulting strategy, as a complement to the partner and/or client. This partnership involves structured scheduling support, including an SAP representative on the project team as early as the scoping or assessment phases, in order to orchestrate the necessary expertise and services at the right time. The contents of these support offers vary according to their costs:

- **SAP MaxAttention** => Support over several years, to guide, secure, optimize the use of the application portfolio and accelerate Time to Value. Includes the full-time presence of a dedicated SAP representative and covers all 10 Focus Topics (catalogue of over 200 services and deliverables), methodologies and access to the innovation ecosystem and exclusive events.
- **SAP ActiveAttention** => Support over several years, to guide, secure, optimize the use of the application portfolio and accelerate Time to Value. Includes the part-time presence of a dedicated SAP representative and access to part of the 10 Focus Topics.
- **SAP Value Assurance** => Support for 3 to 18 months for implementation of critical projects, i.e. S/4HANA, BW/4HANA and Cloud: quality assurance, back-office access and presence of a dedicated SAP representative.

In all cases, it is recommended to obtain back-up from SAP Support services who offer several support formulas (e.g. Value Map). These formulas are integrated into the Enterprise Support contract at no extra cost.

1.5 Contract and licences

The chapter dedicated to licences describes all of the possible options.

It is recommended to start very early in the project by assessing the impacts of the Simplification List and Compatibility Pack in order to have reliable information to choose the best contractual path given the company's environment, and to have all elements in hand to negotiate. Since this step is always time consuming, it should be anticipated as much as possible in advance.

USF has previously published several documents on this topic that may prove useful for this project step, such as publications on "Guides to best business practices", "Indirect Access" or a review of the new type of Digital Access licensing.

For instance, for clients who have many unused licences (Shelfware), the full contract conversion linked to the implementation of SAP S/4HANA may constitute an opportunity, but it should be kept in mind that an older contract may be more favourable than a recent contract; since SAP is not dictating anything at this stage, every client will have to make their own choice accordingly given their context.

1.6 Integrating the retention of an archiving ECC6 environment in the budget estimate

Under a Greenfield scenario, since the data taken over into the new SAP S/4HANA system are not exhaustive (balances, outstanding accounts, write-off of old data...), it will therefore be necessary to retain an archiving environment to enable access to non-transferred or modified data by the business functions and for auditing purposes (Statutory Auditors, compliance with regulations) and other controls (e.g. tax audits...).

This should also be considered in a Brownfield scenario, depending on the modifications made to the solution.

The cost of retaining this archiving environment must therefore be taken into account when estimated the project's budget, based on the retention time and necessary access. It should be noted that licence management may be somewhat complex and should also been taken into account (in particular for obsolete databases and software).

2 Some best practices to implement a Greenfield project

2.1 Build a demonstrator for the business lines based on the SAP S/4HANA standard

This is even more necessary to encourage the business functions to buy into SAP S/4HANA than for a Brownfield project, since in this case the goal is to achieve the best use of the SAP S/4HANA standard processes. It is recommended to use all of the options offered to help the business functions get familiar with SAP S/4HANA (see chapter on "Pre-project phase and building the Business Case").

2.2 Ask the business functions to take a position on the use of the standard

One way to boost a project may be to demonstrate to business functions the use of standard processes (Best Practices) based on the pre-parameterized solution incorporating the verticals per business, and then asking them to state their position about it for a limited time, explaining what might be obstacles to carry out their work (a "Why not" approach). Combined with a well-established project-based governance and with a prior definition of "golden rules", this approach can be a real project booster as well as a source of subsequent savings in operational condition maintenance. Experience feedback has shown that, based on this principle, the relevant roll-out could be completed within just a few months.

2.3 Consider the new SAP Model Company offer

The new SAP Model Company offer could also act as a project booster; it provides for parametering per country (incorporating localizing) and per business. It is designed to save time when customizing the solution thanks to pre-set and adapted parametering. Its cost should be assessed against the time needed for parametering and maintenance, and its adequacy to the client's needs.

2.4 Prepare and equip the data transfer from ECC6 to S/4HANA

All lessons from experience have shown that the data transfer workstream should never be underestimated. In a Greenfield project, it will be necessary to archive the unused data, clean out the old data, delete any duplicates, complete any incomplete data, process inconsistent data, and make choices on the data to be taken over before injecting them into the new system. Depending on the nature and volume of the data to be transferred, this may become a rather substantial task, particularly for the Business Partner whose modelling system will change with SAP S/4HANA.

It is therefore recommended to dedicate appropriate resources to this task that will be both iterative and time consuming, and to get it organized with the business functions who alone are able to make decisions on their data.

3 Some best practices to implement a Brownfield project

3.1 Review the allotment of the project

In a Brownfield project, depending on its scope, it is possible to adopt a stepped approach in order to make it less massive, e.g.:

- Some companies started by migrating their ECC to an SAP HANA base (SoH - Suite On HANA), thereby enabling the infrastructure project to be carried out before implementing SAP S/4HANA. This also helps the staff familiarize themselves with the SAP HANA technology, Linux and Appliances if they were unfamiliar with them. It also reduced the switchover time and the down time versus a complete switchover. The migration to SAP S/4HANA will then take place subsequently in a second step.
- Once the SAP HANA base is installed, some components that may have a business impact to various extents may be activated (e.g. New GL, Business Partner...).
- Other companies have also opted to migrate to SAP S/4HANA without activating Fiori, which has the advantage of not causing any user disturbance initially versus the existing ergonomics. Fiori can then be gradually activated one business process at a time.

This approach therefore requires several test phases (at each step). Lastly, it is also possible to perform all of these steps concurrently at the same time.

3.2 Build a demonstrator for the business lines on a migrated base

In order to help the business functions project themselves into the SAP S/4HANA solution, it may prove useful to show beforehand, in the form of a POC or prototype, what SAP S/4HANA will change, by setting up a demonstrator on a migrated base containing the company data, which is generally more meaningful for the business lines than data in a standard model base.

Even if all functionalities are still not operational in the first migration step, it can be helpful for the business lines to buy into the solution and actually request the activation of innovations that can take place in the second project step.

3.3 Launch the Readiness Check as early as possible to identify the gaps

The Readiness Check can be launched quickly and its results are easily obtained. This helps the teams comprehend very early on the impacts of the project and start identifying any large gaps, in particularly to detect the functions and modules that are not "migratable" or are present in the Compatibility Pack (non-usable after 2025), as well as compatibility with specific developments in order to secure the list of adjacent projects to be launched and scheduled.

3.4 Archive the archivable data before migrating

Not all data archived before the project will need to be migrated, which can reduce the migration effort. Lessons learned from experience by companies who have switched over to SAP S/4HANA have shown some potential difficulties with older, long-unused data that would actually block the migration process (e.g. data from former shut-down companies...).

In addition, proper archiving will reduce the volume of data to be migrated, and therefore the migration time and the space needed for the SAP HANA database.

3.5 Anticipate the implementation of the Business Partner

The change in third-party modelling (clients, suppliers...) via a single instance named Business Partner will require substantial work on the data. Cleaning the existing data and archiving older data prior to the migration to SAP S/4HANA will help reduce somewhat the extent of this task, particularly if the volume of third-party data is significant.

3.6 Analyse the impact of fixed assets

Feedback from some experiences has highlighted a point of vigilance on the new engine for fixed assets ("property, plant & equipment") in SAP S/4HANA. This point should therefore be taken into account in the project, particularly if the volume of fixed assets is significant.

3.7 Analyse incompatibilities on the specific code as early as possible and adapt development standards

All prior experiences have shown that it is imperative to anticipate this point prior to migration, particularly if there are many specific programs. A best practice is to adapt the development standards in ECC at this time, in anticipation of the changes brought by SAP S/4HANA.

The SAP S/4HANA Readiness Check of the data model simplification helps identify the programs that will not migrate and will have to be taken over. The Code Inspector and ATC (ABAP Test Cockpit) can analyse the code prior to migration.

3.8 Verify the performance of the specific code linked to data model simplification

Some specific programs that remain compatible after migration, may end up with excessively long run time. The stacking of CDS Views - to produce standard views on the new data models while retaining views of the former tables to ensure compatibility - can cause the performance to deteriorate significantly.

Performance tests performed in the early phase of the project can help detect the programs and views to be taken over. This task should not be neglected since the optimization can be complex to carry out.

3.9 Rerun the switch as many times as needed to limit the risks

Some companies who have now migrated, had conducted 6 to 10 switch runs to ensure perfect control over the process on switchover day and optimize it as much as possible to reduce the migration time with voluminous databases. The time necessary to complete all migration operations for a database can last longer than one weekend.

3.10 Equip the tests to target the scope and be able to rerun them

A migration project of this extent will require numerous tests that will need to be rerun several times. It is therefore indispensable to equip the testing process correctly in order to target the scope to be tested, monitor the testing progress reliably, and be able to rerun the same test scenarios at each iteration.

In addition, users need to be involved in the tests, since it helps to better target the tests as well as to familiarize the users with SAP S/4HANA.

3.11 Build the best strategy to implement Fiori

The implementation of Fiori can range from a non-implementation up to a comprehensive general application to all processes that exist under Fiori. Some companies completed their migration without activating Fiori initially, while others carried out both simultaneously.

Even though the Fiori Apps help simplify the use for the users versus using the classic SAP GUI screens, it is nevertheless necessary to plan for a change management step.

If the standard Fiori App is not suitable for the business, it may often be more efficient to write a brand new app instead of trying to adapt a standard app, as the Fiori Apps provide less leeway for modification than classic ABAP screens. It therefore seems necessary to build a suitable strategy in this respect.

Conclusion

USF publishes this Position Paper to ensure that the latest updated information is available to all USF members in an effort to advance discussions on this topic in their respective company or organization.

This Position Paper intends to provide an overview of the questions that need to be asked before launching into an SAP S/4HANA project. This overview is designed to be pragmatic, while delivering summary information to ensure that the entire document is intelligible for a readership that also includes non-experts. Everyone can then opt to dig deeper into topics as they deem necessary.

The Position Paper addresses the status of the market, as well as strategic aspects, the main inputs of SAP S/4HANA, the technology and differences with ECC6, business issues and licensing. It summarizes some best practices and lessons learned from the experience feedback from early adopters of SAP S/4HANA, although it makes no claim to be exhaustive.

For many companies and organizations, the subject of SAP S/4HANA is still relatively little known; this document should therefore contribute to clarify the concepts that must be comprehended before launching such a project. Just like any other technological innovation, SAP S/4HANA generates many questions: Should we go there? When? How? What are the risks, the points of vigilance, the boosters?

This work is the outcome of many months of exchanging and sharing of views within the USF SAP S/4HANA Working Group entitled "The paths to get there" ("Les chemins pour y aller") that definitely contributed to clarifying the participants' perception. While initially the main argument to look at the topic was simply "because SAP is forcing me to do it in 2025", by the end of our work, the argument had shifted to something closer to "because I can see a business benefit", as attested by our survey results shown at the beginning of the document. We hope that it will also be the conclusion reached after reading this publication, since it is the most legitimate driver to trigger such a project.

In any case, for us individually as authors of this document, this was a truly enriching experience for all contributors; we all appreciated the opportunity to dig deep into each topic, as well as to discover new topics, to share viewpoints and better understand the ins and outs of the pathways leading to SAP S/4HANA.

It also proved to be a real opportunity for SAP to better comprehend the issues faced by their clients via the numerous discussions held within the USF working group, and to take advantage of the occasion to clarify a number of points. All of us have gained a better understanding of the challenges and possible approaches; we hope to have successfully shared it as clearly as possible in this Position Paper, and to have contributed usefully to fuel your own thinking on the best strategy to be adopted.

Co-authors

David Bizien **Christian Charvin** **Bernard Cottinaud** **Philippe-Thierry Mieg** **Arnaud Remy**

Glossary

- **Best practice** : A library of standardized contents, also known as SAP Rapid Deployment Solutions, or SAP RDS. It is designed to support and accelerate implementation projects with ready-to-use business processes.

  Read more at: https ://rapid.sap.com/bp/

- **Brownfield** : A system conversion approach adapted to a migration to SAP S/4HANA backed by existing systems.

- **Compatibility Scope Matrix** : List of functionalities, business solutions (LoB) and verticals that are not included in SAP S/4HANA but can be used with SAP S/4HANA thanks to the Compatibility Pack. It should be noted that as of 01/01/2026, SAP clients will have to stop using the functionalities listed in the Compatibility Pack.

  https ://help.sap.com

- **Entreprise ou organisation** : Refers to private companies and public institutions in a business relationship with SAP and its partners (e.g. SAP clients).

- **Greenfield** : Conversion approach consisting in a new implementation of SAPS/4HANA starting from scratch to redefine business processes and possibly backed by Best Practices or Model Companies.

- **Hyperscaler** : Name used to designate the Cloud giants like Amazon Web Services, Google Cloud, Microsoft Azure... who provide Cloud-based "Infrastructure as a Service" (IaaS) to host and run SAP S/4HANA (On Premise and STE).

- **Model company** : A service offering provided by SAP Digital Business Services (DBS), backed by preconfigured end-to-end processes, business content, and boosters specific per industry and for some business sectors. They help accelerate the implementation of SAP S/4HANA.

  https ://help.sap.com

- **MTE** : for "Multi-Tenant Edition": It is one of the SaaS versions of SAP S/4HANA Cloud, hosted in a public infrastructure, on a smaller functional scope than SAP S/4HANA/MTE, with quarterly updates.

  https ://www.sap.com/france/products/s4hana-erp-cloud.html

- **Native HANA Applications** : Designates software packages in the SAP price list that are not from the SAP S/4HANA world but run natively on the SAP HANA platform, and only on SAP HANA. These packages can be rolled out on the same installation used for SAP S/4HANA.

Glossary

- **On Premise** : Refers to classical licences of the SAP S/4HANA version that can be rolled out on a specific infrastructure chosen by the client.

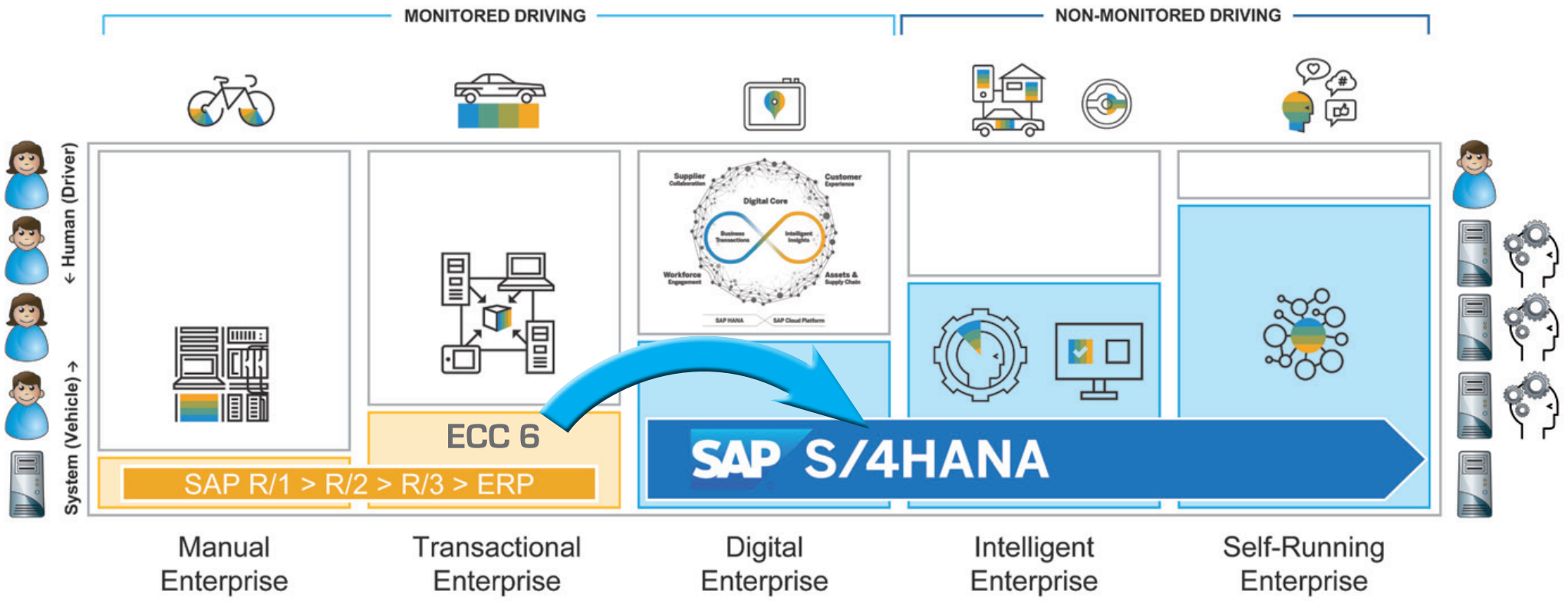
- **RPA** : Acronym for "Robotic Process Automation", a software technology that replicates automatable human activities, to execute automatically some steps in a given process.

- **SAP Cloud Platform** : Name of SAP's "Platform as a Service" (PaaS) Cloud offer designed to meet challenges of integration, functional extension and innovation. The PaaS is hosted in the infrastructure of SAP and of hyperscalers.
  https ://cloudplatform.sap.com/index.html

- **Simplification List** : List designed to identify, for each item, what changes between ECC and SAP S/4HANA. It should be noted that this list varies depending on the SAP S/4HANA releases.
  https ://help.sap.com

- **STE** : for "Single tenant Edition": It is one of the SaaS versions of SAP S/4HANA Cloud based on a dedicated infrastructure, providing the same functional scope as SAP S/4HANA On Premise, with annual updates (minimum).
  https ://www.sap.com/france/products/s4hana-erp-cloud.html

The Digital Core towards the Self-Running Enterprise



Source: SAP

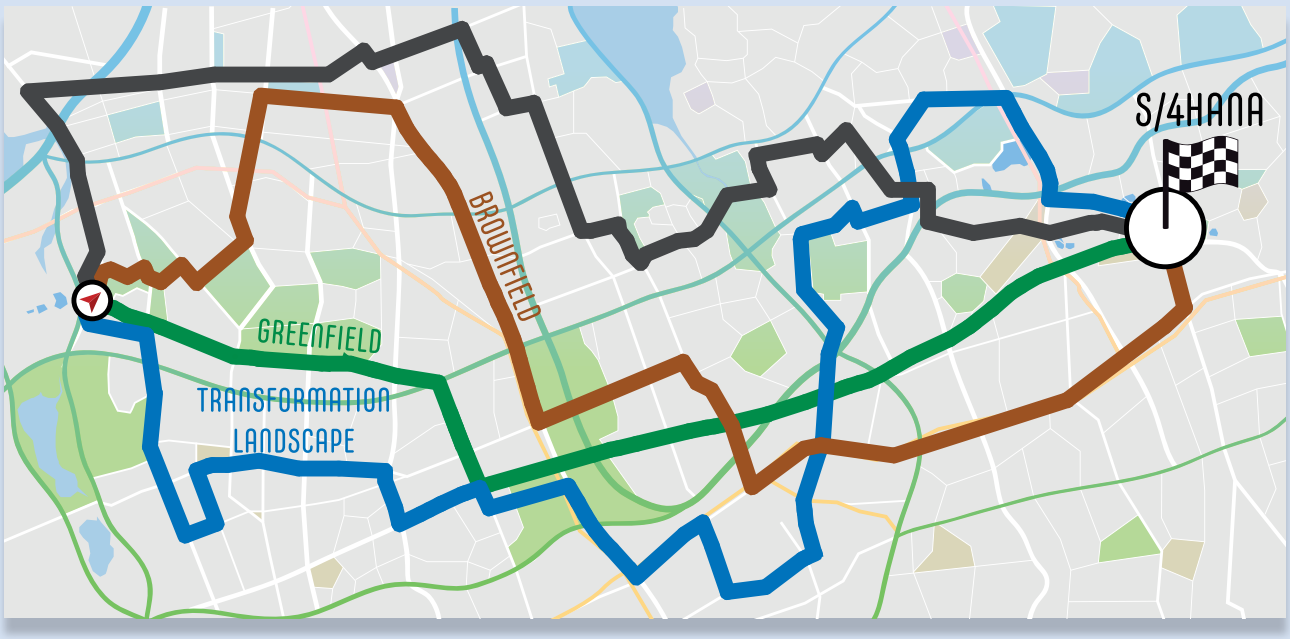
About USF

Created in 1989, USF - *Utilisateurs SAP Francophones* is the French-speaking SAP User Group.

In full independence of the software editor, USF aims at sharing knowledge and experiences between French-speaking users of all SAP solutions and SAP ecosystem, as well as influencing SAP. USF is one of SUGEN (SAP User Groups Executive Network) founding members.

USF membership is of 3,400 members representing 450 companies and organizations (among which 50 public administrations or institutions), as well as 75% of CAC40, 66% of SBF120.

USF is running the major SAP users event of the French SAP ecosystem called *La Convention USF*.



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USF - 64, rue du Ranelagh - 75016 PARIS - FRANCE