ERP Clean Core Strategy
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PUBLIC

SAP

Executive Summary

Organizations must adapt to changing business environments and adopt new capabilities to thrive in a digital era

Organizations rely on IT to provide the capability that ultimately drives strategy. Flexibility and swiftness to support strategic changes or enable innovation are key. However, legacy systems carrying significant technical debt can limit organizational agility.

Modern enterprise resource planning (ERP) software can now act as a dynamic, living platform and provide extended capabilities – built-in insights, automation, workflow, standard integrations, and easy extensibility – providing differentiating capability without the technical debt.

However, organizations must address legacy complexity to be able to consume these new technologies, and thereby enable business evolution.

Legacy complexity prevents organizations from fully realizing the benefits of transformation

Technology-driven organizations have historically built on top of standard functionality to extend the capability to meet business needs. However, continuing to maintain decades-old technology now limits benefits and increases the cost of adopting new technologies. Organizations cannot drive the next level of business transformation while carrying significant technical debt, because they are slower to innovate, more expensive to run and upgrade, and riskier to operate.

The "clean core" is a concept to achieve modern, flexible and cloud-compliant ERPs

For an up-to-date ERP we achieve a clean core by integrating and extending the system in a way that is cloud compliant, and by governing master data and business processes. With that, when it comes time to upgrade a system, changes can be put in place without significant manual efforts to test and adapt existing structures.

Modern technology and cloud delivery capabilities make it possible to enable business value without contributing to technical debt

A modern approach provides an opportunity to extend functionality in a cloud-compliant manner, as well as a separate platform to innovate for additional differentiation. This makes it possible for organizations to develop and consume innovation more quickly, upgrade in a cost-effective manner, and mitigate risk by running according to a reference architecture.

A clean core improves operations now and sets the foundation for the future

Organizations running clean environments run better now – they are able to innovate faster, at a lower cost, and with lower potential risk.

Environments following standardized guidelines set the foundation for the future as they either prepare organizations for moving to the cloud, or maximize the benefits of cloud operations for those who have already made the transition.

Moving towards a clean core requires a phased approach

First, organizations must define the overall strategic direction for their digital core. This is determined by the amount of change required to deliver business capabilities, and how quickly that change must be realized. These factors will determine whether they clean up their core, innovate in place, migrate to a new landscape, or transform with a new implementation.

Next, organizations act in alignment with strategic direction. Some organizations will "get clean" via migration transformation, others by new implementation. In all cases, organizations will need to "stay clean" by establishing strong governance.

Understanding the potential value will support investment in getting and staying clean

SAP is continuously developing tools and methodologies to help organizations understand business and technology imperatives along with the full scope of potential benefits from transformation. We look forward to partnering with you on this journey.

Organizations rely on IT to provide capability to drive strategy

IT must deliver necessary capability while also maintaining organizational agility

The key objective of IT is to grow an organization's competitive differentiation by providing the business with the necessary capabilities from the right technology. Historically, this led to variation directly in ERP systems – of data, processes, integrations, extensions and ultimately the code. In some cases this was necessary; providing business-critical capability not present in standard or integrating disparate systems. In other cases, changes that were introduced did not deliver valuable outcomes. Whether necessary or unnecessary, the way in which standard functionality was extended sometimes introduced technical debt requiring significant effort to maintain.

Now, changes in both the business and technology landscape are forcing organizations to address legacy complexity. Disruption across global supply chains, customer preferences, and employees means businesses must adapt quickly to changing requirements. Advancements in technology mean that new capabilities are available at an accelerated pace. Significant technical debt limits the ability to adopt new technologies – 10 to 20 percent of the technology budget dedicated to new products is diverted to resolving issues related to tech debt[1] – thereby limiting the ability to respond to new business requirements.
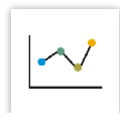
Changes to Business Landscape	Changes to Technology Landscape
Rate of business processes innovation increasing in response to global crises	Move from on-premise to cloud changes software from an asset to a service
Switching costs declining due to empowered customers being able to select different products and services	Broader availability of standardized functionality across business functions
Changing customer and employee preferences and needs	Platform capabilities enabling a "decoupled" architecture to continue innovation in a sustainable manner
Businesses generating overwhelming volume of data; most are unable to leverage it effectively	Prevalence and maturity of intelligent technologies (artificial intelligence, machine learning, internet of things, etc.)
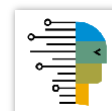
There are new ways to address business needs while avoiding excess technical debt, which will prepare organizations to maximize strategic benefits and limit the cost of transformation.

[1]Tech debt: Reclaiming tech equity (2020). McKinsey. Link

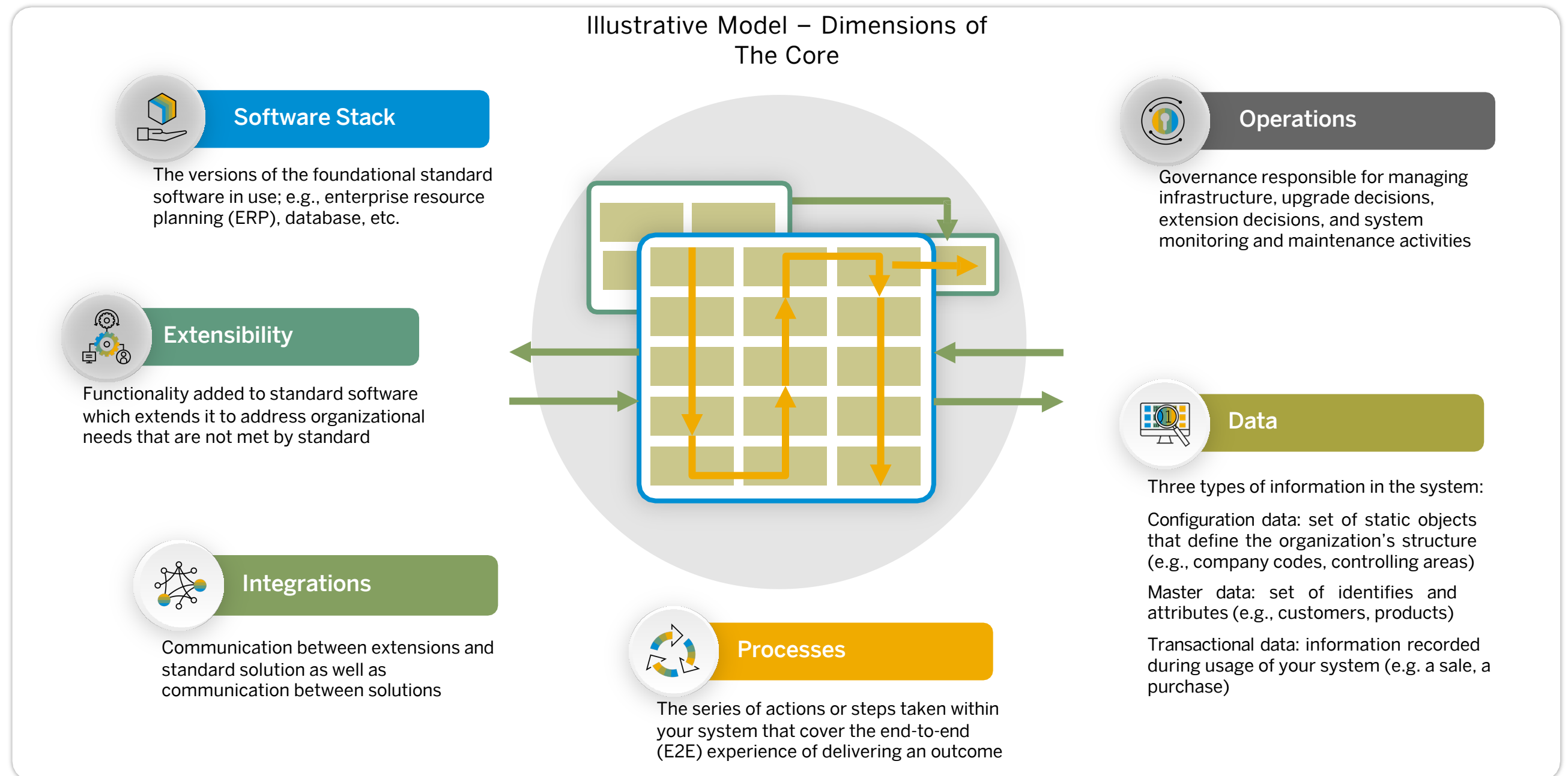# A "core" forms the foundation of IT's capability to enable the strategy

It refers to the dimensions used to provide capability through an ERP system

We consider six dimensions when discussing the core of an organization. These technical and procedural considerations interact to provide the capability to your business so you can deliver outcomes.

Illustrative Model – Dimensions of The Core

Software Stack

The versions of the foundational standard software in use; e.g., enterprise resource planning (ERP), database, etc.

Extensibility

Functionality added to standard software which extends it to address organizational needs that are not met by standard

Integrations

Communication between extensions and standard solution as well as communication between solutions

Processes

The series of actions or steps taken within your system that cover the end-to-end (E2E) experience of delivering an outcome

Operations

Governance responsible for managing infrastructure, upgrade decisions, extension decisions, and system monitoring and maintenance activities

Data

Three types of information in the system:

Configuration data: set of static objects that define the organization's structure (e.g., company codes, controlling areas)

Master data: set of identifies and attributes (e.g., customers, products)

Transactional data: information recorded during usage of your system (e.g. a sale, a purchase)
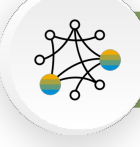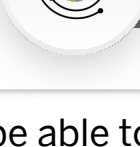
Through the course of running the business and adapting to new requirements, variations are often introduced on each of these. However, to maximize cloud readiness, organizations must strive to keep each of these dimensions as clean as possible.

The "clean core" is a concept to achieve modern, flexible and cloud-compliant ERPs

Clean core is achieved by integration and extending a system in a way that is cloud compliant, with master data and business process governance

Often a clean core is thought to be a system devoid of core customization. However, being truly "clean" actually includes adhering to standardized guidelines for all elements of the core. With that, when it comes time to upgrade a system, changes can be put in place without significant manual efforts to test and adapt existing structures.

Element of the Core	Criteria for Clean Core
Software Stack	• Software version close to the latest release • Software version close to the latest Feature Pack Stack (FPS) and Support Pack Stack (SPS) • Partner solutions clean core compliant
Extensibility	• Upgrade-stable extensions following prescribed extensibility model • Only actively-used and well-documented extensions • Adherence to general code quality standards and best practices • No duplication of SAP standard functionality
Integrations	• Upgrade stable interfaces • Proper monitoring and error resolution capabilities • Only actively-used and well-documented integration
Data	• Complete • Correct • Used and relevant
Processes	• No inconsistent or inefficient processes • Leveraging SAP recommended Best Practices
Operations	• Day-to-day operations are planned and executed regularly to maintain alignment with the above-mentioned guidelines (e.g., security authorizations, integrations, data, etc.) • Opt-in on lifecycle events such as periodic upgrades • Compliance with pre-approved maintenance windows

Organizations may not be able to achieve a perfectly clean core. However, the more organizations can incorporate these elements into their landscape, the more benefits they can realize in business performance and cloud delivery.

A clean core enables better operations now and sets the foundation for the future

Following standard guidelines to innovate makes it possible to create a competitive advantage while avoiding technical debt

Introducing new capabilities to the organization typically has benefits for its top and bottom lines. Organizations running standard environments can adopt new capabilities faster and at a lower cost than those that are further away from standard. Any benefits estimated based on the scope of new capability will be realized faster and to a greater extent when the core is clean.

Establishing a clean core either in preparation for moving to the cloud or already in the cloud makes it possible to maximize the benefits of cloud delivery.

Over time, organizations with a clean core realize more benefits, faster, by taking the lead in business operations and securing their success with cloud-based technology delivery capability

Realized Benefit / Time

With a clean core —— Without a clean core ——
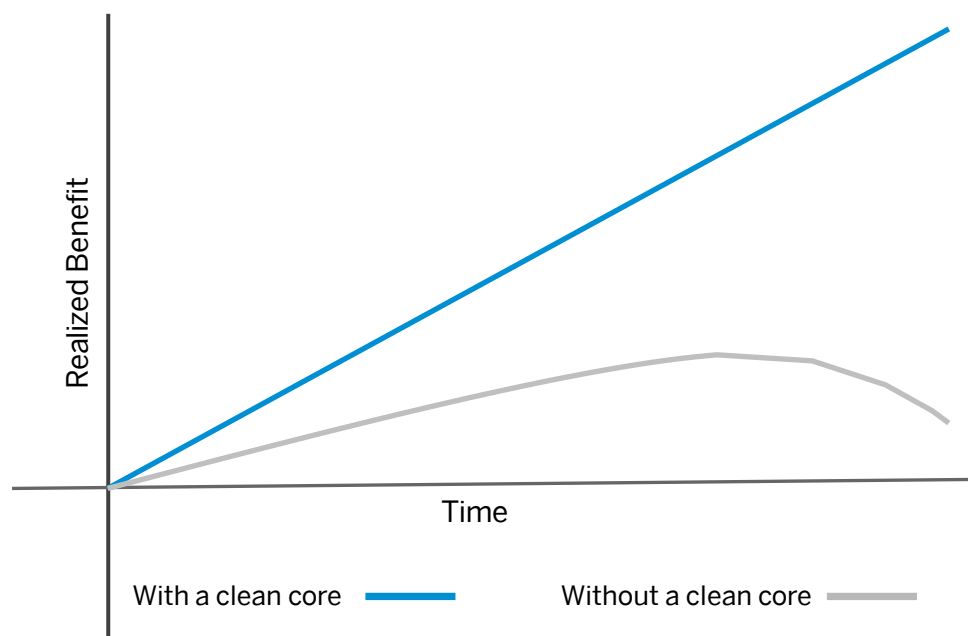
Take the Lead

With faster adoption of innovation for top-line, bottom-line, and green-line growth:

- Create new revenue streams by innovating new business models
- Improve efficiency through streamlined workflows, automation, and insights to action
- Enhance employee engagement through better user experience; ability to focus on strategic, value-add work
- Enable sustainable operations through better tracking, monitoring, and analysis across your value chain based on consistent data

Secure Your Success

Maximizing the benefits of cloud delivery:

- Accelerate time to value with extensions that can be implemented on-the-fly without disrupting the core
- Reduce overall total cost of ownership (TCO) by reducing upgrade-related coding and testing efforts
- Mitigate risk through improved resilience and cybersecurity
- Simplify technology consumption into a model that will scale

The benefits of a clean core are apparent. However, the path to achieving this end state can be complex.
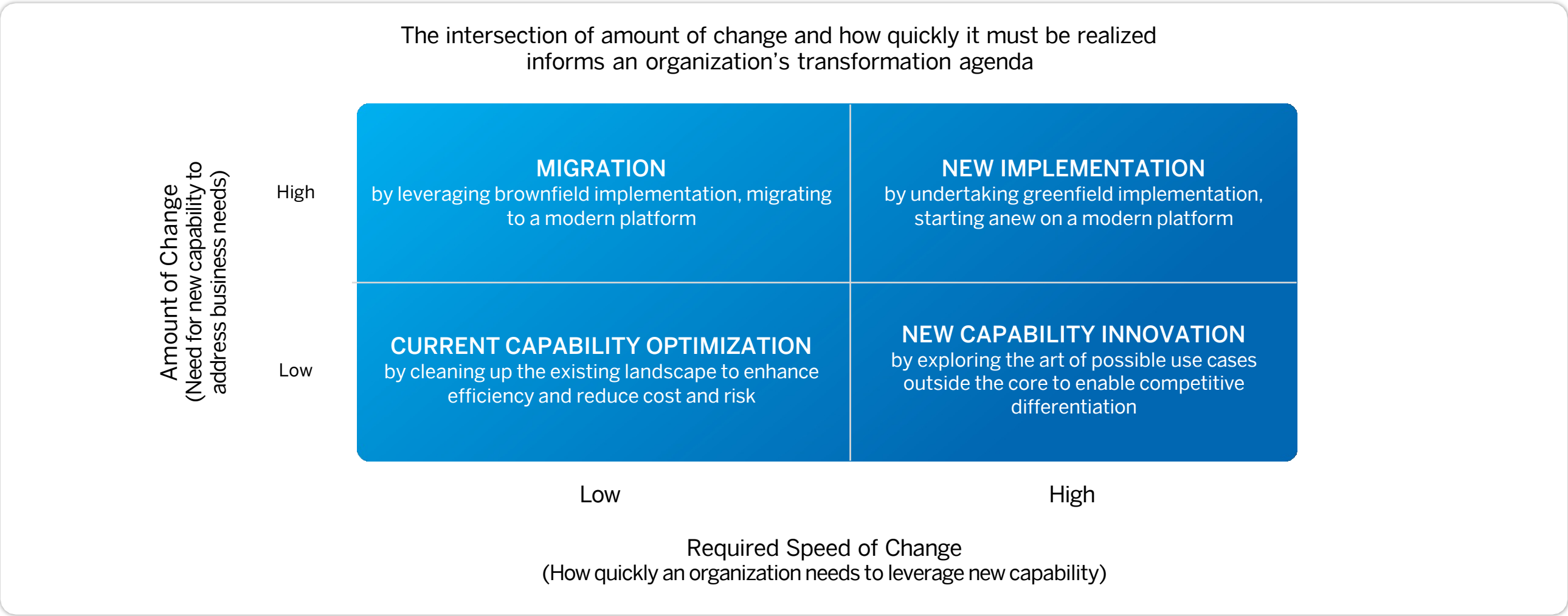
Moving towards a clean core first requires an overall strategic direction

Organizations must begin by understanding the amount of change required and how quickly it must be realized

Amount of Change

Organizations with a high need for new capability to address business needs will consider a project to move to a modern ERP. Those who already have sufficient capability will focus on optimizing or innovating in the current environment.

Required Speed of Change

Those who need to innovate faster to respond to market conditions will have to move to modern platforms to gain new capabilities, while those in with a slower imperative for change will want to improve access to existing capabilities.

These factors will determine whether you focus on optimizing your core, migrating to a new landscape with reduced complexity, transforming through an entirely new greenfield system, or innovating differentiating capabilities outside the core.

The intersection of amount of change and how quickly it must be realized
informs an organization's transformation agenda

	Low	High
High	**MIGRATION** by leveraging brownfield implementation, migrating to a modern platform	**NEW IMPLEMENTATION** by undertaking greenfield implementation, starting anew on a modern platform
Low	**CURRENT CAPABILITY OPTIMIZATION** by cleaning up the existing landscape to enhance efficiency and reduce cost and risk	**NEW CAPABILITY INNOVATION** by exploring the art of possible use cases outside the core to enable competitive differentiation

Amount of Change
(Need for new capability to address business needs)

Required Speed of Change
(How quickly an organization needs to leverage new capability)
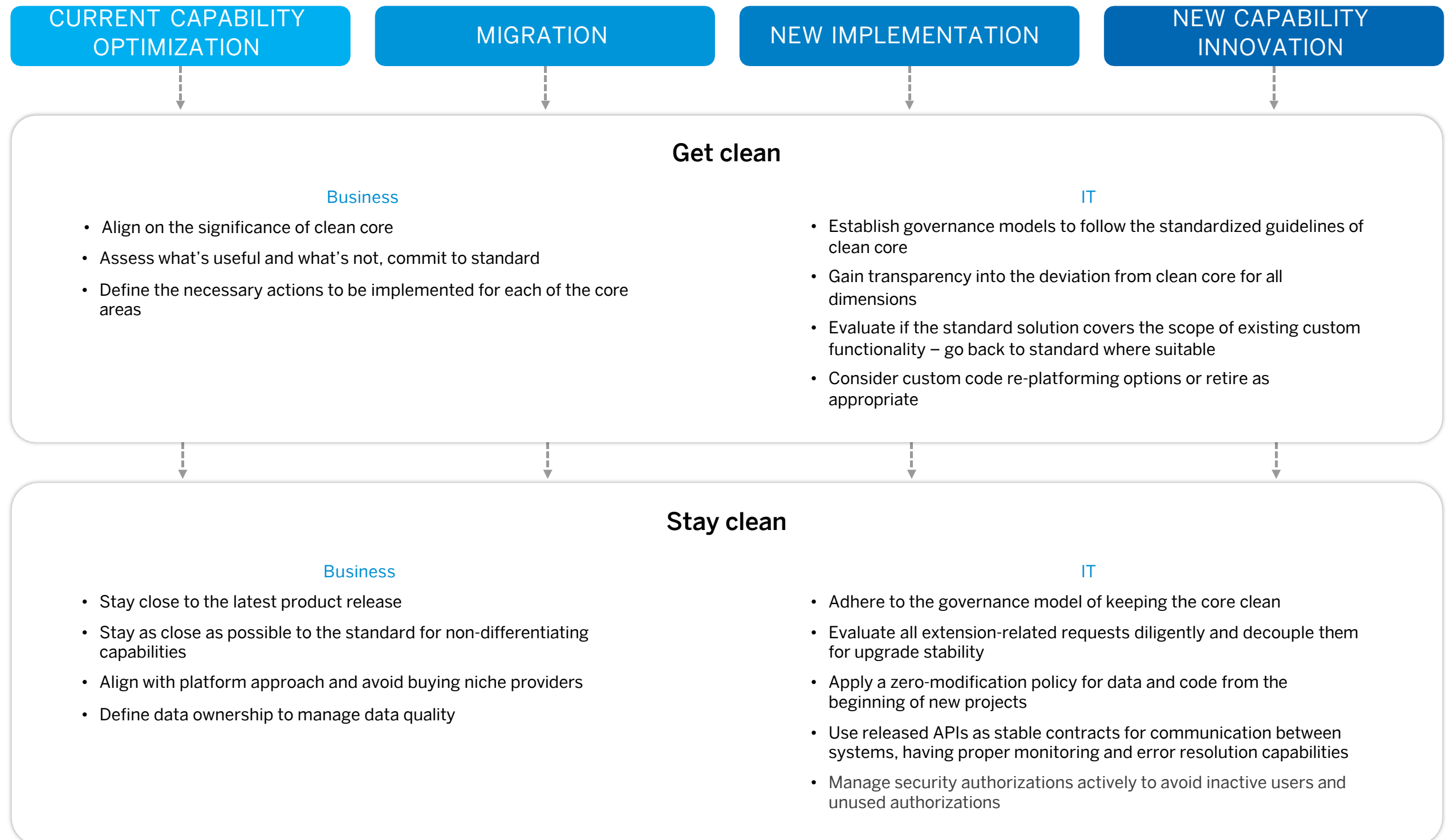
Understanding this high-level strategic direction will inform the specific actions required to maximize agility in the short term and prepare for future initiatives such as a move to the cloud. As each organization is at a different level of standardization, our recommendation is that you work with SAP to determine the best transformation approach for your organization.

After defining strategic direction, organizations must take action

Some organizations will get clean via migration transformation, others by new implementation. In all cases, organizations will need to stay clean by establishing strong governance

Moving towards and remaining a clean core requires commitment from both the business and IT.

CURRENT CAPABILITY OPTIMIZATION	MIGRATION	NEW IMPLEMENTATION	NEW CAPABILITY INNOVATION

Get clean

Business

- Align on the significance of clean core
- Assess what's useful and what's not, commit to standard
- Define the necessary actions to be implemented for each of the core areas

IT

- Establish governance models to follow the standardized guidelines of clean core
- Gain transparency into the deviation from clean core for all dimensions
- Evaluate if the standard solution covers the scope of existing custom functionality – go back to standard where suitable
- Consider custom code re-platforming options or retire as appropriate

Stay clean

Business

- Stay close to the latest product release
- Stay as close as possible to the standard for non-differentiating capabilities
- Align with platform approach and avoid buying niche providers
- Define data ownership to manage data quality

IT

- Adhere to the governance model of keeping the core clean
- Evaluate all extension-related requests diligently and decouple them for upgrade stability
- Apply a zero-modification policy for data and code from the beginning of new projects
- Use released APIs as stable contracts for communication between systems, having proper monitoring and error resolution capabilities
- Manage security authorizations actively to avoid inactive users and unused authorizations

SAP customers are realizing business and IT outcomes

By simplifying their landscapes and applications

HIGH TECH
Hewlett Packard Enterprise

Key Challenges
- Significant technical debt and high total cost of ownership for IT and operation
- Different systems and processes across regions that prevent a consistent customer experience

Transformation Type: Migration

Key Transformation Benefits
- Reduced customizations to less than 10%
- Simplified and unified processes and reduced the application landscape by half
- Increased on-time delivery from 90% to 99.5%
- Decreased quote time from 3 hours to 15 minutes
- Reduced month-end close from 11 days to just 5 days

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LIFE SCIENCES
MIZUHO | OSI

Key Challenges
- Support requirements were high due to custom applications in the previous system
- The IT team was unable to implement and take advantage of new features in later releases

Transformation Type: New Implementation

Key Transformation Benefits
- 88% of customizations reduced
- Uptime grew from 90% to 99.8%
- 79% system outages dropped 79% - from 7 hours per quarter to 90 minutes
- 4,000 number of records reduced by choosing a Greenfield vs. Brownfield implementation

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TELECOMMUNICATIONS
vodafone
Vodafone Group plc
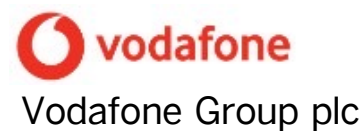
Key Challenges
- Mass customizations that created a cumbersome upgrade process
- Suboptimal access to information for insights from its legacy ERP application

Transformation Type: Migration

Key Transformation Benefits
- >70% of core business processes automated
- ~85% of core business processes standardized across 24 countries
- Optimized maintenance and system performance through improved standardization
- Improved employee Net Promoter Score related to a better user experience
- Faster month-end close cycles

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Key Challenges
- Disconnected systems, processes, and data that slow reporting, impede inventory management, limit supply chain visibility, impact deliveries…
- Complex landscape requiring redundant, error-prone IT admin

Transformation Type: Migration
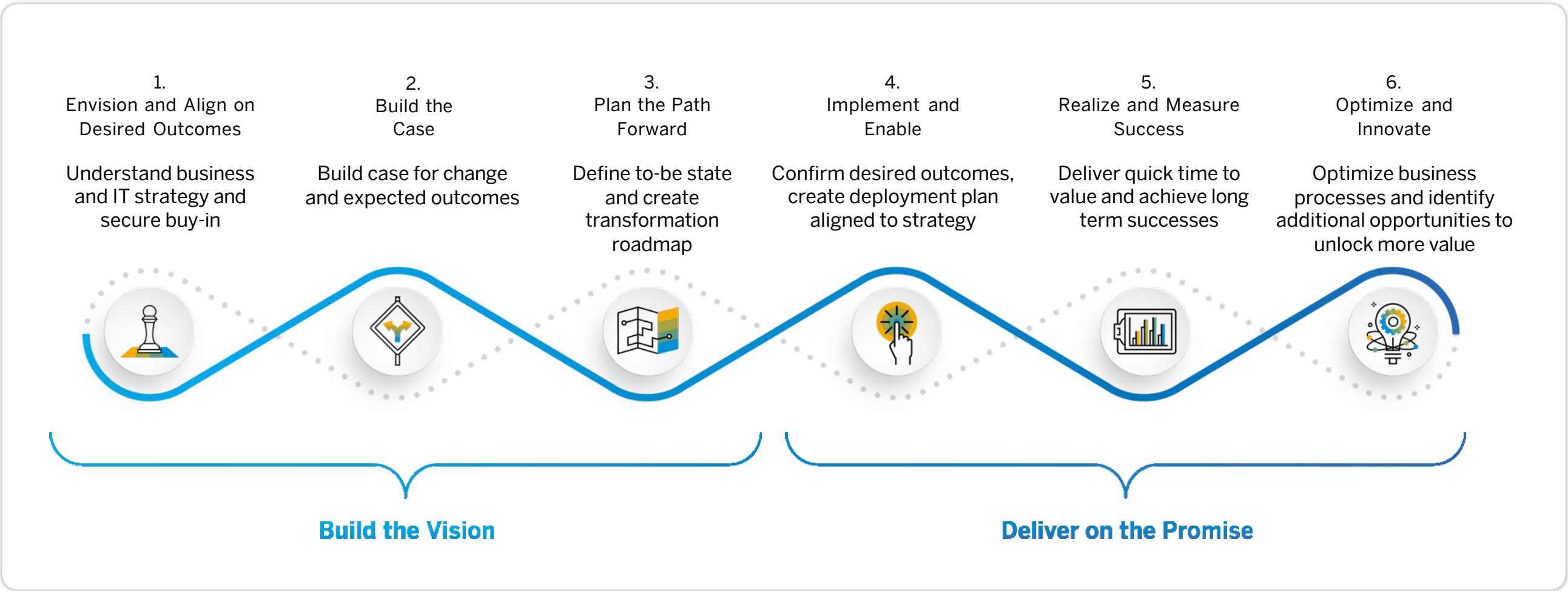
Key Transformation Benefits
- Harmonized processes and data that increase efficiency – including 20% less time for invoicing
- 33% reduction in the number of interfaces
- 50% reduction in database size for lower cost of ownership
- 30% less manual reconciliation in finance
- 25% reduction in PO errors

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Understanding the potential value will support investment in this initiative

Collaboration between business, IT, and partners can make a clean core a reality

SAP offers a proven methodology to help organizations understand business and technology imperatives along with the full scope of transformation benefit. Our process benchmarks business KPIs against industry peer performance and assesses digital maturity against industry peers to inform recommendations on areas to prioritize, connected with necessary enabling capability. We collaborate with you to articulate the qualitative and quantitative benefits of closing identified gaps.

1. Envision and Align on Desired Outcomes	2. Build the Case	3. Plan the Path Forward	4. Implement and Enable	5. Realize and Measure Success	6. Optimize and Innovate
Understand business and IT strategy and secure buy-in	Build case for change and expected outcomes	Define to-be state and create transformation roadmap	Confirm desired outcomes, create deployment plan aligned to strategy	Deliver quick time to value and achieve long term successes	Optimize business processes and identify additional opportunities to unlock more value

Build the Vision

Deliver on the Promise

Once the value of transformation is understood, we connect these findings with our ecosystem of experts to help you identify why and how to prioritize your initiatives and where a clean core can help maximize and accelerate this value.

Addressing Clean Core is an ongoing strategic activity

Conclusion

'CLEAN CORE' is an approach to get and keep the organizations core enterprise management systems clean for better 'maintainability' and lower total cost of ownership (TCO). Activities span software, data, interfaces, processes, and operations.

keep the **coding** clean

| 1 | Software Stack |

keep the **data** lean

| 2 | Data |

keep the **modifications** controlled

| 3 | Extensibility |

keep the **landscape** reliable

| 4 | Integrations |

keep the **processes** clear

| 5 | Processes |

keep the **operations** effective & efficient

| 6 | Operations |

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Thank you!