



# Improve business process efficiency and reduce IT costs

Asset Suite EAM 9 delivers best-in-class business process effectiveness, enables innovation, reduces operational and technology risks, and lowers total cost of ownership.

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**Asset Suite EAM 9 uniquely addresses the needs of asset-intensive businesses for cost reduction and improved operational efficiency and business agility.**



# 1. Executive summary

ABB Asset Suite 9 delivers true return on assets by enabling enterprises to plan, measure, monitor, and improve asset performance throughout the entire asset lifecycle.

Asset Suite 9 is the most complete state-of-the-art, mobile-enabled enterprise asset management (EAM) solution, providing significant savings in cost and time through new functionality, improved business processes, simplified architecture, and reduced maintenance. Upgrading to Asset Suite 9 offers numerous benefits, as summarized below.

## Reduced IT costs

Asset Suite 9 is built on a simplified technology stack, eliminating the need to license and maintain many third-party products: CICS, WebSphere or WebLogic, and MicroFocus COBOL. This results in significant savings by removing the associated maintenance costs associated, as well as reducing management overhead and enabling cloud deployments. Asset Suite 9 requires less hardware and runs on a lower-cost Linux/Intel platform.

**ABB estimates that customers can save 65% in deployment and maintenance costs over 5 years.**

## Improved business process support

Asset Suite 9 provides significant capabilities to support maintenance, work, and materials management business processes. Over 30 years of collective corporate experience, from thousands of customers, across diverse industries, from around the globe has resulted in a functionally rich solution that conforms with most business requirements. The underlying business logic incorporates globally recognized industry standards and practices (examples: INPO, EPRI, ISO, NEI).

By upgrading to Asset Suite 9 and adopting the new capabilities that improve operational processes, **customers will realize additional cost savings and productivity gains** through new features, functions, capabilities, as well as the ability to leverage workflow, automation, mobility, and analytics to drive business value.

## Improved user interface, tailoring and integration capabilities

Asset Suite 9 provides a highly configurable web-based user interface (UI) that allows users to tailor the UI to their unique business requirements, increasing their productivity when using the software. The improved usability encourages user adoption and reduces training costs during the upgrade. Additionally, tailoring, workflows, extensibility and the Asset Suite 9 Integration Services can eliminate the need for customizations and their associated support costs.

More users effortlessly using Asset Suite means more users are taking advantage of optimal and standardized business practices. A baseline solution that allows companies to use out-of-the-box business logic to support diverse industry requirements and regulatory, and to tailor and extend the solution is a powerful weapon. A baseline solution also means that customers can remain “evergreen” and adopt new versions more easily with less disruption to their day-to-day business operations.

## Reduced risk and costs associated with aging technical platforms

Companies running old versions of Asset Suite are at risk from aging technical platforms. Old technologies result in accumulating “technical debt” that must eventually be paid off. The issues and risks can manifest in many ways – including security, cyber security and technical incompatibility – that all pose a threat to the stability of the enterprise and also result in higher costs of ownership.

Upgrading to Asset Suite 9 **eliminates exposure to additional risk and costs** should a major support issue arise on an unsupported version of Asset Suite or third-party product.



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## Get even more from your upgrade

When upgrading any major enterprise system from one version to another, there will always be costs involved. With an Asset Suite 9 upgrade, there are costs to migrate the infrastructure; to migrate, replace, or remove customizations and reports; and to implement new capabilities. The specific benefits and costs that customers can realize from upgrading depend on their existing Asset Suite deployment, their existing business processes, and their desired end state.

For most customers, deploying Asset Suite 9 provides an opportunity for reevaluating business processes and using Asset Suite 9 as a catalyst for improvement. ABB offers consulting services to assist customers with their upgrade planning in the form of:

- A **Customer Value Assessment**, which examines existing business processes and how the processes are supported by the current Asset Suite implementation, then recommends process and Asset Suite usage improvements. It also provides the financial justification (cost/benefit analysis) and a detailed breakdown of the unique business benefits that can be realized.
- An **Upgrade Planning Assessment**, which examines the internal & external costs, approach and project timelines associated with upgrading to Asset Suite 9.

## 2. Upgrade benefits

### 2.1 Reduced IT costs

Asset Suite 9 is built on a simplified technology stack that eliminates the need for licensing and maintaining third-party products including CICS, WebSphere or WebLogic, and Micro Focus COBOL. The removal of these products results in significant software savings by removing the maintenance costs associated with them, as well as reducing management overhead. Asset Suite 9 requires less hardware and runs on a lower-cost Linux/Intel platform. Additionally, with its simplified architecture, low bandwidth design, and no requirement for a command line console, Asset Suite 9 is perfect for cloud deployments.

ABB estimates that the reduced IT maintenance costs for an 800-user deployment should save approximately 65% over 5 years, with an annual internal maintenance cost savings as much as 50%.

In one instance, one client gained annual savings of \$600,000 to \$800,000 in IT costs by migrating from mainframe and hosted support to the cloud.

These savings are on top of the expected operational savings utilizing mobile and web applications that Asset Suite 9 allows. Another client has completed a study that shows a reduction of IT costs of 25-35% due to the reduced server and support costs of virtual machine Java architectures.

The following table compares the estimated costs of an Asset Suite 8 (or earlier) infrastructure with the estimated costs of an Asset Suite 9 infrastructure for a mid-sized Asset Suite 9 deployment. Note that the costs in the table below are only for the production system. A deployment comprised of production, development and test environments will see additional savings.

Comparison of estimated costs of an Asset Suite 8 (or earlier) infrastructure with the estimated costs of an Asset Suite 9 infrastructure for a mid-sized Asset Suite 9 deployment

Description for 800-user system	PassPort to AS8 qty based on # of cores/license	AS9 qty based on cores	PassPort to AS8 one-time costs	AS9 one-time costs	PassPort to AS8 annual costs	AS9 annual costs
Oracle Database Enterprise Edition	8	0	\$94,000	\$0	\$20,680	\$0
Oracle Database Standard Edition	0	8	\$0	\$10,000-40,000	\$0	\$2,200-8,800
MicroFocus Server Express Compiler*	2	0	\$28,428	\$0	\$5,702	\$0
MicroFocus App Server	4	0	\$51,840	\$0	\$604	\$0
RedHat Enterprise Linux	0	8	\$0	\$0	\$0	\$8,000
Database HW	1	1	\$50,000	\$15,000	\$12,500	\$3,750
App / transaction server HW	2	2	\$50,000	\$15,000	\$25,000	\$7,500
VMware VSphere		2		\$0		\$10,000
<b>Estimated totals</b>			<b>\$274,268</b>	<b>\$40,000</b>	<b>\$64,486</b>	<b>\$31,450</b>
<b>Estimated cost savings</b>				<b>\$234,268</b>		<b>\$33,036</b>

\*Note: Customer will need to notify ABB 90 days in advance of COBOL license maintenance termination.

## 2.2 Operational cost savings and revenue opportunity improvements

Asset Suite 9 is designed to improve efficiencies by not only applying automation to tedious processes, but also by taking advantage of 20+ years of best practices in process improvement. Through automation and accurate recording and management of processes, Asset Suite 9 reduces errors and reduces talent overhead costs to perform operational tasks and procedures.

And, because it can be deployed via the cloud, it requires less ongoing administrative support, saving on labor or allowing for valuable talent to be redirected to more strategic activities.

ABB estimates that the improvement in processes and application of best practices can improve efficiencies for an 800-user deployment by approximately 10%.

The following table defines the opportunity savings and potential revenue by deploying more-efficient practices across all operations, asset management and maintenance processes.

### Operational cost savings

Operational cost savings opportunity	Improvements and cost savings through:
Maintenance planning	Improved maintenance work planning capabilities and efficiencies
Supply chain staff	Automated/efficient parts ordering & invoicing
Operations	<ul style="list-style-type: none"> <li>- Efficient and accurate tracking of order review, approval and closeout</li> <li>- Effective equipment configuration management and tagging</li> </ul>
Engineering	<ul style="list-style-type: none"> <li>- Efficient, accurate &amp; documented Engineering change request process</li> <li>- Access to controlled documents and equipment history records</li> </ul>
Maintenance	<ul style="list-style-type: none"> <li>- Efficient maintenance work plans, documentation, printing &amp; collation</li> <li>- Accurate pre-job briefs, and work performed/remaining documentation</li> </ul>
Chemistry-asset health	Reduction in chemistry errors through improved data tracking and recording
Training	Reduction in training costs and improved training practices with easy access to educational documentation, testing and qualifications tracking
Reputation liability	More accurate tracking/recording of safety hazards and radiation levels and comprehensive precautionary planning for maintenance conducted in high risk areas helps to lower potential liabilities and subsequent negative impact
Corrective action	Lowered corrective action program costs due to more effective processing and documentation of corrective action assignments
Senior manager efficiency	Simplified and automated workflow, reviews and approvals free management resources for more strategic activities
<b>Estimated efficiency Improvement</b>	<b>Up to 10% annual savings not including potential additional savings from mobile and web-based process improvement opportunities</b>

### Increased revenue

Increased revenue opportunity	Improvements/cost savings gained through higher capacity output:
Reduced outage time	More efficient/faster outage planning and maintenance work execution (\$1M/day in increased revenue based on market)
Higher capacity	Cumulative improvements yield reduction in unplanned equipment failure outage
Safety	Improved processes equal increased personnel safety
Reliability	More accurate tracking/recording of asset maintenance and processes = improved equipment reliability

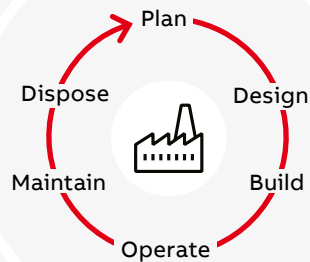
## 2.3 Improved business process support

The value of improved business process support depends on the specific business processes that a customer deploys and how quickly the support is adopted; however, Asset Suite 9 contains multiple key enhancements for maintenance and material management processes that can significantly streamline operations while improving overall business capabilities:

### Asset lifecycle model

Asset Suite 9 enables asset lifecycle management strategies designed to manage the cradle-to-grave lifecycle of key assets, considering all classes, stakeholders, and lifecycle stages in order to reap the maximum value. Asset Suite 9 provides the vehicle to develop and employ an active asset lifecycle management strategy to achieve operational excellence by increasing productivity, reducing costs, safely – for the worker and the environment.

Asset lifecycle model



### Configuration management

Configuration management is the ability to guarantee the control, accuracy, and communication of an asset's design basis from initial design, through procurement, manufacture, construction, operation, modification, maintenance, and eventually decommissioning. Asset Suite 9 provides this through its comprehensive asset lifecycle

management capabilities. Furthermore, Asset Suite is in alignment with ISO 55000, enabling asset-intensive businesses to standardize EAM, maximize asset performance, and improve reliability and service to comply with key regulatory frameworks.

### Fusion of work management with supply chain

In order for the asset lifecycle to be effective, the supply chain and work management must function as integral and collaborative parts of the strategy. Supply chain in Asset Suite 9 focuses on improving the visibility of assets and the parts to maintain those assets.

Asset Suite 9 provides the end-to-end view: not just whether a part is on a shelf in a warehouse, but whether it's in transit or on order; or whether parts that are in transit are to be used for particular repair; whether the item in question is a repairable item that is fitted or defitted; where it is in a repair lifecycle, etc. At any point in time, users have better visibility to see where parts are. This visibility is critical because it enables organizations to start driving down the capital invested in inventory by reducing the need for "just in case" scenarios .

### Asset management paradigms for critical assets

Asset Suite 9 supports the concept of criticality assessment, which is based upon both criticality and risk. Asset Suite allows companies to prioritize their work to ensure that the work they do first is the most important work and provides the most benefit, such as ensuring production is maintained or ensuring safety is addressed.

Companies that have adopted the enhanced capabilities in Asset Suite 9 compared to the capabilities found in earlier versions of Asset Suite have found process improvements in safety, tracking asset condition, reliability & costs, and resource efficiency.

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## 2.4 Improved usability, extensibility and integration

Asset Suite 9 offers a simple and intuitive web-based user interface. The user interface contains all the attributes that are expected by users today, who are familiar with web and internet interactions. Attributes like auto-complete, drop-downs, look-ups, and calendars are all included to ensure that end user training can be minimized. The user interface is completely server-based. Users comfortable with modern web-based UI technologies will quickly learn the Asset Suite 9 UI.

Asset Suite 9 tailoring, workflows and extensibility eliminate the need for customizations. Users can tailor the UI and create workflows to achieve the specific process support required for their job.

The mechanism to tailor Asset Suite pages to meet specific customer needs is ABB's proprietary tool, Compose. A true "what you see is what you get" tool, Compose includes both an intuitive design view and a preview view, allowing the customer to mock up different designs without having to load pages in Asset Suite. Drag-and-drop functionality allows for the rearrangement, addition, and deletion of components such as fields, labels, buttons, and sections within the page. Easy-to-use pull-down lists provide the means for requiring and protecting fields, as well as attributes such as size and alignment. The preview allows the designer to present the look, feel and flow to obtain immediate feedback, thereby reducing the time to design and layout a page.

Asset Suite includes the framework necessary to connect to ABB and other enabled software applications via the user interface as well as through building services-based interfaces at the data layer to ABB and other third-party applications. Asset Suite has been integrated with all of our customers worldwide with their enterprise resource management (ERP) and electronic document management system (EDMS) allowing seamless user experience utilizing all of these tools. Rather than building custom, point-to-point integrations during implementation, which increases implementation and maintenance costs, a modern integration approach using XML and services oriented integration can be used to connect to ABB or third-party applications. ABB is skilled at applying these integrations at the time of Asset Suite initial deployment or upgrades.

Combined, the usability, tailoring, extensibility, and integration capabilities of Asset Suite 9 reduce implementation times, reduce maintenance and future upgrade costs due to elimination of customizations, and accelerate the benefits achievable from IT/OT integration in a connected asset lifecycle management solution.

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## 2.5 Improved reporting

Asset Suite 9 provides multiple options for reporting. Asset Suite 9 provides an embedded graphical reporting engine, JasperReports. Reports designed using JasperReports can utilize all of the data access, formatting and graphical features of this leading production reporting tool and can be deployed from within Asset Suite 9 pages to inherit the security, integration and scheduling features of the Asset Suite 9 platform. A library of Jasper reports are included as a starting point for use as-is or to be modified to meet our customers' specific requirements. Furthermore, the reporting engine is easy to learn and use to generate new operational report types.

ABB is also one of five global, strategic partners with Microsoft®. As part of this strategic relationship, ABB is working closely with Microsoft and has adopted Microsoft's reporting solution strategy. This strategy includes the use of Microsoft's powerful business analytics visualization software and the Microsoft extract, transform, and load software to deliver advanced business and asset performance analytics. While not generally available at this time, we will be happy to discuss this exciting and strategic direction, if requested.





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## 3. Upgrade considerations

When upgrading any major enterprise system from one version to another, there will always be costs involved. This section sets out areas where these costs can be expected and what migration options are available with Asset Suite 9 to help minimize the costs associated with an upgrade. With any system upgrade, the costs can usually be broken down into four main areas, which are summarized below and then discussed in greater detail in the following pages:

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### Infrastructure

Hardware leasing and purchase programs are usually aligned to provide a return on investment over the expected life of the software being run on that hardware. Based on this practice, it is normal for upgrade projects to also include a component for hardware acquisition and the associated costs. There are also costs associated with software required to support the system such as compilers, transaction processors, DBMS, etc.

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### Integration

Software integration costs are generally associated with migrating reports, customizations, bulk data load utilities and any updates or expansions of the integration between other IT systems and Asset Suite 9. In addition to these costs, a customer needs to consider the complete lifetime costs associated with maintenance of this software.

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### Tailoring, workflows and extensibility

In order to help lower the total cost of ownership, ABB has added the ability to extend Asset Suite functionality through extensibility, workflows and tailoring in lieu of customizations. Extensibility, workflows and tailoring are applied to the components as they are presented to the end user while leaving the business logic components as they are. This combination enables the client to reap the benefits of a custom solution while conforming to a supported baseline code base. This approach is based on modifying metadata instead of code to effect changes in the user interface. Modifications to the metadata can be migrated forward, so the customer no longer has to reapply their customizations. With this approach, source code and specifications are no longer published with Asset Suite.

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### Business process

System upgrade time is traditionally an opportune time for customers to review their business processes and look at business changes that may have occurred since the system was last upgraded and make subsequent changes to their implementation to ensure the system continues to support their business needs. These changes can have costs associated with deploying new business process support, including the costs for training and change management.

## 3.1 Infrastructure migration options

Asset Suite 9 contains a greatly simplified technology stack. Asset Suite 9 no longer requires CICS, WebSphere or WebLogic, or Micro Focus COBOL, which means there are significant software savings by removing the third party costs and support costs associated with these components, as well as less management overhead required. The simplified stack also means there is less hardware required for the solution. The stack runs on a lower-cost Linux/Intel platform.

Asset Suite 9 is certified to run on a Linux 6.5 environment and within a virtualized platform. Asset Suite 9 uses either Oracle Database 12c Standard Edition One or Oracle Database 12c Enterprise Edition for its database.

ABB recommends the following guidelines for deployment:

- 400 concurrent users (CCU) per virtual machine
- 15-20 Kbytes/second/user on network
- RedHat Linux 6.5 on virtualized application servers

The load balancer would be based on the need for high availability and user load distribution.

The following table provides the recommended hardware sizing for the Production environment. Configuration is sized around standard deployment up to 500 users. Customers will need a similar, but potentially smaller, environment for non-Production (e.g., development, test, and staging).

Description	Cores	RAM	Disk
Asset Suite online	2	16	30
Asset Suite database	4	32	Depends on history
ABB integration services	2	16	30
<b>Totals</b>	<b>8</b>	<b>64</b>	<b>60</b>

Unless it is possible to re-use existing hardware, the cost of upgrading will include the cost of new hardware. Depending on the size of the customer, the cost savings for hardware to support Asset Suite 9 can be significant as they move from specialized hardware platforms such as RISC or Z/OS, to commodity-based servers running Linux. For example, a RISC Unix system sufficient to run the Asset Suite 8 (or earlier) application server for 300 users can cost more than three times a Linux on Intel server capable of supporting the same number of users on Asset Suite 9.



## 3.2 Integration migration options

Asset Suite 9 has a streamlined architecture with improved methods of supporting personalization, configuration, reporting, and integration. With Asset Suite 9's tailoring and integration capabilities, customizations can be reduced – in some cases significantly.

Instead of customizing Asset Suite source code during implementations, unique capabilities can be achieved either through tailoring of the UI and configuration of workflows or through the use of integration services to pass data to and from customer-specific external applications.

Part of the cost of upgrading to Asset Suite 9 is examining the following items and evaluating the best way to support them:

Item	Definition
Extensibility and user exits	Extensibility and user exits now supplant customization of the source code to adapt the application functionality to the customer's unique requirements.
Tailoring and workflows	Tailoring allows aspects of the user interface to be modified to suit the preferences of a user, group, district or organization. It is carried out within the application and can be used to hide and move fields, make certain fields mandatory, and set default values. Tailoring is encouraged and is not considered to be customization as it is an extension to the system configuration in Asset Suite 9 that provides a unique user experience without changing the actual standard program.
Configurations	Configuration is changing system settings to switch certain features on or off. It includes applying organization-wide themes and branding to the user interface. Configuration is encouraged and is not considered to be customization.
Production reporting	Production reporting is the generation of transactional or operational reports. The creation of additional reports is not considered to be customization.

There are a number of migration options available to customers moving to Asset Suite 9 that can help minimize the costs associated with an upgrade.

### Production reports

Asset Suite 9 provides an embedded graphical production reporting engine, JasperReports. Reports designed using JasperReports can utilize all of the data access, formatting, and graphical features of this production reporting tool and can be deployed to Asset Suite 9 to inherit the security, integration and scheduling features of the Asset Suite 9 platform. By leveraging the Asset Suite 9 scheduling platform, production reports can be scheduled to a variety of output formats, including HTML, PDF, Excel and Word, and to a variety of output destinations (e.g., email, printer) as well as being stored, managed and reviewed online directly from Asset Suite.



## — Customizations

Asset Suite 9 features an open, web-based architecture using a model-driven development methodology. This has allowed ABB to further improve quality software delivery using automated testing and streamlined patch delivery.

Customizations increase the total cost of ownership (TCO) of any piece of software, so ABB strongly recommends that customers do not use customizations. Apart from the actual costs of maintaining customized items of code, support costs can be significantly increased. This is due to the increased complexity of analyzing and replicating issues, an increased workload in analyzing and testing any patches or upgrades, and an increased risk due to the added complexity of the process.

Nevertheless, ABB also recognizes that there will always be circumstances that require customers to enhance the system, and so with Asset Suite 9, we provide a number of options for carrying out customizations, and migration options for moving customizations that may have been applied in previous releases that are still required in Asset Suite 9.

The types of customization most often found in earlier versions of Asset Suite and the options that are available in Asset Suite 9 to customers can be broken down as follows:

### **Tailoring to hide/re-order fields or enforce mandatory fields**

The tailoring capabilities within Asset Suite, which are integrated with the Asset Suite security model, can be used to hide or re-order fields and to enforce mandatory fields.

### **Additional functionality on screens**

Asset Suite 9 tailoring capabilities can be used to add additional functionality on screens. ABB has enabled interfaces within the business logic that can be used to hook new logic into the business flow. ABB has also added support for extensibility, which can be used to create the new logic (extensibility leverages Java-based programming and scripting language).

### **Workflows**

Asset Suite provides a process-centric, multidimensional approach to workflows spanning design through execution. Asset Suite processing is based on industry best practice workflows. Asset Suite workflows leverage industry knowledge and experience to implement industry business processes in a collection of functionally rich workflows that manage the interaction of the user with the application. Configurable preferences, rules, route lists, and other context sensitive workflow management constructs shepherd the object (e.g., a work order, action request, material request, etc.) through each step of its lifecycle including definition, approvals and completion.

### **User exits**

Since Asset Suite 9 is now a 100% Java Runtime, any user exits that must be moved to Asset Suite 9 can be moved to a combination of personalization, Extensibility, and integration hooks as described above. Our experience has shown that in most cases, customers can remove some user exits altogether through personalization, and that the effort to move other user exits to integration hooks will depend on the details of the existing user exit.

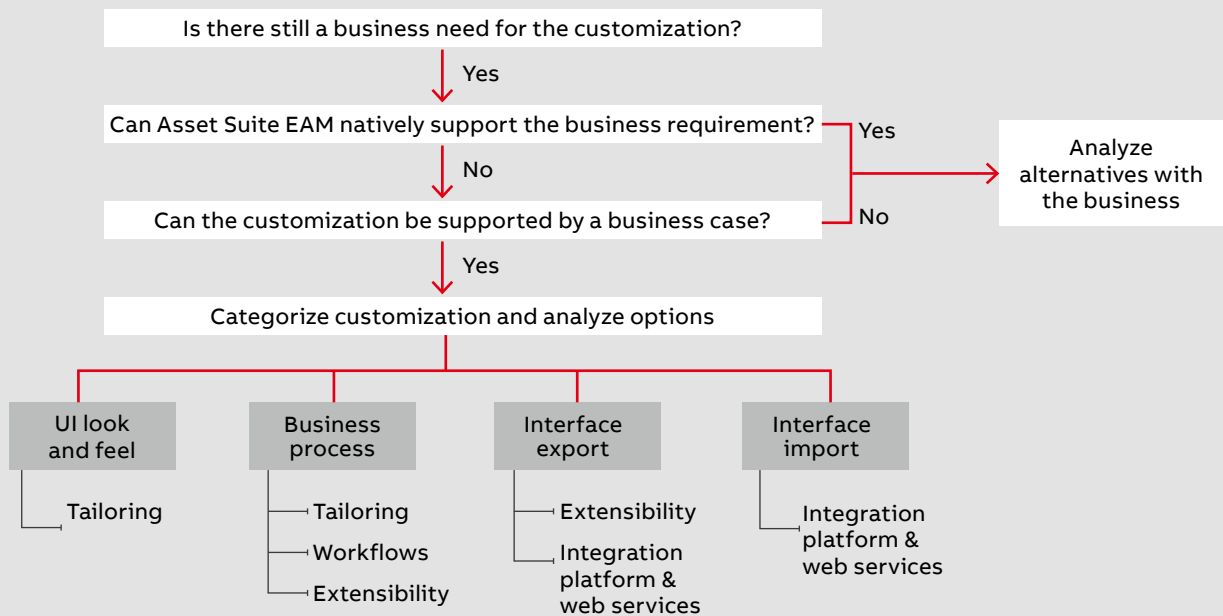
### **Batch processes**

Batch interfaces also can be written to be extensible and take advantage web service capabilities within the ABB integration services. Asset Suite batch processing supports the events to trigger the batch processes. Our experience has shown that, in most cases, the batch processes written in the past are often quite simple processes and can be rewritten to be extensible in roughly one-third the time it takes to write a similar process in COBOL.

Since the additional capabilities (either in line or batch) are written external to Asset Suite and the interfaces are supported across upgrades, the solution is more easily maintained and upgraded. There is no need to access or modify Asset Suite source code to provide the extensions. ABB's widely used extensibility tool can be used for writing the extensions, and helps reduce the cost of creating them. The skills for extensibility are based on Java and are much more prevalent than finding support for COBOL development.

Although ABB has greatly simplified the effort involved in extending and tailoring Asset Suite, there is still a cost involved in doing so. When faced with migrating customizations for any system, the most cost effective option will always be to minimize the number of extensions and integrations. ABB recommends that customers follow the process outlined in the following figure to minimize and categorize their customizations.

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Categorizing customizations



### 3.3 Business process migration options

Upgrading to Asset Suite 9 provides an opportunity to also improve existing business processes. Although Asset Suite 9 is a newly architected version of Asset Suite, the code was converted from COBOL to Java rather than being rewritten. In general, existing system functionality remains but in some cases, it has been altered to allow for capability improvements

## 4. Upgrade planning services

### 4.1 Customer Value Assessment (CVA)

ABB recommends that customers engage ABB for a Customer Value Assessment (CVA). The CVA is joint process conducted with our clients and is designed to rapidly assess the customer's current processes to identify opportunities for business benefits through process improvements, more extensive use of existing system functionality and the use of new functionality available in Asset Suite 9. The Value Assessment methodology assesses the customer's current business practices against the Key Performance Criteria specific to your business based on your current strategy and objectives. This approach ensures that the identified opportunities will have the most meaningful impact to the business.

The results of this process form a business case and financial justification to support an Asset Suite upgrade, and detail an implementation approach that will have the most positive impact for your business. The Customer Value Assessment:

- Helps customers articulate and justify the upgrade to key internal stakeholders
- Creates a strong foundation prior to any project implementation or kickoff

- Helps clarify solution/implementation requirements and business priorities
- Identifies areas for improvement across key business operational areas
- Provides an audit trail for tracking post implementation project success
- Leverages ABB's expertise with Asset Suite and best practices in EAM
- Provides a timely, economical and proven methodology for measuring value

#### Scope

The Value Assessment assesses business processes within the following areas:

- Work management – maintenance, construction
- Engineering – configuration, design
- Supply chain – inventory, purchasing, contract management
- Financial – transactions to the corporate financials

These are assessed against the Key Performance Criteria for the business. The timeframe for this process is typically 4-6 weeks.

#### Assessment project tasks and deliverables

Following are the tasks and deliverables generally associated with a Customer Value Assessment:

Project tasks	Deliverables
Preparation and initial data gathering, including discovery session and interviews with key stakeholders.	CVA project plan and schedule
ABB leads Executive Briefing and the validation of Key Performance Criteria (KPC).	Defined Key Performance Criteria
ABB leads the assessment of work & asset management, support chain, safety & compliance business processes using the ABB Business Case Model with customer subject matter experts.	Draft prioritized list of opportunities with estimated external work effort
ABB leads the Executive Validation and Alignment Session to validate findings from the assessment, and to ensure alignment with the corporate strategy.	Presentation of draft Value Assessment (business case) with prioritized list of all the opportunities based on potential value, risk, and external work effort.
ABB leads the Opportunity Qualification with the customer subject matter experts to qualify the benefits in terms of cost savings, risk reduction, and capability improvement.	Prioritized list of qualified and quantified opportunities.

## 4.2 Upgrade Planning Study

ABB's Upgrade Planning Study (UPS) service is a fixed-scope engagement for determining the effort involved in upgrading to Asset Suite 9. Multiple streams are investigated during the study, including:

- Infrastructure upgrade
- Customization discovery
- Data migration approach
- Project plan, cost and implementation approach

### Infrastructure upgrade

During the infrastructure upgrade stream, ABB evaluates scoping and architecture of the existing infrastructure and determines the requirements for the new infrastructure necessary to support Asset Suite 9. Included in the evaluation are:

- Sizing for application, database, and reporting servers for production, test, and development deployment environments
- Sizing and architecture assessment for storage
- Security architecture assessment
- Network architecture assessment
- High availability architecture assessment and design
- Disaster recovery assessment and design

### Customization discovery

The output of the customization discovery phase includes:

- Approach and plan to move existing customization to Asset Suite 9
- Estimate of effort to retrofit customizations using tailoring, workflows and extensibility
- The work necessary to move existing integrations to the new architecture. Note that the plan only estimates the Asset Suite side of the interface development work; however, the interface upgrade estimates are calculated based on meeting existing third-party file specifications that are in used in the customer's existing environment.
- Data migration approach and recommendation to migrate existing data to Asset Suite 9

### Project planning

The output of the project planning phase includes a project schedule with resource plan, cost and implementation approach to upgrade to Asset Suite 9.

## 5. Summary

The decision to upgrade is based on each customer's business environment and needs. However, it's important to remember:

Asset Suite 9 is a major step change over previous versions, from simplified technology to state-of-the art business process support.

Asset Suite 9 offers unparalleled opportunities to positively impact the way our customers do business – and saves the organization money in the process. If you require further information, please contact your ABB Enterprise Software Account Representative - ABB would be pleased to work with you to determine the costs/benefits associated with an upgrade to Asset Suite 9 specific to your organization.



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[abb.com/enterprise-software](http://abb.com/enterprise-software)  
[info.pges@abb.com](mailto:info.pges@abb.com)

