

ACHIEVING VALUE FASTER WITH ARAS PLM AND AGILE METHODOLOGIES

COMBINING ARAS'S FLEXIBLE ARCHITECTURE WITH AGILE TO DRIVE SUCCESS

With Aras PLM's market-leading flexibility coupled with the responsiveness of Agile deployment methods your PLM project will achieve greater success in a shorter timeframe. With active engagement, everyone from stakeholders to team members and end users are on the same page. You will soon realize that you are able to do business on a completely different level than before and you will find yourself asking why you didn't implement Aras sooner.

“Leading PLM industry analyst firm CIMdata analyzed Aras implementations at Magna, GETRAG and Xerox and noted that deploying Aras Innovator with an Agile approach makes it “easy for customers to develop, test, and ultimately deploy in production with low risk while solving difficult problems.””

THE NEED FOR GREATER BUSINESS ALIGNMENT & SPEED

Over the last two or more decades, businesses have endeavored to make product development faster and more market-responsive by implementing PLM. However, “Big Box” PLM projects have been notoriously difficult to implement, costing millions of dollars and taking years to complete.

Long deployments with an inability to adjust to changing business requirements has plagued PLM projects, with IT project teams and users unable to gauge success or failure until final delivery. By the time most PLM implementations are done, the processes they are supposed to automate have long since changed, resulting in an expensive system that doesn’t fit and which frustrates business users.

For organizations to realize the true benefits of PLM, implementations must be able to keep up with fast-changing business requirements. In other words, they must become Agile. Yet, an Agile-style implementation can only happen when the underlying PLM platform technology is as adaptable as the methodology itself. Legacy PDM systems simply cannot provide the flexibility required to do “Agile” properly.

That’s why organizations looking for new, more Agile approaches to implementing PLM must identify both the methodology and the technology that go hand-in-hand. Aras Innovator was built as resilient platform expressly formulated to deliver the flexibility necessary to empower Agile deployment. We have proven that utilizing Agile methods in conjunction with the market-leading flexibility of our PLM platform results in shorter time-to-value and increased customer satisfaction.

HOW AN AGILE IMPLEMENTATION DRIVES SUCCESS

By enabling an Agile implementation method, we’re fundamentally changing the way your company does a PLM implementation, to make it happen faster and align better with business requirements – even as they change (which they always do). By taking an Agile-based approach to your PLM implementation you can optimize it for practical, real-world use in a way that scales to fit the size of your particular project.

For those less familiar with “Agile,” an Agile approach is one in which business value is accelerated and maximized through a continuous planning and feedback process. This team based approach identifies requirements and iterates solutions quickly, focusing on delivering completely functional application components.

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By utilizing Agile methods, both technical and business personnel participate in the PLM implementation in a more natural and collaborative manner than in the past. The vehicle for collaboration is a short duration work set called a “sprint.” The objective of

Greater stakeholder satisfaction	Shorter time-to-market	Reduced development costs	Higher quality and fewer defects
75% of adopters report greater satisfaction with agile approach...	Adopters report an 88% improvement in productivity...	40% of adopters report lower costs...	Adopters report a 63% quality increase...
...and 66% report better alignment between business and IT	...and a 37% reduction in time-to-market	...with a 26% median cost reduction	...and a 70% lower defect rate
*Sources: Dr. Dobb's: The World of Software Development, VersionOne, QSM Associates, David Rico; A.T.Kearney analysis			

each sprint is to rapidly define, refine, develop and test aspects of the system being implemented to achieve manageable, near-term goals within an overall project plan.

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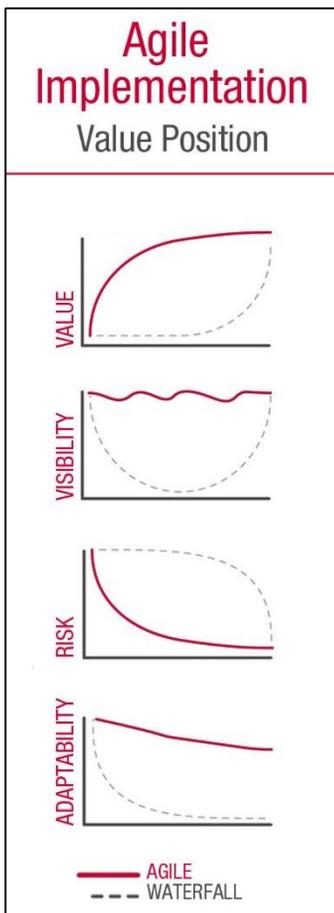
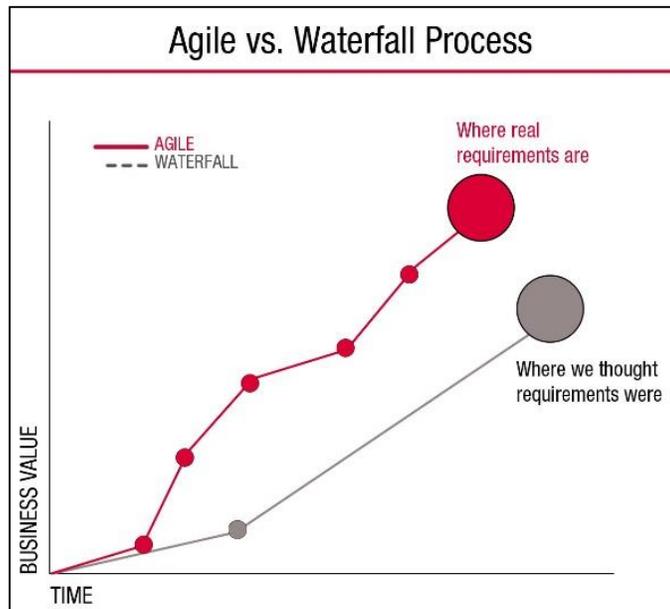
A significant contrast to the traditional Waterfall method is in the capturing and handling of requirements. Agile eschews the arduous, expensive and time consuming process of capturing requirements in exhausting detail and documenting them in requirement and specification documents. Agile methodologies build on their collaborative foundation to capture small “snippets” of requirements called “user stories.” As the name implies this is a very user focused approach that ensures each deployment accurately meets user needs – both functional and aesthetic. The long and verbose requirements documents that are common with a Waterfall method are often created by the wrong people, as such they vary from capturing a portion of the real requirement to being plain wrong. In addition, when actual users are not involved, usability is often relegated to secondary status. The reality is that usability can improve efficiency and satisfaction for the team members that are responsible for your prized possession – your IP. The combination of poor requirements and usability leads to a downward spiral where the implementation cycles back and forth between quality and development, cannibalizing budget with each cycle. The result is most often a poorly received deployment.

The benefits of the iterative Agile deployment approach with Aras Innovator represent a breakthrough in PLM implementation. They contrast dramatically with traditional Waterfall implementation approaches that legacy PDM systems require. Simply put, they are too rigid to use a true Agile approach and rely instead on the traditional Waterfall model. Leading PLM industry analyst firm CIMdata analyzed Aras implementations at Magna, GETRAG and Xerox and noted that deploying Aras Innovator with an Agile approach makes it “easy for customers to develop, test, and ultimately deploy in production with low risk while solving difficult problems.”

An example of how a feature is added using Agile methods: the team will identify a business process to include in the PLM deployment, collect user stories, model a prototype immediately, and complete work in a short duration. Business users not only influence what will be deployed, they see and interact with it in real time.

The ultimate promise of Agile’s improvements over Waterfall rests in the ability to meet the shifting goals of a dynamic end game. Your business is always changing and you cannot afford to stop improving while you deploy PLM. If you rely on Waterfall methods, you must be able to envision your end state, something few organizations have ever been able to do. This is because as the work begins, time

elapses and the target moves as the business changes. Agile methods enables you to react, shift your course and move with the business incorporating the new changes into successive sprints.



As you consider the nature of your modern PLM implementation, you should evaluate Agile versus Waterfall in the areas critical to PLM systems. Here is how an Agile implementation delivers benefits over Waterfall in major areas of consideration for a PLM implementation:

- **Value** - features and value are delivered incrementally. Realize value early and continuously
- **Quality** – integrated testing throughout the lifecycle. Ensure on-target delivery saving valuable resources.
- **Visibility / Risk Management** - active business involvement provides excellent visibility. Ensures that expectations and risk are effectively managed.
- **Flexibility / Agility** – change is expected! Requirements emerge and evolve as the product is developed. Guarantees real needs are being met & value is achieved.
- **Cost Control** - the scope of your product and its features will vary, but your timescale and costs are held constant. Provides financial certainty.
- **Business Engagement / Customer Satisfaction** – actively involved users, clear visibility of the implementation, and flexibility to adapt create positive relationships, business engagement and customer satisfaction.
- **Right Product** – evolving requirements and a change-embracing mindset. In the Agile process, the emphasis is on building the right product not what was specified

MICROSOFT LEVERAGES ARAS WITH AGILE TO UNIFY PLM SYSTEMS FAST

THE ONEPDM TEAM FOUND AGILE ATTRACTIVE FOR ITS ABILITY TO RELEASE WORKING SOFTWARE QUICKLY AND OBTAIN REAL-TIME FEEDBACK FROM BUSINESS PARTNERS ON A DAILY BASIS.

When Microsoft acquired Nokia, establishing a single PLM platform was critical to unifying product information across the company. The goal was set to merge disparate and out-of-date product data management (PDM) systems and migrate everyone to a new unified platform, called OnePDM. Having performed large projects before, Microsoft's IT team was aware that unifying to a single PDM process and system would require significant collaboration with the product groups and Microsoft Supply Chain, consistent revisiting of future state requirements, and consideration of industry standards to define the new OnePDM platform's standard process and features. They aimed to perform this complex collaboration without affecting product build and release schedules.

Based on experiences from other IT teams, The OnePDM team found Agile attractive for its ability to release working software quickly and obtain real-time feedback from business partners on a daily basis. Agile was selected over the traditional Waterfall method to avoid the delays and expense inherent in Waterfall's linear steps of in-depth requirements gathering, solution development, deploying to a test environment and final movement into production. Once the core Aras PLM functionality was built and released, Microsoft began working with the business groups to integrate additional requirements and capabilities using daily builds.

Typical PDM implementations take 3 or more years to complete. Yet, despite OnePDM being more complex than the typical implementation, Microsoft completed it in just six months using Aras PLM with an Agile deployment. This combination greatly accelerated Microsoft's program rollout while maintaining high quality. In six months, the first OnePDM release went live. Within the year, they replaced the legacy systems and provided additional capabilities. Beyond these core benefits were several more, including:

- **Reduced development time and increased responsiveness.** Initial prototypes in 24 hours, deployments in 3 week sprints. Capabilities are modeled 50% faster than in their Legacy PDM system.
- **Several million dollars (USD) of savings in first two years.** Savings realized by eliminating Op-Ex of multiple Legacy PDM systems.
- **Improved interoperability within their Business of Engineering.** They reduced product time-to-market by connecting engineering, manufacturing and supply chain teams and related systems.
- **Reduced business resource requirements.** Consolidating Legacy PDM systems and increasing automation reduced the effort required to perform engineering and supply chain activities.

In the end, Agile development made it possible for Microsoft to consistently and incrementally improve their PLM platform based on evolving business needs while preparing to meet long-term objectives. They have continued executive-level buy-in, thanks to the meaningful benefits from the Agile approach at lower cost and accelerated delivery timeframes.

ARAS INNOVATOR IS A RESILIENT PLM PLATFORM THAT OPENLY INTEGRATES WITH EXISTING SYSTEMS AND EASILY ADAPTS TO ALIGN WITH COMPANIES' UNIQUE BUSINESS PROCESSES.

ARAS PLM: OUR UNIQUE ENABLER OF AGILE

Aras Innovator is a resilient PLM platform that openly integrates with existing systems and easily adapts to align with companies' unique business processes. The breakthrough that delivers platform resilience is our unique model-based PLM technology that is purpose-built to deliver optimal flexibility and scalability while retaining upgradability.

With the trend toward smart, connected products comes a shift in the way products are being developed, manufactured and supported. To help create tomorrow's new products, we designed Aras Innovator to efficiently manage products from the conceptual design phase and out into the field. With integrations for PDM, ALM, ECAD, MCAD, ERP, and more, our platform enables a true digital thread to be constructed and maintained.

We also deliver ongoing updates through an innovative PLM subscription model that includes upgrades to the PLM platform capabilities, regardless of how much modeling has been done.

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Aras PLM Aligns with the Agile Manifesto		
The Agile Manifesto		
Individuals and Interactions	over	Processes and Tools
Working Product	over	Comprehensive Documentation
Customer Collaboration	over	Contract Negotiations
Responding to Change	over	Following a Plan
<i>That is, while there is value in the items on the right, we value the items on the left more.</i> www.AgileManifesto.org		
The combination of the Aras platform and Agile Methodology minimizes time-to-value in your PLM implementation by focusing on what matters: your team and your process. We create your solution quickly so you can see it working and adjust as needed. Ensuring you get what will effectively power your Business of Engineering		

Agile methods, in conjunction with our Aras Innovator architecture, far surpasses the implementation approaches by other PDM vendors that claim to enable "Agile." Our successful deployments combine the flexibility of Aras Innovator, high levels of user involvement and an iterative approach that builds upon smaller "wins." This simply cannot happen using Legacy PDM systems, for several reasons.

- Legacy systems are inherently slow to develop/implement/change due to their data model and technology which requires extensive knowledge of coding, configuration and databases, Aras' model-based PLM encapsulates much of those elements, so your implementation team can model the solution quickly.
- Traditional PDM implementations require a rigid development process with significant up front work to define requirements.

- Legacy PDM systems heavy development processes do not allow for efficient changes to completed work from prior sprints.
- Conventional approaches carry significant risk of missing the target due to long development processes that lack true user involvement. Their solutions are delivered months after start and either miss the mark or are unaware that the business processes has changed – all requiring costly rework.

PLM NEEDS TRULY AGILE IMPLEMENTATIONS

For too many decades, business have been unable to make product development lean and customer-responsive with PLM. The fact is, “Big Box” PDM systems have failed to deliver the value they promised.

Aras’s adoption of Agile implementation methodologies changes PLM implementations drastically and improves PLM value. Agile’s short deployments are characterized by their ability to capture feedback quickly and build upon continuous user involvement. The end result is a rapid series of functional and usable successes that provide quality and efficiency to product development and ROI to the business.

To learn more about how Aras utilizes Agile and why so many companies have switched from their legacy PDM to Aras PLM for product innovation, visit us on the web at www.aras.com.

Agile Versus Waterfall Implementation		
Metric	Waterfall	Agile
Planning horizon	Long	Short
Distance between customer and developer	Long	Short
Time from requirements to deployment	Long	Short
Time to identify problems	Long	Short
Project schedule risk	High	Low
Ability to respond to change	Slow	Fast

ABOUT ARAS

Aras® offers the best Product Lifecycle Management (PLM) software for global businesses with complex products and processes. Advanced PLM platform technology makes Aras more scalable, flexible and resilient for the world's largest organizations, and a full set of applications provide complete functionality for companies of all sizes.

By rethinking the way PLM is designed, Aras has taken a fundamentally different approach with a focus on the Business of Engineering. Aras solutions support processes for global product development, systems engineering, multi-site manufacturing, supply chain, quality and more.

Companies running Aras include Airbus, Boeing, Bombardier, GE, Hitachi, Honda, Kawasaki, Magna, Microsoft, Motorola, Nissan, TOSHIBA, Xerox, the US Army and hundreds of others worldwide.



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