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Modernization without disruption is possible

A platformized approach to application modernization is the answer

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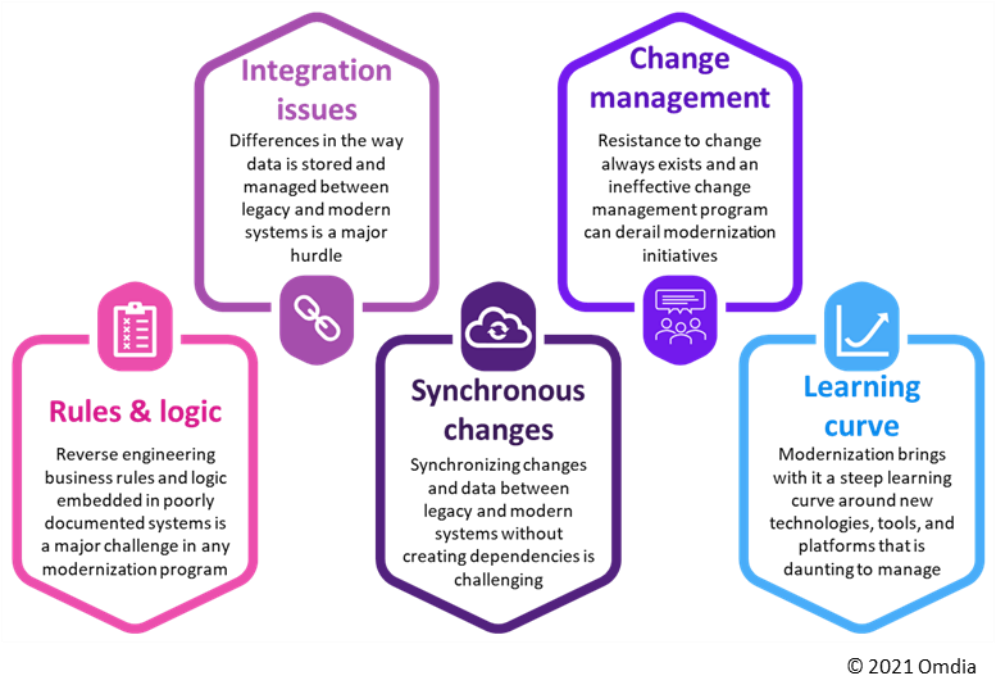
Summary

Coping with the reality of an ever-changing digital economy requires traditional organizations to build agility at the core of the business. Underlying platforms and applications must be mobile, or rather "any device" enabled, and deliverable via the cloud to provide the flexibility, scalability, and agility needed. Legacy modernization plays a critical role in this endeavor by helping enterprises identify pockets of redundancy and relevance within existing systems of record and by providing options to renew and refresh core applications, thereby providing a stable base on which to build next-generation software. However, most legacy modernization programs are planned, executed, and governed as monolithic projects that remain bound to the achievement of KPIs and milestones. This significantly increases the risk of business disruption during the modernization process (see **Figure 1**).

Figure 1: Disruption can arise from multiple avenues



Source: Omdia and Infosys

To counter this, minimally invasive modernization efforts such as API-led approaches advocate a "quarantine" approach where no changes are made to the legacy system and a layer of APIs on top

of the legacy application works to allow compatibility with newer technologies and platforms – but does not retire the legacy application. This poses challenges when business needs change constantly, requiring the underlying applications also to adapt and evolve. If the legacy system drives a particular business process, then a quarantined legacy system means the business process cannot change and add-on functionality needs to be built elsewhere. This results in businesses adding clumsy and complex “fixes” without addressing the issues rooted in the legacy system itself.

Transformation programs with a time horizon of three or more years are no longer a feasible option given the pace of change. Enterprises need to realize that once they set off on the digital transformation journey, modernization should no longer be a “project” but a continuous state that enables enterprise applications to remain relevant, to evolve continuously, and to adapt as business strategies and technology roadmaps change. By adopting principles of “continuous application modernization” (CAM) and a platformized approach, enterprises can modernize legacy applications and bring them to the digital age with minimal disruption to the business. This can be achieved by expanding the use of automation and agile/iterative and DevOps practices to deliver incremental features and reduce sprint cycles.

Modernization has to be a continuous exercise

Until 2020, when the COVID-19 pandemic hit, enterprises often opted for less-invasive modernization strategies and for modernization in pockets that only impacted a selective section of apps and processes. These included efforts around rehosting, refactoring, and integration as these were incremental and less expensive, caused the least amount of disruption, and were seen as the foundation for larger modernization programs down the road. The pandemic turned things upside down, and many large enterprises have pushed their modernization agendas forward. Large-scale, monolithic, multiyear programs are no longer feasible as the pace of change in both technology and markets has accelerated.

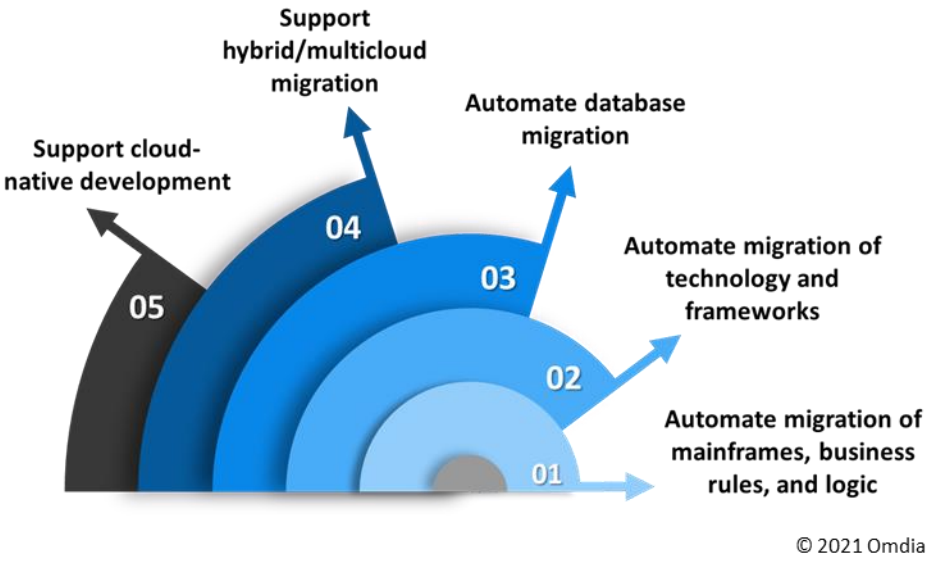
Just as software continuously evolves and adapts in the digital world, business and IT teams have to constantly refresh the application to ensure it stays relevant. Enterprises need to view modernization not as a "project" but as a continuous state that enables enterprise applications to remain relevant, evolve continuously, and adapt as business strategies and technology roadmaps change. Moreover, most mission-critical enterprise applications are complex beasts, and managing continually evolving business needs is often the most challenging aspect. This is where a platform-based approach to modernization becomes essential, and a combination of CAM and platformized can deliver benefits that include the following:

- Enabling IT to deliver better and faster outcomes for the business – on an ongoing basis
- Ensuring that user satisfaction is the central driving force behind modernization efforts, as it rightfully should be
- Enabling risk mitigation and cost control as CAM advocates breaking the application into smaller pieces, allowing the risk and cost to be spread out into more manageable portions
- Providing continuous maintenance and upgrades to enterprise applications to ensure that they potentially have an infinite lifespan, thereby removing the need for planning upgrade cycles or replacement
- Supporting sustained and sustainable innovation by creating room to experiment in a less risky manner because of the smaller and incremental changes it advocates
- Simplifying the automation and integration of business processes
- Enabling the conversion of the enterprise into an agile, adaptable, and "sentient" organization

Transformation is incomplete without legacy modernization

The COVID-19 pandemic brought about severe disruption across industries, with customer engagement being a major challenge as the move to digital models continues to be non-cohesive. For instance, insurance companies were unable to issue a single quote for bundled policies; some customers faced disruption when their mainframes collapsed; and for others, legacy applications continue to cause disruption because of a mountain of unresolved technical debt accumulated over years. The tipping point arose when the pandemic heightened business risk associated with decreasing agility and compliance issues. The adaptability to cope with rapidly changing business requirements is a must-have as traditional businesses face disruption from digital upstarts that leverage new technology to great effect. To facilitate this adaptiveness, the underlying platforms and applications must be flexible, scalable, and agile and support the different requirements of a modernization program (see **Figure 2**).

Figure 2: Platforms need to support multiple aspects of the modernization program

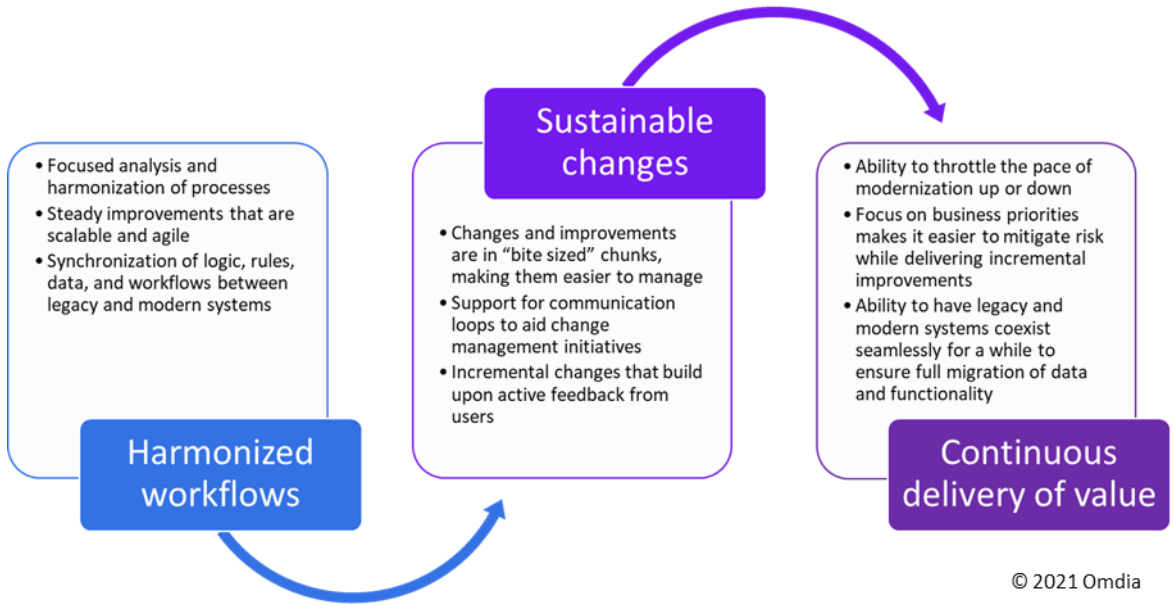


Source: Omdia

Reimagining legacy systems allows businesses to become "sentient" – that is, more resilient, more responsive, and able to offer better experiences. Modernization plays a critical role in the transformation journey by helping enterprises identify pockets of redundancy and relevance within existing legacy systems and renew and refresh core applications, thereby providing a stable base on which to build next-generation software. However, most modernization initiatives continue to focus on reducing costs and resolving pressing technical debt. Although this resolves the most immediate needs of the organization, it does not address the underlying problems within legacy systems that hamper the full-scale adoption of digital technologies.

Successful modernization depends on taking a centralized approach to the exercise that involves both top-management and line-of-business (LOB) users, having a clear technology blueprint, understanding the business case for modernization, and knowing how much automation to introduce and where. However, not all modernization strategies are created equal. It is essential to put together a modernization approach that equips the enterprise with resilient and responsive business systems that retain their relevance over time. The modernization strategy also needs to account for the enterprises' appetite for risk, potential disruption, time and effort commitments, and the eventual cost impact. Taking a platformized approach to modernization and introducing automation and cloud to reduce cost and overheads can help address both the need for agility and the desire to keep costs in check while delivering with zero disruption (see **Figure 3**).

Figure 3: Undisrupted modernization is possible through a platformized approach

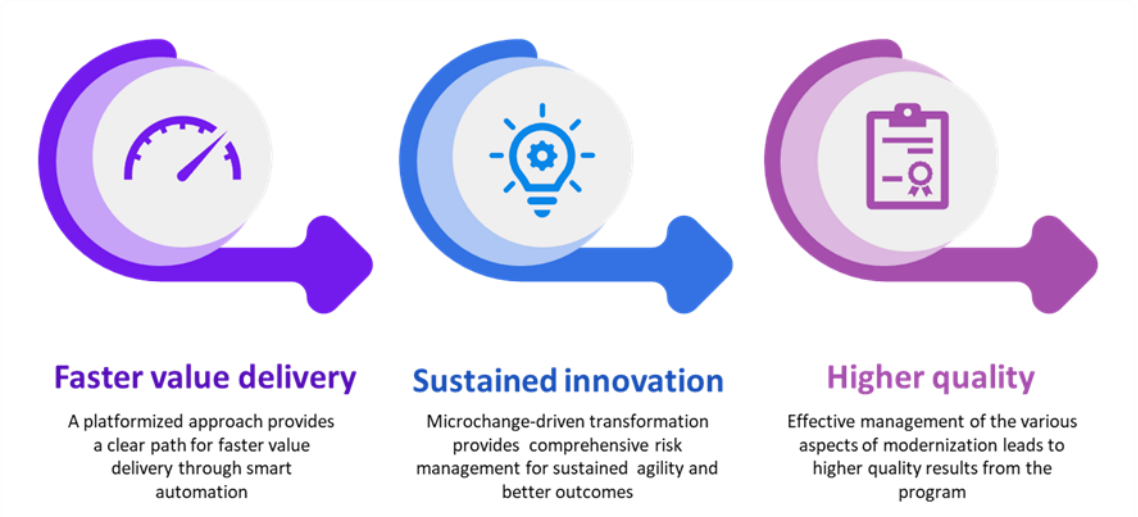


Source: Omdia and Infosys

Modernization platforms are a must-have for agility

Technologies such as mobile-first, artificial intelligence, and natural language need to deliver true innovation to users and customers. However, these are often out of reach for many enterprises weighed down by legacy applications that are unable to support the agility and flexibility that newer technologies require. Many businesses are apprehensive about replacing legacy systems because it can be expensive, can take years to complete, and there's a risk that after all the money and time invested, the project could fail. By leveraging platforms, automation and low-code/no-code tools, and DevOps, enterprises can take advantage of codified learnings and best practices from past and ongoing modernization projects, can bake in extensive automation, and can address elements from extraction of business rules and logic, through workload migration, to laying the foundation for enabling cloud-native development. A decent modernization platform or suite of platforms can deliver higher-quality outcomes faster and help sustain speed and agility over time (see **Figure 4**).

Figure 4: Modernization platforms offer several advantages

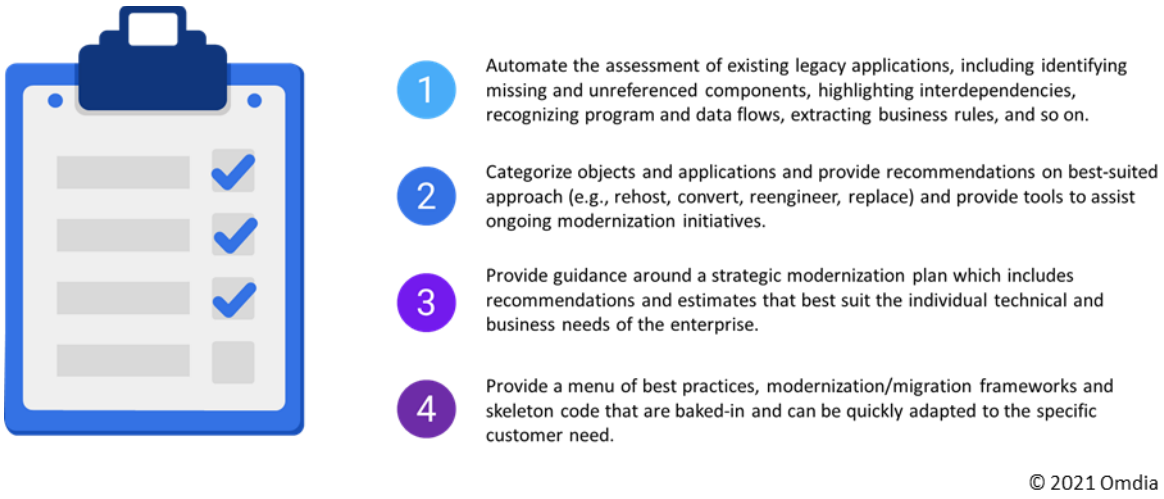


Source: Omdia and Infosys

Platforms that offer the ability to mix and match these elements to provide custom combinations for automating large parts of the modernization effort are essential not just for speeding up the

program but also for enabling continuous modernization. Platformized modernization can take the guesswork out of the gradual transition of legacy IT infrastructure and applications before they can be retired. By taking a platform-based approach to modernization, enterprises can leverage the low-code/no-code features of the platform to generate a microservices skeleton that has all the basic code and best practices encoded, and by adding in the business logic and rules, robust and high-quality microservices can be quickly developed and deployed (see **Figure 5**).

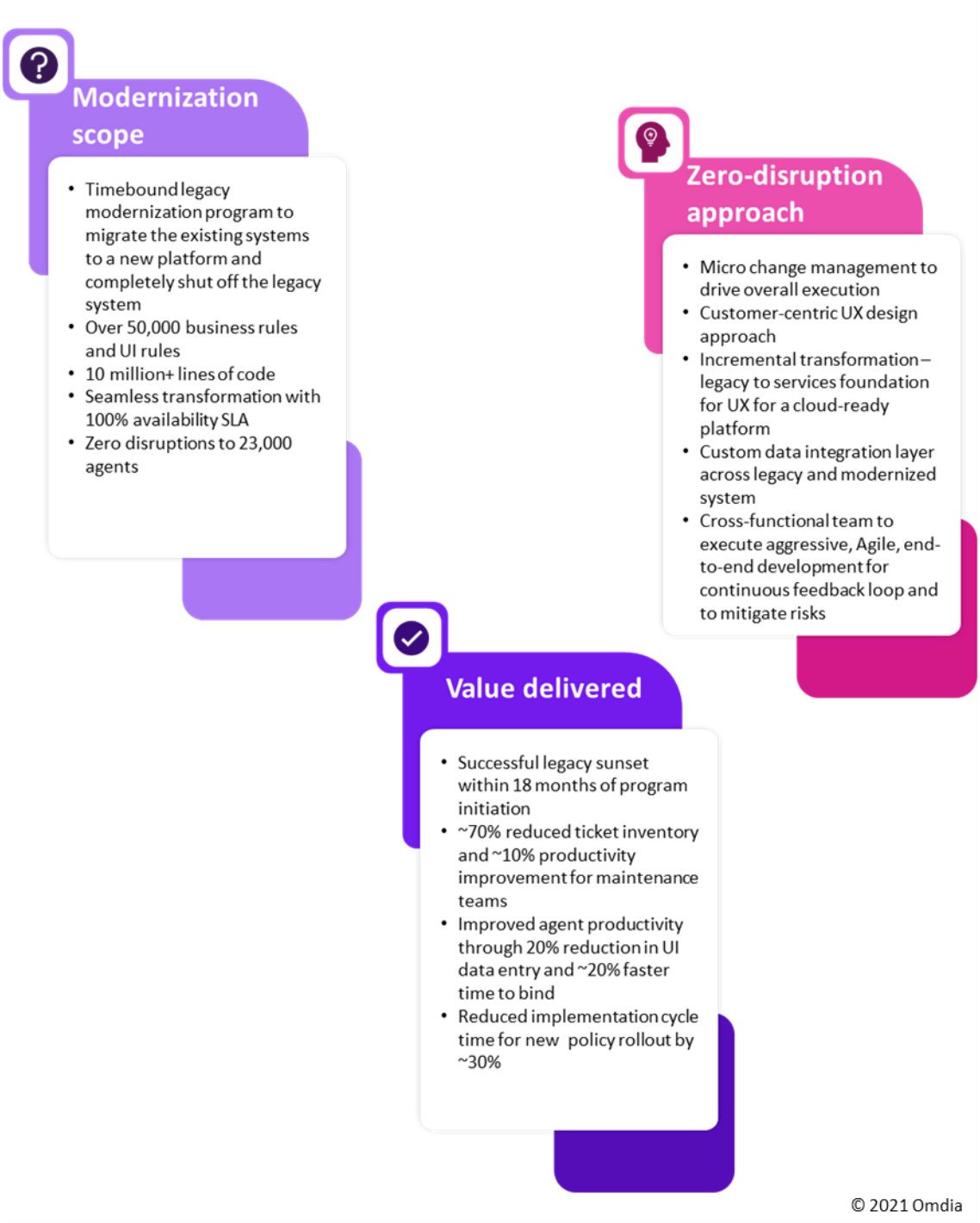
Figure 5: Platformized approach to modernization has multiple benefits



Source: Omdia

Taking a platform-based approach to modernization has allowed highly complex programs to deliver stellar results without disruption (see use case, **Figure 6**).

Figure 6: Use case: Property and casualty insurance company



Source: Infosys

Appendix

Methodology

This white paper was sponsored by Infosys and includes data from various Omdia studies that evaluate enterprise technology priorities and spending patterns. The views expressed in this white paper are based on Omdia's ongoing research into the digital transformation and transition space, and insights gleaned from conversations with vendors/service providers and enterprise decision makers.

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Infosys application modernization services help organizations transform into “Live Enterprise.” By leveraging its proprietary Infosys Modernization Suite that has a strong focus on cloud and open source software, backed by agile methodologies and DevOps practices, Infosys helps customers modernize the end-to-end of their legacy platforms and ecosystems through a Zero Disruption Modernization approach.

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