

The Evolution of Enterprise Architecture: Enabling IT to “Speak Business” to Drive Innovation

A new blueprint for effectively architecting
and implementing ideas that produce the
right business outcomes

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► Introduction

IT and business alignment within an organisation can be dramatically enhanced with enterprise architecture (EA).

An EA practice supports this critical requirement by mapping a company's applications—complete with an understanding of their associated technologies and data—to the business functions or value streams they enable. Defining application capabilities and interdependencies within the context of their connection to enterprise strategy paves the way for IT leaders to prioritise technology investments so their budgets align with business goals.

EA is invaluable for internal business intelligence, governance, management insights, and transformation and planning. Organisations can use EA tools to bridge the gap between ideation and implementation, making more informed choices throughout the process. However, the reality is that most organisations don't leverage EA to its true potential.

One of the contributing factors is that EA has remained in its traditional IT comfort zone. However, EA is not only about IT and yet it lives within IT, focuses on IT and therefore often loses its business dimension and support. Additionally, the traditional EA approach—the analysis, design, planning and implementation of IT capabilities for the successful execution of enterprise strategy—also has seemed to miss something: data.

EA has been compartmentalised for three main reasons:



1. LACK OF TRUST IN THE AVAILABLE INFORMATION

- Information is mostly collected, entered and maintained manually.
- Automated data collection and connection is costly and prone to errors.
- Identification of issues can be very difficult and time-consuming.



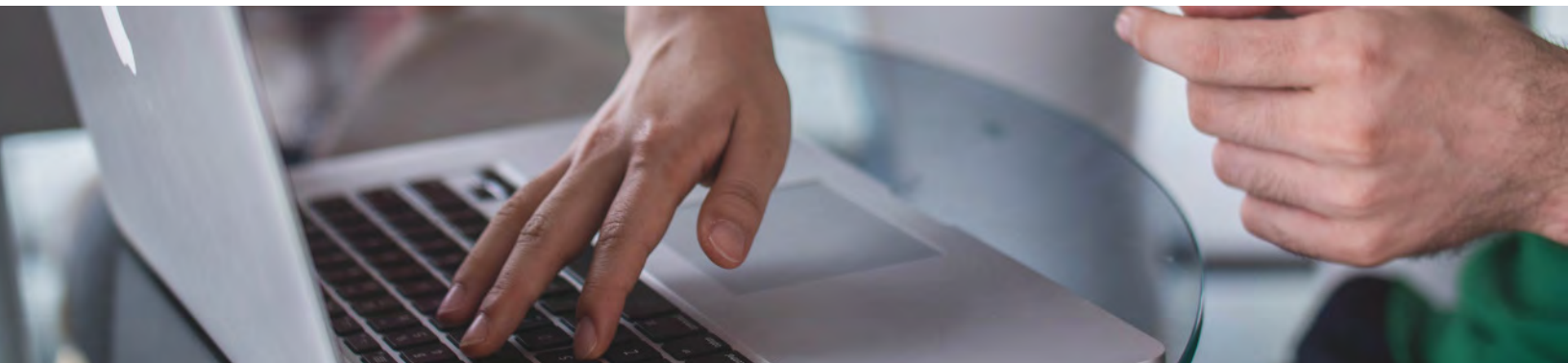
2. LACK OF TRUE ASSET GOVERNANCE AND COLLABORATION

- Enterprise architecture becomes ring-fenced within a department.
- Few stakeholders willing to be actively involved in owning assets and being responsible for them.



3. LACK OF PRACTICAL INSIGHTS (INSIGHTS, ANALYSES AND MANAGEMENT VIEWS)

- Thinking about what EA can provide has been too small and narrow.
- The few analyses performed focus on immediate questions, rarely strategy and planning.
- Tools were not designed to “speak business” to facilitate conversations about value-stream design.
- Collaboration on EA is seen as secondary and mostly focused on reports and status updates.



► Introduction

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Because of these reasons, EA often failed to deliver the relevant insights that management needs to make decisions—in a timely manner. However, times are changing as a result of digital transformation and emerging technologies. EA is becoming increasingly relevant to the business. In fact, Gartner says EA is becoming a “form of internal management consulting” because it helps define and shape business and operating models, identifies risks and opportunities, and then creates technology roadmaps. And Ovum describes EA as a continuous activity driven by business; it has changed from EA to AE as in “architect everything.”

To do EA right, you need the right tools for communication and collaboration with the business. EA typically has been undertaken using basic visualisation tools, spreadsheets or even word processors. However, there are limitations with using these generic solutions: they lack industry standards to capture and align business and IT elements and how they link together, and they hinder the collaboration required to continuously and methodically maintain models, frameworks and concepts as they evolve.

Without a solution for centrally documenting and visualising this information, there can be no single source of truth of the architecture’s current state. Agility suffers when the organisation can’t rely on coherent and consistent representative architecture concepts to smoothly and accurately analyse and plan for technology changes and transitions necessary to accommodate business priorities.

EA management can be more strategic and impactful when used to dynamically link data assets and business processes, applications and infrastructure. Faster, more accurate decision-making also is enhanced when you make automation part of your EA practice.

ENTERPRISE ARCHITECTURE HELPS YOU



Align business and IT with consistent design, documentation and communication of architecture assets



Understand the full impact of changing business and IT capabilities in support of strategic decision-making



Model and integrate complex strategy, process, application, data and technology architectures



Collaborate with all stakeholders on innovation and transformation initiatives



Retain organisational knowledge

ENTERPRISE ARCHITECTURE DEFINED

Enterprise architecture is the analysis and documentation of an enterprise in its current and future states from an integrated strategy, business and technology perspective.

Source: International Enterprise Architecture Institute

► The Role of Enterprise Architecture

With a shift toward digital business and increasingly competitive markets, EA provides a way to quickly and efficiently understand opportunities offered by new technologies, process improvements and portfolio rationalisation and translate them into an actionable strategy.

The development and analysis of complex models helps manage costs, ensure regulatory compliance and mitigate the risks associated with business transformation. Some of the most common EA use cases are:

Application portfolio management.

EA helps manage the enterprise application portfolio, providing insights into the usefulness, functionality and structural composition of applications. Capture and manage such information as user satisfaction, total cost of ownership, business criticality and risk/compliance (e.g., GDPR, Sarbanes-Oxley (SOX) and the processing of sensitive data). Use erwin Evolve to identify functional redundancy and plan consolidation and modernisation projects.

Compliance. Enterprise architecture is critical for regulatory compliance. It helps model, manage and transform mission-critical value streams across industries, as well as identify sensitive information. When thousands of employees need to know what compliance processes to follow, such as those associated with regulations (e.g., GDPR, HIPAA, SOX, CCPA, etc.) it ensures not only access to proper documentation but also current, updated information.

Data security/risk management.

Any flaw in the way data is stored or monitored is a potential 'in' for a breach, and so businesses have to ensure security surrounding sensitive information is thorough and covers the whole business. Security should be proactive, not reactive, which is why EA should be a huge part of security planning. By using well-built EA for the foundation of data security, organisations can help mitigate risk. EA's comprehensive view of the organisation means security can be involved in the planning stages, reducing risks involved in new implementations. Its comprehensive

accounting of business assets (both technological and human) means it's best placed to align security and risk management with business goals and objectives, giving an organisation insight into where time and money can best be spent in improving security, as well as the resources available to do so.

Data governance. Today's enterprise embraces data governance to drive data opportunities, including growing revenue, and limit data risks, including regulatory and compliance gaffes. EA solutions that provide much-needed insight into the relationship between data assets and applications make it possible to appropriately direct data usage and flows, as well as focus greater attention, if warranted, on applications where data use delivers optimal business value.

Digital transformation. For an organisation to successfully embrace change, innovation, EA and project delivery need to be intertwined and traceable. Enterprise architects are crucial to delivering innovation. Taking an idea from concept to delivery requires strategic planning and the ability to execute. Before they enter production, organisations need to test and pilot their projects to help answer some important questions: 1) How do these technologies disrupt? 2) How do they provide value? Modeling can also help organisations understand complex integrations. Outcomes like more profitable products and better customer experiences are the ultimate business goals. Getting there first is important, but only if everything runs smoothly on the customer side. The disruption of new technologies should take place behind the scenes, after all.

► The Role of Enterprise Architecture

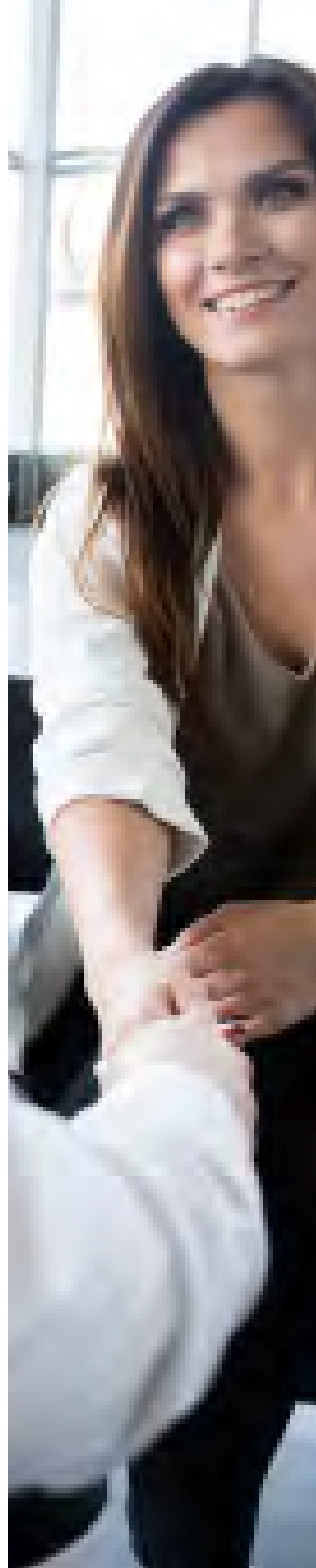
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Mergers and acquisitions. Combining two organisations into one is complicated. And following a merger or acquisition, businesses typically find themselves with duplicate applications and business capabilities that are costly and redundant, making alignment difficult. EA is essential to successful mergers and acquisitions, helping alignment by providing a business-outcome perspective for IT and guiding transformation. It also helps define strategy and models, improving interdepartmental cohesion and communication. In an M&A scenario, businesses need to ensure their systems are fully documented and rationalised so they can comb through their inventories to make more informed decisions about which systems to cut or phase out to operate more efficiently. Roadmaps can be used to provide a common focus throughout the new company, and if existing roadmaps are in place, they can be modified to fit the new landscape.

Innovation management. EA is crucial to innovation and project delivery. With open standards to link EA tools with other products within the overall project lifecycle, agile EA can be integrated with agile development to connect project delivery with effective governance. It takes a rigorous approach to ensure that current and future states are published for a wider audience for consumption and collaboration—from modeling to generating road maps with meaningful insights provided to both technical and business stakeholders during every step.

Knowledge retention. Unlocking knowledge and then putting systems in place to retain that knowledge is a key benefit of EA. Many organisations lack a structured approach for gathering and investigating employee ideas. Ideas can fall into a black hole where they don't get feedback and employees become less engaged. When your enterprise architecture is aligned with your business outcomes, it provides a way to help your business ideate and investigate the viability of ideas on both the technical and business level. But the only way you can accurately make those determinations is by having visibility into your IT services and the application portfolio

DevOps. The goal of DevOps is to balance the competing needs of getting new products into production while maintaining 99.9% application uptime for customers in an agile manner. DevOps can integrate agile enterprise architecture with agile development, connecting project delivery with effective governance of the project lifecycle. Even if the software delivery process is agile, goals and associated business needs are linked and can be met.



► The Role of the Enterprise Architect

Enterprise architect is a common job title within IT organisations at large companies, but the term lacks any standard definition.

Ask someone on the business side what their organisation's enterprise architects do, and you'll likely get a response like, "They work with IT," which is true, but also pretty vague.

Each business organises its enterprise architects in a way that best serves the organisation and helps achieve its goals. That's one of the reasons the enterprise architect role has no standard definition. Most teams consist of members with broad IT experience, but each member will often have some role-specific knowledge. One team member might specialise in security, for example, and another in applications.

Like the tech industry in general, the only constant in enterprise architecture is change. Roles and titles will continue to evolve, and as the business and IT sides of the organisation continue to come together in the face of digital transformation, how these teams are organised, where they report, and the types of projects they focus on are sure to change over time.

Regardless of the specific title, enterprise architects need the ability to work with both their business and IT colleagues to help improve business outcomes. As enterprise architecture roles move closer to the business, those with business knowledge are becoming valuable assets. This is especially true for industry-specific business knowledge.

"By 2021, 40 percent of organisations will use enterprise architects to help ideate new business innovations made possible by emerging technologies."

Marcus Blosch, Vice President Analyst, Gartner

While enterprise architects are crucial to delivering innovation, all too often, enterprise architecture has been executed by IT groups for IT groups and has involved the idea that everything in the current state has to be drawn and modeled before you can start to derive value. This approach has wasted effort, taken too long to show results, and provided insufficient added value to the organisation.

Organisations need to reposition EA closer to the center of the business, and not leave it to stagnate on the fringes. Working closely with CIOs, enterprise architects can produce roadmaps and other reports that can steer the business through digital transformation, through innovative and forward-thinking approaches.

Enterprise architects themselves have to ensure they're not solely focused on the standard EA framework. This approach might be useful to EAs, but to senior management and the wider business, the value isn't clear. A business outcome approach to EA can help ensure EA is always focused on how it can improve the business, and help it respond readily to disruption so new avenues can be capitalised on.



► How to Do Enterprise Architecture

Large global enterprises deploy erwin Evolve tools to support massive user counts in highly regulated industries with complex data and processes (e.g., financial services, healthcare and utilities).

erwin transforms the role of enterprise architects, allowing them to “speak business” and re-architect innovation and value streams in vital areas such as risk management and regulatory compliance. With a trusted enterprise data hub, every user operates from a ‘single source of truth.’ erwin automatically ingests metadata from operational processes, applications and models to make the hub a living, relevant and role-based resource for better decision-making. With erwin’s EA capabilities, organisations can:

Have flexibility in choosing a deployment path that best suits their needs.

erwin provides two EA products to help customers see where their organisations stand today and where they need to transform to produce the desired outcomes tomorrow. **erwin Evolve** provides a complete set of on-premise or cloud-hosted EA tools. This product is highly customisable for integration into the customer environment. **erwin Evolve** is a full-featured, cloud-based EA toolset with out-of-the-box support for industry frameworks with no hardware to implement and manage.

Centralise enterprise architecture modeling and management. With erwin Evolve, enterprise architects have everything they need in one place to plan, manage and respond to business and IT change while driving innovation and digital transformation. Everything in erwin Evolve is presented through a web experience and ties together via a central, shared repository. An integrated set of views and information on strategy, business capabilities, applications, information assets, technologies, etc., provides a thorough understanding of the enterprise.

Support IT-business alignment by developing and capturing multiple artifacts.

To gain critical insights and deliver on strategic outcomes—such as reducing redundant applications to improve operating efficiency, appropriately processing sensitive data or seamlessly implementing new cloud systems as part of digital transformation efforts, develop and capture multiple artifacts to serve as documentation. These include heatmap-style IT landscape views and business capability maps, application architecture views, technology dependency views, roadmaps, dashboards and charts.

Increase enterprise collaboration. Give non-EA stakeholders critical insights into aspects of the business they wouldn’t have otherwise in time to make key decisions. This means seamlessly bringing together subject-matter experts and information consumers to share their knowledge and collaborate. erwin’s user-friendly web experience provides self-discovery navigation and analysis of enterprise assets, with cross-functional collaboration encouraged through discussion threads, surveys and other social features. There’s a single source of truth, but different stakeholders have different views based on their roles and information needs.

Model value streams. Enterprise architects become actively engaged with the business to understand how it works, what its processes are, what a value stream looks like today (as is) and how it can be enhanced (to be).

► How to Do Enterprise Architecture

continued

Support industry-standard frameworks and notations.

Numerous industry-standard and industry-defined frameworks have shaped the implementation of enterprise architecture, such as ArchiMate, TOGAF, Zachman International, DoDAF and FEAF. In addition to supporting these frameworks, erwin Evolve should serve is easily and fully configurable to meet enterprise of stakeholder needs. It also is “right-sized” to efficiently and effectively build the enterprise architecture information portal that delivers the greatest value.

Perform quick and easy impact analysis. Explore model elements, links and dependencies to manage change in an efficient and cost-effective way while mitigating inherent risks. Powerful visual analysis is made possible through heatmaps, reports, charts and graphs.

Enable business and IT infrastructure interoperability.

erwin Evolve integrates with such third-party tools as CAST, Cloud Health, RSA Archer and ServiceNow. We also help customers integrate with other erwin products, including erwin Data Intelligence to ensure metadata from data sources, operational processes, business applications and data models is automatically harvested, transformed and fed into a central data catalog and then made accessible and understandable in role-based views.

THE VALUE OF ENTERPRISE ARCHITECTURE TOOLS



Manage complexity: A tool enables business and IT leaders to capture, understand and articulate the opportunities, challenges and risks as businesses shift to digital organisations.

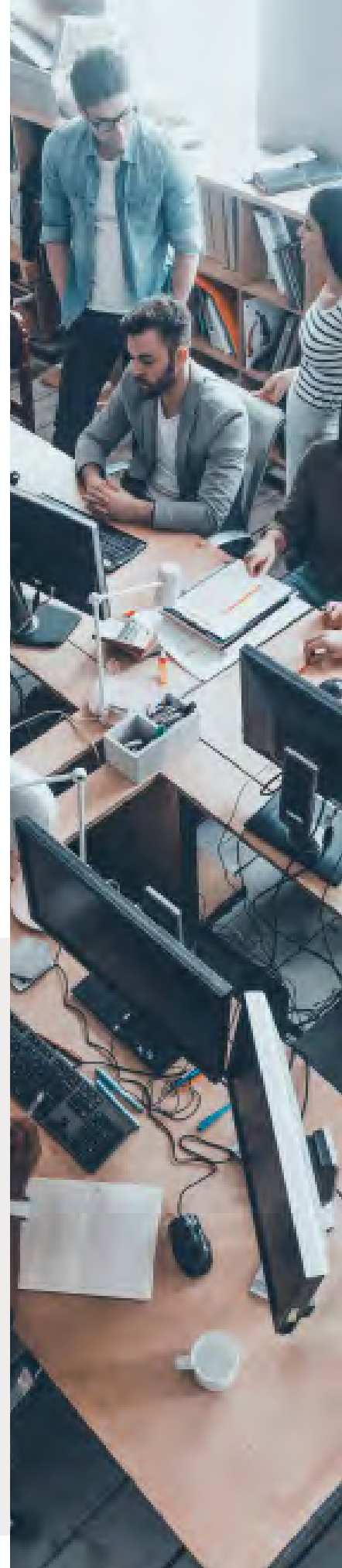


Support the creation of actionable, signature-ready EA deliverables: EA tools enable business and IT leaders to make investment decisions that balance and prioritise current operational demands, disruptions and opportunities with the longer-term strategic vision of the organisation.



Speed time to value: EA tools accelerate analysis and decision support for alternative investment, rationalisation, and optimisation opportunities and plans and for assessing risk, change and the impact on the organisation.

Source: *Magic Quadrant for Enterprise Architecture Tools*, Gartner, May 2017



► erwin Evolve in Action

Increasing regulatory pressure, competitive differentiation, operational excellence – everything in today’s business world depends on quick response, but those actions also have to be based on accurate information.

erwin Evolve provides the right information to the right people at the right time for smarter decision-making. Following are some examples of how our global EA customers are seeing value with the tools.



MANAGING GDPR COMPLIANCE AND RISK ANALYSIS

Risk management and regulatory compliance are primary use cases for erwin Evolve, with many customers using the tool to identify sensitive data points, such as those associated with PII, GDPR, HIPAA and SOX. With this information mapped out in erwin Evolve, users can run risk analyses for compliance audits as well as determine where data breach vulnerabilities exist so they can enhance governance and security measures.

For example, a Japanese pharmaceutical company with clinical development operations in Europe and the United States has an EA initiative managed from the United Kingdom with a focus on application interactivity, architecture landscapes, impact analyses and risk management, including GDPR compliance.

Following several internal delays due to the project’s complexity, erwin Evolve was implemented to support a fully automated enterprise architecture ecosystem with visualisations and dynamic, role-based dashboards to improve global collaboration in real time. Within two weeks, the erwin Evolve design and configuration team, working closely with the Astellas EA and GDPR risk management team, developed a central EA portal, importing more than 260 MB of data. Now the company has objective control and management of its applications for GDPR profiling and risk analysis.



CREATING AND COMMUNICATING BUSINESS NEEDS AND PROCESSES

Southern California Edison (SCE), the largest subsidiary of Edison International, is the primary electricity supply company for much of Southern California. Utilities are complex organisations, with no function operating in isolation. Interconnected, multi-step processes are supported by multiple applications and software solutions so a problem in one area will almost certainly have a downstream effect. After evaluating various enterprise architecture solutions, erwin was chosen to help create a more comprehensive picture of SCE’s business process requirements and communicate business needs to the IT department.

The initial implementation focused on documenting, analysing and simulating processes in a central repository for a clear view of who and what will be impacted by changes. SCE used erwin to identify employee training requirements and to pinpoint potential trouble spots and bottlenecks in proposed changes. For a major SAP integration, erwin helped reduce the three-to-six-month stabilisation period to three weeks. The company realised additional savings with erwin by reducing the time spent writing lengthy technical procedures, savings they estimate paid for the solution within a year.

Analysis and simulation helps SCE make fully informed decisions, train the right people and give them access to the correct information they need. It is “one of the most important change management resources” they have and “a key enabler” in support of major change initiatives. The company also uses erwin to power an employee portal for submitting ideas about operational improvements, helping them keep “a fresh perspective.”

▶ erwin Evolve in Action

continued



ENABLING POST M&A COST SAVINGS AND BUSINESS TRANSFORMATION EFFORTS

A property data solutions, service and technology provider for realtors, financial institutions, insurance carriers, government agencies and other housing market participants had grown through numerous acquisitions. Thus, it lacked visibility and governance over all its business units and product lines.

The company decided to implement erwin Evolve to support the documentation of its enterprise architecture for a complete picture of the technology landscape to reduce IT costs and use those savings to fund business transformation activities, including next-generation products. After one year, it saved \$42 million and went on to achieve its three-year savings goal of \$250 million with a more holistic EA that encompasses business strategy, application dependency, disaster recovery, server inventory and cloud migration.

With the savings, the firm has been able to migrate all of its data warehouses, which support 52 product lines, to a managed service and integrate all of its ETL processes into a global service to better manage data integrations and the associated standards. These also are examples of how the company has been able to reduce risk.



IMPROVING COMMUNICATION, COLLABORATION AND GOVERNANCE

A governmental agency in Europe started a data governance and digital transformation journey to improve services and security while containing costs. The CIO and his team had to address multiple innovation initiatives, such as data center consolidation, IT service management, ISO certifications and IT strategy and design, and then use cost savings from one project to pay for the next. Project coordination and delivery was challenging because different teams were supported by different vendors, and communication based on standard terminology was lacking.

erwin Evolve was implemented to manage a portfolio of 580 applications, as well as to model the complex current-state architecture across applications, processes, organisations and services. A central repository for EA artifacts was created to provide integrated and approved, role-based views of this information to better manage complexity and risk; standardise and/or re-engineer processes and understand the impact of changes; and establish the infrastructure to deliver services to external clients for other public administration agencies. This latter objective includes maintaining and publishing a catalog of more than 360 services with end-to-end process maps depicting components, customers, service-level agreements, service owners and delivery managers.

Communication, collaboration and governance have improved thanks to clear and accurate dashboards and a current services catalog fed by metadata from various underlying systems (e.g., ServiceNow, RSA Archer, CA Clarity, IBM Data Architect) that is constantly updated and aligned, creating synergy between systems, processes and work groups. Live indicators monitor the progress, assess completeness and balance the responsibility load for different actors involved in EA maintenance (services, processes and application map), with more than 100 workflows established to calculate metrics related to solution completeness and accuracy.

erwin Evolve in Action

continued



DELIVERING AUTOMATIC VISUALISATIONS AND INSTANT IMPACT ANALYSES FOR MASSIVE APPLICATION TRANSITION

A communications infrastructure and media services provider in the United Kingdom uses advanced networks to support the exponential growth of connected devices and the ever-increasing demand for data from smartphones to tablets, connected TVs, smart meters, cars and medical devices.

The company chose to work with erwin to help it transition from using 243 applications across data, enterprise and business architectures down to six. Because this project would have enormous impacts, it needed to be managed in an agile fashion with automatic visualisations and impact analyses with information accessible and manageable at the appropriate levels but also cross-referenceable.

Thanks to erwin Evolve, all three disciplines now use the same system and taxonomy to communicate and collaborate, making it the largest IT project they've undertaken within a decade a success. Process owners and SMEs now provide instant feedback to enterprise architects and application managers about what processes support which applications, while any changes planned by enterprise architects are instantly analysed by process owners so they can plan changes on their end. Data architects can see how data moves not just at the application level but also at the process level with data relationships, dependencies and lineage mapped.



erwin Evolve in Action

continued



BUILDING AN EA PRACTICE WITH FAST ROI

Daktronics, based in Brookings, South Dakota, designs, manufactures, sells and services video displays, scoreboards, digital billboards, dynamic message signs, sound systems and related products. The company was building out its EA practice and needed a better way to capture the current state of its business, applications, infrastructure and data architecture. After determining that ArchiMate was the best way to describe, analyse and visualise its architecture within and across business domains in an unambiguous way, it needed to find an EA tool it could use to “win fast or fail fast.”

erwin Evolve Agile was selected because it is compatible with ArchiMate, cloud-hosted for fast implementation with lower cost, and has a configurable metamodel for easy modifications. In addition, erwin Evolve Agile enables the retrieval of information from other systems for reporting via APIs. With erwin Evolve, you can also easily create and retrieve diagrams, including the associated relationships for future use.

By incorporating erwin documentation into Daktronics’ development process, the platform has provided beneficial insights into component dependencies throughout its pillar systems and services, along with a valuable reference for analysts, architects and developers to quickly gain procedural and architectural understanding of the technical ecosystem. The company considers erwin Evolve Agile a fast win—it was up and running within the same day, and they realised success within the first week.

As the focus of EA expands from IT capabilities to business outcomes, working with a collaborative enterprise architecture platform is essential to engage stakeholders across the organisation, ensuring alignment between IT and the business.



Do you see the value of taking EA beyond a limited IT support role to a strategic business function enabled by purpose-built tools?

erwin Evolve will help your organisation realise a new world of alignment, innovation and governance.



**START
A TRIAL
OF erwin
EVOLVE**

erwin[®]
the data governance company

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As the data governance company, erwin provides enterprise modeling, data cataloging and data literacy software to help customers discover, understand, govern and socialize their data to mitigate risks and realize results. The erwin EDGE platform facilitates IT and business collaboration in driving actionable insights, agile innovation, risk management and business transformation. We help government agencies, financial institutions, healthcare companies and other enterprises around the world unlock their potential by maximizing the security, quality and value of their data assets.

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