

FORRESTER®

The Total Economic Impact™ Of Software AG ARIS

Cost Savings And Business Benefits
Enabled By ARIS

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ABOUT FORRESTER CONSULTING

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Executive Summary

In 2020, many organizations faced workplace upheaval as they shifted operations to remote work. This change in work life is representative of the importance of business transformation for organizations and the need to be agile to deal with unexpected disruptions in work. However, alignment between strategy and operations teams is a common challenge. In order to execute transformational change, organizations need a solution that streamlines processes from strategy to the operations level.

Software AG's ARIS solution provides organizations with a toolset to fully support their teams in analyzing operations, defining strategy-based frameworks for business transformation and operational excellence, optimization and execution of those strategies for desired results, and securing internal and external compliance.

Software AG commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Software AG ARIS. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of ARIS on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four customers with experience using ARIS. For the purposes of this study, Forrester aggregated the experiences of the interviewed customers and combined the results into a single composite organization.

Prior to using ARIS, the customers' organizations lacked a standardized approach to creating and executing strategies for transformation. Typically, these organizations relied on a mix of spreadsheets or visualization tools that hampered their ability to clearly define and announce their strategic vision across teams and to make future proof and impactful business decisions. This approach also left employees powerless to obtain end-to-end visibility

KEY STATISTICS



Return on investment (ROI)
301%



Net present value (NPV)
\$5.9M

that supports their daily business by optimizing transparency and communication.

Decision makers at these organization recognized they would benefit from having one tool in place to standardize their team's approach to strategy design and process analysis. These decision makers pursued ARIS based on its more than 28 years of experience in the field of business process management and analysis, as well as its scalability to provide support at an enterprise level and integrate with a variety of solutions.

Since adopting ARIS, customers' organizations established a common set of standards and defined parameters for business process analysis. This approach brought transparency for end-to-end design analysis and helped organizations to identify specific opportunities for efficiencies they would not have otherwise found. Altogether, strategy execution accelerated at the organizations, while the quality of process analysis findings improved. As a result,

teams were able to rollout their processes and drive transformational change across their organization.

KEY FINDINGS

Quantified benefits. Risk-adjusted present value (PV) quantified benefits for a three-year analysis period include:

- **Employees reduced time spent on business process analysis by 25%.** ARIS' ability to support transformation initiatives from strategy to operations by designing the business model and connecting it with the operating model helped drive efficiencies in process analysis. Teams no longer had to spend time going back and forth trying to understand process designs and takeaways because ARIS delivers full visibility to align the organization end-to-end.
- **Organizations set up transformational processes 40% faster than anticipated.** Improved analysis led to accelerated timelines for rolling out processes at organizations. Employees could more easily understand and align on process steps to follow using ARIS as their sole tool for process design, providing up-to-date work instructions, policies, and guideline to all employees. Speed in setting up processes increased over time as more employees became familiar with models in ARIS.
- **Improved speed and quality of transformations generated millions of dollars of additional value for organizations.** Faster set up of processes enabled organizations to recognize value faster than expected. Alongside faster speed to market, by following steps laid out in ARIS, projects achieved or outperformed expectations.
- **Optimized processes led to company-wide productivity improvements.** Minutes of time savings for each and every employee leads to millions of dollars in resources savings.

Accessibility to models and continuous process improvement enabled employees to contribute their knowledge and better execute their daily work. Organizations rolled out processes and improvements via their center of excellence, leading to substantial efficiency improvements.

- **Reduced legacy infrastructure costs by 30%.** Organizations leveraged ARIS to identify opportunities to offload legacy IT infrastructure, capital equipment and property. Organizations also recognized savings by reducing the number of tools needed to support strategy execution and process analysis once they moved to ARIS.

Unquantified benefits. Benefits that are not quantified for this study include:

- **Avoided millions of dollars in governance, risk management and compliance fines.** Several interviewees relied on ARIS to review their processes for risk management processes, like meeting compliance standards and audits. By optimizing these processes, organizations were able to ensure they were compliant and brought up to date any areas of their organization that needed revisions.
- **Improved employee experience as a result of optimized processes.** Efficiencies with processes contributed to peace of mind for employees as they had automations and clearly defined processes that supports them on their daily business. Collaboration between teams also grew from them leveraging the same process design solution.
- **Better customer experiences.** Processes contributing to quality checks for products and experiences with organizations helped ensure that customers were receiving reliable products and services that did not fail to live up to expectations. One organization used ARIS to create a reference model for benchmarking

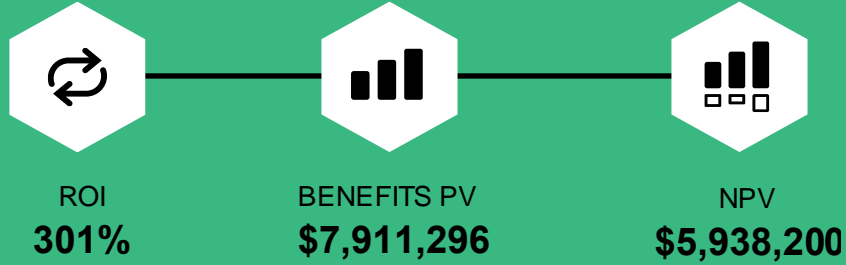
performance with customers between business locations to ensure consistent service.

- **Process mining opportunities.** Interviewees were just beginning to make use of ARIS' process mining capabilities or planning to use them to identify the cause of inefficiencies. Teams leverage advanced process mining functionalities such as data discovery and root-cause analyses to identify the cause of process bottlenecks or KPI deviations.

Costs. Risk-adjusted PV costs include:

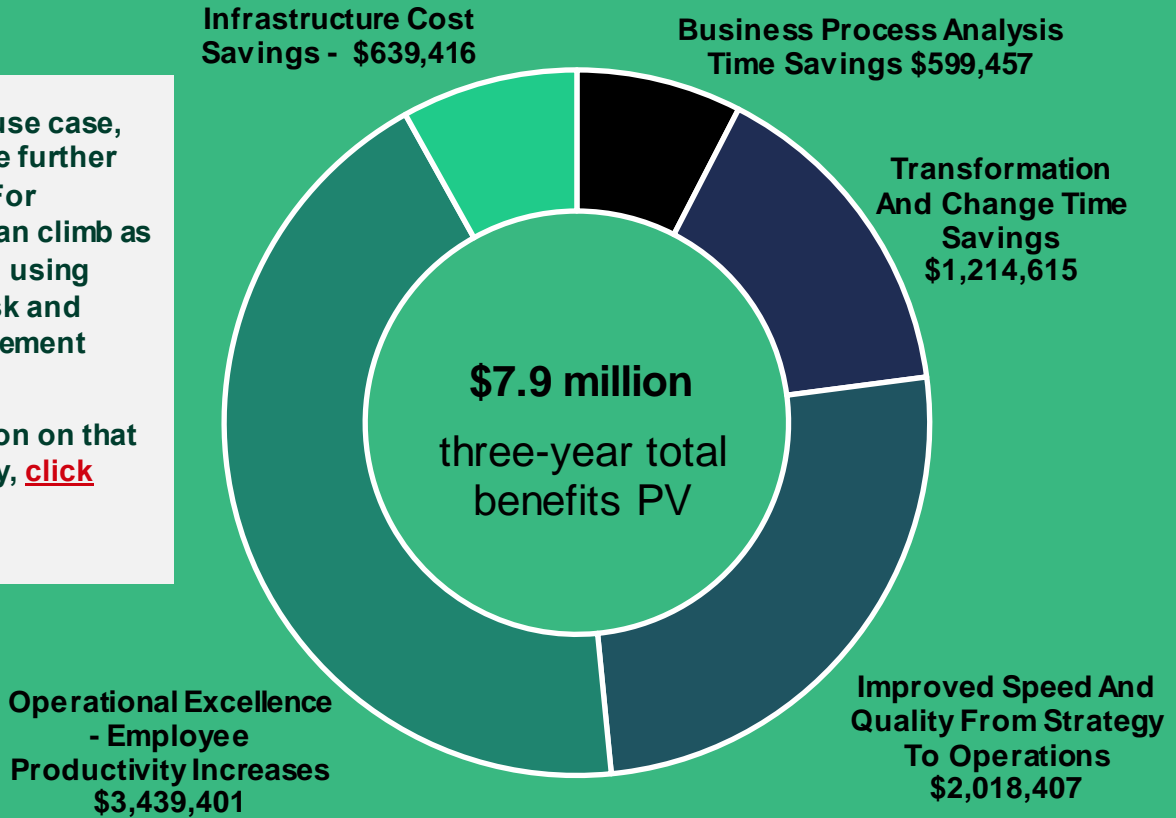
- **Hosting and licensing costs.** Hosting and licensing costs are divided primarily at a 60% vs. 40% split. Costs scale based on the scope of projects for which ARIS is leveraged and the number of employees planning to model and access the software.
- **Training costs.** Fifteen employees attend a training session and spend a few more hours familiarizing themselves with the solution over the course of a day. Any learning curve with ARIS is captured in the gradual increase in projects undertaken in the benefit tables and not counted as a direct cost.

The customer interviews and financial analysis found that a composite organization experiences benefits of \$7,911,296 over three years versus costs of \$1,973,096, adding up to a net present value (NPV) of \$5,938,200 and an ROI of 301%.



Depending on the use case, ARIS' value can rise further for organizations. For example, the ROI can climb as high as 457% when using ARIS to improve risk and compliance management processes.

For more information on that benefit in this study, [click here](#).



“ The reason why we wanted to move to ARIS was multifold. We wanted to scale up our own muscle around process knowledge and optimization, and we wanted to have a scalable cloud-based application for this. ARIS capably provided this for us at the enterprise level. ”

— Senior process leader, technology

TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact™ framework for those organizations considering an investment in ARIS.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that ARIS can have on an organization.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Software AG and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.

Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the study to determine the appropriateness of an investment in the ARIS.

Software AG reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.

Software AG provided the customer names for the interviews but did not participate in the interviews.



DUE DILIGENCE

Interviewed Software AG stakeholders and Forrester analysts to gather data relative to ARIS.



CUSTOMER INTERVIEWS

Interviewed four decision-makers at organizations using ARIS to obtain data with respect to costs, benefits, and risks.



COMPOSITE ORGANIZATION

Designed a composite organization based on characteristics of the interviewed organizations.



FINANCIAL MODEL FRAMEWORK

Constructed a financial model representative of the interviews using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewed organizations.



CASE STUDY

Employed four fundamental elements of TEI in modeling the investment impact: benefits, costs, flexibility, and risks. Given the increasing sophistication of ROI analyses related to IT investments, Forrester's TEI methodology provides a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

The Software AG ARIS Customer Journey

■ Drivers leading to the ARIS investment

Interviewed Organizations				
Industry	Region	Interviewee	Number of employees	
Technology	Headquartered in North America	Senior process leader; Senior program manager, global process engineering	150,000	
Finance	Headquartered in Western Europe	Product owner of ARIS; Head of business modelling and training	50,000	
Oil and gas	Headquartered in Asia	Business process management lead, Head of organization transformation	50,000	
Healthcare manufacturer	Headquartered in Western Europe	Lead process architect; Head of business process management center of excellence	80,000	

KEY CHALLENGES

- Challenges varied by the customer's industry, such as whether a manufacturer struggled to improve compliance processes vs. service-based businesses laboring to incorporate automation to their practices. However, consistently we heard from customers the following challenges around achieving operational excellence prior to adopting ARIS:
- **Inconsistent approach to process design and analysis.** Interviewees relied on what resources they had available when designing processes, including pen and paper, text documents and spreadsheets. This approach resulted in differing visualizations for mapped processes and an inability to collect meaningful insights or reach consensus on transformation.
- **Poor execution of strategy.** Strategy creation and process analysis often faced challenges, even if a team managed to coherently design a process and recognize opportunities for transformation. Interviewees' inconsistent approaches to process design did not make visibility into end-to-end organizational processes transparent, meaning key steps would go unidentified and no realization of efficiencies, resultantly. Because of this, teams would have to go back to the drawing board to discover what they missed. This proved especially troublesome when tackling transformational processes with more technologies and employees involved.
- **Difficulty sharing process learnings with rest of company.** Interviewees' centers of excellence suffered from a lack of documented processes, preventing teams from building off any analyses previously conducted. Employees' inability to access this analysis meant that simple process changes that could create efficiencies for individual employees on a company-wide level went unrecognized. For teams that did have previous documentation to reference, they often ran into the challenge of deciphering the language and shorthand used from that round of process analysis.

“We were very scattered before ARIS. Our landscape consisted of many management tools, with processes documented in all kinds of notations of spreadsheets and presentation decks.”

Lead process architect, technology

“We wanted one platform that can be more than just a repository for our processes because older processes become artifacts.

We wanted a solution where employees can work with processes in a more dynamic way, where they can review and change the process with ease.”

Head of organization transformation, oil and gas

INVESTMENT OBJECTIVES

The interviewed customers searched for a solution that could:

- Establish a standard for communicating process design across departments and business lines.
- Enable transparency in end-to-end process analysis.
- Be flexible in its solution integrations, open to IT systems and standards, and the ability to support design and analysis for a variety of processes and use cases.
- Enable access to process standards and operations guidelines for employees across their organization.
- Support organization-specific initiatives, such as risk management or digital security assessments.

COMPOSITE ORGANIZATION

Based on the interviews, Forrester constructed a TEI framework, a composite company, and a ROI analysis that illustrates the areas financially affected. The composite organization is representative of the four companies that Forrester interviewed and is used to present the aggregate financial analysis in the next section. The composite organization has the following characteristics:

Description of composite. The composite organization is an industry agnostic multi-national

company, with global operations. The organization generates \$25 billion in revenues annually and has 75,000 employees. A team of 15 process analysts and subject matter experts (in the business lines, as part of the extended center of excellence) are dedicated to working with ARIS on a daily basis, while access to up-to-date process information is available to the entire company. Before adopting ARIS, the organization did not have a formal solution in place for process design and analysis.

Deployment characteristics. The core team of process analysts leveraging ARIS will spend a few hours familiarizing themselves with the solution. Over their first three to six months with the solution, they will pilot ARIS for several transformational projects and reach 15 total projects in Year 1. As the team drives efficiencies with their daily work and become more familiar with ARIS, the number of annual large scale transformational projects increases to 25 in Year 2 and 30 in Year 3. Employees across the company will model 125 small-scale business processes in Year 1. As those learnings are shared and more employees become aware of ARIS, the number of small-scale business processes will increase to 175 in Year 2 and 200 in Year 3.

Key assumptions

- **25 billion annual revenues**
- **75,000 employees**
- **15 active ARIS designers**
- **Company-wide viewing access to ARIS for all employees**

Analysis Of Benefits

■ Quantified benefit data as applied to the composite

Total Benefits						
Ref.	Benefit	Year 1	Year 2	Year 3	Total	Present Value
Atr	Business process analysis time savings	\$164,700	\$261,900	\$310,500	\$737,100	\$599,457
Btr	Transformation and change time savings	\$205,200	\$507,600	\$810,000	\$1,522,800	\$1,214,615
Ctr	Improved speed and quality from strategy to operations	\$337,500	\$843,750	\$1,350,000	\$2,531,250	\$2,018,407
Dtr	Operational excellence: employee productivity increases	\$921,096	\$1,473,750	\$1,842,192	\$4,237,038	\$3,439,401
Etr	Infrastructure cost savings	\$168,750	\$281,250	\$337,500	\$787,500	\$639,416
Total benefits (risk-adjusted)		\$1,797,246	\$3,368,250	\$4,650,192	\$9,815,688	\$7,911,296

BUSINESS PROCESS ANALYSIS TIME SAVINGS

What interviewees said. ARIS helped organizations accelerate their business process analysis by bringing transparency to design work and driving consensus. While organizations sank the same amount of time into designing a process as they did before ARIS, that previous approach with various tools meant time was wasted in the analysis phase when trying to understand the mapped process. Employees would often have to confer back and forth with each other to create assumptions with little certainty that they were capturing the end-to-end process.

“Before ARIS, teams would have to put work into design processes for optimization, it was very difficult for teams to come together and share their learning. With ARIS we have been able to define a common set of standards and design parameters for process design work.”

Senior program manager, global process engineering technology

Interviewees shared that achieving a similar level of transparency without ARIS was not possible, and that attempts to achieve anywhere close to a similar level of analysis took several more days than their current approach. Large scale, transformational processes (e.g., operational approaches involving multiple locations, teams, or departments) that drove impactful results on annual revenue significantly benefitted from analysis efficiency, adding up to weeks of work saved for organizations.

Ease of communication with ARIS, and its integrations with APIs, cloud systems and other platforms, encouraged employees across organizations in business departments to attempt modeling processes with the solution. These independent attempts at design and analysis for small-scale day-to-day processes, like onboarding processes, took less than a week for employees to complete and share.

Modeling and assumptions. For the financial analysis, Forrester assumes:

- The organization creates, designs and runs process analysis on 15 large scale

transformational process projects in Year 1. The full-time equivalent of three employees supports each project. With ARIS, the team is able to reduce the assumed 1-month timeline by 25%. As teams increase their bandwidth to support more projects, the number of large-scale transformational projects addressed on an annual basis at the corporate level, or in business departments and local organizations, grows to 25 in Year 2 and 30 in Year 3.

- Individual employees take on design and analysis for 125 small scale, non-transformational processes in Year 1. Work on these projects that previously took one week or 40 hours to complete are now completed 20% faster as well, or one less day out of the week. As more employees leverage ARIS for modeling, the number of small scale non-transformational projects undertaken grows to 175 in Year 2 and 200 in Year 3.

25% process mapping efficiency



- For time savings on small scale process project work we apply a productivity retention rate of 50%. Whereas time saved on large scale projects is assumed to be dedicated toward taking on additional projects, for these time savings that are incremental we assume time saved represents less late evenings or weekend time spent on the projects and is not reallocated to additional work.
- The assumed fully loaded daily rate for process analysts at the organization is \$600 per day or \$3,000 per week.

Risks. Differences across organizations that may impact the benefit include:

- Business demographics like industry, number of employees and annual revenue will influence the results of the benefit.
- Variances in the types of projects and complexity in them will lead to differences in total time savings, however, the assumed rate of improvement remains constant.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of \$599,457.

“The key benefit has been process transparency. We are able to ensure that people understand and relate to a process in a meaningful way. The tooling can quickly render complex models into simple, click-by-click steps or produce a table with a list of steps in a coherent flow.”

Head of business modeling and training, finance

Business Process Analysis Time Savings					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
A1	Number of large-scale transformational process projects	Assumption	15	25	30
A2	Number of FTEs mapping out each process before ARIS	Interviews	3	3	3
A3	Average length of process design and analysis for each large-scale project before ARIS (weeks)	Interviews	4	4	4
A4	Process mapping efficiency improvement	Interviews	25%	25%	25%
A5	Total time efficiencies on large scale projects with ARIS (weeks)	$A1 * A2 * A3 * A4$	45	75	90
A6	Number of small scale (non-transformational) process projects	Assumption	125	175	200
A7	Number of FTEs mapping out each small-scale process before ARIS	Interviews	1	1	1
A8	Average length of each small-scale project before ARIS (weeks)	Interviews	1	1	1
A9	Productivity retention for small scale projects	Assumption	50%	50%	50%
A10	Total time efficiencies on process design and analysis for small scale projects annually (weeks) (rounded)	$A4 * A6 * A7 * A8 * A9$	16	22	25
A11	Weekly fully loaded rate for process analyst FTEs	Interviews: \$600 per workday*5 workdays	\$3,000	\$3,000	\$3,000
At	Business process analysis time savings	$(A5 + A10) * A11$	\$183,000	\$291,000	\$345,000
	Risk adjustment	↓10%			
Atr	Business process analysis time savings (risk-adjusted)		\$164,700	\$261,900	\$310,500
Three-year total: \$737,100			Three-year present value: \$599,457		

TRANSFORMATION AND CHANGE TIME SAVINGS

What interviewees said. Ease of communicating process design and analysis extends to the standing up and transformation of processes. Before ARIS, processes created and shared between teams often led to prolonged conversations over the accuracy of assumptions behind process efficiencies and stalled transformation from taking place. The senior program manager of global process engineering at a technology company shared, “In the pre-ARIS

environment, we would actually come up with the same decisions but the amount of work or discussions in absence of trust of a set of data were extensive. With what ARIS brings to the table, tools for running simulations and scenario analysis, we’re able to compare and contrast to come to decisions faster.”

The interviewee elaborated that each team often had their own standards and design guidelines for different transformation projects. ARIS was able to bring standard and design guidelines into alignment

in a new unified process so that implementation could quickly begin without teams adapting their standards to approve the process.

ARIS' support in fostering consensus helps teams confidently move forward with carrying out transformational processes. The product owner of ARIS at a financial services company shared that when large scale process analysis is complete and decisions are made, their teams are able to conduct self-service. Previously, teams had to wait for the availability of subject matter experts to guide them step by step through a process and the clarity brought by processes presented in ARIS no longer necessitated that support.

“ARIS reduces the complexity and simplifies our decision making. And that’s something we really needed as a capability to achieve operational excellence.

We’re no longer creating a lot of waste or unnecessary bureaucracy around processes, we’re making sure the design meets all the checks and measures.”

Lead process architect, healthcare manufacturer

Speed in setting up picked up over time at organizations as more employees became familiar with models in ARIS and processes became automated. Processes created for individual employees to leverage proved consumable and led to fast realization of efficiency.

Modeling and assumptions. For the financial analysis, Forrester assumes:

- The equivalent of three full-time employees are involved in executing each large-scale process. This work takes twice as long as the analysis phase, totaling eight weeks.
- Efficiency in setting up processes increases over the three years from 20% to 40% as easy to review processes are shared with more teams at

the organization and maturity with leveraging ARIS models grows. Continued refinement of previous processes further increases efficiency.



40% efficiency in setting up processes

- The equivalent of one employee is involved with standing up a small-scale process, and this process takes 12 hours. Whereas design and analysis took a few days to determine, the ultimate process developed should be straightforward and take only a day to set up, with likely another half day to check if it is working as expected.
- The same assumption on productivity recapture applied in Table A is used: that employees working on small scale processes are rededicating half of their incremental time savings to more work.
- The assumed weekly rate is the same as Table A – \$3,000.

Risks. Differences across organizations that may impact the benefit include:

- The number of projects being undertaken and their complexity will produce variance in the amount of time saved.
- An organization’s prior state of assumed efficiency with standing up processes will impact the amount of growth in efficiency seen.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of \$1,214,615.

Transformation And Change Time Savings					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
B1	Number of large-scale transformational process projects	A1	15	25	30
B2	Number of FTEs working on large-scale processes	Assumption	3	3	3
B3	Time spent on transformation (weeks)	Interviews	8	8	8
B4	Efficiency in setting up processes	Interviews	20%	30%	40%
B5	Total time saving to set up process improvement for large scale projects (weeks)	B1*B2*B3*B4	72	180	288
B6	Number of small scale (non-transformational) process projects	A6	125	175	200
B7	Number of FTEs working on small-scale project set up	A7	1	1	1
B8	Time spent on transformation/time to market before ARIS (hours)	Interviews: 12 hours per week/40 hours	0.30	0.30	0.30
B9	Productivity recapture	Assumption	50%	50%	50%
B10	Total time saving to set up process improvement for small scale projects (weeks) (rounded)	B4*B6*B7*B8*B9	4	8	12
B11	Weekly fully loaded rate for process analyst FTEs	Interviews: \$600 per workday*5 days	\$3,000	\$3,000	\$3,000
Bt	Transformation and change time savings	(B5+B10)*B11	\$228,000	\$564,000	\$900,000
	Risk adjustment	↓10%			
Btr	Transformation and change time savings (risk-adjusted)		\$205,200	\$507,600	\$810,000
Three-year total: \$1,522,800			Three-year present value: \$1,214,615		

IMPROVED SPEED AND QUALITY FROM STRATEGY TO OPERATIONS

What interviewees said. Faster set up of processes meant that organizations were able to recognize value on their transformational projects sooner than anticipated. Critically, these projects achieved or outperformed expectations despite the accelerated timeline.

Analysts identified opportunities where quality assurance checks could be added into processes

since they had time to work with given other eliminated and optimized steps. In most cases, analysts were still able to accelerate set up even while adding these QA steps. Typically, these steps helped to ensure that their output met compliance standards.

The lead process architect at a healthcare manufacturer organization described that they had many issues with product quality, stemming from either the design or supply chain sourcing components. To resolve these issues, the

organization developed an integrated process in ARIS to oversee and ensure their products met complex compliance standards.

“The core reason why our company is growing is we have shortened the time for innovation to go to market. By creating a gating process for each of our products, we get sign-off across management teams and meet compliance standards so we avoid any major incidents or complaints.”

Head of business process management center of excellence, healthcare manufacturer

Beyond meeting compliance requirements, organizations hoped for the products to make for a positive customer journey. The head of business modeling and training at a financial organization said, “With ARIS we want process to become the key element to bring about change in the organization. That we don’t just optimize for more business opportunities, but ensuring our end-to-end process impacts customer satisfaction and our NPS positively. It’s something we are very precious about.”

While the scale of transformational projects that ARIS was leveraged for varied at the interviewees’ companies, the solution was commonly identified as a foundational tool in providing guidance for impactful processes.

Modeling and assumptions. For the financial analysis, Forrester assumes:

- The assumed minimum value of each large scale transformational process averages out to 0.01% value of the organization’s \$25 billion annual revenue, or \$2.5 million. The projects could bring more value than shown, but for conservative analysis we are assuming the minimum value generated to be \$2.5 million.
- The improvement in speed to market is at half the rate of its set up based on considerations for time

spent following the new process for any other steps that need to be taken before value is generated.

- The percentage of value attributed to ARIS is 10% to recognize its role as a foundational element of the value generated by large scale transformational projects, while weighing the amount of employee hours and external factors contributing to that value.

Risks. Differences across organizations that may impact the benefit include:

- The potential value of projects can vary significantly by organization and result in a higher risk adjustment to account for that variance.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of \$2,018,407.

Improved Speed And Quality From Strategy To Operations

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
C1	Number of large-scale transformational process projects	A1	15	25	30
C2	Assumed value of each large-scale project	Assumption: \$25 billion*0.01%	\$2,500,000	\$2,500,000	\$2,500,000
C3	Improvement in speed to market	Interviews	10%	15%	20%
C4	Additional value realized annually for large scale projects	C1*C2*C3	\$3,750,000	\$9,375,000	\$15,000,000
C5	Percentage of value attributed to ARIS	Interviews	10%	10%	10%
Ct	Improved speed and quality from strategy to operations	C4*C5	\$375,000	\$937,500	\$1,500,000
	Risk adjustment	↓10%			
Ctr	Improved speed and quality from strategy to operations (risk-adjusted)		\$337,500	\$843,750	\$1,350,00
Three-year total: \$2,531,250			Three-year present value: \$2,018,407		

OPERATIONAL EXCELLENCE: EMPLOYEE PRODUCTIVITY INCREASES

What interviewees said. Beyond the large-scale transformational projects supported by ARIS, organizations recognized a significant opportunity to drive efficiencies across their company on a daily basis that would add up to significant value.

Accessibility to models and modeling capabilities for employees enabled employees to analyze processes practiced by themselves and colleagues.

Organizations took findings from these projects to add to their centers of excellence to disseminate to employees and multiply the realization of efficiencies.

Interviewees at the oil and gas company shared that management on various teams wanted to regain “quick minutes” for processes that could be simplified or automated. Their human resources department mapped all of their physical paperwork and digital processes to identify inefficiencies and they achieved this goal. Processes around data entry and filing were automated or made as simple as dragging and

dropping, encouraging other departments to take a similar approach for design and analysis.

Interviewees at the technology company added that they did not envision leveraging ARIS as a repository for employees to frequently leverage on a day-to-day basis, but rather as an instructional tool for employees to quickly grasp best practices.

“A lot of people use ARIS to refer to things, to look at the best designs and best-case scenarios for projects. The objective is not to make people use it for the sake of using it, unless we can bring up some value to them through ARIS.”

Senior program manager, global process engineering, technology organization

The organization averaged thousands of viewers of models annually, driving incremental gains to go alongside transformational project efficiencies. Altogether, interviewees understood that small scale

process optimization helped them achieve operational excellence across their organization.

Modeling and assumptions. For the financial analysis, Forrester assumes:

- One out of every two employees are leveraging small scale non-transformational processes every day, or 50% of the company is leveraging these processes every day.
- Individuals recognize incremental time savings of five minutes in Year 1, as individual leverage more of these processes the time savings increase to eight minutes in Year 2 and 10 minutes in Year 3.
- The fully loaded hourly rate for the average employee at the organization is \$40, in line with the size of the organization.
- A productivity recapture rate of 25%, since the time savings are incremental only a portion of them translate into being reallocated toward meaningful work.

Risks. Differences across organizations that may impact the benefit include:

- The number of employees at organizations, their hourly pay and the number leveraging processes optimized with ARIS.
- Time savings from each optimized small scale process will vary depending on what's addressed.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of \$3,439,401.

Operational Excellence: Employee Productivity Increases					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
D1	Number of employees leveraging small scale (nontransformational) processes leveraged on a daily basis	$\$75,000 * 50\%$	37,500	37,500	37,500
D2	Time saved by each employee leveraging one small scale process per day (minutes)	Interviews	5	8	10
D3	Total time saved among employees (hours) (rounded)	$D1 * (D2 / 480 \text{ minutes}) * 262 \text{ working days}$	102,344	163,750	204,688
D4	Fully loaded average employee hourly rate at organization	Assumption	\$40	\$40	\$40
D5	Productivity recapture rate	Assumption	25%	25%	25%
Dt	Operational excellence: employee productivity increases	$D3 * D4 * D5$	\$1,023,440	\$1,637,500	\$2,046,880
	Risk adjustment	↓10%			
Dtr	Operational excellence: employee productivity increases (risk-adjusted)		\$921,096	\$1,473,750	\$1,842,192
Three-year total: \$4,237,038			Three-year present value: \$3,439,401		

INFRASTRUCTURE COST SAVINGS

What interviewees said. Alongside efficiencies realized on the employee level, organizations identified opportunities to offload legacy IT infrastructure, capital equipment and property.

Starting with their move to ARIS, the financial services organization was able to reduce its total cost of ownership for design systems by over \$3 million. Savings stemmed from reducing the number of licenses and completely offloading associated hardware for those solutions.

Besides saving on design systems, organizations sometimes identified pieces of infrastructure that they could move on from but they needed a process established first to operate without them. Interviewees at the healthcare manufacturer company said they had big targets for strategic re-orientation when adopting ARIS. Since using the solution they have automated and streamlined processes, helping their company to stay on track for profitable growth. In other cases, the pieces that could be wholly removed from processes came unexpectedly.

The head of organization transformation at the oil and gas company shared:

“We put down all the information of applications or technology that we have been investing in. We tried to measure the implication of technology with our documented business processes. We found all these technologies duplicating the same processes.

We identified that we could reduce our investment by 30% without them impacting other processes.”

Head of organization transformation, oil and gas

Modeling and assumptions. For the financial analysis, Forrester assumes:

- The organization is looking to optimize \$5 million in IT infrastructure, capital equipment, employee head count and property.
- Reduction in costs increases from 15% to 30% over the three-year period as the organization takes time to offload infrastructure.

30% reduction in IT costs from ARIS process optimization



- The value attributed to ARIS is 25% to account for the solution helping to identify these cost saving opportunities, while understanding extensive work is required to migrate from and retire legacy infrastructure.

Risks. Differences across organizations that may impact the benefit include:

- The scope of infrastructure being reassessed and potential value for cost savings will vary at by company.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of \$639,416.

Infrastructure Cost Savings

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
E1	Infrastructure costs to be assessed	Assumption	\$5,000,000	\$5,000,000	\$5,000,000
E2	Reduction in costs from ARIS process optimization	Interviews	15%	25%	30%
E3	Reduced infrastructure costs after ARIS process optimization	$E1 * E2$	\$750,000	\$1,250,000	\$1,500,000
E4	Value attributed to ARIS	Assumption	25%	25%	25%
Et	Infrastructure cost savings	$E3 * E4$	\$187,500	\$312,500	\$375,000
	Risk adjustment	↓10%			
Etr	Infrastructure cost savings (risk-adjusted)		\$168,750	\$281,250	\$337,500
Three-year total: \$787,500			Three-year present value: \$639,416		

UNQUANTIFIED BENEFITS

Organizations leveraging ARIS can realize greater value than that captured in our financial analysis depending on their use cases with the solution. Below we cover the financial impact of a common use case we heard from interviewees: improving risk management, compliance and audit execution.

IMPROVED RISK AND COMPLIANCE MANAGEMENT

What interviewees said. A common critical use case for ARIS, is risk and compliance management, which helps teams to successfully mitigate risks and ensure compliance. For example, the financial services enterprise in Western Europe has to abide by general data protection regulation (GDPR) where a penalty fee could total between 2% to 4% of their annual worldwide turnover, resulting in millions of dollars lost.

The head of business process modeling and training explained, "Using ARIS for GDPR is very important. You need to have a record of processing activities. That's article 30 of the GDPR law and it's registered now in ARIS. We also need to have data privacy impact assessments for high-risk data processes.

Before ARIS, we used text documents and spreadsheets for logging information. The biggest problem there was we couldn't be sure if the data was accessed by the right people and left unaltered."

"I think the biggest value of ARIS is that you can monitor every step of who is doing what. We are truly GDPR compliant in that way."

Head of business process modeling and training, financial services

The organization also faced audits on their bookkeeping. ARIS' tracking of processes and enabling users to review these on a regular basis helped to keep the organization agile to any changes in the auditing process so they could remain compliant.

Meeting compliance regulations for the technology and oil and gas industries holds significant impact on their operations as failure would result in factory shutdowns or product recalls. Interviewees at the healthcare manufacturer organization shared that if

they were to lose one factory it would result in over \$200 million in losses, indicating that a factory shutdown would take multiple years to recover from as they reassess their operations and manufacturing equipment and wait for approval from authorities. Since adopting ARIS, they said this issue is a “thing of the past” and not possible anymore.

“The key is that we really have required controls embedded into the process, so we are having a compliancy built in the process rather than inspecting for it.”

Head of business process management center of excellence, healthcare manufacturer

The oil and gas company said they were planning to use ARIS to further strengthen their risk and compliance approach, especially in regard to green business process management with their environmental responsibility and reducing emissions. The head of organization transformation said, “The next step for us is to see the connectivity on these processes. How old processes connect to each other, and with all those handshakes in the process, what are the controls currently in place? Are we governing it or are we over governing it? We want to show that strengthening around governance, risk management and compliance.” Interviewees at the organization felt ARIS would help them uphold their corporate social responsibility to the environment.

Modeling and assumptions. This benefit is not included in the overall calculations for the value of ARIS as while the use case is common, it is not experienced by every organization leveraging the solution. If a company looking to leverage ARIS for support in improving their compliance and auditing processes, Forrester assumes the following for modeling:

- The number of compliance and audit inspections annually totals 12 for the composite organization, assuming there is at least one inspection per

month at one of the organizations’ facilities, their IT infrastructure and software, employee policies, and financial bookkeeping. Before adopting ARIS, the organization had 10% of areas that were currently non-compliant or needing to be brought up to standards—essentially, they could potentially fail at least one of these inspections annually.

- While organizations were able to quickly establish processes to bring their systems in line with regulations, it took time and labor hours to enact the processes.
- Regulatory committees gave organizations time to improve in certain areas to meet criteria. They did not have to divert the entirety of their teams to addressing these issues within one year. In Year 1 they are able to address 10% of the areas needing updates and reached 30% by Year 3.
- Assuming the failure affects one portion of the company that can range across areas of operation but does not result in a complete shutdown of operations, the cost of each failure is an incremental amount of annual business revenue at 0.1%.
- One-quarter of the value saved is attributed to ARIS based on the necessary work needed to meet compliance goals.

Risks. The value is risk adjusted by 15% to account for variance in the cost of each failure and number of areas that are not compliant or need to be brought up to date. This risk adjustment yielded a three-year total PV of \$3,070,154.

Improved Risk And Compliance Management

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
F1	Number of third-party compliance inspections and audits annually	Assumption	12	12	12
F2	Percentage of tests where organization was non-compliant or needed to be brought up to date before ARIS	Assumption	10%	10%	10%
F3	Percentage of areas brought into compliance with ARIS over three-year period	Interviews	10%	20%	30%
F4	Avoided cost of each compliance failure	Assumption: \$25 billion*0.1%	\$25,000,000	\$25,000,000	\$25,000,000
F5	Attributed to ARIS supporting improved compliance and audit process	Assumption	25%	25%	25%
Ft	Improved Risk And Compliance Management	$F1 * F2 * F3 * F4 * F5$	\$750,000	\$1,500,000	\$2,250,000
	Risk adjustment	↓15%			
Ftr	Improved Risk And Compliance Management (risk-adjusted)		\$637,500	\$1,275,000	\$1,912,500
Three-year total: \$3,825,000			Three-year present value: \$3,070,154		

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement ARIS and later realize additional uses and business opportunities, including:

- **Better employee experiences and greater collaboration between departments.** Efficiencies in creating and analyzing processes, in addition to time savings those processes created, ultimately led to peace of mind for many employees at the organizations.

Optimized processes meant there were automations or clearly defined processes for employees to streamline work. Even if employees lack process design knowledge, they can benefit from different process views that are made with target groups in mind. could understand the process from their point of view.

Positive employee experiences drove organization-wide adoption of processes. Total transparency into process steps also produced collaborative discussions between departments

and global offices on how to replicate processes to achieve similar gains.

“Transparency is important in making it easier to collaborate. Teams in different countries can see each other’s processes and say, ‘How do you do that process?’ I think that’s important, having people part of global installations that can share each other’s knowledge and practices.”

Product owner of ARIS, financial services

- **Stronger customer experiences.** As much as organizations spent time improving internal processes, this also led to downstream improvement around customer journeys. The healthcare manufacturer organization noted a reduction in customer complaints about technical issues for their big pieces of equipment where production processes were optimized. Meanwhile, the financial services company shared that service of customers remains a central pillar of their process strategies. To see

this through the company created a global reference model to track how different locations of their business were deviating from the benchmark of expected performance in NPS with customers. Tracking information like this and creating processes around maintaining quality services is an ongoing activity for organizations to generate future business.

- **Process mining opportunities.** Interviewees were just beginning to make use of ARIS' process mining capabilities or planning to use them to identify the cause of inefficiencies. Teams leverage advanced process mining functionalities such as data discovery and root-cause analyses to identify the cause of correlations between data, and efficiencies, that they would otherwise not find. The financial services interviewees indicated that process mining will help them to investigate more complex topics of governance and compliance. Their primary goal is to eliminate steps that are non-value adds and reduce the back-and-forth of customer data, helping to preserve their security. Although teams were in the early stages of exploring process mining, they anticipated its capabilities to be a significant value add to their usage of ARIS.

Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in [Appendix A](#)).

Analysis Of Costs

■ Quantified cost data as applied to the composite

Total Costs							
Ref.	Cost	Initial	Year 1	Year 2	Year 3	Total	Present Value
Gtr	Hosting and licensing costs	\$0	\$787,500	\$787,500	\$787,500	\$2,362,500	\$1,958,396
Htr	Training costs	\$14,700	\$0	\$0	\$0	\$14,700	\$14,700
	Total costs (risk adjusted)	\$14,700	\$787,500	\$787,500	\$787,500	\$2,377,200	\$1,973,096

HOSTING AND LICENSING COSTS

According to interviewees, setup of ARIS incurs minimal implementation costs as it is a software as a service (SaaS). Hosting and licensing costs are divided, primarily at a 60% vs. 40% split. Costs scale based on the scope of projects for which ARIS is leveraged and the number of employees planning to model and access the software.

For a company similar in size to the composite organization and projects described, the assumed cost is \$750,000. A risk adjustment of 5% is applied to account for variance in the usage of ARIS at organizations. The three-year, risk adjusted total PV (discounted at 10%) is \$1,958,396.

Hosting And Licensing Costs

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
G1	Hosting and licensing costs	Interviews		\$750,000	\$750,000	\$750,000
Gt	Hosting and licensing costs	G1	\$0	\$750,000	\$750,000	\$750,000
	Risk adjustment	↑5%				
Gtr	Hosting and licensing costs (risk-adjusted)		\$0	\$787,500	\$787,500	\$787,500
Three-year total: \$2,362,500			Three-year present value: \$1,958,396			

TRAINING COSTS

Interviewees paid a training service cost of \$5,000 for support from Software AG in learning about ARIS. Fifteen employees attend this training session and spend a few more hours familiarizing themselves with the solution over the course of a day. Any learning curve with ARIS is captured in the gradual increase in projects undertaken in the benefit tables and not counted as a direct cost. The assumed hourly rate for these employees is \$75.

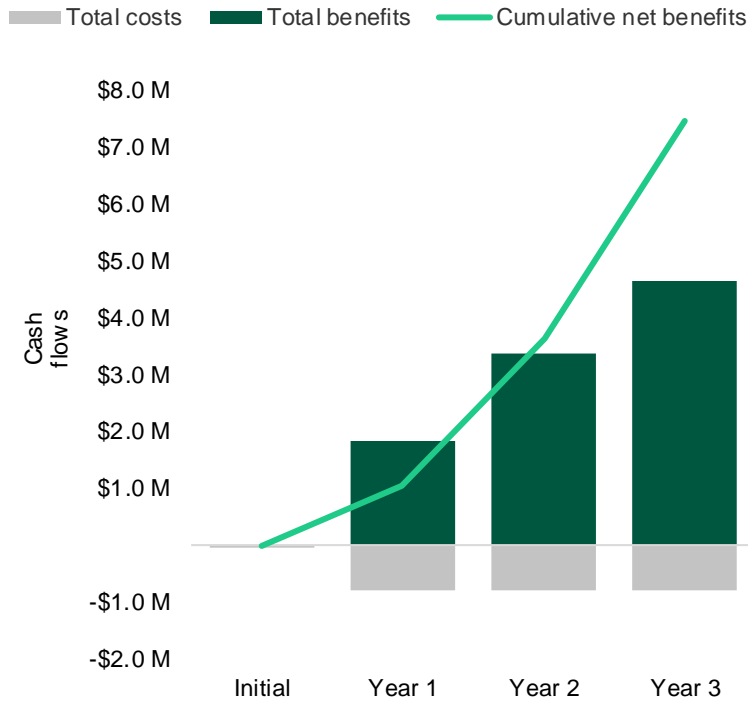
A risk adjustment of 5% is applied to account for variance in the number of process analysts and process analysts leveraging ARIS at organizations. The three-year, risk adjusted total PV (discounted at 10%) is \$14,700.

Training Costs						
Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
H1	Training services cost	Interviews	\$5,000			
H2	Number of employees attending training	Assumption	15			
H3	Hours spent in training	Interviews	8			
H4	Fully loaded hourly rate for business/system analyst and process contributor FTEs	Interviews	\$75			
Ht	Training costs	$F1+(F2 \cdot F3 \cdot F4)$	\$14,000	\$0	\$0	\$0
	Risk adjustment	↑5%				
Htr	Training costs (risk-adjusted)		\$14,700	\$0	\$0	\$0
Three-year total: \$14,700			Three-year present value: \$14,700			

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)



The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Analysis (Risk-Adjusted Estimates)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	(\$14,700)	(\$787,500)	(\$787,500)	(\$787,500)	(\$2,377,200)	(\$1,973,096)
Total benefits	\$0	\$1,797,246	\$3,368,250	\$4,650,192	\$9,815,688	\$7,911,296
Net benefits	(\$14,700)	\$1,009,746	\$2,580,750	\$3,862,692	\$7,438,488	\$5,938,200
ROI						301%

Appendix A: Total Economic Impact

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

TOTAL ECONOMIC IMPACT APPROACH

Benefits represent the value delivered to the business by the product. The TEI methodology places equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization.

Costs consider all expenses necessary to deliver the proposed value, or benefits, of the product. The cost category within TEI captures incremental costs over the existing environment for ongoing costs associated with the solution.

Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.

Risks measure the uncertainty of benefit and cost estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in the summary tables are the sum of the initial investment and the discounted cash flows in each year. Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.



PRESENT VALUE (PV)

The present or current value of (discounted) cost and benefit estimates given at an interest rate (the discount rate). The PV of costs and benefits feed into the total NPV of cash flows.



NET PRESENT VALUE (NPV)

The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made, unless other projects have higher NPVs.



RETURN ON INVESTMENT (ROI)

A project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits less costs) by costs.



DISCOUNT RATE

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.



PAYBACK PERIOD

The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

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