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The Total Economic Impact™ Of Kaspersky Industrial CyberSecurity for Networks

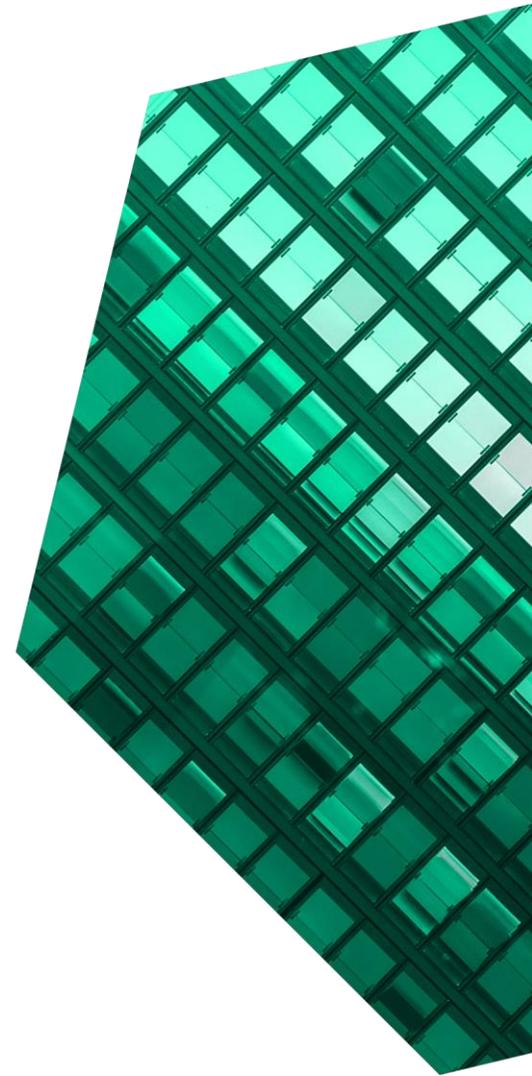
Cost Savings And Business Benefits
Enabled By Industrial Cybersecurity for Networks

APRIL 2021

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Executive Summary

Kaspersky Industrial CyberSecurity for Networks delivers industrial-level cybersecurity solutions for operational technology networks. Customers can use this platform to reduce the likelihood and consequence of a network breach that either disrupts or entirely halts production, which might otherwise result in negative financial impact such as potential regulatory fines, lost revenue, or damaged mission-critical industrial equipment.

Kaspersky commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying [Kaspersky Industrial CyberSecurity \(KICS\) for Networks](#). The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of KICS for Networks on their organizations.

Kaspersky's monitoring platform provide industrial-level cybersecurity to operational technology (OT) networks, in the form of asset discovery, telemetry analysis, network integrity control, intrusion detection, industrial protocol command inspection, and machine learning for anomaly detection. The platform consists of servers and sensors that are dedicated to monitoring the network traffic to decipher any potential threats to the OT network. As a passive solution, KICS for Networks is designed to never stop the industrial process and not have any detrimental influence on critical processes. By providing expeditious, critical alerts of potential threats to the user, the platform facilitates the most prudent course of action to neutralize threats. KICS for Networks is deployed under a perpetual license and includes updates for new emerging threats, signatures, and detection rules, as well as exclusive 24/7 support, emergency onsite visits, and expert analyst content.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed an organization with experience using KICS for

KEY STATISTICS



Return on investment (ROI)

135%



Net present value (NPV)

\$1.67M

Networks. Forrester used the experience of this customer to project a three-year financial analysis.

Prior to using KICS for Networks, the customer focused on protecting the network perimeter with sensors, firewalls, and intrusion prevention systems with a variety of products — however, it lacked specialized tools for the OT network. As the organization grew in size and complexity, it became apparent that a better, specialized, and more unified system was needed to provide the requisite protection.

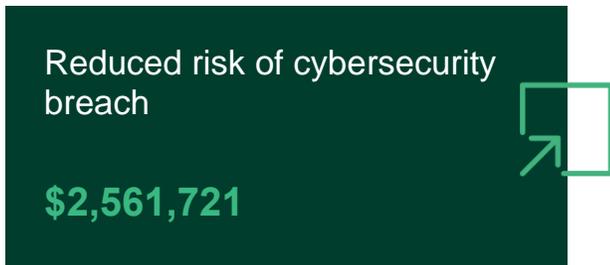
After the investment in KICS for Networks, the customer integrated the platform into its existing infrastructure and security information and event management (SIEM) framework. Since implementation, the interviewed executive has had zero security incidents due to its success in identifying and closing network security gaps.

Key results from the investment include reductions in both the risk of a cybersecurity breach and in the projected costs of equipment damaged by a breach.

KEY FINDINGS

Quantified benefits. Risk-adjusted present value (PV) quantified benefits include:

- **Reduced risk of cybersecurity breach valued at \$2,561,721 million.** KICS for Networks blocks malicious objects from accessing OT networks, reducing the risk and impact of a breach. Preventing an OT breach that has the potential to shut down production can reduce or eliminate a variety of negative impacts, including overtime work and expense to restore operations, regulatory fines, lost revenues, and additional expenses incurred in the notification of affected parties, lawsuits, customer compensation, and audit and security compliance.
- **Reduced projected cost of damaged machinery valued at \$338,923.** Preventing an OT breach that has the ability to damage or destroy essential machinery can reduce or eliminate expenditures that would have been necessary to restore production capabilities.

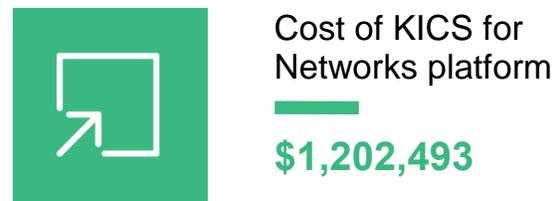


Unquantified benefits. Benefits that are not quantified for this study include:

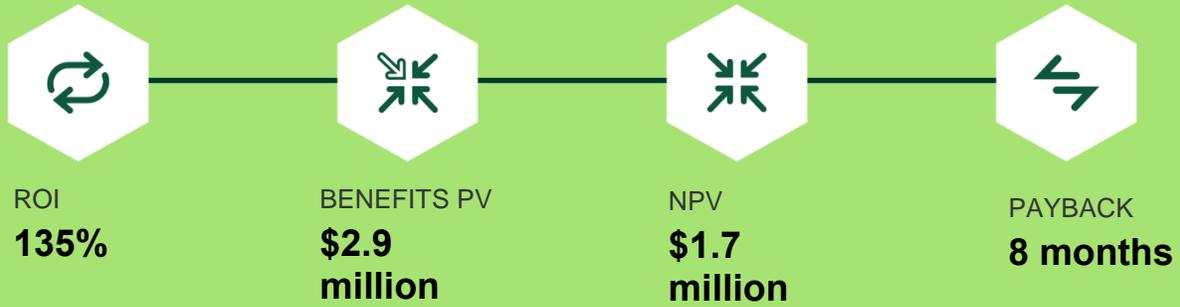
- **Improved asset management program.** KICS for Networks can assist organizations with the reconciliation of their documented network and actual network, providing transparency into network assets and access points.

Costs. Risk-adjusted PV costs include:

- **Cost of KICS for Networks licenses and updates totals \$1,202,493 million.** Kaspersky provided a price quote for the platform and subsequent updates.
- **Cost of personnel learning and optimizing the platform totals \$32,575.** Certain personnel needed training in order to learn the capabilities of KICS for Networks and to optimize the deployment of the platform.



The interview and financial analysis found that this customer experiences benefits of \$2,900,644 over three years versus costs of \$1,235,068 adding up to a net present value (NPV) of \$1,665,576 million and an ROI of 135%.



Benefits (Three-Year)

Reduced risk of cybersecurity breach with KICS for Networks

\$2.6M

Reduced projected cost of damaged equipment

\$338.9K

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 KICS for Networks.

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 KICS for Networks can have on an organization.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Kaspersky 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 report to determine the appropriateness of an investment in the Industrial Cybersecurity for Networks.

Kaspersky 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.

Kaspersky provided the customer name for the interview but did not participate in the interview.



DUE DILIGENCE

Interviewed Kaspersky stakeholders and Forrester analysts to gather data relative to the Industrial CyberSecurity for Networks.



CUSTOMER INTERVIEW

Interviewed one decision-maker at an organization using the Industrial CyberSecurity for Networks to obtain data with respect to costs, benefits, and risks.



FINANCIAL MODEL FRAMEWORK

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



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 Kaspersky Industrial CyberSecurity For Networks Customer Journey

■ Drivers leading to the Industrial CyberSecurity for Networks investment

INTERVIEWED ORGANIZATION

Forrester interviewed a KICS for Networks customer with the following characteristics:

- They are a regional electricity provider that operates nearly 400 substations.
- Their service area is approximately 70,000 square kilometers.

KEY CHALLENGES

As critical infrastructure, the interviewed organization is required by law to take steps to protect its operations. As such, it has embarked on a modernization journey for its operations control centers.

The interviewed organization struggled with challenges, including:

- **Managing the risk of an OT breach.** The manager stated: “We haven’t been victims of any purposeful attacks, but this is possible, and we’ve seen it happen with our colleagues in other countries. Consequences could be very negative: damage to the equipment, financial loss (including revenue loss, labor costs, fixing equipment), and reputational damage.”
- **Reconciling OT network to documentation.** Having accurate, up-to-date documentation of an OT network and related assets can be a challenge for organizations. The manager explained: “The systems are complex, and the partners who create projects and those who lead the installation and manage settings for the OT networks are not the same company. When the project is large, it is really hard to check and manage all details. It is hard to ensure that everything is built without errors and matches the project exactly.”

USE CASE DESCRIPTION

After considering other solutions, the interviewed organization chose to proceed with a KICS for Networks platform because it covered the required security certifications, worked better with the existing SIEM, and provided better monitoring of the network.

Key assumptions

- **Large industrial enterprise**
- **Facing end-of-life decision for OT network security**

“Incidents here are rare, but they could cause extreme consequences.”

Manager of infrastructure, energy

Analysis Of Benefits

■ Quantified benefit data

Total Benefits						
Ref.	Benefit	Year 1	Year 2	Year 3	Total	Present Value
Atr	Reduced risk of cybersecurity breach with KICS for Networks	\$1,030,106	\$1,030,106	\$1,030,106	\$3,090,318	\$2,561,721
Btr	Reduced projected cost of damaged equipment	\$136,286	\$136,286	\$136,286	\$408,857	\$338,923
	Total benefits (risk-adjusted)	\$1,166,392	\$1,166,392	\$1,166,392	\$3,499,175	\$2,900,644

REDUCED RISK OF A CYBERSECURITY BREACH

Evidence and data. For the interviewed organization, mitigating the potential impact of a breach is a top priority. KICS for Networks is critical to closing gaps in network security, monitoring its systems, and preventing any intrusions. For an industrial enterprise, a breach can result in not only shutting down production, but costly remediation efforts to restore operations and reputation, including overtime work for employees.

While successful OT breaches do not occur with any regularity at most organizations, Kaspersky has collected data from its customers to assess the prevalence of threats, including specific percentages of industrial control systems (ICS) computers that were able to block malicious objects in the following time frames: 32.6% in the first six months of 2020; 39.2% in the last six months of 2019; and 41.2% in the first six months of 2019.¹

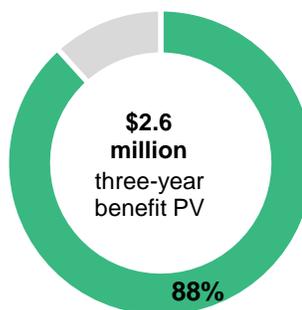
Forrester has conducted a survey of organizations across industries on the impact of cybersecurity incidents.² This survey shows that industrial respondents averaged:

- In the prior 12 months, 2.9 breaches occurred.
- Twenty-five percent of the 8,800 employees per organization suffered 3.3 hours of downtime per breach.

- A negative financial impact of \$1,232,000 can be attributed to remediation efforts and overtime work to restore operations as well as other impacts such as regulatory fines, notification of affected parties, lawsuits, customer compensation, additive audit and security compliance needs, lost revenues, lost customers, and brand equity.

Modeling and assumptions. To supplement information from the customer interview, Forrester has used the following data from industrial respondents to the survey:

- Of the average 2.9 breaches, Forrester has assumed that one of these breaches has the potential to shut down energy production.
- Twenty-five percent of the 8,800 employees per organization suffered 3.3 hours of downtime per breach.



Reduced risk of a cybersecurity breach: 88% of total three-year benefit PV

Risks. The value of this benefit can vary across organizations due to differences in:

- The frequency of attempted breaches.
- The types of attempted breaches.
- Legal and regulatory enforcement of fines and compensatory payments.

To account for these risks, Forrester adjusted this benefit downward by 30%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of \$2,561,721.

Reduced Risk Of Cybersecurity Breach With KICS For Networks					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
A1	Average potential cost of breach, exclusive of internal user downtime	Forrester survey	\$1,232,000	\$1,232,000	\$1,232,000
A2	Average number of employees	Forrester survey	8,800	8,800	8,800
A3	Average internal user downtime	Forrester survey	3.3	3.3	3.3
A4	Fully-burdened hourly wage for experienced industrial personnel	payscale.com	\$33	\$33	\$33
A5	Percentage of employees affected per breach	Forrester survey	25%	25%	25%
A6	Projected breaches for industrial enterprises that shut down production	Forrester survey	1	1	1
At	Reduced risk of cybersecurity breach with KICS for Networks	$((A1+(A2*A3*A4*A5))*A6)$	\$1,471,580	\$1,471,580	\$1,471,580
	Risk adjustment	↓30%			
Atr	Reduced risk of cybersecurity breach with KICS for Networks (risk-adjusted)		\$1,030,106	\$1,030,106	\$1,030,106
Three-year total: \$3,090,318			Three-year present value: \$2,561,721		

REDUCED PROJECTED COST OF DAMAGED EQUIPMENT

Evidence and data. In addition to the potential impacts of a breach which are noted above, the threat of equipment and facilities being damaged or destroyed is a compelling concern for the interviewed organization. Successful OT breaches have resulted in the destruction of equipment and facilities and injury to employees.³ The manager of infrastructure declared that, “Damaging even one unit of our equipment is more expensive than KICS for Networks.” When asked how much it may cost to replace damaged equipment, the manager replied by saying that it would cost millions of dollars.

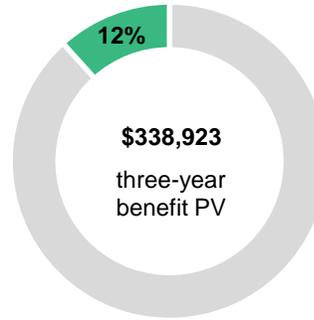
Modeling and assumptions. To quantify this benefit, Forrester has assumed the following:

- Of the average 2.9 breaches, Forrester has assumed that one of these breaches has the potential to shut down energy production.
- Five percent of the projected breaches are assumed to be capable of causing equipment damage.
- The projected cost to replace damaged equipment, after converting the local currency to USD, is \$3,893,880.

Risks. The value of this benefit can vary across organizations due to differences in:

- The type of equipment and facilities.
- The frequency of attempted breaches.
- The type of attempted breaches.

To account for these risks, Forrester adjusted this benefit downward by 30%, yielding a three-year, risk-adjusted total PV of \$338,923.



Reduced projected cost of damaged equipment: 12% of total three-year benefit PV

Reduced Projected Cost Of Damaged Equipment					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
B1	Projected cost to replace damaged equipment	Customer interview	\$3,893,880	\$3,893,880	\$3,893,880
B2	Projected breaches for industrial enterprises that shut down production	Forrester survey	1	1	1
B3	Portion of projected breaches assumed to be capable of causing equipment damage	Forrester survey	5%	5%	5%
Bt	Reduced projected cost of damaged equipment	B1*B3	\$194,694	\$194,694	\$194,694
	Risk adjustment	↓30%			
Btr	Reduced projected cost of damaged equipment (risk-adjusted)		\$136,286	\$136,286	\$136,286
Three-year total: \$408,857			Three-year present value: \$338,923		

UNQUANTIFIED BENEFITS

Additional benefits that the customer experienced but was not able to quantify include:

- **Improved asset management program.** KICS for Networks can provide organizations with increased visibility of networks and production assets, as well as time savings in diagnosing any issues with operations. The manager of infrastructure noted: “KICS helped us identify discrepancies between the new network project and the project documentation. As a result, we worked with partners who were leading the project to fix the discrepancies. Now the documentation corresponds exactly with what’s actually built.” He continued by adding: “Without KICS for Networks, we would have most likely discovered these discrepancies through

accidents. When something goes wrong, we would need to look at the equipment and figure it out.”

FLEXIBILITY

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

- **SIEM integration, optimization, and scalability.** KICS for Networks offers API integration, machine learning, and the ability to scale by adding additional servers, sensors, and endpoint solutions.

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

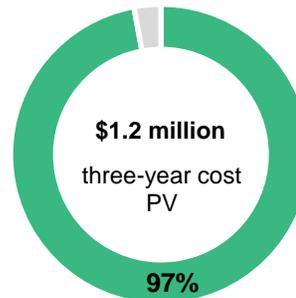
Total Costs							
Ref.	Cost	Initial	Year 1	Year 2	Year 3	Total	Present Value
Ctr	Cost of KICS for Networks license and updates	\$545,600	\$272,800	\$259,160	\$259,160	\$1,336,720	\$1,202,493
Dtr	Cost of personnel training	\$14,520	\$7,260	\$7,260	\$7,260	\$36,300	\$32,575
	Total costs (risk-adjusted)	\$560,120	\$280,060	\$266,420	\$266,420	\$1,373,020	\$1,235,068

COST OF KICS FOR NETWORKS LICENSE AND UPDATES

Evidence and data. The deployment of KICS for Networks servers and sensors can vary across organizations. Kaspersky has informed Forrester that a single, large industrial company usually needs one to five servers and five to 10 sensors.

Modeling and assumptions. Kaspersky provided a price quote for the requisite solution for the composite organization use case of \$496,000 for the perpetual license, with the cost of annual updates, (including signature updates, detection rules, and anti-APT updates as well as customized updates) being 50% of that amount after Year 1 and slightly less in Years 2 and 3. These costs also cover ongoing exclusive 24/7 support and expert analyst content.

Risks. To account for any potential variation organizations may experience, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of \$1,202,493.



Cost of license and updates: 97% of total three-year benefit PV

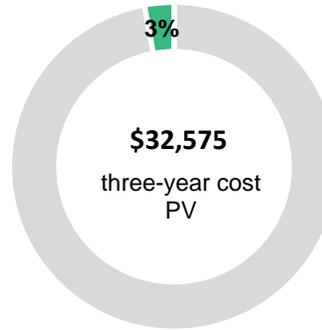
Cost Of KICS For Networks License And Updates						
Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
C1	Cost of KICS license and annual updates	KICS price list	\$496,000	\$248,000	\$235,600	\$235,600
Ct	Cost of KICS for Networks license and updates	C1	\$496,000	\$248,000	\$235,600	\$235,600
	Risk adjustment	↑10%				
Ctr	Cost of KICS for Networks license and updates (risk-adjusted)		\$545,600	\$272,800	\$259,160	\$259,160
Three-year total: \$1,336,720			Three-year present value: \$1,202,493			

COST OF PERSONNEL LEARNING AND OPTIMIZING THE PLATFORM

Evidence and data. The interviewed organization received training after the implementation of KICS for Networks and spent some time learning how to use the various capabilities and features of the platform while optimizing its implementation. Since deployment, 25 personnel spent 40 hours learning and optimizing the platform .

Modeling and assumptions. To quantify this cost, Forrester has used the same number of personnel and training hours as the interviewed organization with 10 people receiving training initially and 5 people performing ongoing optimization of the platform in Year 1 through Year 3.

Risks. To account for any potential variation across organizations, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV of \$32,575.



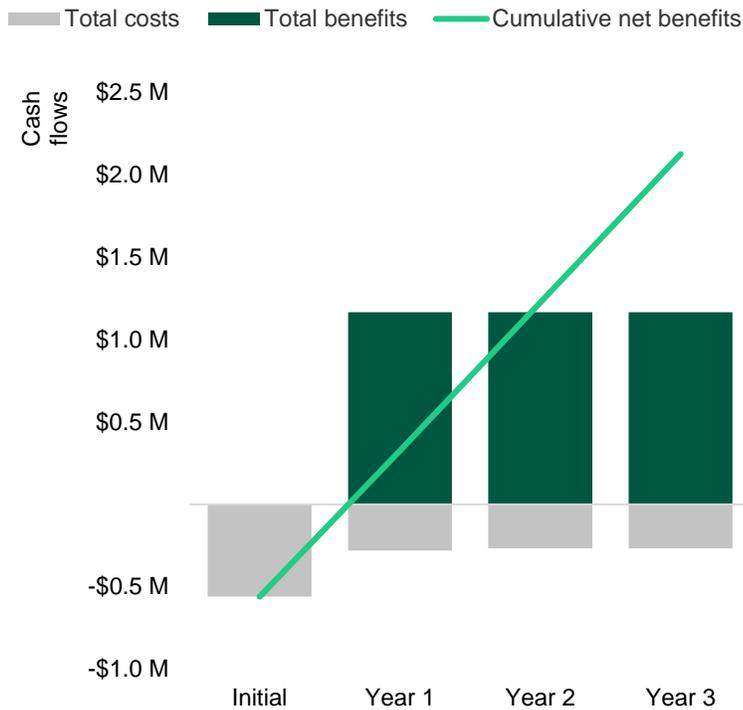
Cost of personnel learning and optimizing the platform: 3% of total three-year benefit PV

Cost Of Personnel Learning And Optimizing The Platform						
Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
D1	Personnel trained and optimizing the platform	Customer interview	10	5	5	5
D2	Hours of training needed	Customer interview	40	40	40	40
D3	Fully-burdened hourly wage for experienced industrial personnel	payscale.com	\$33	\$33	\$33	\$33
Dt	Cost of personnel learning and optimizing the platform	D1*D2*D3	\$13,200	\$6,600	\$6,600	\$6,600
	Risk adjustment	↑10%				
Dtr	Cost of personnel training (risk-adjusted)		\$14,520	\$7,260	\$7,260	\$7,260
Three-year total: \$36,300			Three-year present value: \$32,575			

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	(\$560,120)	(\$280,060)	(\$266,420)	(\$266,420)	(\$1,373,020)	(\$1,235,068)
Total benefits	\$0	\$1,166,392	\$1,166,392	\$1,166,392	\$3,499,175	\$2,900,644
Net benefits	(\$560,120)	\$886,332	\$899,972	\$899,972	\$2,126,155	\$1,665,576
ROI						135%
Payback period (months)						8.0

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."



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.

Appendix B: Endnotes

¹ Source: "Threat landscape for industrial automation systems, H1 2020," Kaspersky ICS CERT, September 24 2020.

² Source: "Cost Of A Security Breach," Forrester Security Survey, August 2020.

³ Source: "ICS Defense Use Case (DUC)," SANS ICS, December 30, 2014 (https://ics.sans.org/media/ICS-CPPE-case-Study-2-German-Steelworks_Facility.pdf).

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