

A large black pipe is being lifted by a yellow crane on a construction site. The pipe is suspended by cables and a hook, and is being moved over a pile of dirt. The background shows a blue sky with white clouds. The text "Crossings Workflow ROI Guide" is overlaid on the image in a white rounded rectangle.

Crossings Workflow ROI Guide

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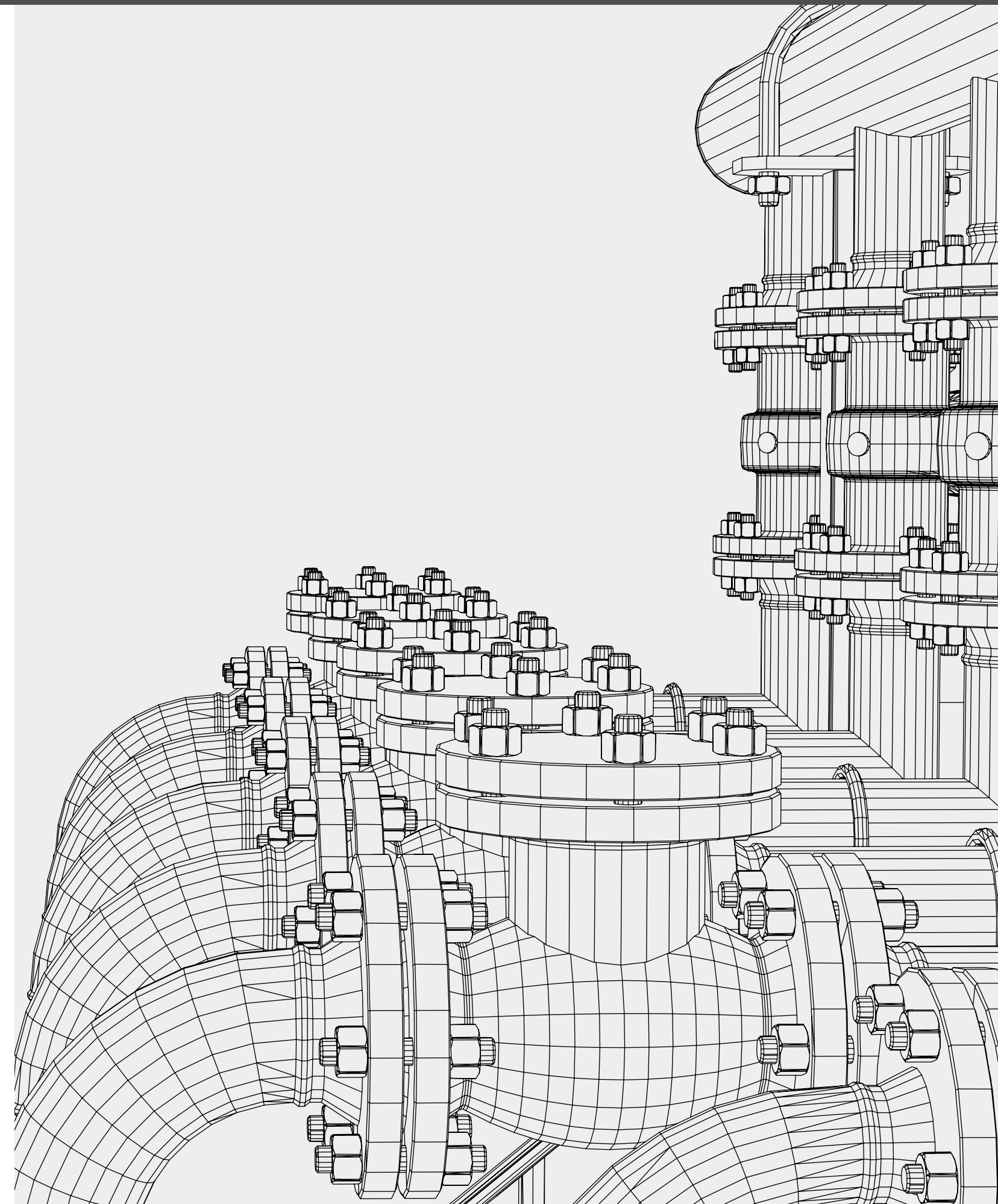
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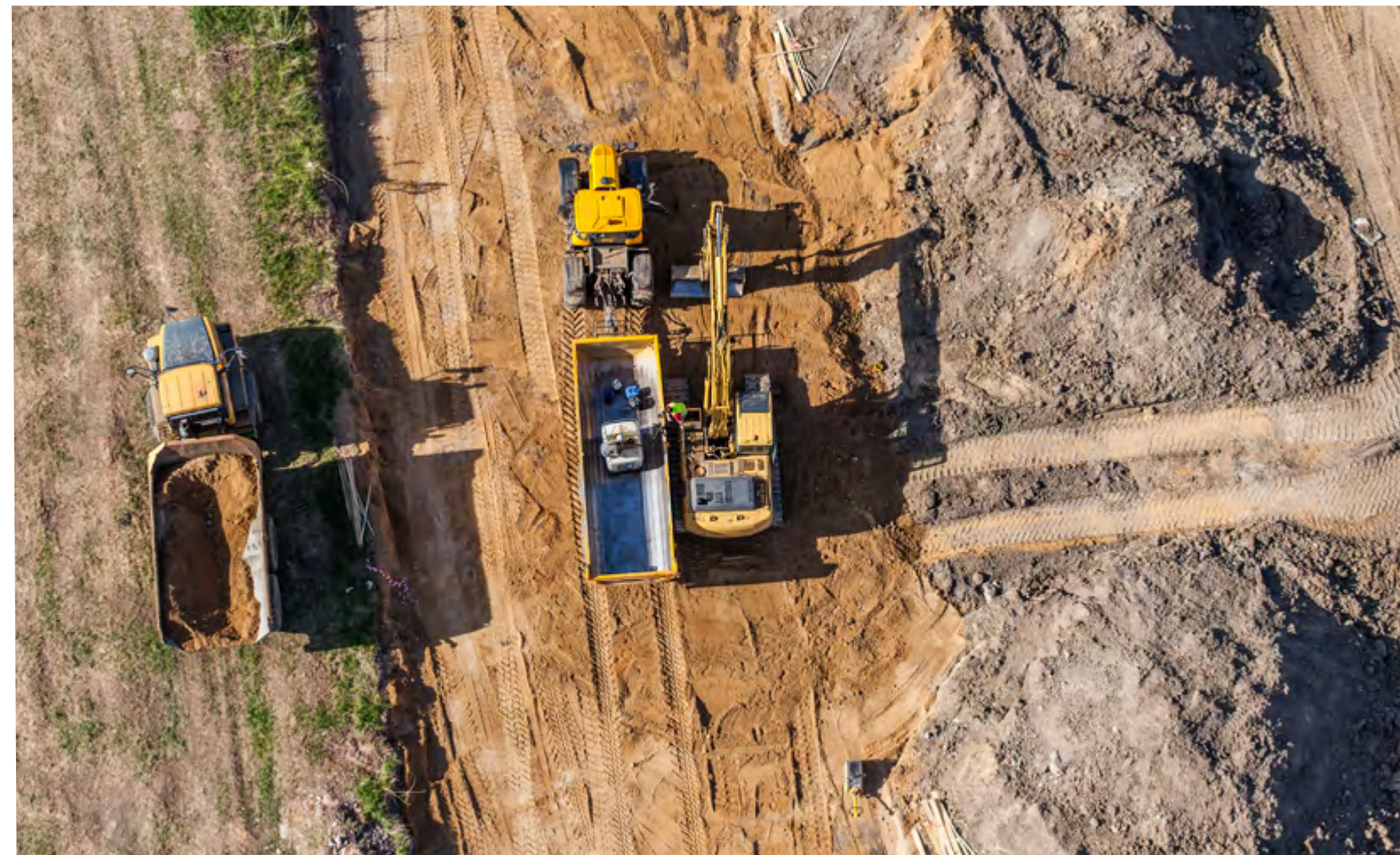
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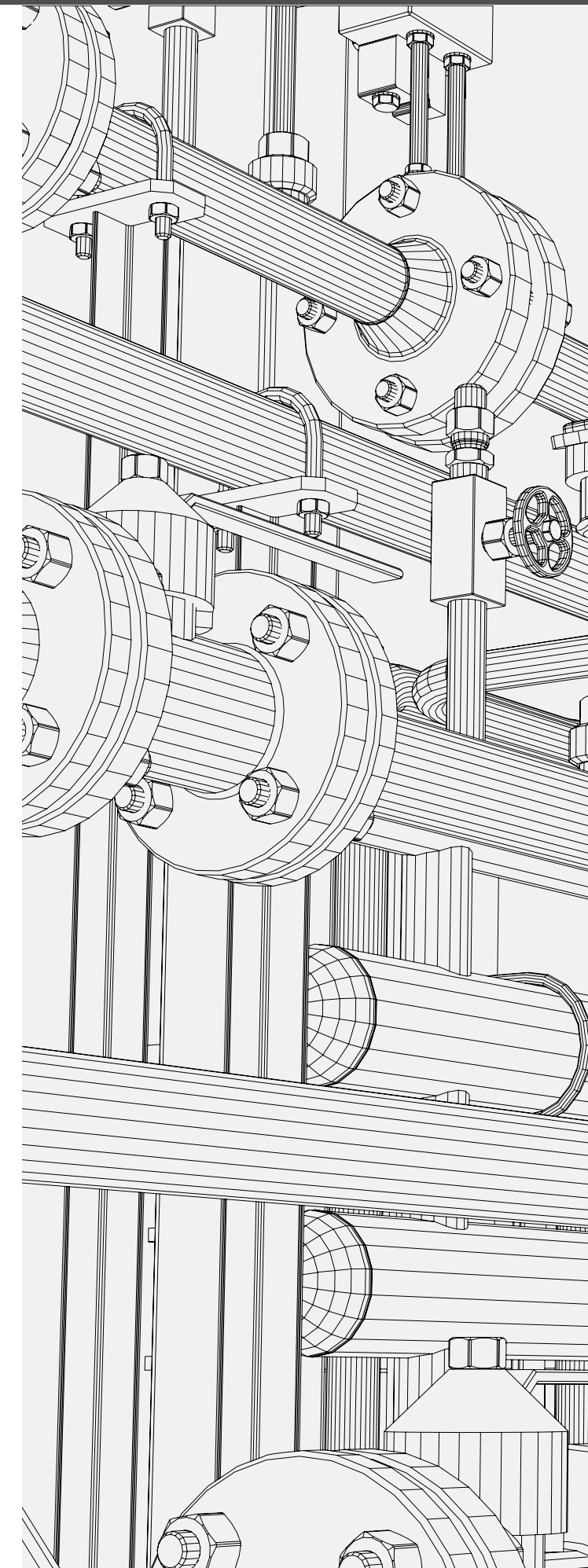
Organizations operating in the midstream oil and gas industry need to balance efficiency, time, and cost management without sacrificing operational safety. Senior pipeline engineers responsible for determining approvals and granting reasonable permissions for safe crossings require robust and accurate tools that help them make quick and safe determinations. Additionally, company managers looking to increase productivity while decreasing costs look for solutions that address effective decision-making and compliance while mitigating risks. Therefore, engineers and business leaders looking to understand how to leverage technology tools for safe and effective decision-making while reducing operating expenses will be interested in reading this.

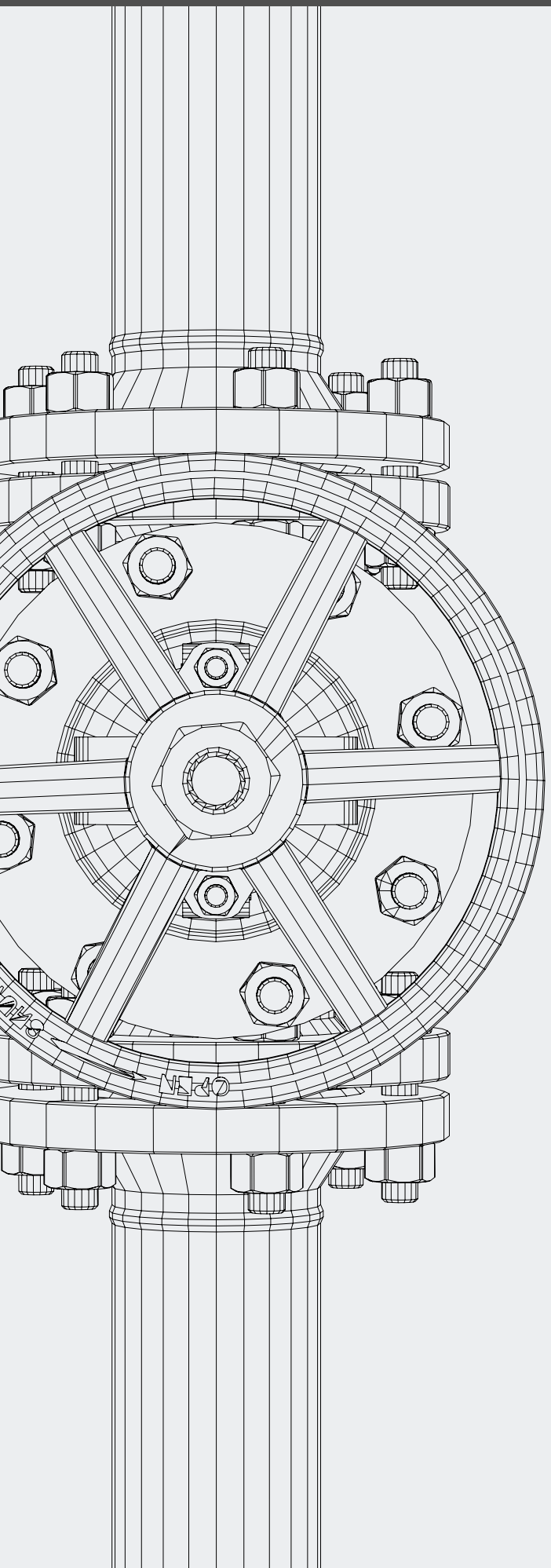
“Organizations operating in the midstream oil and gas industry need to balance efficiency, time, and cost management without sacrificing operational safety.”



Overview of ROI in Pipeline Crossings

Return on investment is not always an observable dollar figure that executives can easily calculate and find. Although some cases will lend themselves to simple mathematical equations, other cases may require more in-depth analysis. When analyzing crossings that involve multiple pieces of equipment moving across one or several pipelines, factors that involve ROI come into play. These aspects influence profitability directly and indirectly. Therefore, to understand how to improve ROI while maintaining operational efficiency and safety, decision-makers should analyze every dynamic.





Assumptions and Risk

Pipeline engineers need to take several factors into consideration when mitigating risks and determining the safety of a crossing. In a perfect scenario, decision-makers calculate parameters and account for each piece of equipment crossing every pipe. This can include one piece of machinery crossing one pipe, one crossing many pipes, or many pieces crossing many pipes. Nevertheless, time constraints and limited tools force many to cut corners, introducing risk-based simplifying assumptions. Therefore, each encroachment and crossing compounds towards a tipping point at which an accident becomes more likely to occur.

Miscalculations and errors in assumptions can result in pipe damage, spills, and even loss of life. These types of accidents are not only avoidable, but they are also costly. Fines, lawsuits, repairs, and loss of revenue will affect profitability directly. However, with the proper technology tools that Technical Toolboxes provides, organizations can mitigate situations that lead to unnecessary issues, thus avoiding interruptions in product flow. Companies may observe a return on investment through risk management, lower costs, high service levels, and increased efficiency.

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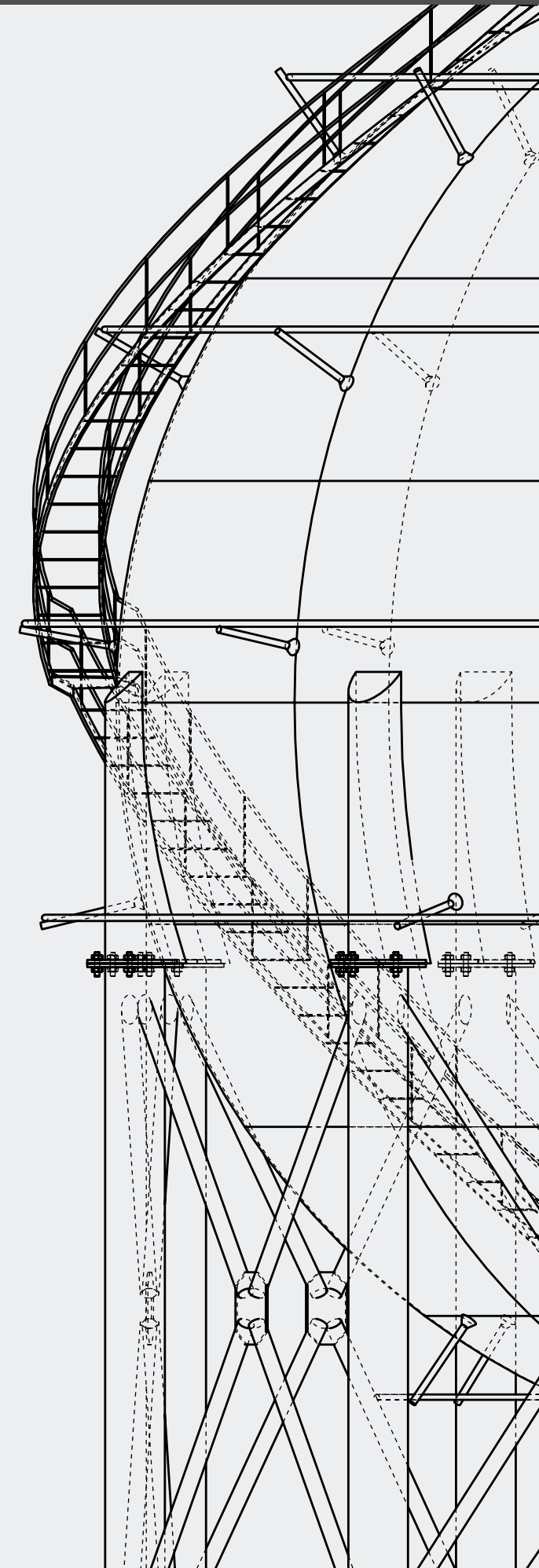


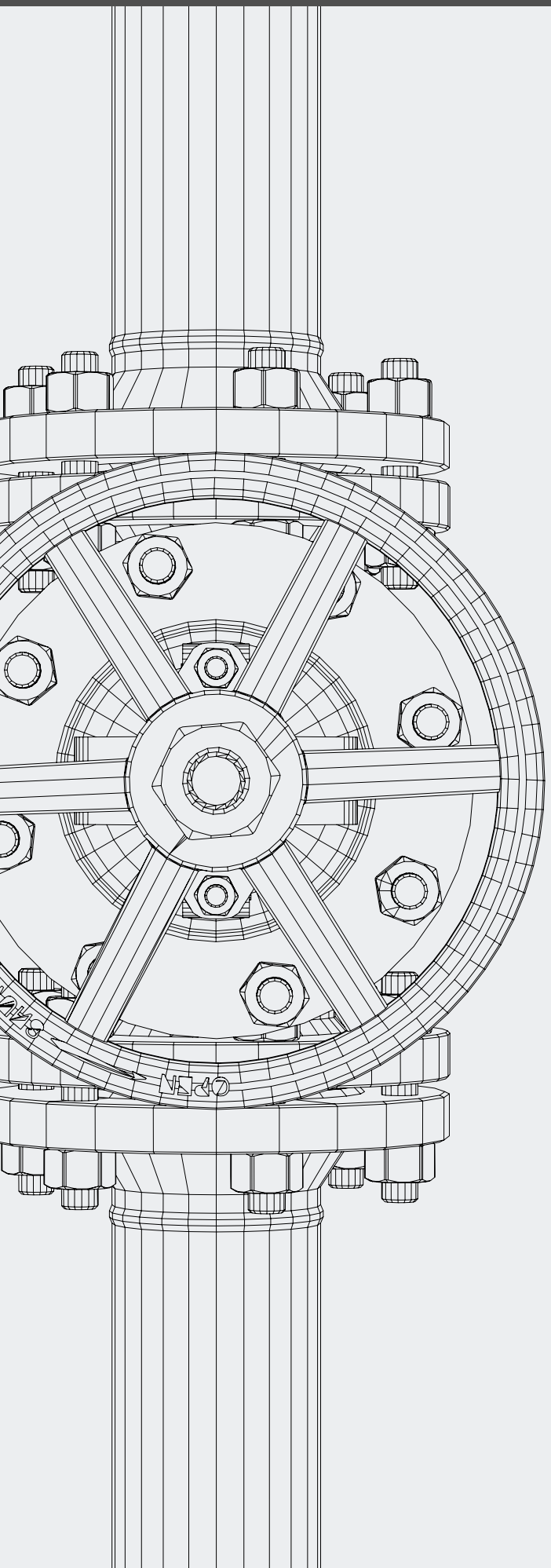
“...pipeline engineers and corporate managers can realize a return on investment [with] time management effectiveness and gains in productivity”

Time Management, Productivity, and Human Error

Another area where pipeline engineers and corporate managers can realize a return on investment in crossings is time management effectiveness and gains in productivity. Technology tools can do rapid mathematical calculations, considering multiple factors and scenarios that are simply too difficult for human assets to perform in a time-efficient manner. Busy encroachments with multiple crossings may require a team of engineers managing thousands of miles of pipes. Furthermore, this team is tasked with difficult and time-sensitive activities that have potentially dangerous implications.

Effective technology like the Crossings Workflow, however, lowers the burden placed on pipeline engineers and decision-makers while providing the ability to make accurate determinations in a fraction of the time. This not only reduces risk and guarantees compliance, but also increases productivity. In this area, organizations can calculate return on investment based on the amount of time saved in the activity. Furthermore, ROI is also visible in personnel as companies can free resources and reassign human assets to higher-value tasks that generate revenue.





Across all industries, human error has the potential to cause setbacks. Tasks that are repetitive, monotonous, and time-sensitive may increase the likelihood of mistakes. Even simple tools that require user input for accuracy, like an Excel Spreadsheet, can create dangerous conditions. The elimination of these types of problems can lead to increases in profitability and visibility in ROI. Even simple tools that require user input for accuracy, like an Excel spreadsheet, introduce risk.

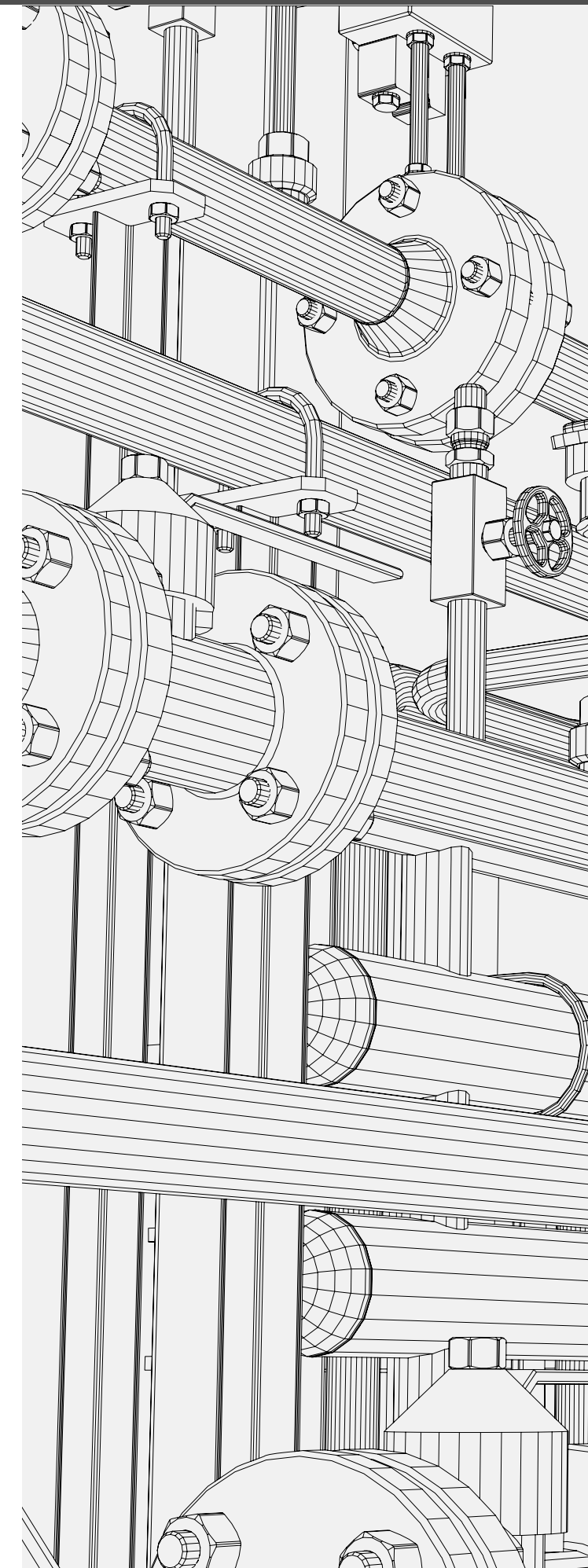
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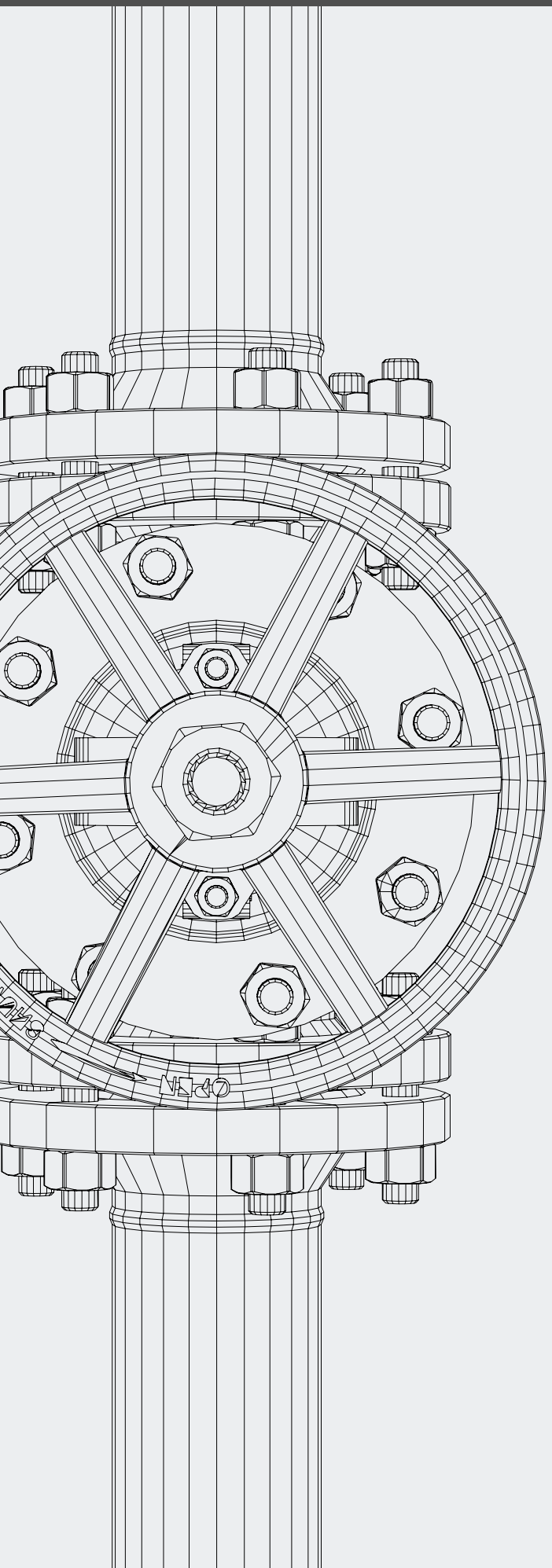


How Crossings Workflow Improves Your Return on Investment

Crossings Workflow by Technical Toolboxes leverages the power of technology to help users make fast and accurate decisions. The engineering tool is built with efficiency and safety in mind. These characteristics ensure that ROI is attainable, visible, and measurable, making the decision to invest in the tool a straightforward one. Examples of how our solution provides a return on investment include mitigating risks, improving productivity, and lowering operating expenses.

Many times, a pipeline engineering team may be in a situation where they need to make a quick decision on a difficult scenario that involves multiple equipment crossings over multiple pipelines. This may lead to making some assumptions based on time constraints. With Crossings Workflow, said team can perform iterations on various scenarios to make the best possible decision, thus eliminating potential problems that arise from faulty assumptions or problematic calculations. Furthermore, by using the tool, companies also mitigate risks associated with accidents like costly repairs, loss of life, or fines.





The tool's automation engine allows users to make quick determinations on different scenarios that traditional crossing tools simply cannot provide. This promotes productivity in a few ways. The first is that the engineering tool helps users find alternatives or better solutions to a crossing problem without increasing the amount of time needed to find said options and by producing the results in an even faster timeframe. Engineers can quickly provide a go/no-go based on multiple iterations and complete analysis on multiple scenarios.

Another way that the software tool increases productivity is by freeing up valuable time and maximizing the potential of the engineering workforce. Results from recent studies have demonstrated that using the system increases efficiency by 500%. Meaning, by using the tool, one person can accomplish the work of five individuals. This allows an organization to redirect top talent to other areas of value that can add to the revenue stream of the company.

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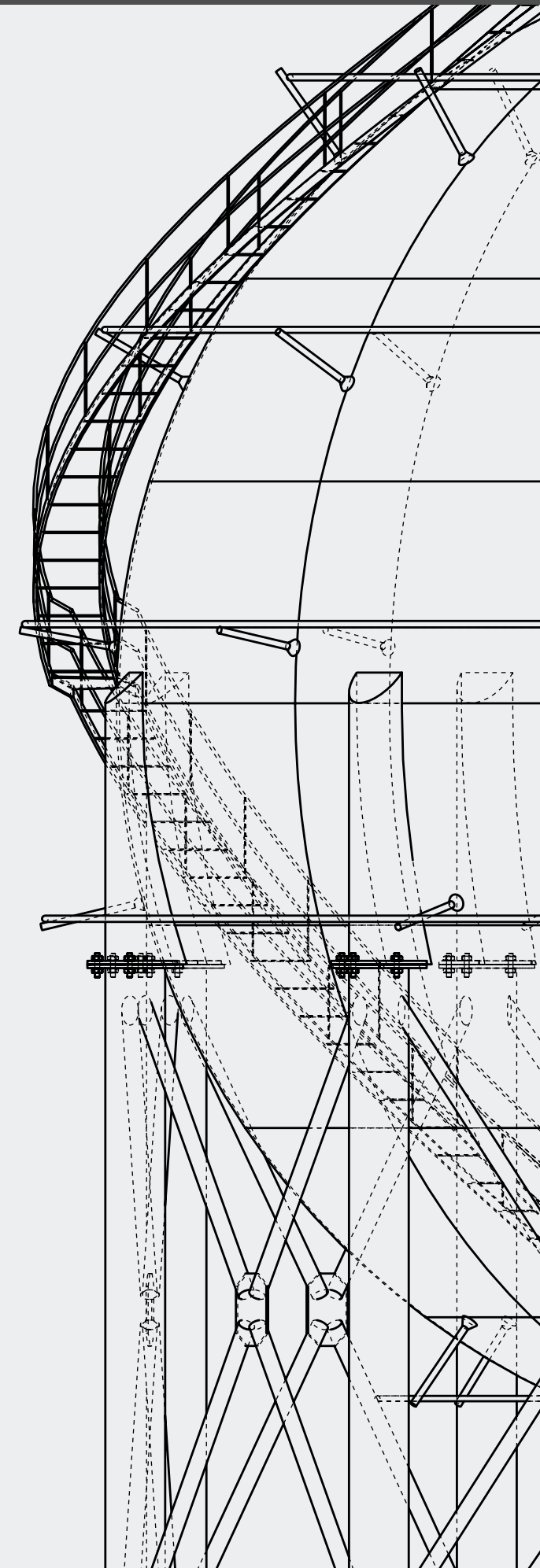


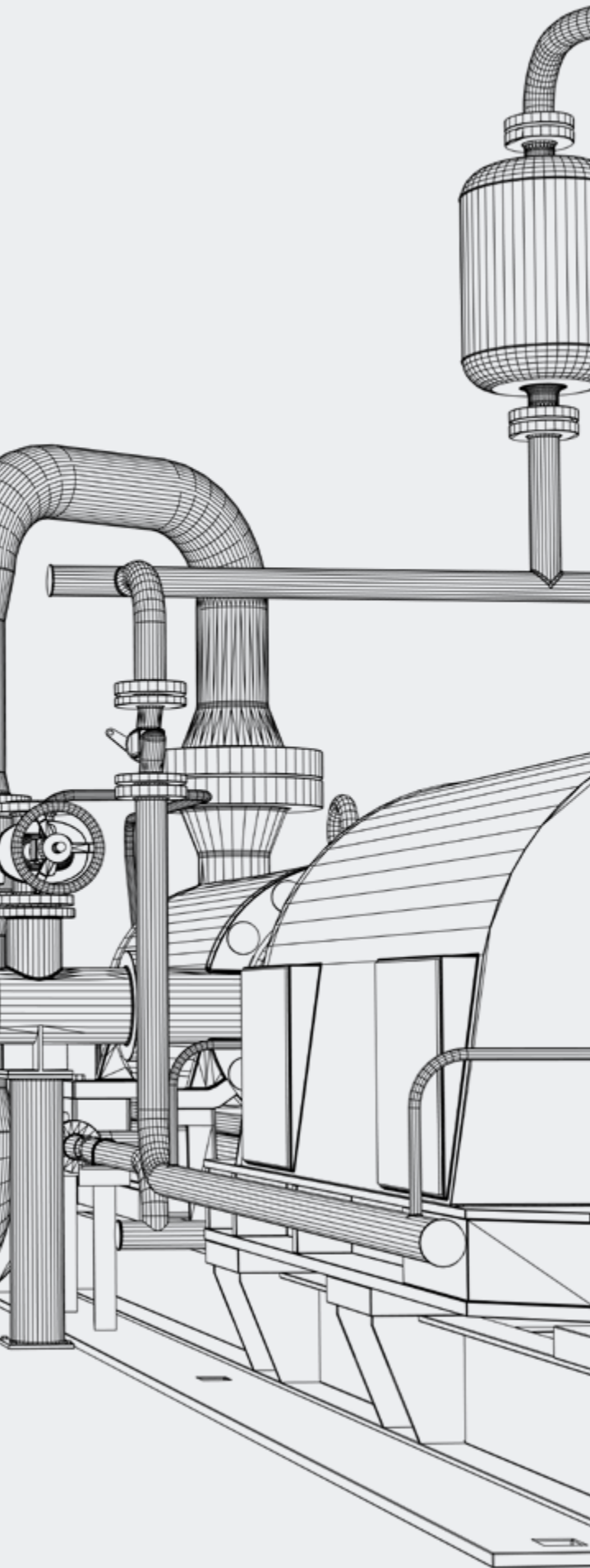
“Based on interviewing many midstream oil and gas pipeline engineers, we were able to detect a pattern for customer success scenarios...”

Customers Keep Succeeding by Using Crossings Workflow

Based on interviewing many midstream oil and gas pipeline engineers, we were able to detect a pattern for customer success scenarios when comparing situations before and after adopting the Crossings Workflow.

A typical situation prior to using the engineering tool includes the following: A company needs to save time in cases where there are multiple pipes and multiple equipment crossings. This organization may then assume a worst-case scenario. Therefore, engineers factor in the shallowest piece of equipment, the oldest pipe section or the thinnest wall, among other parameters. Failure in this scenario necessitates the development of a different strategy for the crossing. Even if the scenario leads to success, the organization is still exhibiting risk because they are making assumptions on all other parameters. Additionally, if an oversight entity reviews the process, this may lead to fines that equate to hundreds of thousands of dollars.





Crossings Workflow eliminated this situation altogether. Engineers no longer needed to assume worst cases, thus removing the risk of fines, pipe damages, and other dangerous conditions. Cases where a pipeline had to be shut down because of a calculation error on a crossing are no longer a threat. Furthermore, this straightforward program proved to be exponentially beneficial when considering cost versus return on investment. These organizations not only eliminated risks but also improved productivity by freeing up engineers to work on profitable tasks, increased efficiency by saving time, and had better profitability by lowering operational expenses.

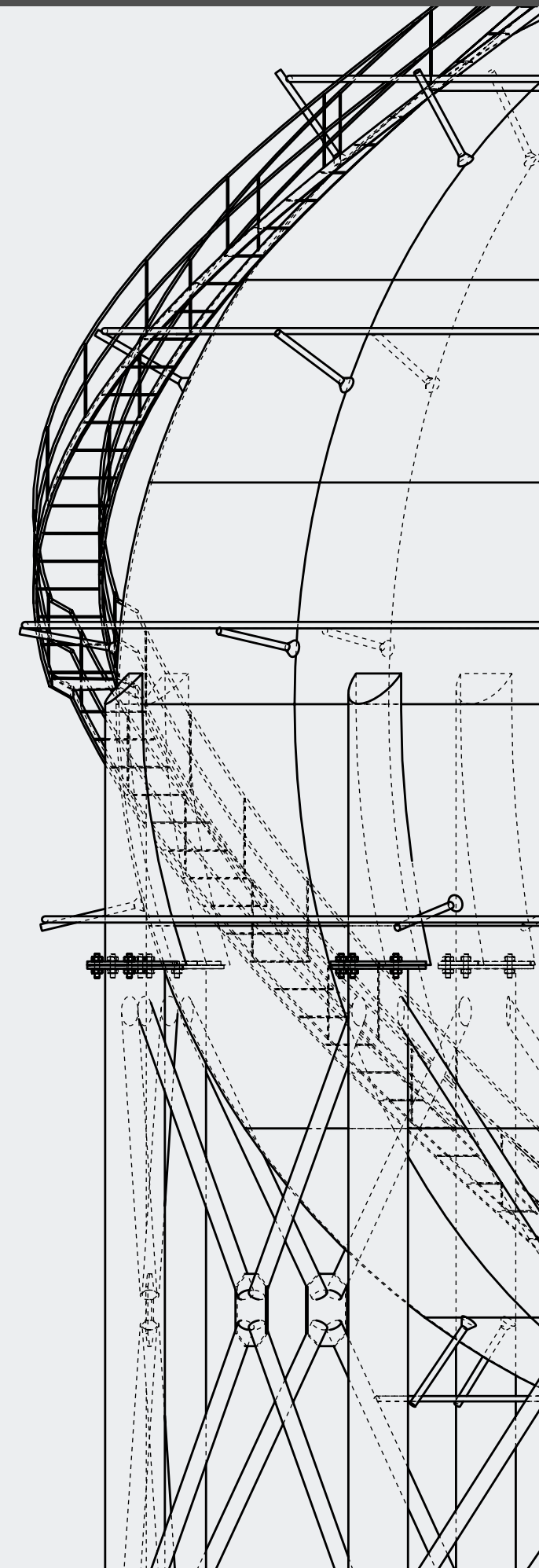
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“ROI is about developing intangibles like productivity and efficiency, reducing risks while also contributing to the profitability of an organization.”

Conclusions

Return on investment encompasses more than just a dollar figure given by a mathematical equation. ROI is about developing intangibles like productivity and efficiency, reducing risks while also contributing to the profitability of an organization. Such gains help create sustainability, which is a goal for organizations of all sizes. The Crossings Workflow allows companies to develop a sustainable return on investment while gaining productivity and efficiency that is unmatched by any other crossings product.



Next Steps

- Request a Crossings Workflows demo
- Contact us anytime with questions or send us your feedback
- Visit the Technical Toolboxes website for more resources
- Register for a Crossings Workflows training course





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About Technical Toolboxes

Technical Toolboxes is a leading provider of integrated desktop and cloud-based pipeline software, online resources, and specialized training for pipeline engineering professionals worldwide. We deliver oil and gas industry training courses covering a breadth of topics with industry-recognized instructors. Compare the performance that Technical Toolboxes technology and training can make in pipeline engineering performance and you'll see a measurable difference. Our fit-for-purpose pipeline engineering software platform will help you reduce risk, lower the total cost of operations, and accelerate project schedules. Hundreds of companies rely on our certified, industry-standard technology to enhance their pipeline engineering performance.