

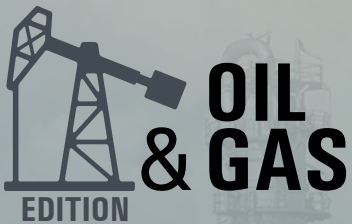
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The Navigator for
Enterprise Solutions

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A
CONGLOMERATE
FOR
PIPELINE
MANAGEMENT
**TECHNICAL
TOOLBOXES**

Drew Lafleur,
CTO



TECHNICAL TOOLBOXES

A Conglomerate for Pipeline Management

By Justin Smith

‘Simplifying human effort,’ is probably one among the many concise definitions of engineering; however, minimizing workloads while enhancing efficiencies of industrial processes is easier said than done. Consider the pipeline lifecycle management in the midstream oil and gas segment that encompasses various processes ranging from design to construction, operation, and integration of workflows. To take full advantage of the ongoing evolution in the midstream space, organizations demand greater visibility and control over the process of transporting product from site to facility. These processes are bolstered by the utility of industrial applications that reduce or eliminate manual interventions while driving the productivity of the workforce. Besides, clear organizational processes allow quick response to the fluctuating demands of the market. As opposed to manually managing the sites and processes with little to no technological integration and data reporting, automation has the key to unlocking countless possibilities and improving the efficiency in the midstream operations.

“We ensure that each of our applications communicates with one another for collective data analysis”

Drew Laffleur,
CTO



“Within a midstream asset, various data sources need to be interlinked with each other, effectively building relationships between different inputs and collectively forming an ecosystem of shared information. In our journey of developing industry tools, we ensure that each of our applications communicates with one another for collective data analysis,” begins Drew Lafleur, CTO of Technical Toolboxes.

A company worthy of its name, Technical Toolboxes, pioneers pipeline applications that serve as bridges between disparate sources of data. These integrated, cloud-based applications are combined with online resources and repositories to standardize a multitude of industrial operations such as laying pipes, horizontal drilling operations, and more. These operations are optimized to foster integration capabilities and nurture advanced data analytics to obtain actionable insights into the different stages of the aforementioned pipeline lifecycle management. Through these tools, Technical Toolboxes sets the industry standard for engineering analysis, emerging as an organization armed with a diverse set of applications for specific use cases.

STANDARDIZING INDUSTRY APPLICATIONS

Technical Toolboxes underwent an overhaul quite recently under the leadership of Lafleur and Martin Fingerhut (president and CEO), effectively creating a new avenue for industrial applications. “We were a sales organization, to begin with, and now, we are more of an R&D organization with a sales wing in it,” adds Lafleur, highlighting the developmental strides taken by the company recently. Technical Toolboxes initially offered independent applications for a diverse set of production requirements. Now, it has built a platform powered by an integrated data environment that fosters workflow automation and advanced data analysis on an existing set of applications. The platform—THE PIPELINE HUB (HUB^{PL})—already hosts 75 percent of Technical Toolboxes’s individual solutions, embedded into its core. The company terms its platform as ‘a turning point in the product line,’ as it fuels digital transformation initiatives and developments from a holistic perspective. It is being used by over 400 midstream operators and service providers globally.

“Instead of opening up multiple applications to perform various analyses for a typical midstream pipeline engineering effort, one can utilize our new, integrated platform to suffice multiple needs and requirements,” says Lafleur. “One essentially has all the required applications in one place that talk to each other.”

The HUB^{PL} supports multiple core software applications utilized for engineering analysis while providing the interoperability of data with enhancements to user experience. The platform connects to the company’s, and its partners’, library of industry standard tools to facilitate the flow of data across the pipeline lifecycle. For example, these tools range from Pipeline Toolbox (PLTB) and Horizontal Directional Drilling PowerTool to partner products for AC-Mitigation and PRCI’s

RSTRENG® and a wide range of other applications. Maps and GIS Engine support them, in tandem with asset and project data management modules. However, one of the most notable features of The HUB^{PL} is its capability to integrate existing databases a client may have, as well as other add-ons onto the suite of applications available. Collectively, these modules help clients benefit from the concept of “a single version of the truth” for the diversified array of data sets. Users can exchange data without the hindrance of duplication through a collaborative ecosystem for workflow management.



WORKING SMARTER RATHER THAN HARDER

Advanced analytics and machine learning form the vital ingredients of the company’s future product portfolio for nurturing the much-needed automation that reduces the clutter of manual process management, paper-based operations, cybersecurity concerns, and the requirement for a multi-tenant cloud environment. Technical Toolboxes strives to bring in the sense of granularity to the analysis of data within pipeline management to delve deeper into more delicate details of industrial processes. “You could consider the example of a construction phase where precise calculations are needed through various stages of design and construction, such as lifting machinery, lowering of pipes, and horizontal drilling. The integrity of decision-based operations plays a crucial role in obtaining the highest efficiency in these operations,” adds Lafleur. Technical Toolboxes utilizes decision points to optimize a variety of such operations, and this functionality has been one of highly used elements within the company portfolio of applications. Technical Toolboxes has also brought to market various formulations and calculations to analyze the strength of pipes and adversities such as corrosion rates and determine the safety of infrastructures while suggesting relevant fixes based on their geographical locations. One of the key differentiating factors in this aspect of pipeline management is how Technical



Toolboxes reduces the number of digs performed by field technicians in repair operations.

BUILDING A CONSORTIUM FOR INDUSTRIAL INTELLECTUAL PROPERTY


Addressing the growing need to minimize human intervention in the pipeline management sector, Lafleur emphasizes the need for training, in terms of understanding industrial applications. “We conduct training sessions on the utilization of these industrial applications, educating the workforce on a variety of operations such as welding inspection or tank inspection for the integrity assessment of corroded areas, lowering of pipes, stress analysis, and risk mitigation, combined with advanced analytics and machine learning that are applied to midstream-faced operations,” highlights Lafleur. The company has built a library of resources, through partnerships with industry thought leaders and research organizations that includes software development, workflow automation, calculations and corrections, and relevant training that allows clients to choose from a multitude of tools for discrete operations. Collectively, the all-encompassing platform serves as an effective knowledge transfer tool for organizations, through which, industrial leaders can pass on their expertise to subordinates or recruits for ‘on the job learning.’

Technical Toolboxes’ subject matter experts (SMEs) conduct webinars on industrial applications and theoretical aspects of a specific technological genre. The firm is working towards the launch of a new product line—Flipped Classroom—exclusively for training. It will feature an online repository of frequently asked questions (FAQs), engineering prerequisites, video based course content, and live webinars with industry SMEs. Through the new HUB^{PL} software platform, knowledge base and training expertise, Technical Toolboxes aims at crafting an online marketplace for intellectual property (IP) aggregating data from disparate sources, built through numerous partnerships to facilitate the adoption of best practices for industrial applications. These initiatives pave the way for common ground in terms of IP, emerging from discrete industry pioneers and specialists around the world. They nurture developmental initiatives by leveraging modern practices to resolve end-user challenges; this way, engineering firms that develop their own IP can integrate with Technical Toolboxes’ platform. “An organization from Canada has taken streamlining and digitalization of construction records

to a whole new level and we are partnering with them to leverage this capability seamlessly into analysis applications. Where most organizations stop at essentially generating or storing PDFs and documents, this solution not only converts every information set into a ‘searchable and utilizable module’ that can create reports on the fly but also be leveraged for big data analytics,” adds Lafleur.

These milestones and achievements have set Technical Toolboxes apart from the rest of the pipeline management solution providers, owing to the depth and sophistication of its industry expertise. It is safe to say that, HUB^{PL} is unmatched in the current marketplace, due to the sheer magnitude of applications and functionalities available to organizations worldwide. The credit to HUB^{PL}’s success goes to Lafleur and Fingerhut’s team of experts that transformed Technical Toolboxes from a developer of siloed applications to a firm that offers a unified platform for pipeline management.

Since the appointment of the duo as CTO and CEO, Technical Toolboxes has embarked on a journey of remodeling its business model and commenced the development of a homogenous ecosystem of applications for pipeline management. These developments led to the conception of the HUB^{PL}, which later emerged as the benchmark for industrial application. The company envisions the delivery of a faster, more integrated, and secure pipeline management system in the near future, reimagining the deployment and utilization of industrial applications through a holistic approach. Their recent efforts of enhancing user experience with add-ons will support clients in the efficient management of resources with relevant industrial calculations through the HUB^{PL} autonomously. Incorporating maps and geospatial analyses, aid visualization of pipeline data and challenges, as well as automate many activities through dynamic segmentation of pipes through processing inline inspection (ILI) data and other calculations based on proximity to risk receptors.

Technical Toolboxes aspires to further continue its innovative strides through collaborations and partnerships, in a bid to create a conglomerate, integrated environment for industrial IP. Undoubtedly, these efforts will push the company to the pole position in the race to perfecting industrial applications for a variety of use cases. 

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OIL & GAS EDITION

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20 Most Promising Oil and Gas Solution Providers - 2019

The oil and gas companies are facing significant difficulties in terms of continuous price volatility and inflationary costs on wages and raw materials and the increasingly stringent environmental standards. To sustain their supply of crude oil or gas, these companies are not only looking to extend the life of mature sites but also seeking new sources for transportation and refinement. They aim to ensure reliability of their plants by eliminating any chances of unplanned shutdowns and increasing the throughput with secure industrial assets. To navigate through this fast-evolving environment, the oil and gas sector should embrace emerging technologies for increased productivity, safer operations, improved operational efficiency, better safety, and cost savings.

The industry is leveraging innovative technologies like IoT, edge computing, and the cloud to achieve growth. At present, many oil and gas companies are moving to cloud-based platforms to host their business applications and leverage artificial intelligence (AI)-based applications for greater process control and improved self-

service. They are also using blockchain technology in areas such as supply chain, logistics, trading, joint ventures, and production accounting to enable successful digital transformation and redefine data governance.

Further, asset performance management and “digital twin” initiatives are driving the development of innovative new solutions for managing critical assets across the upstream and downstream operations. Although the significant technological innovations in the oil and gas market help businesses boost prosperity in their long-term growth and innovation agendas, CIOs find it difficult to choose the right partner among a plethora of vendors in the market.

To help CIOs navigate through the list of oil and gas solution providers, our distinguished selection panel, comprising CEOs, CIOs and VCs, industry analysts and the editorial board of CIOReview narrowed the 20 most promising oil and gas solution providers 2019 that exhibit competence in offering efficient solutions.

We present to you CIOReview’s “20 Most Promising Oil and Gas Solution Providers - 2019.”

Technical Toolboxes

recognized by **CIOReview** magazine as

20 MOST PROMISING
OIL AND GAS
SOLUTION PROVIDERS - 2019

An annual listing of 20 companies that are at the forefront of providing Oil and Gas solutions and impacting the marketplace

Company:
Technical Toolboxes

Description:
Offers a pipeline management platform with multiple applications to suffice various production needs

Key Person:
Drew Lafleur, CTO
Martin Fingerhut, CEO

Website:
technicaltoolboxes.com