

CASE STUDY

# Promoting DX strategy founded on two axes: EPC resilience and new technology / business development

## How Toyo Engineering Uses Alteryx

Applying Alteryx across the data value chain to create new value



Toyo Engineering Corporation (TOYO) develops comprehensive engineering business based on advanced technological capabilities under the corporate mission of "Engineering for Sustainable Growth of the Global Community." With its head office in Japan and global operations in India, China, Korea, the United States, Brazil and Europe, TOYO is engaged in company-wide digital transformation (DX) initiatives based on its medium-term management plan for 2021 to 2025. The DXoT Promotion Department established to drive this effort has started digitization of the EPC business using Alteryx, an AI platform for enterprise analytics. TOYO is promoting a variety of measures to achieve its goal of a six-fold increase in productivity by FY2025.

### Data accumulated through operations due to the introduction of Alteryx Achieved effective utilization, quality improvement and business efficiency

Toyo Engineering develops businesses in diverse fields including petrochemicals, oil and gas processing, resource development and power generation. Currently the company is promoting DX centered on two axes: strengthening plant EPC (engineering, procurement, construction), an existing business, and developing new technologies and businesses to strengthen engineering, its core competency. Mr. Noriaki Seo, DXoT (Digital Transformation of TOYO) Promotion Department Manager, explains the company's DX strategy as follows.

### Digital Transformation Strategy



### Engineering core competencies

Digital transformation as an enabler of Toyo Engineering's "EPC Resilience Strategy" (blue arrow) and "New technology / business development strategy" (green arrow)

### Pre-implementation issues

- Break away from a corporate culture where final deliverables are stored on paper
- 3D model of design for data conversion and calculation processing takes a large amount of time
- The 3D data generated during work could not be effectively utilized, preventing productivity improvements.

### Effects of Introduction

- By introducing Alteryx, we have promoted data utilization and achieved business efficiency and quality improvement, mainly in design work .
- Visualization of no-code data, preventing blackboxing when using the service, and strengthening governance
- Introduce Premier Success services ahead of time to promote the development of a corporate culture focused on data analysis and utilization, and data scientist development

“In this age of uncertainty referred to as VUCA, it's crucial to develop business in an agile manner. To this end, through our DX strategy, we are enhancing the four elements of 'Technological capabilities,' 'Partner construction capabilities,' 'Manage mentoring ability' and 'Design capabilities,' and we are working to balance our EPC Resilience Strategy of existing businesses with our new technology / business development strategy through so-called ambidextrous management. We are aiming for a virtuous cycle of increasing productivity of existing businesses and generating resources necessary for developing new businesses, and we have set a goal of increasing productivity six-fold by 2025.” (Mr. Seo)

The DXoT Promotion Department, which drives the company's DX strategy, was established in 2019 and promotes “no sanctuary” digital transformation across the entire company. Yet in fact, DX initiatives have been carried out in some departments since before then. Among the systems and tools introduced in efforts at that time, the one that achieved solid results was the AI platform for enterprise analytics provided by Alteryx.

“Before the DXoT Promotion Department was established, I was involved in starting up a plant at our site in Malaysia. At the time, tools like design quality automation had already been created with Alteryx, and I had the impression they were very effective. Not limited to sites in Malaysia, there were so many requests for final deliverables to be produced on paper, and the situation indicated that millions of sheets of paper deliverables were being stored. This factor alone was causing a decrease in productivity, including spending too much time simply searching for necessary documents. Alteryx started attracting attention since 2018 as a tool to streamline this sort of work.” (Mr. Seo)



Mr. Noriaki Seo, Director of the DXoT Promotion Department

At that time, there weren't any plans to completely eliminate paper altogether, but the idea of using of Alteryx progressed for effectively utilizing stored data. Mr. Tadashi Miyazawa, who joined TOYO as an engineer and has been active in the DXoT Promotion Department since its establishment, says, “We had previously been using 3D models for design, but when we wrote that data out to spreadsheet software and tried to use it in other tasks, it took a huge amount of time to process, including data conversion and calculation, and it became impractical.”

**"Our DX strategy is to enhance our 'Technological capabilities,' 'Partner construction capabilities,' 'Manage mentoring ability' and 'Design capabilities,' and to balance our strategy to strengthen the EPC of existing businesses with our strategy for developing new technologies and businesses."**

He recalls the challenges he faced at the time, and says that by using Alteryx, he was able to significantly reduce some data processing times from nearly two weeks to a few hours, for example.

Katsunobu Mori of the DXoT Promotion Department, who is in charge of promoting digital transformation to business divisions, describes the specific operations where Alteryx was implemented as follows.

"First, in terms of contributing to quality improvement, we have achieved great results by automating consistency checks between 3D models and thermal stress calculations for piping, among others. We use Alteryx to process large amounts of data at high speeds and check design quality. Quality improvement was achieved by turning tacit knowledge into rules. This case study on quality improvement in regard to piping was also deployed to design departments active across our EPC businesses, such as the Process Design Department, the Instrumentation Design Department and the Civil Engineering and Building Design Department, to achieve automated design quality assessments through Alteryx. In the area of contributing to improved operational efficiency, the automation of piping support design and modeling has successfully reduced design time by approximately 50%. What used to take about a month can now be done in one night."

TOYO cites further benefits of implementing Alteryx, including the ability to automate operations, automatically generate quality-assured data and visualize no-code data in the form desired by respective business units. TOYO also highly evaluates the system's effectiveness in terms of preventing black boxes and strengthening governance. Mr. Mori says, "We have already exceeded 300 cases of improved operational efficiency using Alteryx throughout the company," while praising the usefulness of Alteryx as a tool that "anyone can use."

## Customer Success Services After implementing Premier Success TOYO achieved a 26% reduction in labor hours

In this way, Alteryx been introduced in some businesses, contributing to improving quality and work efficiency, and it now plays an important role in DXoT, TOTO's company-wide digital transformation. The entire data value chain from generation, collection, storage, and collaboration (pre-processing) to analysis and utilization is within Alteryx's development scope aiming to create new value.

"What remains most important is not only creating data for the sake of data utilization, but establishing a system that automatically generates high-quality data throughout the course of business operations. To this end, Alteryx introduced or modified 35 applications in five areas, including a project hub for management, an engineering hub for design, a supply chain hub for procurement, a construction hub for construction work and a knowledge hub for accumulating knowledge. Lastly, a central hub that integrates all the above data was created. Alteryx serves as the Data ETL program for the engineering hub, and is being used for many different tasks in the field," Seo says.

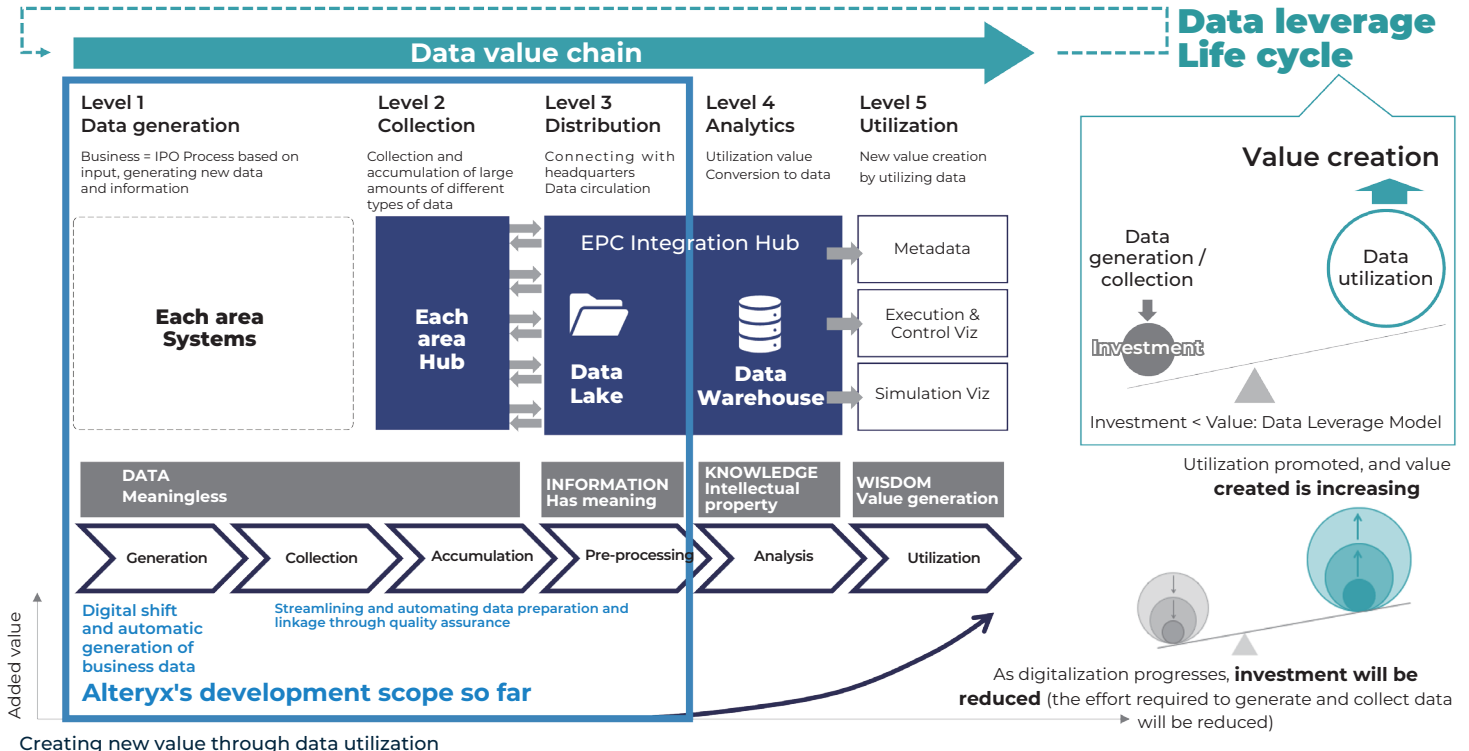
Alteryx plays a wide range of roles, and among them, it fills the gap between tools introduced and standardized by DXoT and customer demands

**"We have newly introduced and renovated 35 applications in five areas. Alteryx functions as an engineering hub data ETL program, and is being used in many different tasks in the field."**

As tool, Alteryx is expected to minimize system customization. Also, TOYO introduced the customer success service "Premier Success" provided by Alteryx Japan ahead of time, to apply Alteryx to the analysis and utilization layer of the data value chain.

## Data leverage cycleusing Alteryx

Streamline data generation, collection, accumulation and pre-processing tasks, which do not generate value as is, and link and integrate system data



We continue to work toward achieving the goal of "6x increased productivity" with support for activities to shift project execution to digital, such as improving skill using Alteryx in business users and optimizing data environments.

"As mentioned earlier, it was necessary to avoid data analysis for the sake of data analysis alone. We also needed to develop human resources who can work on analyzing and utilizing data while considering the scale of value generated in our business. Although there were certain tangible effects with the introduction of Alteryx, to be honest, there were places where growth was sluggish, and I received a Premier Success proposal while talking with Arteryx Japan when planning initiatives for fiscal 2023." (Mr. Seo)

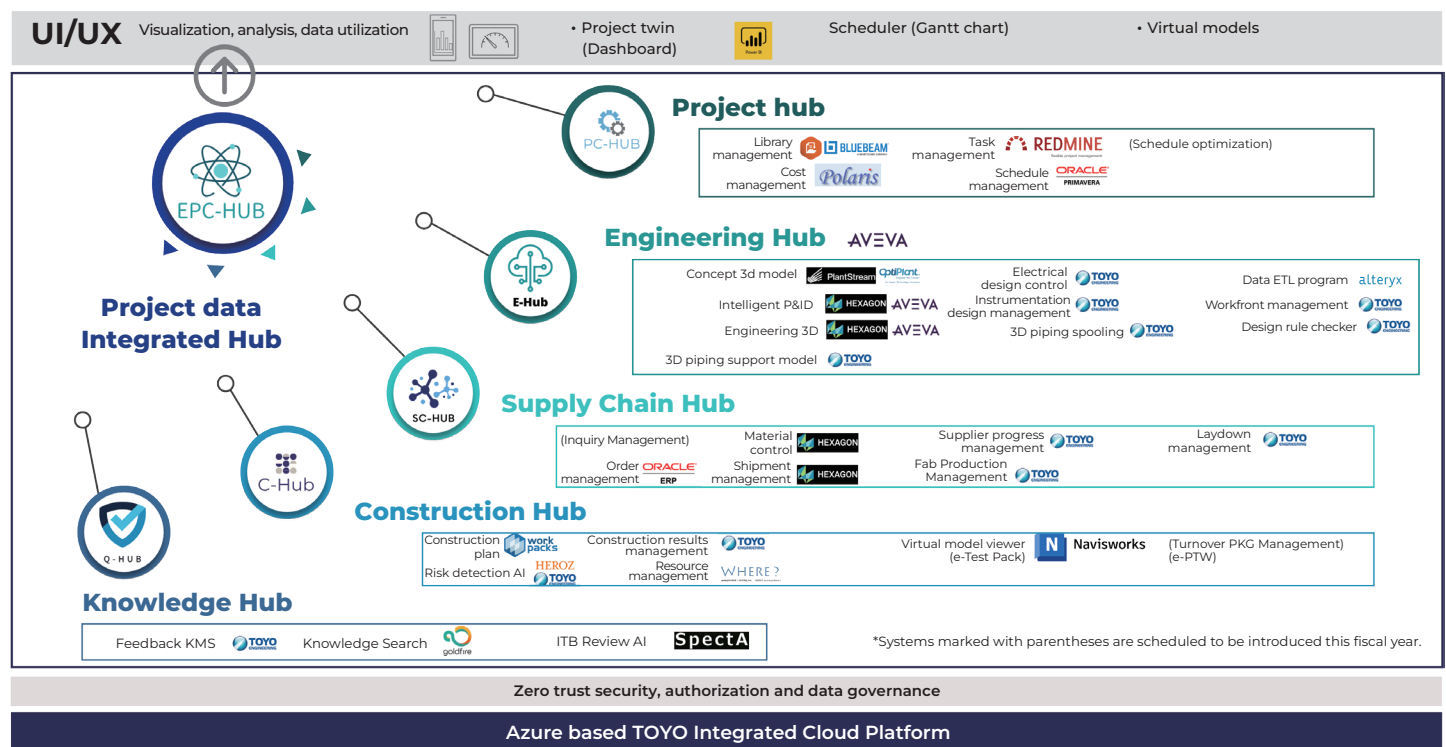
In fact, active Alteryx users have plateaued compared to the number of contract licenses, and Seo said that user development was essential to realize the DXoT strategy of securing resources for new business development by reducing man-hours in existing businesses. "I thought Premier Success, which provides practical training and utilization promotion programs, was a very effective service," he says about the adoption process.

With the introduction of Premier Success, TOYO achieved a 26% reduction in man-hours in the 2023 Q4 stage. Of that, 9.3%, is due to Alteryx, signifying a definite effect. TOYO is implementing a digital shift in project execution through Premier Success.

**"We had to avoid data analysis for data analysis's sake, and needed to train people who could analyze and utilize data while thinking about how much value they could create for the business."**

TOYO has received support for this, and are aiming to reduce man-hours by 50% as a performance indicator for 2024. Also, Mr. Miyazawa says that Premier Success's support has been effective in terms of global expansion and human resource development.

## Strengthening partner construction capabilities x Digital cloud shift



Digitalization and cloud shift of EPC realization on the TOYO platform as the basis for digital project execution, with 35 applications newly introduced and updated



"As we developed DX from our head office in Japan, we encountered an issue where employing Alteryx at overseas bases did not progress easily. We have a limited number of human resources who can give an overview of Alteryx and the skills to use it in English, and we felt limited in the overseas expansion of in-house training created in Japan."



Tadashi Miyazawa, DXoT Promotion Department

"Under these circumstances, introducing the Premier Success service had a great effect in that we were able to improve our skills, including at overseas bases. In fact, there has been a significant increase in the number of Core and Advanced certifications, and I've heard that the certification rate is now above global levels. Through the Premier Success service, regular meetings were held every week to lead planning, prioritization, skill confirmation and more. It was very reassuring to receive advice on things we were unsure about." (Mr. Miyazawa)

Mr. Mori, who was in charge of introducing Alteryx to the site, also comments, "Even though it was an interactive training for 100 people, the Alteryx staff responded quickly to questions from all users. Normally in large-scale training, it can take two or three days to get an answer."

## Alteryx Skill Improvement Support Effects

- ✓ **Goals generally achieved**
- ✓ **High level of training satisfaction**
- ✓ **The number of people who obtained the certificate increased significantly**  
Acquisition rate of global users is Core: 10% and Advanced: 1%  
→Our ratio of acquirers far exceeds world standards
- ✓ **Established training content**  
Enabled a reproducible learning process
- ✓ **Raised the overall skill level of business users**  
**Achieved an increase in overseas base users**

"This is not uncommon, and I think the speed of response is also linked to increased user motivation," he says.



Mr. Mori Katsunobu, DXoT Promotion Department

## alteryx CUSTOMER SUCCESS AND SERVICES

### Premier Success services (partial list)

- |   |  |
|---|--|
| Planning support and business review            | CoE team support                                       |
| Training for your skill level                   | Sharing best practices                                 |
| Support for optimizing operational environments | Support for the establishment of an in-house community |
| Awards and accreditations (recognition)         | Value engineering (validation of business value)       |

**Aiming to achieve "6x productivity increase by 2025"  
Accelerate the use of Alteryx in all business areas**

Based on the results described so far, TOYO will continue to expand the use of Alteryx and promote their digital shift.

"In FY2023, the digitalization progress rate was 32%, with progress in the project, engineering and supply chain hubs, but lagging in the project and construction hubs. In FY2024, we hope to increase all of these to 100%, and expand our DX base," says Mr. Seo.

Furthermore, Mr. Seo analyzed the current situation, indicating which bottlenecks in conventional operations have been resolved due to digitalization. "Previous restrictions have ceased to exist, and as a result, it's now necessary to review BPR (business process re-engineering) and business processes," he says. Seo is putting effort into achieving an overwhelming reduction in lead time through business transformation associated with digitalization.

"Further, we are also looking ahead to initiatives that combine data accumulated through the use of Alteryx with generative AI. I expect that new value will be created by multiplying structured data, which Alteryx excels at, with unstructured data from LLM (large-scale language models)." (Mr. Seo)

Currently, Alteryx is being used mainly for design department work, but in the future, Miyazawa says he would like to apply it to management departments such as human resources and accounting.

He is looking forward to fostering a culture of data analysis and utilization in every aspect of the company's operations. The CoE, consisting mainly of in-house experts and the DXoT Promotion Department, will undoubtedly play a behind-the-scenes role in this company-wide initiative.



**Toyo Engineering Corporation**  
Toyo Engineering Corporation

Business description: Research and development cooperation, planning, design, equipment procurement, construction of various industrial plants, test operations, technical guidance  
Headquarters / General Engineering Center: 2-8-1 Akanehama, Narashino City, Chiba Prefecture, 275-0024



From the right: Mr. Noriaki Seo, Director of the DXoT (Digital Transformation of TOYO) Promotion Department; Mr. Mori Katsunobu and Mr. Miyazawa Tadashi from the Promotion Department

<https://www.toyo-eng.com>

**About Alteryx**

Alteryx provides an AI platform for enterprise analytics that enhances actionable insights. The Alteryx platform can be used securely in on-premise, hybrid, and cloud environments, enabling businesses to drive smarter and faster decisions. More than 8,000 customers around the world use the Alteryx platform to automate analytics to improve revenue performance, control costs and reduce risk across the organization. Alteryx is a registered trademark of Alteryx, Inc. All other product and brand names may be trademarks or registered trademarks of their respective owners.

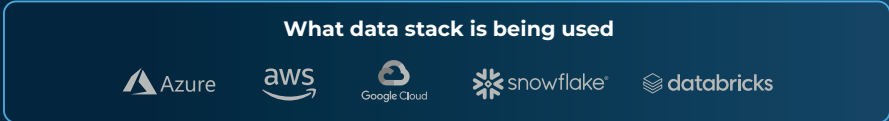
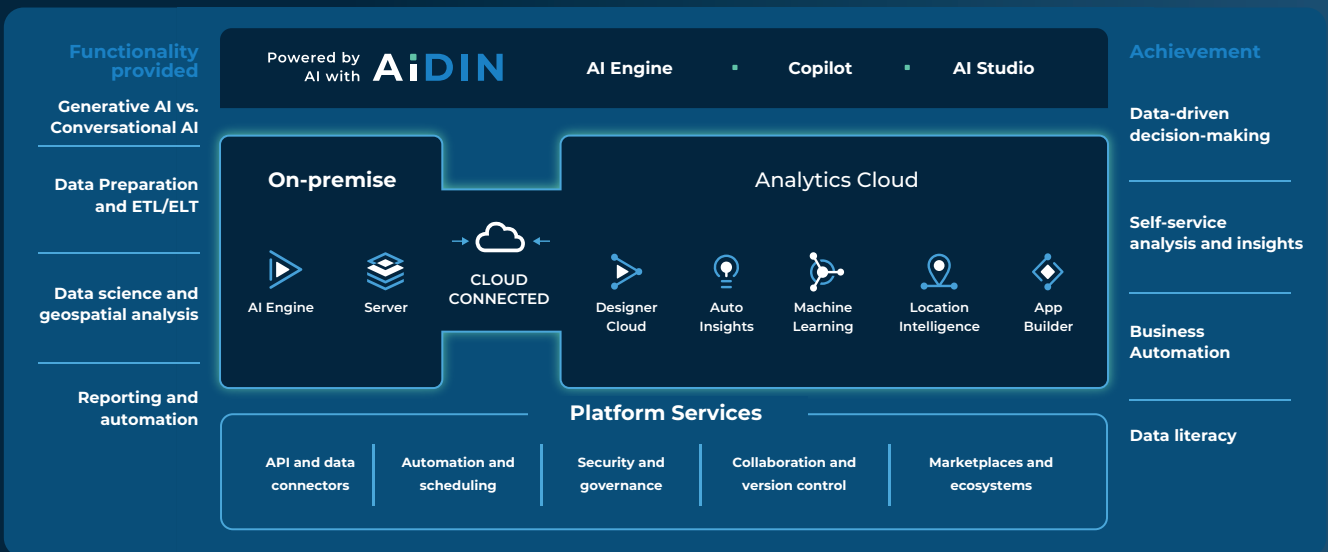
Alteryx Japan, LLC  
107-6235  
9-7-1 Akasaka, Minato, Tokyo  
Midtown Tower 35th Floor  
Contact Us: [info\\_jp@alteryx.com](mailto:info_jp@alteryx.com)



[www.alteryx.com](http://www.alteryx.com)



# AI-POWERED ENTERPRISE ANALYTICS



## Every industry uses Alteryx

Leading companies around the world rely on Alteryx

**10** Company  
**7** Company

The largest **Global Airlines**

**10** Company  
**8** Company

The largest **automaker**

**10** Company  
**7** Company

The largest **Telecommunication companies**

**10** Company  
**7** Company

The largest **professional service companies**

**10** Company  
**8** Company

The largest **manufacturing company**

**10** Company  
**8** Company

The largest **banks**

**10** Company  
**9** Company

Largest **consumer goods manufacturer**

**9** Professional soccer clubs

**4** NFL Teams

**3** Professional rugby clubs

**McLaren**  
FORMULA 1 TEAM

McLaren F1 racing team



**Powering analytics with AI**