

F&B Plant Enhanced Operational Efficiency and Timelines after using Twin Builder

INDUSTRY

CPG

CLIENT

F&B Corporate

CHALLENGE

- Production settings and setup of the legacy DCS were not correct or fully functional
- Unexpected delays in meeting production timelines due to configuration issues

RESULT

- Factory Acceptance Testing (FAT) was reduced by 20%
- The configuration team used the simulation to identify and fix incorrectly configured equipment modules
- All necessary testing was done 3 weeks earlier than scheduled. The time saved with quick implementation helped the plant gain 6 weeks in production time.

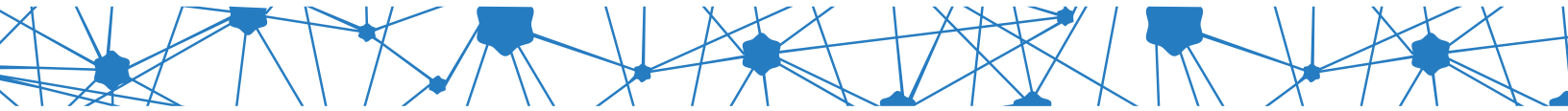
CHALLENGE

The X Future's client - an F&B corporation was facing challenges with their legacy oriented Distributed Control System (DCS). They were unable to optimally monitor and control their processes, which was affecting their operational efficiency and production.

The client became aware that they were allocating additional time and resources to projects to address issues with their DCS settings that had not been discovered during the testing stage. They also saw that unexpected production delays were occurring because of their operators' lack of familiarity with the control system and the manufacturing process.

Major Pain-Points:

- Configuration Issues:** Some configuration problems were neglected or missed throughout the acceptance testing phase, thus indicating that there were issues with the control system and equipment's configuration and settings, which prevented them from operating properly.
- Unplanned Production Delays:** The customer encountered unanticipated production delays as a result of a confluence of configuration problems and operator inexperience. They were unable to reach their production goals as a result of the delays, which also interfered with their entire timeline.



The plant's management sought a solution that could enable them to build a fully immersive digital twin of their facility that could help alleviate these delays and improve the project timetable in order to make things better.

THE TXF SOLUTION - TWIN BUILDER

APPROACH:

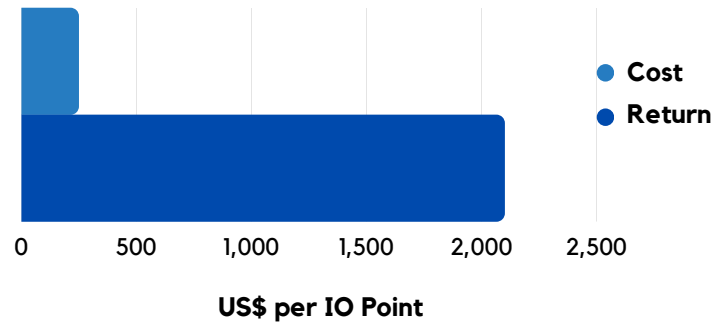
The client approached TXF to investigate how our end-to-end digital facility building solution - Twin Builder could enable them to build a digital twin of their plant.

- Twin Builder was used for a medium fidelity simulation approach across all process areas with a simulation scope of approximately 1000 IO points.
- Dynamic simulation was used throughout the project, particularly during Factory Acceptance Testing (FAT) and internal control system configuration testing, to ensure thorough testing and minimize post-FAT configuration fixes.
- The configuration team used the twin to identify and fix incorrectly configured equipment modules.

VALUE DELIVERED

Our client was successful in overcoming their challenges and Factory Acceptance Testing **3 weeks ahead of schedule**.

- Operators became familiar with the control system during and after acceptance testing through the use of dynamic simulation, leading to the elimination of production delays.
- The Digital Twin helped the configuration team identify and rectify incorrectly configured equipment modules.
- The implementation of the Twin Builder's Digital Twin solution allowed the project team to achieve their goals ahead of schedule.
- Prompt implementation of the project and faster FAT helped our client gain **6 weeks** in production time.



ROI of 840%

RESULTS

\$1.85M

ROI from the reduced time to production and manpower saving

About The X Future

We are a team of finance, business and tech evangelist with an experience of working with some of the biggest financial and tech organizations in the world. We have first hand experience of solving the core business challenges with an indept understanding of business logic, coupled with knowledge of latest technology solutions. This enables us to deliver top-notch automation and enterprise performance management solutions that helps our clients make sense of their enterprise data, and drive value across their organization.

Corporate Reduces Employee Training Time By 45% after using Twin Builder

INDUSTRY

Solar Energy

CLIENT

US-Based Solar Panel Dealer

CHALLENGE

- Unable to emulate a life-like training experience to instill enhanced and lasting learning.
- Innate health and monetary risks involved during training.

RESULT

- The trainees felt 75% more prepared to succeed with VR Trainings.
- Trainees intricately understood the installation process as well as cautioned themselves on the dangers involved.
- The training experience was of high precision as TXF made each and every model intractable including the wires and ropes involved.

CHALLENGE

The X Future's client - a Solar Panel dealer of US origin, wanted to offer an exhaustive training program on panel installation for the experiential and lasting learning of employees. Our client was aware how critical of a role training plays in business operations such as theirs. Not only do their employees need to familiarize themselves with different types of solar panel installations and gain confidence in their abilities, but also be offered a safe and controlled environment to practice their skills, given the inevitable health-risk of training around electricity, along with the possibility of damaging expensive equipment or making costly mistakes in the process.

Major Pain-Points:

- Risk of damaging expensive equipment during training.
- The inability to provide a real life-like training experience without bearing the innate health and monetary risks.
- Difficulty in providing consistent and comprehensive training to geographically dispersed employees.
- Costly and time-consuming nature of traditional training methods, including travel expenses and physical setups.

The plant's management sought a solution that could enable them to offer their employees with a fully immersive training experience that could account for real-life scenarios and make them ready for all sorts of on-job challenges.



THE TXF SOLUTION - TWIN BUILDER

APPROACH:

TXF's Twin Builder was successful in creating our client a VR training experience with high interactivity, which is a vital component of an effective VR program.

- Twin Builder was used to first convert the physical Solar Panels into a VR Digital Twin that could accurately emulate real-world conditions. The project required training in unstable scenarios, thus the experience had to be intricately designed and detailed right up to a single wire.
- TXF also emulated aspects such as 'Rope Physics' with a unique grip system for the experience with haptic feedback. This was to make the training highly interactive, realistic, and engaging. By instilling hyper-realism via Twin Builder, the trainees would feel the sensation of holding the equipment in their hand and if they were to lose the grip in the real world, they would drop the equipment in the virtual world.
- Twin Builder's VR experience created a highly detailed and a comprehensive training system, involving everything right from cement-laying to fixing and erecting a stand on it, placing solar panels over the stand, and circuit designing.

VALUE DELIVERED

Twin Builder's developed VR Training Experience garnered appreciation from our client as well as the trainees.

- Training in the world created by Twin Builder helped the trainees understand the installation process as well as cautioned them on the dangers involved.
- The trainees quickly became accustomed to the equipment and understood key topics thanks to experiential learning.
- They also felt more confident on the job and it also improved their job satisfaction. The result was a faster installation in a safer environment.
- TXF's training experience was also something that our client could easily replicate and scale, enabling consistent and standardized training across all trainees regardless of their location.



RESULTS

+71%

Improvement in worker observation and interpretation skills

-65%

Reduction in cost of training

-45%

Reduction in training time compared to traditional methods

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