

DX-PLANT®

Optimization of Engineering, Operation, Maintenance and Business



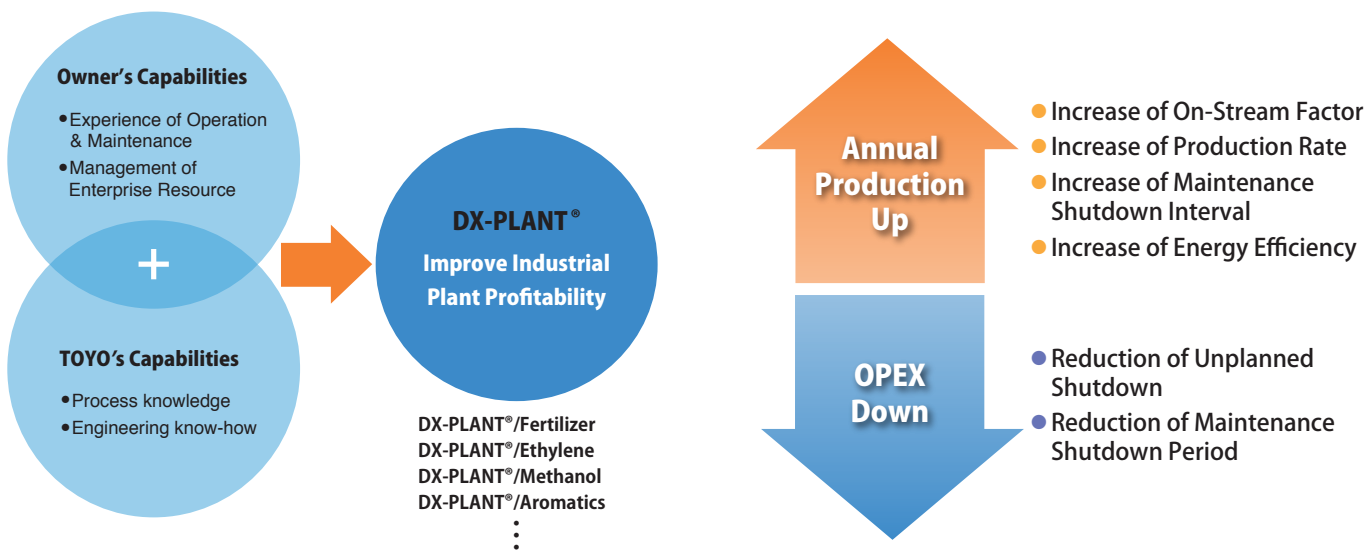
Our integrated IoT Solution realizes the new benchmark of plant governance

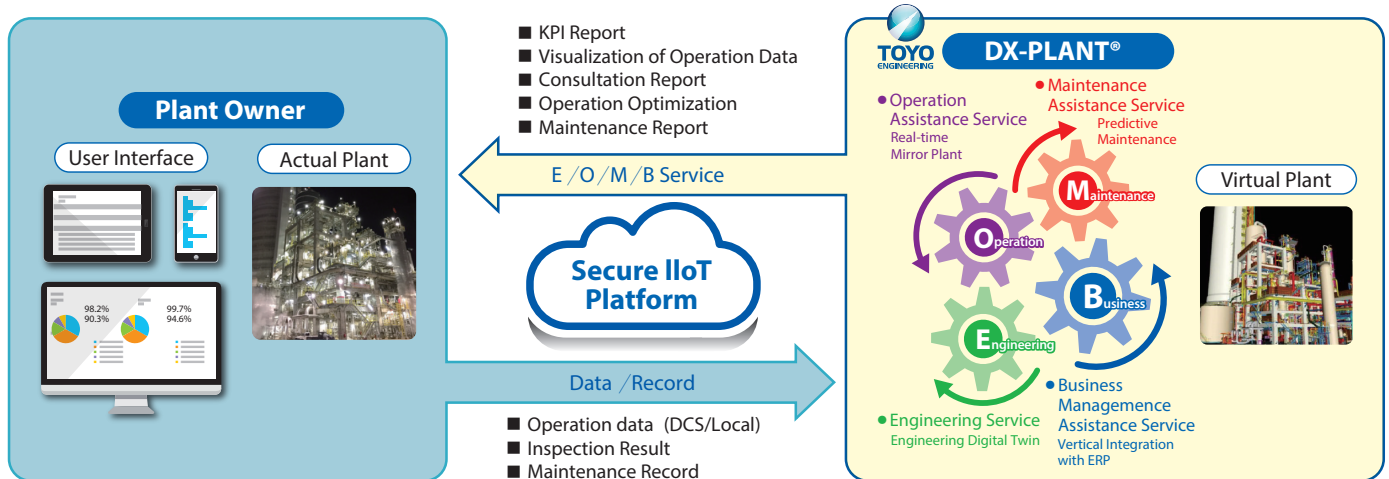


What is DX-PLANT® ?

Amidst the fourth industrial revolution by IoT technology, TOYO developed a system for Digital Transformation for Plant (DX-PLANT®). DX-PLANT® is aimed at maximizing client revenue and minimizing expenses by leveraging TOYO's engineering expertise in chemical process technology and operations for industrial plants while providing services through a secured platform. Through DX-PLANT®, TOYO provides solutions for four fields of

engineering (E), operations (O), maintenance (M) and business (B). This system will realize "digital twins" of an actual plant and a virtual plant on a secured platform. This system is built from big data relating to operation data, inspection and maintenance records. This cloud system is able to realize users' access whenever and wherever they desire and widely share the results of solutions for their plants. This system will increase annual production and decrease operation expenditure with the following effects:





Solutions of DX-PLANT®

Engineering Information Sharing and Recording:

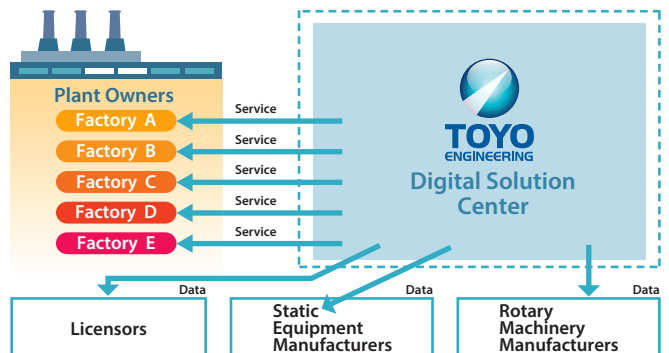
DX-PLANT® stores not only engineering information such as flow diagram, data sheet and drawings, but also operation and maintenance historical records. Those kinds of information are integrated by information management system with 3D model. This integrated information will enable quick and easy access to the related information from any location as **information management system**.

Operation Assistance Service:

In addition to real-time condition monitoring such as Key Performance Indicator (KPI) and status diagnoses from remote location, DX-PLANT® provides operation guidance service (**ADVIDA™ / PMOS™**) for process optimization in real-time basis around the clock using the model established by big data analysis.

Development of DX-PLANT®

As a first step, TOYO has developed DX-PLANT® / Fertilizer and launched it in December 2017 at a urea plant owned and operated by PT Pupuk Sriwidjaja Palembang (PUSRI). In TOYO's monitoring room, engineers provide real-time support for operation and maintenance through on-line connection. For further development as the next phase, TOYO is working on providing solutions for the various needs of clients. TOYO will keep moving forward to expand to other process plants such as petrochemical plants and other industries. Once several plants are connected on the DX-PLANT® platform, TOYO will organize "Digital Solution Center" by connecting multiple plants to provide the total solution with plant owner and contribute the plant owners' digital transformation as total solution provider.



Toyo Engineering Corporation

2-8-1 Akanehama, Narashino-shi, Chiba 275-0024, Japan

Tel: 81-47-454-1571

E-Mail : dx-plant@toyo-eng.com

https://www.toyo-eng.com/jp

DX-PLANT® is a registered trademark of Toyo Engineering Corporation in Japan (Registered Number 6132604).