



**PART**  
SOLUTIONS

**TOYO SEIKAN CO., LTD.**

CASE STUDY



# DESIGNING PRODUCTION EQUIPMENT WITH PARTSOLUTIONS

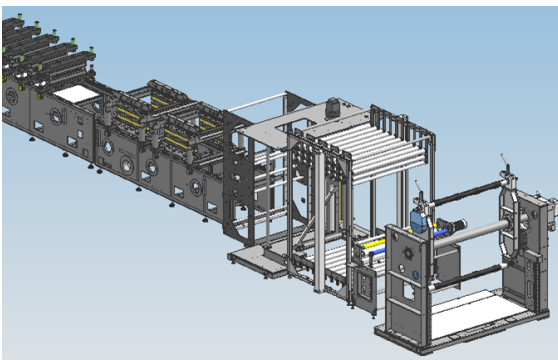
- ACQUISITION OF SUPPLIER PARTS IN 1/5TH OF THE TIME -



Since 2008, PARTSolutions from CADENAS is supporting the packaging containers manufacturer Toyo Seikan Co., Ltd. (hereinafter Toyo Seikan) as a supplier parts library for the design of production equipment. This case study also includes comments from Toyo Seikan CTO Mr. Koji Nakaishi and 3D CAD designer Mr. Koji Nagata about PARTSolutions usage and benefits for equipment production.

## The background

Toyo Seikan is a leading company in the production of PET bottles, cans, plastic and metal packaging containers. One of the key factors in supplying high-performance, high-quality packaging containers is the use of their own production equipment and facilities. The facility-engineering department headquarter, which is responsible for the development of production equipment and facilities, started to use 3D designs for their developments in 2007. Due to the use of numerous supplier parts in Toyo Seikan products, an important factor for their 3D designing was to rapidly obtain accurate 3D CAD data. Reducing the man-hour design cost was also an important issue. With those concerns in mind, Mr. Koji Nakaishi had the opportunity to attend CADENAS-sponsored PARTSolutions seminar, and was ultimately contacted by CADENAS with a commercially available parts library solution for the company's 3D design projects. In 2008, CADENAS began supporting the company's needs through PARTSolutions.



3D CAD model of a packaging containers production equipment  
Several thousand supplier parts are used in the machine design

## The initial situation

Before PARTSolutions was introduced, Toyo Seikan had to deal with the following issues.

### 1. Data acquisition time

Many man-hours were required simply to acquire the 3D data. The typical data acquisition process consisted of: manufacturer homepage visit -> login -> search -> download -> PDM registration -> attributes input. Furthermore, the need to repeat this process every time 3D data was required was a disruption of the design process, and a concern to quality.

### 2. Attributes input & management

During PDM registration process, it was necessary to manually input the attributes, such as model and manufacturer. Not only time-consuming, this process could also lead to human error and was a real challenge for the management of the design.

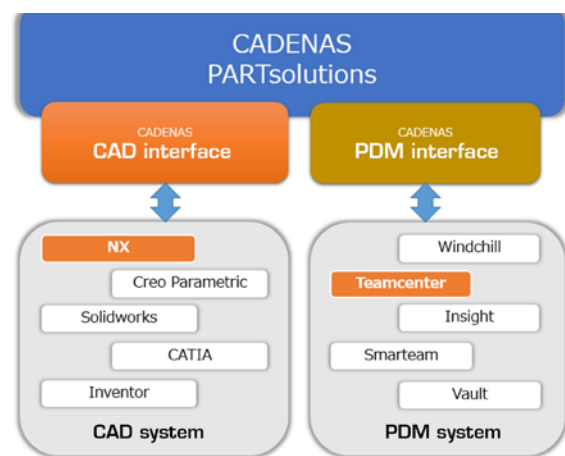
### 3. Existing data management

Since the current management system for existing registered data in the PDM had not been built for collective management, duplicate data could be found. Managing discontinued products also proved to be very challenging.

## Decisive factor:

### Easy integration into existing systems

The Strategic Parts Management PARTSolutions was developed with usage in a multiple CAD/PDM environment in mind, and as such feature interfaces for native systems. This „easy to integrate in existing systems“ ability has been a key factor in Toyo Seikan's choice. As a result, a smooth integration into the existing NX (CAD) and Teamcenter (PDM) systems was achieved at launch time.

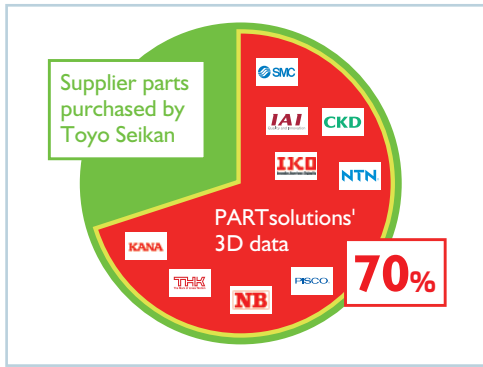


Interface illustration

## PARTSolutions - the answer to many different challenges

70% coverage rate + upgradable catalog

PARTSolutions is a powerful combination of 3D data library with parts from more than 600 national and foreign companies alongside with international and JIS components. In its current state, it covers more than 70% of the supplier parts Toyo Seikan is using in its designs. Furthermore, CADENAS continuously updates its library to guarantee its accuracy against discontinued products. The administrator can keep the data library up-to-date simply through the CADENAS delivery system, which is built into PARTSolutions management tools. For Toyo Seikan, this means a drastic reduction of the man-hours needed for management.



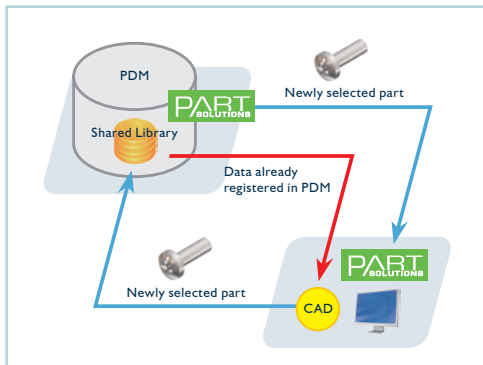
70% of supplier parts covered

Complete models with all attributes in a single click, no further effort required.

3D data generated with PARTsolutions already include attributes such as model name from the manufacturer's official information. Furthermore, it is also possible through customization to control various metadata such as management information according to each company's specifications. From these features and through provided CAD interfaces, Toyo Seikan is able to get Native NX data in one click, without requiring further editing from the user.

#### Avoiding parts duplication through library management

By integrating PARTsolutions with PDM systems, registered 3D data can be managed from inside the PDM by PARTsolutions. This way, when a Toyo Seikan user wants to find a supplier part in PARTsolutions, he can confirm at a glance whether the part is already registered in the PDM or not. PARTsolutions can automatically call the part if it already exists, or create a new one otherwise, all without the user needing to worry about data duplication issues.



By efficient usage of different resources, 3D data can be provided to designers without creating duplicates.

### Advantages

Data can be obtained at a fifth of the conventional time. Thanks to those PARTsolutions abilities, where Toyo Seikan was used to take several minutes to download each supplier part from the web, only a few seconds are required since the introduction of PARTsolutions. Furthermore, the obtained catalog data already contains manufacturers' original attributes, to which Toyo Seikan can add its self-managed information and metadata. Everything being available through a single-click and stress-free operation, design activities saw a significant reduction in man-hours.

„Today we can get 3D and attribute data from a catalog very quickly. Compared to the conventional process of searching, downloading and importing necessary parts from the web, the whole process time is now reduced to a fifth of what was needed before, thus greatly reducing the load on the designers“, said Mr. Nagata.

#### Efficient integration with existing systems

- Integration with current BOM information.

Within PARTsolutions 3D part data library, it is possible to assign company proprietary values, such as part number and inventory information, resulting in a more progressive parts management system. In the case of frequently used standard parts, Toyo Seikan was able to assign their own catalog references, thus greatly reducing management and search effort.

„Having researched PARTsolutions as a supplier parts/standard parts library, we found PARTsolutions to be equipped with a system allowing us to easily merge manufacturers catalog information with our own bill of material as a Parts Management system, which was a key factor in our decision“, said Mr. Nakaishi.

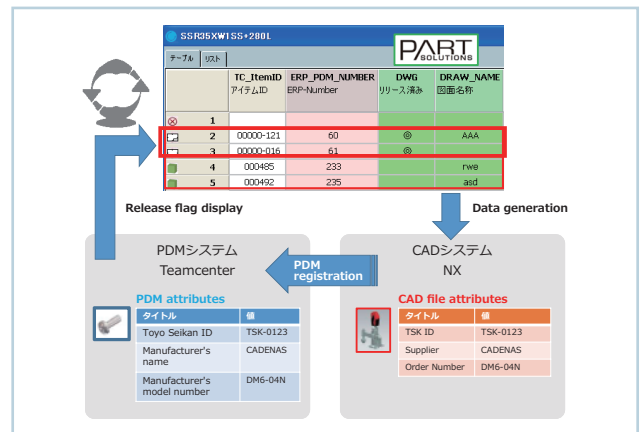
		TC_ItemID	ERP_PDM_NUMBER
		Item ID	ERP_NUMBER
6	M4x20	TOYO-M4x20	TOYO-M4x20
7	M4x30		TOYO-M4x30
8	M4x40		TOYO-M4x40
9	M4x50	ISOM4 x 50	ISOM4 x 50
10	M5x10		TOYO-M5x10
11	M5x20		TOYO-M5x20
12	M5x30		TOYO-M5x30
13	M5x40		

Auto assigning naming rule by PARTsolutions: some parts (marked in RED) will have predefined part number (ID) when they are used. For other parts, the part number will be assigned by other rules specific to parts management.

#### - Confirmation of actual use

For the data stored in Toyo Seikan PDM, a release flag is provided for parts that are used in available products.

A feedback mechanism for this feature is provided in PARTsolutions, which allows designers to confirm the presence or absence of actual use case for a part being searched in PARTsolutions.



Auto assigning naming rule by PARTsolutions: some parts (marked in RED) will have predefined part number (ID) when they are used. For other parts, the part number will be assigned by other rules specific to parts management.

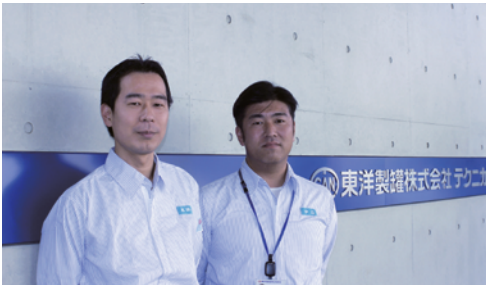
## Future expectations for CADENAS PARTSolutions

With the introduction of the Strategic Parts Management PARTSolutions, Toyo Seikan was able to reduce the costs of man-hour to a fifth of the original price for 70% of supplier parts. In order to further extend this benefit, more catalogs and suppliers are expected to join the library and add more content.

„PARTSolutions is, we believe, a very useful system that can significantly reduce the man-hours required for data acquisition and management of supplier parts. We wish that more and more suppliers will join CADENAS services and provide 3D CAD data through PARTSolutions“, said Mr. Nagata. If PARTSolutions could cover 100% of supplier parts for Toyo Seikan, it could become a centralized resource to access all needed supplier parts, which would result in additional benefit for administration and operation.

### Editor's note:

Different from PDM and CAD systems, PARTSolutions is a tool that can indeed support CAD and PDM to run more efficiently in operation-critical environments. It is also a strategic advantage for which, at the time this case study was written, great care was taken to consider the consequences of its usage disclosure. Under these circumstances, we would like to thank deeply Mr. Nakaishi and Mr. Nagata for their full cooperation and effort to helping increase PARTSolutions user base.



LEFT  
KOUJI NAGATA  
ASSISTANT MANAGER  
EQUIPMENT DESIGN GROUP EQUIPMENT TECHNOLOGIES

RIGHT  
KOUJI NAKAISHI  
ASSISTANT MANAGER  
EQUIPMENT DESIGN GROUP EQUIPMENT TECHNOLOGIES

## COMPANY DESCRIPTIONS

### Toyo Seikan Co.,Ltd.

Toyo Seikan was established in 1917. The first automatic can making facility in Japan was installed and commissioned in 1919. Since then, we have devoted ourselves to the manufacturing of containers based on the fundamental importance of packaging. We have continued supplying containers as an answer to the needs of our era. This is how we maintain trust, and achieve excellent performance and strong management.

You find further information about the company at:  
<http://www.toyo-seikan.co.jp/e/>



### CADENAS GmbH

CADENAS is a leading software manufacturer in the areas Strategic Parts Management and parts reduction (PARTSolutions) as well as Electronic CAD Product Catalogs (eCATALOGsolutions). With its customized software solutions the company acts as a link between component manufacturers and their products, and the buyers. With its 300 employees in 17 locations worldwide, the name CADENAS (Spanish for "chains") has stood for success, creativity, support, and process optimization since 1992.

You find further information about the company at:  
[www.cadenas.de](http://www.cadenas.de)

