

Conversion Support Services



Software and Services
since 1976

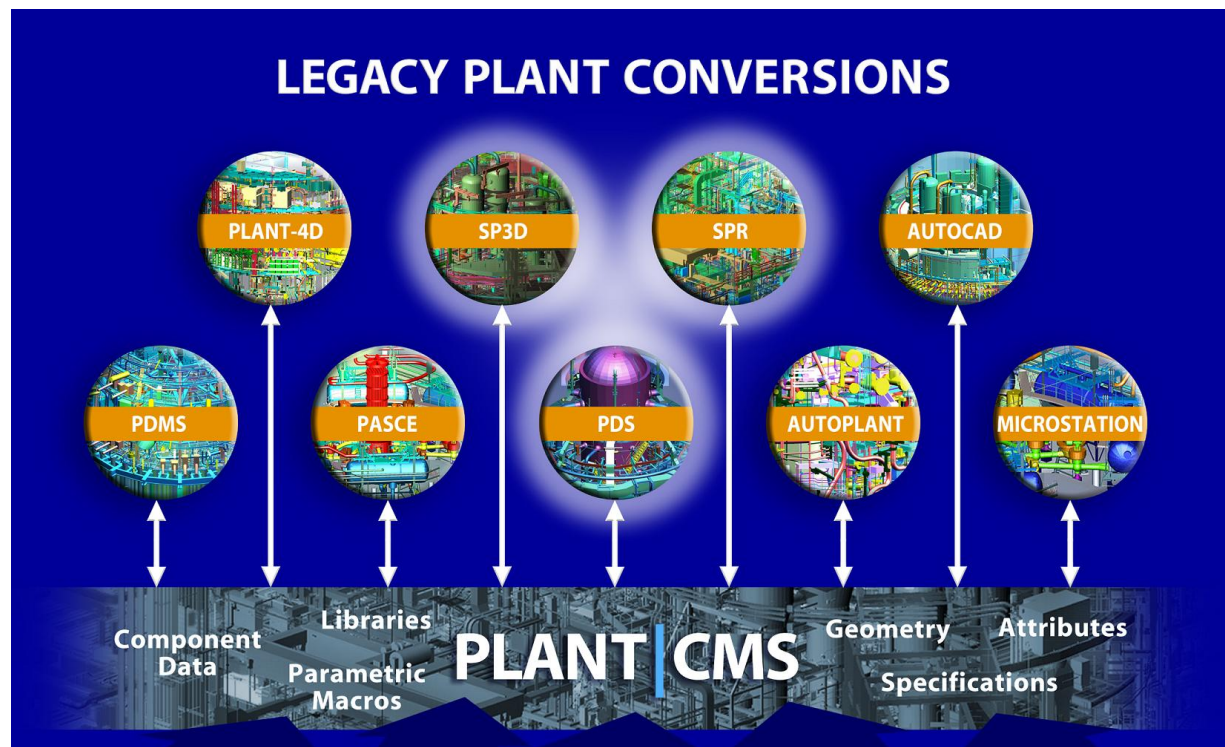
for Intelligent 3D Plant Databases

CSA's Conversion Technology and Services

CSA has experience converting from and to a number of 2D and 3D CAD and Plant Design software systems. The conversions are supported using CSA's Plant/CMS technology.

Plant/CMS provides a comprehensive repository of intelligent plant data in an object-oriented specification-driven environment.

Plant/CMS also has extensive Component Libraries supporting the conversion process and a comprehensive Neutral File representation which can be used as an intermediate step in the process.



Why Conversions through Plant/CMS?

- Plant/CMS provides a *common neutral structure* related to all products.
- The Plant/CMS neutral environment provides users an effective tool to validate, verify, and improve the conversion data.
- It is difficult and cumbersome to interface each product with every other product.
- Using Plant/CMS as a neutral medium greatly reduces the number of interfaces required.

Number of Products	Using Plant/CMS	Direct
1	1	1
5	5	10
10	10	45
15	15	105

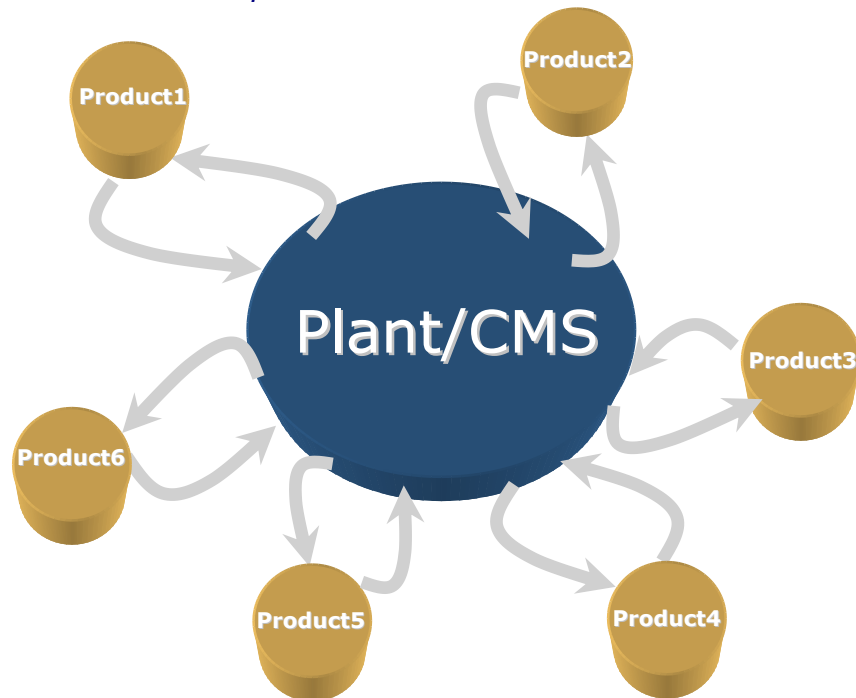
Recent Conversion Projects

- Conversion from PDMS to SmartPlant Review – developed a conversion utility
- Conversion from PASCE to SP3D; CSA Plant/CMS to SP3D – developed a conversion utility
- Conversion from Plant-4D to PDS – developed tools and provided conversion services
- Conversion from CSA Plant/CMS to PDS – developed a conversion utility

A unique approach to conversion projects

- CSA conversion technology supports a variety of sources, including 3D CAD, 2D schematics, intelligence, laser scanning, databases, and paper documents.
- Conversion rules are established.
- Data is integrated within an intelligent object-oriented database.
- Database can be reviewed and validated.
- Data is converted to a destination format.

Plant/CMS: A common, neutral structure related to all products



Plant/CMS Conversion Matrix

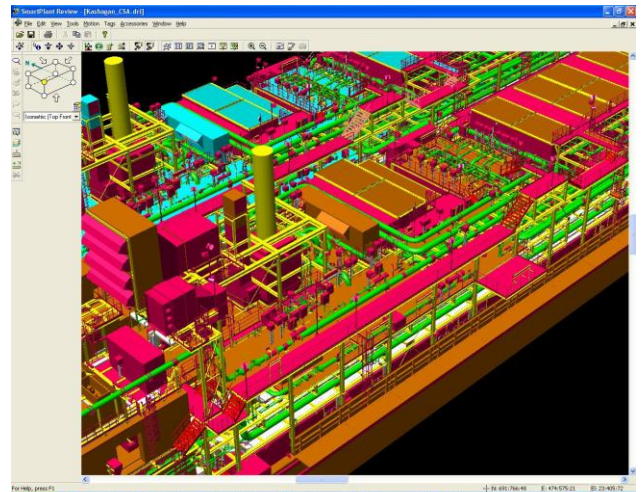
Product	To	From
DXF	■	■
DWG	■	■
IGES	■	■
DGN	■	■
CadWorx	■	■
Auto Plant	■	■
PipeGen	■	■
PlantGen	■	■
Plant-4D	■	■
PDMS	■	■
PDS	■	■
PASCE		■
SP P&IDs	■	
SP Review	■	■
SmartPlant 3D	■	■
Cadmatic Plant Modeller	■	■
Cadmatic eBrowser	■	■
Schema (Pasce P&IDs)		■
STRUDL	■	■
NUPIPE		■
ADLPIPE		■
P-ARCH		■
EE-Raceway		■
MicasPlus		■
Xsteel		■
Form Z		■
SDNF	■	■
CIS/2 (Using Xsteel)	■	■
ACIS Solids	■	■
ParaSolids	■	■
ProE	■	■
CATIA	■	■
Unigraphics	■	■
Mechanical Desktop	■	■
Inventor	■	■
Revit		■
VRML	■	■
Laser Scanning		
Point Cloud Data		
— Leica	■	■
— FARO	■	■
— Z+F	■	■
— Others	■	■
Variety of custom formats	■	■

Content Management Projects

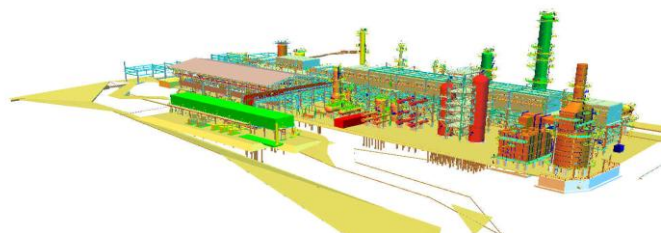
In addition to building intelligent specifications and catalog library components to support conversion projects, CSA also offers services in Content Management.

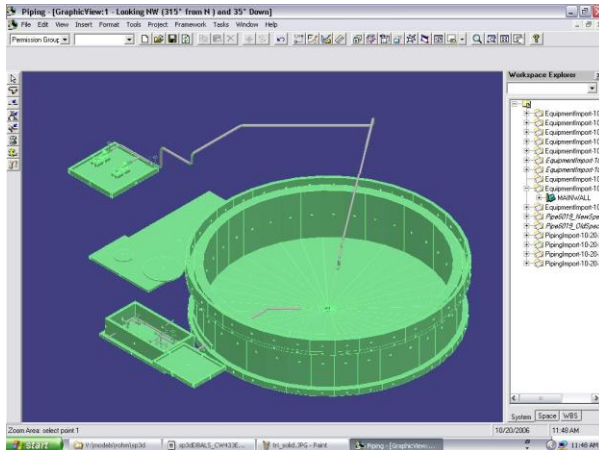
Recent projects include creation of:

- Cable Tray Specs in SmartPlant 3D – Cooper B-Line Catalog
- Piping Specs in SmartPlant 3D
- Cable Tray Specs and Catalog Parts – WIBE Catalog
- Hanger/Support Libraries in SmartPlant 3D – Cooper B-line Cable Tray Supports, Bergen Pipe Support Library, Anvil Nuclear Pipe Support Library
- Piping Specs in Plant-4D



Conversions from/to PDS



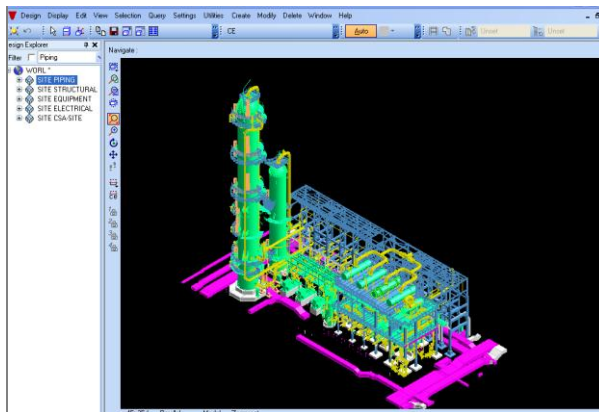


*Conversions from PASCE
to SmartPlant 3D*

Background

CSA (Construction Systems Associates), Inc. was established in 1976 in Atlanta, Georgia. CSA has considerable experience providing support for large-scale 3D intelligent databases.

Support services include conversions from/to a variety of CAD systems and databases. This support includes 2D schematics, 3D model databases as well as associated intelligence.



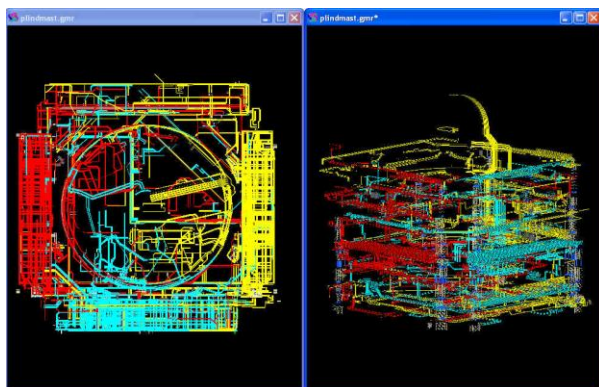
Conversions from/to PDMS

Projects and Clients

CSA's technology is suitable primarily for large, complex facilities.

Supported projects include:

- Power Plants
- Paper Mills
- Nuclear Facilities
- Petrochemical Projects
- Ships
- Offshore Platforms
- Semiconductor Plants
- General Buildings



CSA's clients include companies in the USA, Canada, Japan, Korea, UK, South Africa, Slovakia, Czech Republic, Brazil, Finland, Austria, and Venezuela.