Dimensional Data for Piping

History

- 1997 – One of the key requirements by Brown & Root to replace operational ICP legacy system
- 1997-1998 – Developing specification and software
- 1999 – In production in KBR
- 2001 – Agreement on commercial use and sale of DDP
- 2002 – PDS integration and delivery as a product
- 2003 – Integrated with SP3D

Why instrument data in the model?

- Instrumentation is the most voluminous design discipline
- Traditionally secondary to piping and equipment
- Not always adequately presented in the 3-D physical design space
- Volumes of instruments and level of detail required
- With detailed instrument data the path is simplification for the sake of cost reduction

Dimensional Data for Piping

Instruments and physical space

— Are instrument’s physical dimensions important? Yes
- It may not work
- Can’t be installed

— Does physical design data exists? Yes
- Detailed design
- Vendor documentation

Dimensional Data for Piping – Drivers (1/3)

Key drivers in design

Reduces piping design man-hours by:

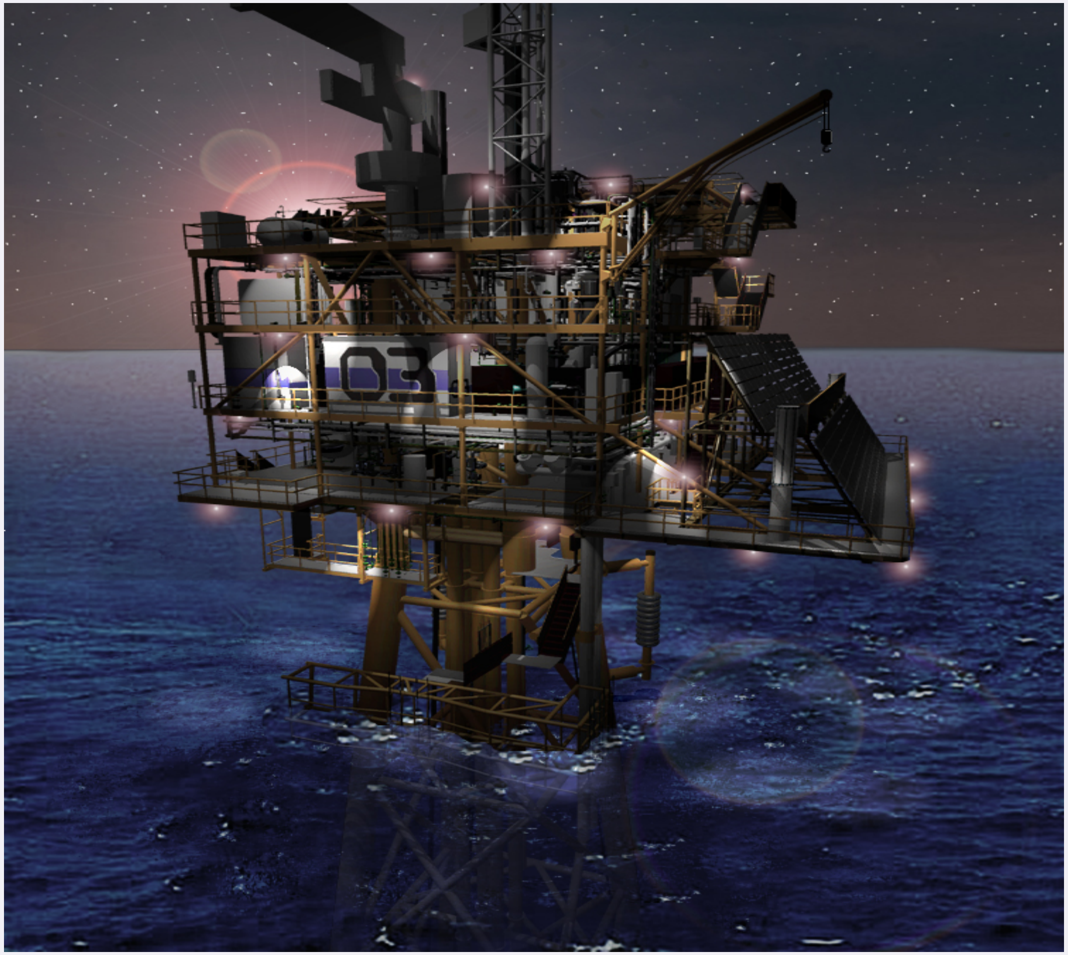
- Reducing man-hours - inputting dimensional data
- Reduction of checking time.
- Reduces dimensional data errors.

Dimensional Data for Piping – Drivers (2/3)

Key drivers in construction

Reduces construction costs by:

- Design data matching with delivered equipment
- Minimize risk of installation space clashes
- Minimize risk of unsuitable equipment shipped

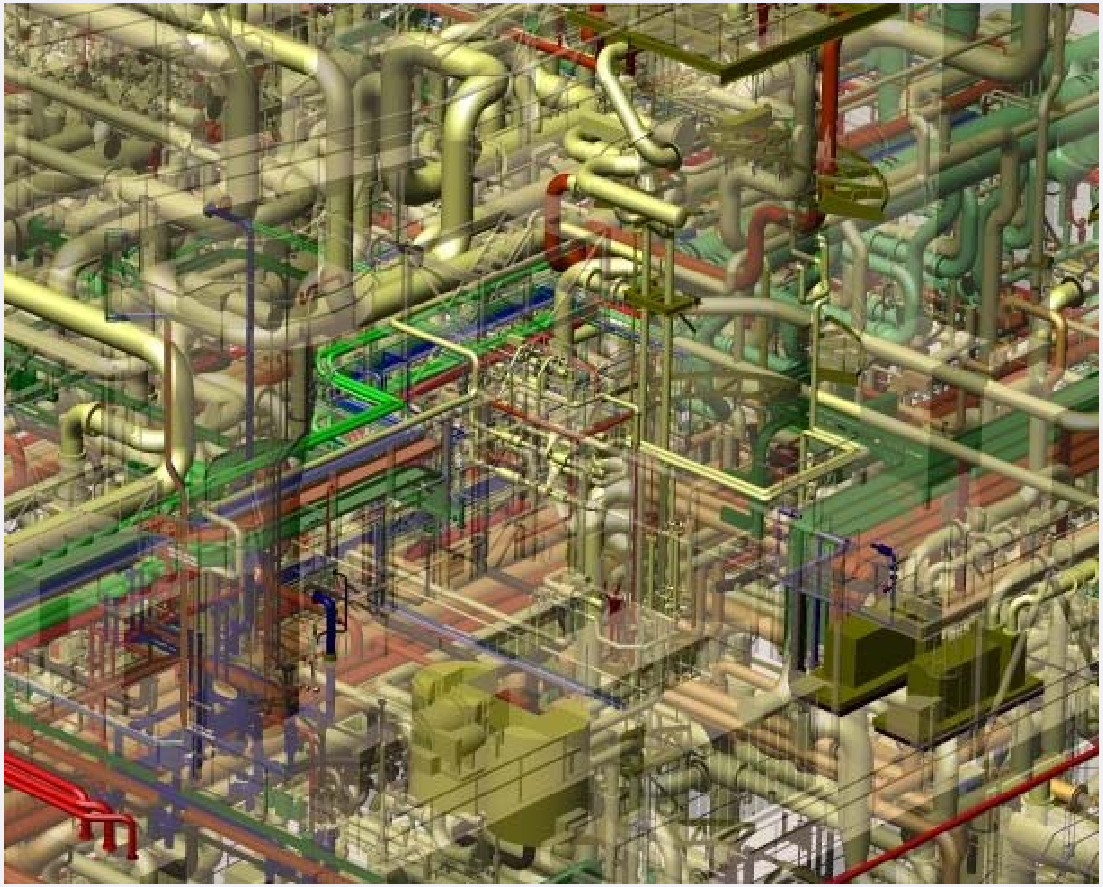


Dimensional Data for Piping – Drivers (3/3)

Key drivers in manufacturing

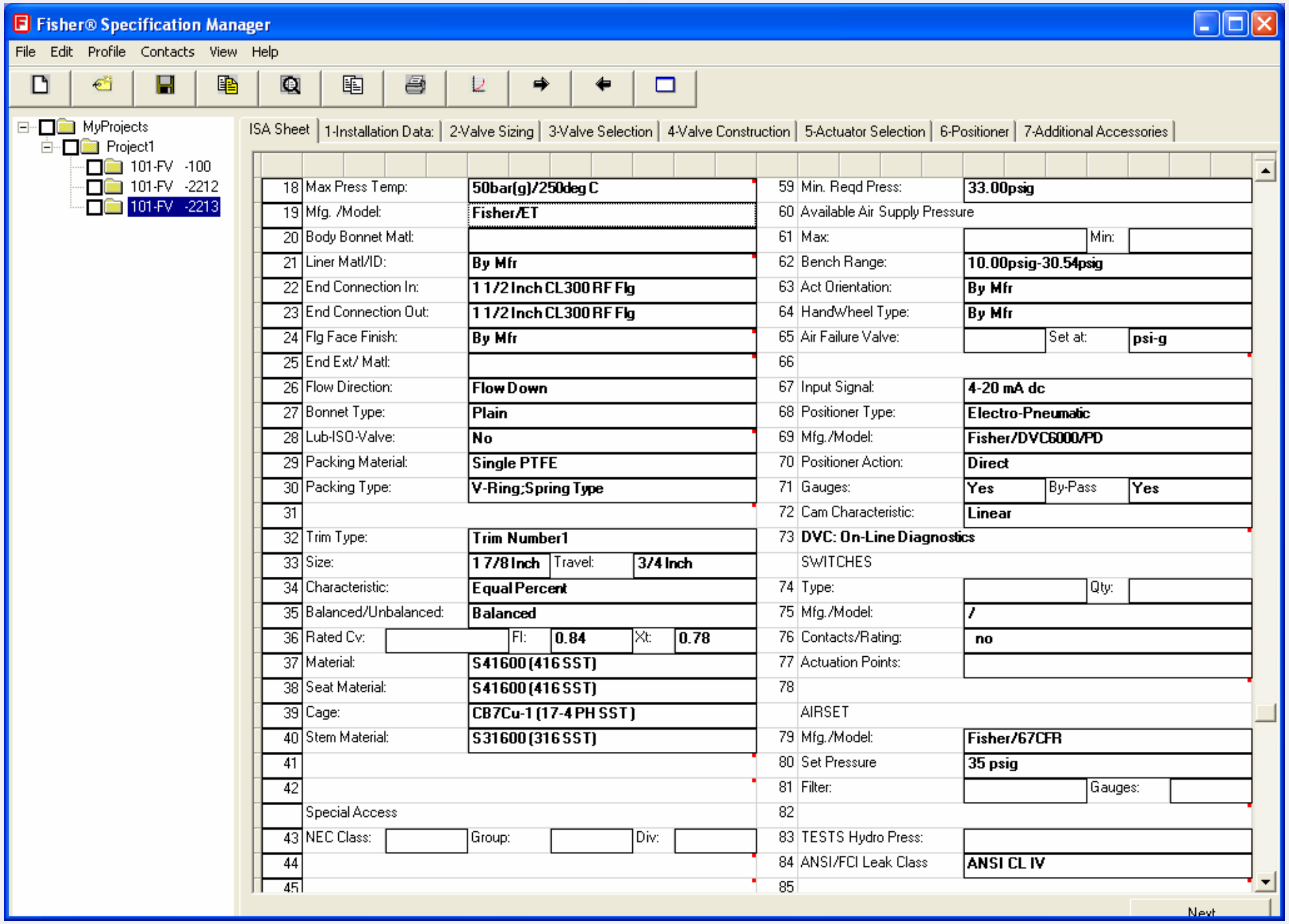
Reduces manufacturing costs by:

- Using CAD independent data
- Improving quality of delivered data
- Speeding up order processing



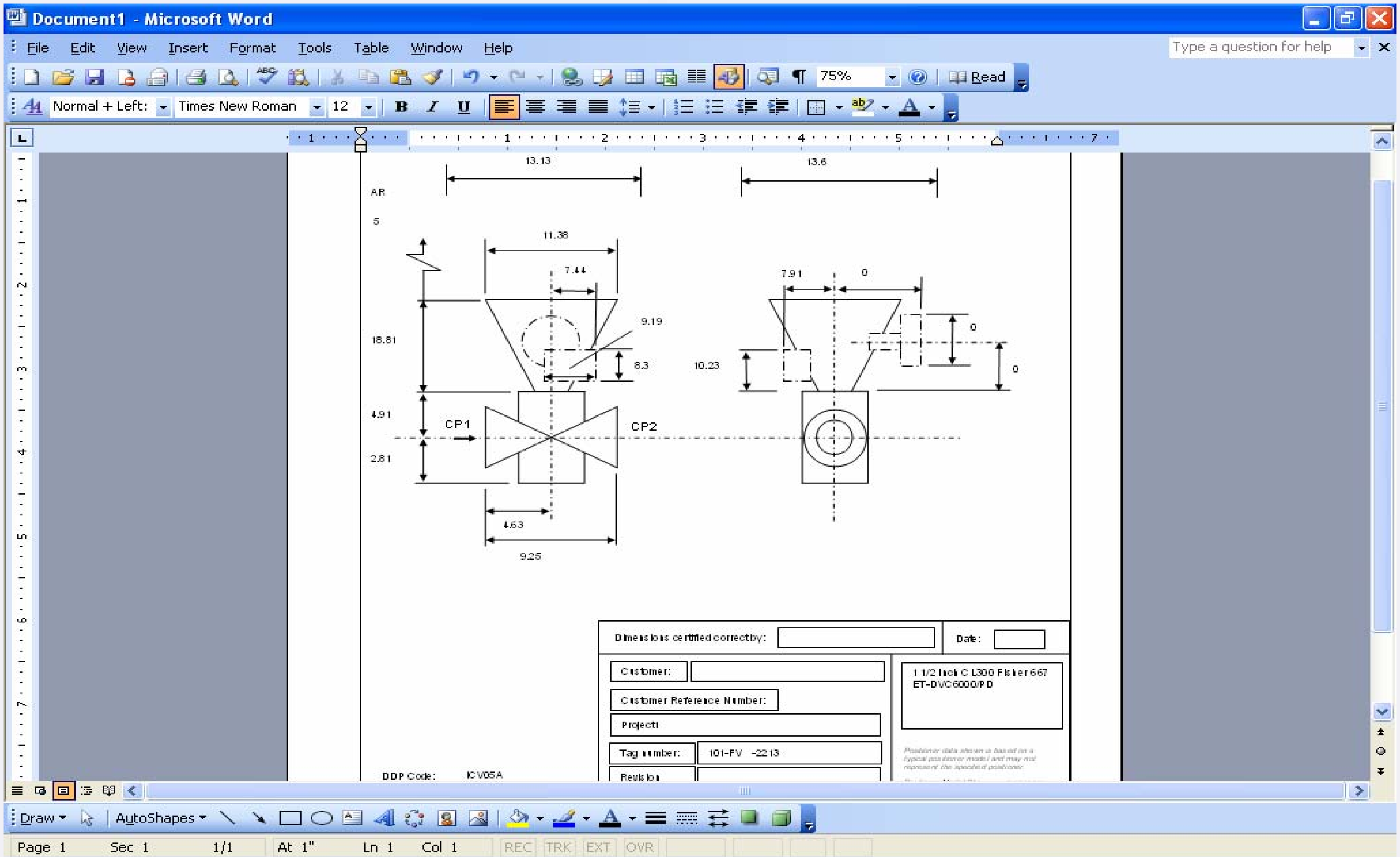
Vendor supplied Dimensional Data for Piping (1/4)

Fisher Specification Manager



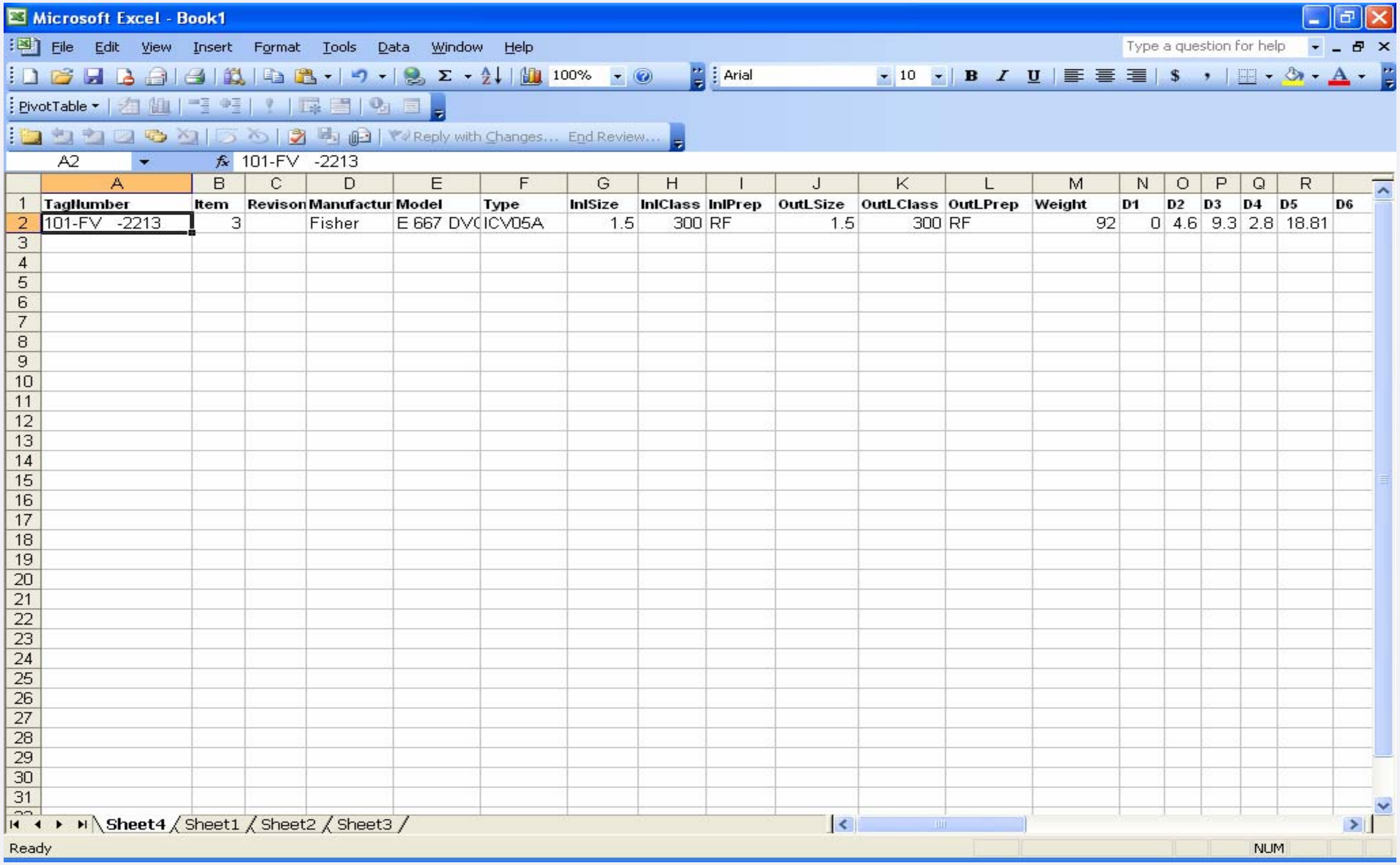
Vendor supplied Dimensional Data for Piping (2/4)

Report from Fisher Specification Manager



Vendor supplied Dimensional Data for Piping (3/4)

Data export – ready to import into SPI



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	TagNumber	Item	Revison	Manufactur	Model	Type	InlSize	InlClass	InlPrep	OutLSize	OutLClass	OutLPrep	Weight	D1	D2	D3	D4	D5	D6
2	101-FV -2213	3		Fisher	E 667 DV(	ICV05A	1.5	300	RF	1.5	300	RF	92	0	4.6	9.3	2.8	18.81	

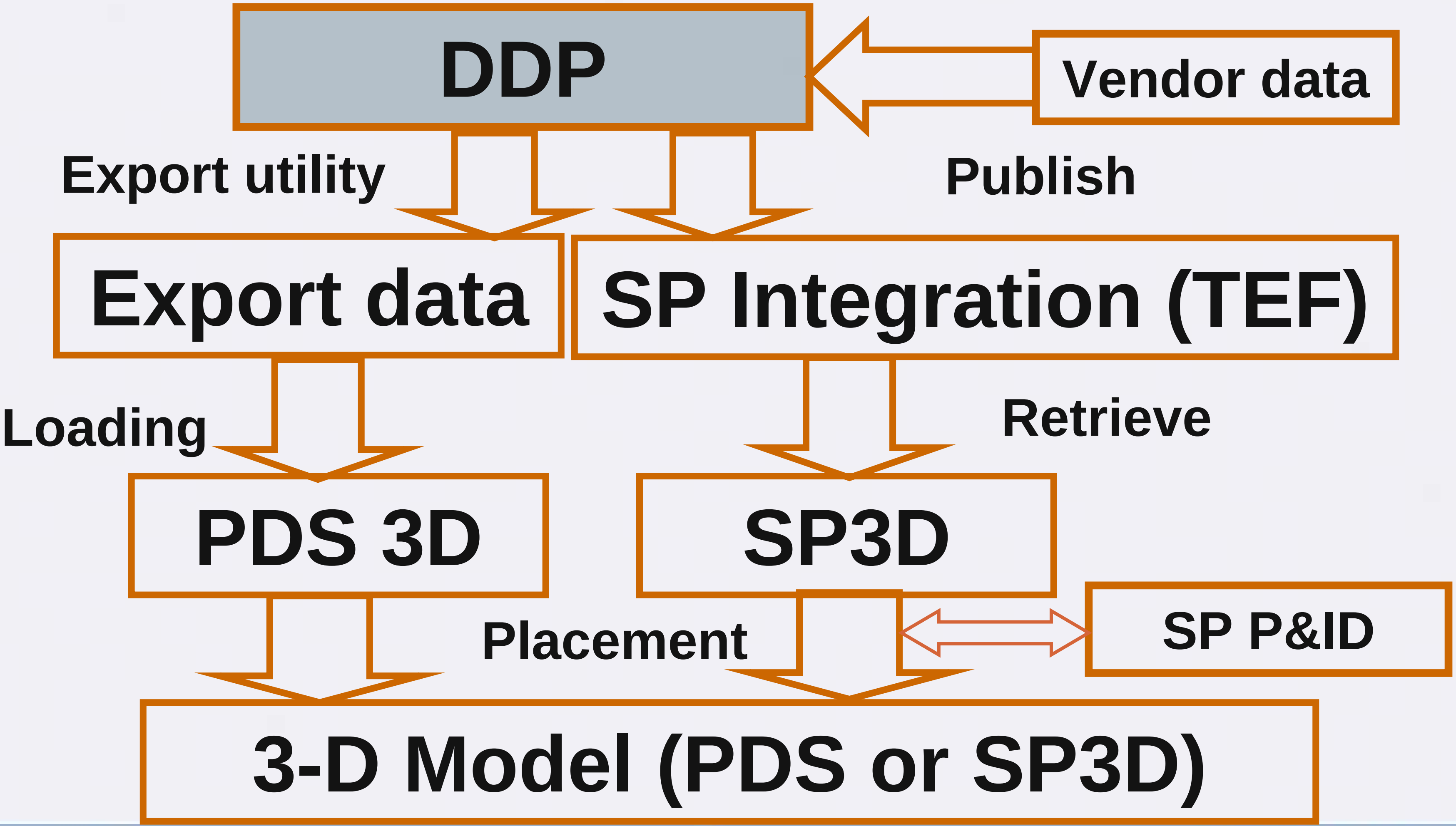
Vendor supplied Dimensional Data for Piping (4/4)

Other vendors

- Dresser provides dimensional data on demand
- Would like to include the DDP interface in the next integration generation
- Masoneilan have expressed interest
- Can be part of the integral vendor data supply cycle initiatives in the future

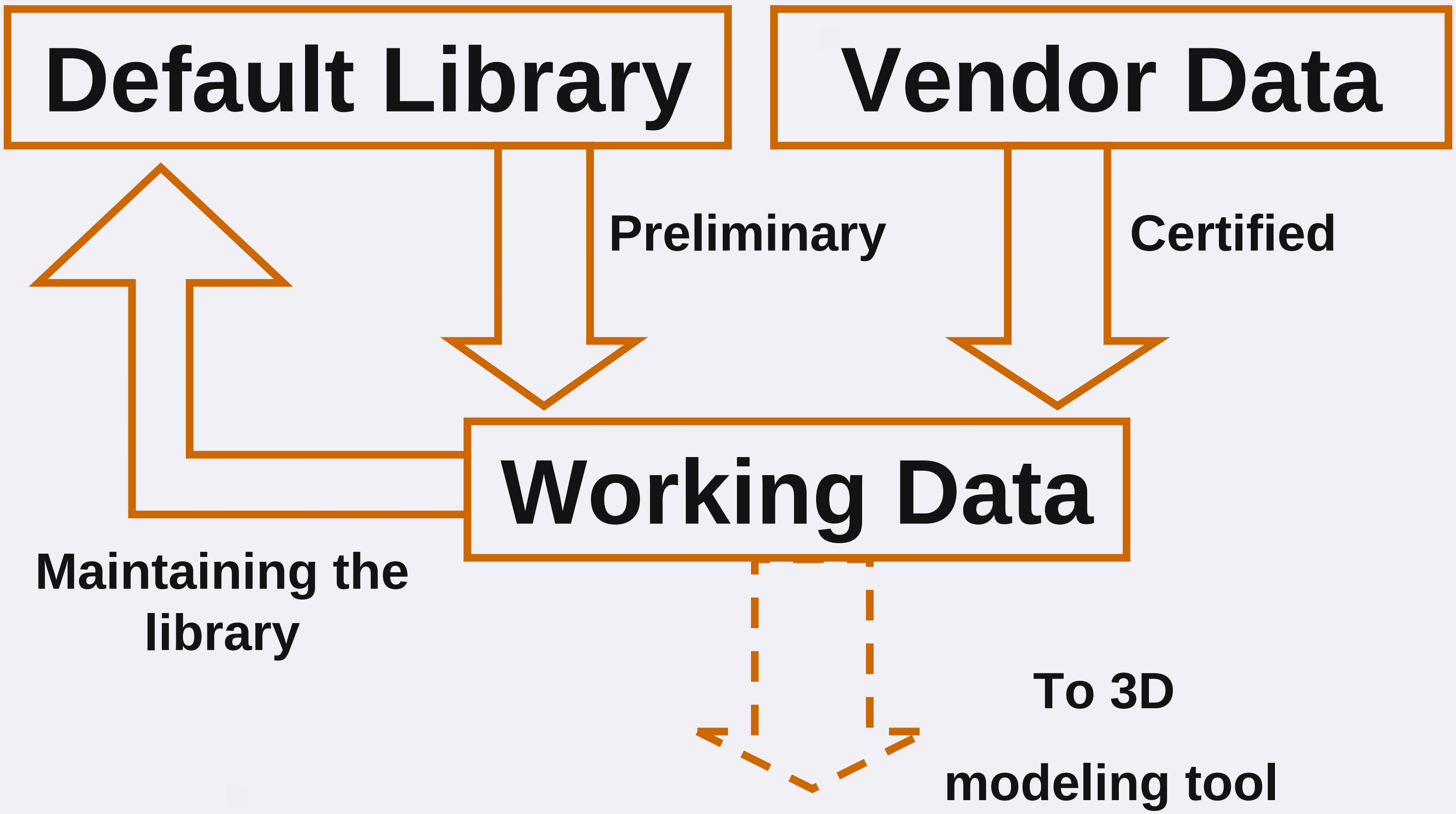
Dimensional Data flow (1/2)

Inter-application workflow



Dimensional Data flow (2/2)

Intra-application workflow



Presentation of the integrated DDP workflow with SP3D