

Emerson Vendor Data Integration



Emerson Integration with Smart Instrumentation

FLUOR[®]

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Presentation Agenda

- Emerson Project Data Link
- Rosemount Data Integration
- Micro Motion Data Integration
- Fisher First 2 Data Integration
- DeltaV Configuration Integration
- Smart Instrumentation Integration
- Emerson Vendor Data Integration Summary

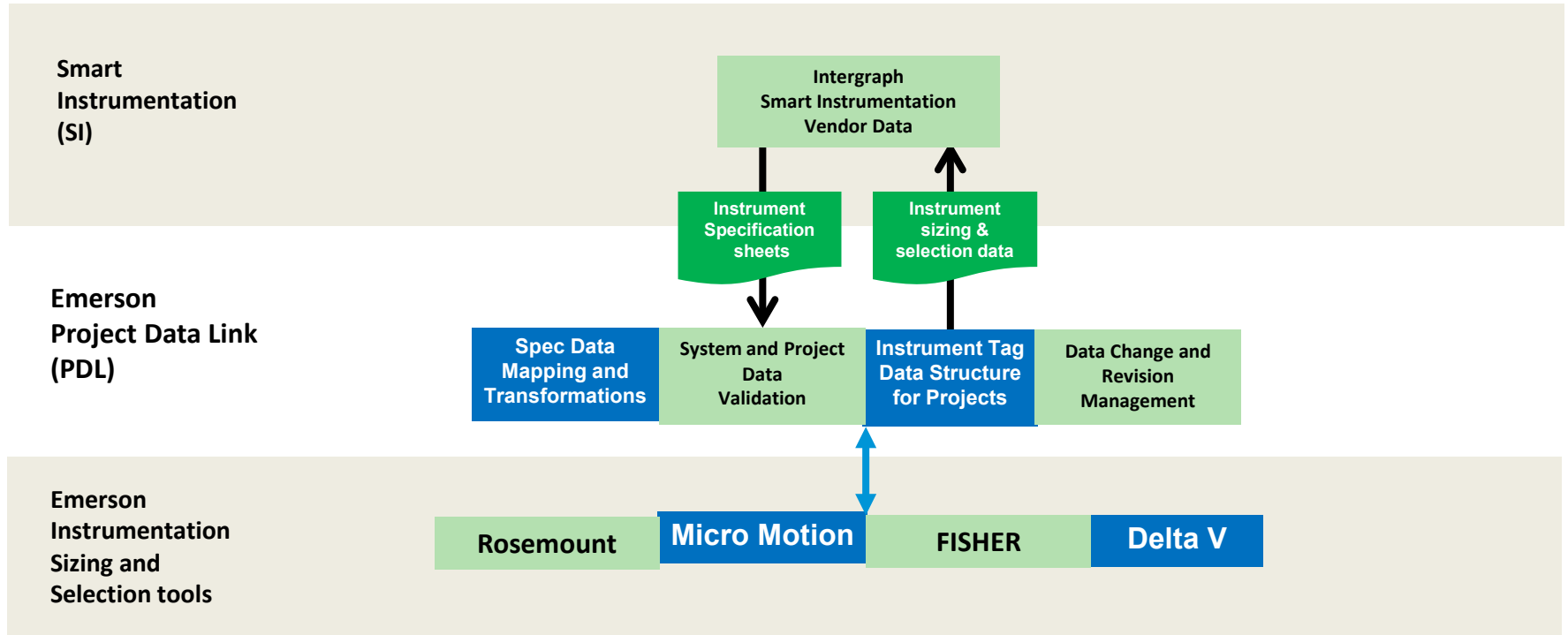


Project Data Link (PDL)



- Project Data Link is a Data Management and Configuration Automation tool for Transferring Data between EPCs and Emerson Instrumentation products
- Project Data Link acts as Middleware Between Smart Instrumentation (SI) and Emerson Tools & Platforms
- Project Data Link promotes data reuse to mitigate risk, increase efficiency and increase quality
- Project Data Links comparison user interface provides quick insights into data to proactively identify integrity and completeness issues reducing rework and optimizing data exchanges

Emerson's Project Data Link Workflow



Project Data Link (PDL) Key Benefits



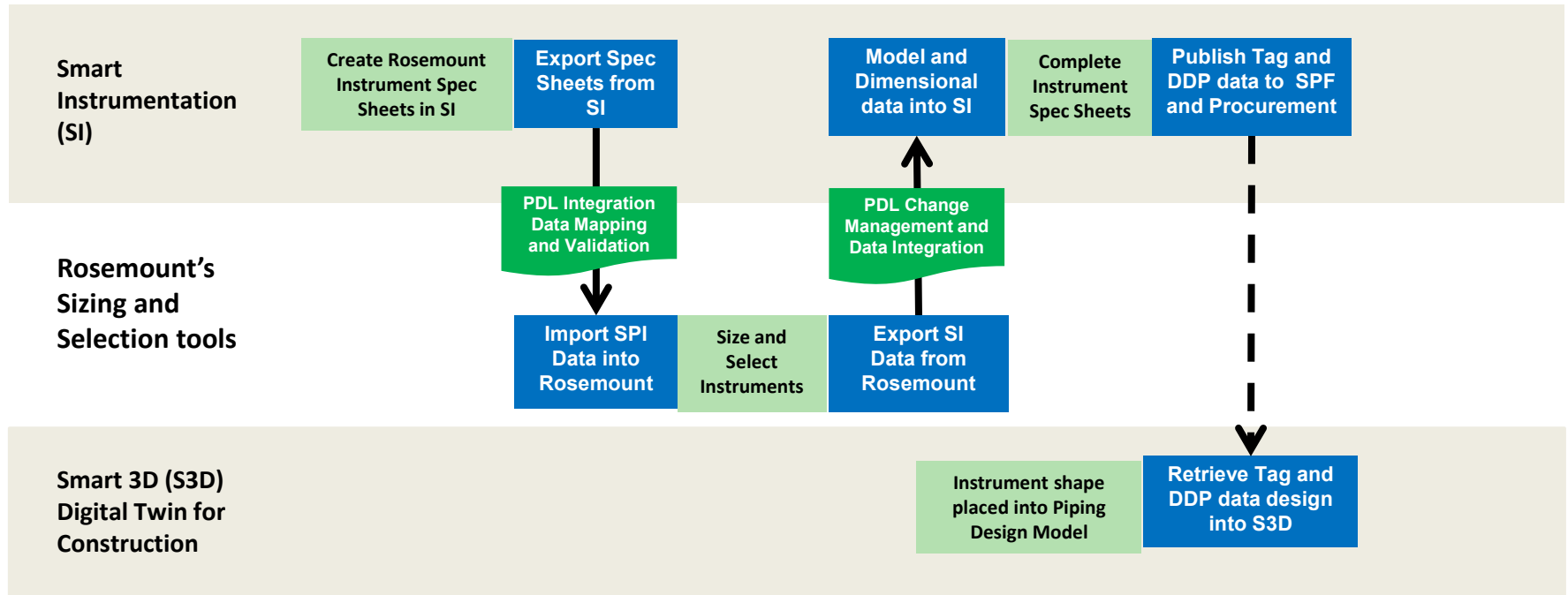
- Provide flexibility in adapting to changes
- Data Validation engine that supports both system and project constraints
- Eliminate document-based exchanges with data
- Reduces errors and rework due to manual data entry
- Reduces FAT time and effort
- Historical Audit Trail provides visibility into all changes
- Improved Data Integrity with EPC/Customer software design tools
- Reduces errors with data consistency

Rosemount Process Measurement Products

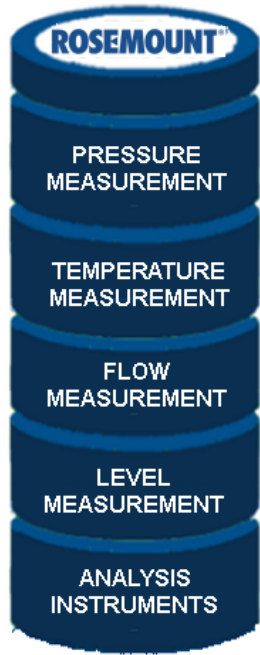


- Rosemount's Smart Pressure Transmitters measure pressures up to 4000 psi
- Rosemount's head and rail mount temperature transmitters and RTD temperature sensors with thermowells
- Rosemount's magnetic Flow meter with transmitter designed for conductive liquids and slurries
- Rosemount's differential pressure Flow meters ideal for the volumetric measurement of clean liquids, gas, and steam
- Rosemount's liquid level transmitters for precise level and specific gravity measurement and Non-Contacting radar level transmitters

Rosemount's Sizing and Selecting Workflow



Rosemount with Project Data Link (PDL) Benefits



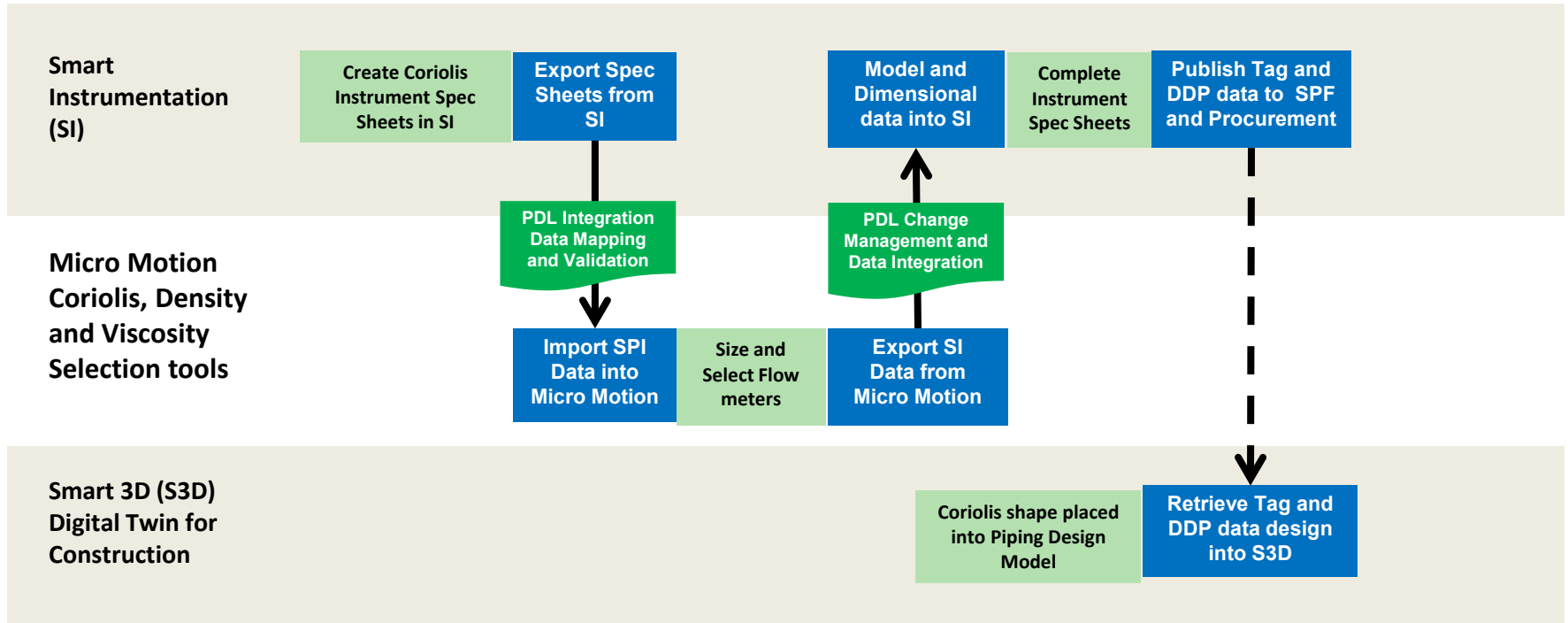
- Rosemount uses PDL to transfer Instrument Sizing and Selection data directly to and from Smart Instrumentation
 - Transfer SI Process data to Rosemount for instrument selection
 - Mapping SI spec data to Generic Spec Data for selection criteria
- Emerson uses Rosemount selection tools to develop and complete Standard Specification Sheets
- Data from Rosemount Specifications with Model, Catalog Numbers, Sizing and Dimensional Data can be imported back to SI

Micro Motion Coriolis, Density and Viscosity Solutions

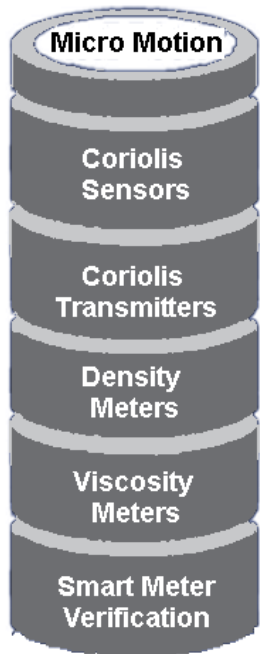


- Micro Motion Coriolis flow meters provide unmatched flow and density measurement performance for gas, liquid and multiphase applications
- Micro Motion Coriolis transmitters are full-featured, field-mount devices that deliver increased confidence in flow measurement with their advanced capabilities in meter verification, process data handling and entrained gas alerts.
- Micro Motion density and viscosity products have been designed with measurement speed, accuracy and robustness in mind

Micro Motion Data Exchange Workflow



Micro Motion with Project Data Link (PDL) Benefits



- Micro Motion Process stream data from Smart Instrumentation (SI) transferred via PDL will enable the proper selection of Coriolis flow meters
- Micro Motion selection data for Coriolis flow meters, Density and Viscosity meters transferred to SI will enable the procurement to proceed in a timely manor
- Since Coriolis Sensors tend to be large inline devices it is important that dimensional data be returned to SI
- Micro Motion Coriolis size and shape can be transmitted to SI DDP Module for publishing to the 3D model to facilitate piping design

Fisher Control Valve Digital Transformation



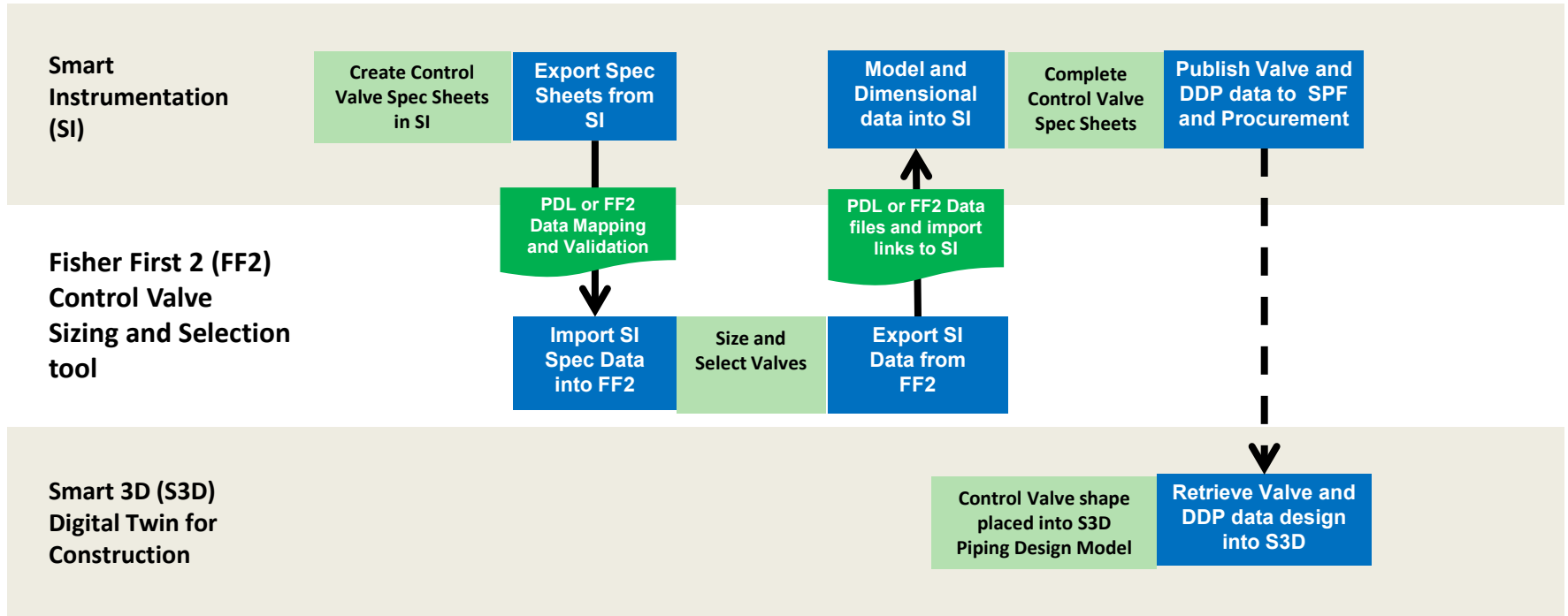
Control Valve



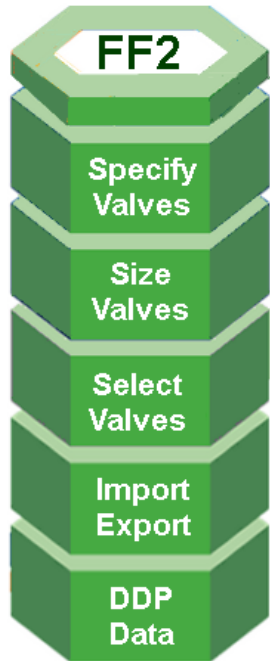
Digital Twin

- Fisher's digital initiative was to transfer control valve spec sheets and envelope dimensions to EPCs as Data rather than PDF files.
- Fisher First 2 (FF2) can handle either SI Spec Form 90 (standard Fisher control valve specification sheet) or remap custom valve spec sheet for sizing and selection
- Fisher dimensional data uses Dimensional Data for Piping (DDP) as the digital transport mechanism to create a 3D digital twin
- Fisher Spec Data and DDP data can be compared with FF2 or PDL revision manager prior to importing into SI for procurement and publishing to Smart 3D (S3D) model

Fisher Data Exchange Workflow



Fisher First 2 with Project Data Link (PDL) Benefits



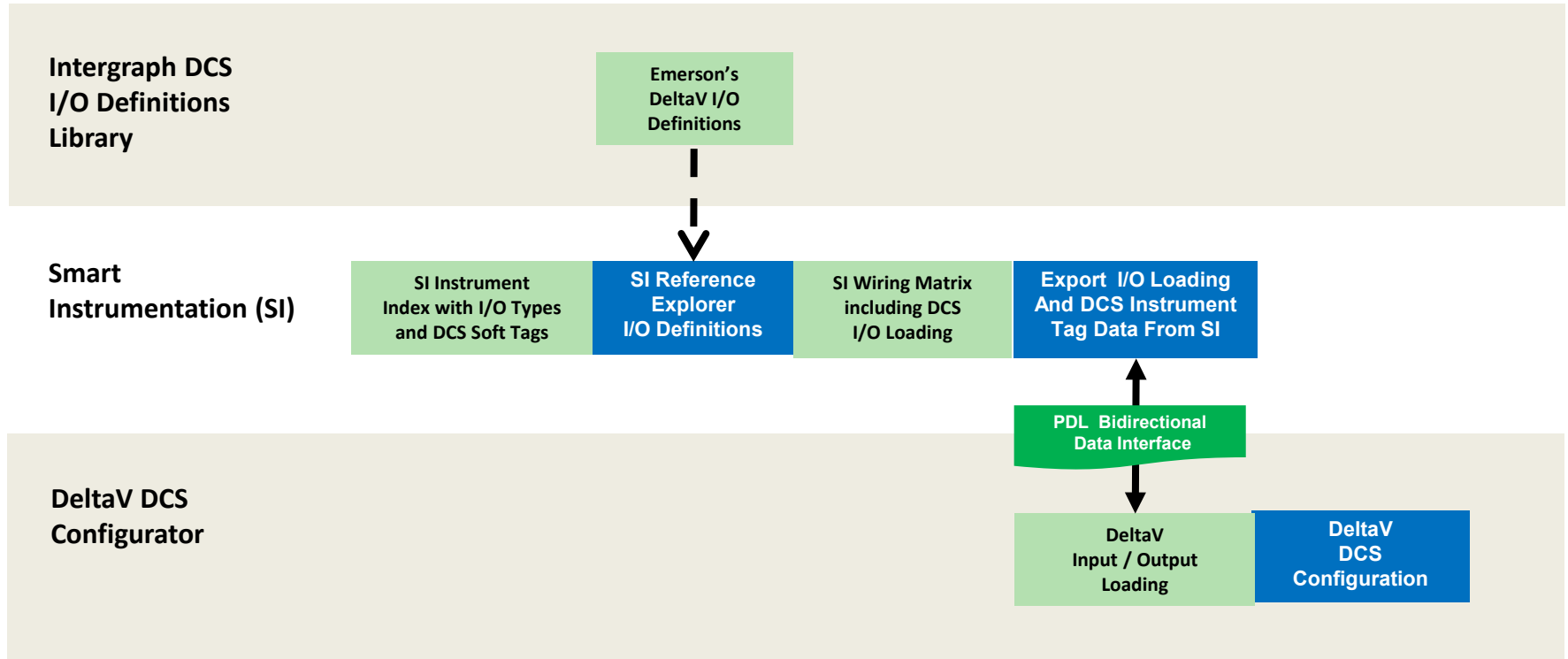
- Fisher Control Valve data from Smart Instrumentation (SI) transferred via PDL or FF2 will enable Sizing and Selection
- Fisher Control Valve preliminary dimensional data can be transmitted to SI for publishing to the 3D model to facilitate early piping design will reduce the project schedule
- Fisher's valve selection including calculated cv, model number, catalog number with accessories is transferred via PDL or FF2 to SI for purchasing
- Fisher has developed several new DDP shapes for inclusion into the DDP group library that include the Valve, Actuator, Hand wheel, and Positioner they also add properties for valve orientation and maintenance areas

DeltaV DCS Digital Interface

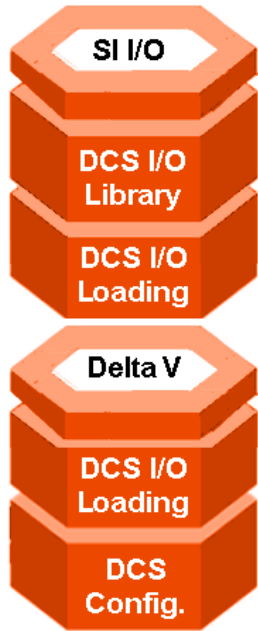


- DeltaV Input/Output (I/O) is initialized in SI by downloading Emerson I/O wiring termination Definitions via a link provided in SI eliminating the need to manually build the DeltaV I/O termination points
- DeltaV I/O library contains the following I/O Card types:
 - M Series and S Series Controllers
 - HART I/O & Fieldbus I/O definitions
 - CHARacterization Module (CHARM) I/O definitions
 - DeltaV Conventional I/O definitions
- DeltaV DCS Digital Interface to Smart Instrumentation (SI) transfers both Soft Tag and Field Wiring I/O data
- Soft Tags include controllers and alarm points for ranges and setpoints to be transferred to DCS for configuration

Delta V Data Exchange Workflow

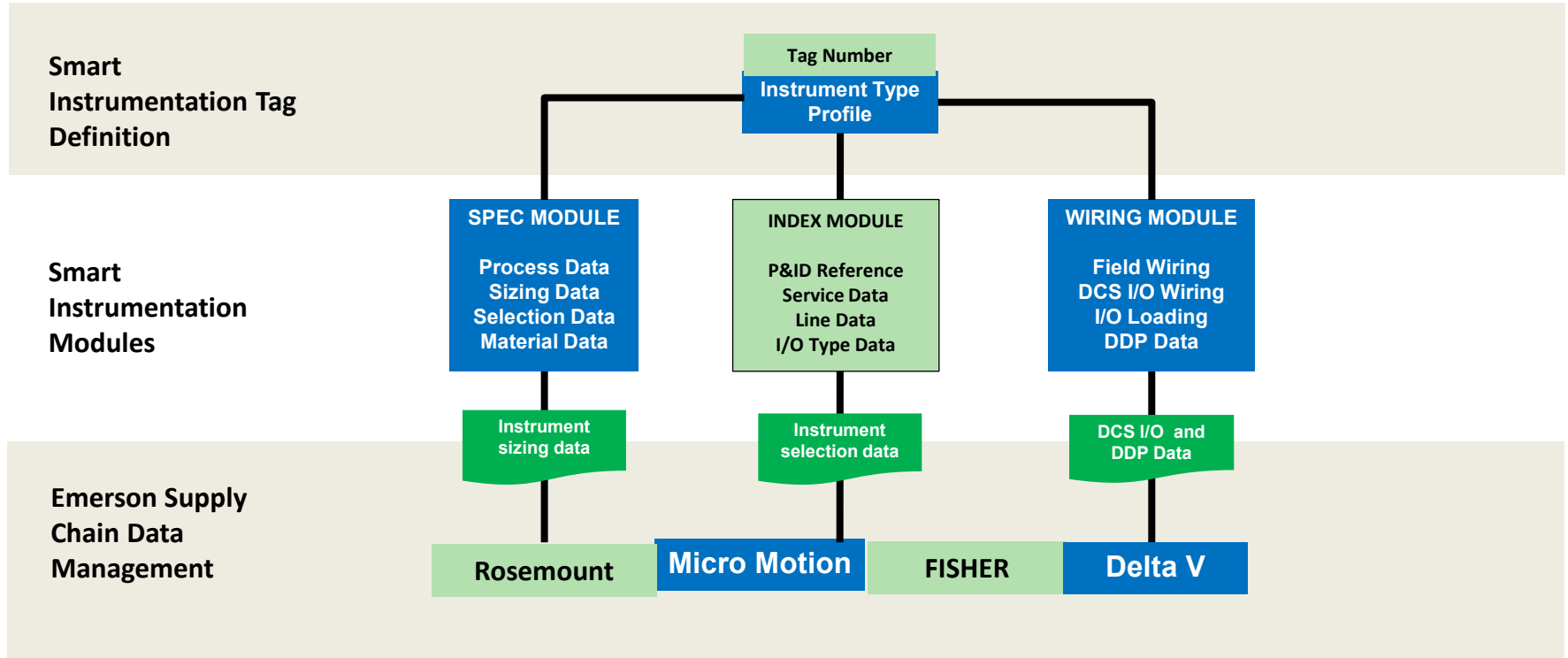


Delta V Project Data Link (PDL) Benefits



- DeltaV SI I/O Library uploaded via Hexagon allows loading of DCS field wiring
- DeltaV I/O loading data can transferred via PDL includes conventional I/O, HART, and Fieldbus I/O systems
- DeltaV projects that use Smart Instrumentation (SI) benefit from the DeltaV data exchange interface via PDL by assuring that ranges and setpoints developed in SI are transferred to the DeltaV database
- DeltaV has a PDL bidirectional interface with SI that provides the seamless exchange of I/O and instrumentation information between the two databases for instrument and DCS calibration

Smart Instrumentation Emerson Vendor Data Workflow



Smart Instrumentation Data Management Benefits



- Smart Instrumentation seamless interfaces with Emerson to combined powerful functionality of both
- Smart Instrumentation intelligent spec sheets controls data input with rules and select lists to make faster and more consistent entries
- Smart Instrumentation leverages innovative marshalling with CHARM from Emerson and wireless designs
- Smart Instrumentation connects to the physical design with DDP creating a 3D representation based on the vendor dimensional data

Emerson Project Data Integration Summary



- Emerson Project Data Link is a project engineering environment that helps reduce complexity and accommodate Integration of vendor data
- Emerson Project Data Link integrates data from Smart Instrumentation with Emerson Process Management sizing and selection tools for all product lines
- Emerson Project Data Link helps keep projects off the critical path by translating project information, including tag data into standard data exchange formats
- Emerson Project Data Link mitigates project risk by normalizing specifications into a single data source with traceability

QUESTIONS?



“Data is a precious thing and will last longer than the systems themselves”

~ Tim Berners-Lee