

# Element Unify for Power and Utilities

## Meet 21st century challenges with data

Power and utilities businesses are pursuing transformation to cut costs and achieve growth in the face of newer challenges like cyber risk, decarbonization, and ESG (environmental, social, and governance) mandates and the ever-present needs for optimizing capex and working capital and maximizing asset utilization.

Yet the IT/OT landscape at most power and utility companies is not suitable for modern analytics. Teams rely on approaches based on python code and spreadsheets to wrangle data in support of desired analytics. These approaches are inefficient and the resulting models difficult to maintain giving rise to governance and scaling challenges.

### Element Unify for Power and Utilities

Element Unify for Power and Utilities is a solution offering that fast-tracks time to insight for power and utilities companies.

The solution includes:

- The Element Unify platform
- Element-developed asset templates for assets such as transformers, batteries, breakers, etc.
- Asset templates based on the IEC 61970 Common Information Model (CIM) for energy grid assets\*
- Example pipeline to map sensor and asset data to templates using Unify transformations
- Example graph model of California electric transmission system
- Sample datasets based on frequently-encountered data sources
- Project initiation workshop to support realization of solution benefits

\*Source

### No-code pipelines for building data models

name	description	units	dataArchiveServ...	Instrument_Name...	Instrument_Coding...	Instrumentation Des...	Equipment
CA_SCL_L4_3078_0	Load	MW	devp005	L4_3078_02	L4	Load	L4_3078_02
CA_SCL_L4_3078_0	Load	MW	devp005	L4_3078_02	L4	Load	L4_3078_02
CA_SCL_CL_3877_0	Current	A	devp005	CL_3877_02	Cl	Current	CL_3877_02
CA_SCL_CL_3877_0	Current	A	devp005	CL_3877_02	Cl	Current	CL_3877_02
CA_SCL_LTCPCD_96	LTC Position Change	mm	devp005	LTCPCD_9602_02	LTCPCD	LTC Position Change	LTCPCD_960
CA_SCL_LTCPCD_96	LTC Position Change	mm	devp005	LTCPCD_9602_02	LTCPCD	LTC Position Change	LTCPCD_960
CA_SCL_BTV_5922_0	Buildings Temperature	DegC	devp005	BTV_5922_02	BTV	Buildings Temperature	BTV_5922_0
CA_SCL_BTV_5922_0	Buildings Temperature	DegC	devp005	BTV_5922_02	BTV	Buildings Temperature	BTV_5922_0
CA_SCL_THHT_2745_0	Temperature High Tot...	s	devp005	THHT_2745_02	THHT	Temperature High Tot...	THHT_2745_0
CA_SCL_THHT_2745_0	Temperature High Tot...	s	devp005	THHT_2745_02	THHT	Temperature High Tot...	THHT_2745_0

### Easy to Build and Maintain Knowledge Graph-Based Model

Query Result: MITOR (p=1 Location) - [1] - (s Substation) - [2] - (s Equipment) - [3] - (s Sensor) RETURN p LINET 200

Transformer

- Status: Disabled
- kV\_345\_TO\_500\_Designated: No
- extLabel: transformer
- Equipment\_Type: Transformer
- Equipment: 145\_305\_02
- ID: 1025564-324-32432434-011616167
- nextDisplay: Transformer
- Manufacturer: ABB
- Highest\_kV: 220kVto280kV
- kV\_10\_TO\_161\_Designated: No
- kV\_230\_TO\_287\_Designated: No
- TEMPERATE\_TransformerElement
- EQUIPMENT\_ID: 15-4030

## Key Benefits

Element Unify uses automated, no-code data pipelines to integrate and contextualize IT/OT metadata, storing relationships in Unify Graph resulting in value along speed, quality, governance, and scale dimensions.

- **Speed** – dramatic reduction in time to build data models and derive insights
- **Quality** – confidence that the data used to drive analytics is sound
- **Governance** – based on on-going management of the data feed to ensure on-going value
- **Scale** – ability to scale from one to hundreds of use cases as needs evolve

## Package Highlights

Package Component	Outcomes
<b>Unify no-code pipelines</b>	<ul style="list-style-type: none"><li>• Eliminate manual effort, realize fast time to insight</li><li>• Eliminate dependence on spreadsheets and Python coding skills</li><li>• Easy to understand, maintain and govern data models</li></ul>
<b>Unify Graph</b>	<ul style="list-style-type: none"><li>• Easily capture complex data relationships</li><li>• Eliminate need for a priori schema definition, operate flexibly</li><li>• Visually and programmatically explore data model</li><li>• Incrementally add to model as use cases emerge and needs evolve</li></ul>
<b>Unify AssetSync</b>	<ul style="list-style-type: none"><li>• Keep models up-to-date and in sync with physical assets</li></ul>
<b>IEC 61970 CIM templates</b>	<ul style="list-style-type: none"><li>• Get started quickly with optional industry-standard templates</li></ul>
<b>Project initiation workshop</b>	<ul style="list-style-type: none"><li>• Unify data experts help get project scoped and off to a great start</li></ul>

### About Element Analytics

Element, a leading software provider in IT/OT data management, enables industrial organizations to unite their IT and operations data to produce analytical insights that drive cleaner, safer, healthier, and more profitable operations. Element Unify transforms siloed IT/OT data into contextualized, graph-based models to support diverse analytical workloads and data governance. Element's customers represent over \$250 billion in revenue, \$230 billion in fixed assets and 450,000 employees. To learn more about Element, please visit [elementanalytics.com](http://elementanalytics.com) and follow the company on Twitter and LinkedIn.