

IPE GridPortal and Grid Visualization and Modeling in the Changing Electric Energy Industry

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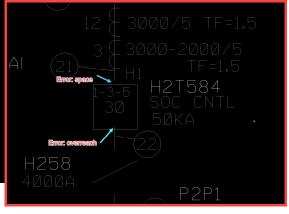
Utility PDF/CAD Oneline Use Cases





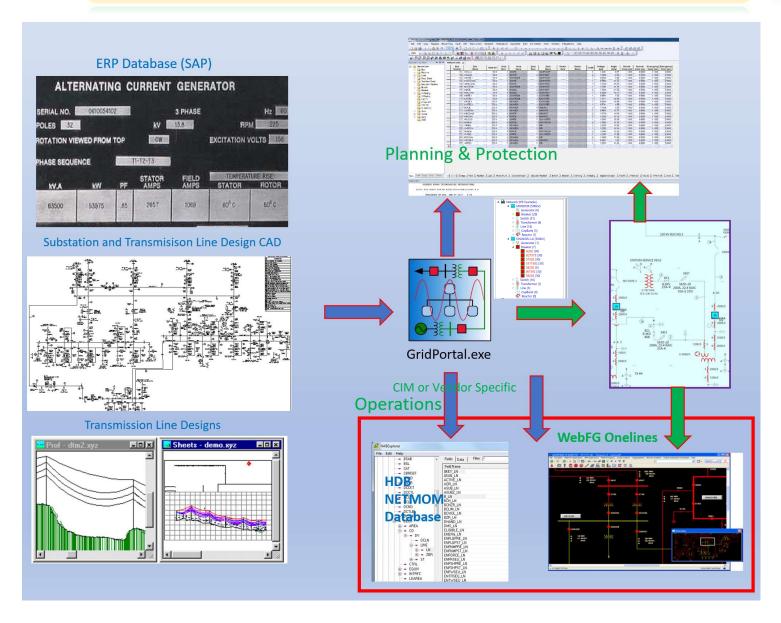
Oneline Use Cases:

- 1) Substation Design
- 2) Construction Guide
- 3) Field Reference
- 4) Planning Modeling
- 5) Ratings Management
- 6) EMS Modeling
- 7) EMS Displays
- 8) Outage Mangement
- 9) Switch Order Doc
- 10) ...



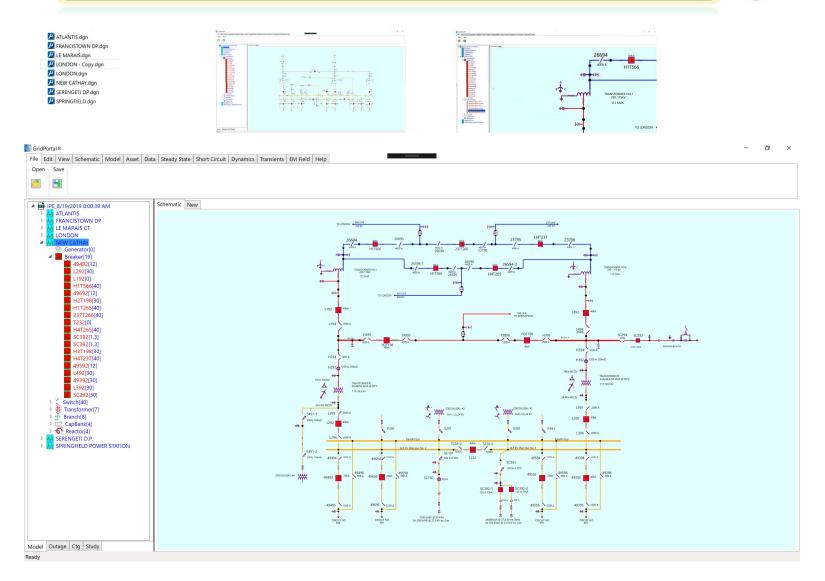
IPE GridPortal[®] **Introduction**





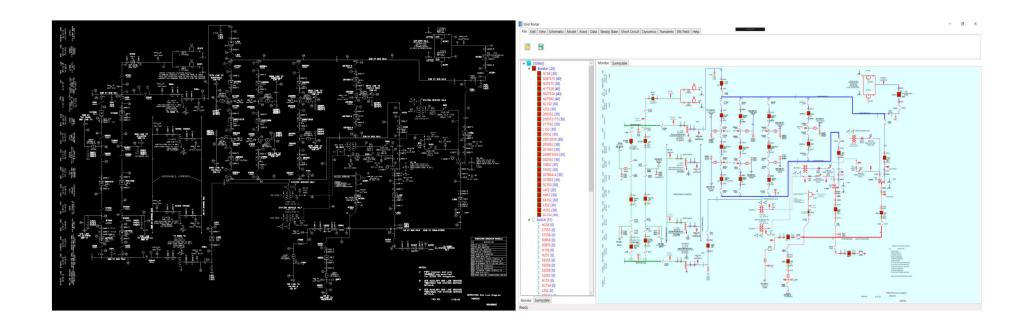
GridPortal[®] **Smart Oneline**





GridPortal[®] Smart Oneline



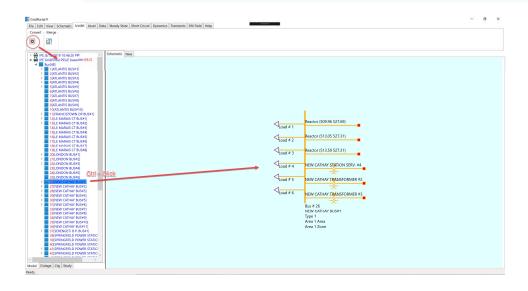


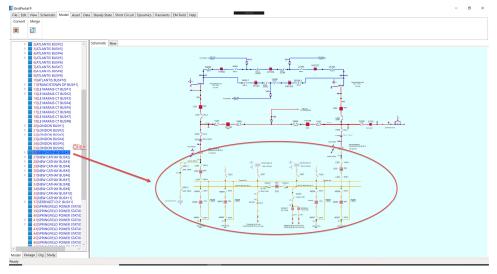
Polymorphic Process-driven Data-backed Standard-compatible

Connectivity-aware CAD-styled Cross-platform Legacy-reconcilable

GridPortal[®] **Model Master**







Model Master:

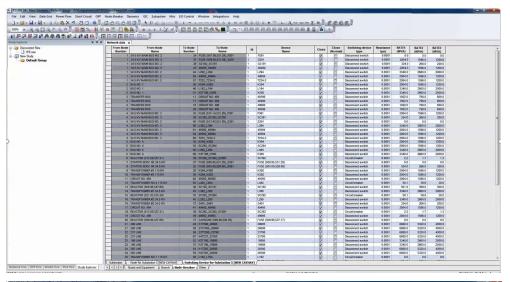
- 1) Trace data to its source
- 2) Circuit calculation built in
- 3) Network model in memory
- 4) Seamless integration of bus-branch and node-breaker models
- 5) Exportable to common industry formats
- 6) Fullay viewable in GridPortal®
- 7) ...

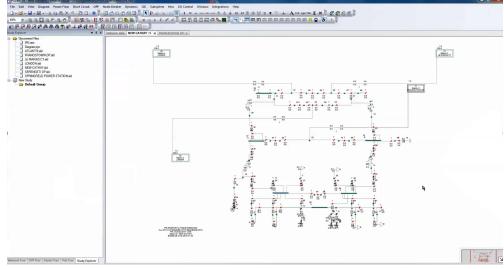
GridPortal[®] PSS/E Adaptor



PSS/E Exporter:

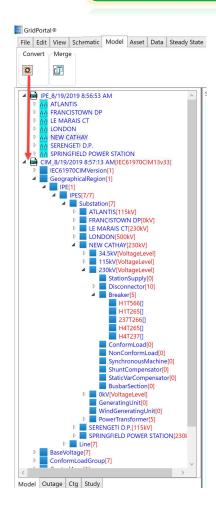
- 1) Export .raw files
- 2) In both v33/v34
- 3) Mergeable with MMWG
- 4) Fully built node-breaker substations
- 5) Export .pyc file
- 6) Run .pyc file to generate substation .sld diagrams
- 7) ...





GridPortal[®] CIM Interface





IPECIM.xml

```
IPECIM.xml
    <?xml version="1.0" encoding="UTF-8"?>
      crdf:RDF xmlns:pti="http://www.pti-us.com/PTI_CIM-schema-cim16#" xmlns:entsoe="http://entsoe.eu/CIM/SchemaExtension/;
    http://www.ipegr.com/TC57/2019/CIM-schema-cim16#" xmlns:cim = "http://iec.ch/TC57/2013/CIM-schema-cim16#" xmlns:rdf = ccim18aseVoltage rdf:ID = "93dd8b4d-c13c-4d7a-a394-2b256d990eb1">
<cim12dentified0pict.name>34.5</cim12dentified0pict.name>
         <cim:BaseVoltage.nominalVoltage>34.5</cim:BaseVoltage.nominalVoltage>
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    -</cim:BaseVoltage>
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         <cim:IdentifiedObject.name>13.8</cim:IdentifiedObject.name>
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         <cim:ControlArea.type rdf:resource="http://iec.ch/TC57/2010/CIM-schema-cim15#ControlAreaTypeKind.AGC"/>
    -</cim:ControlArea>
36 | <cim:GeographicalRegion rdf:ID = "eb3c6236-le55-4368-af21-9a11763f152b">
        <cim:IdentifiedObject.aliasName></cim:IdentifiedObject.aliasName>
         <cim:IdentifiedObject.name>IPE</cim:IdentifiedObject.name>
    -</cim:GeographicalRegion>
40 =<cim;SubGeographicalRegion rdf;ID = "af7912d3-d7bb-4fff-9568-43c6c016cd12">
        <cim:IdentifiedObject.aliasName></cim:IdentifiedObject.aliasName>
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44 -</cim:SubGeographicalRegion>
45 | <cim:Substation rdf:ID = "e20da6e6-e1f2-4249-9d5c-f929978fcad0">
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54 -</cim:Substation>
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```

GridPortal[®] Live Data

ATLANTIS.SVG FRANCISTOWN DP.SVG LE MARAIS CT.SVG LONDON.SVG ♠ NEW CATHAY.SVG SERENGETI D.P..SVG



