

# ArcGIS can speak CIM

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The Similix  
**CIM Adaptor**  
for ArcGIS

Get your demo at GeoConX  
November 5<sup>th</sup>–8<sup>th</sup> 2018  
Dallas, TX, Booth 229

The graphic features a central hexagon labeled 'ArcGIS CIM' surrounded by six other hexagons labeled 'OMS', 'ERP', 'ADMS', 'DSO/TSO', 'AM', and 'CIS'. To the right, a blue hexagon icon precedes the text 'Get your demo at GeoConX November 5<sup>th</sup>–8<sup>th</sup> 2018 Dallas, TX, Booth 229'.

The Similix CIM Adaptor for ArcGIS supports the CIM standards IEC 61970 for Transmission and IEC 61968 for Distribution, including extensions to these. The CIM Adaptor is capable of doing both full exports and delta exports (CIM difference files).

## The Similix CIM Adaptor for ArcGIS is a great business case

### Single source of truth – the end of redundant data maintenance

The CIM Adaptor enables clear share of ownership between systems, thereby reducing the cost of redundant data maintenance. Having one version of the truth throughout the data value chain is also minimizing the safety risk of working with non-updated data of e.g. normal switching combinations.

ADMS integration – CIM is a de-facto standard

CIM is already a de-facto standard for integrations to ADMS and SCADA systems. Major vendors consume CIM data - as the only option to update master data from external systems. The CIM Adaptor is your opportunity to let your GIS be the heart of the Smart Grid. The adaptor supports both delta exports (CIM difference files) for patch integration for the ADMS and full-feeder exports. The orchestration enables you to digitalize the commissioning process, ensuring that documentation is updated at the exact time of an asset being electrified.

### System upgrades – at reduced cost and risk

The loosely coupled system architecture with the “clean cut” CIM Adaptor is lowering the cost and risk of upgrades. You can run exports and imports in different system versions in parallel, and you can use the CIM Adaptor to validate, that the

result after go-live will be exactly as before. Since the adaptor is the “end-point” of the interface, no development is needed in integrated systems.

### **New integrations – with shorter time to market**

The configurable CIM Adaptor, that is already orchestrating the integration to the GIS system, can include new integrations, reusing the existing data CIM data extract and configuring enhancements. The adaptor thereby shortens the time to market and introduce new integrations at a lower cost and risk than traditional point-to-point integrations.

### **High data quality – the beginning of all good business cases**

Working with CIM is working structured with master data ownership and data definitions, which will enforce a data quality culture in your organization. Installing the CIM Adaptor will let other systems throughout the utility benefit from your high-quality data. Exporting high quality data from your GIS system is improving everything from the opportunity to optimize the grid load flow to the price of the insurance covering the assets.

### **Asset Management**

Asset Management begins with working very structured with your processes. Ideally you have a clear ownership of any asset, including how any part of the asset should be described, and how relevant data are collected, maintained, stored and shared. The CIM Adaptor is multiplying the value of your data and your effort by structured sharing of high quality data in a well-defined model.

### **Compliance – meet regulatory demands**

Recently CIM was introduced as the required format for mandatory reporting from Distribution System Operators to Transmission System Operator in the first country. The central European governance body, ENTSOe have published a CIM profiles, and the future expectation is, that ENTSOe will require TSO's to deliver reports in CIM format, and that TSO's will request DSO's to deliver reports in CIM format. The CIM Adaptor enables you to export your data in the version and profile, you specify.

### **Best practice – benefit from the work of other utilities**

CIM is an international standard, that has evolved over decades. The model reflects discussions between worldwide utilities on the best representation of reality. You stand on the shoulders of giants, and when you need to extend the model, it includes very clear rules for how to do exactly that. The CIM Adaptor is highly configurable and let you map your GIS data to any version of CIM, including your own extensions.

## **Roles and what benefits them**

### **Documentation department**

Most utilities have a Documentation department that owns the documentation process of data in the GIS system, and execute the maintenance of all non-trivial data. The CIM Adaptor enables these data as the single source of truth throughout the utility. This well-orchestrated re-use of data by the CIM Adaptor does not only save time and money – it also eliminates the discussion about which description of assets, topology or connectivity is right, when systems are out of sync. Conflicts between systems and teams are avoided, while the value of the work done by the documentation department increases.

### **Model managers/supporting roles**

Bringing assets into operation is often an extensive process in calendar time as well as in data and status updates in several systems. Both legal regulation and safety policies and values are putting high demands on timely and correct data. The CIM Adaptor is orchestrating the data, ensuring data correctness and consistency, while at the same time providing an overview on workflows and object states.

### **Control Center**

Control centres lucky enough to have a modern ADMS system, have new and exciting opportunities for optimizing the grid reliability and operation efficiency. However advanced power tools tend to require large amounts of detailed data. The realistic way to provide your ADMS with high quality data, is to benefit from

the data maintenance carried out in other departments in the organization, orchestrated by the CIM Adaptor.

### **Field crew**

In most utilities, GIS is the system at hand for the field crew. Being in the field, doing construction or planned or unplanned maintenance is the moment of highest insight into the changes, that should be done in documentation. The CIM Adaptor enables orchestration of changes from versions in GIS to any subscribing system or recipient, e.g. ADMS, OMS, ERP or TSO's.

Immediate updates are good for data quality and safety, and it's also efficient and satisfying for the crew to be able to close the case, without having to postpone or hand over the task of documentation in another system.

## **Strategic fit**

### **Meeting future grid requirements – prosumers, microgrids etc.**

CIM is an international standard developed over decades, and a large international community is engaged in the continuous development of the model to meet the real-world changes in the utility sector. Smart Meters and Distributed Generation are examples of elements included in the model the past years.

The community has a strict change management governance when developing new versions. Combined with the clear rules for extending the model, this is creating a very robust and predictable framework for working with CIM for both utilities and their vendors. The result is a constant growth in the adaption of CIM.

### **Digitalization – continuing the journey**

There is a high focus on digitalization of processes in most utilities these years. Some utilities are focusing on digitalising single-system processes, like substituting printed maps in stations and cars with web maps supported by ArcGIS on tablets and laptops. Other utilities have achieved that level and have started digitalizing the process between departments and systems, that were traditional silos.

The CIM Adaptor is built to enable this type of digitalization, and the strong orchestration of processes is a necessary platform for continuing the digitalization journey further, including more processes, teams and systems.

### **Prescriptive asset maintenance**

Moving from traditional time-based asset maintenance to condition-based maintenance, predictive maintenance, risk-based maintenance or even prescriptive (automated) maintenance is the goal for most electric utilities due to aging infrastructure and regulatory limitation of investments and maintenance cost. Having single source of truth throughout the data value chain and high data quality is the prerequisite to make this journey safe and realize the benefits.

We recommend, that you start with the Similix CIM Adaptor for ArcGIS.

Read more at [www.similix.dk](http://www.similix.dk)