

Esri's Open Strategy on 3D, OSM, and GIS - Interview with Satish Sankaran & Chris Andrews



In the following interview with GIS Professional, Satish Sankaran and Chris Andrews speak to Niall Conway about their work on Esri's 'Open Strategy' and about where the GIS industry is heading.

GIS Professional: What is the Esri Open strategy? How does Esri embrace Open Source, Open Standards, and Open Data?

Satish Sankaran: It is imperative for companies pursuing a platform strategy to support the many facets of open. To us the purpose of a platform boils down to three things - accommodating varied user workflows, providing multiple avenues to configure and customise solutions, and offering support for innovation. The platform needs to be fundamentally "open" to do all these in a manner that allows users to seek their own business efficiencies. So, open is not as much a strategy as it is a fundamental foundation of the ArcGIS platform. To many IT companies, open has come to mean open source, but our definition supports open data, open APIs, open specifications, and industry standards as well as open source.

GIS Pro: What are some examples of Esri open contributions?

Satish: Esri's open source contributions include add-ons to our platform and extensions to non-Esri open source projects. We also build fully open source solutions such as the Esri Geoportal Server used around the world to catalog metadata.

A recent article in [InfoWorld](#) showed the high level of contributions of commercial companies, such as Esri, to open source projects and that open source contribution and proprietary companies have a positive relationship. Open source is not a zero-sum game in the IT industry and Esri is onboard with the push towards open in many patterns.

We have more than 500 projects on GitHub and more than 8,500 project forks. We opened our application programming interface (API) to developers so that they can create custom applications. We continue to share our research with standards bodies such as the Open Geospatial Consortium (OGC) - most notably, Esri's shapefile format, which has been an open standard for many years. We have taken the initiative to open our file geodatabase API, the Limited Error Raster Compression (LERC) algorithm, the Indexed 3D Scene Layer (I3S) standard, and our GeoServices REST specification. Esri also sponsors many initiatives that find their way into open source libraries, such as GDAL.

GIS Pro: How closely does Esri work with standards organisations such as the OGC?

Satish: We are active participants in multiple standards organisations. Esri has been a principal member of the OGC from the very beginning. Over the years, we have chaired and participated in many OGC working groups dealing with such topics as web services and metadata.

We represent our customer's interests in interoperable solutions and work to ground the standards community in pragmatism. Our goal is to share knowledge with standards organisations so that standards foster interoperability and consider some of the lessons we have learned about reliability, performance, and scalability. We support OGC's recently adopted Community Standards approach to simplify the process to bring successful industry protocols into the open standards space.

GIS Pro: We're hearing a lot about 3D these days. How is Open part of the Esri 3D strategy?

Chris Andrews: Open is a central part of Esri's 3D strategy, especially with respect to data exchange and distribution. We have adopted existing open data formats, when available, and suggested new open specifications when we needed to extend beyond existing technology.

We have put more efforts into handling common 3D interchange formats such as KML/KMZ, OBJ, COLLADA, and FBX. We have also

continued to invest in development around OGC's LAS point cloud format. Recently, we released the ability to convert directly from compressed point cloud data to I3S using either Esri's zLAS format or the popular LAZ format.

GIS Pro: Recently, we heard there are limitations on using OpenStreetMap data with ArcGIS. Can you tell us more about this and do they only apply to ArcGIS?

Chris: In 2018, one of the biggest gaps in many enterprise GIS workflows is the ready availability of global data sets for content, such as buildings and streets. We have partners who offer curated, high quality data for different parts of the world, but we still recognise that there's a gap when it comes to global content. Many of our customers and staff have suggested that we look to OpenStreetMap (OSM) data. OSM offers the promise of free, community validated content that could be used as context for smart cities, planning, and many commercial GIS use cases.

After looking at the OSM licensing, some companies, including Esri, have found potential risks when combining proprietary data with content licensed under the Open Data Commons Open Database License (ODbL), used by OSM. In the past, we have avoided using OSM content in applications that would mix data with Esri or partner content except to offer pass-through access to OSM tiled map services. Users can download OSM content and use it in ArcGIS applications and they then assume responsibility for complying with the ODbL licensing.

We are currently taking another look at OSM data usage and ODbL. At the 2018 Esri International User Conference, we announced a new OpenStreetMap Vector Basemap. The map will be built using OSM data exclusively. It will be freely available to all ArcGIS users and to any user or developer that would like to use an OSM vector basemap in their map or application.

We'd love to use OSM data more, especially for 3D use cases, such as generating 3D buildings from the great new building footprint dataset that Microsoft just contributed to OSM. If the licensing can be interpreted to protect uses with content that contains proprietary or sensitive data, then we would like to take advantage of that.

GIS Pro: How important is Community embrace of Open to move GIS into the future?

Chris: Whether looking at this question from the perspective of the expanding technology domain of 3D in GIS or considering my background in digital cities and enterprise integration, I view open standards, open data, and open source technologies as critical to our industry. Commercial companies need to open data and tools to reduce cost barriers so that innovative new business models and offerings are possible. Customer and public-facing entities need to know that their content is accessible through open standards.

Satish: The role of open technologies is quite integral to the GIS domain. It has always been and it's accelerating with AI/machine learning, Big Data, and IoT trends all happening in an open environment. While geospatial may not lay claim to these developments, these technologies will enrich geospatial technologies and will benefit from their interaction with it. These interactions will take place in an open platform (technologically) and in an open community (socially). The embrace of open and GIS will only get tighter in the coming years.

About the Interviewees

Satish Sankaran works at Esri as a product manager and has been involved in topics related to standards and compliance for more than 15 years. He is active in standards organisations within the geospatial domain and believes that Open presents a great forum for academia, vendors, organisations and integrators to seek improved and pragmatic ways to achieve interoperability across hybrid architectures.

Chris Andrews is an experienced product management and technology leader who thrives on solving problems, establishing high performance teams, and connecting people and businesses in positive collaborations. He currently is the senior product manager for 3D across the ArcGIS platform at Esri, based in Southern California.

This article was published in GIS Professional August 2018

<https://www.gim-international.com/content/article/esri-s-open-strategy-on-3d-osm-and-gis-interview-with-satish-sankaran-chris-andrews>
