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Briefly Noted

Esri Launches Africa GeoPortal
Organizations and citizens throughout Africa—from the African Union and national governments to nongovernmental organizations, businesses, and educators—now have access to the Africa GeoPortal, a comprehensive cloud-based platform that provides users with ArcGIS Online and geographic data and imagery related to the continent. This complimentary software-as-a-service technology is offered to all who are addressing the most urgent needs in Africa, including economic development, climate adaptation, conservation, and health care. Get more information at go.esri.com/Africa_geoportal.

Sentinel-2 Image Services Available at No Extra Cost
Users who want to better understand catastrophic events and natural disasters can now access Sentinel-2 image services via their ArcGIS Online subscriptions. Esri makes it easy to employ this multispectral imagery by extracting it with ArcGIS Image Server and publishing an image service through ArcGIS Living Atlas of the World, hosted on Amazon Web Services. Find out more about harnessing the power of Sentinel-2 imagery—part of Copernicus, the world's largest single earth observation program—at go.esri.com/Sentinel-2.

***Forbes* Names Esri a Leading US Employer**
For the third consecutive year, *Forbes* has named Esri to the America's Best Midsize Employers list. The magazine cited work-life balance, outstanding benefits, collaboration with colleagues around the world, and the opportunity to make a difference as some of the primary reasons employees enjoy working at Esri.

Esri Selected to Modernize Cyprus Cadastre

Creating One of the Most Advanced National Systems

Cyprus has a rich, centuries-long history of individual landownership—and now will get one of the most advanced and encompassing digital cadastral systems of the modern age.

In April, the Department of Lands and Surveys, within the Ministry of Interior, signed an agreement with Esri to upgrade its current GIS, called the Cyprus Integrated Land Information System (CILIS). CILIS currently underpins all cadastre and land registration processes and procedures in the Mediterranean island nation and will become a government-wide system based on the ArcGIS platform, covering the whole country.

"Cyprus will become one of the leading places in Europe to have an integrated land registry and taxation system based entirely on Esri technology," said Mark Williams, a senior consultant at Esri and the project manager for this cadastral system upgrade. "At the end of the project, Cyprus will have one of the more sophisticated cadastre systems in the world."

The Department of Lands and Surveys is seen as one of the most important government divisions in Cyprus because everything else depends on it, according to Constantinos Papantoniou, the technical consultant at Esri who is the technical lead on the project.

"If citizens want to buy land, a house, or an apartment, they have to go to the lands and surveys department to get the titles," he said. "Other government entities get data from the Department of Lands and Surveys as well, including the Ministry of Defence, the Ministry of Finance, the Ministry of Interior, and the Ministry of Foreign Affairs."

At the signing ceremony, Minister of Interior Constantinos Petrides stated that the Department of Lands and Surveys is likely the largest provider of property-related data in Cyprus and is certainly the country's primary provider of GIS data. According to him, that makes this upgrade all the more urgent.

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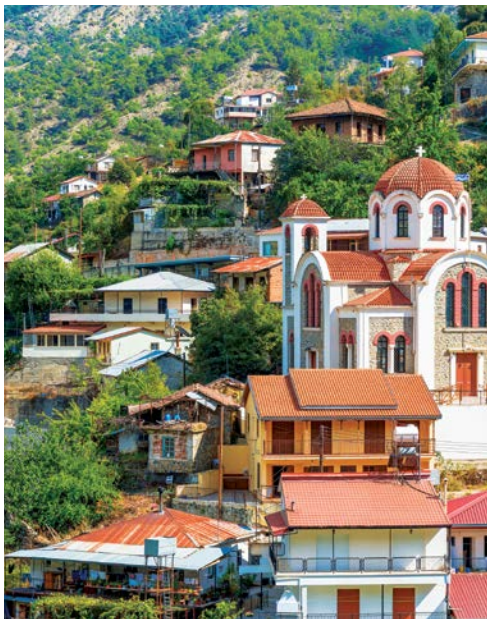

↑ Cyprus has a long, rich history of cadastral record keeping.

At the Forefront of GIS and the Future of Software

Esri Developer Summit 2018

Every year, the theme of the Esri Developer Summit (DevSummit)—held in Palm Springs, California, in March—is By Developers, for Developers. And Esri staff stay true to it. Dozens of technical sessions are geared toward what geospatial app developers want and need to know about building apps using Esri technology, as well as which tech trends—such as artificial intelligence (AI), augmented reality (AR), and virtual reality (VR)—are on the horizon.

"This week is…all about you looking at the technology and getting your hands on it and interacting with it," Jim McKinney, ArcGIS program manager at Esri, said in opening the 2018 Plenary Session. "But it's also about people, and it's also about relationships."

Before the tech presentations started, Esri president Jack Dangermond praised the audience for their app development work.

"You are clearly the people that are making a huge difference in our field and in your organizations," Dangermond said. This, in turn, makes the world a better place.

"You are driving rationality in the way people think," he continued. "*[You're]* not just a collection of developers. *[You're]* a collection of developers with purpose."

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← From left to right (top row first), Esri's Jeremy Bartley, Lauren Bennett, Euan Cameron, Sud Menon, Adrien Meriaux, and Javier Gutierrez and Russell Roberts demonstrated new and improved developer capabilities in the ArcGIS platform at the Plenary Session.

Esri Selected to Modernize Cyprus Cadastre

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"The task and end result is the development of a highly solid product *[that]* will take us forward smoothly in order to cope with all the speedy, changing trends in both technology and…the highly demanding property sector in Cyprus—a sector *[that]* is escalating successfully…after the recent economic crisis due to the hard work, the careful planning, and the setting up of new goals *[for]* the government," he said. "This important sector needs to continuously be supported by fast and friendly, nonbureaucratic procedures; a solid and highly effective land registration and cadastral system; as well as efficient IT technology."

By taking advantage of many of the ArcGIS platform's commercial off-the-shelf (COTS) solutions, the new version of CILIS will enable the Department of Lands and Surveys to benefit from industry best practices and new GIS capabilities as they become available. Cyprus's already-robust cadastral system now has a seamless path forward.

A Long History of Cadastral Record Keeping

According to the Department of Lands and Surveys, the notion of individual landownership had developed in Cyprus by 1400 BC. There is archaeological evidence that, by the fifth century BC, Cypriots had property taxation laws, state-owned (e.g., king-held) and church-owned lands, landholdings in cities, and guarantees of land tenure and ownership.

In the ensuing centuries, as Cyprus slipped in and out of control of the Greeks, the Romans, the Venetians, the Ottomans, and others, patterns of landownership changed, sometimes hinging on feudalism and other times centering on various forms of independent ownership and individual inheritance. By the nineteenth century, Cyprus's economic dependence on agriculture led to a scattered, disunited structure of landownership. Although there was a system for deed and title registration at the time, parcel boundaries were not tied to any sort of reference map or cadastral plan.

By the mid-twentieth century, this had to be fixed. Cyprus passed the immovable property law, which required everyone to register their land via titles with the Department of Lands and Surveys. This ensured that ownership was indisputable and absolute (notwithstanding any errors that the department had to correct) and that all registration is based on cadastral plans that are linked to the island-wide national grid.

With a solid, standardized land registration and cadastral system that's been in place now for more than 50 years, Cyprus is able to cope with the ebbs and flows of land-use practices throughout the island—and keep in step with a property sector that's arguably becoming even more vibrant, complex, and international.

"There is a lot of development going on right now," said Papantoniou. "A lot of foreign companies are coming to Cyprus because of its low corporate taxation rules. They are buying land and properties in urban areas, so there is high demand in all the cities, and there is a lot of growth there—construction, big buildings, hotels, and tourism."

"Cyprus is a highly developed country, and this has happened during tough economic conditions," added Williams. "There's a lot of investment flowing into Cyprus from the West, the Middle East, Europe, Russia, and China."

"Yes, they are building a lot of high buildings right now," explained Papantoniou. "For each new high building, they need to go to the lands and surveys department because of the number of floors they want to build. That department decides what's okay."

With a landownership and cadastral system now grounded in the most innovative GIS, the Department of Lands and Surveys will be able to handle those kinds of property-based transformations with ease—as well as any others that might be on the horizon.

Developing a Stronger, More Powerful GIS

The Cypriot government has been using GIS as the subsystem for its whole cadastral platform since the turn of this century. While that was a cutting-edge system at the time, the Ministry of Interior is now looking to have GIS become a more encompassing part of its day-to-day functions and overarching responsibilities.

"The upgrading of the *[Department of Lands and Surveys']* Land Information System was set as an urgent priority in the last meeting of the Cyprus e-Governance Board," Petrides said at the signing ceremony. "*[It stressed]* not only the importance of the project itself, but the need to provide *[the department]* with the necessary IT tools in order to embrace all new technological trends vital for its operations."

↑ Cyprus's minister of interior, Constantinos Petrides (center), and permanent secretary of the ministry of interior, Kypros Kyprianou (right), signed an agreement with Esri's director of international alliances and partnerships, Dean Angelides (left), to upgrade the Department of Lands and Surveys' GIS.

Cyprus's GIS upgrade will revolve around various components of ArcGIS Desktop, including Esri's parcel fabric. The Department of Lands and Surveys will be able to gain access to a host of ready-to-use apps, such as Collector for ArcGIS and Insights for ArcGIS, and manage its data using the ArcGIS Data Reviewer extension. Esri is planning to implement ArcGIS Enterprise as well to ensure that cadastral data can be accessed within and across departments while remaining secure.

"Cyprus has a strong cadastral system because of its history," said Papantoniou. "Now, the Department of Lands and Surveys is going to have an even stronger system that uses the latest technology. It's a very powerful thing."

At the signing ceremony, the minister of interior expressed his enthusiasm for the upgrade, as well as his expectation that this will be a smooth transition.

"Large-scale IT projects tend to always be complex and quite difficult to implement," he said. "I am very confident, though, that as a ministry, we can rely, on one hand, on Esri's expertise *[in]* the field and global leadership in *[GIS]* and, on the other hand, on the vast know-how *[that the Department of Lands and Surveys and the Department of Information Technology Services]* possess in jointly implementing such projects successfully."