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Esri

Environmental Systems Research Institute, Inc., doing business as **Esri** (/ˈɛzriː/),[5] is an American multinational geographic information system (GIS) software company headquartered in Redlands, California.[6] It is best known for its ArcGIS products. With 40% market share as of 2011, Esri is one of the world's leading supplier of GIS software, web GIS and geodatabase management applications.[7][8]

Founded in 1969 as a land-use consulting firm, Esri currently has 49 offices worldwide including 11 research and development centers in the United States, Europe, the Middle East and Africa and Asia Pacific.[9][10] There are 10 regional U.S. offices and over 3,000 partners globally, with users in every country and a total of over a million active users in 350,000 organizations. These include Fortune 500 companies, most national governments, 20,000 cities, all 50 US States and 7,000+ universities. The firm has 4,000 total employees, and is privately held by its founders.[11][12][13] Strategic partners include Microsoft, Salesforce, Amazon Web Services, and SAP, among others.[14][15] In a 2016 Investor's Business Daily article, Esri's annual revenues were indicated to be $1.1 billion.[16]

Environmental Systems Research Institute, Inc.

Trade name	Esri
Company type	Private
Industry	Software Geographic Information Systems (GIS)
Founded	1969 Redlands, California, U.S.
Founders	Jack Dangermond[1][2] Laura Dangermond
Headquarters	Redlands, California, U.S.
Products	ArcGIS, ArcGIS Desktop, ArcGIS Enterprise, ArcGIS Online, ArcGIS Pro
Revenue	$1.1 billion (2014 statistics)[3]
Number of employees	3,800+ (2016 statistics)[4]
Website	www.esri.com (https://www.esri.com)

History

In 1969, Esri was founded by the couple, Jack and Laura Dangermond, as Environmental Systems Research Institute (ESRI), in Redlands, California. Esri was established when the couple started working on the technology to integrate human development with environmental stewardship at Harvard University's lab for computer graphics and spatial analysis in the early 1960s. Inspired by the early mapmaking software in development at the lab, Jack and Laura Dangermond conceptualized using computer-powered mapping and analysis for complex problem-solving.[17][18]

The company released Arc/Info, the first commercial GIS program, containing maps attached to relational database. In the late 1990s, Esri reengineered Arc/Info and developed it into a modular and scalable GIS platform. Esri then switched from providing contract mapping services to developing

mapping software products. The first ArcGIS software offering (8.1) was announced at the Esri International User Conference (Esri UC) in 2000. ArcGIS 8.1 was officially released on April 24, 2001.[19][20]

Products

Esri uses the name ArcGIS to refer to its suite of GIS software products, which operate on desktop, server, and mobile platforms. ArcGIS also includes developer products and web services. In a general sense, the term GIS describes any information system that integrates, stores, edits, analyzes, shares and displays geographic information for informing decision making. The term GIS-Centric, however, has been specifically defined as the use of the Esri ArcGIS geodatabase as the asset and feature data repository central to computerized maintenance management systems (CMMS) as a part of enterprise asset management and analytical software systems. GIS-centric certification criteria have been specifically defined by NAGCS, the National Association of GIS-Centric Solutions.

Desktop GIS

As of October 2024, the company's desktop GIS suite is ArcGIS Pro 3.3.2, with the older ArcGIS Desktop (or ArcMap) version 10.8.2 in mature support (https://www.esri.com/arcgis-blog/products/arcgis-desktop/announcements/arcmap-enters-mature-support-in-march-2024/) (to be fully retired in March of 2026). The older ArcGIS Desktop consisted of several integrated applications, including ArcMap, ArcCatalog, ArcToolbox, ArcScene, and ArcGlobe. Esri's main desktop, or thick client, application is ArcGIS Pro which is slowly replacing the former main components of ArcGIS Desktop: ArcMap, ArcCatalog and ArcToolbox. Esri's desktop products allow users to author, analyze, map, manage, share, and publish geographic information.

ArcGIS Pro was introduced in early 2015 as a modern and fully 64-bit application with integrated 2D and 3D functionality.[21] The product suite is available in three levels of licensing:[22] Basic (formerly called ArcView), Standard (formerly called ArcEditor) and Advanced (formerly called ArcInfo). Basic provides a basic set of GIS capabilities suitable for many GIS applications. Standard, at added cost, allows more extensive data editing and manipulation, including server geodatabase editing. Advanced, at the high end, provides full, advanced analysis and data management capabilities, including geostatistical and topological analysis tools. Additionally, ArcGIS is compatible with following OGC standards: WFS, WCS, GFS and various others.

ArcGIS Explorer, ArcReader, and ArcExplorer are basic freeware applications for viewing GIS data.

ArcGIS Desktop extensions are available, including Spatial Analyst for raster analysis, and 3D Analyst for terrain mapping and analysis. Other more specialized extensions are available from Esri and third parties.

Esri's original product, ARC/INFO, was a command line GIS product available initially on minicomputers, then on UNIX workstations. In 1992, a GUI GIS, ArcView GIS, was introduced. Over time, both products were offered in Windows versions, and ArcView also as a Macintosh product. The names ArcView and ArcInfo were used for a while to name different levels of licensing in ArcGIS

Desktop, and less often refer to these original software products. The Windows version of ArcGIS is now the only ArcGIS Desktop platform that is undergoing new development for future product releases.

Server GIS

Server GIS products provide GIS functionality and data deployed from a central environment. ArcGIS Server is an Internet application service, used to extend the functionality of ArcGIS Desktop software to a browser based environment. It is available on Solaris and Linux as well as Windows. ArcSDE (Spatial Database Engine) is used as a relational database connector for other Esri software to store and retrieve GIS data within a commercially available database: currently, it can be used with Oracle, PostgreSQL, DB2, Informix and Microsoft SQL Server databases. It supports its native SDE binary data format, Oracle Spatial, and ST_geometry. ArcIMS (Internet Mapping Server) provides browser-based access to GIS. As of ArcGIS 10.1, ArcIMS has been deprecated in favor of ArcGIS Server, but there are still many instances of ArcIMS (10.0 and older) in production environments. Other server-based products include Geoportal Server, ArcGIS Image Server and Tracking Server as well as several others.

Mobile GIS

Mobile GIS conflates GIS, GPS, location-based services, hand-held computing, and the growing availability of geographic data. ArcGIS technology can be deployed on a range of mobile systems from lightweight devices to PDAs, laptops, and Tablet PCs. The firm's products for this use include Collector for ArcGIS, Survey123 for ArcGIS, ArcGIS QuickCapture and more. Former products and applications in this category included ArcPad and ArcGIS for Mobile.[23]

Online GIS (ArcGIS Online)

ArcGIS includes Internet capabilities in all Esri software products. The services, provided through ArcGIS Online at www.arcgis.com, include web APIs, hosted map and geoprocessing services, and a user sharing program. A variety of basemaps is a signature feature of ArcGIS Online. The Esri Community Maps program compiles detailed user basemap information into a common cartographic format called Topographic Basemap.[24]

Data formats

Vector

- Shapefile – Esri's proprietary, hybrid vector data format using SHP, SHX and DBF files. Originally invented in the early 1990s, it is still commonly used as a widely supported interchange format.
- Enterprise Geodatabase – Esri's geodatabase format for use in an relational database system.
- File Geodatabase – Esri's file-based geodatabase format, stored as folders in a file system.
- Personal Geodatabase – Esri's closed, integrated vector data storage strategy using Microsoft's Access MDB format is a legacy format generally replaced by the file geodatabase in most

contemporary use.
- Coverage – Esri's closed, hybrid vector data storage strategy. Legacy ArcGIS Workstation / ArcInfo format with reduced support in modern application.

Raster

- Esri grid – binary and metadataless ASCII raster formats.
- Mosaic - data structure for managing and analyzing multidimensional raster and imagery data, including netCDF, GRIB, and Hierarchical Data Format

Esri Technical Certification

The Esri Technical Certification program was launched in January 2011.[25] The program provides an exam based certification for Esri software. The core groups for the certification include Desktop, Developer, and Enterprise. Each subcategory under these groups have two certification levels, Associate and Professional.[26]

Conference

The company hosts the Esri International User Conference, which was first held on the Redlands campus in 1981 with 16 attendees. The 44th User Conference was held in San Diego at the San Diego Convention Center from July 15th - 19th, 2024. In 2022, 31,590 users from 142 countries attended either in person or digitally.[27][28]

Philanthropy

Esri provides low-cost access to ArcGIS software via special programs.[29] The company has provided free access to ArcGIS Online to over 100,000 K-12 schools in the U.S. as part of Barack Obama's ConnectED initiative.[30]

Conservation and sustainability

In 1989, Esri created the Esri Conservation Program to assist in changing the operations of non-profit organizations for their objectives of nature conservation and social change. Esri's ArcGIS platform has provided GIS data, analytics software, and training to thousands of non-profit organizations and individual conservation projects since 1993.[31]

In 2017, Esri began a partnership with the United Nations General Assembly (UNGA) to create a data hub, Federated Systems, based on Esri's ArcGIS platform. The data hub will allow countries to measure, monitor, and report on Sustainable Development Goals (SDGs) in a geographic context.[32][33]

In 2019, Esri partnered with the Jane Goodall Institute to develop tools to help communities map and manage their surrounding ecosystems using GIS software. In 2022, they partnered again to publish a book "Local Voices, Local Choices," to describe the success of the Tacare approach to community-led conservation.[34][35][36]

See also

- Open Geospatial Consortium
- QGIS
- Smart Data Compression

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External links

- Official website (https://www.esri.com)
- Esri (https://github.com/Esri) on GitHub