ArcGIS Solutions for Defense: Military Tools

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ArcGIS Solutions

Industry-Specific Maps and Apps

Extending Your GIS

- Popular (500K Downloads)
- Extensive (450+)
- Fully Supported

Local & State Government

Utilities & Telecom

Business

Defense

Intel

Rapidly Delivering Value . . .

. . . Implemented by Users, Partners, and Esri
ArcGIS Solutions

Free industry-specific configurations for ArcGIS

Leverage ArcGIS Solutions to quickly address challenges in your organization


Defense  Intelligence  Business  Conservation

solutions.arcgis.com
ArcGIS Solutions

Goals

• Solve common business problems
  • Integrated workflows, focused maps and apps.....

• Drive implementation of ArcGIS
  • Roadmap for standard capabilities, improve service delivery, expand reach, innovation....

• Promote modern deployment patterns
  • Leverage new ArcGIS offerings, maximize available resources, focus on complex or unique problems....

• Provide feedback to core software development

• Work collaboratively with community
  • Best practices, industry tradecraft....
ArcGIS Solutions

Groundbreaking and Incremental Improvements

Incremental Releases

2008

2012

2019

Continuous Improvements

Damage Assessment
Public Notification
Crash Analysis

Utility Network Editing
Crowdsourcing Reporter

Attribute Assistant

Military Tools
Election Management

Address Management
EM Operations

Near Me
Crime Analysis

Tax Parcel Editing
Water Outage
Smart Editor

Environmental Impact

ArcGIS Pro for Intelligence

Desktop Add-ins

Smart Editor

Flex Widgets

Resource Center

Solution Site

Information Models

Custom Web Apps

Web AppBuilder Widgets

Web App Templates

Deployment Tool

Feature Layers

Web Maps

ArcGIS Pro Projects / Experiences

Responsive Web Apps

Web App Templates

Desktop Add-ins

ArcGIS Solutions

Responsive Web Apps

Web App Templates

Deployment Tool

Desktop Add-ins
ArcGIS Solutions for Defense – Current Capabilities

Whole Organization
- Military Tools for ArcGIS
- Coordinate Conversion
- Visibility
- Distance and Direction
- Geonames Locator
- Grid Overlay

Analysis
- Incident Analysis
- Time Span Analysis
- Image Change Detection

Mission Planning
- Civil-Military Operations
- Clearing Operations
- Emergency Response Guide Widget
- Distance to Assets
- Gridded Reference Graphic

Military Symbology
- Military Symbol Editor
- Military Features
- Military Overlay
- Military Information Model and Styles
Military Tools for ArcGIS

Getting Started
ArcGIS Solutions for Defense – Current Capabilities

Military Tools for ArcGIS

- **Add-in content**
  - Coordinate Conversion
  - Distance and Direction
  - Military Symbol Editor (ArcGIS Pro)
  - Visibility

- **Geoprocessing**
  - Conversion
  - Distance and Direction
  - Gridded Reference Graphic
  - Visibility

- **ArcGIS Pro 2.2-2.5**

- **ArcMap 10.4.1-10.8**
Getting Started

- Add-in for ArcGIS Pro or ArcMap
- Double-click to install
Getting Started

- Geoprocessing
  - Python toolbox
  - System tools
  - Add folder connection
  - Military Tools button
Military Tools for ArcGIS
Exploring the add-ins
Coordinate Conversion

- Quickly convert between coordinate types

- Input coordinates using
  - Keyboard
  - Map cursor

- Convert between several formats
  - MGRS
  - DD, DMS, and more

- Format a coordinate to your specification
  - 11SMS8472718799
  - 11S MS 84727 18799

- Multiple way to copy one or many formats

- Flexible coordinate handling

- Import / export coordinates
Military Symbol Editor

- Easily create military symbols by searching symbol attributes

- Support multiple standards
- Schema-based approach to military symbology
- Create/modify symbols using attribute driven drop-downs
- Add text modifiers
- Choose what to do with your symbol
  - Save to favorites
  - Add to Map
  - Coordinate placement
- Import/export favorite symbols
- Create feature templates for symbols
Distance and Direction

- Geometry creation in one location

- Create geodesic graphics and features
  - Lines
  - Circles
  - Ellipses
  - Rings

- Distance of travel based on capability

- Save graphics with attribute information
Visibility

- Quickly answer visibility questions
  - Find answers to visibility questions
    - Field of view from a given observer(s)
    - Find visible points along a straight line of sight
Military Tools for ArcGIS
Geoprocessing tools
Military Tools geoprocessing

- Geoprocessing toolbox
  - Connection to toolbox
  - System toolbox
- Analysis ribbon
Conversion

- Using Geoprocessing to convert coordinates

- Input tables or feature classes
- Convert any supported format

- Script tools
  - Standalone python scripts or
  - Use inside a model with other tools

- Import based on tables
  - Table to 2-Point Line
  - Table to Ellipse
  - Table to Line of Bearing
  - Table to Point
  - Table to Polygon
  - Table to Polyline
Distance and Direction

- Use Geoprocessing to create Distance and Direction features

- Create Range Rings based on parameters
  - Given interval
  - Minimum and maximum distances
  - From a table
Gridded Reference Graphics

- Quickly create GRG
- Create rectangular grids for use in partitioning geographic areas of interest.
- Create grids with either a starting point or area, based on either dimension or a reference system (MGRS and USNG).
- Create grids with a starting point, based on time and speed.
Visibility

• Quickly answer visibility questions

• Find answers to visibility questions
  - Linear Line of Sight
  - Radial Line of Sight

• Answer questions about terrain
  - Highest Points
  - Local Peaks
  - Lowest Points
Web AppBuilder for ArcGIS
ArcGIS Solutions for Defense widgets
ArcGIS Solutions for Defense – Current Capabilities
Web AppBuilder for ArcGIS Widgets

- Coordinate Conversion (Enterprise 10.6)
- Grid Overlay (Enterprise 10.6)
- Distance and Direction (Enterprise 10.6.1)
- Emergency Response Guide (Enterprise 10.6.1)
- Gridded Reference Graphic (Enterprise 10.6.1)
- Threat Analysis (Enterprise 10.7)
- Visibility (Enterprise 10.7)
Road Ahead - 2020 Plans

- Military Tools capabilities in ArcGIS Pro
- Develop new solution offerings
  - Complete information workflows
  - Incorporate new ArcGIS capabilities
    - Pro experiences, Experience Builder, Indoors

Resources

- Team contact information: defensesolutions@esri.com
- Solutions website: solutions.arcgis.com/#Defense
- Training: https://www.esri.com/training/geospatial-capabilities/
John Holcomb (SAIC) & Bill Funke (SAIC)
Esri Federal GIS Conference
11-12 Feb 2020

The overall classification of this presentation is:
Approved for public release #20-332

Classified by:
Derived from:
Declassify on:
Established 2013 – Supporting all Domains
Government’s version of iTunes/Google Play

Leveraging mobile devices to literally put the “power of GEOINT” in the hands of DoD users

Apps tailored to meet DoD and IC mission needs

Have an app need: https://igapp.com
Download Apps: https://apps.nga.mil

Credit: Adobe Stock, GEOINT App Store, edited
GEOINT App Store: Users

Department of Defense
Access via CAC
iOS/Android

Intelligence Community
Access via CAC
iOS/Android

Foreign Partners
Access via Gov
POC
Android

Other U.S. Government
NEW!
Access via PIV
Android

Authorized IC/DOD users are verified to download the store onto their device

ID.me COMING SOON!
How to Download Apps

STEP 1:
Create “Disadvantaged User” Account
Write down User Name and Password

VISIT: https://geoaxis.nga.mil

STEP 2:
Install GEOINT App Store App
Browse and download apps

VISIT: https://apps.nga.mil

Can’t download/install? Contact: geointappstoreteam@nga.mil or call: 314-676-9210

Credit(s): Adobe Stock (multiple), IGAPP website, edited
GEOINT App Store: Content

**GOTS**
Government funded/developed apps

**COTS**
Commercially developed apps delivered via the Innovative GEOINT Application Provider Program (IGAPP)

*Established 2016*

Credit: GEOINT App Store, edited

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IGAPP: Accelerates Mobile GEOINT Development

Program Features

- Identification and vetting of new vendors (app developers)
- Bypasses lengthy contract processes
- Code security scanning & functionality testing
- Government Savings
- User app needs published for vendors to address (VOPs)
- Vendor access to unclassified government data
Military Tools by Esri – ArcGIS Plug-in

► Input coordinates and quickly convert them between several standard formats
► Dynamically create geodetic lines, circles, ellipses, and range rings
► Conduct interactive linear and radial line-of-sight analysis
► Quickly create standard military symbols in ArcGIS Pro
Military Tools by Esri – ArcGIS Plug-in

Credit: GEOINT App Store Screenshot
App Needs or Suggestions: IGAPP works with stakeholders

- Conduct outreach with end-users to determine user needs
- Solicit user feedback for applications
- Create, review, approve and publish Vendor Opportunity Packages (VOPs) to solicit capabilities from Approved Vendors
- Demo IGAPP/GEOINT App Store releases to users
- Verify app offerings meet end-user needs

Credit: IGAPP VOP for Talking Map App & Military Recall App
Why IGAPP?

- We have government users...a lot
- We bridge the gap
- If you build it, they will come
- Quality assurance on us
- Government sales, fast
- Your sale, your money
Contact GAS/IGAPP

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GEOINT App Store
https://apps.NGA.mil

IGAPP Vendor Portal
https://igapp.com

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Print Your Certificate of Attendance

Print Stations Located in 150 Concourse Lobby

**Tuesday**
12:30 pm – 6:30 pm
Expo
Hall B

5:15 pm – 6:30 pm
Expo Social
Hall B

**Wednesday**
10:45 am – 5:15 pm
Expo
Hall B

6:30 pm – 9:30 pm
Networking Reception
Smithsonian National Museum
of Natural History
Please Share Your Feedback in the App

Download the Esri Events app and find your event
Select the session you attended
Scroll down to “Survey”
Log in to access the survey
Complete the survey and select “Submit”

We need your feedback to improve our events. Log in to take the survey and share your feedback on the event, presenters, and sessions.