

SIS Data Format Support

Over 300 supported GIS, CAD, graphic and
database formats

The Spatial Information System® - SIS - directly reads and/or writes to over 200 (write to over 45 formats) native GIS, CAD, graphic and database formats 'out of the box', without translation, as standard.

As a result, organisations benefit from:

- Maximised investment in existing data
- Higher levels of data interoperability
- Easier integration of legacy data
- Improved productivity by avoiding data translation

Note: The list does not include country-specific file formats developed by NEC partners.

Data Sources
Vector Formats
Autodesk
AutoCAD DWG (up to and including AutoCad 2018) (*.dwg)
AutoCAD DXF (up to and including AutoCad 2018) (*.dxf)
AutoCAD Design Web Format (*.dwf)
Bentley
Bentley MicroStation DGN V8 (*.dgn)
ESRI
ESRI ARC/INFO Export (ASCII) (*.e00)
ESRI Personal Geodatabase (*.mdb)
ESRI Shape (*.shp)
ESRI File Geodatabase
ESRI ARC SDE (Oracle)
Geographic Objects for JSON (GeoJSON)
Geographic Objects for JSON (GeoJSON) (*.geojson, *.json;*.txt)
Topological Objects for GeoJSON (TopoJSON) (*.json;*.topojson)
HERE Map Data
HERE MAP Premium Data Road Network

Intergraph
Intergraph GeoMedia Access Warehouse (*.mdb)
MapInfo
MapInfo TAB (*.tab)
MapInfo Interchange Format (*.mif)
NEC
Base Dataset (*.bds)
Item Database (*.idb)
Feature Database (*.fdb)
View Points
OS MasterMap Database (*.odb)
SIS Graphics File (*.sgf)
Open Geospatial Consortium
OGC GML 3.2.1 (*.gml)
OGC GeoPackage (*.gpkg)
OGC CityGML (*.gml)
OGC KML Document (.kml, .kmz)
GeoRSS (*.xml)
OGC OWS Context Document (*.cml, *.ccml, *.xml)
OpenStreetMap
OpenStreetMap XML (*.osm, *xml, *bz2)
OpenStreetMap Tiles (local)
Safe Software (FME)
Feature Manipulation Engine (FME) ††
FME Feature Store file (*.ffs)

SIA
SIA dataMap Export (*.adp)
Oracle
Oracle Network Model
Ordnance Survey Great Britain: OS (GB)
OS MasterMap Address Layer (*.gml; *.gz)
OS MasterMap Address Layer 2 (*.gml; *.gz)
OS MasterMap Integrated Transport Network Layer (*.gml; *.gz)
OS MasterMap Greenspace Layer (*.gml; *.gz)
OS MasterMap Highways Network (*.gml; *.gz)
OS MasterMap Topographic Layer (*.gml; *.gz)
OS MasterMap Sites Layer (*.gml; *.gz)
OS MasterMap Water Network (*.gml; *.gz)
OS (GB) ADDRESS-POINT (10cm resolution) (*.ntf; *.csv; *.ap)
OS (GB) BaseDataGB (*.ntf)
OS (GB) Boundary-Line Polygons (*.ntf)
OS (GB) Code-Point (*.ntf)
OS (GB) Common Internal Transfer File CITF Topo 93 (*.ctf)
OS (GB) Common Internal Transfer File CITF Topo 96 (*.q1, *.q2)
OS (GB) Data-Point (*.ntf)
OS (GB) Land-Form PROFILE contours 1:10000 (*.ntf)
OS (GB) Land-Form PANORAMA contours 1:10000 (*.ntf)
OS (GB) Land-Line 1:1250, 1:2500, 1:10000 (*.ntf)
OS (GB) Meridian 1:10000 (*.ntf)
OS (GB) Meridian 2 (*.shp)
OS (GB) OSCAR Road Network (*.ntf)
OS (GB) Positional Accuracy Improvement Link File (*.csv)
OS (GB) Post Office Address File (10m resolution) (*.paf)

OS (GB) Strategi (*.ntf)
OS (GB) Travelmaster (*.ntf)
Ordnance Survey Great Britain: OS OpenData
OS (GB) VectorMap Local (*.gpkg *.gml; *.gz)
OS (GB) VectorMap District (*.gpkg, *.gml; *.gz)
OS (GB) Open Greenspace (*.gpkg, *.gml; *.gz)
OS (GB) Open Names (*.gpkg)
OS (GB) Open Rivers (*.gpkg,*.gml)
OS (GB) Open Roads (*.gpkg, *.gml)
OS (GB) Open Map – Local (*.gpkg, *.gml)
OS (GB) Terrain 50 (*.gpkg)
OS (GB) Boundary-Line (*.gpkg, *.gml)
OS (GB) Code-Point Open (*.gpkg)
OS (GB) Open Zoomstack (*.gpkg, *.mbtiles)
Ordnance Survey of Northern Ireland: OSNI
Land & Property Services Northern Ireland (*.ntf)
Ordnance Survey Ireland: OSI
Ordnance Survey Ireland (*.ntf)
USA National datasets
Spatial Data Transfer Standard (SDTS) (*.ddf)
US Census Bureau TIGER/Line (*.bw1;*.rt1)
USGS DLG3 Optional format (ASCII) (*.opt)
Other
AAANAS GML (*.xml)
Adobe Portable Document Format (*.pdf)
ASCII Text Format (XYZ) (*.txt)
ASPRS LAS (*.las, *.laz)
Binary Point Format (*.bpf)

Digital Chart of the World
Digital Nautical Chart (DNC)
EuroNav Geographic Exchange format (*.gxf)
FICC Rustica (*.p,*.s,*.t,*.x)
FICC Urbana (*.p,*.s,*.t,*.x)
Google Sketchup (32-bit only) (*.skp)
Google Transit Feed Specification (GTFS) (*.zip)
GPS Exchange Format GPX (*.gpx)
Italian Cadastral Exchange Format (CXF) (*.cxf)
KF85 (Sweden) (*.k85)
Leica Cyclone PTS (*.pts)
Light Detection and Ranging (LIDAR) (*.las)
MIDAS XML (GB only) (*.xml)
NextMap Britain Contours (*.ntf)
NGA Vector Map Level 0/1
OpenMap Tiles (*.mbtiles)
Open Source Routing Machine (OSRM) Database (*.OSRM)
PDAL Pipeline (*.json)
S57 Electronic Navigational Chart Catalog (*.030; *.031)
S57 Electronic Navigational Chart (*.000)
SBET (*.sbet)
SNODAS (*.hdr)
TerraSolid bin (*.bin)
XY/XYZ (*.xy;*.xyz)

Raster Formats

ESRI
ESRI ARC/INFO ASCII Grid (*.asc)
ESRI ARC/INFO Binary Grid (*.adf, *hdr.adf)
ESRI Band Interleaved By Line (*.bil)
ESRI Band Interleaved By Pixel (*.bip)
ESRI Band Sequential (*.bsq)
ESRI HDR labelled dataset (*.hdr)
ERDAS
Erdas Imagine (*.img)
Erdas Imagine Raw Raster (*.raw)
Erdas LAN/.GIS Raster File (*.lan, *.gis)
Earth Resource Mapping
ER Mapper Enhanced Compression Wavelet (*.ecw)
ER Mapper labelled dataset (*.ers)
EXIF
EXchangeable Image Format (*.jpg; *.jpeg)
LizardTech
MrSID (*.sid)
NEC
Basemap Database (*.bdb)
Tile Database (*.tdb)
WebMap Layers Tile Cache (CacheMetadata.json)
PCI
PCI Geomatics Database File (*.pix)
PCI .aux Labelled (*.aux *.raw)

Open Geospatial Consortium
OGC Web Coverage Service (WCS)
OGC Web Map Context Document (*.cml;*.ccml;*.xml)
Oracle
GeoRaster 10g or later
Ordnance Survey Great Britain: OS (GB)
OS (GB) BaseData GB 1:625000 (*.ntf)
OS MasterMap Imagery Layer (*.gml; *.gz)
OS (GB) LandForm PROFILE (*.ntf)
OS (GB) LandForm DTM 1:1000, 1:50000 (*.ntf)
OS (GB) LandForm PANORAMA DTM 1:50000 (*.ntf)
Ordnance Survey Ireland: OSI
OSI DTM (*.ntf)
OSI 20km x 20km Height Data (*.dtm)
SPOT Digital Image (DIMAP) (METADATA.DIM)
Refractions Research
PostGIS Raster
USA National datasets
USGS DLG-3 (*.do, *opt)
USGS Digital Elevation Model (1 degree) (*.dem)
USGS Digital Orthophoto Quadrangles (New Style) (*.doq; *.nes; *.nws; *.ses; *.sws)
USGS Digital Orthophoto Quadrangles (Old style) (*.doq; *.nes; *.nws; *.ses; *.sws)
USGS GTOPO30 (*.hdr)
USGS Optional ASCII DEM (*.dem)
USGS Land Use and Land Cover (LULC) Composite Theme Grids (*.gz)
USGS SDTS DEM (*.cad; *.ddf)
USGS SRTM30 (*.hdr, *.dem)

Other
ACE2 Global Digital Elevation Model (*.ace2, *.gz)
ARC Digitized Raster Graphics (ADRG) (*.gen;TRANSH01.thf)
ARC Standard Raster Product (ASRP) (*.gen;*.img)
ASRP (*.img, TRANSH01.THF)
ATM QFIT (*.qi)
Atlantis MFF HKV Raster (*.hdr)
Atlantis MFF Raster (*.hdr)
Bathymetric Attributed Grid (*.bag)
Binary Port Format BPF (*.bpf)
Binary Terrain Format (*.bt;*.prj)
B&W TIFF with antialiasing (*.tif;*.tiff)
Compressed ARC Digitized Raster Graphics (CADRG) (*.toc)
CEOS SAR Image file (*.img)
Computer Aided Acquisition and Logistics Support (*.cal, *.cals, *.ras)
Digital Terrain Elevation Data (DTED) (*.dt0; *.dt1, *.dt2, *.dt3)
Enhanced Compressed Raster Graphic (TOC.xml)
ENVI .hdr Labelled (*.evi.gz)
ENVISAT Image (*.n1)
EOSAT FASTL7A (Landsat TM) (*.fst, *HRF.fst, *HTM.fst, *HPN.fst)
ETOPO1 Global 1minute Gridded Elevation Data
ETOPO2 Global 2minute Gridded Elevation Data (*.dos)
ETOPO5 Global 5minute Gridded Elevation Data (*.bin, *.dos, *.bat)
FARSITE v4 Landscape File (*.lcp)
FlatGeobuf (*.fgb)
GDAL Virtual Raster Dataset (*.vrt)
Generic Binary (*.bil, *.bip, *.bsq)
Geosoft Grid Exchange Format (*.gxf)

GIF (*.gif)
Global Land One-kilometer Base Elevation (GLOBE) database (*.glb)
GMT netCDF Grid Format (*.grd)
Golden Software ASCII Grid (*.grd)
Golden Software Binary Grid (*.grd)
Golden Software 7 Binary Grid (*.grd)
GRASS ASCII Grid (*.asc)
Gridded Binary (GRIB) (*.grb, *.grb1))
Gridded Binary v.2(GRIB2) (*.grb2)
Hierarchical Data Format (HDF) Release 4 (*.hdf)
Hierarchical Data Format (HDF) Release 5 (*.hdf, *.hdf5, *.h5, *.he5)
IDA (*.ida, *.img)
IDRISI Raster Format (*.rst)
ILVIS2 (*.txt)
ILWIS Raster Maps and Map Lists (*.mpr, *.mpl)
Japanese Aerospace eXploration Agency PALSAR Processed Products (*.5_UD)
JAXA PALSAR Processed Products (VOL-*1.5_UD)
JPEG (*.jpg)
JPEG 2000 (GDAL/Kakadu) (*.jp2;*.j2k;*.jpc;*.jpx;*.j2c)
MBTiles (*.mbtiles)
National Imagery Transmission Format (NITF) (*.ntf; *.i12, *.jn2, *.lf2, *.on2, *.nsf)
NextMap Britain DSM(*.ntf)
NextMap Britain DTM (*.ntf)
NetCDF (Network Common Data Format) Grid Format (*.grd, *.nc)
NOAA/MAPTECH/NDI/SoftChart BSB (*.kap; *.nos)
NOAA Polar Orbiter Level 1b Data Set (AVHRR instrument) (*.l1b, *.1b)
Northwood/VerticalMapper Numeric Grid Format (*.grd)
Northwood/VerticalMapper Classified Grid Format (*.grc)

Optech Corrected Sensor Data (*.csd)
PCRaster Raster Format (*.map)
PNG (*.png)
R Raster (*.grd)
RasterLite (*.sqlite)
Raw raster data (*.raw)
RLC Bitmap (*.rlc)
Shuttle Radar Topographic Mission SRTM (*.hgt, *.hgtz)
Snow Data Assimilation System (*.hdr)
Targa Image File (*.tga)
TIFF/GeoTIFF (*.tif;*.tiff) – includes compressed variants LZW, packbits etc.
Vaisala Sigmnet Interactive Radar Information System (IRIS) (*.dat)
Vexcel MFF Raster
Windows Bitmap (*.bmp)
Windows Metafile (*.wmf)
Worldwide Digital Terrain Data (TerrainBase) (*.bin)
ZMap Plus Gird (*.dat)

Services

ERDAS
ERDAS APOLLO Essentials Image Web Server
ESRI
ESRI ArcIMS Image Service
ESRI ArcIMS Feature Service
Geographic Objects for JSON (GeoJSON)
Geographic Objects for JSON (GeoJSON) (*.geojson, *.json;*.txt)
TileJSON
Google
Google Maps (preview only – use NEC Tile Service to add a layer to Google Maps)
Google Maps (Hybrid)
Google Maps (Road Map)
Google Maps (Satellite)
Google Maps (Terrain)
MapBox
MapBox Streets
MapBox Satellite
MapBox Streets + Satellite7
MapBox Terrain RGB

Microsoft
Azure Maps (Basic)
Azure Maps (Hybrid)
Azure Maps (Labels)
Azure Maps (Satellite)
Bing Maps (preview only – use NEC Tile Service to add a layer to Bing Maps)
Bing Maps Tiles (Aerial with Labels)
Bing Maps Tiles (Aerial)
Bing Maps Tiles (Roads)
NASA
NASA World Wind global datasets
NEC
GeognoSIS Tile Set (*.tileset)
Basemap Database served as Basemaps in GeognoSIS
Tile Database served as Basemaps in GeognoSIS
Data Service
Data Capture Service
HTTP API
Tile Cache Service
Tile Service
SOAP API
Open Geospatial Consortium
OGC Web Map Service (WMS)
OGC Web Map Tile Service (WMTS)
OGC Web Feature Service (WFS)
OGC API – Maps
OGC API – Tiles
OGC API – Features

OpenStreetMap
OpenRailwayMap
OpenSeaMap
OpenStreetMap Tile Services
OS (GB) Data Hub
OS Features API
OS Maps API
OS Vector Tile API
OS National Geographic Database (NGD) API - Features
OSGeo
OSGeo Tile Map Service (TMS)
Stamen Design
Stamen Design 'Terrain' tiles
Stamen Design 'Toner lite' tiles
Stamen Design 'Toner' tiles
Stamen Design 'Watercolor' tiles
Thunderforest
Thunderforest OpenCycleMap
Thunderforest Landscape
Thunderforest Outdoors
Other
GDAL Web Map Service XML (*.wmsxml)
MapTiler
Planet Basemaps
Environment Agency Real Time flood-monitoring API (*.json)

Spatial Database Storage

NEC
SIS ASCII BLOB format (Any Supported Database – read only)
Open Geospatial Consortium Specified Server Formats
OGC Well-known Binary (WKB) format (Any Supported Database)
OGC Well-known Text (WKT) format (Any Supported Database)
OGC Geography Markup Language (GML) format (Any Supported Database)
OGC SQL92 (Any Database)
ESRI
ESRI ArcSDE (Oracle - read only)
Microsoft
SQL Server Spatial 2008 and above
Oracle
Oracle 9i and above
Oracle 10g or later GeoRaster (read and write)
Oracle 10g or later Network Model (read and write)
Oracle Application Server MapViewer (read only)
Refractions Research
PostGIS 1.*, 2.* and 3.*
PostGIS Raster

Exporters

Vector Formats

Autodesk

AutoCAD DWG (up to and including AutoCad 2018) (*.dwg)

AutoCAD DXF (up to and including AutoCad 2018) (*.dxf)

AutoCAD Design Web Format (*.dwf)

Bentley

Bentley MicroStation DGN V8 (*.dgn)

ESRI

ESRI Shape (*.shp)

EuroNav

EuroNav Geographic Exchange format (*.gxf)

Safe Software

Feature Manipulation Engine (FME) ++

FME Feature Store file (*.ffs)

MapInfo

MapInfo Interchange (*.mif)

MapInfo Table (*.tab)

NEC

Base Dataset (*.bds)

Item Database (*.idb)

Feature Database (*.fdb)

Tile Database (*.tdb)

Open Geospatial Consortium
OGC GML 2.1.2 (*.gml, *.gz)
OGC GML 3.1.1 (*.gml, *.gz)
OGC GML 3.2.1 (*.gml, *.gz)
OGC GeoPackage (*.gpkg)
OGC KMZ (Compressed KML) (*.kml, *.kmz)
OGC Web Map Context (*.cml)
OGC Web Map Context Collection (*.ccml)
Oracle
Oracle Network Model
Ordnance Survey Great Britain: OS (GB)
OS (GB) CITF File (Topo 96) (*.q1)
OS (GB) National Transfer Format (*.ntf)
Other
Geographic Objects for JSON (GeoJSON) (*.json;*.geojson)
GeoRSS (*.xml)
Italian Cadastral Exchange Format (CXF) (*.cxf)
National Imagery Transmission Format (NITF) (*.nitf)
OSRM Routing Database
Scaleable Vector Graphics (*.svg)
Scaleable Vector Graphics gzipped (*.svgz)
Scaleable Vector Graphics Tiny (*.svg)
Scaleable Vector Graphics Tiny gzipped (*.svgz)

Raster Formats

ESRI
ESRI/ARCInfo ASCII Grid (*.asc)
ESRI Band Interleaved by Line (*.bil)
ESRI BIL (Greyscale) (*.bil)
ESRI BIL (Palette) (*.bil)
ESRI BIL (RGB) (*.bil)
NEC
Basemap Database (*.bdb)
Oracle
Oracle GeoRaster 10g or later
Refractions Research
PostGIS Raster
Other
Binary terrain Format Grid (*.bt)
Bitmap (*.bmp)
Dithered Bitmap (*.bmp)
ENVI .hdr Labelled Raster (*.evi)
ERDAS ER Mapper Enhanced Compression Wavelet (*.ecw)
ERDAS Imagine (*.img)
GMT netCDF Grid Format (*.grd)
GIF (*.gif)
Geo Tiff Grid (*.tif)
Golden Software ASCII Grid (*.grd)
Golden Software 7 Binary Grid (*.grd)
Golden Software Binary Grid (*.grd)
JPEG Grayscale (*.jpg)
JPEG RGB (*.jpg)

JPEG 2000 (*.jp2; *.j2k, *.jpc, *.jpx, *.j2c)
National Imagery Transmission Format (NITF) (*.ntf)
PCI .aux Labelled (.raw)
PCI Geomatics Database File (*.pix)
PNG (Grayscale) (*.png)
PNG Palette (*.png)
PNG (RGB/RGBA) (*.png)
TIFF/GeoTIFF (*.tif; *.tiff) – includes compressed variants such as LZW, Packbits etc.
TIFF (B&W) (*.tif)
TIFF (Grayscale) (*.tif)
TIFF (Palette) (*.tif)
TIFF (RGB) (*.tif)
WebP (*.webp)
Windows Metafile (*.wmf)

Document Formats

Adobe Portable Document Format (*.pdf) – including Terrago Technologies geoPDF
Comma Separated Values (*.csv)
Encapsulated PostScript (*.eps)
HTML (*.htm)
Scalable Vector Graphics (*.svg)
Text file (*.txt)
XML Paper Specification (*.xps)

About NEC Software Solutions

NEC

Our customers change lives, so we create software and services that get them better outcomes. By innovating when it matters most, we help to keep people safer, healthier and better connected worldwide.

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