MapStore at geOcom 2022

Tobia Di Pisa
GeoSolutions
About GeoSolutions

- Founded in late 2006
- Offices in Italy & US
- Supporting/Developing FOSS4G projects
  - MapStore, GeoServer, GeoNode, GeoNetwork, CKAN
- Offer
  - Enterprise Support Services
  - Deployment Warranty
  - Professional Training
  - End-To-End Projects (Integration)
- Clients
  - UN FAO (CIOK, FIGIS, NRL, FORESTRY, ESTG), UN WFP, World Bank, DLR, EUMETSAT, JRC, NATO CMRE, UNESCO, UNEP, etc..
  - BAYER, DigitalGlobe, MDA, TOPCON, SwissRE, Halliburton, etc..
- https://www.geosolutionsgroup.com

17th of May 2022 - geOcom
Agenda

- What is MapStore?
- Who uses MapStore?
- MapStore at work
- MapStore roadmap
What is MapStore?
What is MapStore?

- Create and share maps, charts, dashboards and stories online
- Mobile first | Responsive
- Mapping engine agnostic
  - OpenLayers|Leaflet|Cesium
- Leveraging React ecosystem
- Pluggable Look & Feel
- Consume data from many sources
  - OSM, Bing, WFS, CSW, WMS, WMTS
- License is Simplified BSD
  - Commercial friendly!

17th of May 2022 - geOcom
What is MapStore?

It is a Product

Use it as is and customize the look & feel

17th of May 2022 - geOcom
What is MapStore?

It is a Framework

You can build many different applications with its plugins (and by developing your own)

17th of May 2022 - geOcom
Who uses MapStore?
Who uses MapStore?

- Halliburton
- Austrocontrol
- MapStand
- UN FAO
- EMSA
- World Bank (via GeoNode)
- Unesco (via GeoNode)
- EARTH-I
- Arno river basin authority
- Region of Tuscany (Hydrologic Service)
- Region of Tuscany (Urbanistic Department)
- LaMMA
- BRGM
- City of Munich
- City of Florence
- City of Genova
- City of Bozen
- City of Brussels
- IGB (via GeoNode)
- **Rennes Métropole (via geOrchestra)**

As well as many other clients and users around the world!

😊

17th of May 2022 - geOcom
Who uses MapStore?

Rennes Métropole - geOrchestra

17th of May 2022 - geOcom
Who uses MapStore?

MapStand

17th of May 2022 - geOcom
Who uses MapStore?

City of Brussels

17th of May 2022 - geOcom
Who uses MapStore?

Austrocontrol

17th of May 2022 - geOcom
Who uses MapStore?

Arno river basin authority

17th of May 2022 - geOcom
Who uses MapStore?

City of Genova

17th of May 2022 - geOcom
More Info

- **Demo ➔** [https://mapstore.geosolutionsgroup.com](https://mapstore.geosolutionsgroup.com)
- **GitHub Repo ➔** [https://github.com/geosolutions-it/MapStore2](https://github.com/geosolutions-it/MapStore2)
- **Youtube Videos ➔** [https://www.youtube.com/playlist?list=PLe2yzutVrnZ5tjYGYYcKmZzo_M9ku5I9X](https://www.youtube.com/playlist?list=PLe2yzutVrnZ5tjYGYYcKmZzo_M9ku5I9X)
- **Mailing Lists ➔** [https://groups.google.com/g/mapstore-users](https://groups.google.com/g/mapstore-users) [https://groups.google.com/g/mapstore-developers](https://groups.google.com/g/mapstore-developers)
MapStore at work
MapStore at work

- Many features available out-of-the-box
- Many scenarios are covered
- Works with of OGC standards
- Easy to set up and configure
- Easy to customize and extend
- Open Source project
- Compatible with the most common browsers: FF, Edge, Chrome and Safari
Attribute Table: browse features of a vector layer through a tabular view and access advanced utilities (Filters, Data Exports, Charts, Editing of features and more).
MapStore at work

**Visual Style Editor**: editing layers styles in MapStore with an advanced user interface

- SLD Service to classify styles
- Work on top of the GeoServer REST APIs
- Both **Vector** and **Raster** styles!

17th of May 2022 - geOcom
Annotations tool: provide a great user experience in creating/drawing map annotations with a powerful user interface and styling capabilities.
The **Map Catalog** allows to browse and manage MapStore maps without leaving the viewer

- **Search for maps** you have access to
- **Manage map properties and permissions**
- **Share** a map

Thanks to Rennes Métropole and geOrchestra!

17th of May 2022 - geOcom
Layer Settings: tune the layer settings in terms of *general information*, *display mode*, *style* and *feature Info*.
MapStore at work

**Catalog Tool**: browse contents from external sources to add layers to the map. Supported catalog types are:

- WMS
- WMTS
- WFS
- TMS
- CSW
- Now also 3D Tiles

Thanks to Rennes Métropole and geOrchestra! 😊

17th of May 2022 - geOcom
MapStore at work

- **Import/Export**: import and export of map context (MS JSON and WMC are supported)

- **Measurements**: perform your measurement in map and export or convert them to be used with other tools

Thanks to Rennes Métropole and geOrchestra! 😊

17th of May 2022 - geOcom
MapStore at work

Map Print (based on mapfish 2.0)

3D Maps (based on Cesium JS)

Map Share

Street View

17th of May 2022 - geOcom

Thanks to Rennes Métropole and geOrchestra!
MapStore at work

- Widget Editors

Fine tuning of all widgets based on OGC standards

17th of May 2022 - geOcom
MapStore at work

You can connect widgets to other widgets: Maps or Tables widgets

A connected widget updates its content according to the parent one!

17th of May 2022 - geOcom
MapStore GeoStory:
create **inspiring and immersive stories** by combining **text**, interactive maps and **multimedia content** (e.g. images, video or other third party content).

View mode

Edit mode

17th of May 2022 - geOcom
MapStore at work

Tell your story with a modern look!

Navigation toolbar

Title section

Paragraph section

Media section

GeoStory sections

This is a list of the **highest astronomical observatories** in the world, considering only ground-based observatories and ordered by elevation above mean sea level. The main list includes only permanent observatories with facilities constructed at a fixed location, followed by a supplementary list for temporary observatories such as transportable telescopes or instrument packages. For large observatories with numerous telescopes at a single location, only a single entry is included listing the main elevation of the observatory or of the highest operational instrument if that information is available.

Other kind of sections are available, like **Maps** and **Immersive**! 😊

17th of May 2022 - geOcom
Build your story by adding different kind of sections, one after the other with an advanced web editor:

- Title/Cover
- Paragraph
- Immersive
- GeoCarousel
- Media (Map, Image, Video)
- Web Page

Sections are organized in a continuous scrolling layout!

17th of May 2022 - geOcom
GeoStory gives control over the sections through an action toolbar, one per section or sub-section.

Perform quick actions on your section contents to place, align and configure them as you prefer!
MapStore at work

Browse connected topics vertically in your story with the **Immersive section**

- Different background
- Different **contents** (images, text, video, maps)

17th of May 2022 - geOcom
MapStore at work

Browse connected topics horizontally in your story with the **Carousel section**

- Define **different locations** that help to tell your story
- Customize each location with its own **descriptive content** in overlay (images, text, video, maps)

Browse the Carousel items by clicking on them or using the navigation buttons
What should you do if you want to change multimedia content in your story?

The Media Editor gives you control over different multimedia contents! Images, Videos and Maps

You can connect multiple MapStore catalogs via configuration!

17th of May 2022 - geOcom
MapStore at work

A Toolbar on top of the side panel provides additional settings for the story

Changing the story theme
- Background color
- Text color
- All sections can inherit the above or have their own custom theme

17th of May 2022 - geOcom
The **Application Context Manager** is an administrative tool designed to build and configure different MapStore viewer configurations for the same MapStore installation.

A **multisteps wizard** allows the administrator to configure a custom MapStore viewer.

Thanks to Rennes Métropole and geOrchestra! 😊

17th of May 2022 - geOcom
MapStore at work

- **Step #1**: configure the name of the context and the window title

The Context URL: [https://mapstore.geosolutionsgroup.com/mapstore/#/context/newyorkcity](https://mapstore.geosolutionsgroup.com/mapstore/#/context/newyorkcity)

17th of May 2022 - geOcom
MapStore at work

- **Step #2**: configure the default map state and map contents
  - Layers in TOC
  - Backgrounds
  - Catalog sources
  - CRS
  - Annotations
  - Map Import
  - Map Export

17th of May 2022 - geOcom
Step #3: configure the set of plugins to include in the context viewer

- Select plugins to include
- Configure each plugin
- Make plugins ready to be activated by users on the fly
- Install a custom plugin
- Direct link to the plugin online doc
• **Step #4:** customize the Theme of your context

Yes, you can do it from the **User Interface!** 😊

Support to include your own theme (via `.less` file) in the build to be available for a quick selection in the wizard.

17th of May 2022 - geOcom
• **Step #5**: share the context and manage permissions 😊

17th of May 2022 - geOcom
The **Map Templates** tool is also available for Application Contexts

- **Ready-made map contents** that can be added to a Map
- **Two formats** supported (both MapStore JSON and WMC)

Thanks to Rennes Métropole and geOrchestra! 😊

17th of May 2022 - geOcom
MapStore at work

- **Easy to customize and extend**: customize the theme and develop your own plugins to be uploaded and installed in one or more application contexts!

17th of May 2022 - geOcom
MapStore Extensions: leveraging on the Application Context system MapStore gives you the ability to build custom extensions in a structured and standard way

• **Dedicated repository:** so that you can manage versioning and keep your extension inline across different versions of MapStore

• **Ready to be installed:** following the guidelines your extension can be uploaded and installed in a running MapStore instance

• **Well documented:** we are trying to keep the [online documentation](https://github.com/geosolutions-it/MapStoreExtension) always in line at each MapStore release

• **Extension Template:** we provided a template project as a quick start to encourage developers to use this system and improve it

https://github.com/geosolutions-it/MapStoreExtension

Thanks to Rennes Métropole and geOrchestra ! ☻

17th of May 2022 - geOcom
Check out the updated **User and Developer** guides of the release v2022.01.01

https://mapstore.readthedocs.io/en/v2022.01.01/user-guide/home-page/

https://mapstore.readthedocs.io/en/v2022.01.01/developer-guide/requirements/

17th of May 2022 - geOcom
Ongoing work

We are actively working on interesting new features and improvements for existing tools to be available in next releases!

The MapStore community is also growing a lot, Thank you all! 😊
Ongoing work

- **3D Tiles:** we are working to improve the MapStore 3D viewer through the inclusion of new interesting updates:
  - **Update of the Cesium JS library** to the latest version. This helps to solve also some performance issues present in the older version
  - **Support for a new catalog source and layer type** for 3D Tiles
  - **Support for 3D Tiles styling**
  - More work in progress to support **more styling capabilities**

---

**3D Tiles Specs 1.0**

2022.Q1
2022.Q2

17th of May 2022 - geOcom
Ongoing work

• **More on 3D**: we are working to move further steps on the 3D functionalities

• **Some experiments** aimed to support 3D geometries in the Cesium map (in GeoJSON format)

• **Support of WFS layers** also in Cesium map

• **Enhancements** aimed to evolve the styling of client side vector features with an improved Visual Style Editor (both 2D and 3D maps)
Ongoing work

• **More on 3D:** we are working to move further steps on the 3D functionalities

• **More experiments** aimed to enrich the **styling capabilities of 3D Tiles** (based on the [OGC Styling specifications 1.0](https://www.opengeospatial.org/standards/ogcstyles)) such as: labels, alignment of Graphics (Marks/Icons) and labels, clamp to ground and extrusion properties and more

• **Some investigations** to possibly support **experimental styling properties**

• **Some experiments** aimed to include the selection of **multiple Terrain layers** for in the 3D map

17th of May 2022 - geOcom
Ongoing work

- **Additional capabilities added to existing tools:** in v2022.01 some interesting enhancements and new features have been included

- **Improved the WMTS support:** more support of WMTS layers in GeoStory and added Attributions for WMTS background layers

- **Snapping function for Attribute Table:** in edit mode it is now possible to snap features to other ones when editing geometries

Thanks to Rennes Métropole and geOrchestra!

Loading strategy included! Support to implement additional strategies in addition to the default ones
Ongoing work

• **Additional capabilities added to existing tools:** in v2022.01 some interesting enhancements and new features have been included

• **3D query parameters:** enhanced sharing capabilities for the 3D map providing the support for additional options for the camera orientation

• **Map Viewer query parameters:** enhanced the support to viewer query parameters (also via POST)

Thanks to Rennes Métropole and geOrchestra! 😊
Ongoing work

- **Layout enhancements:** in v2022.02 some interesting improvements will also be provided for the new MapStore layout where:
  - The Options menu will be replaced by a **Sidebar**
  - Other layout changes such as: **smaller buttons** and **reduces size of side panels on the right**

Thanks to Rennes Métropole and geOrchestra! 😊

17th of May 2022 - geOcom
Ongoing work

- **MapStore Charts**: we are working to improve charts
  - In v2022.01 MapStore widgets have been enhanced with classification capabilities for **Bars (staked and grouped)** and **Pie charts**

Both **MapViewer** and **Dashboard** are supported!

17th of May 2022 - geOcom
Ongoing work

- **Downstream projects:** we are working on a new project system that helps to maintain and update existing projects and new ones. We are going to separate gradually the core from the product to have the core library in npm package(s).

- **Performances:** MapStore is growing very quickly. For this reason, we are working to keep it as optimized as possible to:
  - Reduce the loading time at startup by reviewing and reducing the bundle size
  - Optimize build time and resource consumption

---

2022.Q4

---

2022.Q3  
2022.Q4
That’s all folks!

Questions?

info@geosolutionsgroup.com

17th of May 2022 - geOcom