

# Utilizing SCALAR lightning location system for power systems applications

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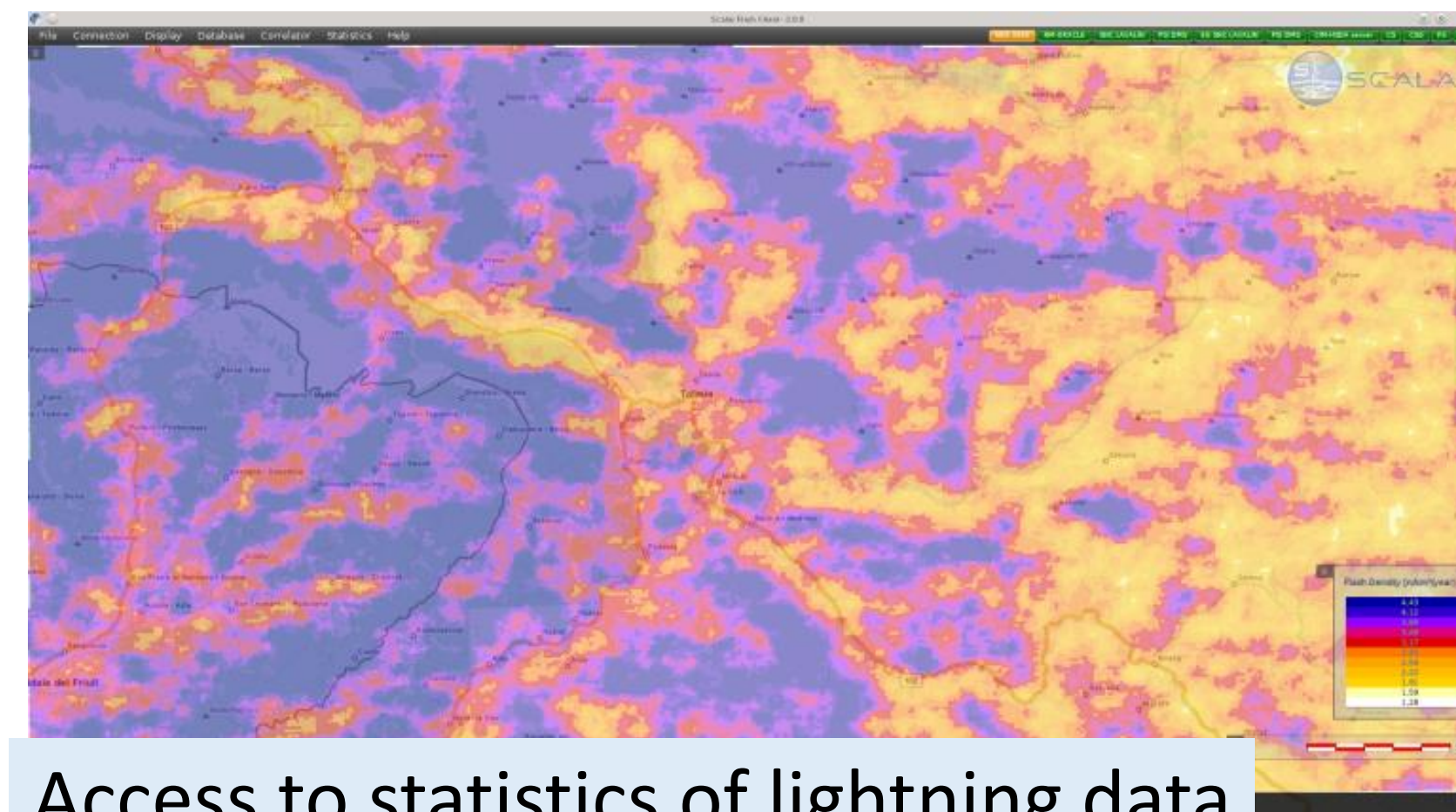
## INTRODUCTION

Since 1998, EIMV owns, runs and develops SCALAR lightning localization system. Therefore, we decided to improve our old user interfaces based on years of experience with much more advanced mapping capabilities and functionalities. The user can now access the lightning data much easier and is able to perform data analysis and monitor weather data in real time. Custom GIS, alarming and correlation services can now be integrated in a whole new way.

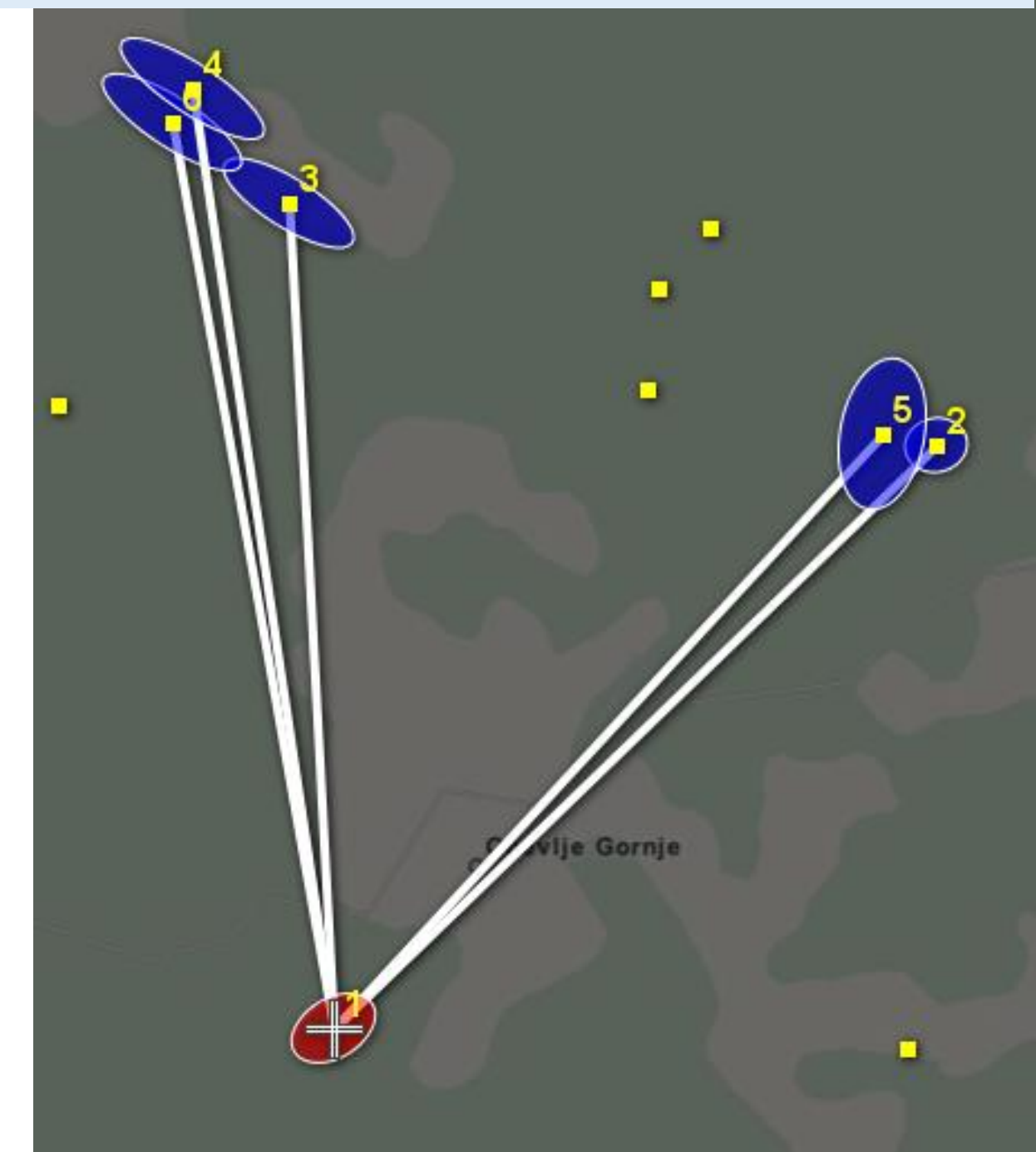
### Fulfilled requirements of new SCALAR information system

- All SCALAR services have to be accessible from single entry point, for example an integration bus like SCALAR interface – web service
- The lightning domain server platform has to contain a set of common services like the discovery, authentication and authorization of the user.
- Administrator must be able to create user profiles to which several SCALAR services can be attached. This simplifies procedures of creating and setting up user's permissions.
- The lightning mapping has to use advanced techniques and maps.
- All displayed lightning and weather service data have to be in vector format.
- The SFC has to be capable of using other services from several server domains. Different Web Map Service can offer different geographical information to the end users
- The life cycle of software solutions should be at least 10 years long.

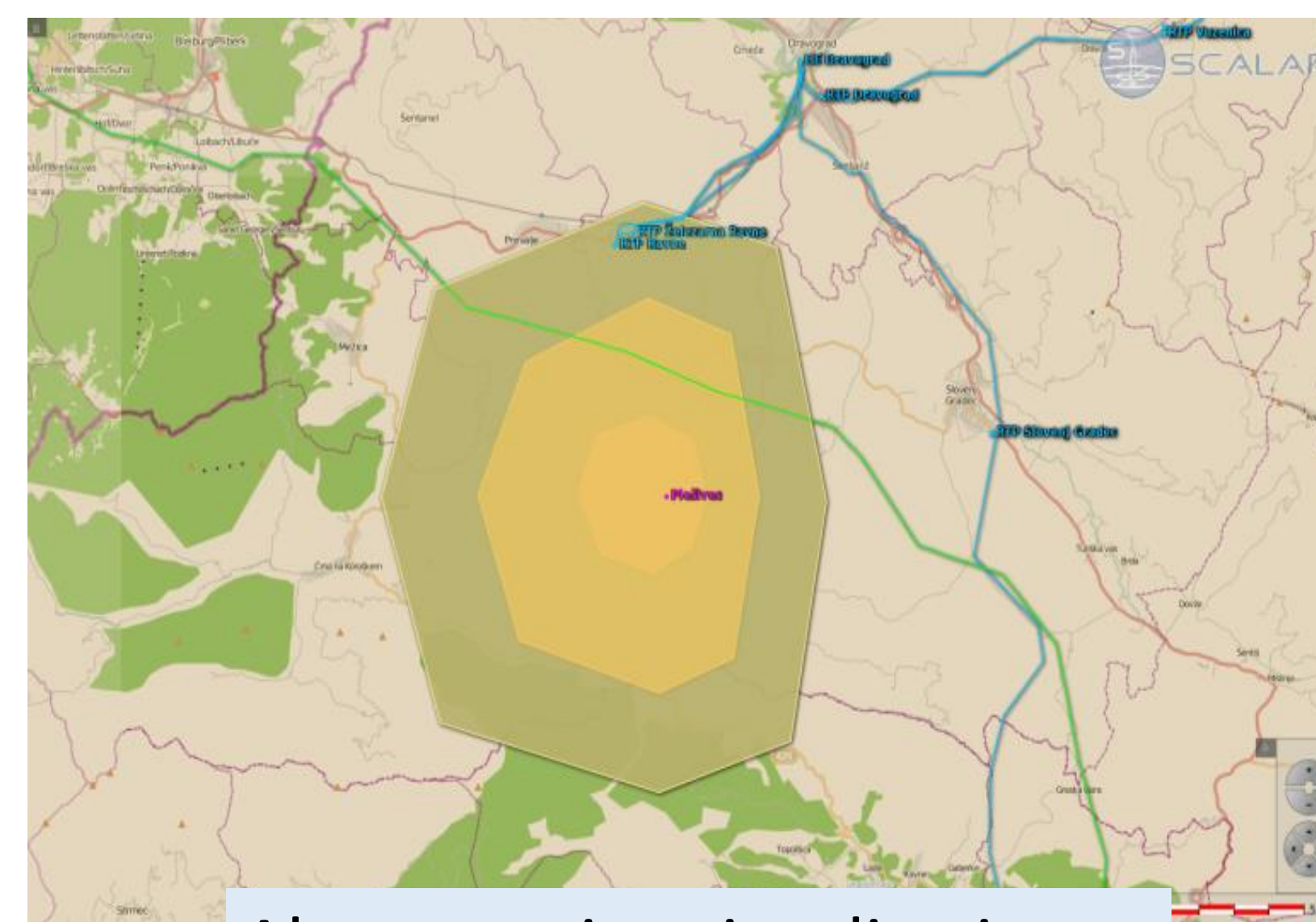
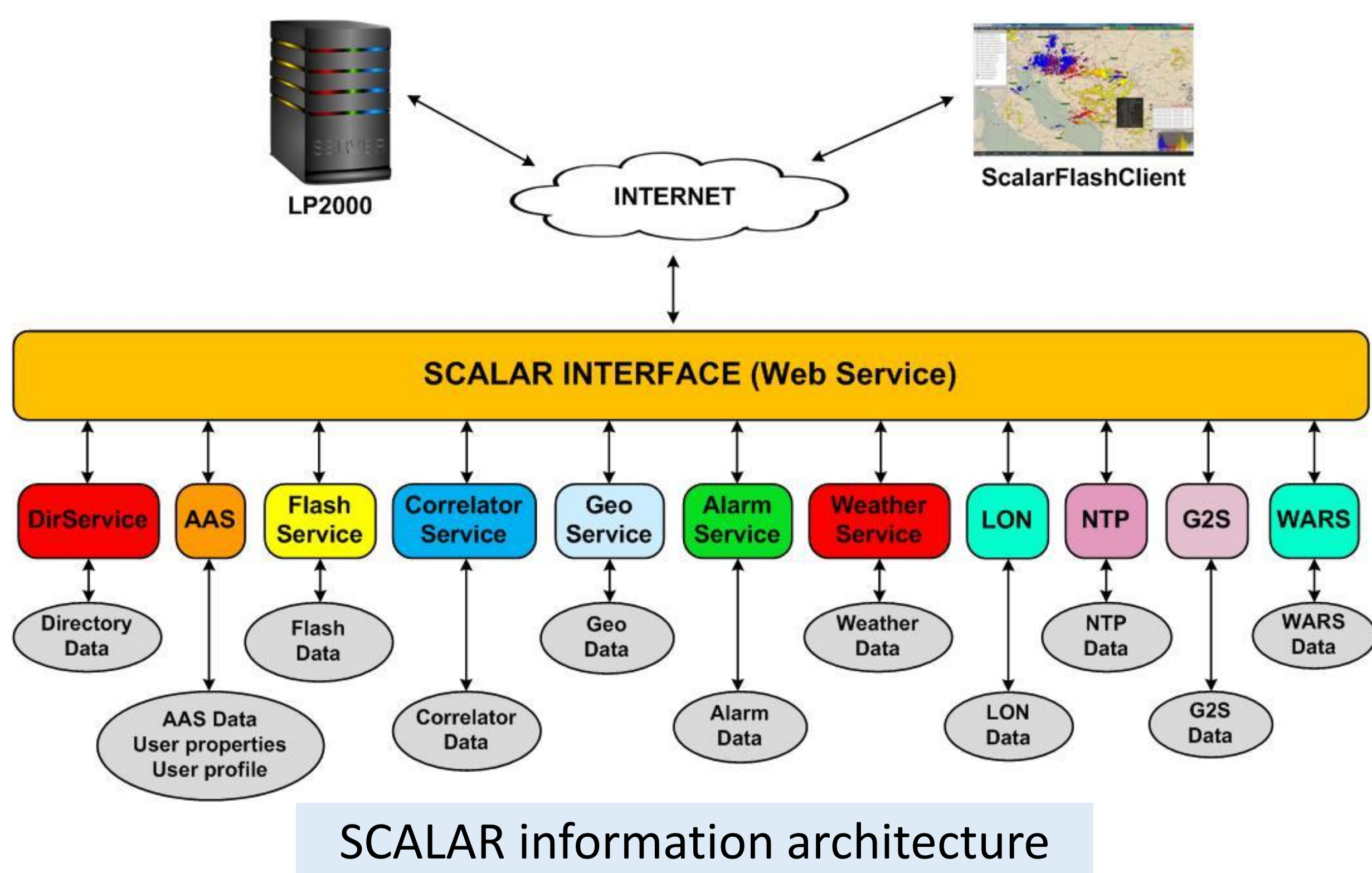
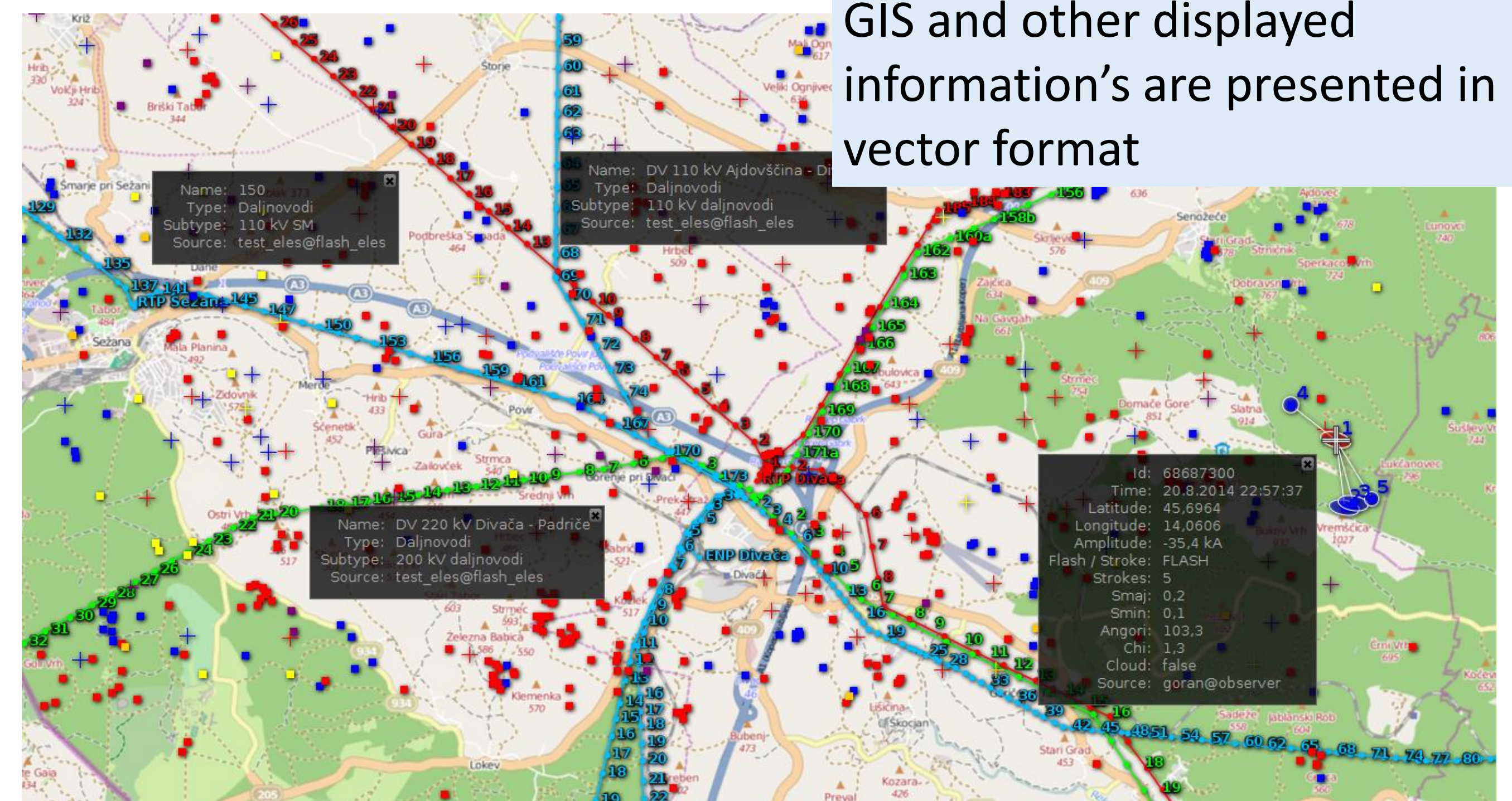
Access to advanced information of lightning data



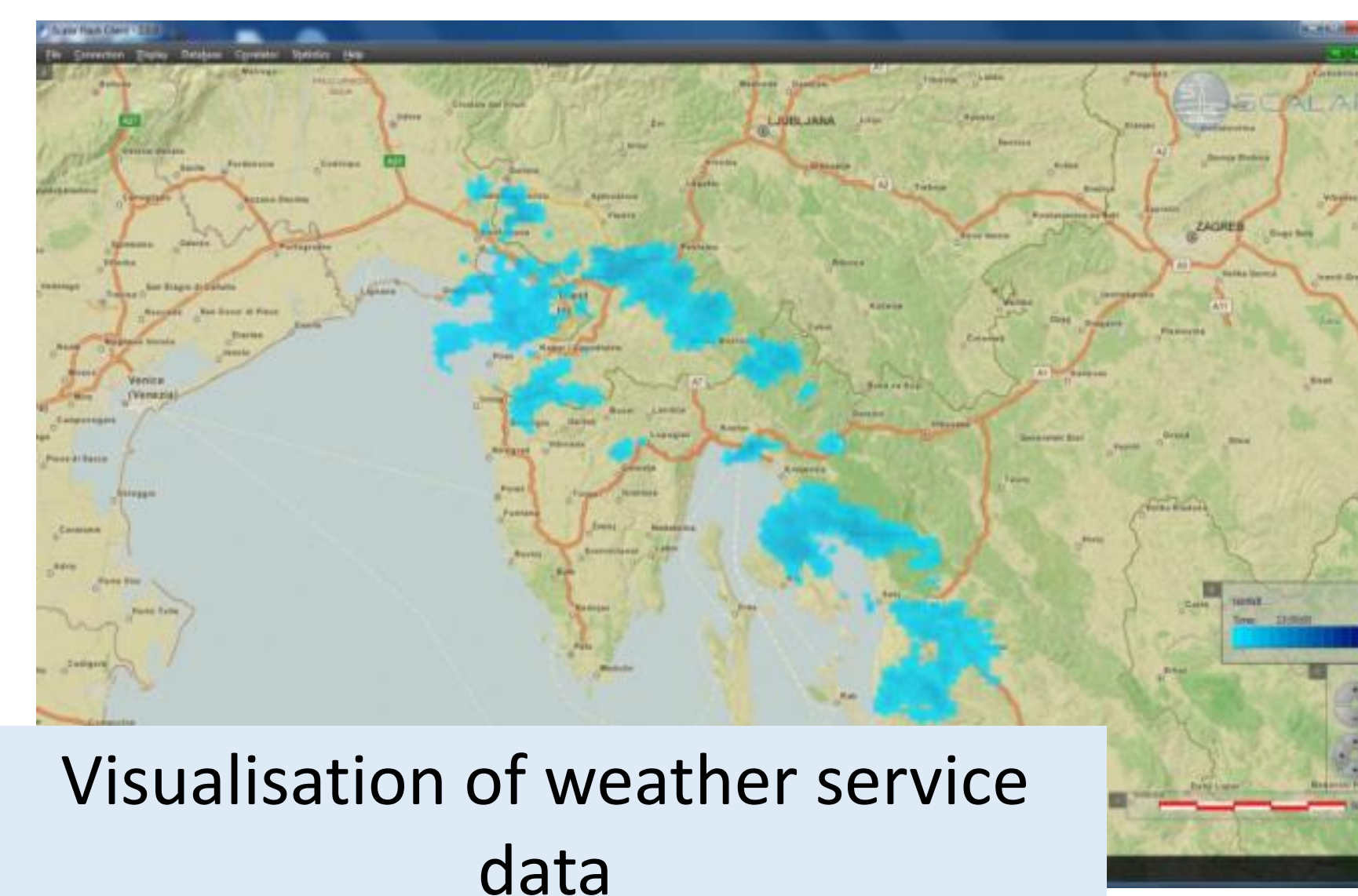
Access to statistics of lightning data such as flash density, amplitude distribution



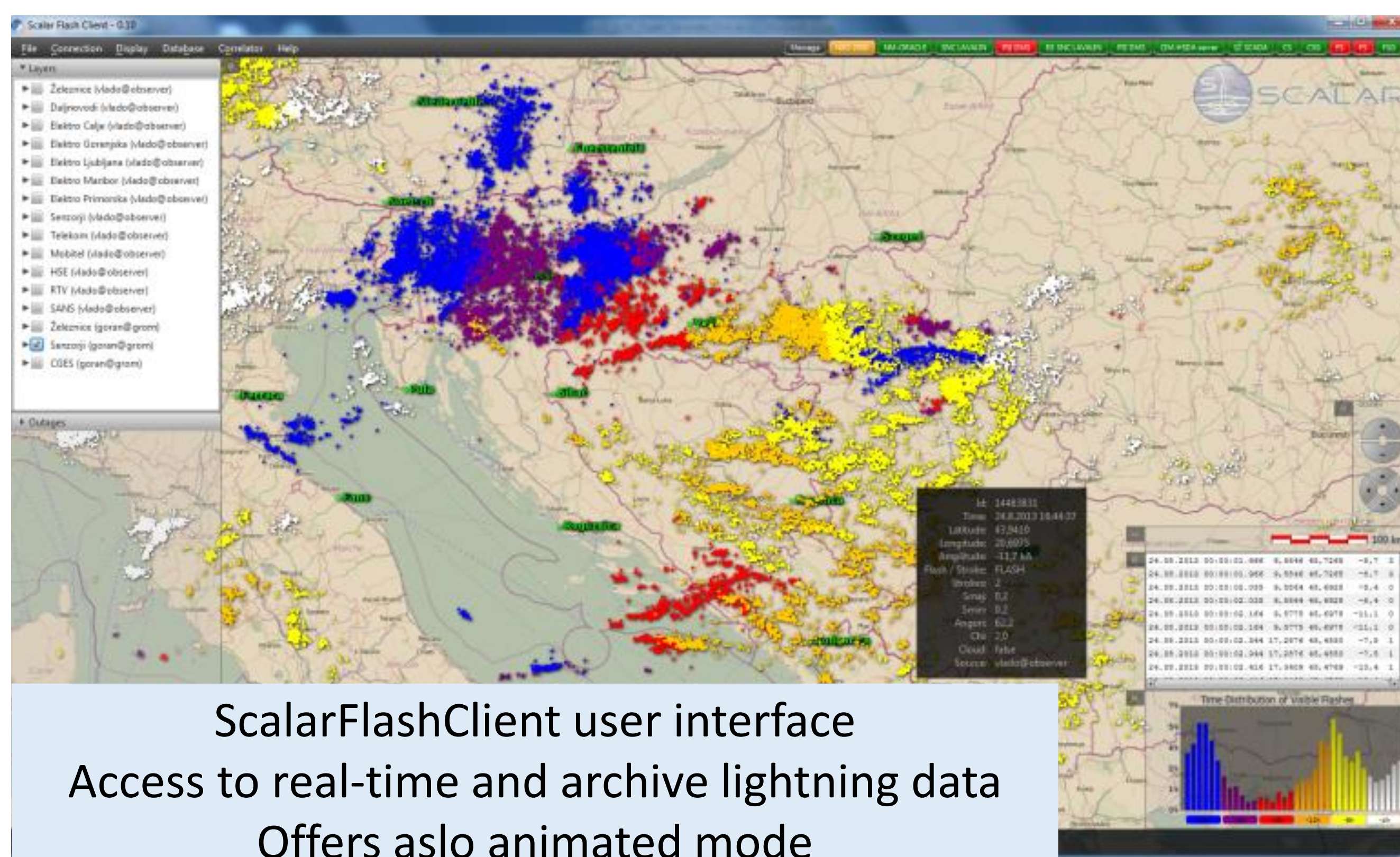
GIS and other displayed information's are presented in vector format



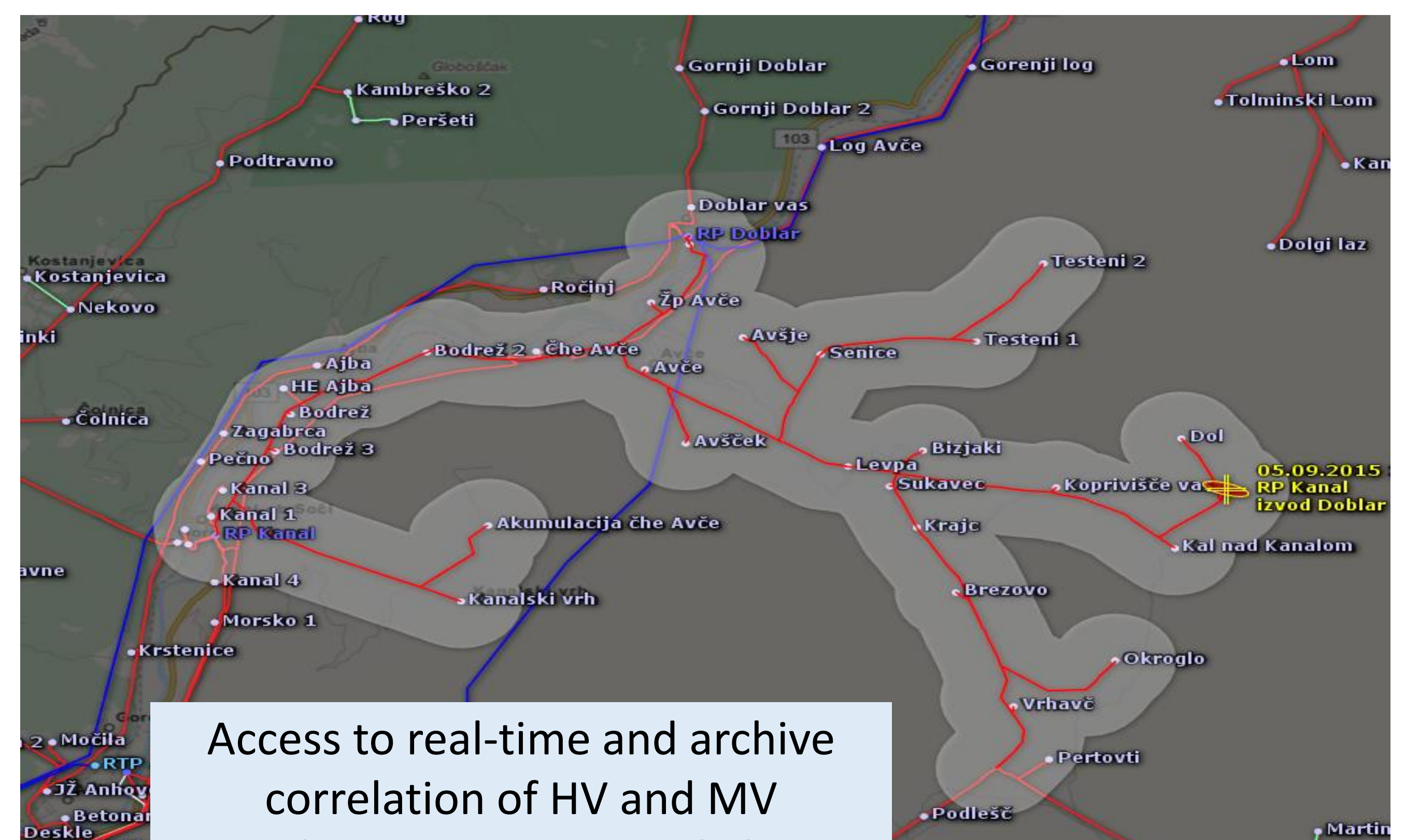
Alarm service visualisation



Visualisation of weather service data  
Radar rainfall reflectivity  
Cloud satellite data



ScalarFlashClient user interface  
Access to real-time and archive lightning data  
Offers also animated mode



Access to real-time and archive correlation of HV and MV powerline outages due to lightning