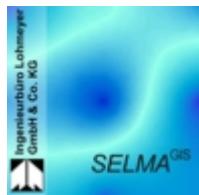


SELMA GIS 9



SELMA^{GIS} for ArcGIS 9.x/10

AUSTAL2000
MEMO and MARS/MUSE,
PROKAS
OML-Highway

SELMA^{GIS} is a system for Air Pollution Modelling and Visualization. **SELMA^{GIS}** offers a unique graphical user interface to work with different dispersion models. It's based on the Geographical Information System ArcGIS 9.1 - 9.3, 10 and is used as an extension in ArcMap. **SELMA^{GIS}** makes it easy to work with different sophisticated dispersion models utilising all advantages from the large functionality of ArcGIS, e.g. getting and preparing input data from large data bases, result evaluation by spatial joining with different theme layers and 3D-visualisation (requires 3D-Analyst extension from ESRI).

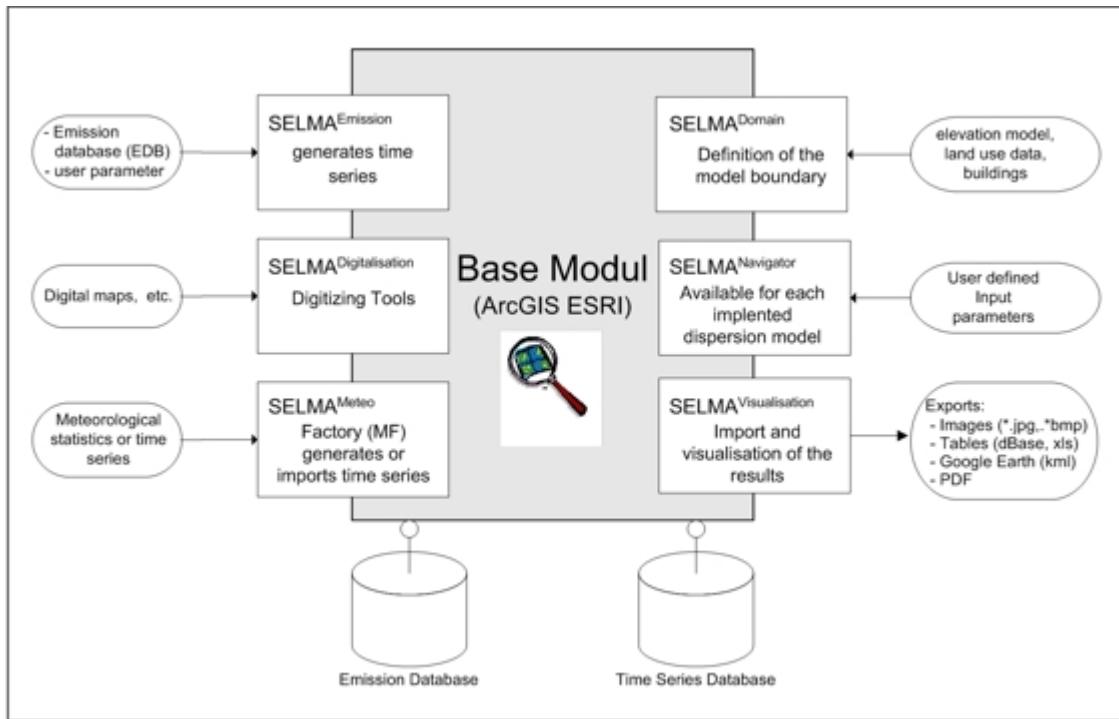
Modules in SELMA^{GIS}

SELMA^{GIS} includes the following Tools:

- **SELMA^{Digitizing}** Tools. For digitising road, area and point emission source and 3-dimensional building information's. All data are stored as data base format Shape (ESRI)
- **SELMA^{Meteo}** for importing, visualizing and meteorological information from measured data,
- **SELMA^{Emission}**
 - to define time series (variation in the year) and
 - to calculate the exhaust pipe emissions of vehicles, including Pm10 emissions calculation appropriate Düring et.al
- **SELMA^{Domain}** for defining the receptor grid (nesting is possible)
- **SELMA^{Navigator}** for starting the current model. There are implemented yet [AUSTAL2000](#) [1], [PROKAS](#) [2], [OML-Highway](#) [3], MEMO and MARS/MUSE
- **SELMA^{Results}** to evaluate result data coming out from different dispersion models. The results of each calculation are visualized directly in ArcMap (*. shp) and saved as EXCEL compatible files (*. dbf). Further processing, for example for comparisons with monitoring data, is possible. Various export formats are supported from ArcGIS, e.g. PDF, JPEG, TIF, Mapinfo, Google Earth (only with ArcGIS 9.3 and higher).

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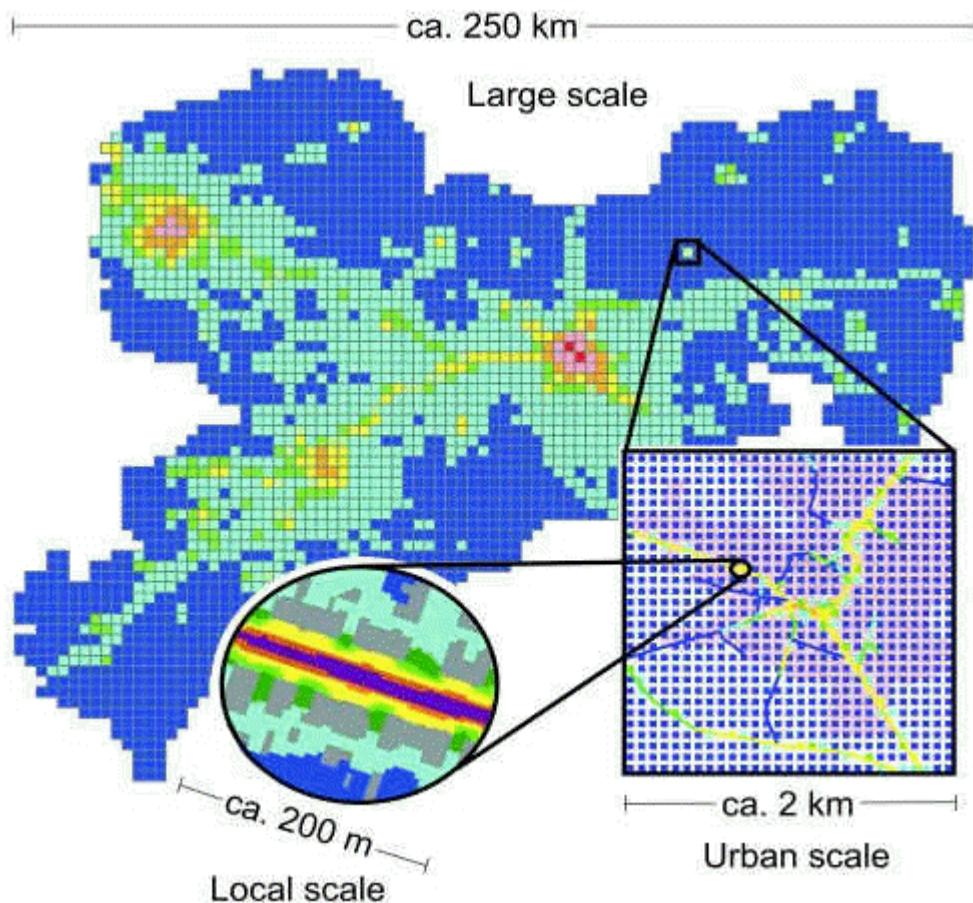
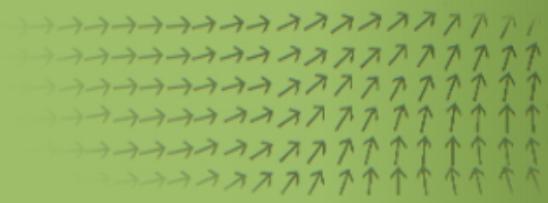
At this time SELMA^{GIS} includes the following dispersion models:

- [AUSTAL2000](#) [1] for calculating dispersion of various substances from point (stacks), line (Streets), area (dumps), grid (emission inventories) and volume emission sources. AUSTAL2000 includes a 3-dimensional Lagrangian particle model and contains a flow model being able to cope with complex terrain (mountains, hills) and also the effects of buildings. AUSTAL2000 is official German Federal Environmental Agency air pollution dispersion model and meets the demands contained in appendix 3 of the German "Technical Instruction Clean Air" (TA Luft).
 - The mesoscale meteorological model [MEMO](#) [4] and the dispersion model [MARS/MUSE](#) [5] including a model for photochemical reactions. It can be used for calculation in large extents and is able to consider emission inventories. MEMO and MARS/MUSE is developed and supported by the University of Thessalonica, Greece
 - [PROKAS](#) [2] is used for calculation of air pollution concentration on roads and road systems. It consists of various modules to calculate traffic induced emissions on roads ([PROKAS_E](#) [6]), pollutant dispersion on roads without or with loose developments, as well as dispersion on densely developed roads (street canyons).
 - The dispersion model [OML-Highway](#) [3] was developed especially for motorways by the Aarhus University, Roskilde in Denmark.
 - Additional dispersion moduls will be implemented on demand

SELMA GIS is available in English, German and Lithuanian language. The documentation and online help is only available in English language.

Area of Application

SELMA^{GIS} can be applied in different scales (from mesoscale down to microscale) as well for **screening** purposes to get first quick estimations on the basis of a reduced set of input data, as for **sophisticated applications** using high quality data and models.



Reference

The modules of **SELMAGIS** are tested and in practical use in Germany, Austria, Bosnia, Lithuania, Bulgaria, Luxenburg and offices of Ingenieurbüro Lohmeyer GmbH & Co. KG in Karlsruhe and Dresden..

Hard- and software requirements

SELMAGIS require the operating system Windows 2000, XP, Vista or Windows 7 and a licence of ArcGIS 9.1 - 9.3.1, 10.x We recommend a PC with Processor Pentium ® IV or equivalent, minimum speed 3.0 GHz, minimum DDRAM 512 MB better 1 GB and HDD minimum 100 GB.

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Price List

SELMA GIS Base Module	Commercial	1st licence	1950,00 EUR
		any further licence	1360,00 EUR
SELMA GIS AUSTAL2000	Academic Institutions	1st licence	500,00 EUR
		any further licence	450,00 EUR
SELMA GIS PROKAS	Commercial	1st licence	2000,00 EUR
		any further licence	1330,00 EUR
SELMA GIS PROKAS	Academic Institutions	1st licence	500,00 EUR
		any further licence	450,00 EUR
Maintenance		Update and hotline service	12 % of the licence costs/year (6 month after selling date update and hotline service is free of charge)
Training		Location: Dresden or Karlsruhe	800,00 EUR/day
		Onsite training	800,00 EUR/day + 1600,00 EUR + costs of accommodation, travelling and flight

The Module MEMO/MUSE we offere on enquiry.

All prices exclusive VAT

Demo version: 30 days free of charge licence for all features

[Downloads \(Manuals, Trial full Version\) \[7\]](#)

Verweise:

- [1] <http://www.austal2000.de/de/home.html>
- [2] <http://www.lohmeyer.de/en/content/software-sales-distribution/product-overview/prokas>
- [3] <http://envs.au.dk/en/knowledge-exchange/luft/model/oml-highway/>
- [4] http://pandora.meng.auth.gr/mds/showlong.php?id=20&MTG_Session=664609dba4c071beb05fedd04e839532
- [5] <http://pandora.meng.auth.gr/mds/showlong.php?id=19>
- [6] <http://www.lohmeyer.de/en/content/software-sales-distribution/product-overview/prokas/prokas-e-description>
- [7] <http://www.lohmeyer.de/en/content/downloads/software>

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