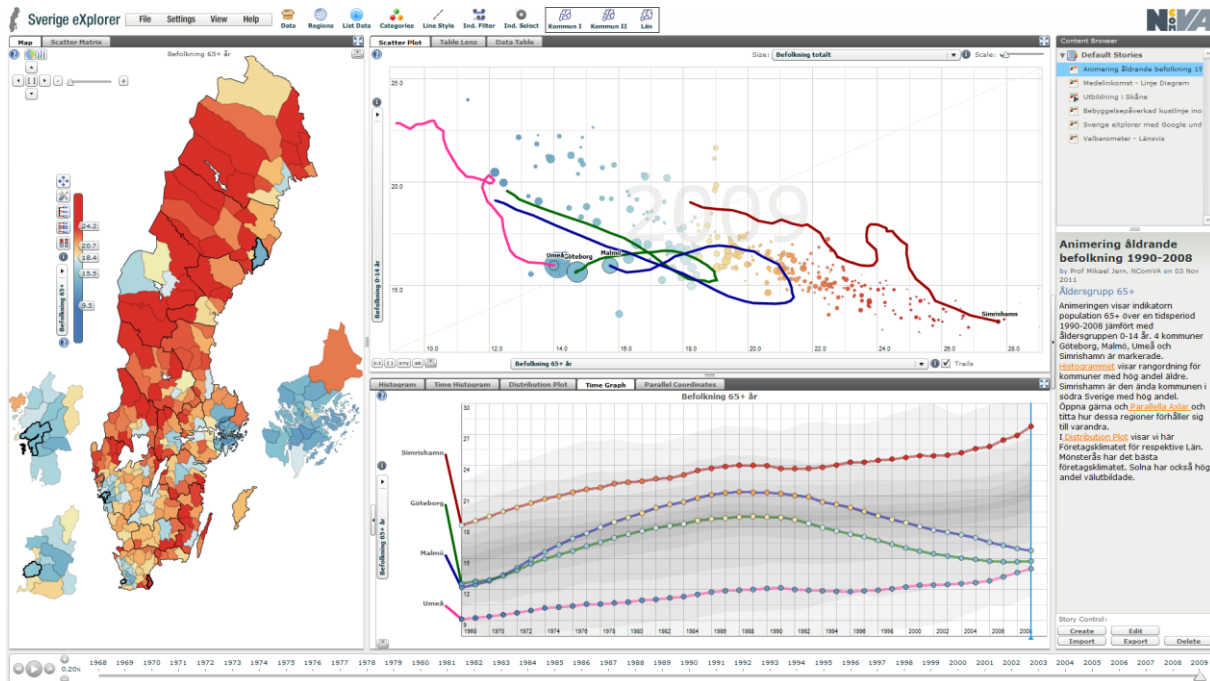


# Sverige eXplorer Desktop

*Our Innovate visualization approach turns information into sharable understanding and invokes the way you communicate knowledge*

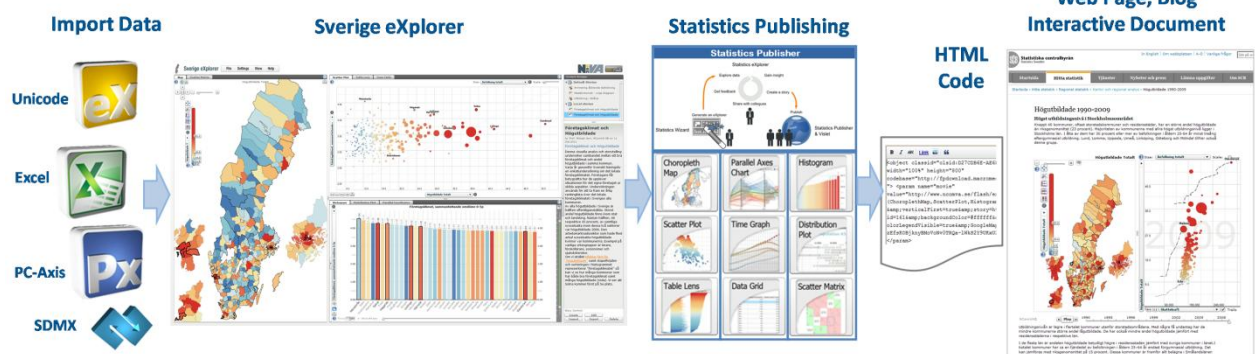


Sverige eXplorer Desktop linked views application showing ageing population (65+) 1968-2009 with four highlighted municipalities

Statistics data have great potential to generate knowledge and serve as basis for decisions taken by many actors in society. NComVA provides innovative tools web-enabled statistics visualization software for exploring, presenting and publishing regional statistics data for a single year or animated time series based on richer and more dynamic visual user interfaces. Sverige eXplorer facilitates methods for exploring regional statistics (Swedish counties and municipalities) that can uncover hidden structures and relations and let the analyst present her findings through storytelling to a broad audience. The combination of Sverige eXplorer

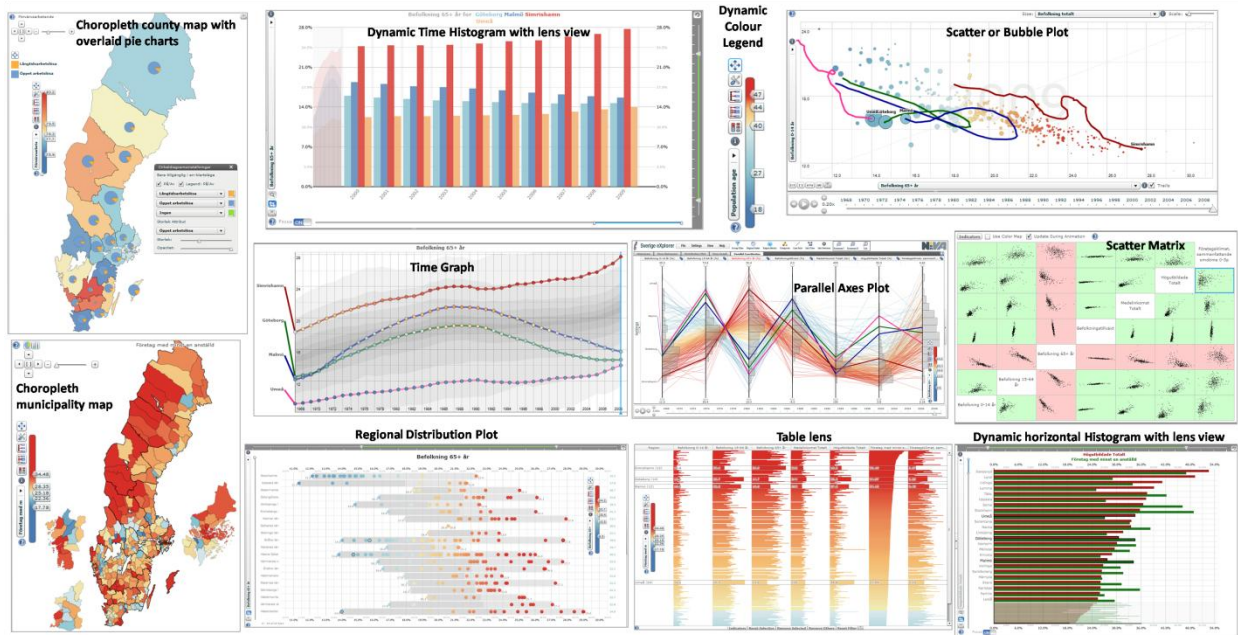
(explore, gain insight and knowledge) for the analyst and Statistics Publisher represents the tool for an integrated statistics analysis, collaboration and publication process facilitating storytelling aimed at producing statistical news content that can easily be deployed in your blog or web site.

Sverige eXplorer is based on our awarded object-oriented component toolkit GAV Flash framework adapted for Adobe's Flash and Flex and does not require installation of any other software and will run anywhere. Vislets are then used for sharing gained knowledge to educate the public or highlight news.



Import statistics indicator data from Excel, PC-AXIS or SDMX – Explore, inquire, animate in Sverige eXplorer - Make discoveries through trends and patterns and derive insight – Important visual discoveries are captured into snapshots together with your descriptive and analytics reasoning text - Gained knowledge is then the foundation for creating and exporting your story that can be shared with colleagues and reach consensus and trust for your discoveries and knowledge. Get feedback from colleagues and adopt the story - Finally use Statistics Publisher on our Portal to deploy your story based on interactive “Vislets” (small visualization widgets) loaded with your preferred indicators and snapshots –Copy the automatically created HTML code with all required links included to geographic and data sources - Publish by embedding the HTML code into blogs or Web pages accessible to thousands of people that can interactively follow your analytics reasoning and share knowledge.

# Better understanding through simultaneously linked visualization views



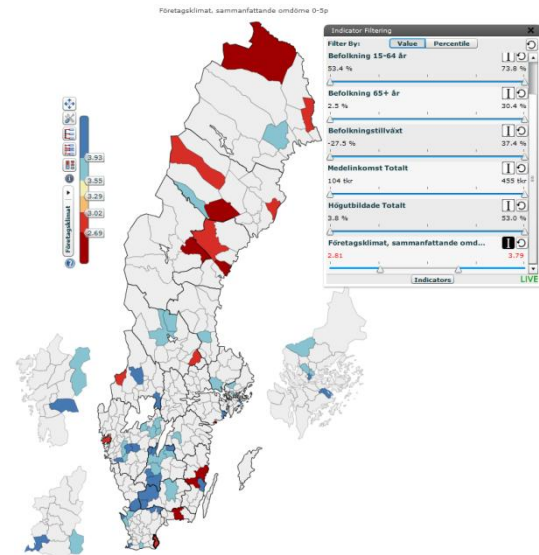
Interactive motion visualizations are explored through multiple-linked views using simultaneous filtering, highlighting and colouring

**Sverige eXplorer** includes a collection of interactive methods from Information and Geographical visualization (Geovisual Analytics) see figure specially adapted and customized to the behaviour and requirement of large multidimensional and spatio-temporal data. Interactive features necessary to support a geovisual analytics exploration process includes tooltips, brushing, highlight, visual inquiry, drill down and dynamic indicator filter mechanisms for detecting outliers (see figure). In order to detect complex patterns it is also convenient to view statistics data through a number of different visual representations simultaneously, each of which is best suited to highlight different features. The linked views are coordinated. Any filtering, highlighting or colouring made in one of the linked views is transmitted to all the others.



### Storytelling and Story Editor in Sverige eXplorer

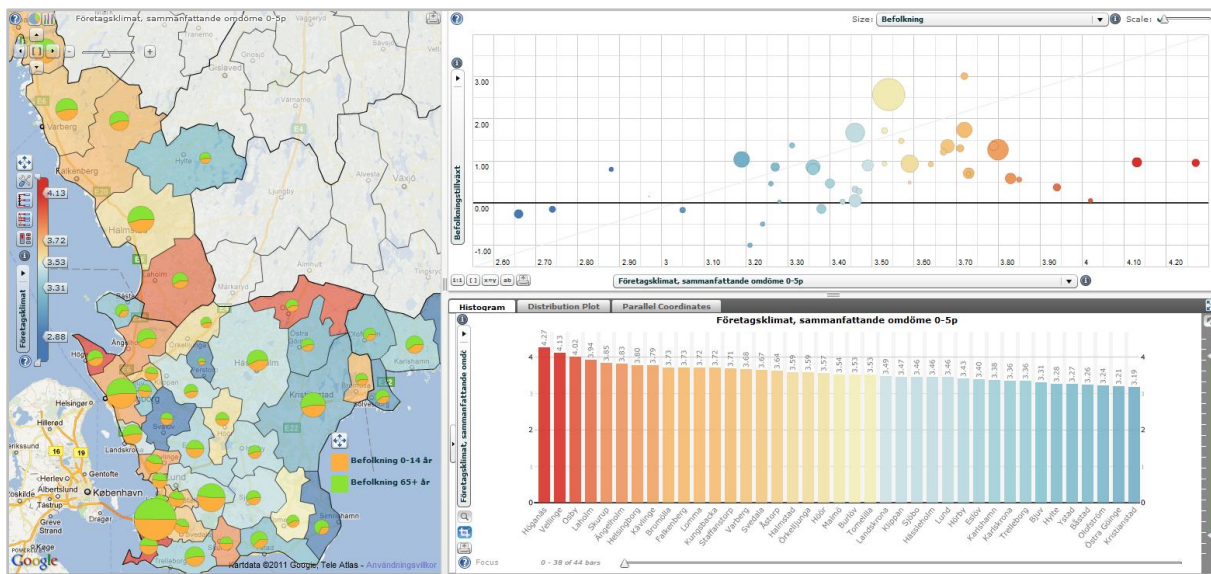
Our innovative Storytelling tools transforms discoveries into knowledge with collaborative means that streamline a knowledge exchange process of developing a shared understanding with other experts. After a consensus has been reached, the story can be published. The "Snapshot" mechanism helps the author of a story at any time during the explorative process to highlight and capture important discoveries such as indicators, time steps, regions of particular interest subsequently guiding others through these discoveries.



Dynamic Filter mechanism for detecting outliers. Indicator "företagsklimat" is filtered where blue means municipalities with high (above 90<sup>th</sup> percentile) and red are below the 10<sup>th</sup>.

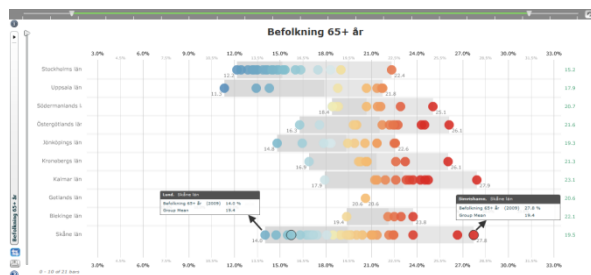
**Sverige eXplorer** supports dynamic visual inquiries such as filtering out uninteresting regions reducing the statistics data set to a smaller and more manageable size. Each indicator is represented by a pair of range sliders which define the min and max range for the query area. The range of an indicator can be specified by "dragging" the handles. Regions with values for a selected indicator, that fall outside of the specified range, are filtered out. A combination of range slider movements can be used to dynamically formulate a more complex visual inquiry. These visual conditions and constraints will immediately reflect the visual contents in all linked views. An example of a query to detect outliers using percentiles with the dynamic sliders is shown above.

## data – explore – gain insight – knowledge – understanding - action



The Regional Filter mechanism is applied to focus on Skåne, Blekinge and Halland. Only municipalities in these counties are explored.

Sverige eXplorer is applied on all och reduced set of counties and municipalities. Use the Group Filter to select counties of interest as shown in figure. Only selected municipalities and shown in the linked views map, scatter plot and histogram. The distribution plot below is another important visual representation to see the spread of municipalities within each county.



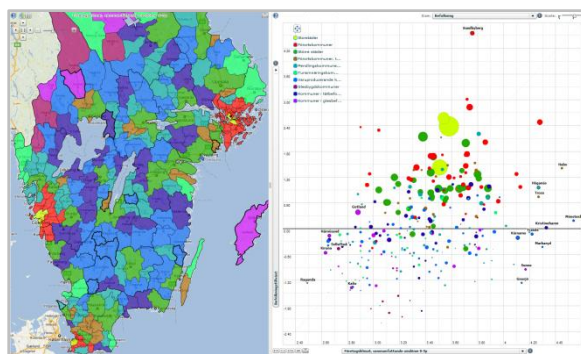
The Distribution plot for coloured indicator age group 65+ shows the range of regions within a county – Skåne in focus

### Summary of features and functionalities

- **Web** compliant **explorative, collaborative and publishable** visualization optimized using Adobe® ActionScript for Flash 10;
- **Portal** available for **Desktop** users for easy publishing;
- **Drag-and Drop** views by selecting a view by "grabbing" it and dragging it to a different location in the layout;
- **Discern trends** or patterns - **derive insight** and **understanding** – **communicate** knowledge effectively through **Storytelling** – publish for action;
- Identify **what's meaningful** in the data in ways that your eyes can see and brain can understand and Keep focused on **what's important**;
- Support **large spatial-temporal** and **multidimensional** regional data using our innovative data cube architecture;
- **Import your data** in EXCEL, SDMX and PC-AXIS formats;
- Innovative interactive methods from **Information and Geographical Visualization** including choropleth map, scatter

plot, time graph, dynamic histogram, table lens, parallel coordinates, scatter matrix, distribution plot;

- Data is **simultaneously** explored through **multiple-linked** and **coordinated views**;
- **Map layer architecture** - overlay several types of maps such as coloured statistical regions, country boundaries, background maps e.g. Google, pie chart – control transparency level for each layer;
- **Dynamic state-of-the-art colour legend**;
- Mechanism for **Storytelling** and **Snapshots** for creating dynamic Web documents;
- Use the **NComVA** Portal for publishing and get HTML code;
- **Visual inquiry** and conditioned **statistics filter** mechanisms that help detecting outliers;
- **Interactive time animation** simultaneously in all views;
- **Screen space usage is optimized** for visualization– no unnecessary visible GUI panels;
- **Modular multiple-view design** – move and scale the individual views and allocate more space to the visual representation that is most important;
- Support for **categorical data** and visual classification of, for example, urban, rural and intermediate regions.



Categorical data with various coloured classification is here applied to Swedish municipalities