

# Articque: From Statistical Mapping to Web Mapping

## Cartography for Everyone

Since 1989, Articque has been betting on the Internet to promote statistical mapping.

And for a few years now, several organizations have leaped on this opportunity to

develop web solutions or have web solutions developed for them by Articque. The

CEO of this French company, Georges Antoine Strauch, explains the lengths he had to

travel to come to that point.

By Georges Antoine Strauch

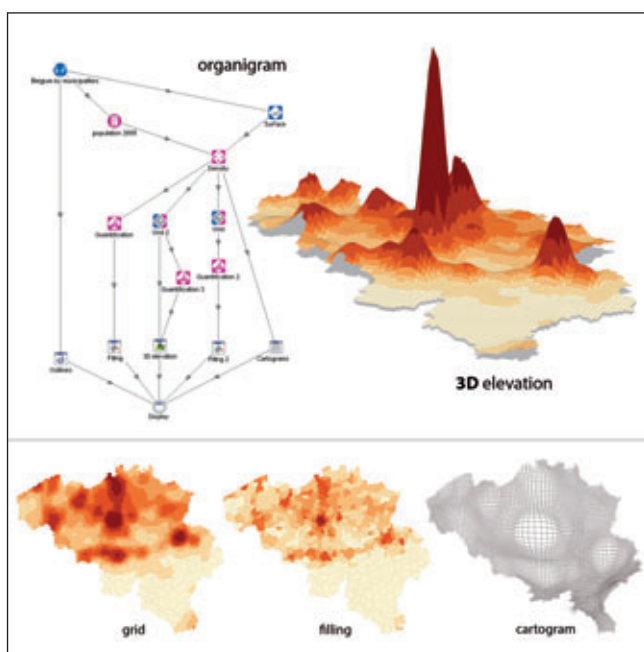


Figure 1: Thanks to the organigram (on the left corner of the screen), it is possible to display the same data with several statistical representations in one single process.

### Ch@ppe d'Or

On January 26, 2006, the French chapter of the Internet Society, ISOC France, Adminet, the Cawa and partner honoured personalities of the Internet in the areas of politics, sciences, arts, business and civil society, at the Museum of "Arts et Métiers" in Paris. Jean-Michel Billaut, from the BNP-Paribas workshop, rewarded Strauch with the "Ch@ppe d'Or". Since 1991, Strauch has been convinced that cartography should not be reduced to the simple illustration, location and displaying of distribution networks. He thought that instead of an Excel-like representation, the data would have much to gain from its representation in maps, and that this illustration should complement and enhance a purely mathematical anal-

ysis. One should then be able to go back in the process, using these more illustrative techniques to make changes and build layer upon layer. It was by taking this idea one step further that the organigram, see Figure 1, was born. Strauch wanted to propose cartography on the France Telecom Numeris network with data and maps, respectively provided by the National Institute of Statistics and Economic Studies (INSEE) and the National Geography Institute (IGN). From 1992 through 1994, he tried to convince these companies to cooperatively launch an interactive service of statistical mapping. He encountered some difficulties with the IGN, since at that time the outlines of French municipalities were available for the "modest" price of € 11,500 (\$ 13,800).

When presenting the project for financing, ANVAR, the French National Bureau for Research, thought it was too ambitious and persuaded him to settle for the mapping software he first had in mind. The bureau then agreed to finance the remaining developments up to € 175,000 (\$ 210,000).

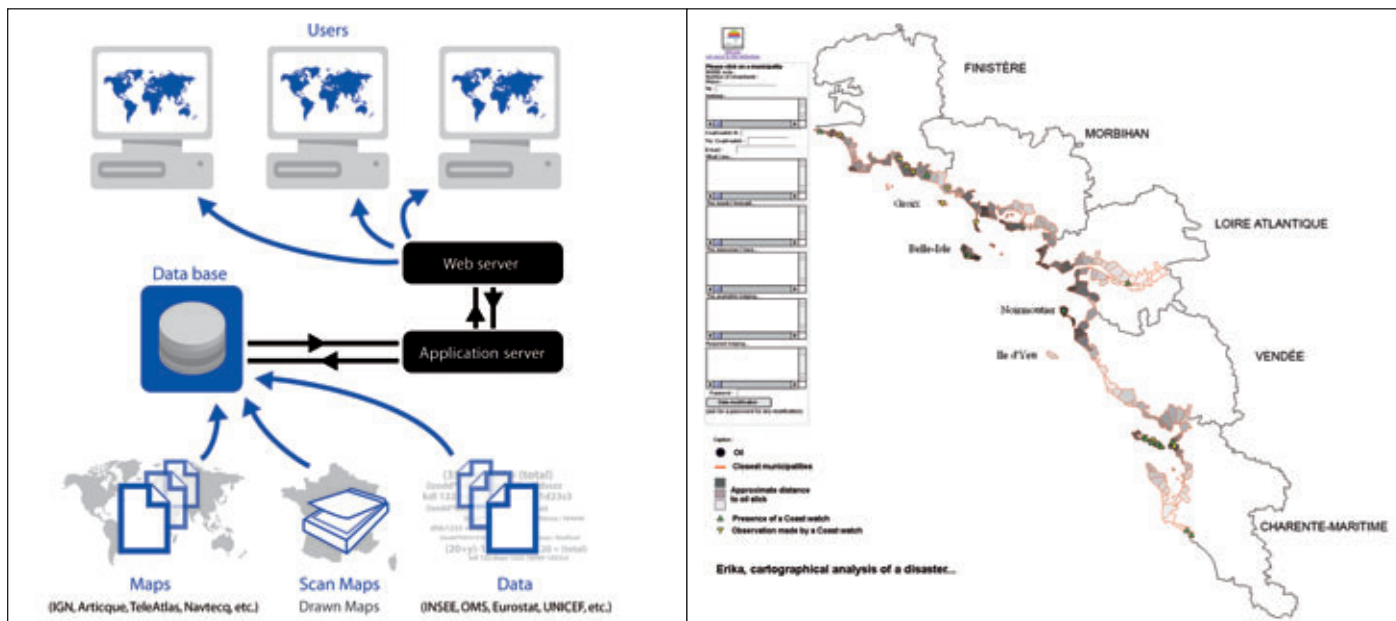
### International Standards

What emerges is a software package called Cartes & Données (meaning Maps & Data) with which the user can produce maps, endorsed by a statistical report and expert counselling provided upon request. The maps produced comply with international standards and the software has been validated by the GIP RECLUS, the principal European network of geographers. Ultimately, this software was enthusiastically welcomed and rapidly settled in the sphere of Education and Research. However, Articque kept its first conception of the software as a set of items usable in a components library. The work done through Cartes & Données materialized itself in the organigram, the real skeleton behind a future customer-server application or Intranet. The main idea was to use the work and knowledge of an experienced analyst, and make it available to the other users. This was the genesis of the integrating tool, CartoExtension, which was still under development when, in 1997, the European Community financed a project requiring this technology.

### One Day Users

Since the end of 1998, "Cartes & Données On Line", soon to become MakeYourMap.net, has been available on the web. Through this service, Articque targets the "one day users", such as the executive ending off a report, the CEO preparing the presentation of his company's results on a global scale, or the sales manager willing to analyse the accuracy of his commercial sectors. The application can be used in Education and Research, Distribution and Franchise, Transport, Local Communities, to name a few examples.

The user chooses a map, then one or two types of data, either from his own computer or from the data available on the server. When asked, he defines the type of statistical treat-



Scheme representing the functioning of the tool developed for the Daedalus project presented for INFO 2000.

Disaster management: cooperative application to save and restore the Atlantic sea coasts - Participative web mapping supporting the citizen.

ment he wants to apply and selects a cartographical displaying. Once these variables are entered, he just executes the process to obtain a map he will save to include with his documents later.

### Participative Mapping

On June 13, 1999, Articque puts the first cartography of the European elections online, with a constant update of the results. One year later, the company launches FranceElectorale.com, which becomes the first digital electoral board to display the French electoral map, as well as election results. FranceElectorale.com is dedicated to the elections, to elected officials and to electoral forecasting, and offers all candidates the possibility to freely and easily register their campaigning. They enrich an electoral map displaying the current elected officials by filling in an online form. Candidates of future elections are then able to broadcast the first news about their electoral campaign on a website totally independent from political parties. During the municipal elections of 2001, www.FranceElectorale.com achieved 500,000 visitors within a month.

### Atlantic Seashore

Another major event took place in December 1999, when the sinking of the oil tanker Erika on the French coast stirred up strong emotion. Articque put online a map of the Atlantic seashore and proposed the constitution of a civilian network, the Coast Watches. Their role was to collect data to be centralized and diffused through interactive maps on the web, representing the coastal municipalities affected by the disaster and their distance to the wreckage, while also attending to their needs

and taking into account their available resources. The data on the evolution of the oil slick and its impact on these shores were immediately collected on the map without the need for Articque to manipulate them, allowing a real-time update on the <http://erika.articque.com> website. At that time, this initiative was relayed by television (with the French channel TF1) and newspapers such as Le Point, La Tribune, and Les Echos.

### Mapping Observatory

In 2000, the CFE CGC, the French Executive Trade Union, comes into action and asks Articque to build a custom-made application. It is the first trade union to equip itself with a Mapping Observatory of the companies. This application is a geostatistical tool conceived by Articque for the elections to come, and facilitates the decentralized entering of data by local representatives of the Union. It allows the constant update of a file containing very precise information about their militants. All this information is displayed on maps calculated in real time. Only decentralized entries can enable such a big organization to maintain files up to the minute. Yet it is in a centralized way and with geographical criteria that these data are consulting, taking into account the country as a whole, as well as regions, municipalities, towns and so on. Each level of consultation corresponds to a synthetic view of the Trade Union, such as number of companies, and number of elected people. The Executive Trade Union acts on a local basis but pilots the project on a national level, which allows the Confederation to make strategic decisions based on synthetic and hierarchical data.

To support the connection of nearly 150 simul-

taneous users, Articque relied on Linux, Apache, Java, MySQL and its mapping engine awarded by the European Community and the ANVAR.

### Best Coverage

In 2004 Articque was contacted by the Medical Services of the SNCF who needed to develop an Intranet solution. Its function was to ensure the best and most thorough coverage possible of the French territory, in order to guarantee a fair and equal quality of service to each and every single SNCF employee, with respect to health services. The solution developed by Articque is conceived for regional administrators, enabling them to:

- Attribute each municipality to one medical sector and to one general practitioner (GP) in particular;
- Improve the number and the location of the chartered GPs with respect to the SNCF personnel.

The use of mapping allows the administrators to carry out their investigations for the covering of national territory by chartered GPs able to respond to SNCF personnel needs. It also allows them to quickly construct decision-making files. One of the main assets of the application is its ability to display the municipalities where a GP is affected, consequently allowing the administrators to extract the ones which need an allocation.

Georges Antoine Strauch ([gas@articque.com](mailto:gas@articque.com)) is CEO of Articque. To get more information: [www.articque.com](http://www.articque.com), [www.cartomatique.com](http://www.cartomatique.com), [www.cartesetdonnees.com](http://www.cartesetdonnees.com), and [www.mapanddata.info](http://www.mapanddata.info).