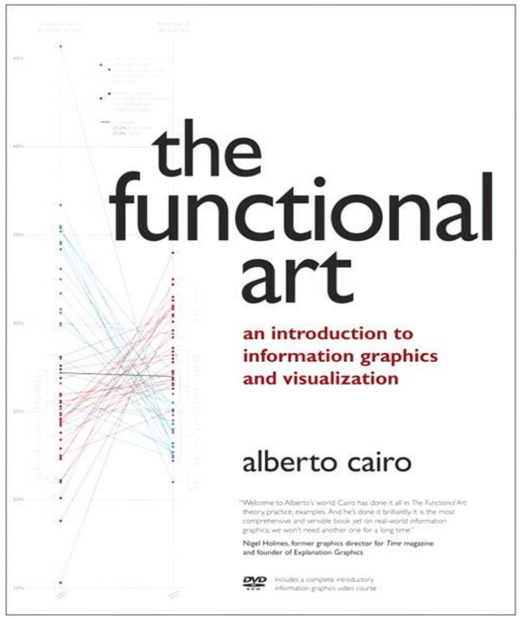
At the School of

OPENCOHESION

DATA VISUALIZATION

UNDERSTAND THE DATA FOR BEST RESULTS



Alberto Cairo
The functional art

“Unlike any time before in our lives, we have access to **vast amounts of free information**. By transforming numbers into **graphical shapes**, we allow readers to understand the **stories those numbers hide.**”

To visualise the data it is essential to choose the appropriate type of visualisation for the type of data you have available.

- If correct, it allows you to understand the essence of the data
- If incorrect, it can entirely negate the meaning.

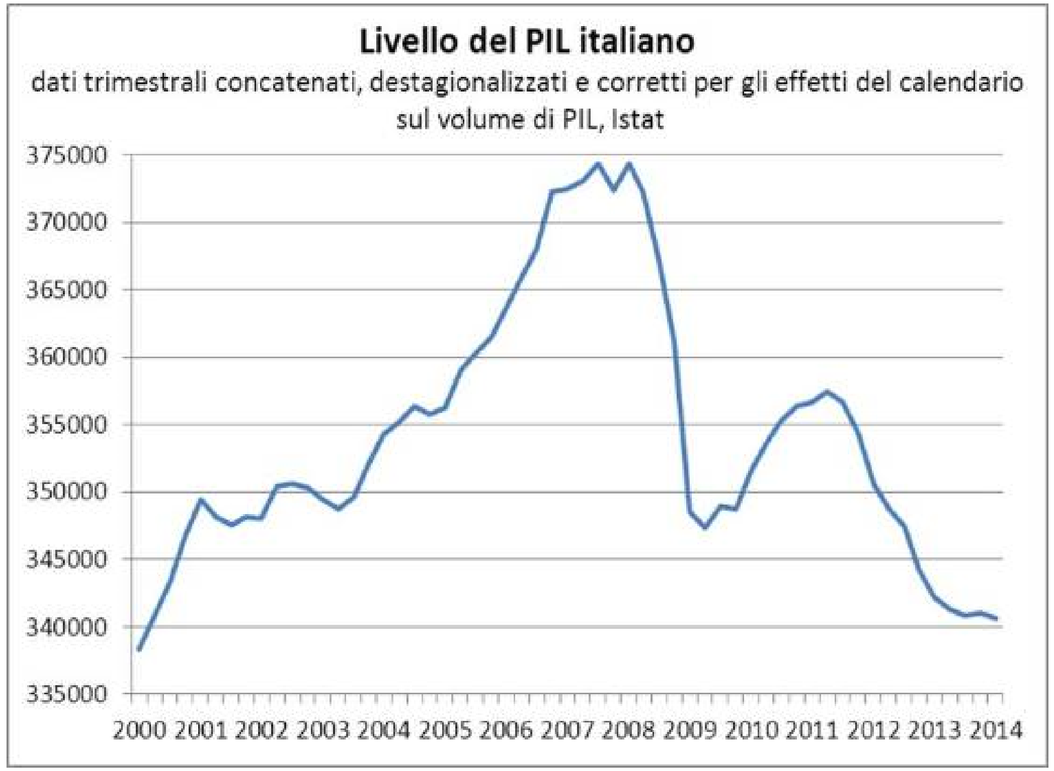
TYPES OF GRAPHS FOR DATA VISUALIZATION

A type of graph for each type of data

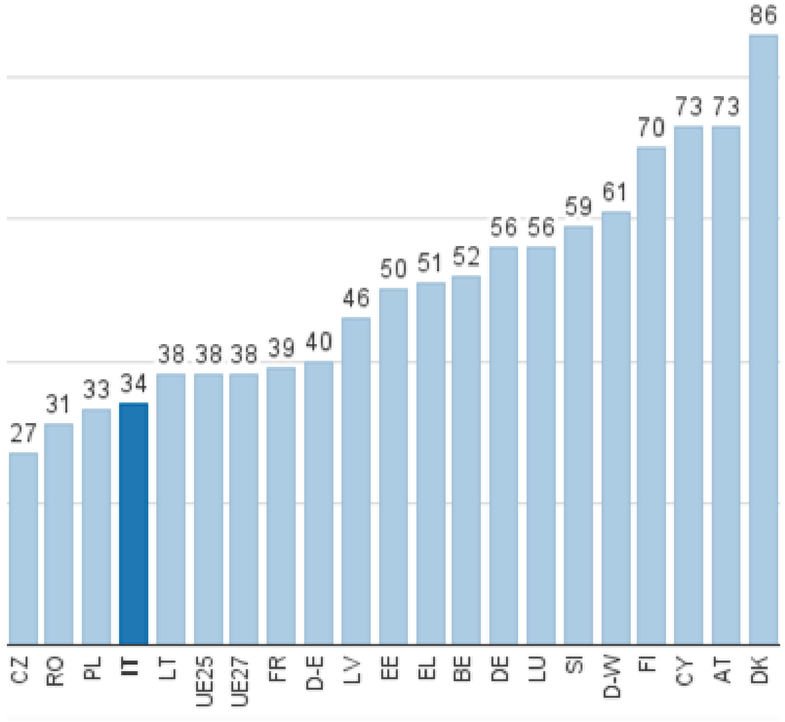
To choose how to visualise the data you have to evaluate their nature and the objective that you want to attain.

GRAPH TYPES: LINE GRAPH

The **line graph** is the most widely used for showing changes or trends over time.

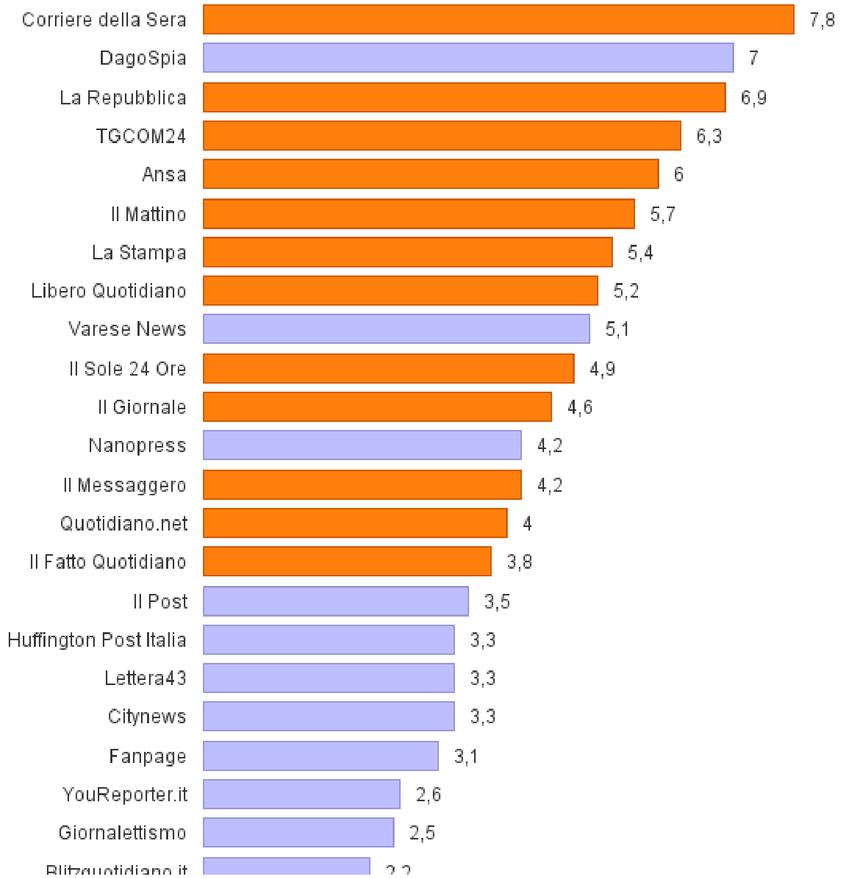


GRAPH TYPES: HISTOGRAM



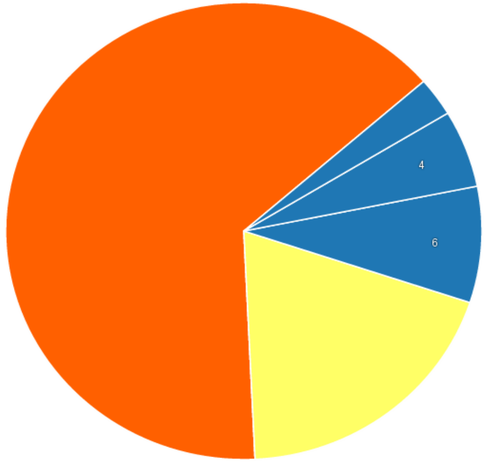
When the values of each element, such as nations, have no mutual relationship with one another, or when it is important to highlight certain specific values, a **histogram** is preferable over a point or line graph.

GRAPH TYPES: BAR CHART



This variant is very useful if you have many long labels to demonstrate. Here the information is on the left part of the visualisation, leaving more space and making it more readable.

GRAPH TYPES: PIE CHART



The **pie chart** is used for demonstrating data that added together represent a whole (representing parts of the whole when taken singly).

The **doughnut chart** is a variant of the pie chart: often used in the political sphere to indicate the distribution of majority and opposition party members.

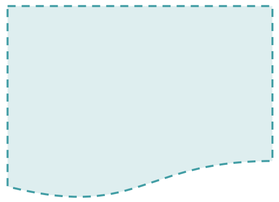
GRAPH TYPES: MAPS

Visualising data over a map has a fundamental requirement: that the data contain at least one **geographic dimension**.

GRAPH TYPES: MAPS

Dots - Geographic locations with specific coordinates (latitude longitude) to which the data refer (addresses, cities etc.)

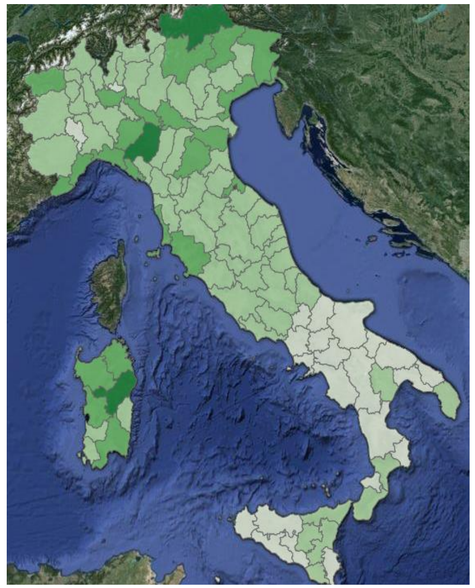
Lines - Series of connected dots and related data (roads, routes etc.)



Perimeters - Polygons that define certain areas relating to the data (neighbourhoods, municipalities, provinces, regions, nations)

GRAPH TYPES: MAPS

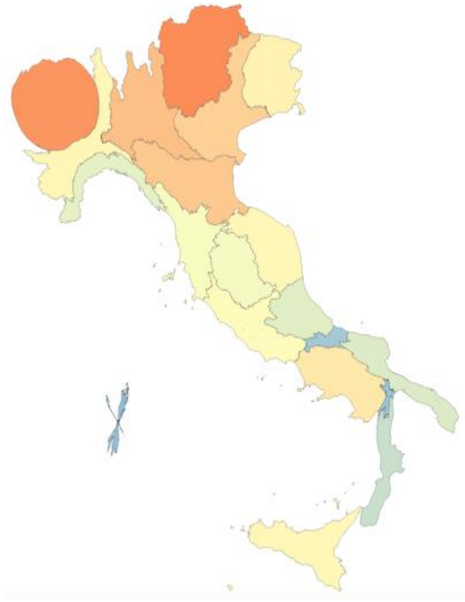
CHOROPLETHS



Newspaper distribution

Areas **coloured** based on data values

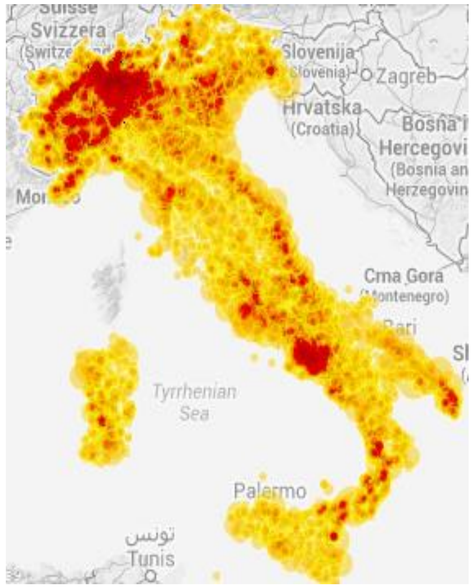
CARTOGRAMS



Number of children per woman

Areas **distorted** according to data values

HEATMAPS

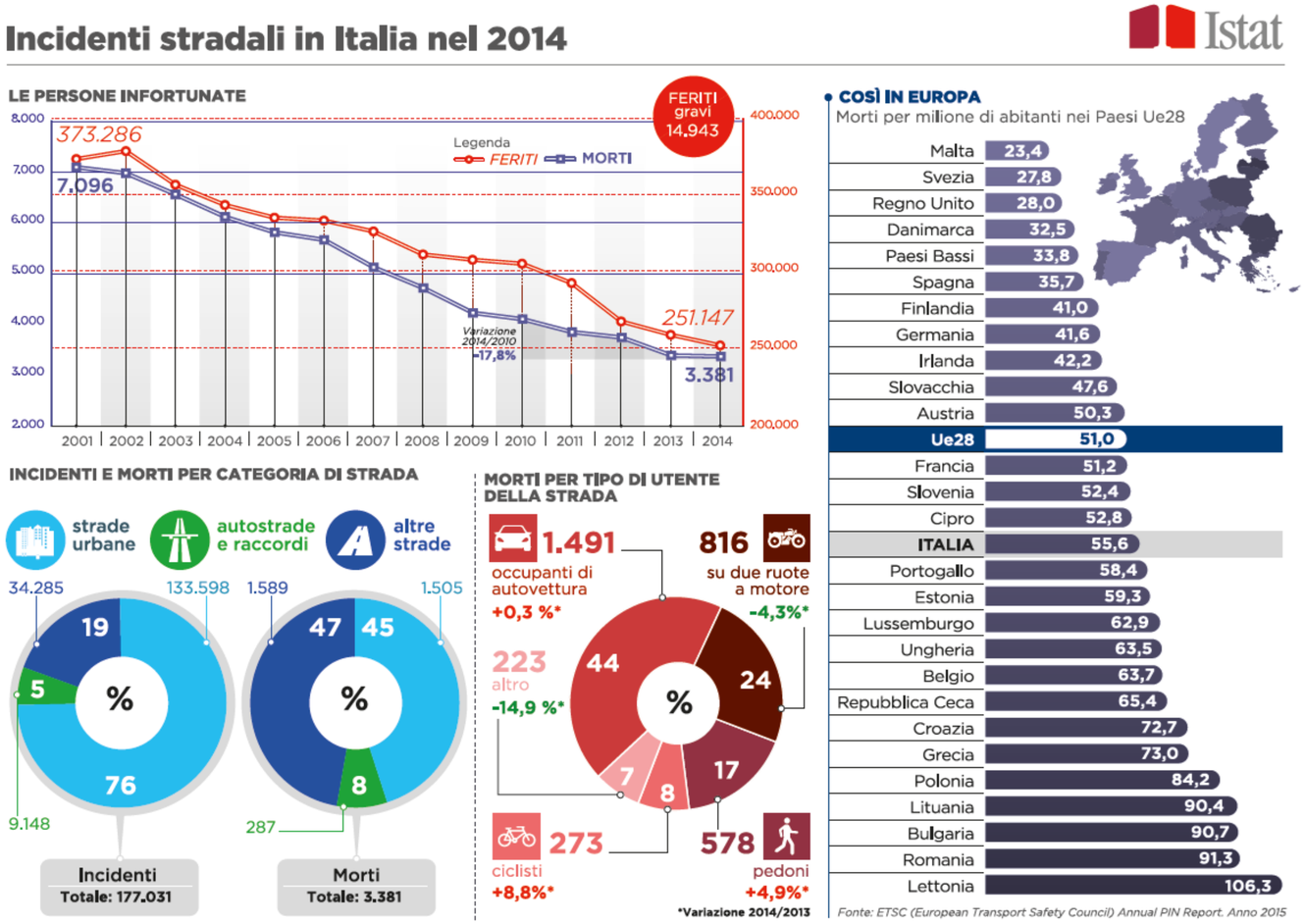


Slot distribution

Colour based on the **average value** of adjacent points

INFOGRAPHICS

Infographics, or cut-outs offering more information on a phenomenon, can always be used to visualise an information series – or even a series of graphs – more effectively.



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COESIONE ITALIA

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