The FSDA Matlab toolbox
An integrated framework to assess and apply robust methods to complex datasets

What FSDA is for
FSDA (Flexible Statistics for Data Analysis) supports a robust and efficient statistical analysis of data sets, ensuring an output unaffected by deviations from model assumptions or anomalies (outliers) even if they occur in groups.

Distinctive features
- Robust modelling and clustering.
- Robust Bayesian analysis.
- Robust data transformation.
- Modelling of mixture distributions.
- Modern exploratory data analysis.
- Interactive data visualization.

Successful applications
- Anti-fraud.
- Chemometrics (a wide field covering biochemistry, medicine, biology and chemical engineering).
- Production of official statistics (e.g., imputation and data quality checks).
- Text mining.
- Credit risk management.

Featured applications
★ Detection of computer network intrusions.
★ E-commerce and credit cards frauds.
★ Customer and market segmentation.
★ Detection of spurious signals in data acquisition systems.

Fully integrated documentation

Statistical domains

**Multivariate analysis**
Multivariate outliers and their representation on other plots.

**Regression**
The index plot of residuals, with outliers highlighted using brushing.

**Cluster analysis**
Robust BIC criteria to find optimal number of groups.

**Data transformation**
Effect of the outliers on the transformation.

**Model selection**
Candle stick plots.

Successful applications
▶ Anti-fraud.
▶ Chemometrics (a wide field covering biochemistry, medicine, biology and chemical engineering).
▶ Production of official statistics (e.g., imputation and data quality checks).
▶ Text mining.
▶ Credit risk management.

Featured applications
★ Detection of computer network intrusions.
★ E-commerce and credit cards frauds.
★ Customer and market segmentation.
★ Detection of spurious signals in data acquisition systems.

Fully integrated documentation

MATLAB EXPO 2016
ITALIA

http://www.riani.it/MATLAB
http://fsda.jrc.ec.europa.eu