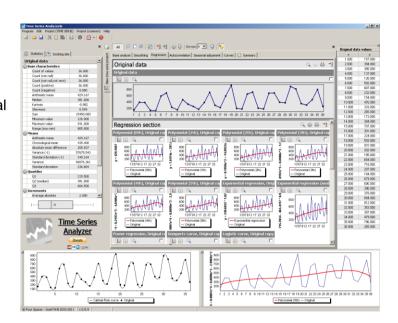


## Time Series Analyzer

Time Series Analyzer is tool for time series analyzing, creating of regression models, smoothing, seasonal adjustment, hypothesis testing, prediction, curves making, etc. Application has very nice visually output for many of supported areas. Minimum starting settings, possibility to implemement that changes later.



## Supported areas:

Base: Original data, Mean difference, Variance, Cumulative, ACF.

Statistics: Histogram, Cumulative histogram, N\_P plot.

Differences: First difference, Second difference, Third difference, Growth rate, Relative

increment (%).

**Transformations**: Ln(y), Square root(y), Standardization(y), Normalization(y).

Partial sums: 2,3,4,5,6 parts.

Moving averages smoothing: simple, centered.

Median smoothing.

**Exponential smoothing**: single (first-order), single (Brown`s), double, double (Holt`s).

Regressions: Polynomial (Constant, Linear, Quadratic, Cubic, 4th, 5th), Exponential, Modified

Exponential, Power, Gompertz, Logistic.

Regressions residuals.

Autocorrelations: ACF, PACF №₩.

Box-Jenkins NEW!: AR, MA, ARMA process.

Seasonal adjustment: Additive, multiplicative, constant seasonal model. Additive and

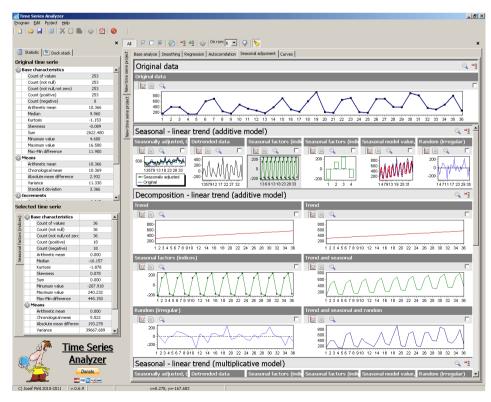
multiplicative decomposition.

Seasonal smoothing: NEW! Triple Holt-Winters exponential smoothing.

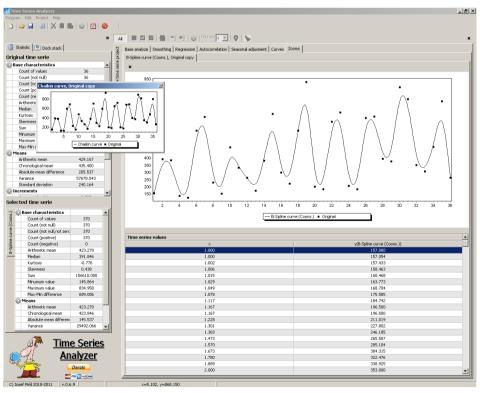
Curves: B-Spline, Chaikin, Catmull-Rom, Ferguson.

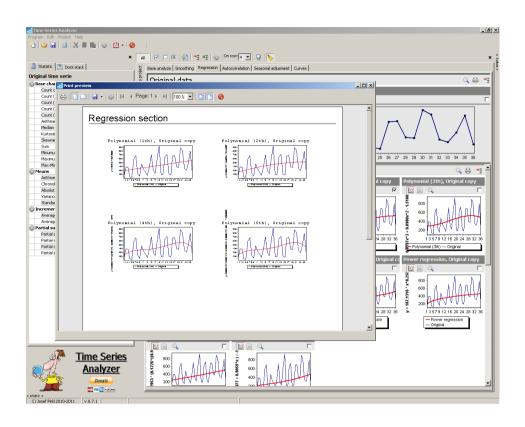
**Hypothesis Testing**: Kolmogorov-Smirnov (KS), Kolmogorov-Smirnov (Lilliefors/Van Soest variant), W/S, D`Agostino, Shapiro-Wilk, Jarque-Bera (chi-square), Jarque-Bera (Lagrange multiplier), Jarque-Bera (advanced Lagrange multiplier) normality tests.

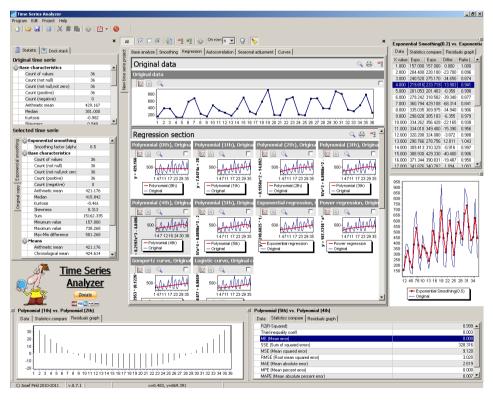


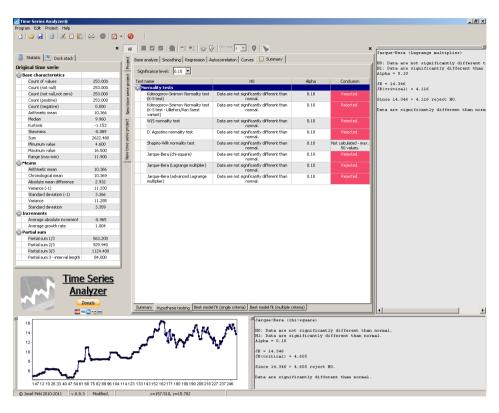


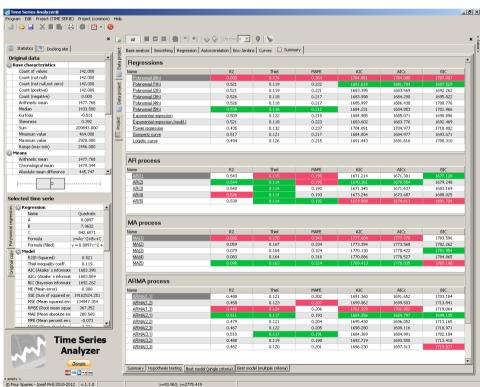


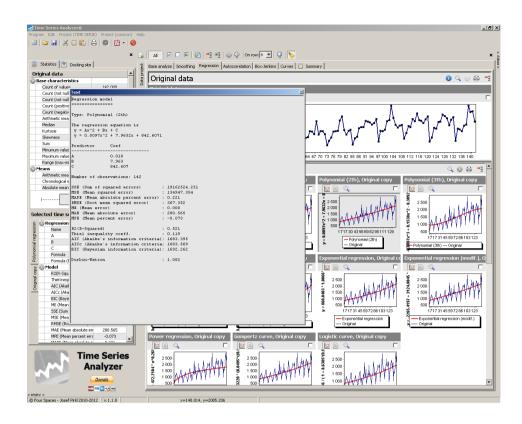


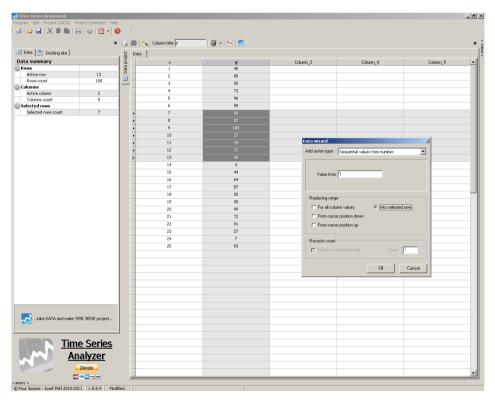












## Scheduled areas for next development:

Spectral analyzes, Arima, Dependency finder, Neural Network modelling etc.

## TimeSeriesAnalyzer@gmail.com