

THE NEW SESRIC MOTION CHART MODULE: IN-HOUSE DEVELOPMENT VERSION

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OUTLINE

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SESRIC SMC MODULE

- ▶ SESRIC Motion Charts (SMC) Module is an interactive and dynamic motion chart generator, producing data visualisations from the indicators set available in the BASEIND Database.
- ▶ The SMC Module allows the users to dynamically explore the trends of several indicators over time, based on statistical data hosted in the BASEIND Database.
- ▶ The produced charts are time series based bubble charts including two indicators from the BASEIND Database (x and y axes) which can be customised by the user to have either linear or logarithmic scale(s) with alternative bubble sizes (radius) based on a chosen indicator from the BASEIND Database.

CURRENT STATUS OF SESRIC SMC MODULE

- ▶ The charts generated by the SMC Module are rendered within the users' browser using the Adobe Flash technology.
- ▶ The current engine of the motion charts generator is originally developed by the Google Inc. (base framework acquired from Gapminder Foundation).
- ▶ However, the API provided by Google has some restrictions on the data set available within the BASEIND Database.

TECHNOLOGIES USED IN THE SESRIC SMC IN-HOUSE DEVELOPMENT VERSION (IHDV)

- ▶ Being developed by the IT Department of SESRIC, the SMC In-House Development Version (IHDV) employs the Flex technology for data processes.
- ▶ Flex is a powerful, **open source application framework** that allows anyone to easily build traditional applications for browser and desktop.

TECHNOLOGIES USED IN THE SESRIC SMC IHDV

- ▶ Flex also allows to develop mobile applications for Apple iOS, Google Android, and RIM BlackBerry Tablet OS devices using the same programming model, tool, and codebase.
- ▶ Flex integrates with all major back ends including Java, Spring, Hibernate, PHP, Ruby, .NET, Adobe ColdFusion, and SAP using industry standards such as REST, SOAP, JSON, JMS, and AMF.

TECHNOLOGIES USED IN THE SESRIC SMC IHDV

- ▶ The SESRIC SMC IHDV Module uses XML (eXtensible Markup Language) for data presentation over HTTP services embedded in Flash with ActionScript.
- ▶ Any back-end that has the capability of producing XML code can work with the SESRIC SMC IHDV Module to generate data visualisation.

HANDLING OF MISSING DATA IN THE SESRIC SMC IHDV

- ▶ One of the reasons for the re-development of the SESRIC SMC Module is the inflexibility of Google's API on the handling of missing data.
- ▶ The current SESRIC SMC IHDV uses linear interpolation to handle missing data within indicators.
- ▶ Thanks to its flexibility, the SESRIC SMC IHDV allows developers to quickly embed any interpolation methods to be deployed.

STEPS TO GENERATE DATA VISUALISATIONS THROUGH SESRIC SMC IHDV

- ▶ The steps to generate data visualisations through SESRIC SMC IHDV is comprised of three steps:
 - ▶ Selection of Indicators
 - ▶ Selection of OIC Member Countries
 - ▶ Selection of Time Range and Indicator to be Used as Bubble Size

SELECTION OF INDICATORS

Step 1 of 3 - Indicators Selection

After the Motion Chart has been produced, the axis of the selected indicators can be changed.

A - Select the indicator to be displayed on the Y-axis

Money and Prices - Money Supply: M1 (Million national currency units)
Money and Prices - Money Supply: M1 plus Quasi-money (Million national currency units)
Money and Prices - Wholesale Price Index (2005=100) (Number)
National Accounts - Agriculture, Share in GDP (Percentages)
National Accounts - Construction, Share in GDP (Percentages)
National Accounts - GDP (Constant 2005 Prices) (US Dollars)
National Accounts - GDP (Constant 2005 Prices) (National Currency Units)
National Accounts - GDP (Current Prices) (National Currency Units)
National Accounts - GDP (Current Prices) (US Dollars)
National Accounts - GDP, Per Capita (Current Prices) (US Dollars)

B - Select the indicator to be displayed on the X-axis

Demography - Crude Birth Rate (Per thousand persons)
Demography - Crude Death Rate (Per thousand persons)
Demography - Fertility Rate, Total (Births per Woman)
Demography - Growth Rate of Population, Annual (Percentages)
Demography - Growth Rate of Population, Natural (Percentages)
Demography - Life Expectancy at Birth, Female (Years)
Demography - Life Expectancy at Birth, Male (Years)
Demography - Life Expectancy at Birth, Total (Years)
Demography - Population Density (Persons per square kilometre)
Demography - Population, Ages 0-14, % of Total (Percentages)

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SELECTION OF OIC MEMBER COUNTRIES

Step 2 of 3 - Country Selection

[Step 1 \(Indicators Selection\)](#) -> **Step 2 (Country Selection)**

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<input checked="" type="checkbox"/> Select/Deselect All			
<input checked="" type="checkbox"/>  Afghanistan	<input checked="" type="checkbox"/>  Albania	<input checked="" type="checkbox"/>  Algeria	<input checked="" type="checkbox"/>  Azerbaijan
<input checked="" type="checkbox"/>  Bahrain	<input checked="" type="checkbox"/>  Bangladesh	<input checked="" type="checkbox"/>  Benin	<input checked="" type="checkbox"/>  Brunei
<input checked="" type="checkbox"/>  Burkina Faso	<input checked="" type="checkbox"/>  Cameroon	<input checked="" type="checkbox"/>  Chad	<input checked="" type="checkbox"/>  Comoros
<input checked="" type="checkbox"/>  Cote d'Ivoire	<input checked="" type="checkbox"/>  Djibouti	<input checked="" type="checkbox"/>  Egypt	<input checked="" type="checkbox"/>  Gabon
<input checked="" type="checkbox"/>  Gambia	<input checked="" type="checkbox"/>  Guinea	<input checked="" type="checkbox"/>  Guinea-Bissau	<input checked="" type="checkbox"/>  Guyana
<input checked="" type="checkbox"/>  Indonesia	<input checked="" type="checkbox"/>  Iran	<input checked="" type="checkbox"/>  Iraq	<input checked="" type="checkbox"/>  Jordan
<input checked="" type="checkbox"/>  Kazakhstan	<input checked="" type="checkbox"/>  Kuwait	<input checked="" type="checkbox"/>  Kyrgyzstan	<input checked="" type="checkbox"/>  Lebanon
<input checked="" type="checkbox"/>  Libya	<input checked="" type="checkbox"/>  Malaysia	<input checked="" type="checkbox"/>  Maldives	<input checked="" type="checkbox"/>  Mali
<input checked="" type="checkbox"/>  Mauritania	<input checked="" type="checkbox"/>  Morocco	<input checked="" type="checkbox"/>  Mozambique	<input checked="" type="checkbox"/>  Niger
<input checked="" type="checkbox"/>  Nigeria	<input checked="" type="checkbox"/>  Oman	<input checked="" type="checkbox"/>  Pakistan	<input checked="" type="checkbox"/>  Palestine
<input checked="" type="checkbox"/>  Qatar	<input checked="" type="checkbox"/>  Saudi Arabia	<input checked="" type="checkbox"/>  Senegal	<input checked="" type="checkbox"/>  Sierra Leone
<input checked="" type="checkbox"/>  Somalia	<input checked="" type="checkbox"/>  Sudan	<input checked="" type="checkbox"/>  Suriname	<input checked="" type="checkbox"/>  Syria
<input checked="" type="checkbox"/>  Tajikistan	<input checked="" type="checkbox"/>  Togo	<input checked="" type="checkbox"/>  Tunisia	<input checked="" type="checkbox"/>  Turkey
<input checked="" type="checkbox"/>  Turkmenistan	<input checked="" type="checkbox"/>  Uganda	<input checked="" type="checkbox"/>  United Arab Emirates	<input checked="" type="checkbox"/>  Uzbekistan
<input checked="" type="checkbox"/>  Yemen			

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SELECTION OF TIME RANGE AND INDICATOR TO BE USED AS BUBBLE SIZE

Step 3 of 3 - Range and Other Parameters Selection

[Step 1 \(Indicators Selection\)](#) -> [Step 2 \(Country Selection\)](#) -> Step 3 (Range and Other Parameters Selection)

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Select Range and Parameters :

Select Year Range : -

Select Indicator to be used as Bubble Size :

- Demography - Population, Total (Units)
- Education - Education Expenditure, Current, Public , % of total public expenditure on education (Percentages)
- Education - Education Expenditure, Per Pupil , Public, All levels , % of GDP per capita (Percentages)
- Education - Education Expenditure, Public, % of GDP (Percentages)
- Education - Enrollment, Primary Schools (Units)
- Education - Enrollment, Secondary Schools (Units)
- Education - Enrollment, Tertiary Schools (Units)
- Education - Gross Enrollment Rate in Primary Schools, Female (Ratio)
- Education - Gross Enrollment Rate in Primary Schools, Male (Ratio)
- Education - Gross Enrollment Rate in Primary Schools, Total (Ratio)

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[Prepare Chart](#)

SAMPLE DATA VISUALISATION



THANK YOU!

SESRIC

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