

# Evolution of the .Stat architecture using CSPA



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### ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

**Getting Started** 

Data by theme Popular queries		Key Short-Term Economic Indicators										Information Key Short-Term Economic Indicators					
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II Themes			→ Subject	Indu	ustrial prod	uction, s.a	a.				•						
General Statistics			Heasure i											Source			
Country statistical profiles			Growth previous period T										Contact person/organisation				
Key Short-Term Economic     Indicators			→ Frequency		nual	Quarterly								OECD statistics contact: STAT.Contact@oecd.org			
Key Short-Term Economic     Indicators		→i Time		2015	2016	2015		20						Population & Scope			
						Q4-2015	Q1-2016	Q2-2016	Q3-2016	Q4-2016		Jan-2017		Statistical population			
Composite Leading Indicator 0											2017			The Key Economic Indicators (KEI) database			
🛃 Harmonised Unemployment Rate   🕕		→ Country	Unit											contains monthly and quarterly statistics (and associated statistical methodological information) for			
Consumer Prices - Annual	8	Australia	Percentage 🚯	1.2	. 1.0	-0.4	1.8	-1.2	-0.9	0.9	0.4			all OECD member countries and for a selection of			
Long-term interest rates		Austria	Percentage 🕕	2.1	2.0	0.2	1.4	-0.9	0.6	1.7	0.8	-0.7		non-member countries on a wide variety of economic indicators, namely: guarterly national accounts,			
Imports 0		Belgium	Percentage 🚯	0.0	4.2	1.3	2.8	-1.2	1.7	1.0	-0.1	-4.5		industrial production, composite leading indicators, business tendency and consumer opinion surveys,			
Exports 0		Canada	Percentage 🕕	-0.7	0.4	-0.6	0.4	-2.0	3.3	0.3	1.3	1.2		retail trade, consumer and producer prices, hourly			
Private Consumption (volume)		Chile	Percentage ()	0.2	-0.8	0.3	0.6	-2.1	1.3	-1.3	-1.3	-2.3		earnings, employment/unemployment, interest rates, monetary aggregates, exchange rates, international			
Current Account % of GDP		Czech Republic	Percentage ()				1.3	0.4	0.1		1.3	3.7		trade and balance of payments.			
Revisions Analysis Dataset – Infra- annual Indicators		Denmark	Percentage ()	1.2	3.5	-2.8	4.2	0.9	-1.1	5.5	-1.7	-4.3		Other Aspects			
Factbook 2014		Estonia	Percentage 🕕	0.3	2.4	-1.4	0.2	1.1	3.0	3.2	2.8	0.8		Recommended uses and limitations			
OECD Factbook 2015/2016		Finland	Percentage 🕕	-1.0	2.5	0.2	0.2	1.8	0.1	0.7	-0.4	0.1		Indicators have been prepared by national statistical			
Agriculture and Fisheries		France	Percentage 🕕	2.0	0.4	0.4	-0.6	-0.1	-0.2	1.2	-0.3	0.2		agencies primarily to meet the requirements of users within their own country. In most instances, the			
emography and Population		Germany 🕕	Percentage 🕕	0.4	1.3	-0.2	1.6	-0.5	0.0	0.3	1.3	1.8		indicators are compiled in accordance with international statistical guidelines and			
evelopment		Greece	Percentage 🕕	1.0	2.6	2.1	-2.0	1.5	0.7	3.5	3.2	2.4		recommendations. However, national practices may			
conomic Projections		Hungary	Percentage ()		0.8		-2.5	3.3	-1.9	1.6	3.2	0.2		depart from these guidelines, and these departures may impact on comparability between countries.			
ducation and Training		Iceland	Percentage ()									(F) 20		There is an on-going process of review and revision of the contents of the database in order to maximise			
invironment														the relevance of the database for short-term economic analysis.			
inance		Legend: E Estimated value															
Blobalisation		Data extracted on 0	3 10 2017 05:07	UTC (GMT)	) from OECD	Ctat											

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SIS-CC: Building an Inclusive Data Ecosystem

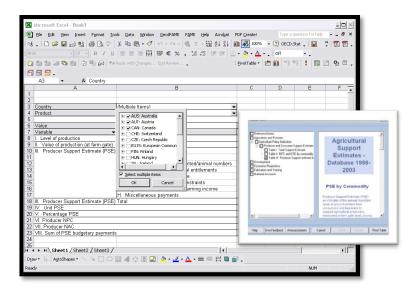
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### Main feature: Allow hosting and disseminating flexibly multi-dimensional datasets and their referential metadata



File Edit View Favorites 🔾 Back - 🔘 - 🖻 👔 🏠 🔎 Search 🐈 Favortes 🐨 Media 🐵 🙆 - 💺 🔤 - 🖵 🕻 ddress 👔 http://dotstat/wbos/ OECD.Stat Browser. OECD (() List of Subjects 🗷 Expert to Excel P Pivot View 🗔 Save Query Saved Queries ataset: Table III Producer Support estimate by commodity **PSE by Commodit** Time 2000 2001 2002 2003 200 iducer Support Estimate (PSE upport agricultural produ peasured at form date level, a om policy measures which a priculture, regardless of the ature, objectives or impacts Exchange Rates 0.016.00 7 (69 00 3 240.00 **Definitions and** Sources by Countr 0.00 0.00 0.00 Methodology for th measurement of suppo-and use in policy evalua workes Tools Help 120 🖹 👔 🐔 🔎 Search 🔥 Favortes 🐨 Media 🚱 🎰 🖓 🔹 🔛 Austratio
 Canada
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 Vinteeriand
 Vinteeriand seed, sugar, milk, beef and weal, pigmeat, poultry meat, sheep meat, wool, eggs and cotton Definitions are provided only for basic data sets from which all the other data sets in this table are derived, following the formula indicated in each commodity table. Specific sources are indicated in square brackets Producer Support Estimates (PSE) by commodity in Table 3 are calculated only for the commodities produced in the country within a common set of commodities (wheat, maize, barley, oats, rice, sorghum roybeans, surflower, rapeseed, sugar, milk, beef and yeal, pigmeat, poultry meat, theep meat, wool and eggs), provided that the value of production of that commodity exceeds 1 per cent of the total value of roduction in the country concerned. All data sets in the calculation of PSE by commodity come from

**2002-2005:** SQL-based DWH with OLAP Cubes accessible internally from within Excel and externally through an OLAP web plug-in

Since 2005: SQL-based DWH with web services accessible through web application, direct SQL interface and Excel



### Monolithic

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on	→ Provide																	
	→ Measur	e Share o		mestic produc			2004	2005	2006 2	007	2008	2009	2010	2011	2012	2013	2014	2015
	→ Yea	ar 🔺 🛚					2004				2008	2009	2010	2011	2012	2013	2014	2015
+ Country	Unit												-					
		0 (D)	7.6 (D)	7.7 (D)	7.9 (D)	7.9 (D)	8.1 (D	D) 8.0 (D)	8.0 (D)	8.1 (D)	8.3 (D	) 8.6 (D)	8.5 (D)	8.6 (	D) 8.7 (	D) 8.8	(DE) (DE)	(DE)
Austria 🚯	Percentage	0	9.2	9.3	9.4	9.6	9.6	9.6	9.5	9.5	9.6	10.1	10.1	9.9	10.1	10.1		3 (E)
Belgium 0	Percentage	0	7.9	8.1	8.3 (B)	9.1	9.1	9.0	8.9	9.0	9.4	10.1	9.9	10.1	10.2	10.4		4 (E)
ind financing	Percentage	-	8.3	8.7	8.9	9.1	9.1	9.1	9.2	9.3	9.5	10.1	10.6	10.1	10.2			
5	-							9.1	9.2	9.5	9.5	10.0	10.0	10.5	10.5	10.2	(P) 10.0	(P)
	Percentage	0 (D)	6.4 (D)	6.5 (D)	6.5 <b>(B)</b>	7.2	6.8	6.6	6.0	6.1	6.7	7.1	6.7	6.7	7.0	7.3		7 (P)
Czech Republic ()	Percentage	0 (B)	5.7	5.9	6.2 (B)	6.6	6.4	6.4			/ 1°4	7.3						(E)
stion Denmark ()	Percentage	0	8.1	8.4	8.7 (B)	8.9	9.0	9.1		9.3	9.5	10.	10.4		0.3		(0)	(E)
Estonia 🚯	Percentage	0	5.2	4.8	4.7	4.9	5.1	5.0	<b>. . . .</b>		<b>6</b> .7 <b>Q</b> B	6	6.1			Ju		(P)
Finland ()	Percentage	0 (B)	6.9	7.0	7.4	7.7	7.8	8.0	8.0	7.8	8.1	8.9	8.9	9.0	9.3	9.5	9.	5 (P)
nd France 0	Percentage	0	9.5	9.7	10.0 (B)	10.0	10.1	10.2 (B)	10.1	10.0	10.1	10.8	10.7	10.7	10.8			1 (E)
Germany 0	Percentage	0	9.8	9.8	10.1	10.3	10.1	10.2	10.1	10.0		11.1	11.0	San -	Carl	. E Buck	11268	(P)
	Percentage										100m		11.0	Divo :	A dista	11、黄金		
		•	7.2	8.0	8.2	8.2	7.9	9.0	9.0	9.1	1. 500	3	1. San		A CAN	4		3 (E)
	Percentage	0	6.8	6.8	7.1 (B)	8.1	7.8	8.0	7.8	-7///		1	100	1. 2	Mar is	and the	7.	2 17
Iceland 🚯	Percentage	0	9.0	8.9	9.6 (BD)	10.1 (D)	9.6 (D	9.2 (D)	8.9 (D)	11/3	12554	6 22.	-	1 secret	and a	7.112	A A A	and and
Ireland ()	Percentage	0	5.9	6.4	6.7	7.0	7.2	7.7	7.5	1.20	Sec 8 1	0.9	-	1 10 1		E.		
Israel ()	Percentage	0	6.8	7.2	7.1	7.1	7.0	7.1	6.1	St Tree	Caller .	1 51.20	A PARTY	The Los	E Marsh	1 martine and	" A	· · · ·
Italy 🛛	Percentage	0	7.6	7.8	7.9	7.9	8.2	8.4		State of the		A Sta	101		H M	ar 133.	+ dia	· · Mar
Japan 🔒	Percentage	0	7.4	7.6	7.7	7.9	7.9	8.1	1 March	19 1		18 1 23			ALL AND	and the second	C. No	
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	-		5.9	6.5	6.8	7.1	7.4	and a	Star 1	1 1	1 200	A SHE	( )	0111123	a there	A State of the sta		State of
Mexico () Legend:	Percentage	(D)	4.9 (D)	53 (D)	5.4 (B)	5.9	6.0		17.20	-	STALL!	al aller	8-13	THE REAL	Cont.	Pres		10 ml 10
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*Enforce Full SDMX & CSPA Compliance Ensure reusability and feasibility* 

## Statistical Information System to provide solutions for statisticians to process the data through steps of the GSBPM

**Collect** (incl. Validate)

**Process** (incl. Edit & Calculate)

Disseminate

StatWorks/MetaStore Data Wizard

.Stat .Graph



Enforce Full SDMX & CSPA Compliance The central repository Ensure reusability and feasibility ("warehouse") of validated statistics Data Visualization and related metadata Open Data SDMX exchange Data Direct Aggregators access It is the organisation source of It is the central hub data for data sharing and connecting data production, dissemination purposes Data Portal Data wizard sharing & dissemination processes Browser







Enforce Full SDMX & CSPA Compliance Ensure reusability and feasibility

Extended Lifecycle Coverage

Design, Collect, Process & Disseminate

#### **Extended Community Support Model**

*Ensure long term capacity building and federation of entities* 

#### **Open Source Model**

*Ensure long term financial sustainability and affordability for countries* 

### Common Statistical Production Architecture "CSPA": built by the Statistical Community for the Statistical Industry





### Reusable Components *for the* Web



*Enforce Full SDMX & CSPA Compliance Ensure reusability and feasibility* 

#### **Reusability** each (type of) piece can be reused

**Encapsulation** no piece can modify another piece

**Interoperability** each piece has a standard interface

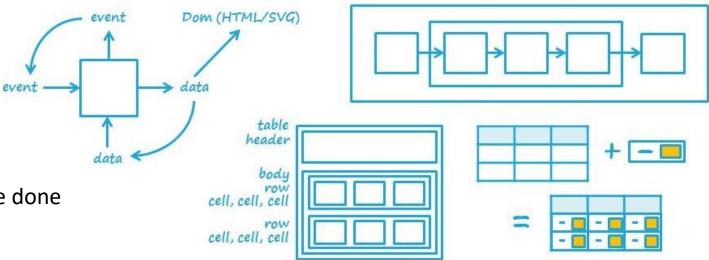
**Composition (static)** with simple pieces, more complex pieces can be

with simple pieces, more complex pieces can be done

**Chaining (dynamic)** 

with simple pieces, complex workflow can be done

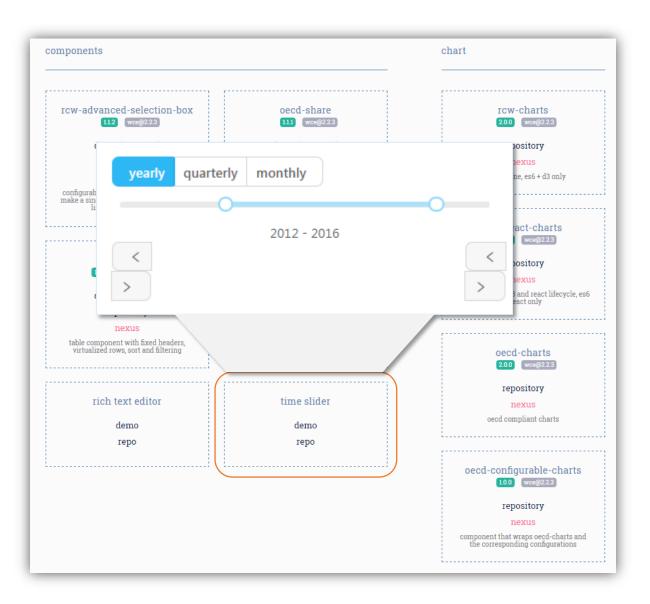
### What are Reusable Components for the Web?





*Enforce Full SDMX & CSPA Compliance Ensure reusability and feasibility* 

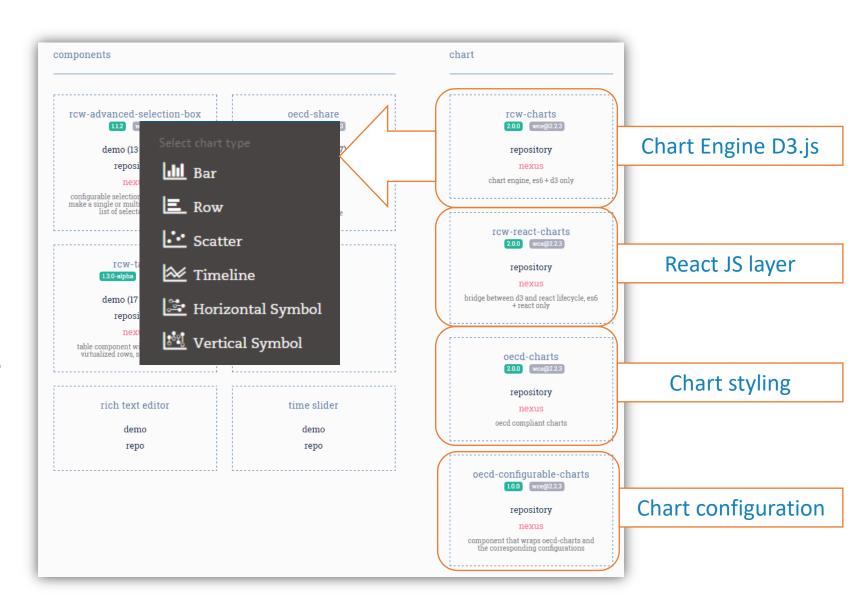
> Reusable Components for the Web





*Enforce Full SDMX & CSPA Compliance Ensure reusability and feasibility* 

> Reusable Components for the Web





Reusable

Components for the

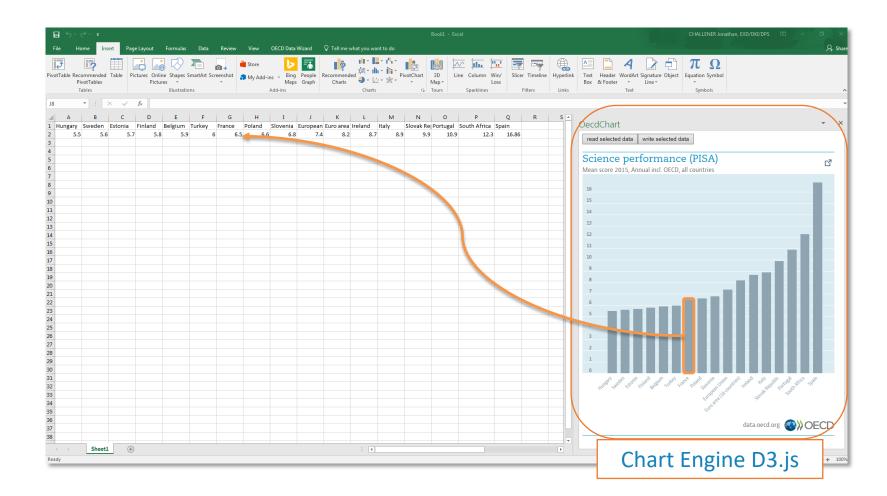
Web – Chart Generator

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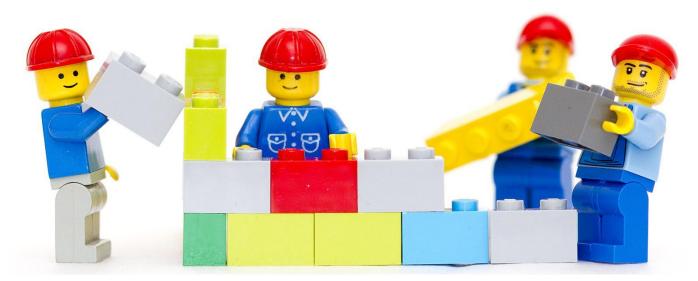
### Reusable

Components for the Web in Excel (PoC)





*Enforce Full SDMX & CSPA Compliance Ensure reusability and feasibility* 



### Eased creation of new products and user interfaces



*Enforce Full SDMX & CSPA Compliance Ensure reusability and feasibility* 



### The .Stat Suite



#### .Stat Data Explorer

Reusable Components for the Web Search | Visualise | Share

#### .Stat Core

Data Store Mapping Store SDMX Web Service Share Web Service Search Web Service Configuration

#### .Stat Data Lifecycle Management

Reusable Components for the Web Edit | Compare | Transfer



*Enforce Full SDMX & CSPA Compliance Ensure reusability and feasibility* 

#### Referential Metadata **Mapping Store** Storage of structural information .Stat Core **SDMX Web Service** Data Store Retrievers and submitters for Data Store and Mapping Store Mapping Store Readers and writers (SDMX-CSV) **SDMX Web Service Share Web Service** Share Web Service Store and retrieve tables and chart configurations for sharing Search Web Service Configuration **Search Web Service** Third-party open-source solution with indexing and storage

Configuration Allow the application to be configured for the context of INS

**Data Store** 

Management of

Constraints and

Annotations

Storage of

Observations,

Attributes and



### The international standards agenda

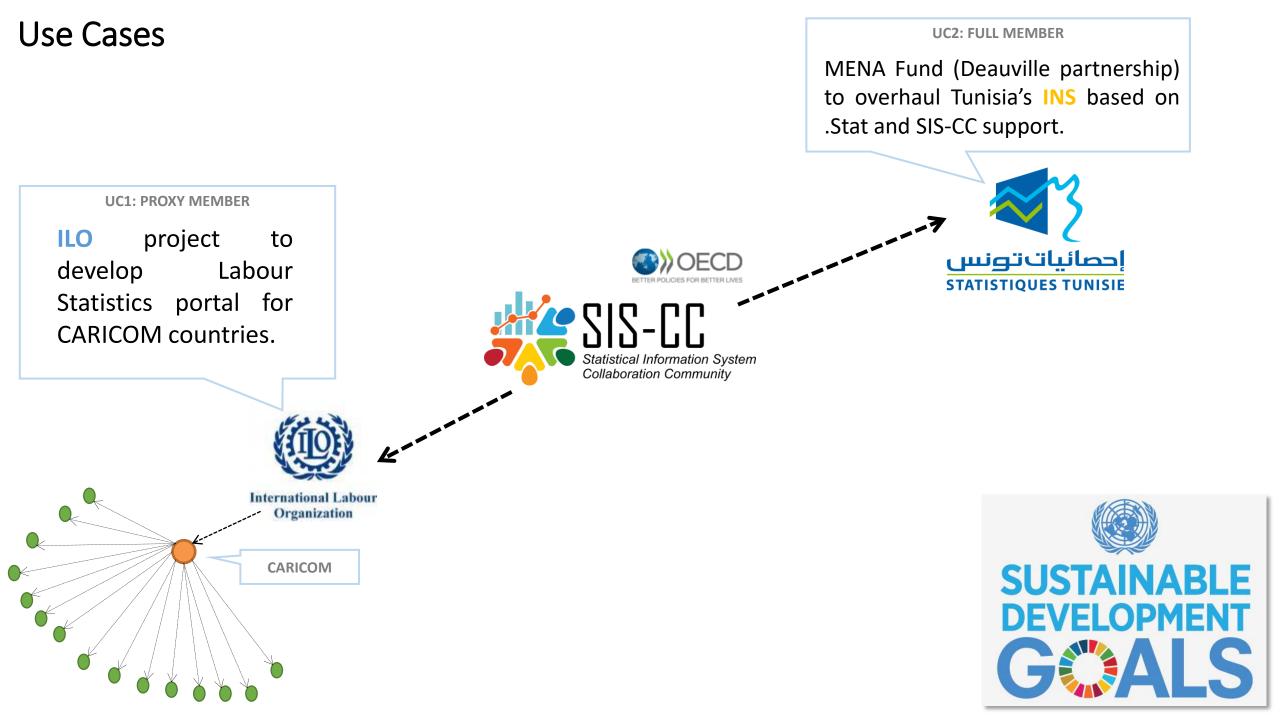
Strong contribution by SIS-CC to the HLG agenda



Increase the adoption of international standards









**THANK YOU!** 



# **Evolution of the .Stat architecture using CSPA**

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Based on original slides by Jonathan Challener jonathan.challener@oecd.org

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