

**xBRL EUROPE**

## 32<sup>nd</sup> XBRL EUROPE DAYS in Valletta (Malta)

23-24 May 2024

with the support of  FinanceMalta



## Handling OIM in regulatory reporting platforms

---

- Eugeniusz Tomaszewski
- Fujitsu

# Speaker



## Eugeniusz Tomaszewski

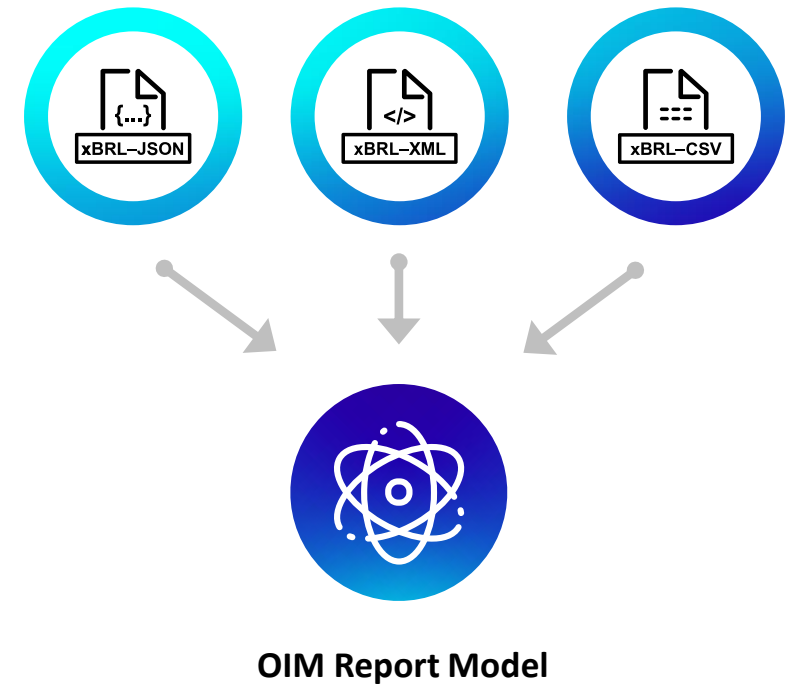
- 10 years with Fujitsu EMEA Center of Excellence for xBRL Solutions
- business analyst and project manager roles in software development XBRL projects
- consultancy in taxonomy implementation projects - architecture, technical decisions
- recently - managing OIM standards' implementation in Fujitsu product portfolio

# Agenda

- OIM overview
- Short term benefits
- A note on xBRL-CSV
- Medium and long term benefits
- A note on formula processing
- Frequently asked questions

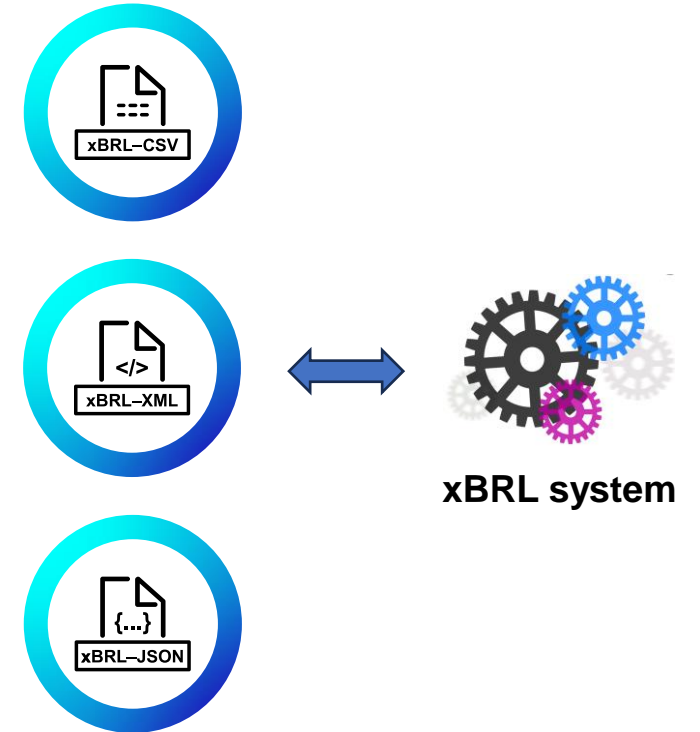
# OIM Overview

- OIM 1.0 (Open Information Model) provides an abstract, common **model of a report**, independent of a format
- Thanks to the common model: easy conversion between supported **document formats** (CSV, XML, JSON)
- OIM **Taxonomy** specifications to follow



# Short term benefits

- **Compliance** with EBA's xBRL-CSV reporting (EIOPA to follow)
- xBRL-CSV report's size **much smaller** than equivalent xBRL-XML instance
- xBRL-CSV allows for **tabular organization of data** (in TBL fashion)
- **Easy addition** to existing systems (xBRL-CSV, xBRL-JSON, xBRL-XML as equivalent document formats)
- xBRL-JSON simplest, easy for **data transfer to non-XBRL systems** (report can contain e.g. labels)



# A note on xBRL-CSV 1/3

- adding xBRL-CSV support to existing systems is **easy**, once implementation has been provided
- actual implementation of the standard is **tricky**
- xBRL-CSV **is flexible** – data files in various forms (defined by JSON metadata), e.g. EBA-style (one fact per line) or "plain CSV" layout (one table row per line)
- Conformance suite (2023-04-19) is quite comprehensive:
  - xBRL-CSV: **367 test cases**
  - xBRL-JSON: **292 test cases**
- Implementing xBRL-CSV support in-house may cost more than expected

## **datapoint, factValue, PBE, unit**

```
dp439580,true,xvdoeyvg
dp439581,true,xvdoeyvg
dp439582,true,xvdoeyvg
dp439583,eba_ZZ:x33,xvdoeyvg
dp439579,rausjbhh,xvdoeyvg
dp439584,618273.73,xvdoeyvg,iso4217:USD
dp439580,true,kclxaali
dp439581,true,kclxaali
dp439582,true,kclxaali
dp439583,eba_ZZ:x33,kclxaali
dp439579,mrygieca,kclxaali
dp439584,559818.31,kclxaali,iso4217:EUR
```

## **C010, C020, C030, C040, C050, C060, C070**

```
0,true,true,true,eba_ZZ:x33,5,6.0
1,true,true,true,eba_ZZ:x33,11,12.0
2,true,true,true,eba_ZZ:x33,17,18.0
3,true,true,true,eba_ZZ:x33,23,24.0
4,true,true,true,eba_ZZ:x33,29,30.0
5,true,true,true,eba_ZZ:x33,35,36.0
6,true,true,true,eba_ZZ:x33,41,42.0
7,true,true,true,eba_ZZ:x33,47,48.0
8,true,true,true,eba_ZZ:x33,53,54.0
9,true,true,true,eba_ZZ:x33,59,60.0
```

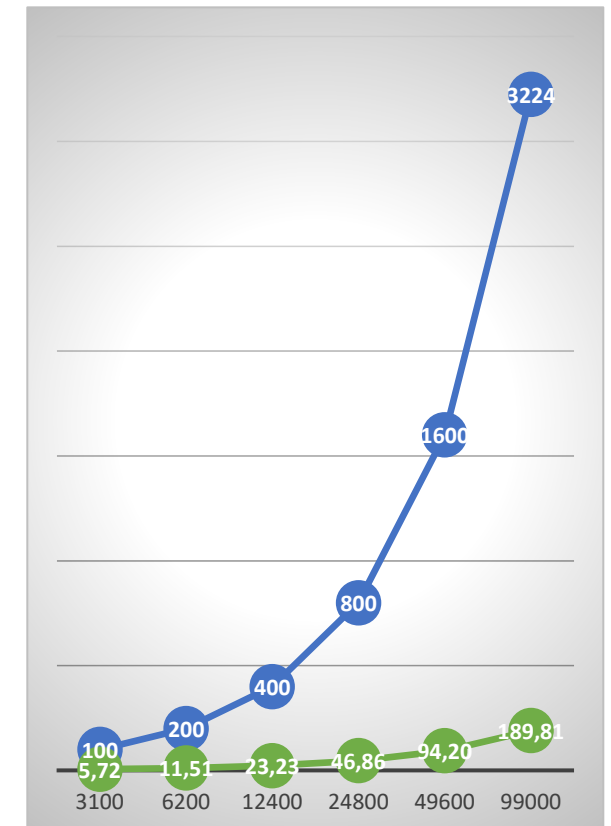
# A note on xBRL-CSV 2/3

## Comparing xBRL-XML and xBRL-CSV report sizes

entrypoint: [http://www.eba.europa.eu/eu/fr/xbml/crr/fws/sbp/cir-2070-2016/2023-07-31/mod/sbp\\_rm.xsd](http://www.eba.europa.eu/eu/fr/xbml/crr/fws/sbp/cir-2070-2016/2023-07-31/mod/sbp_rm.xsd)

(9 tables with open Y-axis)

Number of rows (open tables)	3100	6200	12400	24800	49600	99000
Amount of Facts (x 1000) ≈	100	200	400	800	1600	3200
<b>xBRL-XML report size (MB)</b>	<b>100</b>	<b>200</b>	<b>400</b>	<b>800</b>	<b>1600</b>	<b>3224</b>
xBRL-XML report size .zip (MB)	1.4	2.9	5.7	11.5	23	46
<b>CSV Report size (MB)</b>	<b>5.72</b>	<b>11.51</b>	<b>23.23</b>	<b>46.86</b>	<b>94.20</b>	<b>189.81</b>
CSV Report size .zip (MB)	0.5	1	1.9	3.8	7.6	15.1
<b>Size ratio xBRL-XML/xBRL-CSV</b>	<b>17.5</b>	<b>17.4</b>	<b>17.2</b>	<b>17.1</b>	<b>17.0</b>	<b>17.0</b>
<b>Size ratio xBRL-XML/xBRL-CSV .zip</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>

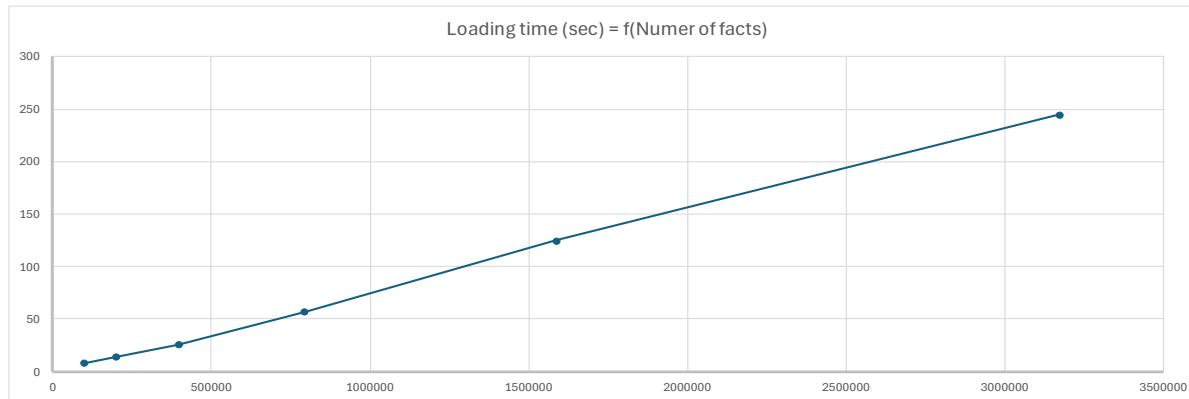


Note: values may vary depending on entrypoint and actual data in a report

# A note on xBRL-CSV 3/3

xBRL-CSV loading time **scales nicely in linear fashion**

#	xBRL-CSV report file name	xBRL-XML report size (MB)	Number of facts loaded	Loading time (sec) (*)
1	815600A60E71CFC3A230_sbprm_2021-12-01_3k1Y.zip	100	99341	8
2	815600A60E71CFC3A230_sbprm_2021-12-01_6k2Y.zip	200	198541	14
3	815600A60E71CFC3A230_sbprm_2021-12-01_12k4Y.zip	400	396941	26
4	815600A60E71CFC3A230_sbprm_2021-12-01_24k8Y.zip	800	793741	57
5	815600A60E71CFC3A230_sbprm_2021-12-01_49k6Y.zip	1600	1587341	125
6	815600A60E71CFC3A230_sbprm_2021-12-01_99k2Y.zip	3224	3174541	245



(\*)

Loading time **excludes** (7 sec of):

1. Taxonomy loading
3. Metadata loading

Loading time **includes**:

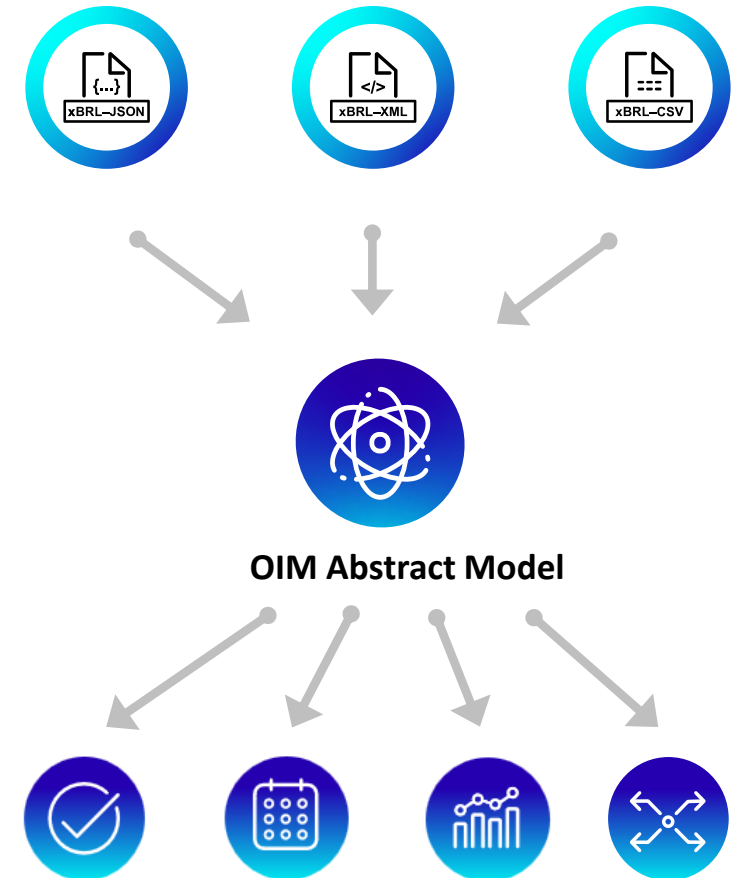
1. Parsing csv data table
2. OIM Fact creation
3. OIM 1.0 validations

Note: loading time measured on a laptop, gives general idea what values to expect



# Medium and long term benefits

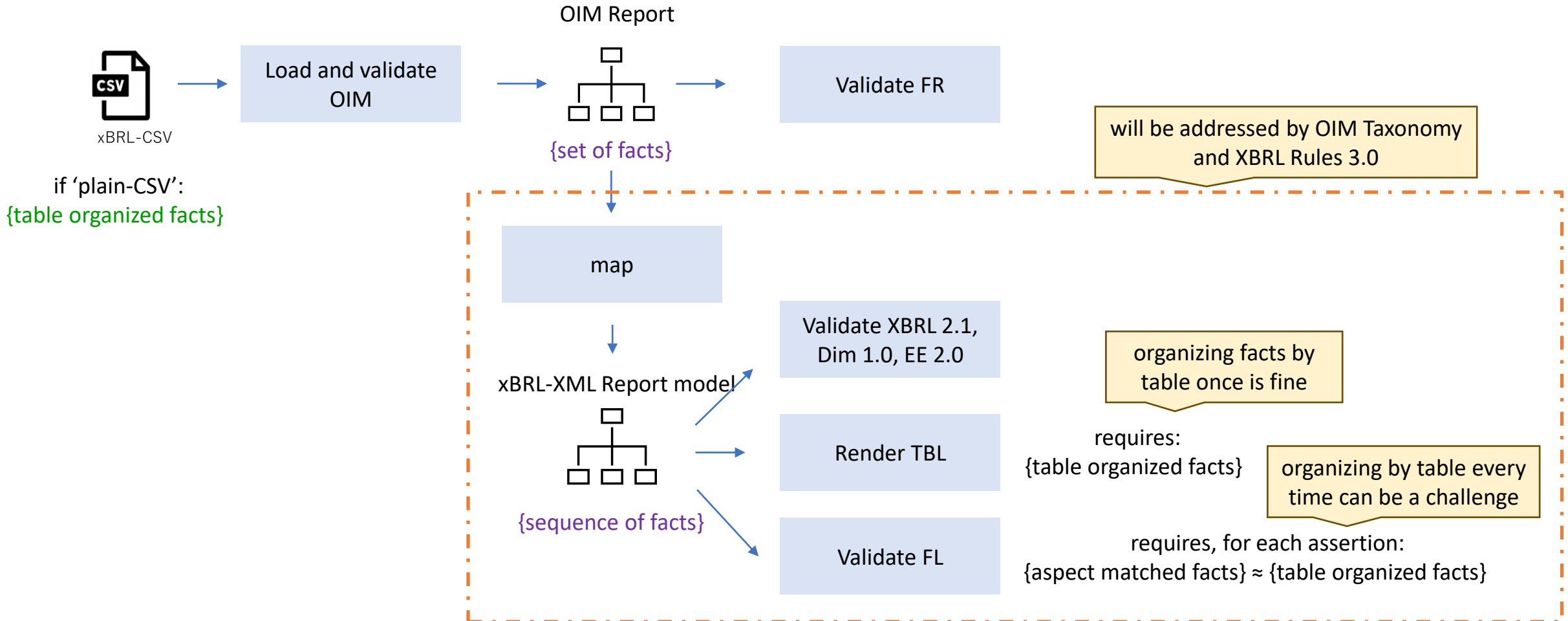
- OIM abstract model can be the **foundation of future systems**
- with expected **OIM Taxonomy Model** (phased implementation) and **XBRL Rules 3.0** reports and taxonomies can be processed in a uniform way, independent of their syntax (XML, CSV, JSON)
- all typical operations: **validation**, **presentation**, **analytics**, **transformations** can be done on common abstract model
- Opportunities for **significant performance optimizations** of time, CPU and memory



# A note on formula processing 1/2

- [Business rules performance](#) is of key interest in granular data processing
- Lot of expectations associated with OIM
- In the current, early stage, the benefits are limited
- Fundamental issues with [Formula processing model](#) still remain
- Several initiatives within XBRL II can significantly boost formula and overall processing performance:
  - [OIM Taxonomy](#)
  - [OIM Formula](#): OIM Compatible Formula (CR), Functions Registry update
  - [table-based formula](#) optimized for CSV
  - [XBRL Rules 3.0](#)

# A note on formula processing 2/2



# Frequently asked questions 1/2

## 1. What is the relationship between DPM Refit and OIM?

DPM Refit is a methodology with an XBRL taxonomy being one of artifacts defining reporting requirements. XBRL tools with OIM capability (xBRL-CSV processing) are ready for DPM Refit.

## 2. What is the relationship between DORA reporting and OIM?

DORA reporting will use so called plain-CSV data files which are regular xBRL-CSV files. Will be handled by OIM capable processors without problems.

## 3. Can xBRL-XML and xBRL-CSV reporting be used simultaneously?

Yes, they are just document formats which can be used interchangeably or in parallel

# Frequently asked questions 2/2

## 4. How to execute assertions (FL) on xBRL-CSV or xBRL-JSON?

Currently, assertions cannot be executed directly on OIM Report model, reports must be first converted to xBRL-XML object representation. However, creation of XML document is not needed.

## 5. What performance benefits should be expected with xBRL-CSV?

Performance depends on validation model rather than solely on input format. Once the validation model has been changed (XBRL Rules 3.0), significant benefits can be expected. Still, smaller memory footprint can be expected (no need to create XML DOM).

## 6. What is the purpose of OIM Compatible Formula specs and Functions Registry update?

The main purpose is to define a subset of Formula 1.0, which can be evaluated without the presence of XML DOM (XML document is not needed to perform the evaluation). New fact- and report-related functions do not depend on XML syntax anymore.

THANK YOU!  
contact: [xbri@fqs.pl](mailto:xbri@fqs.pl)