

XBRL-JSON & XBRL-CSV

New XBRL report formats

Digital Reporting: XBRL & Evolving
concepts | XBRL India

24 August 2021

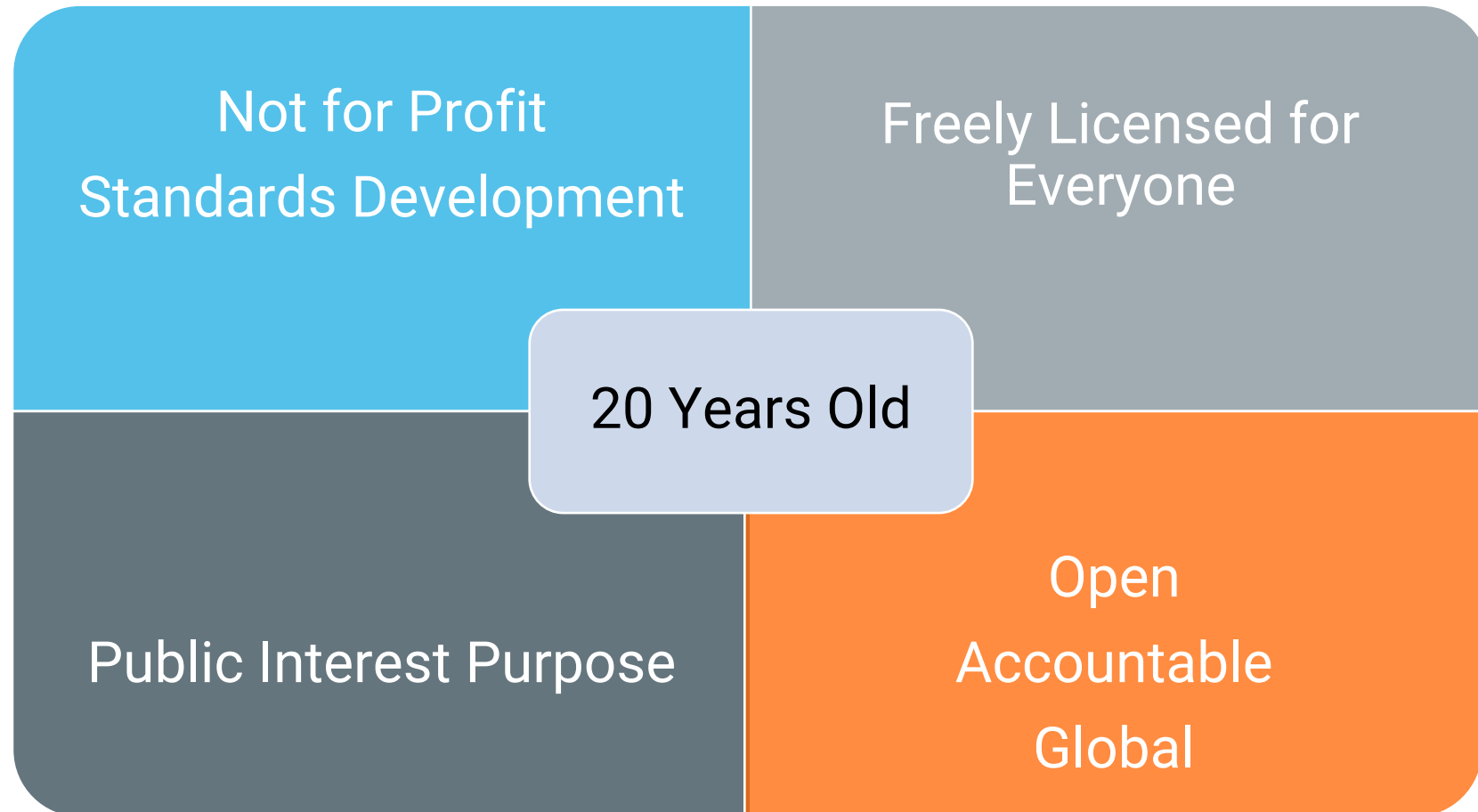
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Director, XBRL India

First – What is “XBRL International”

- And why does digital matter?



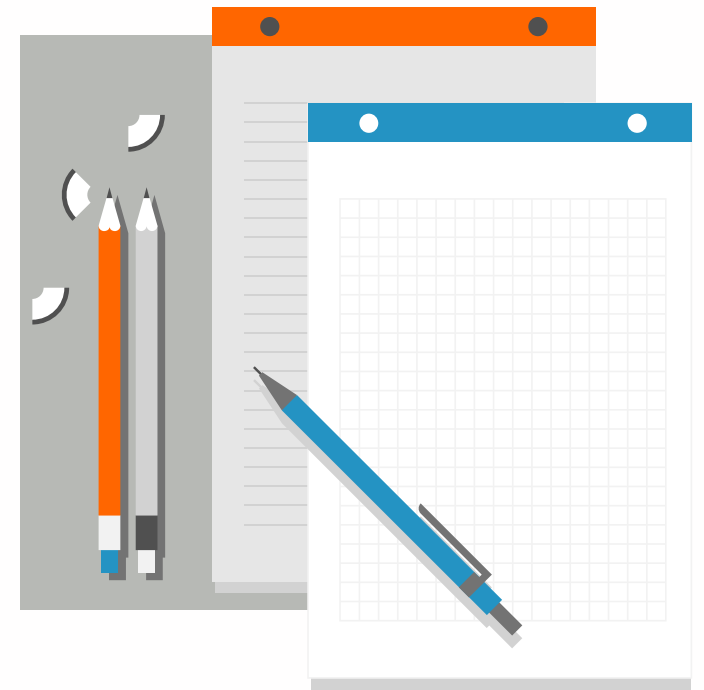
XII Initiative - The Open Information Model

Strategically:

Decouples the XBRL Standard from specific technology.

Practically:

Provides two additional, very useful formats to your toolkit.



New XBRL Report Formats

Simpler Representation

Easier Collection

Efficient Publication

Interoperable

Retaining the useful
XBRL features

Unambiguous definitions

Multi dimensional Models

Multiple layers of validation

Rich fact meta-data

Data presentation

Open Information Model | Stack

Additional, interoperable formats for representing digital reports to address different use cases.

xBRL-CSV

Bulk/Granular Data Collection

Typically seen in prudential/risk reporting.

xBRL-JSON

Data Publication

For environments which publish data collected, to be consumed by third parties such as investors

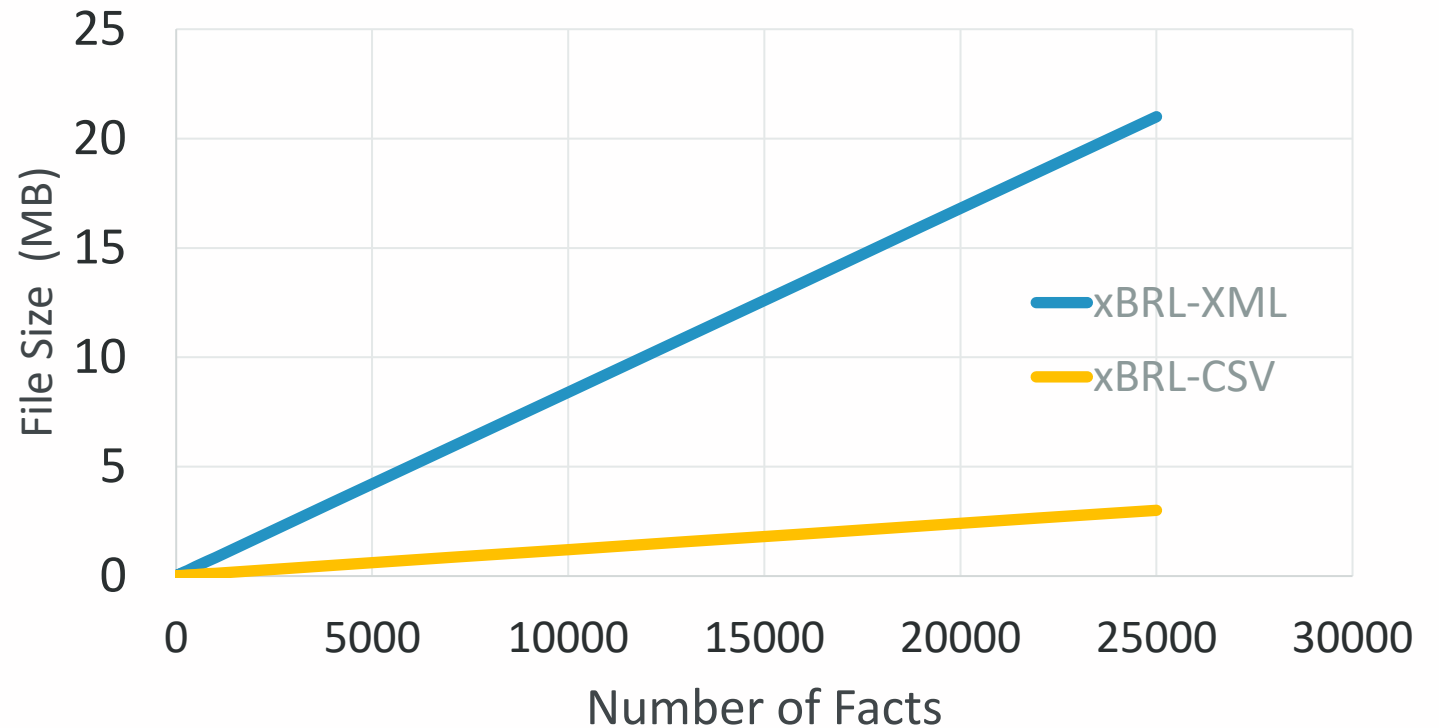
xBRL- CSV | Data Collection

xBRL- CSV

Uses the widely supported CSV format

Optimised for the efficient reporting of very large datasets

File Size Comparison



xBRL- CSV | Customised tables

**Customise
tables**

Repeating rows
2D templates
Key-value pairs

**Regulator
defined**

Regulator can define meta-data
templates and companies can
concentrate on data
preparation.

xBRL-CSV | Typical Reporting Requirements

Simplicity of collecting data records

Information on reinsurers and brokers

Code reinsurer	Legal name reinsurer	Type of reinsurer	Country of residency	External rating assessment by nominated ECAI	Nominated ECAI	Credit quality step	Internal rating
C0180	C0200	C0210	C0220	C0230	C0240	C0250	C0260

xBRL-CSV | Typical Reporting Requirements

Uniform Pattern - Large Data Set

Federal Energy Regulatory Commission FERC Form No. 714		Annual Electric Balancing Authority Area and Planning Area Report For the Year Ending December 31,																Utility Code: Utility Name:							
Part II - Schedule 6. Balancing Authority Area System Lambda Data and Description of Economic Dispatch (continued)																									
Date	Time Zone	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)	(u)	(v)	(w)	(x)	(y)	(z)
01/26/2006																									
01/27/2006																									
01/28/2006																									
01/29/2006																									
01/30/2006																									
01/31/2006																									
02/01/2006																									
02/02/2006																									
02/03/2006																									
02/04/2006																									

Closed Reporting Environment
Thinking about

Collecting large dataset
Simplifying report collection

Consider [xBRL-CSV](#)

xBRL-JSON | Data Publication

xBRL-JSON



Simple, Intuitive representation of XBRL data in JSON format

Easy for developers to work with

Growing popularity as open data interchange format, API friendly

Consuming xBRL-XML | Challenges

xBRL-XML's flexibility creates work for consumers

xBRL-XML

- Contexts and units decoupled from facts
- Contexts may use date or date time
- Interpretation of date depends on usage
- Facts may use either decimals or precision
- Units are complex XML structures

Addressed in
xBRL-JSON

xBRL-JSON | Fact representation

```
{
  "facts": {
    "f1": {
      "value": "182419",
      "decimals": -3,
      "dimensions": {
        "concept": "ind-as:Income",
        "entity": "scheme:U1234DL2020PLC0987651",
        "period": "2020-01-01T00:00:00/2021-01-01T00:00:00",
        "unit": "iso4217:INR"
      }
    },
    "f2": {
      "value": "1586000",
      "decimals": -3,
      "dimensions": {
        "concept": "ind-as:Assets",
        "entity": "scheme:U1234DL2020PLC0987651",
        "period": "2021-01-01T00:00:00",
        "unit": "iso4217:INR"
      }
    }
  }
}
```

Intuitive
representation

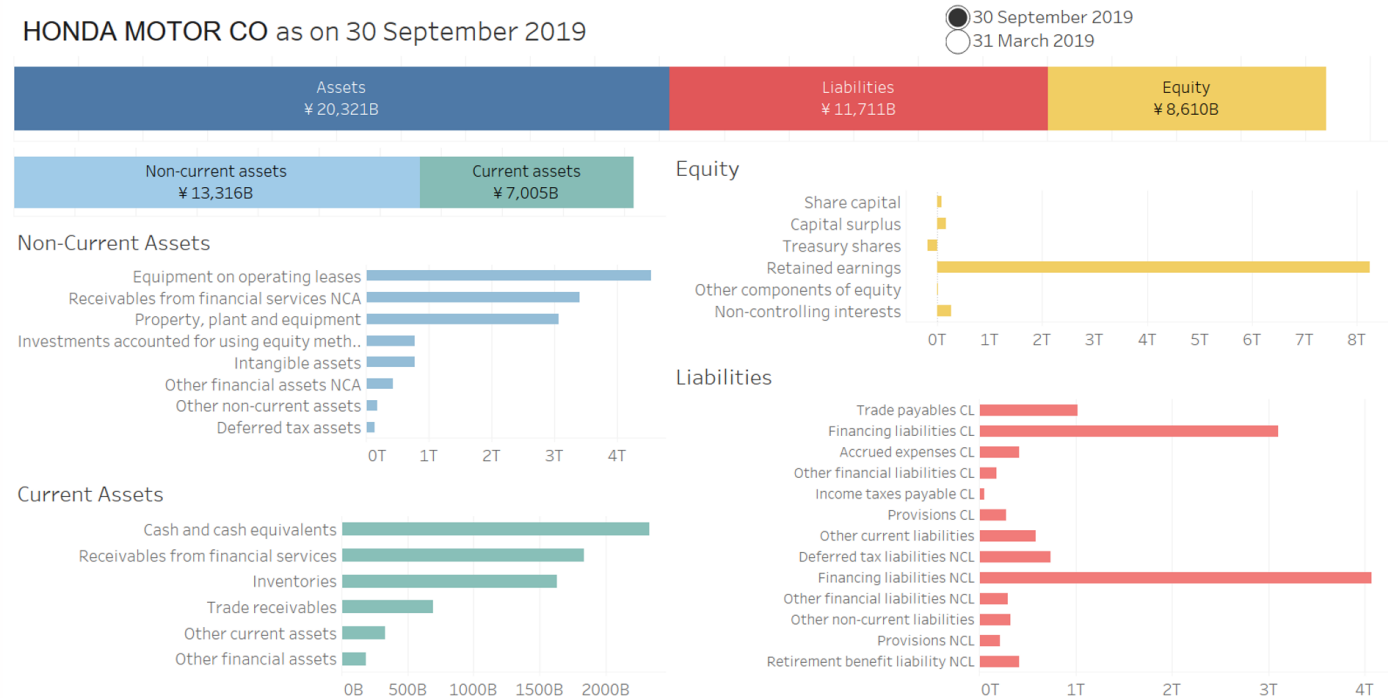
Aspect reported for
each fact enabling
easy extraction and
parsing

Consume xBRL-JSON in analytical tools

Consume in Tableau & MS-Excel

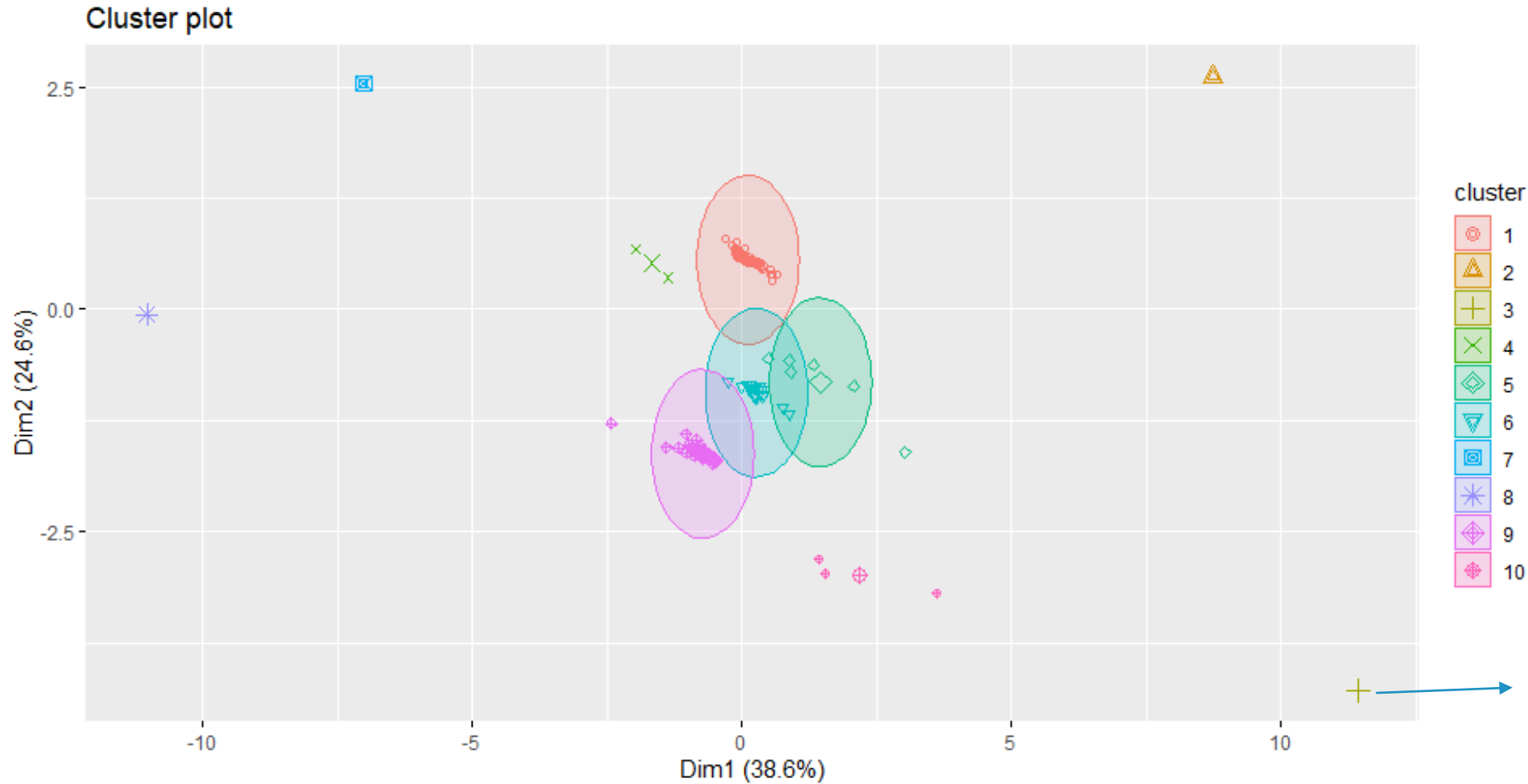
- Load multiple xBRL-JSON reports
- Minimal set-up
- Analyse facts from Report

Read more about xBRL-JSON experiment [here](#) and [here](#)



ML Models | Clustering | using xBRL-JSON

Profitability Ratios



- Cluster 7 – Too high operating margin
- Cluster 3 - Highly Negative ratio – Very high R&D expenses
- Cluster 10 – Loss making ones

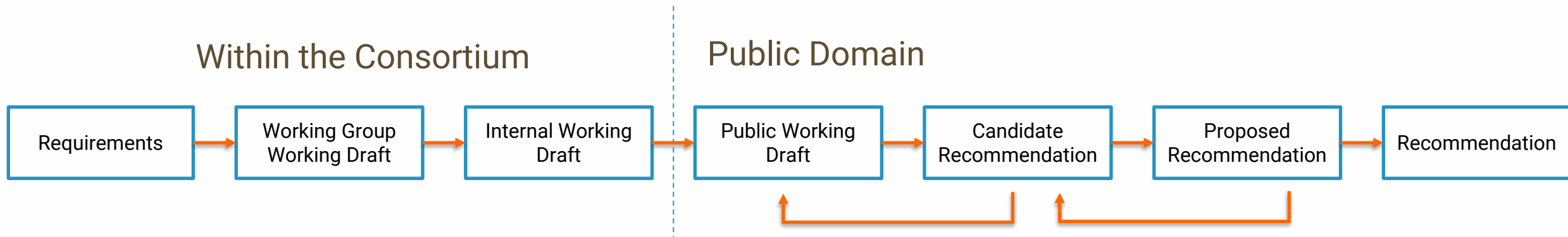
[Source Files- filings.xbrl.org](https://www.filings.xbrl.org)

Publishing XBRL Reports?

Consider **xBRL-JSON**

Specifications Status

Specification Development Process



Final comments on the OIM specifications awaited on the these new format!

[Technical Specifications](#)

xBRL-XML and Inline XBRL

xBRL-XML



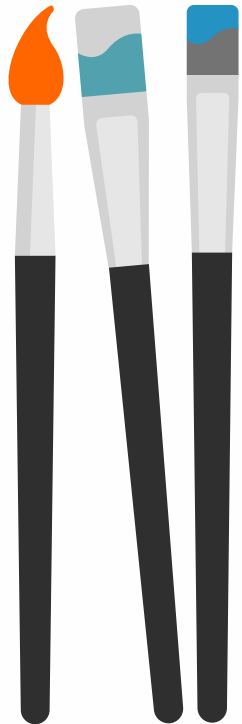
xBRL-XML not redundant

Will continue to be supported
180 + implementations

New formats provide new possibilities

- Collection could still be in xBRL-XML with publication additionally in xBRL-JSON

Inline XBRL



Recommended approach for data collection in open environment reporting:

- Principle-based reporting requirements
- Flexibility in presentation
- Preparer-defined report layout required
- E.g., Financial Statements reporting

Avoid dual report creation / preparation

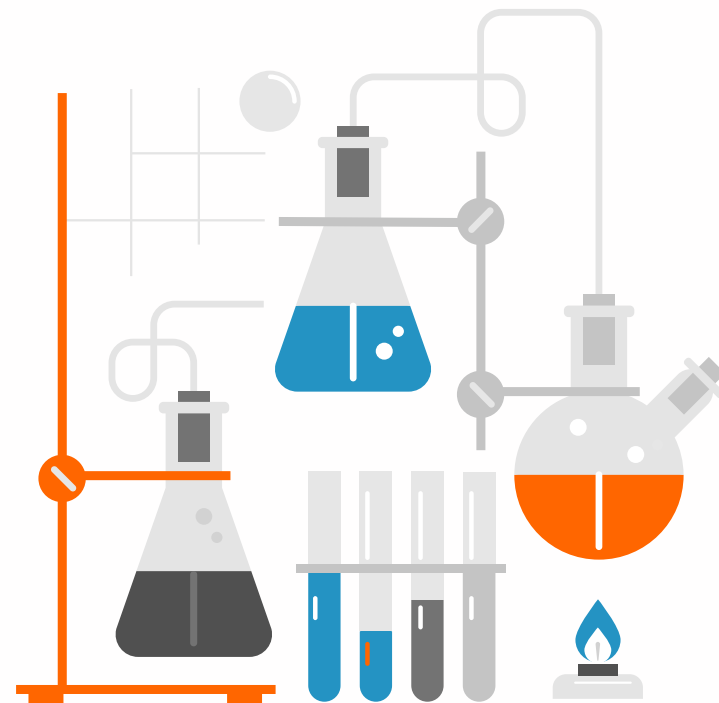
Find more [here](#)

Conclusion

Two new formats expanding set of tools in the XBRL toolkit.

Data Collectors

- Experiment with the new formats
- Continue to use the old formats
- Conform to the OIM constraints for ease of future migration.



Software Vendors

- Develop support for new formats
- Integrate third party analytical tools
- Explore new ways of processing XBRL – a possible disruption

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Questions, comments, clarifications?



Thank you

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