Technical Reference

***easyINSTANCE**: easy* reader of iXBRL **instance facts**

***easyREADER**: easy* reader of **facts, statements, linkbases**

easyQC**: easyREADER* + iXBRL validation + ***Quality ***C***ontrol

Abstract:

easyINSTANCE and ***easyREADER*** are both Open Source distributions of the ***easyQC*** program.

easyINSTANCE: Reads the facts from an iXBRL Instance Document (i.e. ESEF annual report) for presentation into an Excel sheet. This input is an .zip .xbri Report Package or an .xhtml .html .htm Instance Document. The output is an Excel sheet presenting the facts serialized with one fact per row. Each fact is presented in different columns for Concept, Value, Date, Unit and Dimensions.

easyREADER: Runs exactly as ***easyINSTANCE*** but also presents the extensions of the Report Package, if exists (as usual in ESEF annual reports). Each Statement is presented in an independent Excel sheet, according to the respective extended Presentation linkbase. The Statement would be non-dimensional (as 210000 financial position) or dimensional (as 610000 changes in equity), with heuristic distribution of concepts, dates and dimensions into rows and columns. Also presents the content of the extended taxonomy and linkbases in an Excel sheet.

easyQC: Runs exactly as ***easyREADER*** but also validates as ESEF input file using Arelle Suite, and detects proprietary Quality Control warnings, hence creating Audit evidence. The main purpose is to assist into professional quality control tasks. Detecting ESEF inconsistencies and how to correct them is a complex task. Technology of Expert Systems has been used to include heuristic rules about Quality Control. The rules are according to the *Reporting Manual* of ESMA and the expertise of the authors. The empirical testing of ***easyQC*** has been performed within academic research on the report's repository created by XBRL™ International[1] at fIlings.xbrl.org

Certification: The product ***easyQC*** has been Certified as Review and Consumption Software by XBRL International.

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easyINSTANCE and ***easyREADER*** are distributed as Open Source. License Creative Commons Attribution 4.0 International. Author Ignacio Boixo ignacio@boixo.com for easyESEF Ltd. First version 2017-12-30.

Canonical URL https://creativecommons.org/licenses/by/4.0/

easyINSTANCE distribution has only 2.000 lines of code (Excel VBA macro), to minimize tasks on security certification of source code. ***easyREADER*** distribution has about 4.000 lines.

easyQC is NOT Open Source, having the standard commercial Copyright © 2021-2025 by easyESEF Ltd. Ireland. All rights reserved. Deposited at WIPO. Reverse reengineering is prohibited. Code protected by obfuscat.org solution.

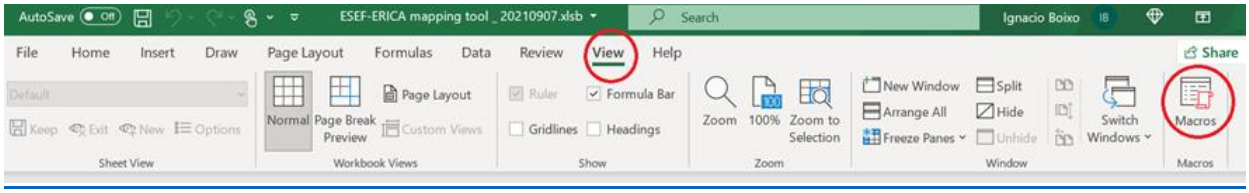
Running Requirements

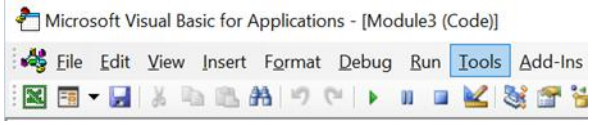
easyINSTANCE, easyREADER and ***easyQC*** are standard run-alone executable Excel programs, distributed as XLSB Excel binary workbook files. No distribution libraries. No installation process. The running environment is Microsoft Excel running on Windows (even Windows over macOS).

When running for first time after download, Windows will usually ask for security permission to run Excel macros, with a message like **«all the macros may be disabled»**: In Windows, open the «File Explorer», select the file, open its properties, right-click on «Show more options», select «Properties» and click on «**Unblock**» at the bottom. **That is all**.

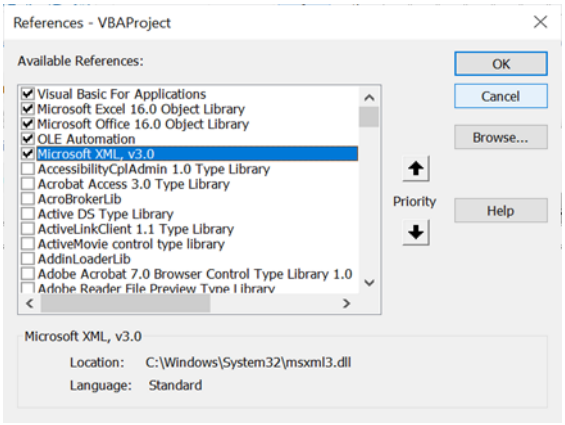
See full description of security features at https://easyesef.eu/security/
Running Excel and/or downloading Arelle may require Corporate security authorizations.

The tool is distributed with the usual Microsoft Excel References activated, including the parsing library Microsoft XML v3.0 (see VBA IDE Tools References panel). If troubles, see below instructions with text and image captures.





Please check XML activation by opening the Excel file, clicking on Developer/Visual Basic for Applications (with Alt F8 and then click Edit Macro, or View then click Macros then click Edit Macro). In the Microsoft VBA screen, click the icon Tools/References and then check that the parser Microsoft XML v3.0. is ticketed.



easyQC only: Arelle Open Source is internally invoked to carry out ESEF iXBRL validations. Please download Arelle from https://arelle.org (for free), install and run ***easyQC*** once for initial download of XBRL taxonomies. After that, internet connection is not necessary anymore.

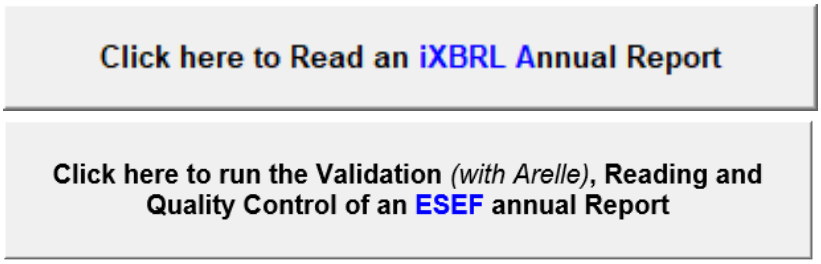
Scope of Application:

Read ESEF, ESRS or other iXBRL reports in an easy way. Simply select the file to read. The facts and the financial statements will be show in separate spreadsheets. The proof-of-concept use case has been the ERICA working group of balance sheet centrals of European Central Banks.

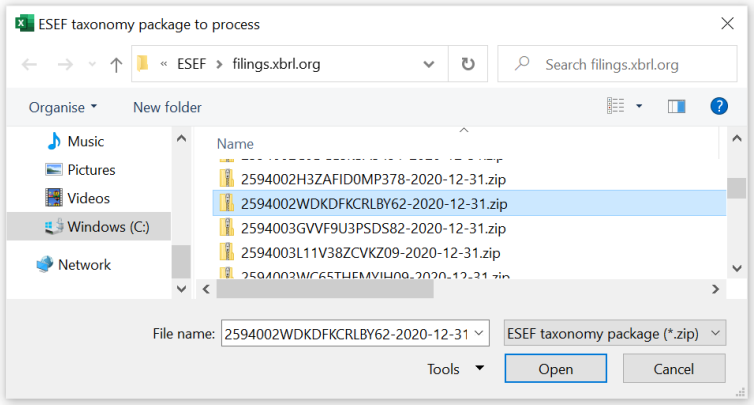
***easyQC*: Preparer, consultant, and auditor's review.** The tool is designed to show observations as errors and warnings that worth to be checked. The observations found may be due to many different factors and may not even necessarily be errors that need to be corrected. Detecting the ultimate cause of an observation may be a complex task: If there is a fact that cannot determine in what statement it should be represented, this may be due to multiple causes.

How to run

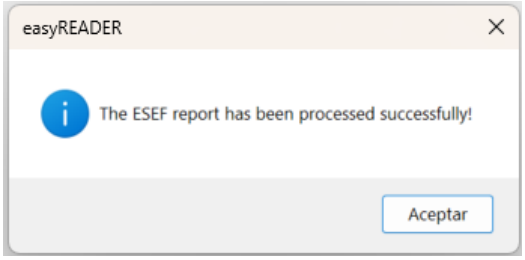
Operation is quite simple. First click in the button of the sheet *Facts*.



Select the report package (.zip .xbrli) or instance document (.xhtml .html .htm) to process.

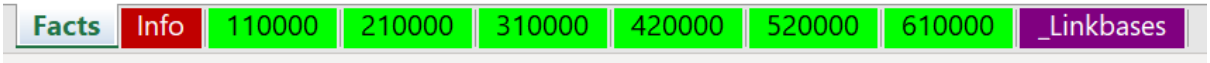


Done!



As a result, each and every reported data is displayed across the following sheets:

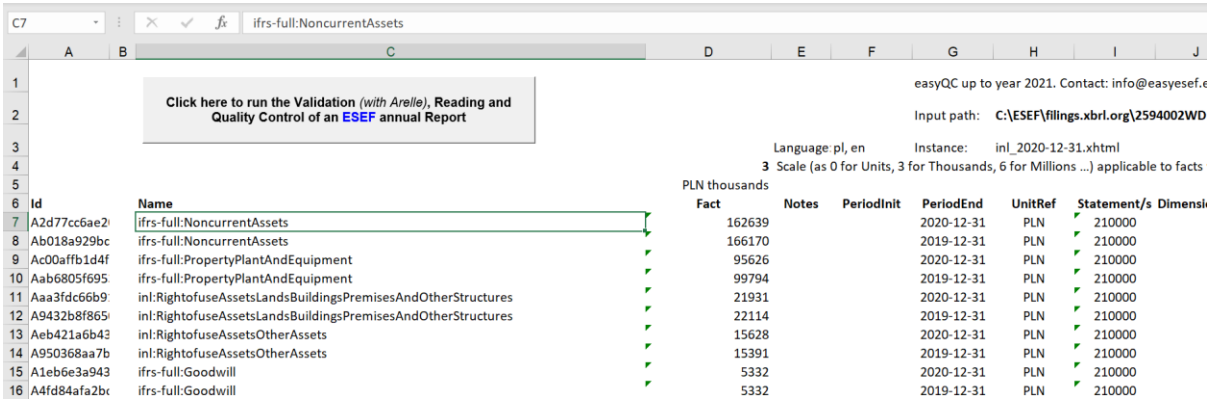
- ***Facts*** with the iXBRL instance data
- ***Info*** with errors and warnings
- ***Statements*** and ***Notes***
- ***Linkbases*** of the extended taxonomy



Sheet *Facts*

The header lines show general data of the file: *Input path* for the taxonomy package file, name of the iXBRL instance file, LEI code of the entity and languages used (ISO 639-1). The scale (millions, thousands, units...) and the currency used are also shown.

Each fact is represented in a row with the following columns: identifier, Concept, value (in red if negative), footnotes, beginning and end of period, unit of reference, financial statements where the fact is shown, and the list of applicable dimension/member. Footnotes, if any, will be placed in consecutive rows after the rows for facts with some empty rows as separator.

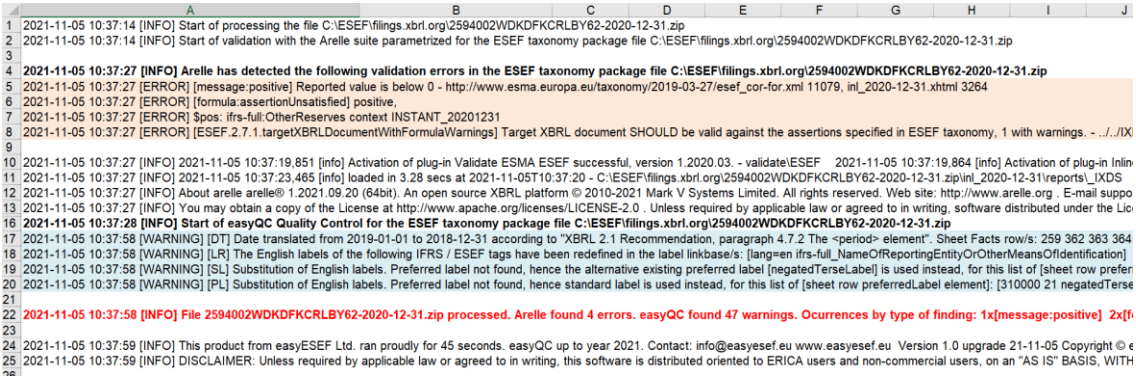


TEMP path or empty cell: You may select your own temporary path, used to expand .zip and .xbri files. Default temporary path C:/Users/<username>/AppData/Local/Temp is used when empty.

easyQC only: *License code* cell: If empty or invalid, no details will be shown in errors/warnings. *Arelle path or "skip"* cell: Please type the path for the Arelle Open Source validator or left empty to use default path. Type *skip* to omit Arelle validation.

Sheet *Info*

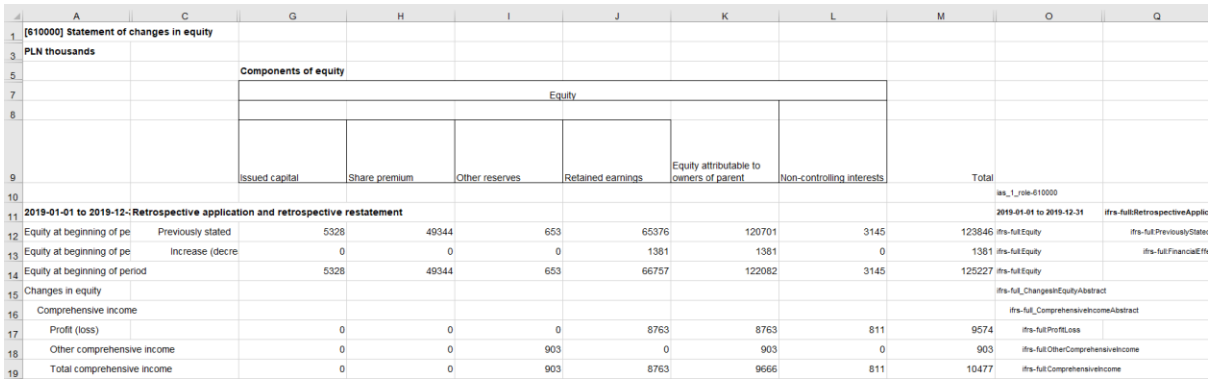
This sheet shows end of process and possible running or showstopper errors.



easyQC only: This sheet shows the iXBRL validation errors and quality control warnings detected. Where possible, warnings will also be highlighted by shading the corresponding cells, well in the sheet *Facts* or in well the sheets for *Statements* and *Notes*.

Sheets of Statements and Notes: *210000, 310000, 510000, 610000, 800500….*

All the Statements and Notes are presented, each one in its own Excel sheet, according to the information available in the linkbases. In the dimensional statements, the program decides the distribution of dimensions in rows and columns, trying to minimize the surface to be shown (width by height), as this is the usual way of representation for humans.



1	[610000] Statement of changes in equity										
3	PLN thousands										
5			Components of equity								
7			Equity								
8											
9			Issued capital	Share premium	Other reserves	Retained earnings	Equity attributable to owners of parent	Non-controlling interests	Total		
10										ias_1_role-610000	
11	2019-01-01 to 2019-12-3	Retrospective application and retrospective restatement								2019-01-01 to 2019-12-31	ifrs-fullRetrospectiveApplic
12	Equity at beginning of pe	Previously stated	5328	49344	653	65376	120701	3145	123846	ifrs-full:Equity	ifrs-full:PreviouslyStatec
13	Equity at beginning of pe	Increase (decre	0	0	0	1381	1381	0	1381	ifrs-full:Equity	ifrs-full:FinancialEffe
14	Equity at beginning of period		5328	49344	653	66757	122082	3145	125227	ifrs-full:Equity	
15	Changes in equity									ifrs-full_ChangesInEquityAbstract	
16	Comprehensive income									ifrs-full_ComprehensiveIncomeAbstract	
17	Profit (loss)		0	0	0	8763	8763	811	9574	ifrs-full:ProfitLoss	
18	Other comprehensive income		0	0	903	0	903	0	903	ifrs-full:OtherComprehensiveIncome	
19	Total comprehensive income		0	0	903	8763	9666	811	10477	ifrs-full:ComprehensiveIncome	

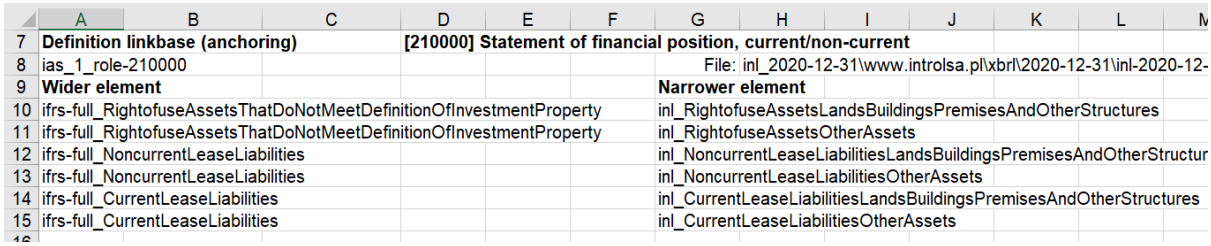
The preparers of ESEF reports may have very different ways of numbering each Statement. ***easyREADER*** uses the IFRS notation (210000, 220000, 310000, 320000,….) as resulting from a heuristic algorithm of weighted pseudo-distance of Mahalanobis, according to the corresponding ESEF/IFRS taxonomy pattern.

The program automatically creates (and deletes) the appropriate sheets in each run.

Sheet *Linkbases*

The presentation, calculation, definition linkbases of each statement are shown. Anchoring and extended elements, as well as labels, are also shown. Having a representation of the linkbases is useful to analyse the full context of the quality control observations found. The sheet visually shows the edited content of all the XBRL linkbases, including *anchoring*, the relationship between IFRS concepts and proprietary -*extended*- concepts.

easyQC only: The SHA256 of each expanded file from the input .zip .xbrli is also show.



	A	B	C	D	E	F	G	H	I	J	K	L	M
7	**Definition linkbase (anchoring)**			**[210000] Statement of financial position, current/non-current**									
8	ias_1_role-210000						File: inl_2020-12-31\www.introlsa.pl\xbrl\2020-12-31\inl-2020-12-						
9	**Wider element**						**Narrower element**						
10	ifrs-full_RightofuseAssetsThatDoNotMeetDefinitionOfInvestmentProperty						inl_RightofuseAssetsLandsBuildingsPremisesAndOtherStructures						
11	ifrs-full_RightofuseAssetsThatDoNotMeetDefinitionOfInvestmentProperty						inl_RightofuseAssetsOtherAssets						
12	ifrs-full_NoncurrentLeaseLiabilities						inl_NoncurrentLeaseLiabilitiesLandsBuildingsPremisesAndOtherStructur						
13	ifrs-full_NoncurrentLeaseLiabilities						inl_NoncurrentLeaseLiabilitiesOtherAssets						
14	ifrs-full_CurrentLeaseLiabilities						inl_CurrentLeaseLiabilitiesLandsBuildingsPremisesAndOtherStructures						
15	ifrs-full_CurrentLeaseLiabilities						inl_CurrentLeaseLiabilitiesOtherAssets						

Sheet *Labels*

The sheet Labels (sometimes hidden) has the list of *Qnames* (technical names) and English description of all and each one the IFRS elements, corresponding to the current version of the IFRS taxonomy, as well as the deprecated elements of previous IFRS taxonomies. The structure of the elements composing each customary IFRS statement is also visible. Note that the Preferred Labels of type *negated* forces the inversion of the sign of the amount when presented in Excel, in relation from the original sign in the XBRL file.