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FRAMEWORK FOR EUROPE

ERM Quality Management

Technical Producers Meeting Lisbon

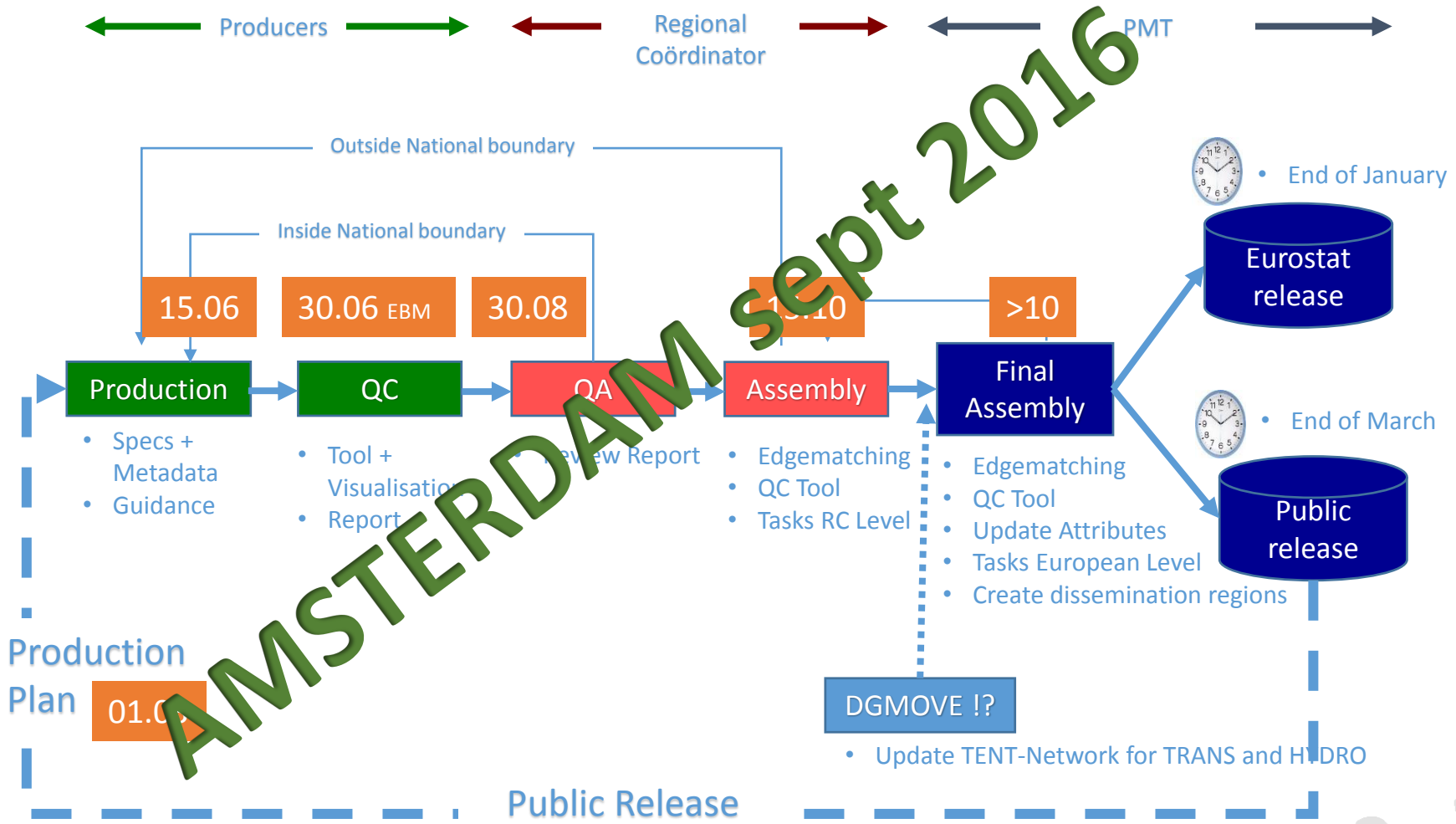
Ben Bruns, Tony Baving, Marieke Kuijer – Kadaster NL

14th of November 2017

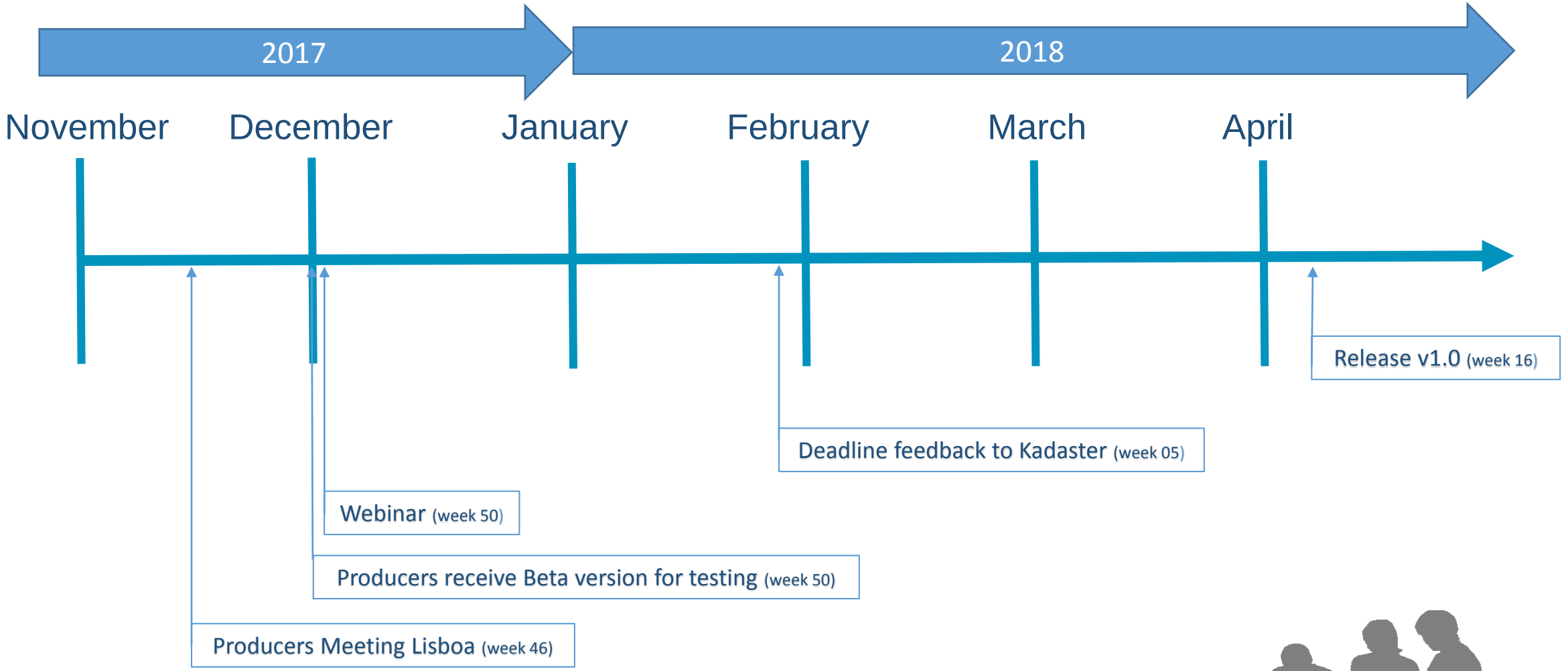
New approach (1)

- One QC Python tool ?
  -based on ExM validation Python ING-Fr
  -ArcGIS version
- One QC visualisation template

New approach (2)

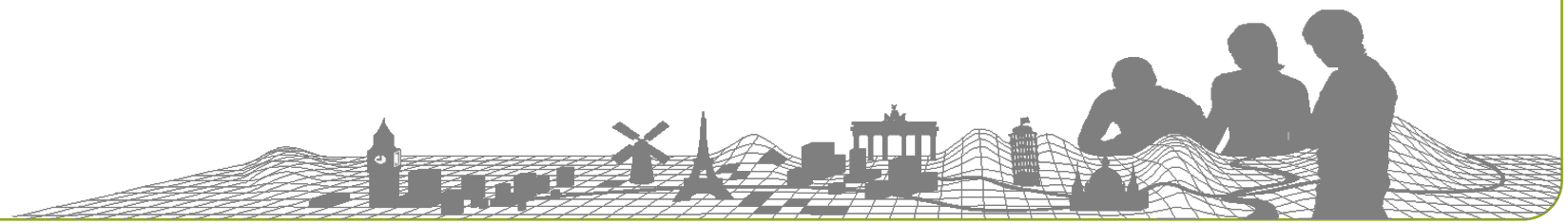


QC Planning


2017
2018
November
December
January
February
March
April
Release v1.0 (week 16)
Deadline feedback to Kadaster (week 05)
Webinar (week 50)
Producers receive Beta version for testing (week 50)
Producers Meeting Lisboa (week 46)

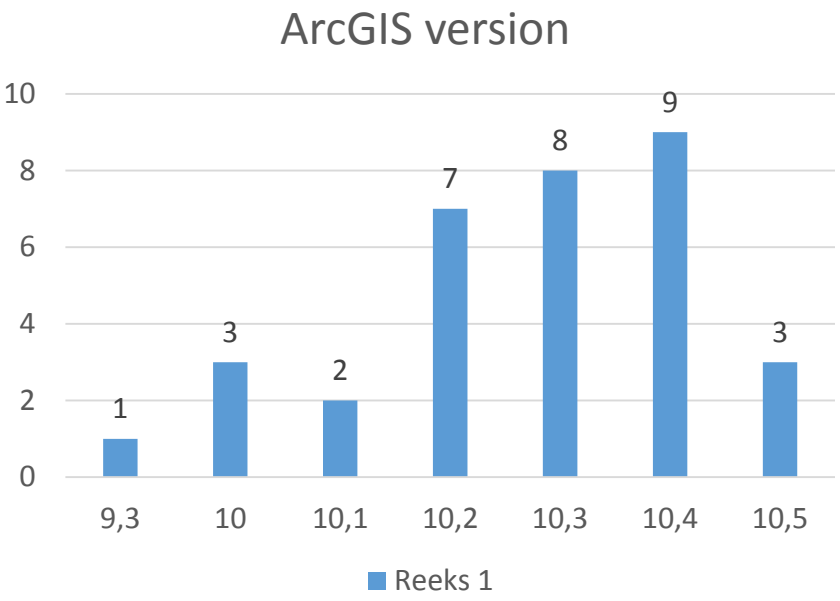
Tool objectives

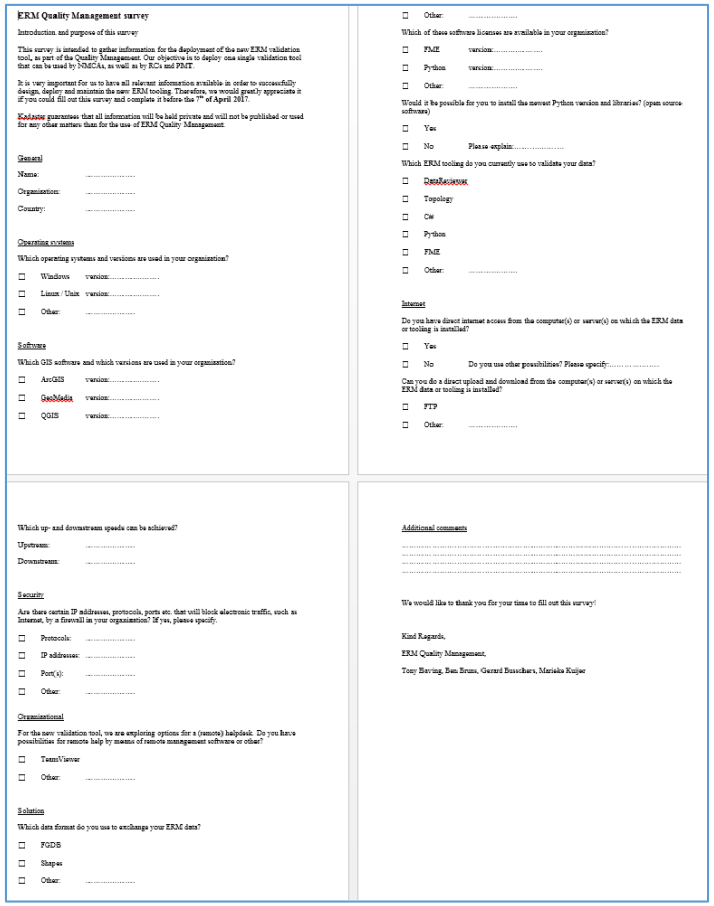
- One tool approach
- Producers, RCs, PMT
- ArcGIS versions >10.1
- Easy to use
- Simple documentation
- Stand alone desktop
- Arcmap Standard and Advanced supported



Survey

- Send out in spring 2017
- Good respons
  - 32 out of 38
- Results





ERM Quality Management survey

Introduction and purpose of this survey

This survey is intended to gather information for the deployment of the new ERM validation tool, as part of the Quality Management. Our objective is to deploy one single validation tool that can be used by NMCAs, as well as by RCs and PMT.

It is very important for us to have all relevant information available in order to successfully design, deploy and maintain the new ERM tooling. Therefore, we would greatly appreciate it if you could fill out this survey and complete it before the 7th of April 2017.

Kadaster guarantees that all information will be held private and will not be published or used for any other matters than for the use of ERM Quality Management.

General

Name: .....

Organization: .....

Country: .....

Operating systems

Which operating systems and versions are used in your organization?

☐ Windows version: .....

☐ Linux / Unix version: .....

☐ Other: .....

Software

Which GIS software and which versions are used in your organization?

☐ ArcGIS version: .....

☐ GeoMedia version: .....

☐ QGIS version: .....

☐ Other: .....

Which of these software licenses are available in your organization?

☐ FME version: .....

☐ Python version: .....

☐ Other: .....

Would it be possible for you to install the newest Python version and libraries? (open source software)

☐ Yes

☐ No Please explain: .....

Which ERM tooling do you currently use to validate your data?

☐ DataReviewer

☐ Topology

☐ C#

☐ Python

☐ FME

☐ Other: .....

Internet

Do you have direct internet access from the computer(s) or server(s) on which the ERM data or tooling is installed?

☐ Yes

☐ No Do you use other possibilities? Please specify: .....

Can you do a direct upload and download from the computer(s) or server(s) on which the ERM data or tooling is installed?

☐ FTP

☐ Other: .....

Which up- and downstream speeds can be achieved?

Upstream: .....

Downstream: .....

Security

Are there certain IP addresses, protocols, ports etc. that will block electronic traffic, such as Internet, by a firewall in your organization? If yes, please specify.

☐ Protocols: .....

☐ IP addresses: .....

☐ Port(s): .....

☐ Other: .....

Organizational

For the new validation tool, we are exploring options for a (remote) helpdesk. Do you have possibilities for remote help by means of remote management software or other?

☐ TeamViewer

☐ Other: .....

Solution

Which data format do you use to exchange your ERM data?

☐ FGDB

☐ Shapes

☐ Other: .....

Additional comments

.....

.....

.....

.....

We would like to thank you for your time to fill out this survey!

Kind Regards,

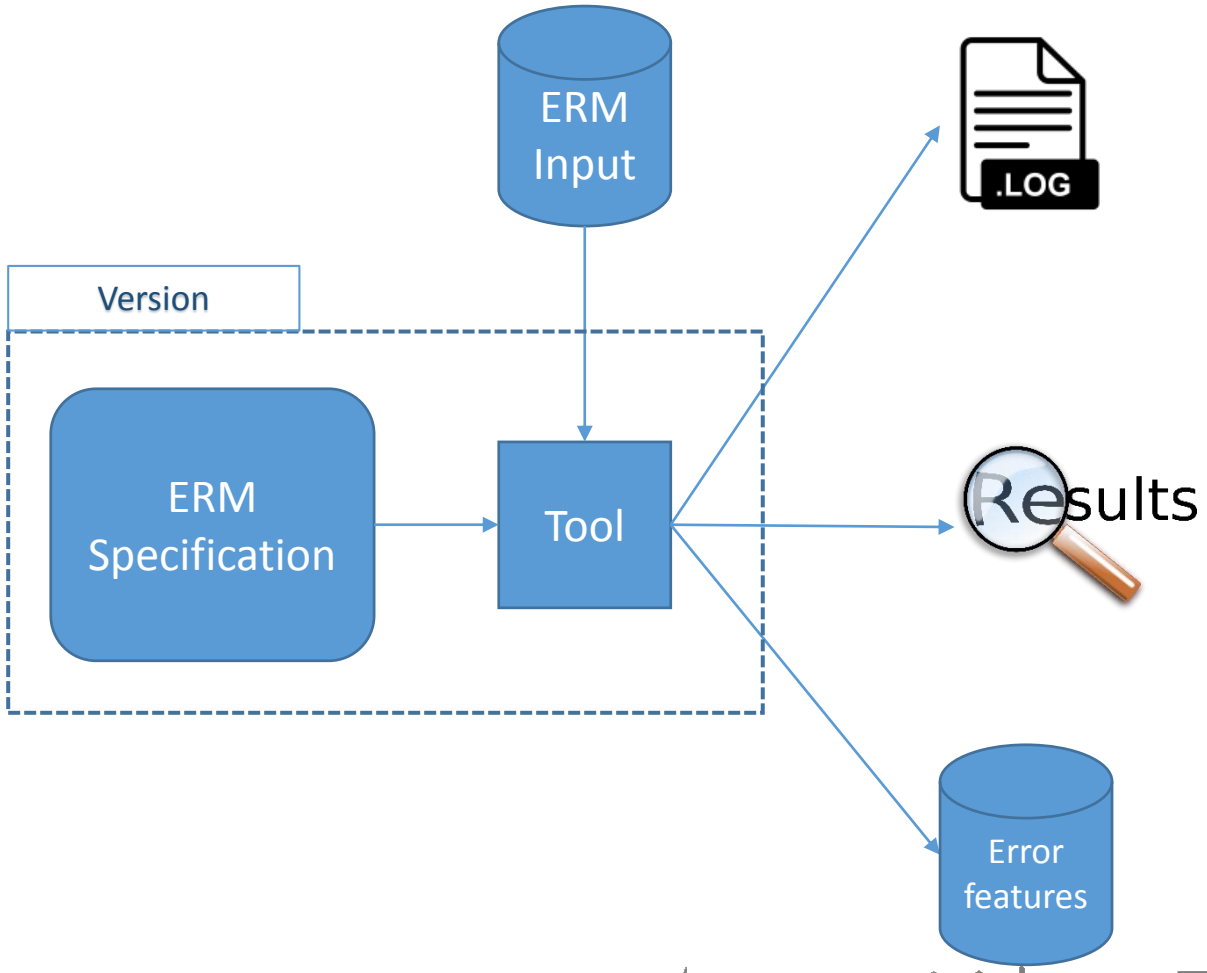
ERM Quality Management,

Tony Eaving, Ben Bruns, Gerard Bastelaer, Marieke Kuijer

Approach

- Based on ExM Python tools ING-Fr
- Arcpy
- Developed together with ESRI NL
- Test -> feedback -> adjust

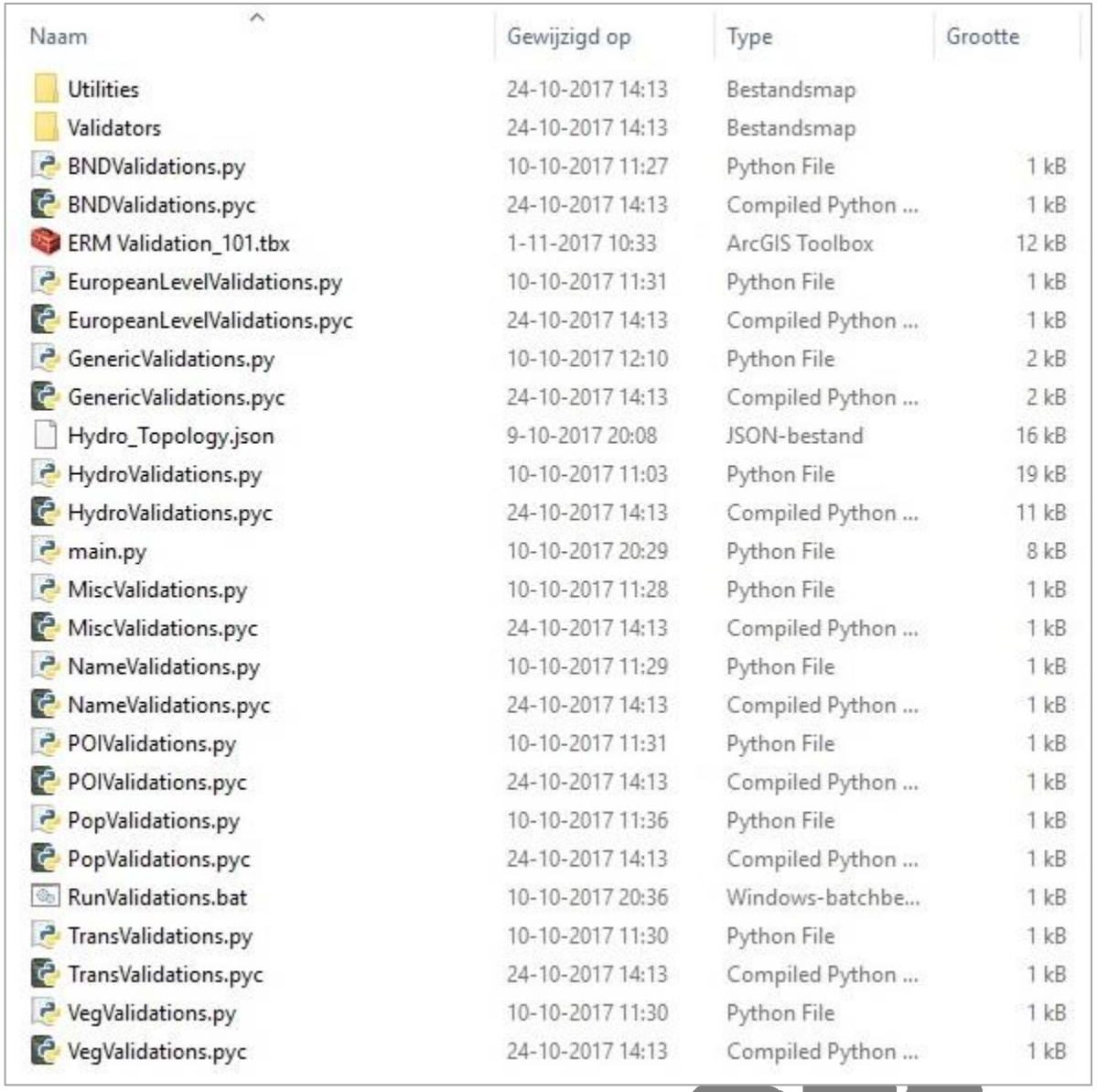
Schema tool proces



Zip-file

- Zip-file -> BKG ftp server
  - Tool
  - Current validation report

	A	B	C	D
		Check List for hydrographs	Validation result of RC 1st QA	Comments of
		General Data Delivery		
1		feature classes AQUEDCTL, COASTA, COASTL, DAML, DAMC, LAKERESA, LANDICEA, ISLANDA, SEAA, SEASTRTL, SPRINGP, SPRINGC, SWAMPA, RAPIDSL, RAPIDSC, WATRCRSA, WATRCRSL, WELLP		
2		coordinate system (GEOGRAPHIC, decimal degrees)		
3		map extent (-25°<Lambda<40° and 30°<Phi<80°)		
4		mandatory feature classses COASTA, COASTL, DAML, DAMC, LAKERESA, LANDICEA(BJ030), ISLANDA, SEAA, SWAMPA, WATRCRSA, WATRCRSL must have features		
		Geometric resolution (Tested in projection Lambert_Conformal_Conic_WGS84)		
6		Valid Geometry		
7		minimum allowed area size: 60 000m²		
8		minimum allowed distance between vertices of line and area features: 5m		
9		minimum allowed length of a line segment:		
10		statistics of average distance between		
		Selection criteria (Tested in projection Lambert_Conformal_Conic_WGS84)		
11		The number of LAKERESA less than 400		
12		The number of WATRCRSA less than 200		
13		The number of SWAMPA, LANDICEA less than 400 000m²		
14		The number of ISLANDA less than 400 000m²		
15		The number of dams and locks less than 125m		
16		The number of dangling AQUEDCTL, WATRCRSL shorter than 1600m		
17		The number of shoreline construction (SEASTRTL) shorter than 125m		
		Data Model and attributes structure		
17		geometrical definitions (polygon, polyline, point)		
18		attributes: complete list, ordering, definition		
		attributes: has core attributes (FCSubtype, inspireId, beginLifespanVersion, F_CODE,		



Naam	Gewijzigd op	Type	Grootte
Utilities	24-10-2017 14:13	Bestandsmap	
Validators	24-10-2017 14:13	Bestandsmap	
BNDValidations.py	10-10-2017 11:27	Python File	1 kB
BNDValidations.pyc	24-10-2017 14:13	Compiled Python ...	1 kB
ERM Validation_101.tbx	1-11-2017 10:33	ArcGIS Toolbox	12 kB
EuropeanLevelValidations.py	10-10-2017 11:31	Python File	1 kB
EuropeanLevelValidations.pyc	24-10-2017 14:13	Compiled Python ...	1 kB
GenericValidations.py	10-10-2017 12:10	Python File	2 kB
GenericValidations.pyc	24-10-2017 14:13	Compiled Python ...	2 kB
Hydro_Topology.json	9-10-2017 20:08	JSON-bestand	16 kB
HydroValidations.py	10-10-2017 11:03	Python File	19 kB
HydroValidations.pyc	24-10-2017 14:13	Compiled Python ...	11 kB
main.py	10-10-2017 20:29	Python File	8 kB
MiscValidations.py	10-10-2017 11:28	Python File	1 kB
MiscValidations.pyc	24-10-2017 14:13	Compiled Python ...	1 kB
NameValidations.py	10-10-2017 11:29	Python File	1 kB
NameValidations.pyc	24-10-2017 14:13	Compiled Python ...	1 kB
POIValidations.py	10-10-2017 11:31	Python File	1 kB
POIValidations.pyc	24-10-2017 14:13	Compiled Python ...	1 kB
PopValidations.py	10-10-2017 11:36	Python File	1 kB
PopValidations.pyc	24-10-2017 14:13	Compiled Python ...	1 kB
RunValidations.bat	10-10-2017 20:36	Windows-batchbe...	1 kB
TransValidations.py	10-10-2017 11:30	Python File	1 kB
TransValidations.pyc	24-10-2017 14:13	Compiled Python ...	1 kB
VegValidations.py	10-10-2017 11:30	Python File	1 kB
VegValidations.pyc	24-10-2017 14:13	Compiled Python ...	1 kB

Framework

- 16 validators

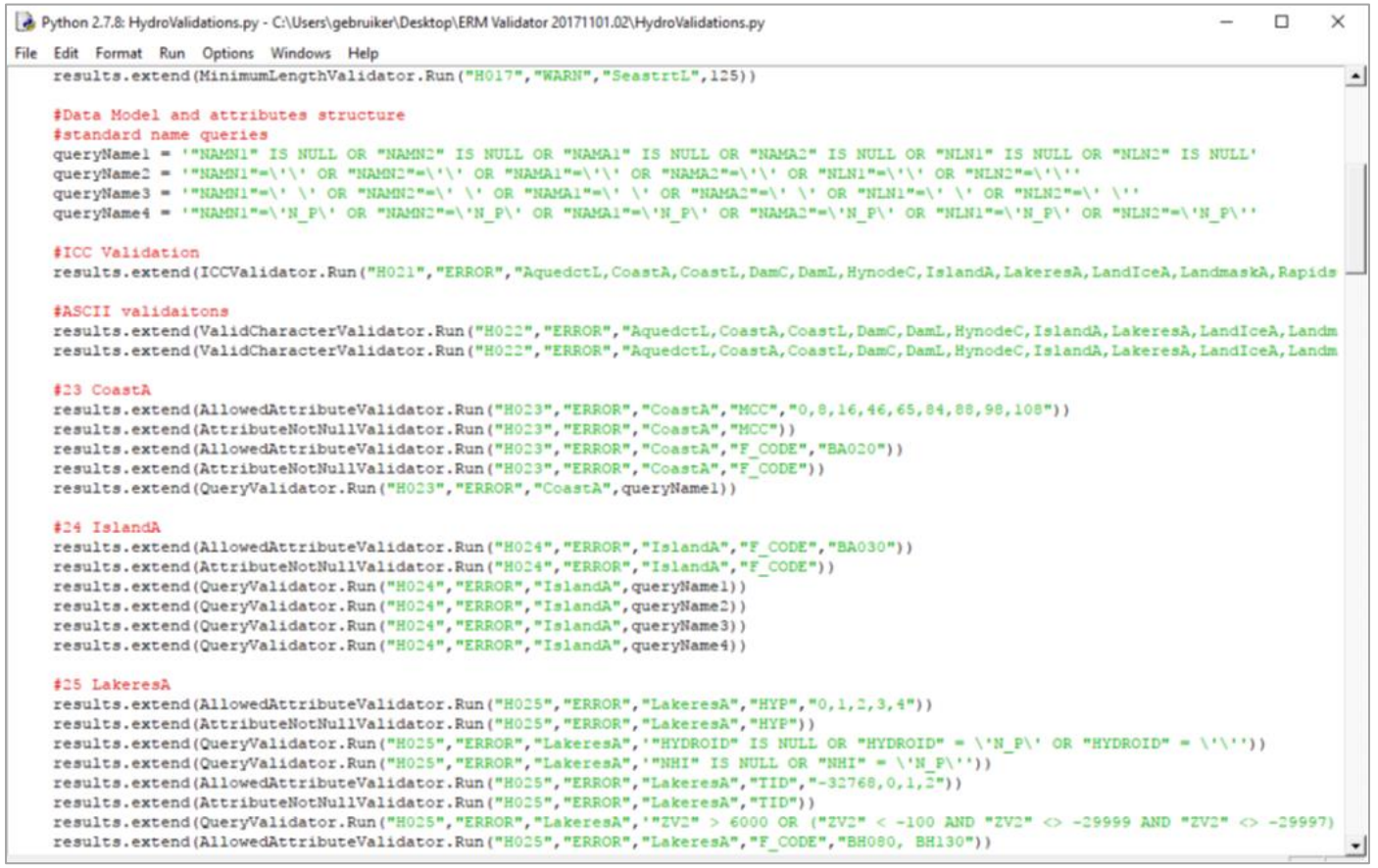
Naam	Gewijzigd op	Type	Grootte
ValidGeometryValidator.py	1-10-2017 22:43	Python File	2 kB
ValidCharacterValidator.py	10-10-2017 12:00	Python File	3 kB
ValidationUtilities.py	1-10-2017 22:55	Python File	10 kB
TopologyValidator.py	4-10-2017 16:00	Python File	12 kB
QueryValidator.py	10-10-2017 12:00	Python File	2 kB
NameFieldValidator.py	10-10-2017 12:00	Python File	3 kB
MinimumVertexDistanceValidator.py	10-10-2017 12:08	Python File	4 kB
MinimumLengthValidator.py	10-10-2017 12:08	Python File	2 kB
MinimumAreaValidator.py	10-10-2017 12:03	Python File	2 kB
ICCValidator.py	18-9-2017 16:31	Python File	2 kB
GeodatabaseTemplateValidator.py	10-10-2017 12:09	Python File	8 kB
FeatureCountValidator.py	28-9-2017 16:06	Python File	2 kB
ExtentValidator.py	10-10-2017 12:00	Python File	2 kB
CompletionRateValidator.py	1-10-2017 23:15	Python File	4 kB
AxisValidator.py	10-10-2017 12:00	Python File	4 kB
AttributeNotNullValidator.py	10-10-2017 12:00	Python File	2 kB
AllowedAttributeValidator.py	10-10-2017 12:00	Python File	2 kB
__init__.py	1-10-2017 21:33	Python File	1 kB

```
projectedDataset = ValidationUtilities.ProjectDataset(params["SourceDatabase"],"EuroRegionalMap

arcpy.env.workspace = projectedDataset#params["SourceDatabase"]
ValidationUtilities.AddOrigIDField()


resultDatabase = params["ResultDatabase"]
resultFolder = params["ResultFolder"]
runTime = params["RunTime"]

results = []
results.extend(FeatureCountValidator.Run("H001","AquedctL",1))
results.extend(AllowedAttributeValidator.Run("H002","WatrcrsA","SN","5020,5030"))
results.extend(AllowedAttributeValidator.Run("H002","WatrcrsA","ICC","'SK'"))
results.extend(AllowedAttributeValidator.Run("H002","SpringP","SWT","999"))
results.extend(AttributeNotNullValidator.Run("H003","WatrcrsA","ICC"))
results.extend(AttributeNotNullValidator.Run("H003","WatrcrsL","SN"))

results.extend(ExtentValidator.Run("H004","WatrcrsA",-25,30,40,80))
results.extend(MinimumAreaValidator.Run("H005","WatrcrsA",60000))
results.extend(MinimumLengthValidator.Run("H006","WatrcrsL",50))
results.extend(MinimumVertexDistanceValidator.Run("H007","WatrcrsA",5))

results.extend(AxisValidator.Run("H008","WatrcrsL","LOC=984",["LakeresA", "WatrcrsA", "SwampA"],mustBeInside=True))
#results.extend(AxisValidator.Run("H008","WatrcrsL","LOC <> 984 AND LOC <> 25 AND LOC <> 40",["LakeresA", "WatrcrsA"],mustBeInside=False))
```

Framework

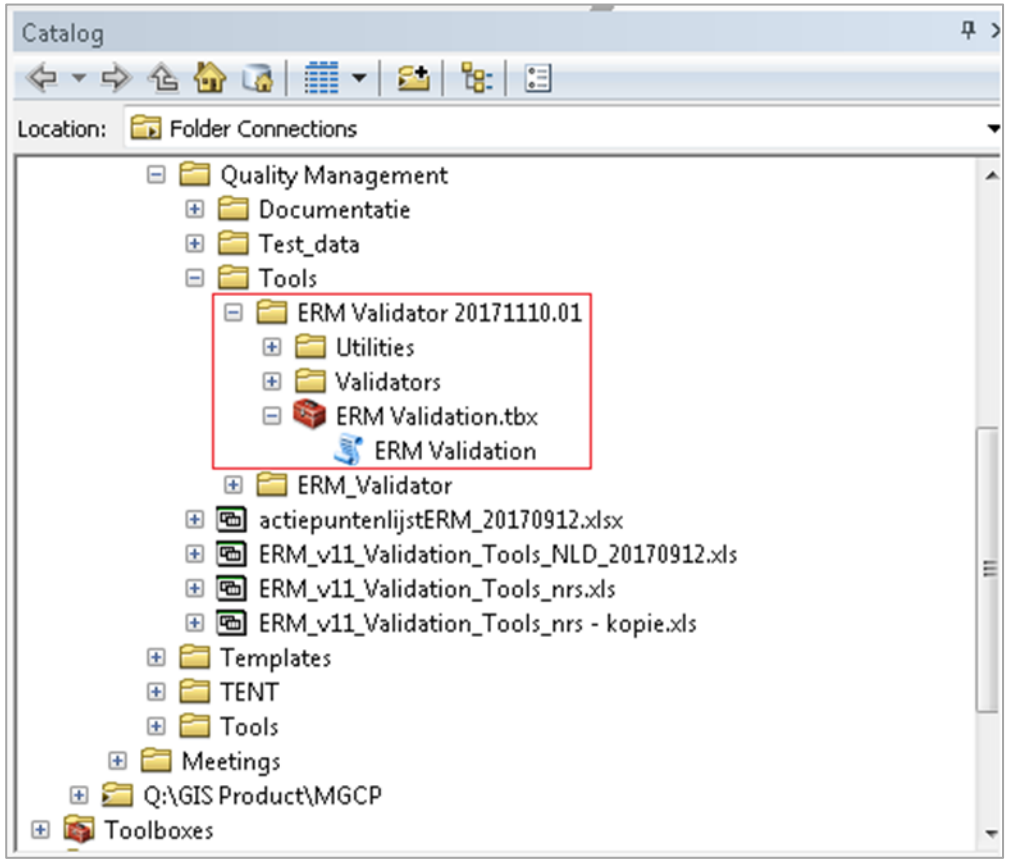
- 8 ERM themes: (BND), HYDRO, MISC, NAME, POI, POP, TRANS, VEG

(currently only Hydro checks added)

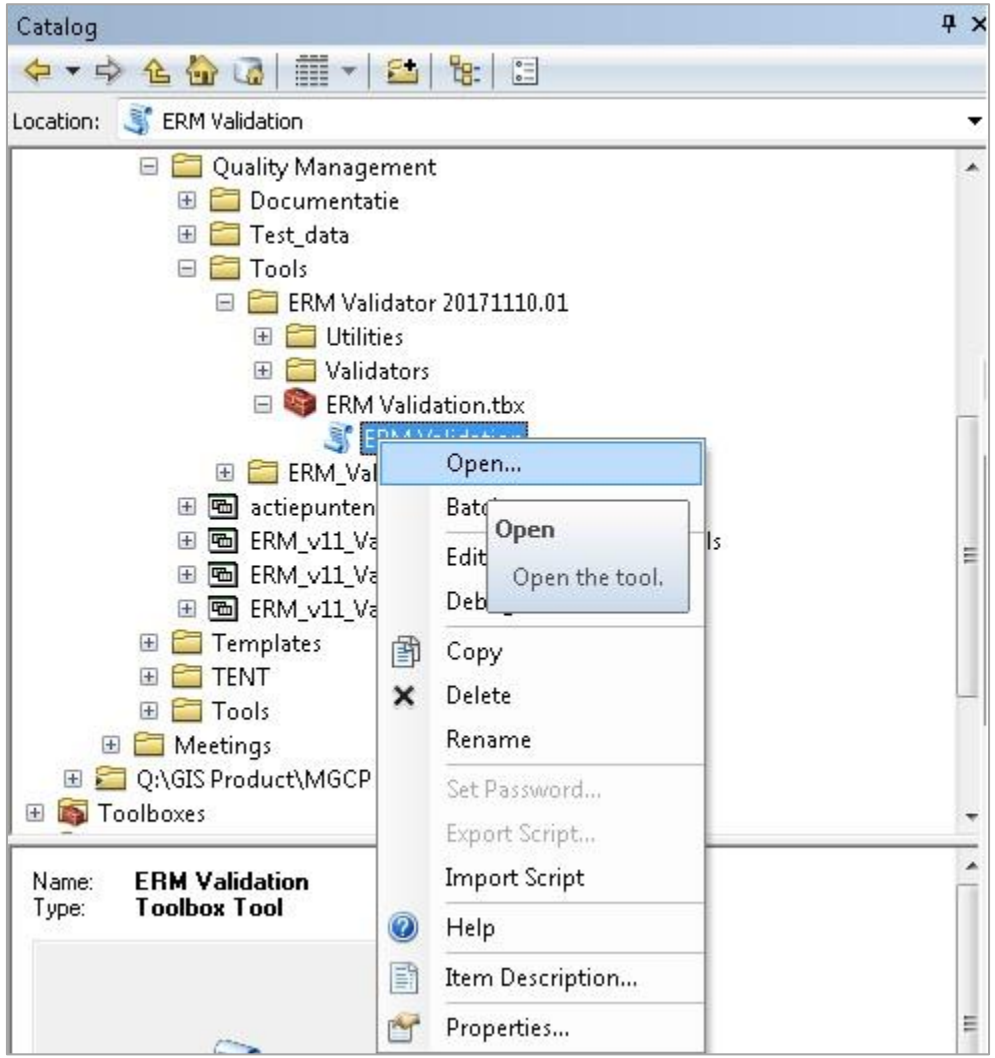


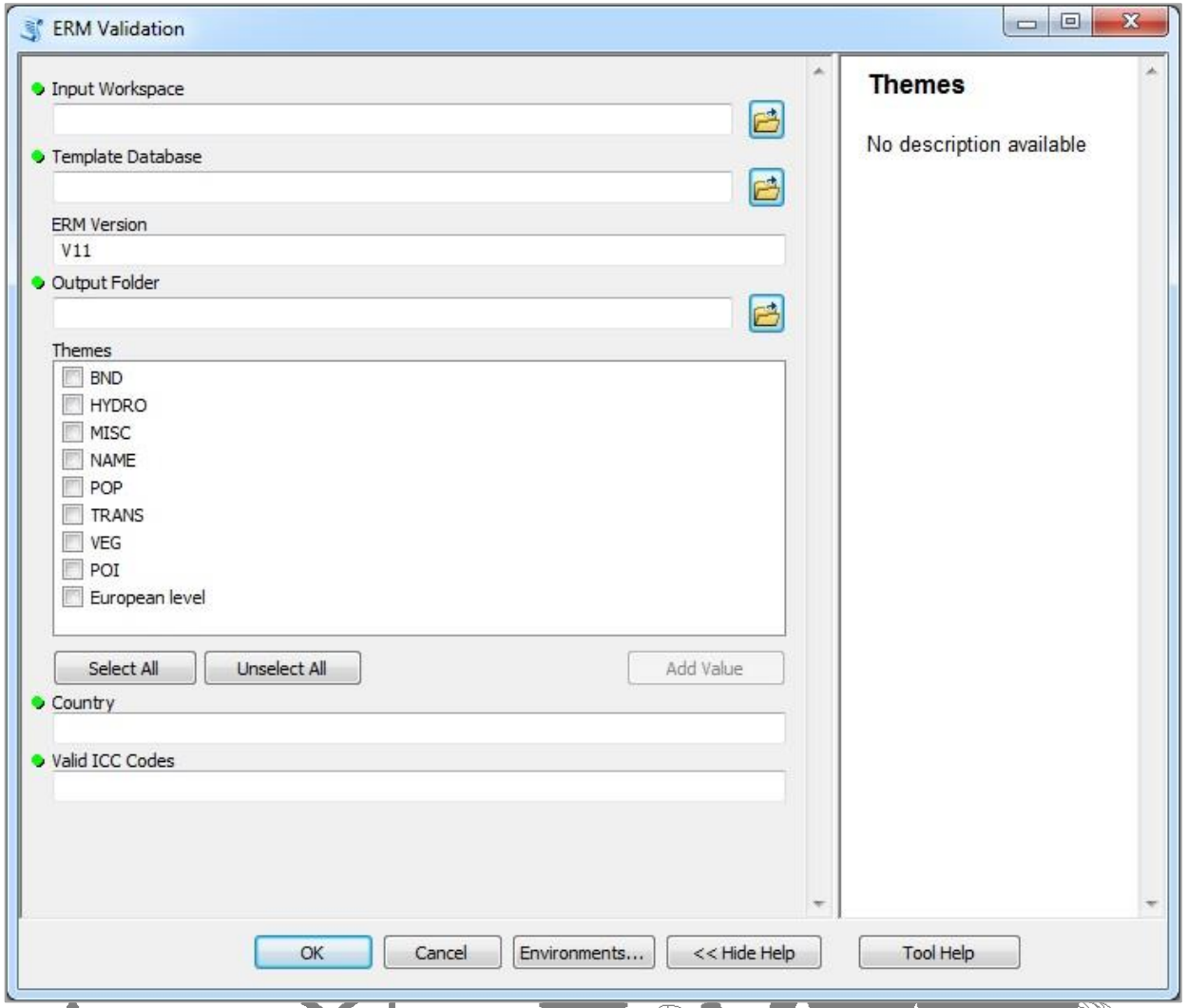
To get started

- Dataset in ERM template format
  - BKG ftp server
- No *topology* in dataset
- Open the tool from *ArcMap* or *ArcCatalog*



Parameters


Catalog
Location: ERM Validation
Quality Management
Documentatie
Test_data
Tools
ERM Validator 20171110.01
Utilities
Validators
ERM Validation.tbx
Open...
Open
Open the tool.
Copy
Delete
Rename
Set Password...
Export Script...
Import Script
Help
Item Description...
Properties...
Templates
TENT
Tools
Meetings
Toolboxes
Name: ERM Validation
Type: Toolbox Tool


ERM Validation
Input Workspace
Template Database
ERM Version
V11
Output Folder
Themes
BND
HYDRO
MISC
NAME
POP
TRANS
VEG
POI
European level
Select All
Unselect All
Add Value
Country
Valid ICC Codes
Themes
No description available
OK
Cancel
Environments...
<< Hide Help
Tool Help

Results

- Runtime

- Log file
- Generic Results txt file
- <theme> Results txt file
- Results database

Naam	Gewijzigd op	Type	Grootte
Results_20171110-170049.gdb	11/10/2017 7:21 PM	Bestandsmap	
ERMValidator_20171110-170048.log	11/10/2017 7:21 PM	Tekstdocument	3,840 kB
GENERIC_Results_20171110-170049.txt	11/10/2017 5:28 PM	Tekstdocument	6 kB
Hydro_Results_20171110-170049.txt	11/10/2017 7:19 PM	Tekstdocument	2,182 kB

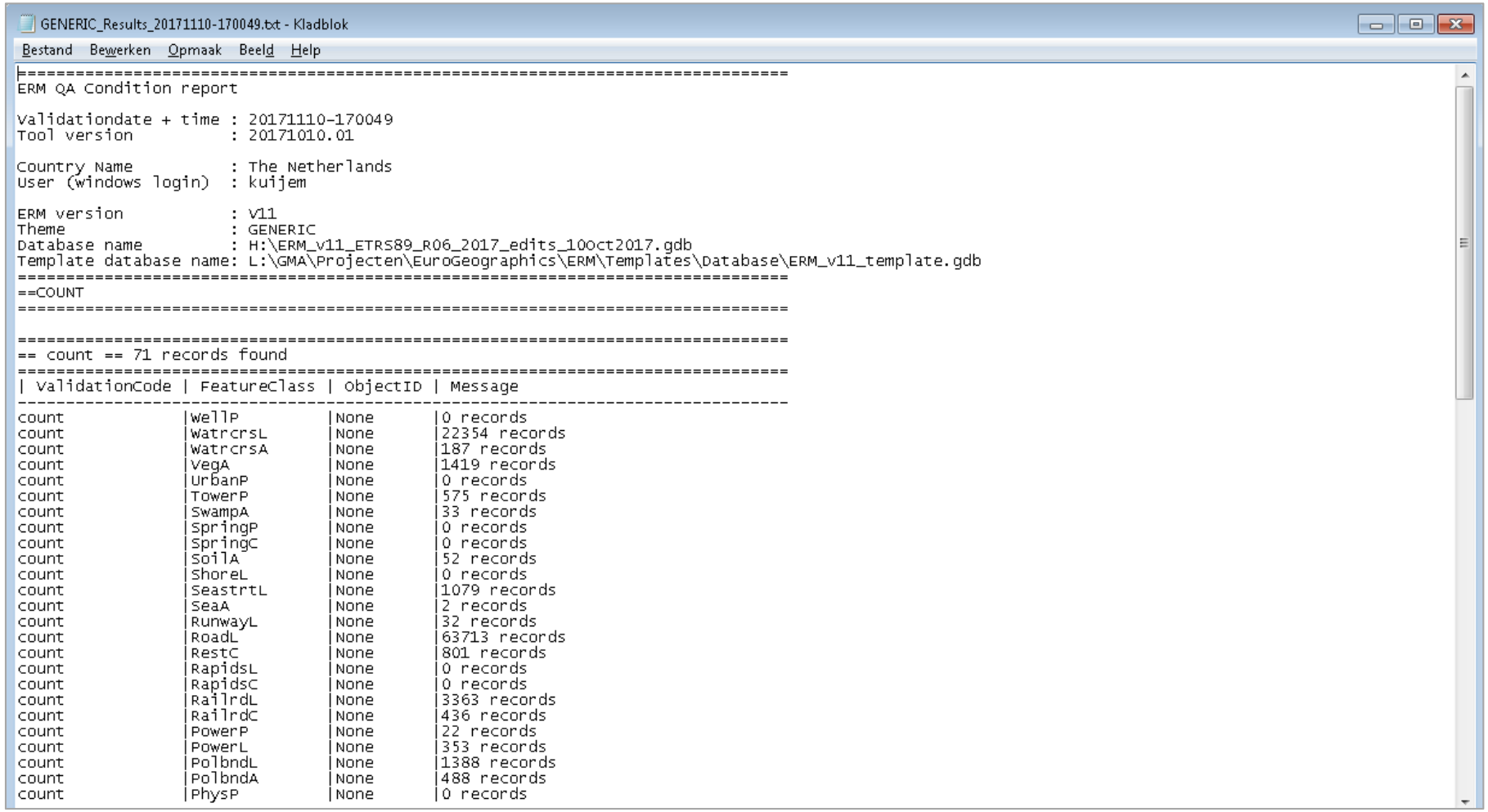
Log

ERMValidator_20171110-170048.log - Kladblok

Bestand Bewerken Opmaak Beeld Help

```
20171110-17:00:48 MainProcess MainThread INFO Logging Created, logfile: H:\Output\ERMValidator_20171110-170048.log
20171110-17:00:48 MainProcess MainThread INFO Start ERM Validator version: 20171010.01
20171110-17:00:48 MainProcess MainThread INFO Start with parameters:
20171110-17:00:48 MainProcess MainThread INFO Input database    : H:\ERM_v11_ETRS89_R06_2017_edits_10Oct2017.gdb
20171110-17:00:48 MainProcess MainThread INFO Template database: L:\GMA\Projecten\EuroGeographics\ERM\Templates\Database\ERM_v11_template.gdb
20171110-17:00:49 MainProcess MainThread INFO ERM Version       : V11
20171110-17:00:49 MainProcess MainThread INFO Result folder     : H:\Output
20171110-17:00:49 MainProcess MainThread INFO Themes            : HYDRO
20171110-17:00:49 MainProcess MainThread INFO Country           : The Netherlands
20171110-17:00:49 MainProcess MainThread INFO Valid ICC Codes   : NL, BE#NL, DE#NL
20171110-17:00:49 MainProcess MainThread DEBUG ArcGIS Licence   : ArcInfo
20171110-17:00:49 MainProcess MainThread DEBUG ArcGIS Version   : 10.5
20171110-17:00:49 MainProcess MainThread INFO ================================================================================
20171110-17:00:49 MainProcess MainThread INFO Creating results database: H:\Output\Results_20171110-170049.gdb
20171110-17:00:49 MainProcess MainThread VERBOSE Utilities::StartTimer::CreateDB
20171110-17:01:00 MainProcess MainThread VERBOSE Utilities::StopTimer::CreateDB
20171110-17:01:00 MainProcess MainThread DEBUG Database created in 00h:00m:11s
20171110-17:01:00 MainProcess MainThread INFO ================================================================================
20171110-17:01:00 MainProcess MainThread INFO Starting Generic validations
20171110-17:01:00 MainProcess MainThread VERBOSE Utilities::StartTimer::genericvalidations
20171110-17:01:00 MainProcess MainThread INFO Running GeodatabaseTemplateValidator
20171110-17:01:31 MainProcess MainThread DEBUG Checking H:\ERM_v11_ETRS89_R06_2017_edits_10Oct2017.gdb\EuroRegionalMap/WellP
20171110-17:01:52 MainProcess MainThread VERBOSE Executing: GetCount H:\ERM_v11_ETRS89_R06_2017_edits_10Oct2017.gdb\EuroRegionalMap/WellP
20171110-17:01:52 MainProcess MainThread VERBOSE Start Time: Fri Nov 10 17:01:49 2017
20171110-17:01:52 MainProcess MainThread VERBOSE Row Count = 0
20171110-17:01:52 MainProcess MainThread VERBOSE Succeeded at Fri Nov 10 17:01:52 2017 (Elapsed Time: 2.28 seconds)
20171110-17:01:52 MainProcess MainThread VERBOSE ValidationUtilities::CreateResult: count COUNT WellP None 0 records
20171110-17:01:52 MainProcess MainThread VERBOSE Checking datatype
20171110-17:01:52 MainProcess MainThread VERBOSE Checking geometrytype
20171110-17:01:52 MainProcess MainThread VERBOSE Checking Fields
20171110-17:01:52 MainProcess MainThread VERBOSE Checking OBJECTID
20171110-17:01:52 MainProcess MainThread VERBOSE Checking Shape
20171110-17:01:52 MainProcess MainThread VERBOSE Checking FCsubtype
20171110-17:01:52 MainProcess MainThread VERBOSE Checking inspireId
20171110-17:01:52 MainProcess MainThread VERBOSE Checking beginLifespanVersion
20171110-17:01:52 MainProcess MainThread VERBOSE Checking F_CODE
20171110-17:01:52 MainProcess MainThread VERBOSE Checking ICC
20171110-17:01:52 MainProcess MainThread VERBOSE Checking SN
20171110-17:01:52 MainProcess MainThread DEBUG Checking H:\ERM_v11_ETRS89_R06_2017_edits_10Oct2017.gdb\EuroRegionalMap/WatrcrsL
20171110-17:02:10 MainProcess MainThread VERBOSE Executing: GetCount H:\ERM_v11_ETRS89_R06_2017_edits_10Oct2017.gdb\EuroRegionalMap/WatrcrsL
20171110-17:02:10 MainProcess MainThread VERBOSE Start Time: Fri Nov 10 17:02:07 2017
20171110-17:02:10 MainProcess MainThread VERBOSE Row Count = 22354
20171110-17:02:10 MainProcess MainThread VERBOSE Succeeded at Fri Nov 10 17:02:10 2017 (Elapsed Time: 2.92 seconds)
20171110-17:02:10 MainProcess MainThread VERBOSE ValidationUtilities::CreateResult: count COUNT WatrcrsL None 22354 records
20171110-17:02:10 MainProcess MainThread VERBOSE Checking datatype
20171110-17:02:10 MainProcess MainThread VERBOSE Checking geometrytype
20171110-17:02:10 MainProcess MainThread VERBOSE Checking Fields
```

Generic results txt



GENERIC_Results_20171110-170049.txt - Kladblok

Bestand Bewerken Opmaak Beeld Help

```
================================================================================
ERM QA Condition report

Validationdate + time : 20171110-170049
Tool version          : 20171010.01

Country Name          : The Netherlands
User (windows login)  : kuijem

ERM version           : V11
Theme                 : GENERIC
Database name         : H:\ERM_v11_ETRS89_R06_2017_edits_10Oct2017.gdb
Template database name: L:\GMA\Projecten\EuroGeographics\ERM\Templates\Database\ERM_v11_template.gdb
================================================================================
==COUNT
================================================================================

================================================================================
== count == 71 records found
================================================================================
| ValidationCode | FeatureClass | ObjectID | Message
--------------------------------------------------------------------------------
count            |WellP         |None      |0 records
count            |WatrcrsL      |None      |22354 records
count            |WatrcrsA      |None      |187 records
count            |VegA          |None      |1419 records
count            |UrbanP        |None      |0 records
count            |TowerP        |None      |575 records
count            |SwampA        |None      |33 records
count            |SpringP       |None      |0 records
count            |SpringC       |None      |0 records
count            |SoilA         |None      |52 records
count            |ShoreL        |None      |0 records
count            |SeastrtL      |None      |1079 records
count            |SeaA          |None      |2 records
count            |RunwayL       |None      |32 records
count            |RoadL         |None      |63713 records
count            |RestC         |None      |801 records
count            |RapidsL       |None      |0 records
count            |RapidsC       |None      |0 records
count            |RailrdL       |None      |3363 records
count            |RailrdC       |None      |436 records
count            |PowerP        |None      |22 records
count            |PowerL        |None      |353 records
count            |PolbndL       |None      |1388 records
count            |PolbndA       |None      |488 records
count            |PhysP         |None      |0 records
```

Hydro results txt

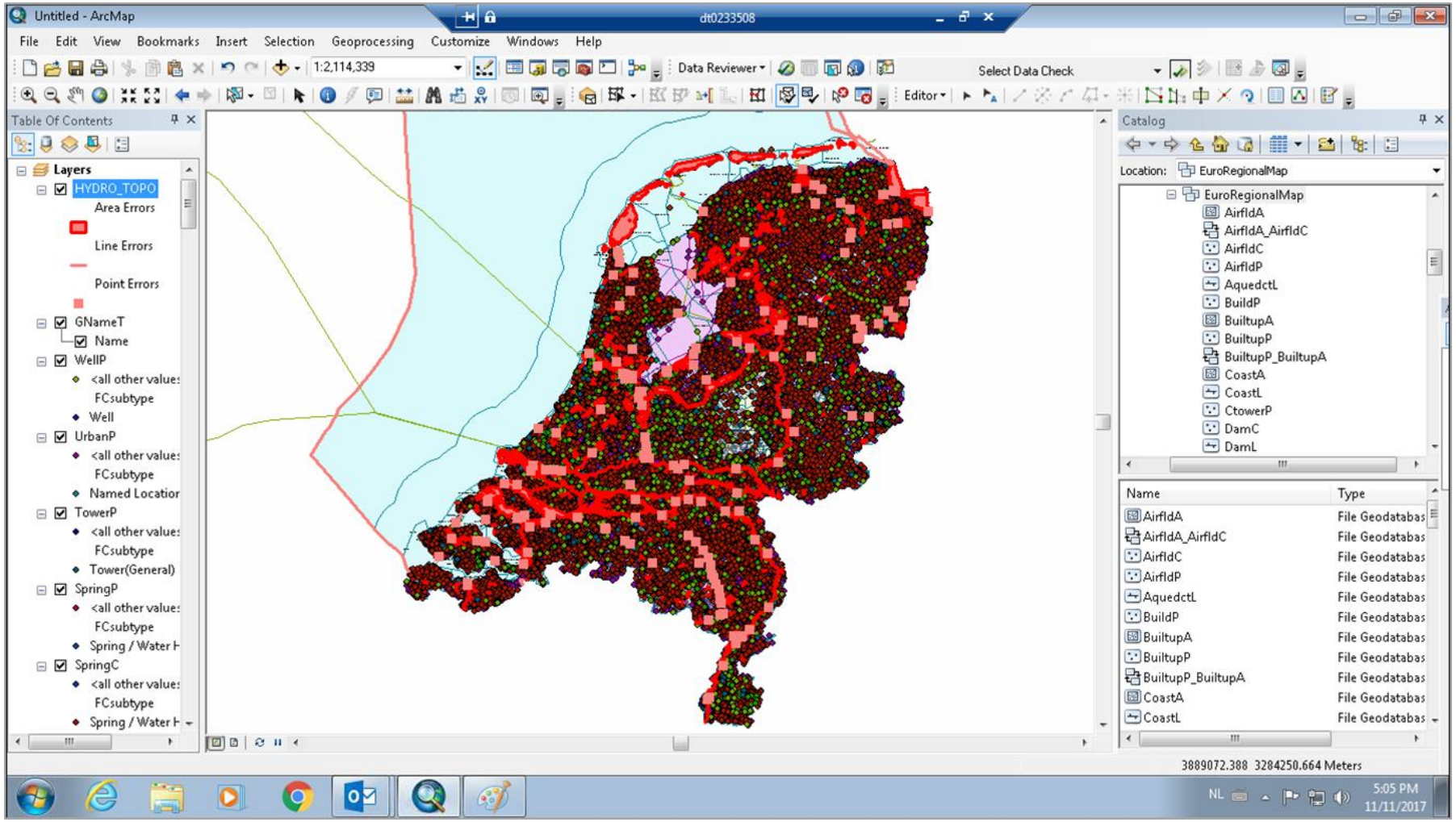
Hydro_Results_20171110-170049.txt - Kladblok

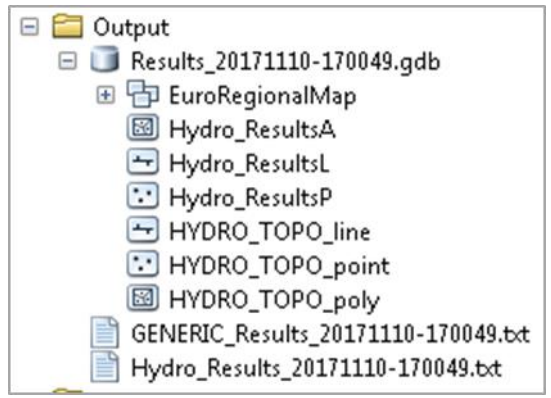
Bestand Bewerken Opmaak Beeld Help

```
================================================================================
ERM QA Condition report

Validationdate + time : 20171110-170049
Tool version          : 20171010.01

Country Name          : The Netherlands
User (windows login)  : kuijem

ERM version           : V11
Theme                 : Hydro
Database name         : H:\ERM_v11_ETRS89_R06_2017_edits_10oct2017.gdb
Template database name: L:\GMA\Projecten\EuroGeographics\ERM\Templates\Database\ERM_v11_template.gdb
================================================================================
==ERROR
================================================================================

================================================================================
== H004 == 1 records found
================================================================================
| ValidationCode | FeatureClass | ObjectID | Message
--------------------------------------------------------------------------------
H004             |LandIceA      |None      |FeatureClass LandIceA has 0 records, minimum: 1
================================================================================
== H008 == 1225 records found
================================================================================
| ValidationCode | FeatureClass | ObjectID | Message
--------------------------------------------------------------------------------
H008             |CoastL        |       401|Distance between vertices is 0.527207975284 meters, minimumvalue is 5 meters
H008             |SeastrtL      |         6|Distance between vertices is 0.348552692997 meters, minimumvalue is 5 meters
H008             |SeastrtL      |       170|Distance between vertices is 2.78797970001 meters, minimumvalue is 5 meters
H008             |SeastrtL      |       182|Distance between vertices is 0.33576292202 meters, minimumvalue is 5 meters
H008             |SeastrtL      |       194|Distance between vertices is 4.98816311807 meters, minimumvalue is 5 meters
H008             |SeastrtL      |       284|Distance between vertices is 1.72785461148 meters, minimumvalue is 5 meters
```

Hydro results gdb

Error features

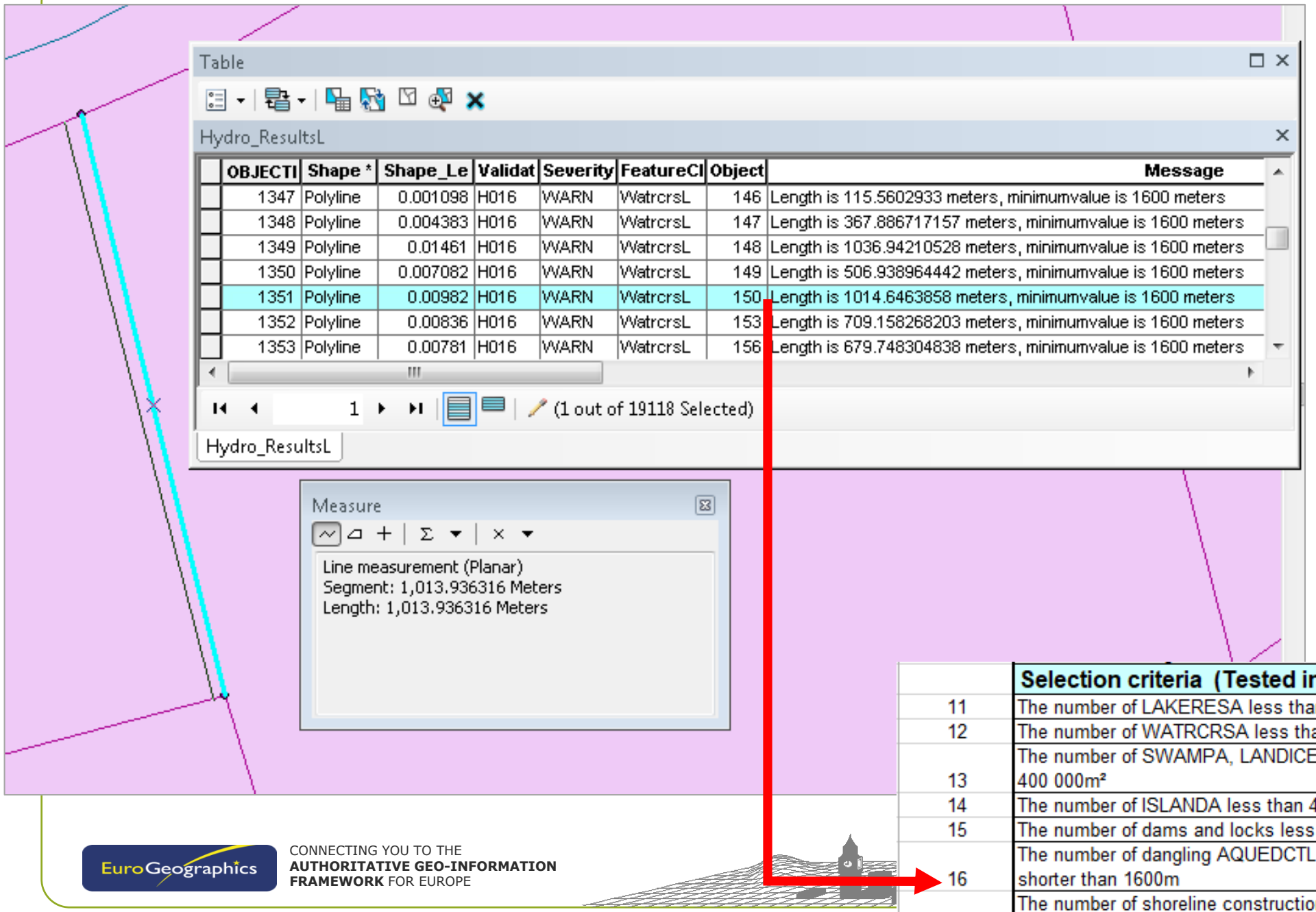




Table

Hydro_ResultsL

OBJECTID *	Shape *	Shape_Length	ValidationCode	Severity	FeatureClassName	Object_ObjectId	Message
1212	Polyline	0.342998	H008	ERROR	WatrcrsL	22453	Distance between vertices is 0.342997740443 meters, minimumvalue is 5 meters
1213	Polyline	0.931634	H008	ERROR	WatrcrsL	22457	Distance between vertices is 0.93163351146 meters, minimumvalue is 5 meters
1214	Polyline	1.280222	H008	ERROR	WatrcrsL	22457	Distance between vertices is 1.28022201212 meters, minimumvalue is 5 meters
1215	Polyline	3.370807	H008	ERROR	WatrcrsL	22463	Distance between vertices is 3.37080711978 meters, minimumvalue is 5 meters
1216	Polyline	1.099411	H008	ERROR	WatrcrsL	22474	Distance between vertices is 1.09941076938 meters, minimumvalue is 5 meters
1217	Polyline	4.347994	H008	ERROR	WatrcrsL	22475	Distance between vertices is 4.34799369066 meters, minimumvalue is 5 meters
1218	Polyline	3.84941	H008	ERROR	WatrcrsL	22475	Distance between vertices is 3.84940964807 meters, minimumvalue is 5 meters
1219	Polyline	0.756976	H008	ERROR	WatrcrsL	22475	Distance between vertices is 0.756975672256 meters, minimumvalue is 5 meters
1220	Polyline	2.167425	H008	ERROR	WatrcrsL	22475	Distance between vertices is 2.16742485452 meters, minimumvalue is 5 meters
1221	Polyline	4.789757	H008	ERROR	WatrcrsL	22475	Distance between vertices is 4.78975682154 meters, minimumvalue is 5 meters
1222	Polyline	1.232783	H008	ERROR	WatrcrsL	22475	Distance between vertices is 1.23278297059 meters, minimumvalue is 5 meters
1223	Polyline	2.63628	H008	ERROR	WatrcrsL	22475	Distance between vertices is 2.6362795167 meters, minimumvalue is 5 meters
1224	Polyline	0.604365	H008	ERROR	WatrcrsL	22478	Distance between vertices is 0.604364864321 meters, minimumvalue is 5 meters
1225	Polyline	4.678775	H008	ERROR	WatrcrsL	22480	Distance between vertices is 4.67877528976 meters, minimumvalue is 5 meters
1226	Polyline	0.00032	H009	WARN	SeastrtL	53	Length is 23.5232607198 meters, minimumvalue is 50 meters
1227	Polyline	0.000287	H009	WARN	WatrcrsL	11325	Length is 31.8671387887 meters, minimumvalue is 50 meters
1228	Polyline	0.000973	H015	WARN	DamL	4	Length is 107.482305827 meters, minimumvalue is 125 meters
1229	Polyline	0.004717	H016	WARN	AquedctL	1	Length is 341.378883927 meters, minimumvalue is 1600 meters
1230	Polyline	0.003542	H016	WARN	AquedctL	2	Length is 294.724644768 meters, minimumvalue is 1600 meters
1231	Polyline	0.012312	H016	WARN	AquedctL	3	Length is 851.211175742 meters, minimumvalue is 1600 meters
1232	Polyline	0.0046	H016	WARN	AquedctL	4	Length is 321.482013634 meters, minimumvalue is 1600 meters
1233	Polyline	0.004072	H016	WARN	AquedctL	5	Length is 364.465483081 meters, minimumvalue is 1600 meters
1234	Polyline	0.013864	H016	WARN	WatrcrsL	4	Length is 1480.56256671 meters, minimumvalue is 1600 meters
1235	Polyline	0.010273	H016	WARN	WatrcrsL	6	Length is 730.53615716 meters, minimumvalue is 1600 meters
1236	Polyline	0.01463	H016	WARN	WatrcrsL	7	Length is 1033.21925549 meters, minimumvalue is 1600 meters
1237	Polyline	0.002811	H016	WARN	WatrcrsL	9	Length is 215.457326836 meters, minimumvalue is 1600 meters



Current validation report

	Selection criteria (Tested in projection Lambert_Conformal_Conic_	
11	The number of LAKERESA less than 400 000m²	
12	The number of WATRCRSA less than 200 000m²	
13	The number of SWAMPA, LANDICEA less than 400 000m²	
14	The number of ISLANDA less than 400 000m²	
15	The number of dams and locks less than 125m	
16	The number of dangling AQUEDCTL, WATRCRSL shorter than 1600m	
17	The number of shoreline construction (SEASTRTL) shorter than 125m	

Known issues / points of improvements

Invalid error F_CODE LakeresA

Drop-down menu for parame-ters

Add help-function

Create short manual

Add checks for other themes

Add ELF bounda-ries

Extensive testing of checks

ERM Validation Tool

Analyse feedback

...

ERM older versions

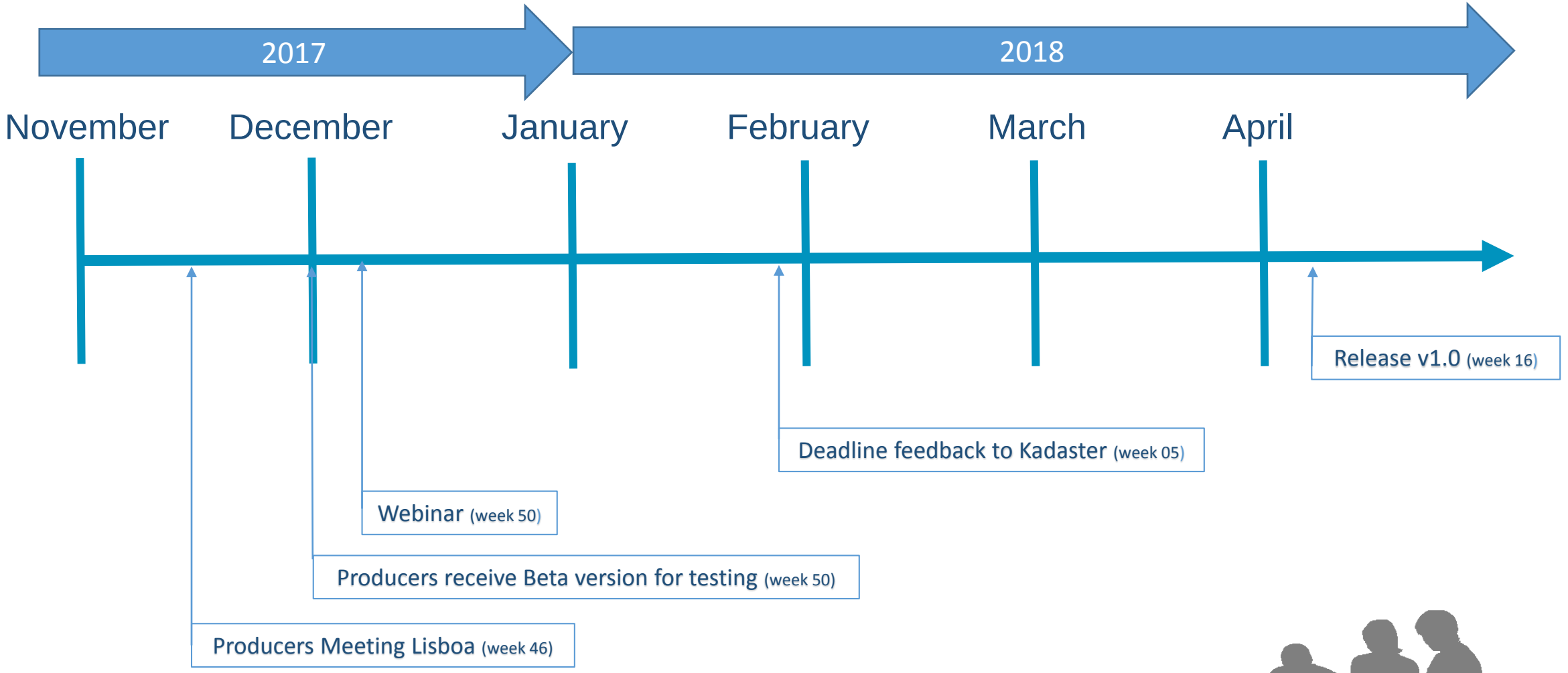
Refer to indivi-dual validation checks

How to handle excep-tions?

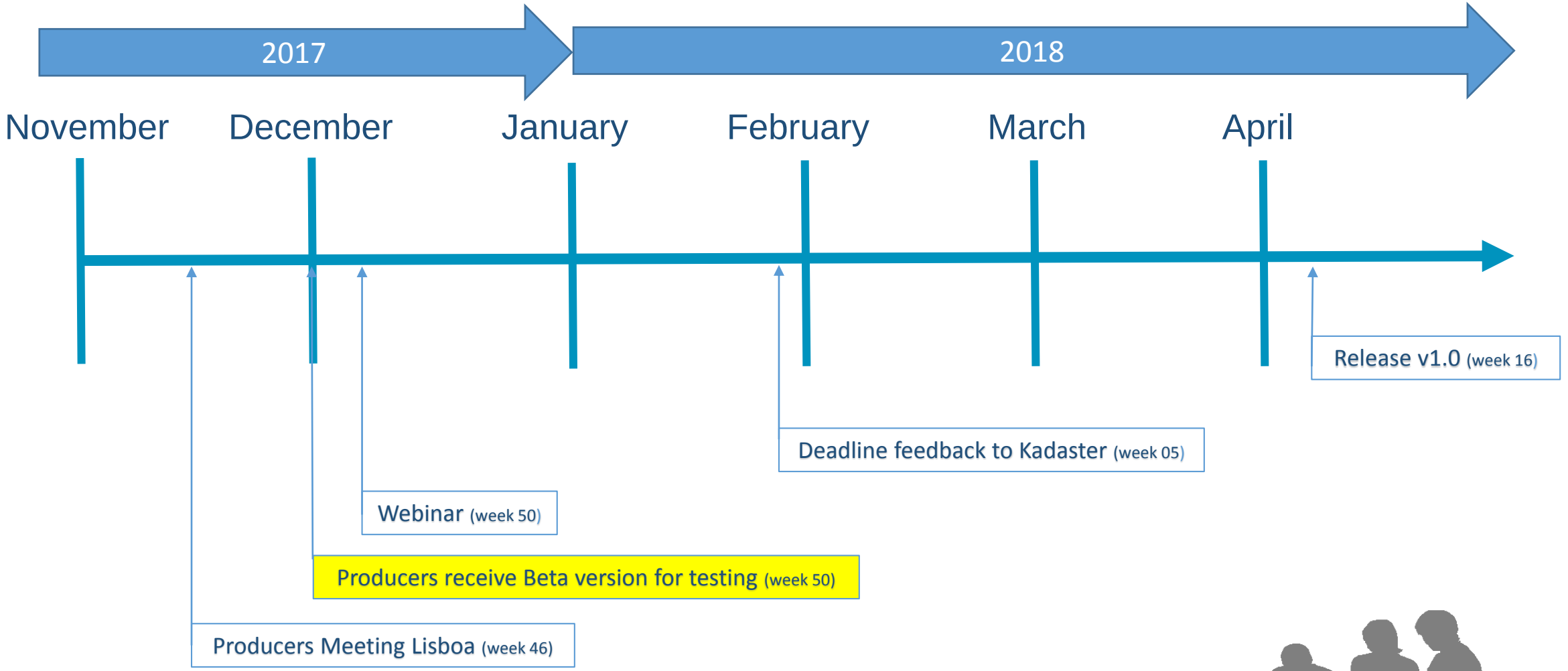
Actions European level?

Include EBM / EGM

Planning


2017
2018
November
December
January
February
March
April
Release v1.0 (week 16)
Deadline feedback to Kadaster (week 05)
Webinar (week 50)
Producers receive Beta version for testing (week 50)
Producers Meeting Lisboa (week 46)

Planning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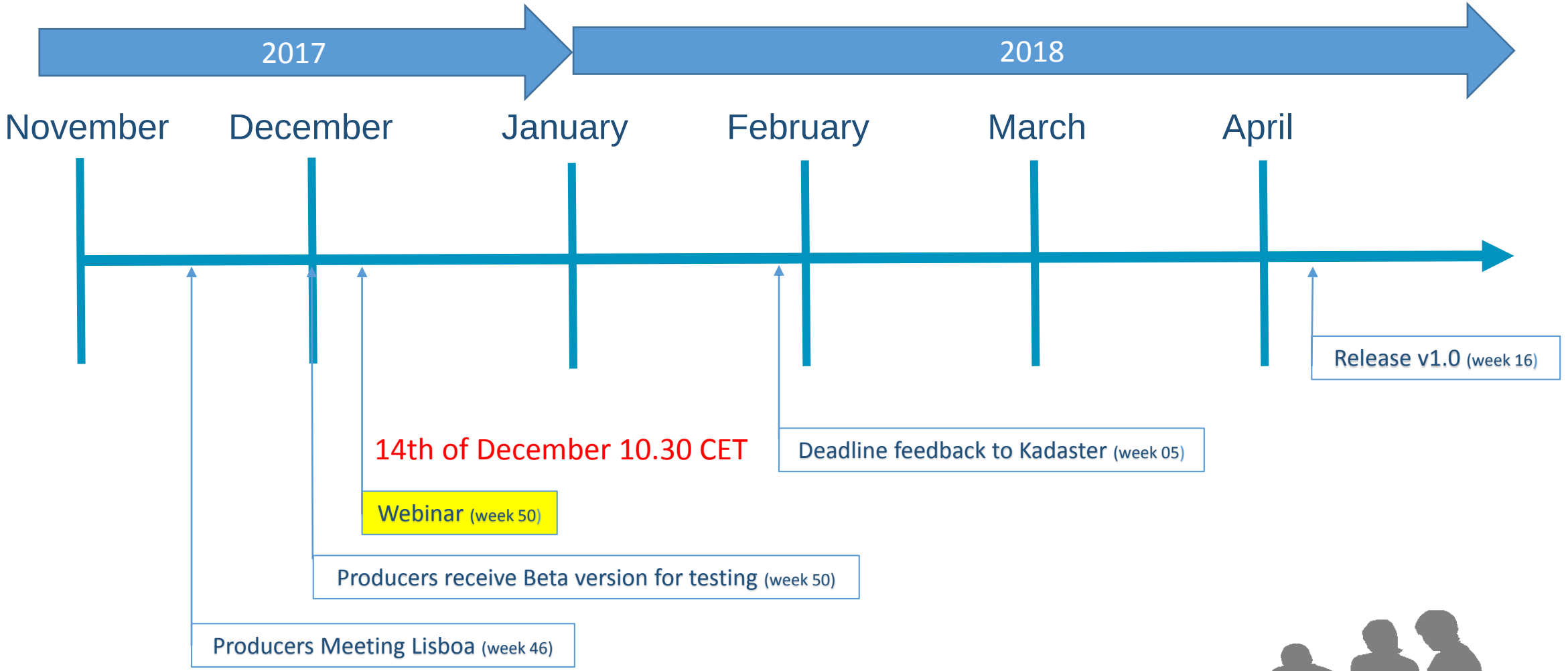
2017
2018
November
December
January
February
March
April
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14th of December 10.30 CET
Deadline feedback to Kadaster (week 05)
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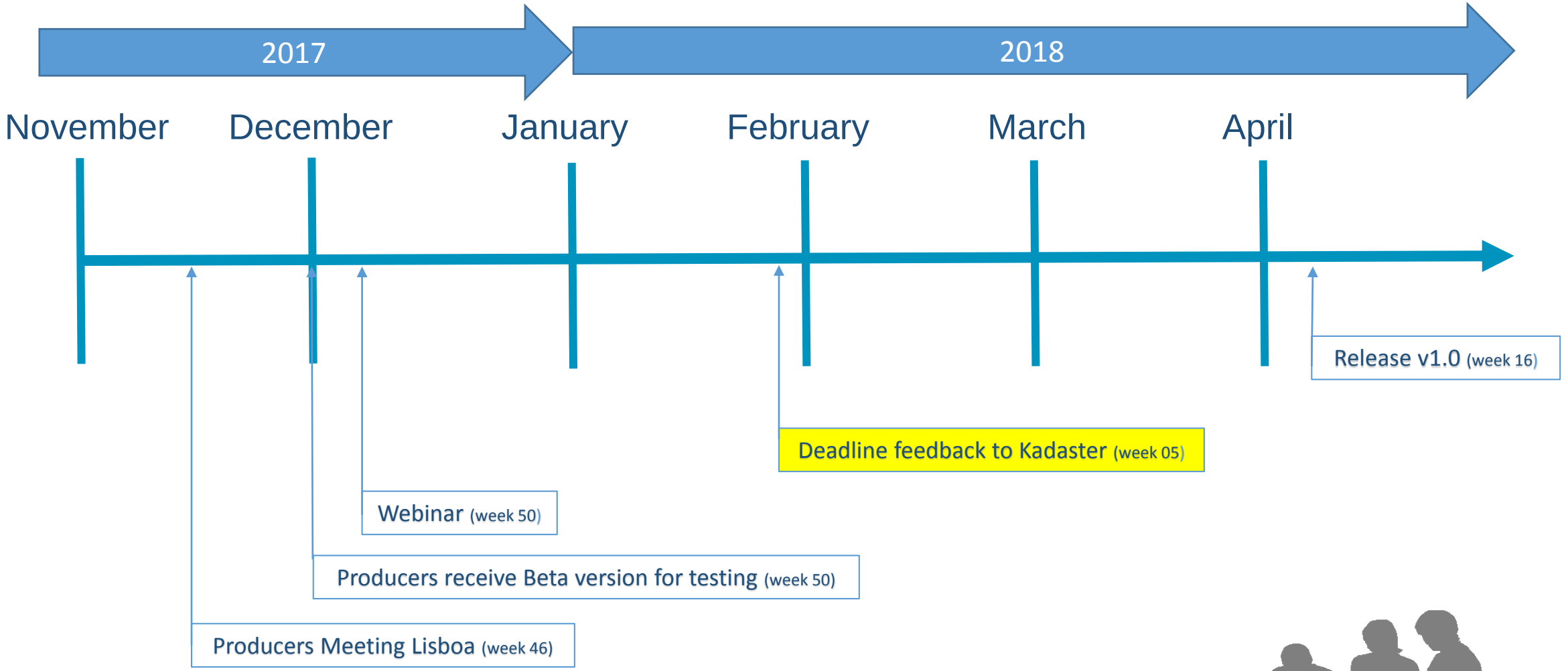
Planning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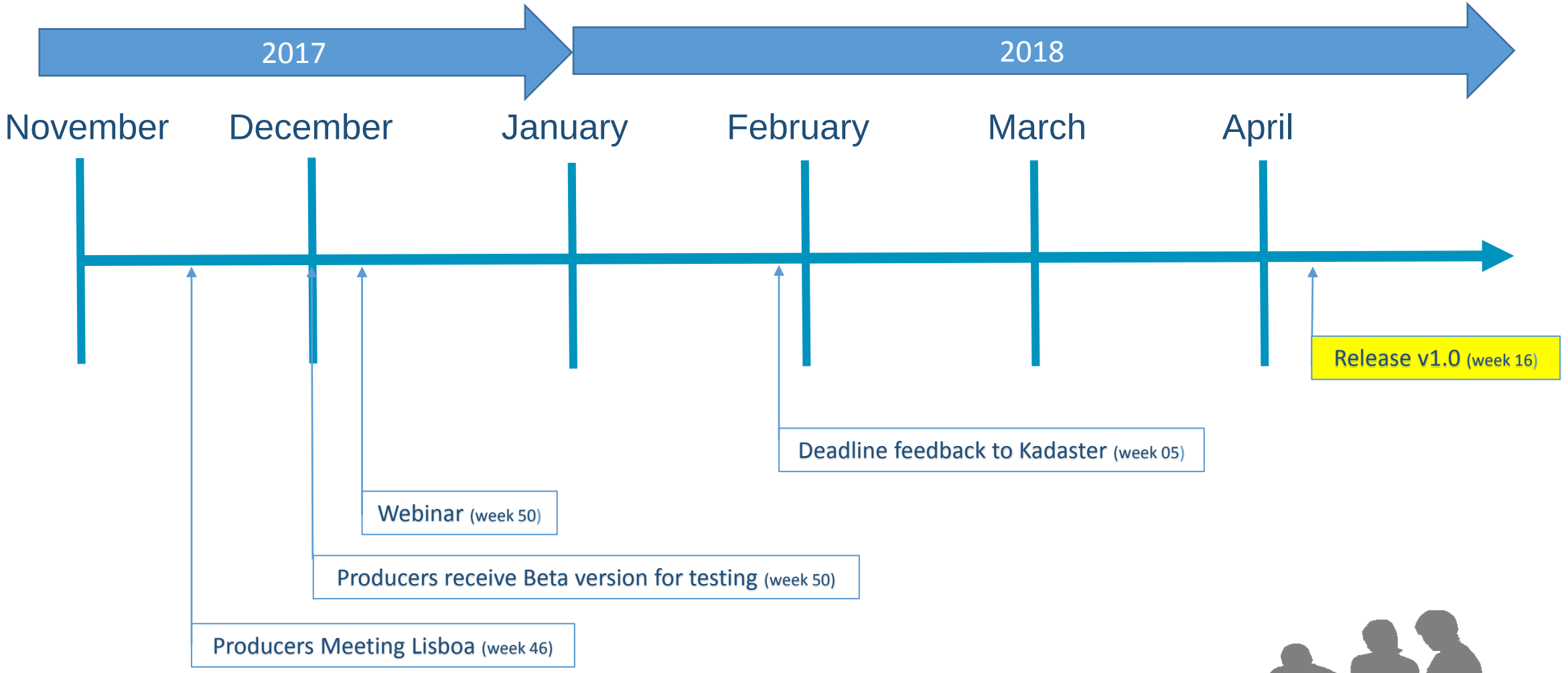
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Thank you for your attention!

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