



# New Version of the FutMon database and procedures for data submission

FutMon administrative meeting

Oliver Granke / Volker Mues



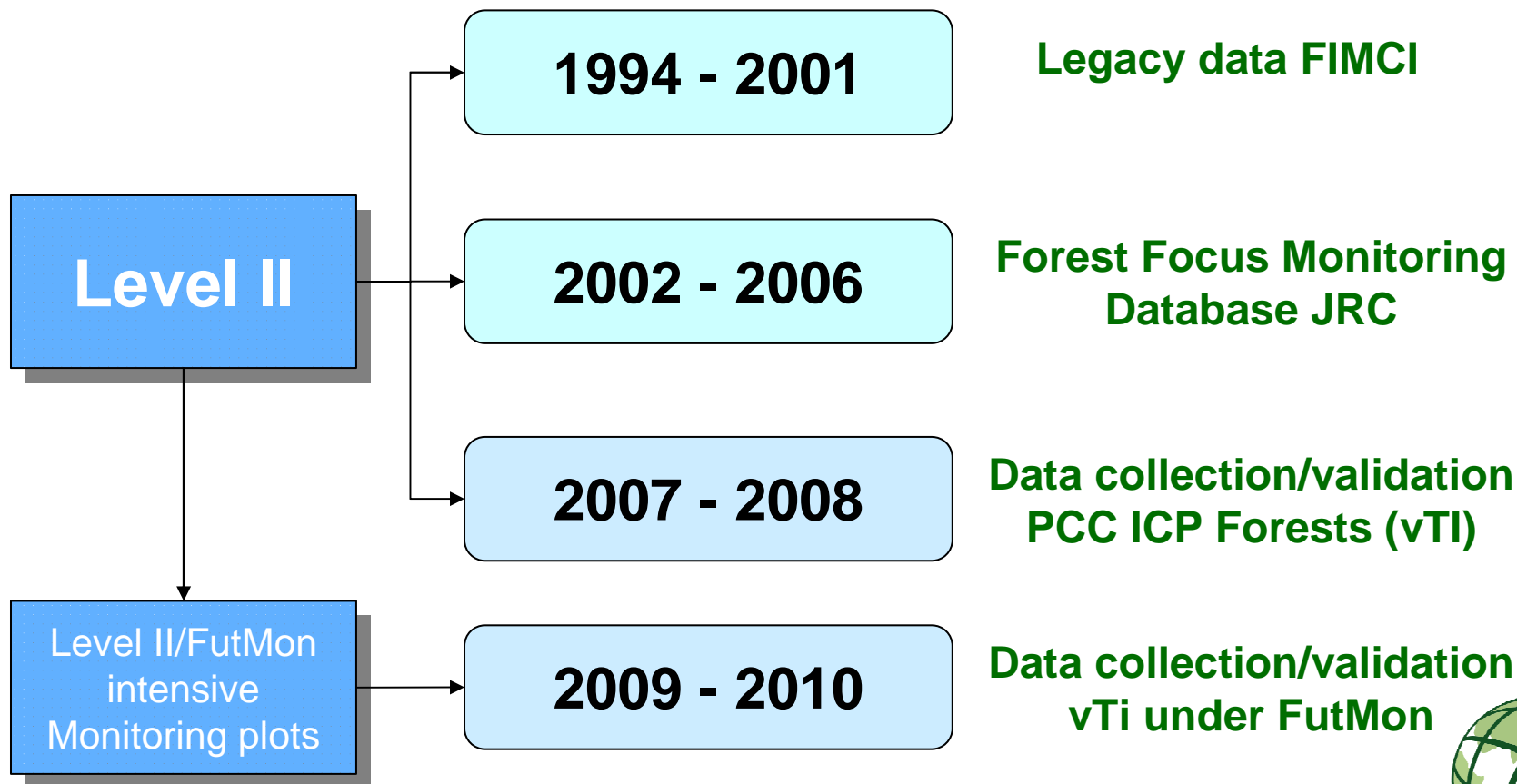
## General remarks:

- The whole system has to be completely newly build up!
- Within three months!
- No reinvention of the wheel!  
=> We tried to design a system all partners are accustomed to!



## Forest Monitoring Database: stage of affairs

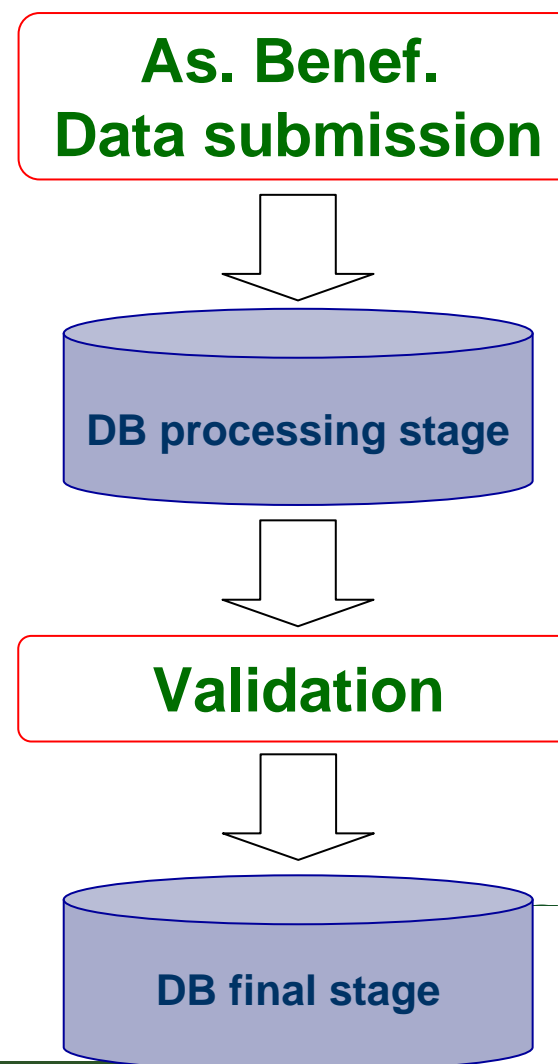
### Intensive monitoring plot data





## Data submission and validation:

- Similar to the well established System of online data submission at the JRC.
- Web- based online data submission.
- Use of fixed formats.
- Different levels of data validation.
- Validation results will be documented in specific reports.
- Values could trigger validation messages (warnings and errors).
- Warnings have to be checked => confirmation or correction.
- Errors have to be corrected.
- Only validated data will be loaded into the final stage of the DB.

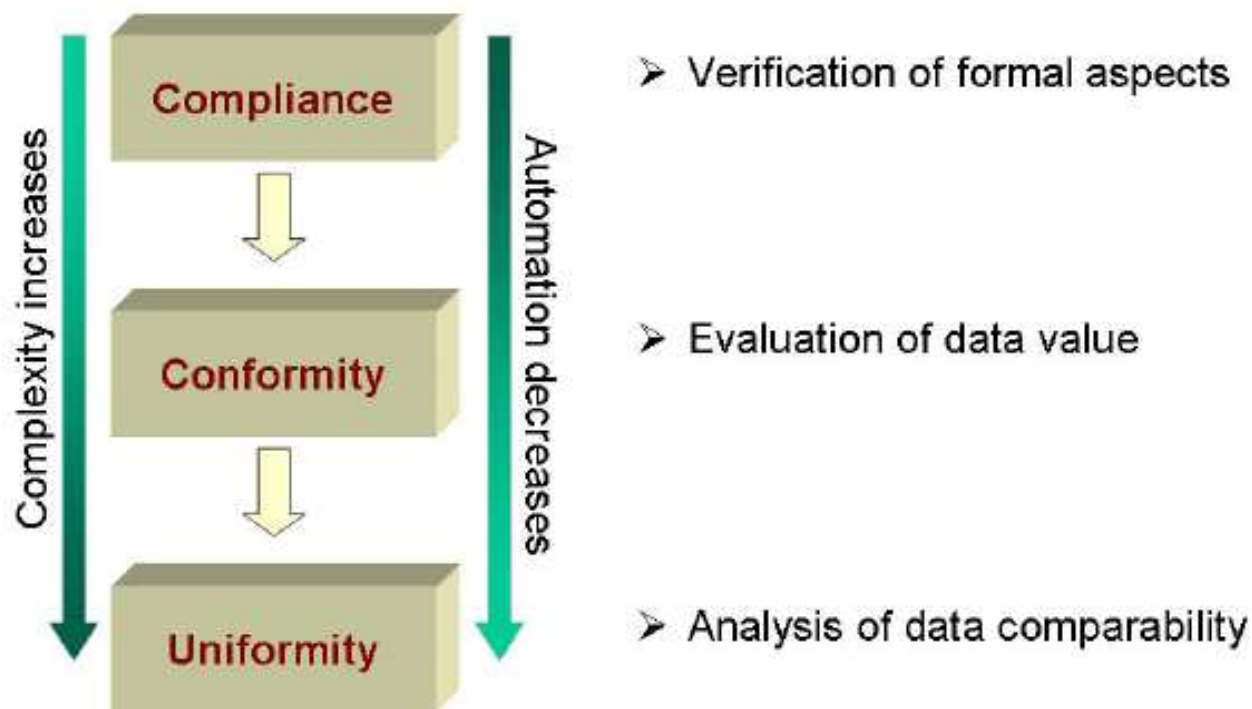




## Data Validation

### Principle:

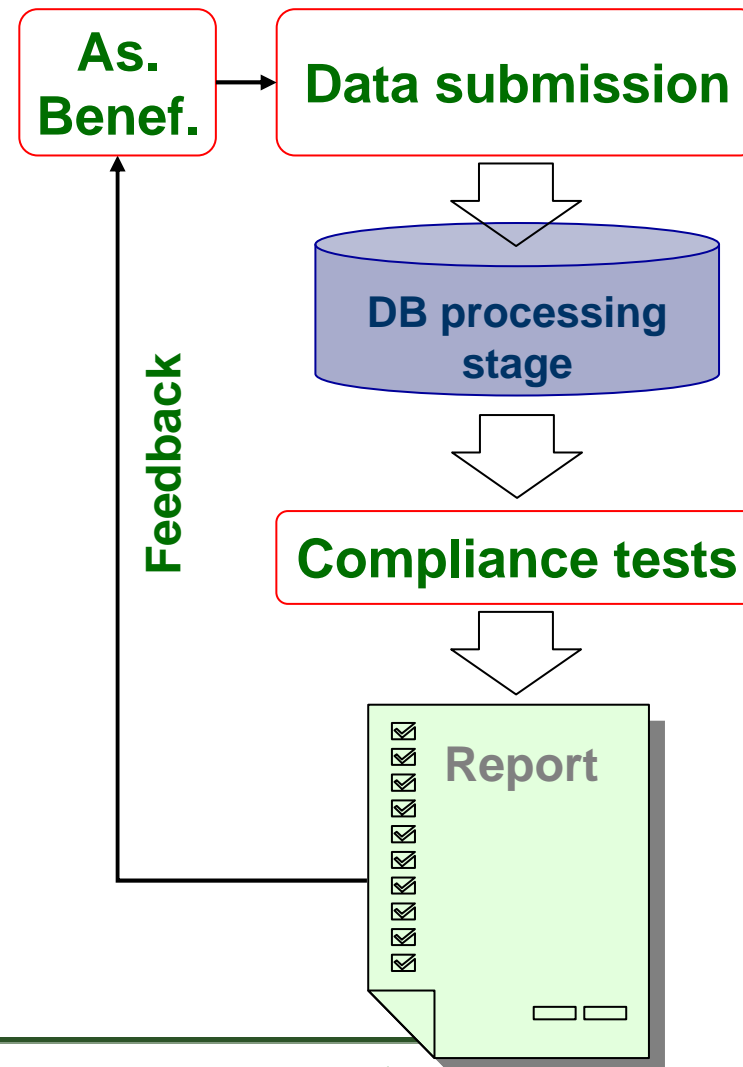
No identification of the correctness of data, but it may be possible to identify the probability that data represent valid measurements.





## 1. Compliance tests:

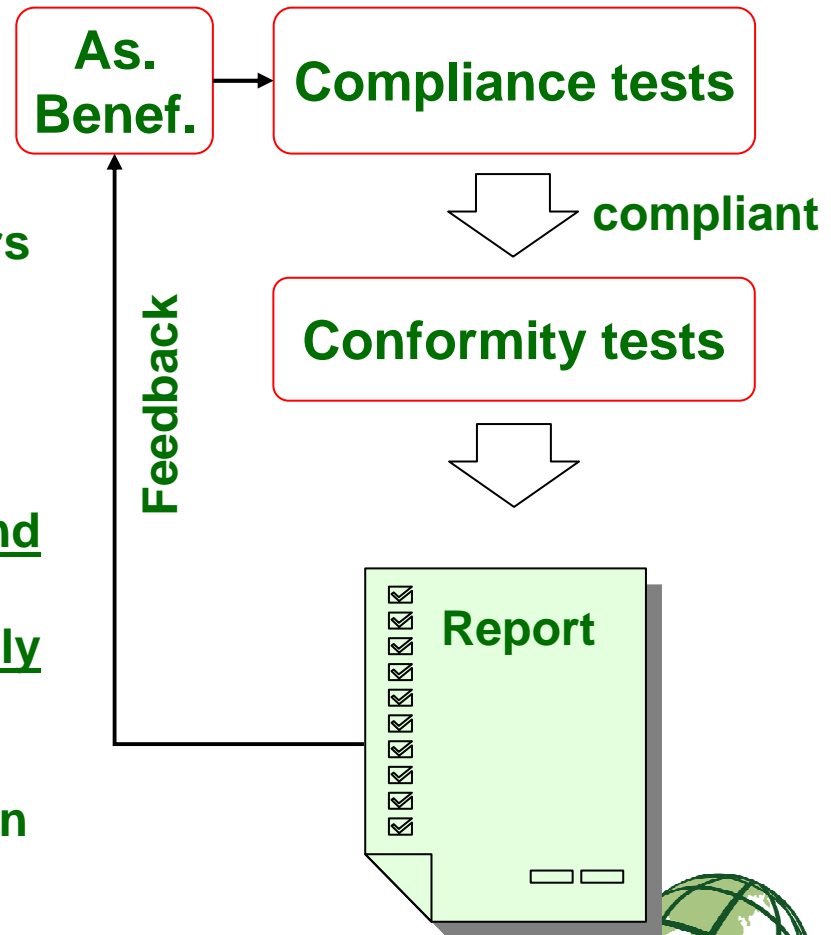
- automatic processes based on defined rules derived from the format of the forms of the manual.
- System generates a Compliance report in real time.
- only compliant data will reach the next validation tests.
- not compliant data have to be re-submitted.





## 2. Conformity tests:

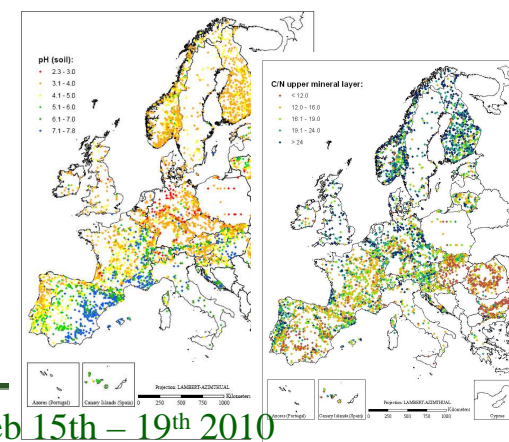
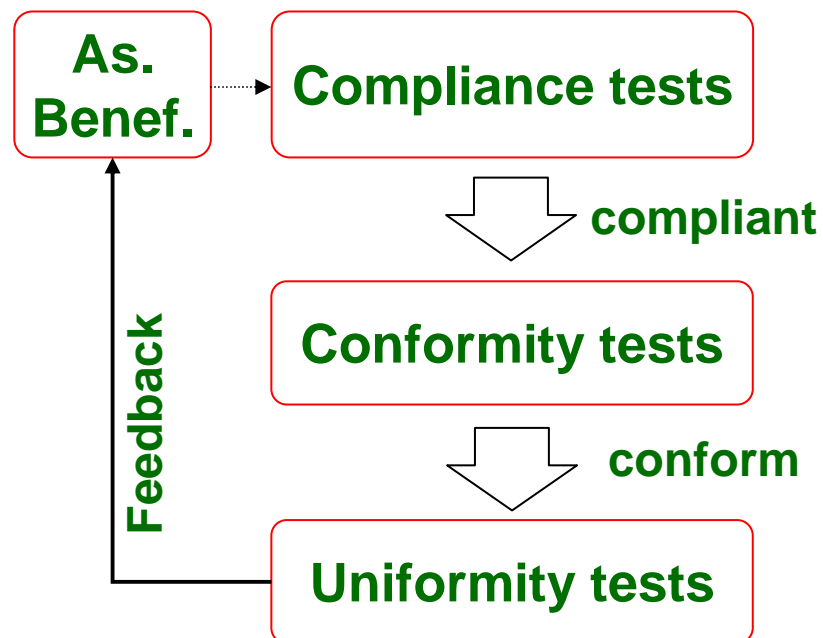
- validate the plausibility of data.
- a) Range tests for single Parameters
- b) Multiple parameter tests
- c) Time consistency tests
- > 600 tests running
- **NEW:** The System generates a **Conformity report in real time, and every message could be marked as checked and confirmed directly in the web, if correct.**
- **Otherwise: Re-submission.**
- **Avoids amount of communication and misunderstanding.**





## 2. Uniformity tests:

- validate the plausibility of data.
- Interpretation of maps and graphs depicting selected variables:
  - a) spatial distribution
  - b) temporal development (change on a plot in comparison to the last previous years)
- Experts interpret maps and graphs and contact, if necessary Partner
- only conform and uniform data will be loaded into the final database.





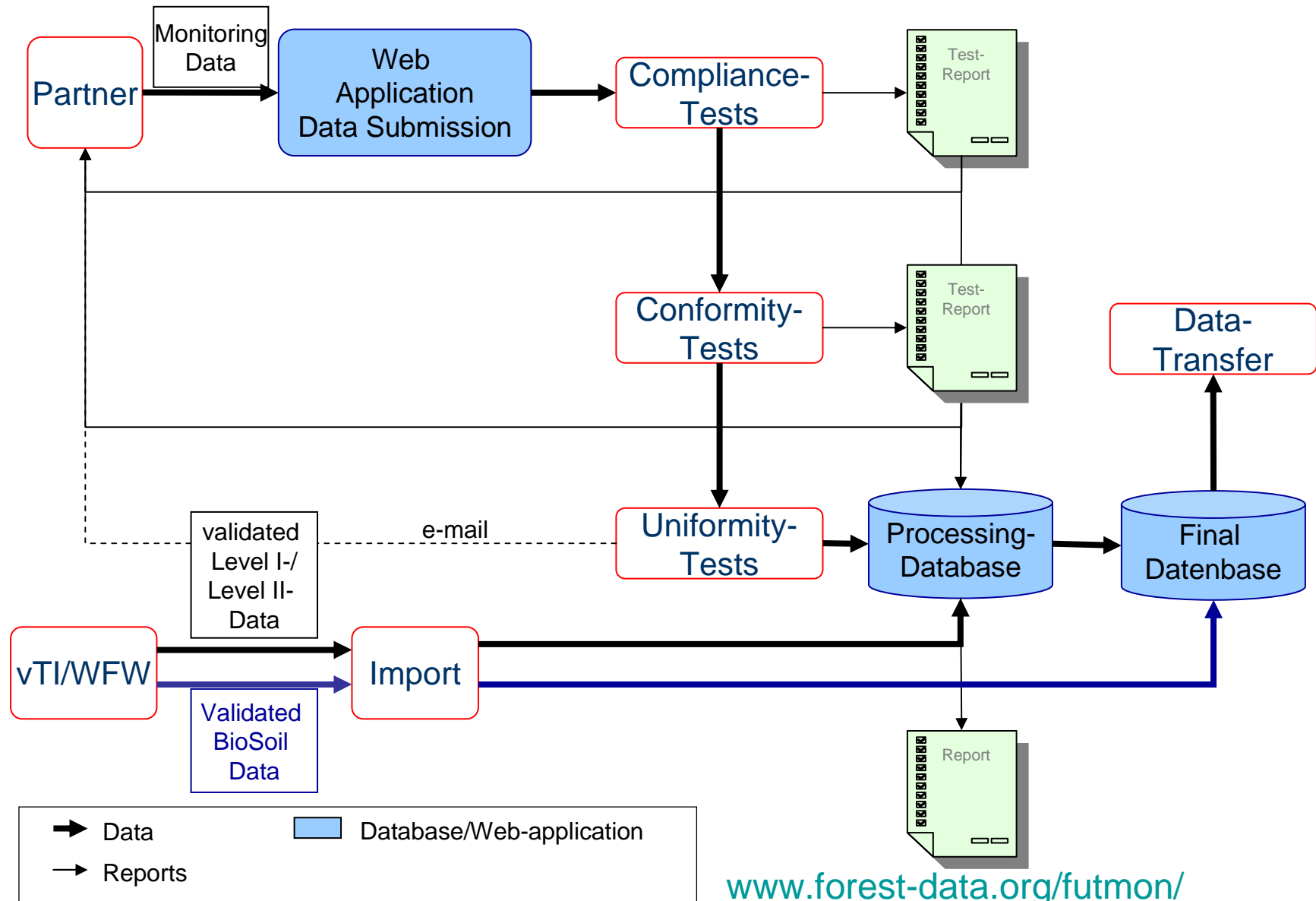
Datasource

Submission

Validation

Reports

Dessimination





## Time schedule

	2009												2010											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Level I data transfer 2009																								
Level I data validation and reporting 2009																								
Level I data transfer 2010																								
Level I data validation and reporting 2010																								
Level II data transfer 2007																								
Level II data validation and reporting 2007																								
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data transfer																								
Validation and Reporting																								

Data Submission Workshop

### Intensive Monitoring (Level II/IM1/D1-D3 plots)

2007 Data submission: **15/12/2009 – 15/03/2010**

2007 Final data validation and reporting: 16/03/2010 – 14/04/2010

2008 Data submission: **15/04/2010 – 15/07/2010**

2008 Final data validation and reporting: 16/07/2010 – 31/08/2010

2009 Data submission: **01/09/2010 – 30/11/2010**

2009 Final data validation and reporting: 01/12/2010 – 31/12/2010



## Data Submission status (15th Feb 2010):

2009 Level I Data:

PARTNER	Compliance	Conformity
Andorra		
BE_Flanders		
Croatia		
Denmark		
Estonia		
Finland		
France		
Germany		
Italy		
Latvia		
Netherlands		
Norway		
Poland		
Romania		
Russia		
Serbia		
Slovak_Repub		
Slovenia		
Spain		
Sweden		
Switzerland		
	21	17



## Data Submission status (15th Feb 2010):

### 2007 Level II Data:

	SI	CC	SS	FO	GR	DP	MM	GV	PH	OZ	AQ	LF	
BE_Flanders	Green		Green			Green	Red				Yellow	Yellow	
DE_BY	Green	Red		Yellow		Yellow	Green	Green					
DE_SH													
DE_SL			Yellow			Yellow							
DE_SN	Green	Green	Green	Green		Green	Green	Green			Green	Green	
DE_TH	Green	Red	Yellow										
Denmark		Green	Green			Yellow	Green						
Estonia	Green	Green	Green	Green		Green	Green						
Finland	Red	Green	Yellow	Yellow		Yellow	Yellow						
Hungary		Yellow					Red	Red					
Ireland	Green		Green			Yellow							
Italy	Green	Red				Yellow	Red	Red			Green		
Latvia		Green	Green			Green							
Norway	Green	Green	Yellow	Green		Yellow							
Poland	Yellow	Yellow											
Romania	Green	Yellow	Green			Yellow					Green		
Russia	Green												
Slovak Rep.		Red	Green			Green	Green						
Slovenia	Green	Green	Green	Yellow		Yellow	Green		Green				
Spain			Green		Green	Green	Green		Green	Green	Green	Green	
Switzerland		Yellow					Green			Green	Green		
	21	13	14	14	6	1	16	12	4	2	2	6	2
Not compliant		1	4	0	0	0	0	3	2	0	0	0	0
Not conform		1	4	4	3	0	10	1	0	0	0	1	1
Conform		11	6	10	3	1	6	8	2	2	2	5	1



**Thanks for your attention!**



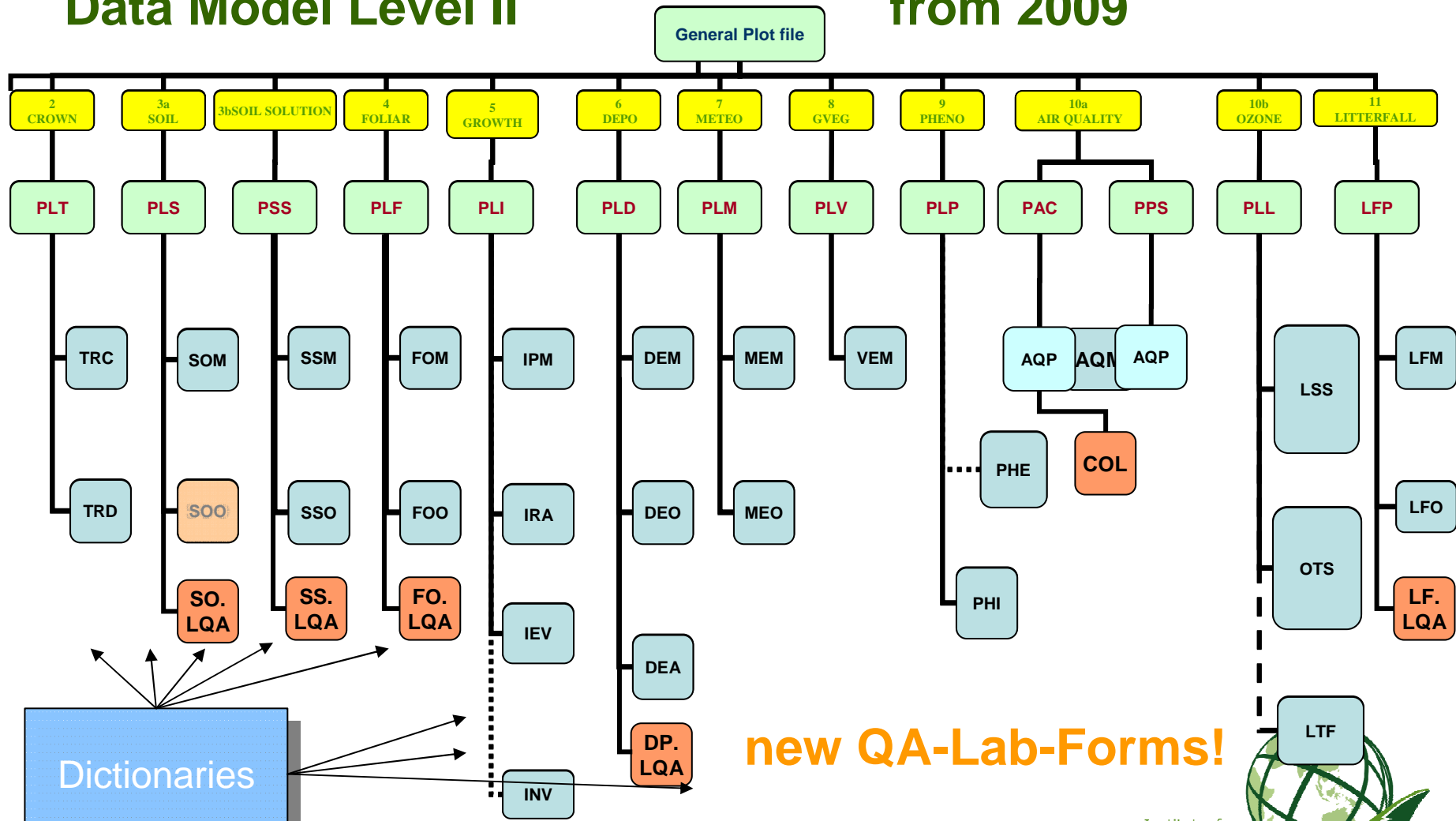
- **Work with the FutMon Forms Documents**

- Latest versions available at:
  - [www.futmon.org/submission.htm](http://www.futmon.org/submission.htm)
- Shortcuts:
  - To find a specific information use [Strg] + F
  - To use a link to a specific chapter from the content [Strg] + [Mouse click]
  - To go back to last position use [Alt] + [←]



# Data Model Level II

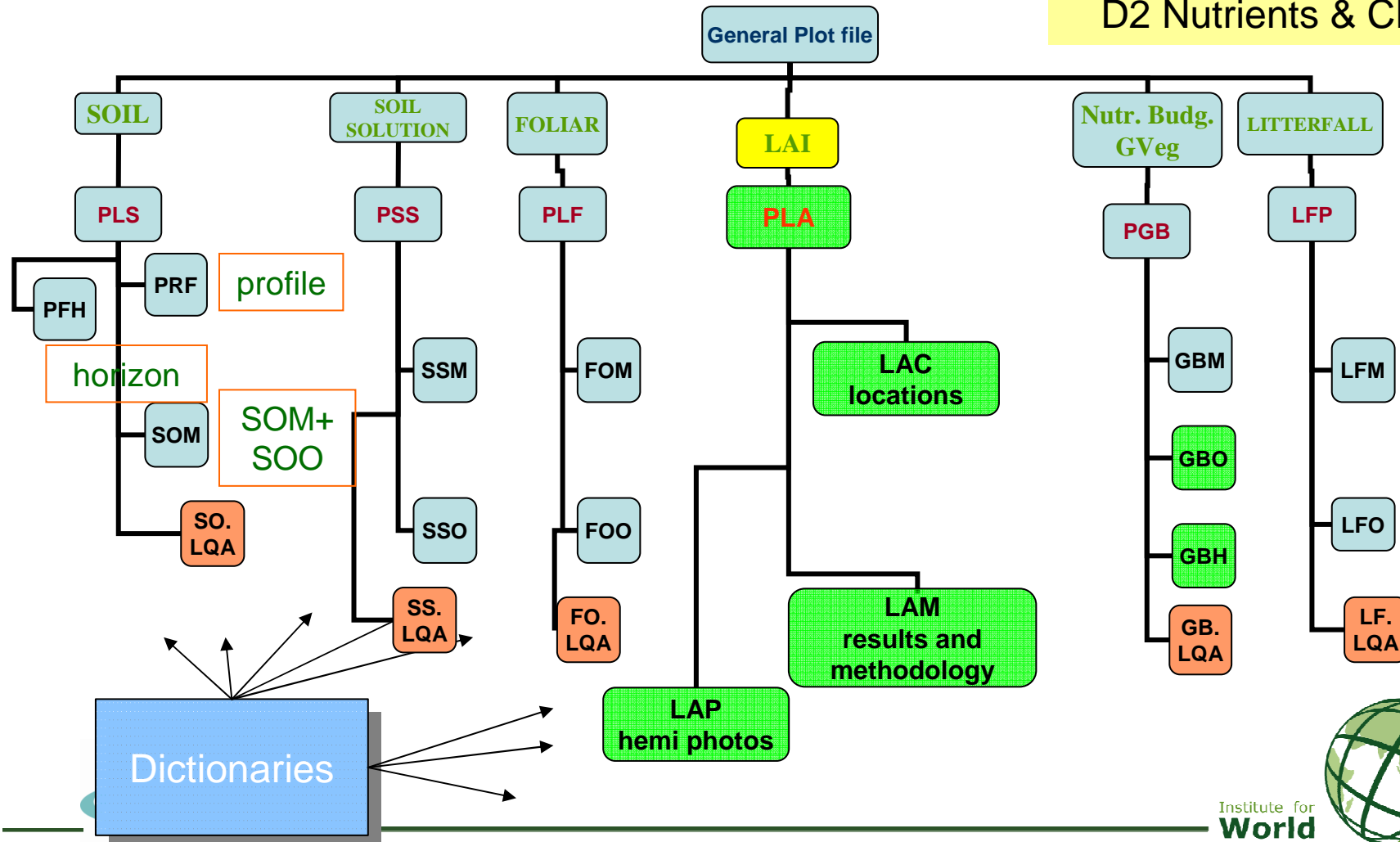
from 2009





## extended data model for D2-surveys:

## D2 Nutrients & CL







## 1. Compliance tests:

- precondition: a) completeness of forms (reduced plot file and data file)  
b) right name and extension (152007.PLD = FI DP 2007)
- validate the format of the data.
- Are all digits between the defined fields in the submission files blank space characters (right positions of digits/Length of field entry)?
- Do all data which are submitted within the submitted files have the correct format? (defined in the forms document; integer, character, date...)
- Comment lines (Starts with exclamation mark)
- Are all used codes valid? (Must be listed in the respective reference tables)



## 2. Conformity tests:

### a) Range tests for single Parameters

- checks parameter specific range of observation values

- Schema:

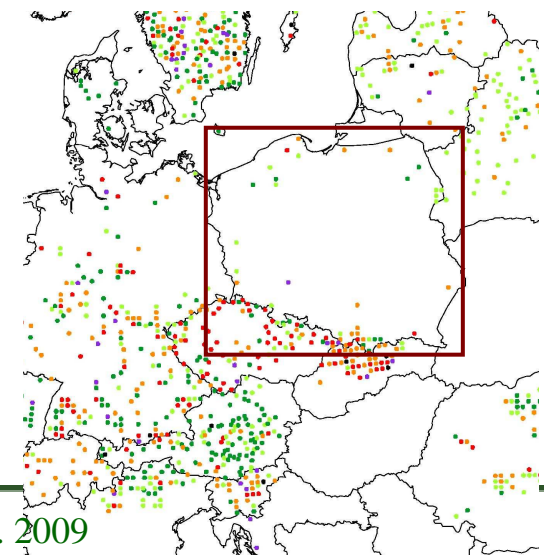
IF NOT <Form>.<Field\_value> BETWEEN <Minimum, maximum>  
THEN Error\_code

Example:

if pH in DEM NOT BETWEEN 2.5 and 9.4 THEN "Warning"

if pH in DEM NOT BETWEEN 0.1 and 14 THEN "Error"

- checks if coordinates for a participating country are within a defined rectangle which fits closely to the boundaries.
- ca. 250 checks





## 2. Conformity tests:

### b) Multiple parameter tests:

- check the consistency of a parameter with values of other parameters => cross-checks!
- SELECT .... WHERE queries
  
- Example: Crown Condition:
- SELECT Disc = 4 WHERE Defol <> 100 THEN „ERROR“
- => Tree with Discolouration = 4 = dead; must not have any leaves anymore, => no defoliation value!
  
- ca. 215 checks



## 2. Conformity tests:

### c) Time consistency tests:

- Comparison of the values of the monitoring year with values for the same parameter and plot in former years
- invariable values must not change over time
- Example: Plot coordinates, Tree species => ERROR
  
- for variable values an expected change in a certain direction or by a particular amount is defined.
- Example: diameter at breast height must not be smaller than at previous observation => WARNING
- ca. 135 checks



## 2. Uniformity tests:

**Example for**  
**b) temporal development** (change on a plot in comparison to the last previous years)

