

The “beReal” Project

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Labelling concept

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in the frame of the 5th Central European Biomass Conference, Graz, Austria

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and the beReal Consortium



1. Objectives of Label Development
2. Development Process
3. beReal Labelling
 - Label Requirements
 - Label Design
 - Organisational Structure
 - Quality Assurance
 - Labelling Scheme – The way to a beReal Label

The objective is to **develop a label design and elaborate a label scheme based on the advanced testing methods**, testing conditions and testing procedures as an optimum communication tool for all involved parties.

The objectives in detail are:

- Definition of relevant parameters and classification
- To elaborate a self-explanatory design
- To define the necessary frame work conditions for administration of the label assignment

Starting point:

- beReal evaluation value/unit should not cause confusion with existing thresholds, therefore avoid mg/m^3 (EcoDesign, BImSchVO,...) and mg/MJ (15a Austria)
- Combine measured emission parameters to one result and allow to „balance“ exceedances of one parameter with better results for other parameters.
- Yes / No decision for beReal was favoured by most partners but not by all

Additional results during the project:

- Absolute thresholds for single parameters are necessary
- First attempt for reference values: EU Ecodesign Thresholds

- Calculate a **beReal coefficient** as decision criterion:
 - No danger of comparison with existing thresholds (based on different methods)
 - Efficiency is used as a factor in the calculation → leads to emission factor relation of the coefficient
- EcoDesign Requirements are used as **Calculation Benchmark**
- **Threshold** of the coefficient as a requirement if an appliance is beReal approved or not approved for beReal label
 - Tightening requirements is possible as the label validity will be limited
- **Minimum requirements** (absolute thresholds) for all parameters
 - 130% of benchmark as strict limits for emissions parameters
 - Benchmark = threshold for efficiency (no negative deviation allowed)

Setting the Benchmark (Parameters)

Benchmark settings according to EcoDesign Directive:

$$\Delta CO = \frac{CO_{measured}}{CO_{Benchmark}}$$

- Firewood
- Pellets

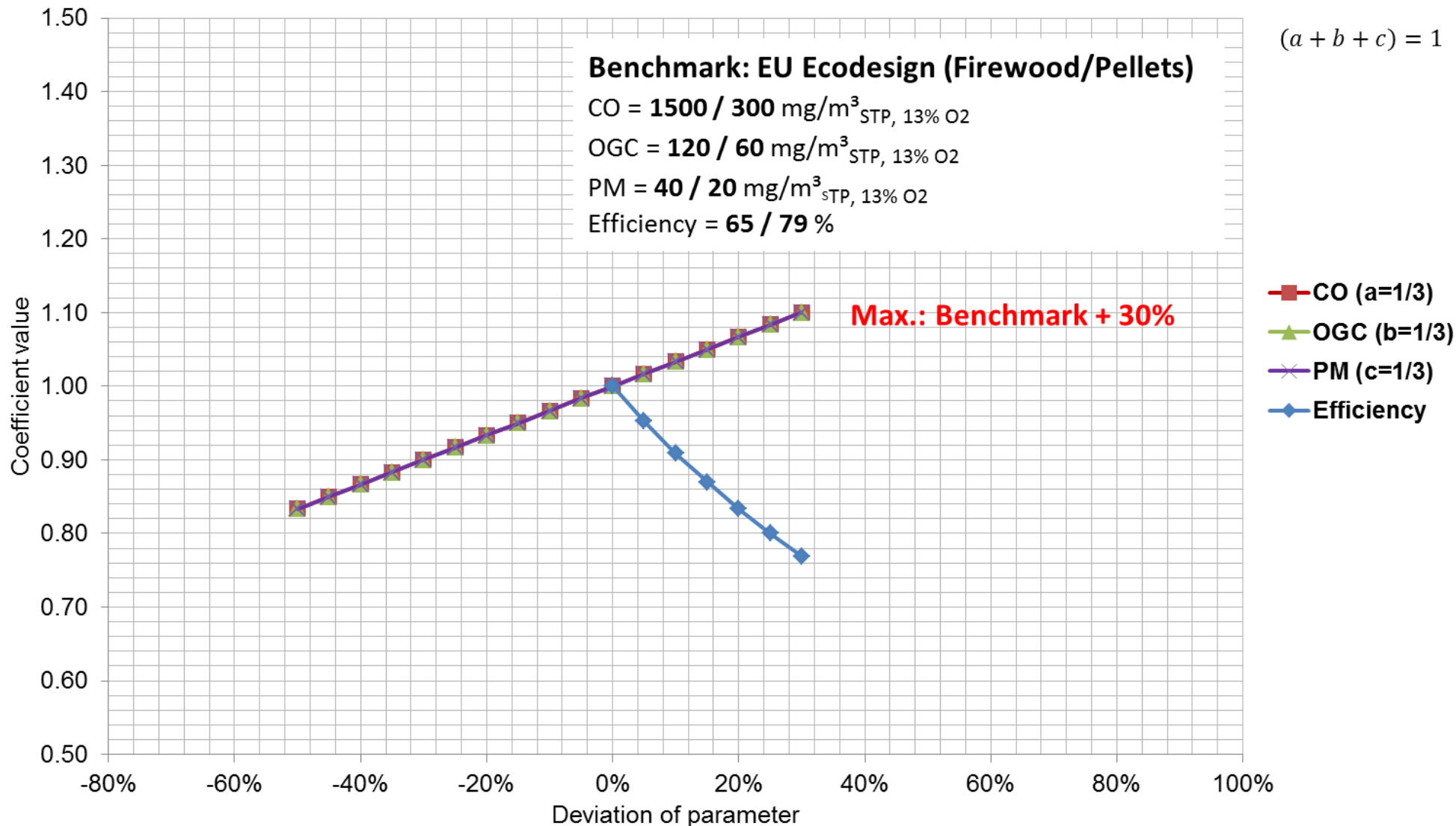
Firewood	CO (mg/m ³ _{STP,13%O2})	OGC (mg/m ³ _{STP,13%O2})	PM (mg/m ³ _{STP,13%O2})	Efficiency (%)
beReal	1500	120	40	65

Pellets	CO (mg/m ³ _{STP,13%O2})	OGC (mg/m ³ _{STP,13%O2})	PM (mg/m ³ _{STP,13%O2})	Efficiency (%)
beReal	300	60	20	79

Remark: Threshold values in EcoDesign are valid from 2022 and have been defined upon the existing type testing methods.

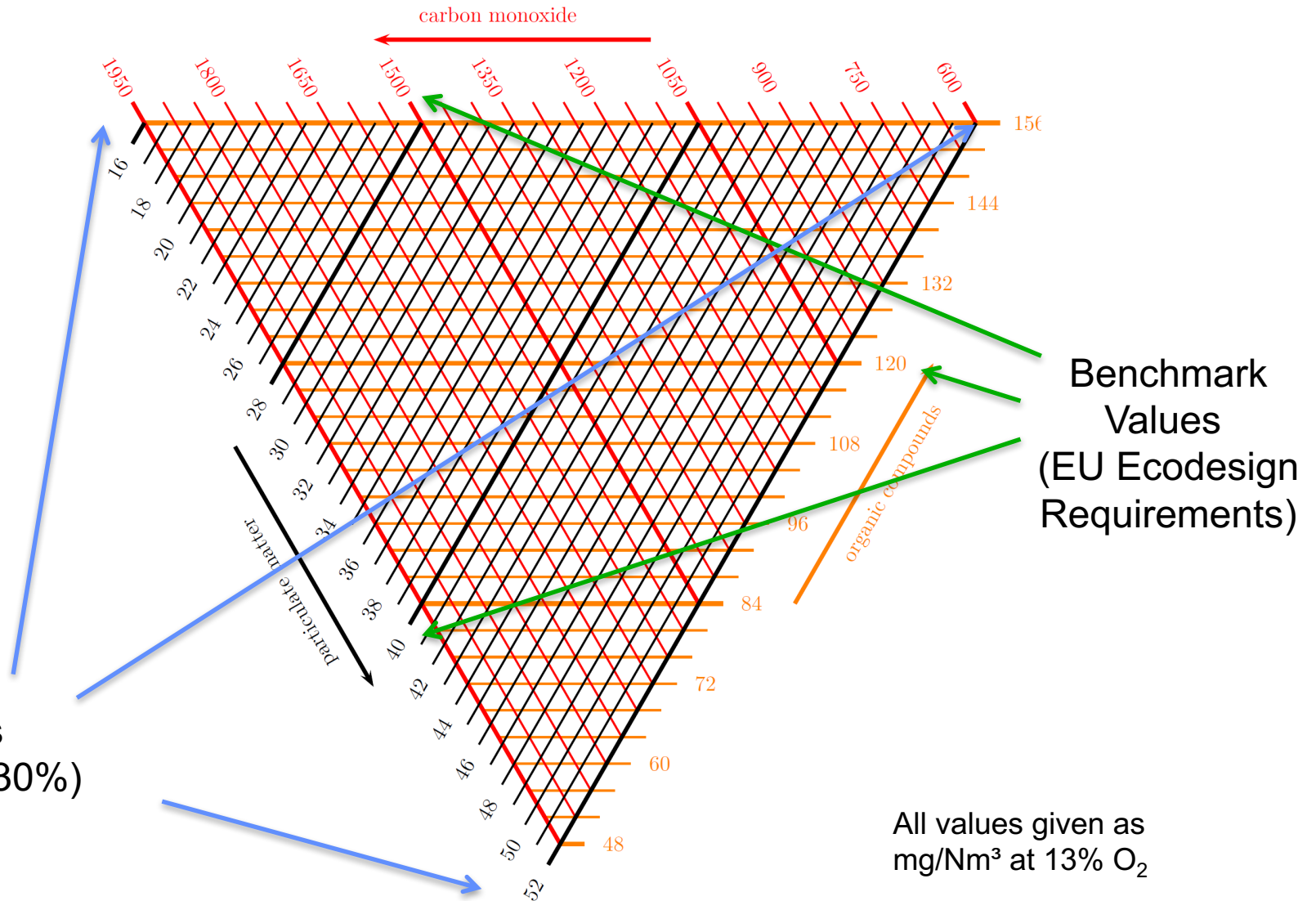
Coefficient calculation and its sensitivity

$$\text{Coefficient} = \left(a * \frac{CO_{measured}}{CO_{Benchmark}} + b * \frac{OGC_{measured}}{OGC_{Benchmark}} + c * \frac{PM_{measured}}{PM_{Benchmark}} \right) * \frac{\eta_{Benchmark}}{\eta_{measured}}$$



All values mg/m ³ STP, 13%O ₂	Firewood	Pellets
Absolute Thresholds		
• CO (BM = 1500/300)	1950	390
• OGC (BM = 120/60)	156	78
• PM (BM = 40/20)	52	26
• Eta (BM = 65/79)	65	79
Additional requirement:		
Coefficient of emissions and efficiency at or better than benchmark		
beReal Coefficient	<= 1	<= 1

The beReal Principle (beReal Triangle)



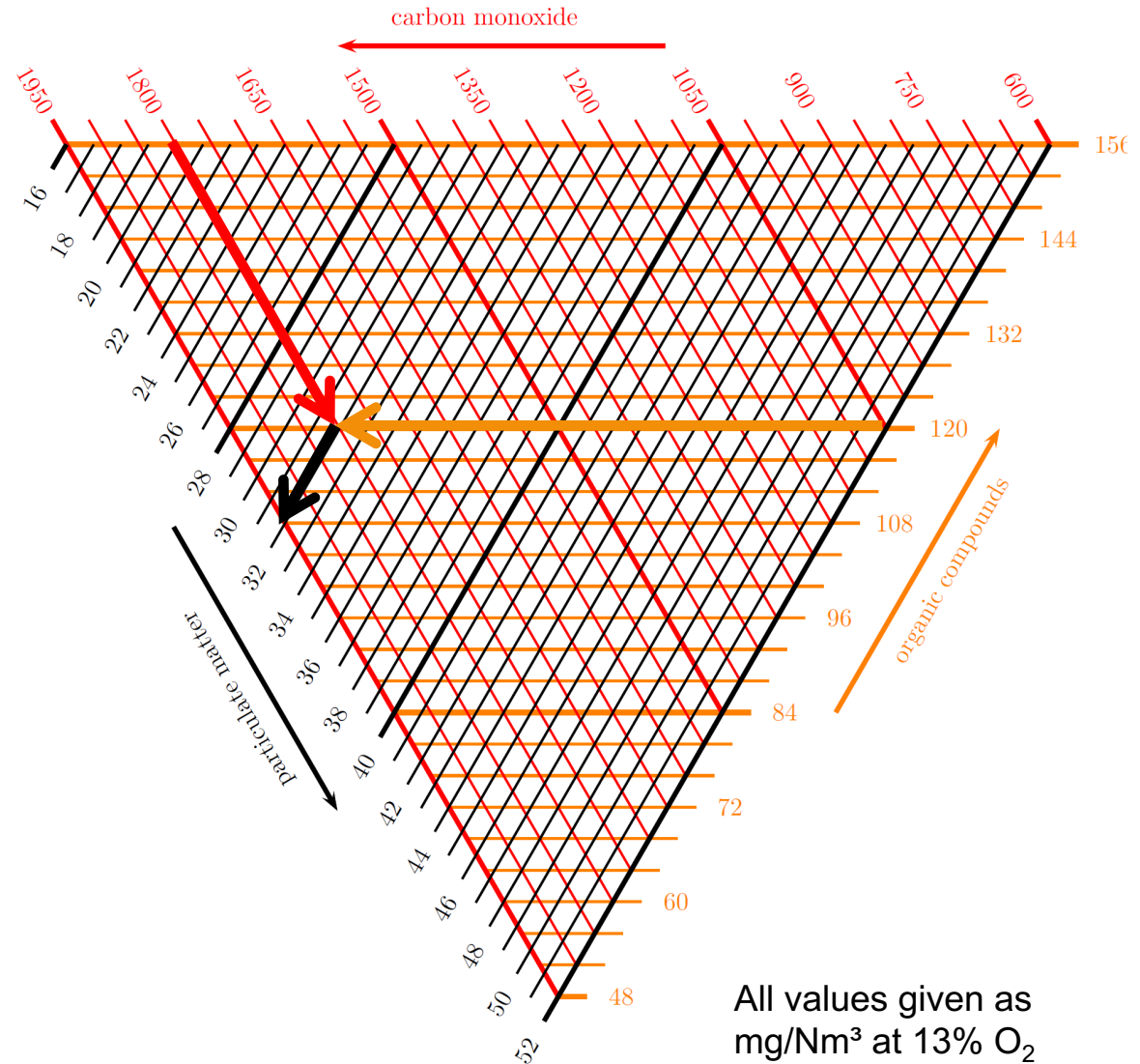
The beReal Principle - Example

Example:

CO = 1800 (exceeding benchmark)

OGC = 120 (at benchmark)

PM → needs to be 32 or lower



	3,3		2,4		2,1
	3,2		2,5		
	3,2		2,1		
	2,9				
	2,9		2,1		

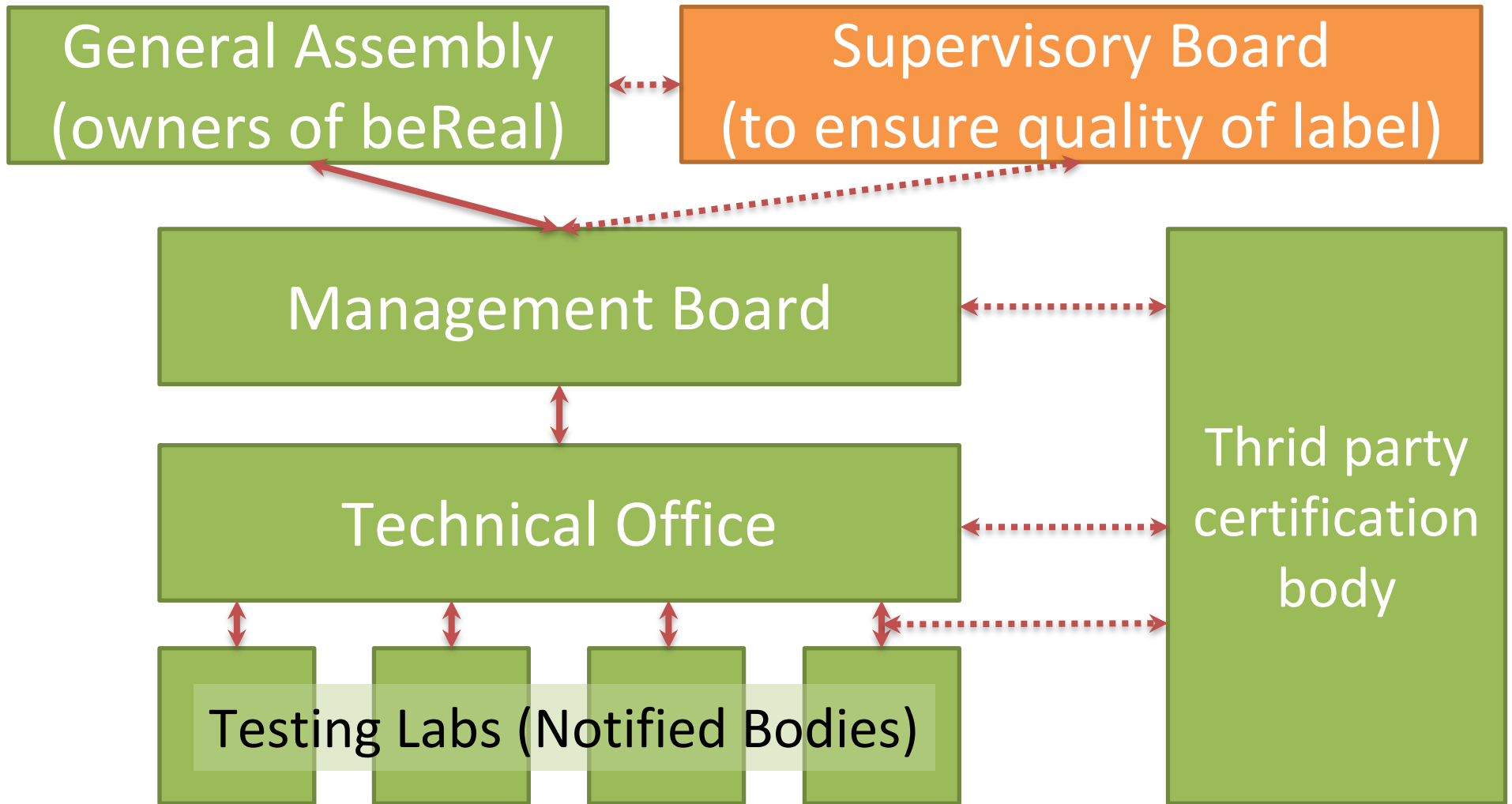
Numbers indicate the preference in a consortium survey (higher number, higher preference)



Fulfills important criterions:

- QR code is integrated
- ID Number is integrated
- Link to website is integrated

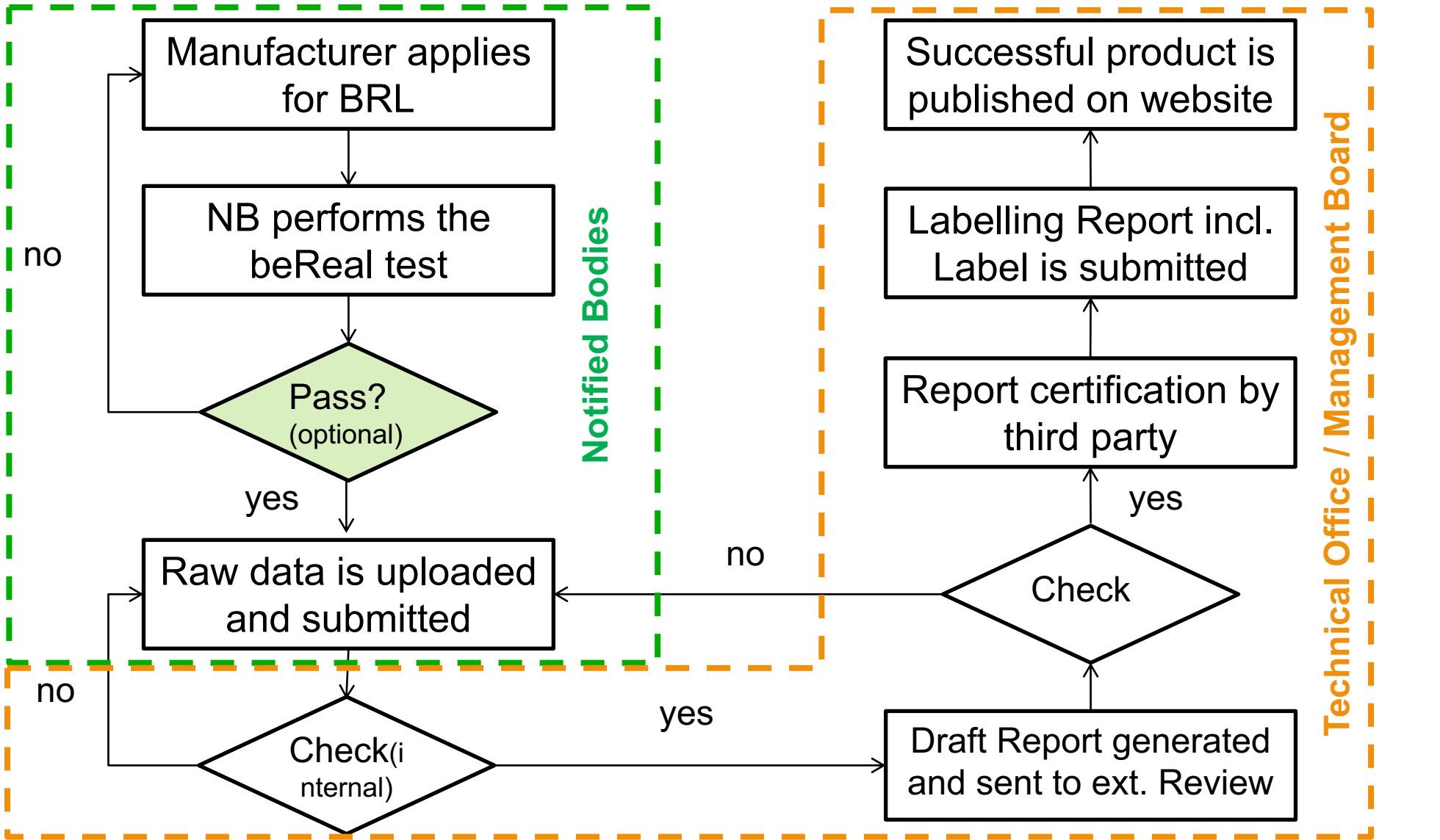
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- **Data handling with an online tool:**
 - Standardized and documented calculation routine
 - Documentation of testing procedure by photographs
 - Registration of beReal qualified notified bodies including technical specification of measurement equipment (e.g. measurement ranges)
- **Qualification of notified bodies for beReal**
 - Upload of notification documents for respective European Standards
 - Qualification of testing personal in an obligatory beReal training course (e.g. national one day workshops)
 - Qualified notified bodies are published on website
- **Each draft test report is double checked “internally”:**
 - 1st check by technical office
 - 2nd check by randomly selected member of the list of beReal qualified notified bodies (persons having attended the workshop)

- **Label shall include id number and QR code which link the specific product with the test report on the public website. The year of issuing shall be indicated on the label, e.g. as part of the id number.**
- **Market Surveillance:**
 - 10% of labelled appliance types will be re-tested from the market
 - Re-testing will be done randomly. Re-testing notified body shall not be the same as for initial testing
 - Re-testing will be financed by a dedicated share of beReal fees
 - No inspections at manufacturer production required
- **Label Validity shall be limited to 4 years, in order to account for changes in production process**
- **The whole process shall be certified by an international certification organisation.**

Labelling Scheme – The way to a beReal Label



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Company partners



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Thanks for listening !

www.bereal-project.eu

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