

# UNECE WP 6 MARS meeting

## Setting objectives for MS actions

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# 1. Introduction

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- ✓ An essential requirement of a performing MS system is that it protects the legislative system applicable upon products on the market (sustainability, confidence)

## 2. Setting objectives on “adequate scale”

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- ✓ Axiom on sustainability of the system :
  - ✓ Non Conformity Rate < 15 %
- ✓ Target market is highly non-homogenous
- ✓ The effectiveness model (see GMSP) suggests to couple technical legislation (requirements) - standardization with conformity assessment (measurement uncertainty) supported by Risk Assessment tools and visibility actions (amplification effect).

## 2. Setting objectives on “adequate scale”

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Define cost function of market sampling (high level sampling)

$$C = C1.nLR + C2.nMR + C3.nHR + C4.nSR$$

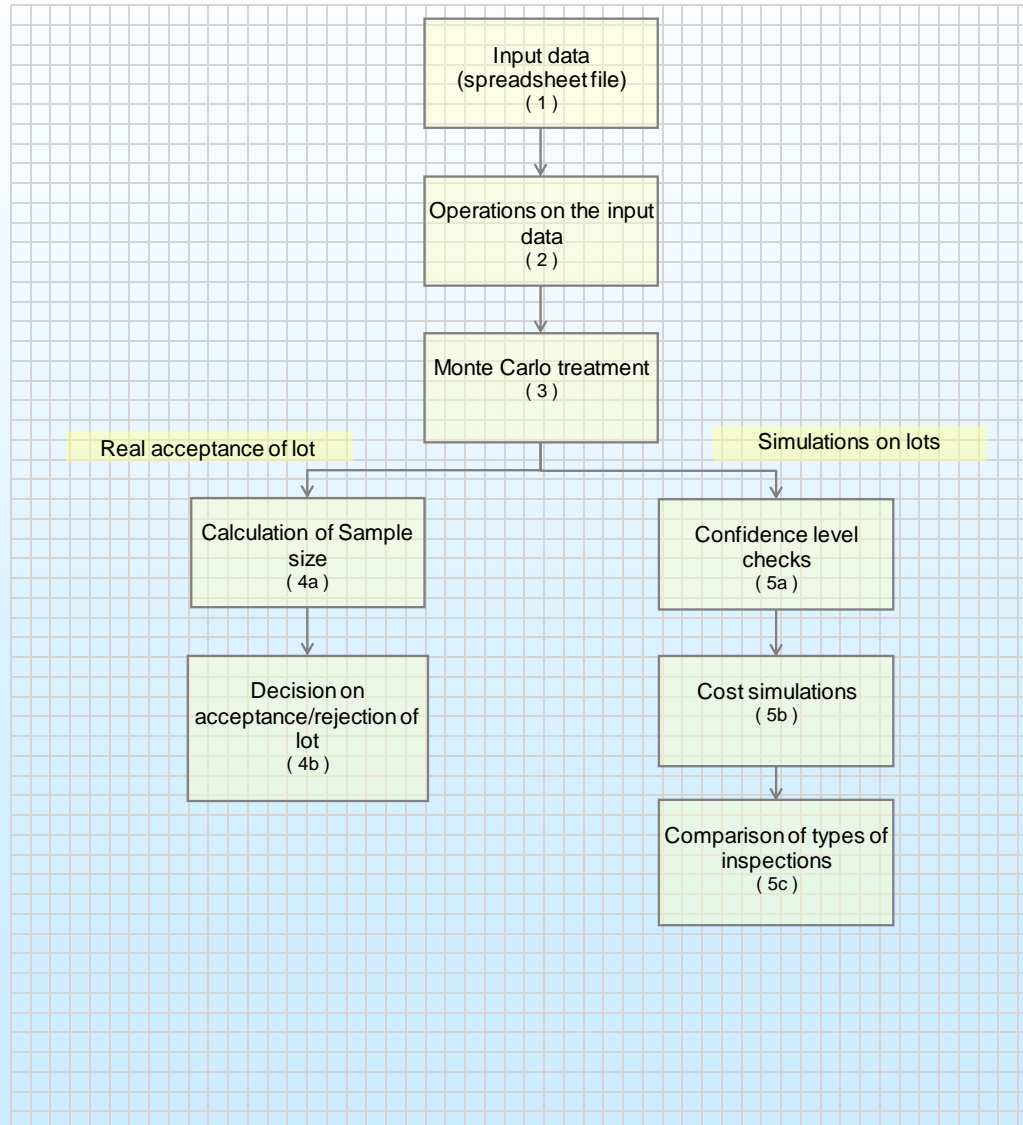
Where:

**C = total cost of sampling and should be minimal.**

**LR: Low Risk product, MR: Medium Risk, HR: High Risk, SR: Serious Risk (from EC Risk Assessment Guidance RAG document).**

# 3. The analysis software

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### 3. The analysis software

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- ✓ = a tool for performing optimal sampling on non-homogenous lots
- ✓ Focused on optimizing the cost factor in MS actions
  - Cost factors include: MSA staff costs, sampling costs (cost of the samples mainly), CA costs (lab costs mainly), overhead.

### 3. The analysis software

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2 approaches for sampling:

- ✓ Standard deviation (precision of the inspection) is fixed and then sampling plan is provided which minimizes cost.
- ✓ Cost of the inspection is fixed and then sampling plan is provided which minimizes standard deviation (maximizes the precision of the inspection).



### 3. The analysis software

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- ✓ = Input data (spreadsheet format)
  - Economic operator (EO xxx)
  - Number of equipment per EO
  - Equipment risk (4 categories)
  - Estimated average cost of conformity assessment costs
  - Standard deviation of the CA result
  - Total budget for the MS action
  
- ✓ Number of software lines = 2734 (Matlab)

### 3. The analysis software – some results

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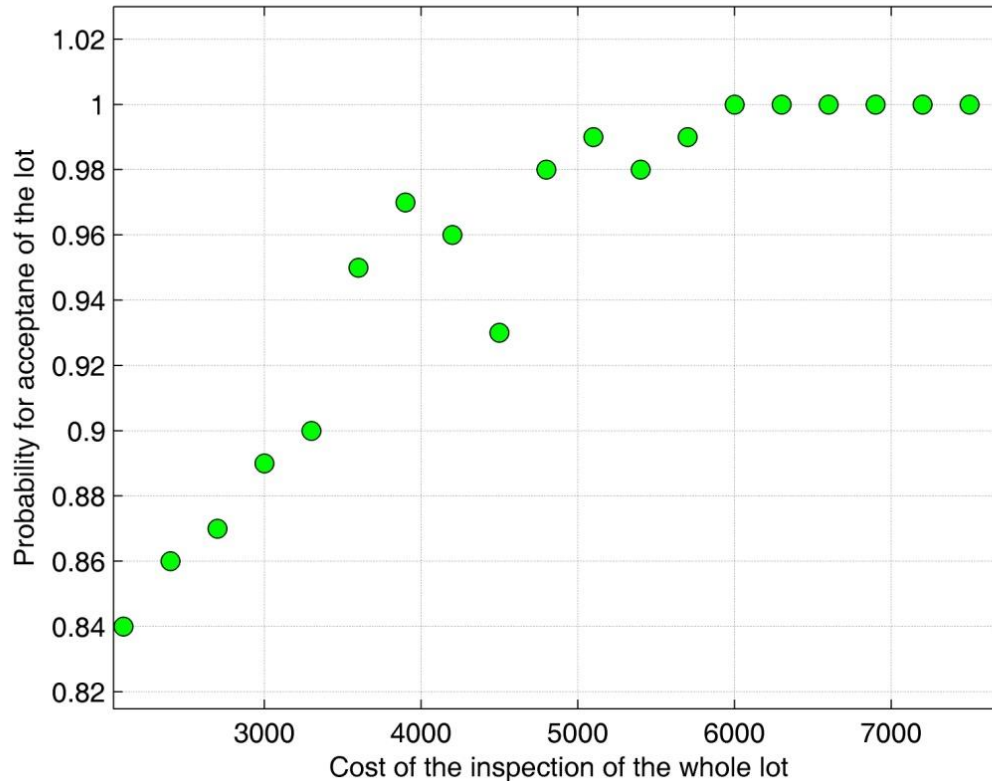
Input data for the shown results:

Number of EO's	21
Number of equipment on market	5000
Equipment risk levels	low to serious
Estimated average CA cost (EURO)	100
CA measurement uncertainty	5 to 10 %
Total budget for the MS action	5000 Euro

### 3. The analysis software – some results

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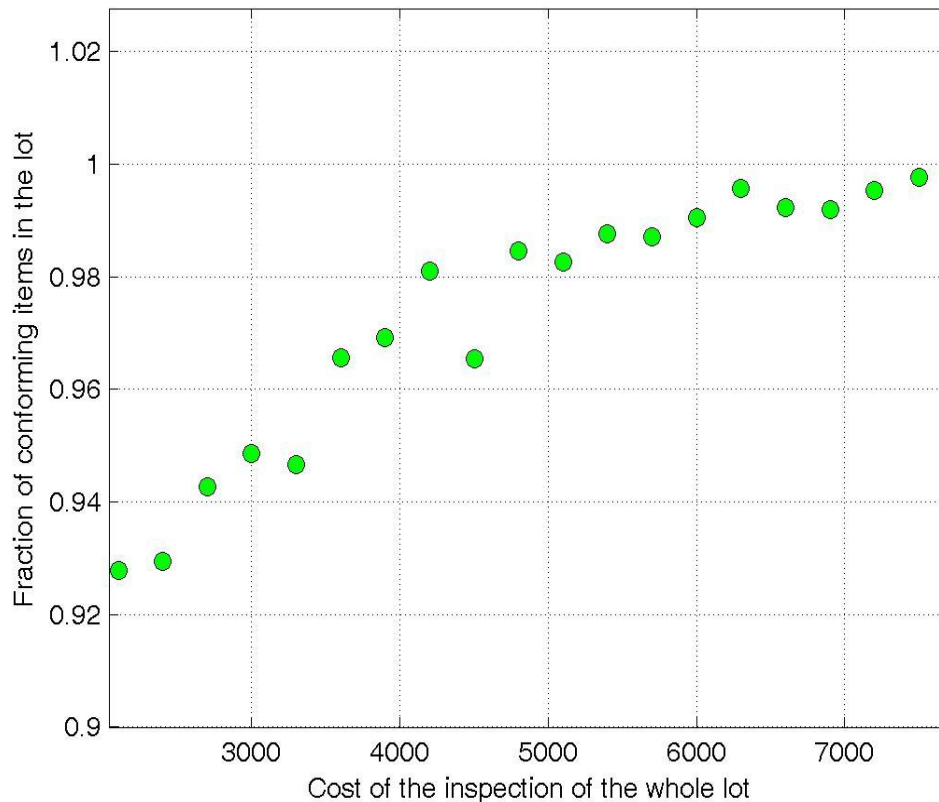
Cost of inspection (sampling) versus probability of acceptance of the lot



### 3. The analysis software – some results

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Cost of inspection (sampling) versus fraction of conforming items in the lot



## 4. Pre-liminary conclusions

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The analysis software provides for:

- Calculation of actual acceptance criteria when performing sampling ( high level sampling )
- Simulate “what if” scenarios to keep the cost of MS actions in hand