# Feedback on the Training on the Risk Assessment Model "ImproRisk"

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28th Focal Point Meeting
15-16 September 2016 - Parma

# Risk Assessment at State General Laboratory

- The SGL supports all Competent Authorities of the Food Safety Council (FSC) in Cyprus as it has established a Risk Assessment Unit to assist FSC's work to carry out the necessary risk assessment

**Risk Assessment capacity at SGL has been built through :**

- EFSA's guest scientist scheme
- Local Training by BfR experts, after signing a MOA with BfR – Germany
- Training in BfR Summer workshop
- BTSF trainings
- Participation in the research project ACROPOLIS (aggregate and cumulative exposure) under FP7 coordinated by RIVM in the Netherlands
- SGL is now participating in a new research project EUROMIX under Horizon 2020 on new tools on Risk Assessment

**Cyprus closely collaborates with EFSA, which is a Driving Force in these efforts and a platform for support.**

# Deterministic model- ImproRisk

**SGL proceeded with its own RA model**


- **A RA model developed by IMPROVAST CO. (www.improvast.com) for the State General Laboratory of Cyprus**
- **Implemented in MS Excel (Supported by the 2010 version or later)**
- **An empirical distribution model using the deterministic method of dietary exposure assessment to contaminants**
- **The exposure assessment to each contaminant was calculated at individual level taking in to account the individuals characteristics - weight & consumption ⟶ hence more refined exposure assessment**
- **ImproRisk was validated at EFSA DATA Unit (during SGL's staff visit in the context of the Guest Scientist scheme) by using SAS software.**

# SGL's Databases needed for carrying out exposure assessment

CHEMICAL
OCCURRENCE
DATABASE
(since 1990)


FOOD
CONSUMPTION
DATABASE

**CHEMICAL OCCURRENCE DATA** Electronic transmission of harmonized chemical occurrence data from SGL to EFSA based on Standard Sample Description (SSD1 including FoodEx1)-on a pilot basis SGL sends data according to SSD2 including FoodEx 2)

**FOOD CONSUMPTION DATA** ……Consumption Data from the EFSA Comprehensive Database used

SGL will have its own Food Consumption Data Base which is developed in a harmonized way within EFSA's EU MENU project in early 2018 in Cyprus (Funded by EFSA).

# Dietary Exposure Assessment of Pb, Cd & inorganic Hg

## Average Intake (MB) of Pb, Cd & Hg : Comparison of ImproRisk & EFSA calculations

| | Average intake ( %toxicological reference value) | | |
|---|---|---|---|
| | Pb µg/Kgbw/day | Cd µg/Kgbw/week | Hg µg/Kgbw/week |
| Individual-level exposure by IMPRORISK | 0.43 ( 68%) | 2.03 (81%) | 0.54 ( 13%) |
| EFSA estimations for the Cyprus adolescents | *0.34* ( 54%) | 1.97( 79%) | 0.46 ( 11.5%) |
| Toxicological reference values | $BMDL_{10}$=0.63 | TWI=2.5 | TWI=4.0 |

# Request from MS to be trained on the ImproRisk Model

- Training was co funded and co organised by SGL and EFSA in Cyprus

- **17-18 May 2016**
  - Participation of 18 MS and
  - Participation of 4 Pre-Accession Countries was facilitated financially by DG NEAR
- Aim: to acquire /increase knowledge of scientific principles and methodology of exposure assessment and provide training on the deterministic assessment model.

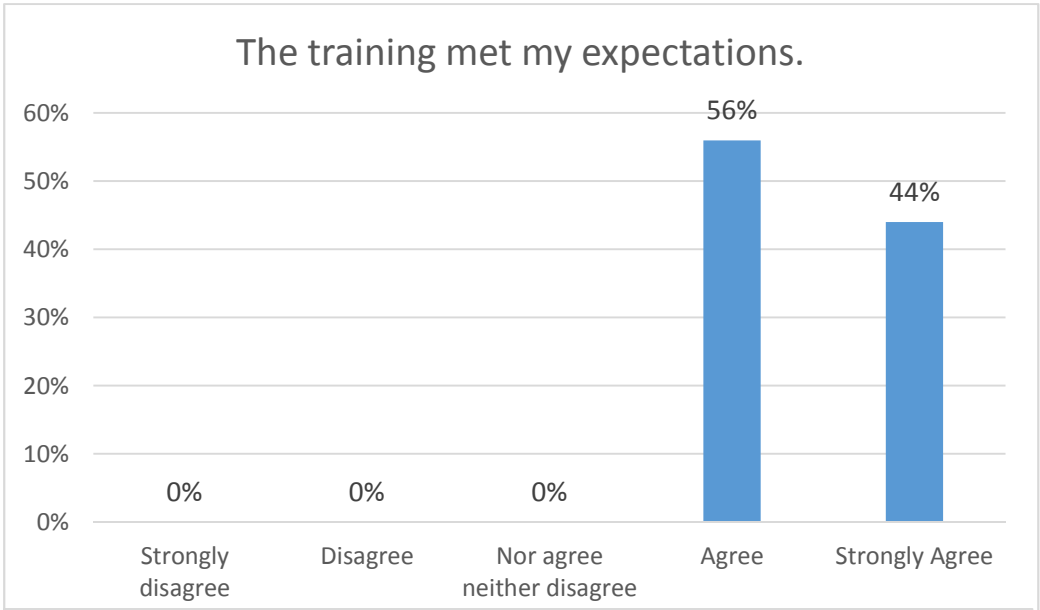
# Content of the Workshop

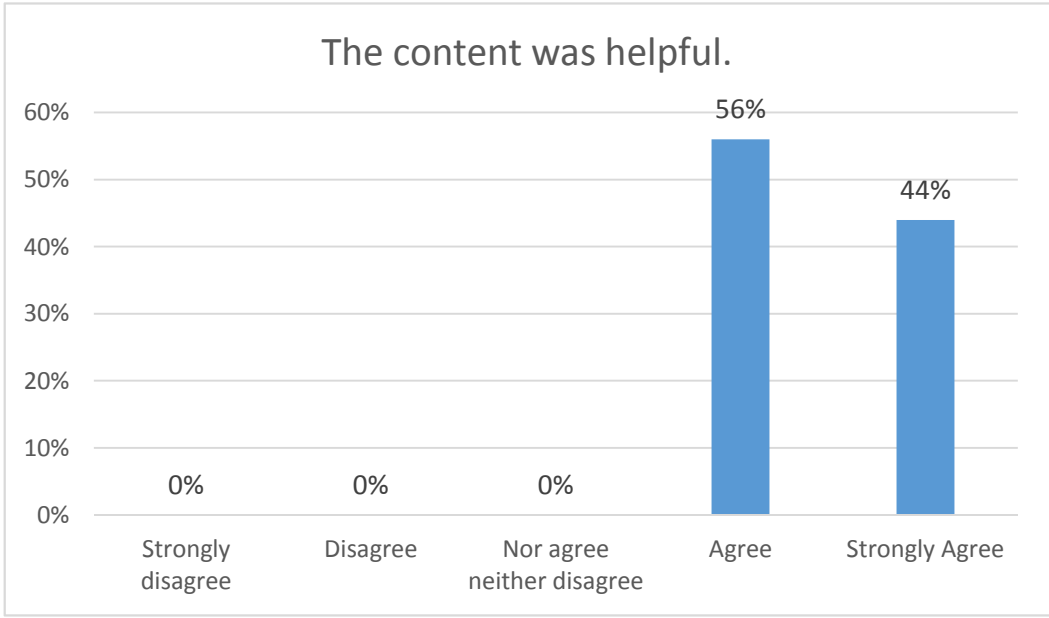
- EFSA's Food Consumption and Chemical Occurrence Database and Harmonization approach
- Existing Tools for Exposure Assessment
  - Deterministic vs Probabilistic approach in dietary exposure assessment
- Country presentations from Finland, Italy, Netherlands, Spain, UK
- **Presentation and hands on training of the ImproRisk RA model with instruction manual.**

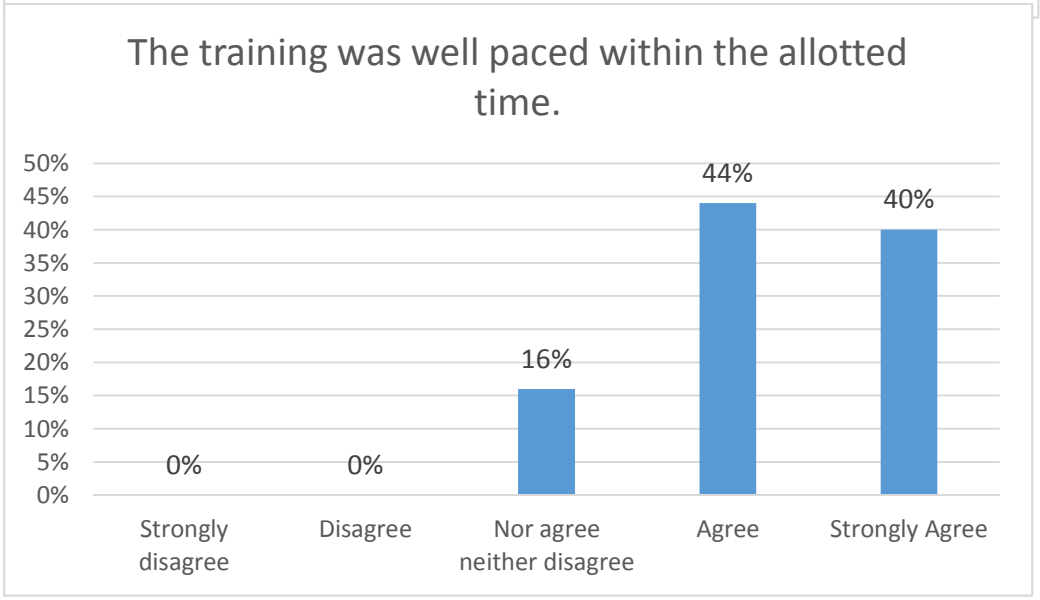
# Training Workshop on the IMPRORISK Model, 17-18 May 2016

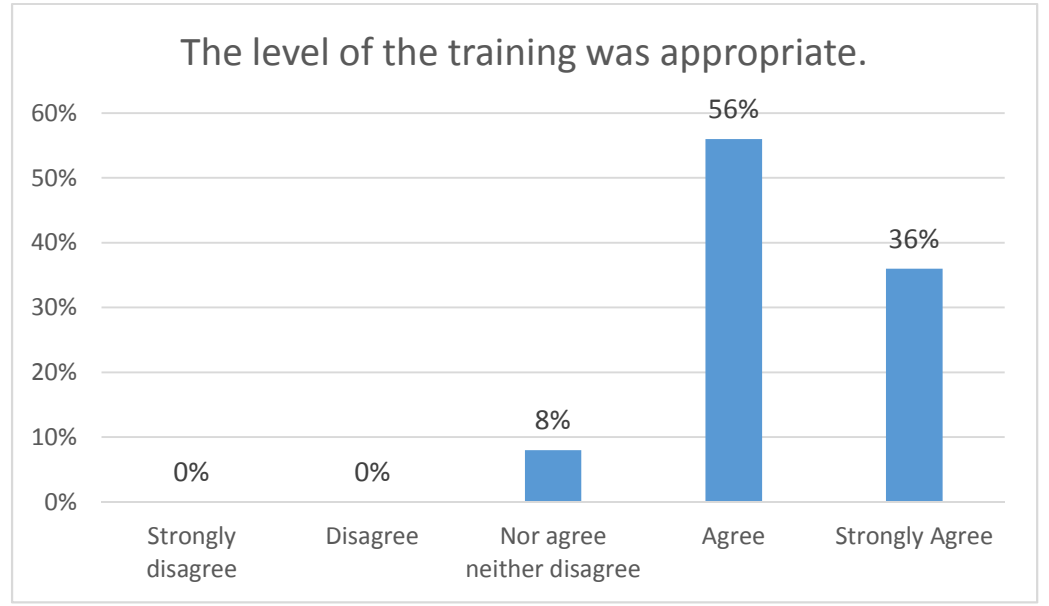
## It was all hard work and an intensive workshop in Larnaca, Cyprus

# Evaluation from Participants of the training (N=25)

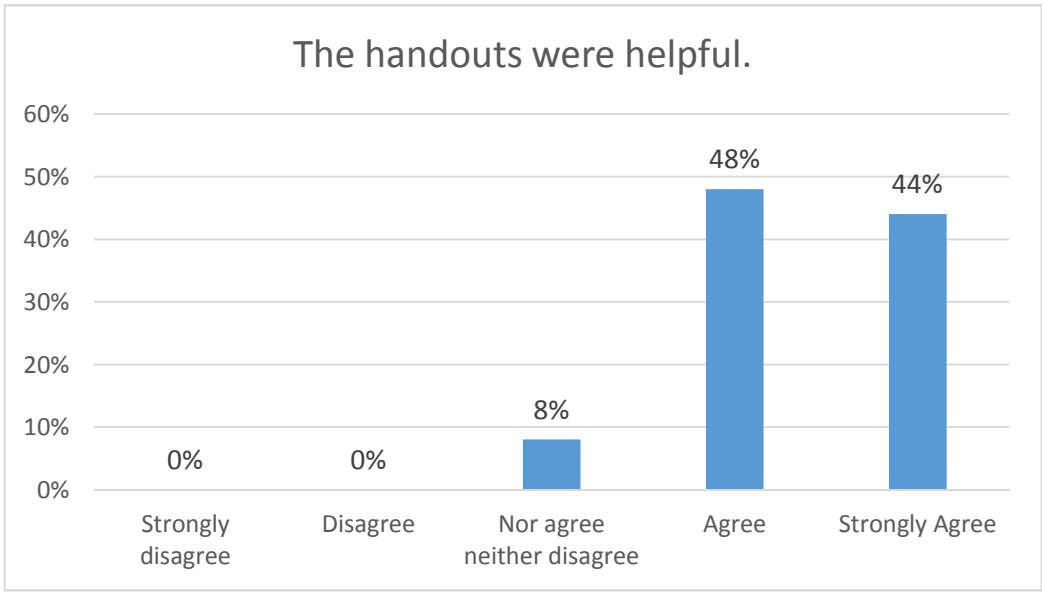


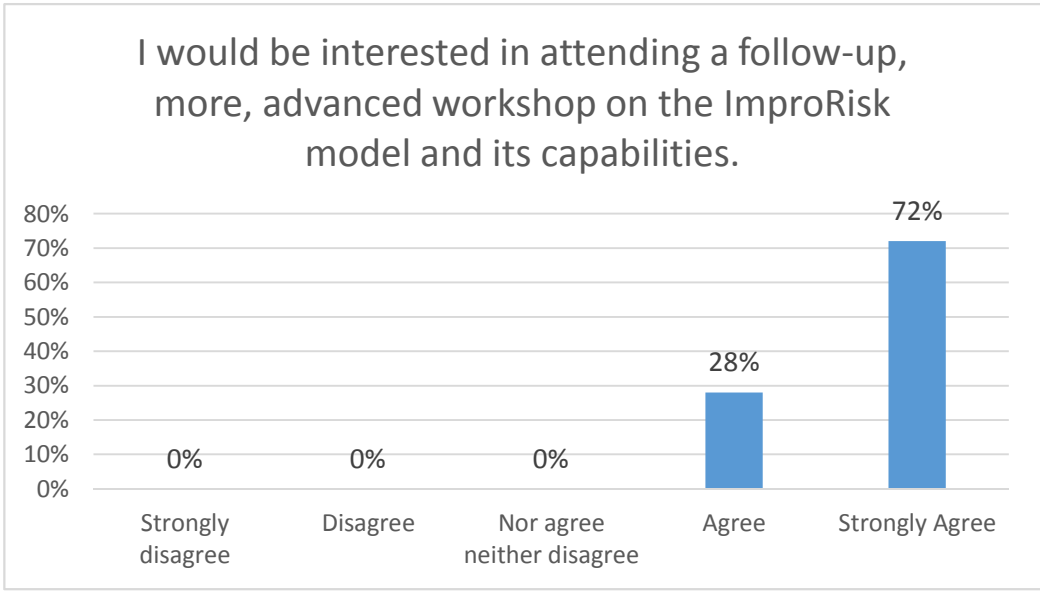



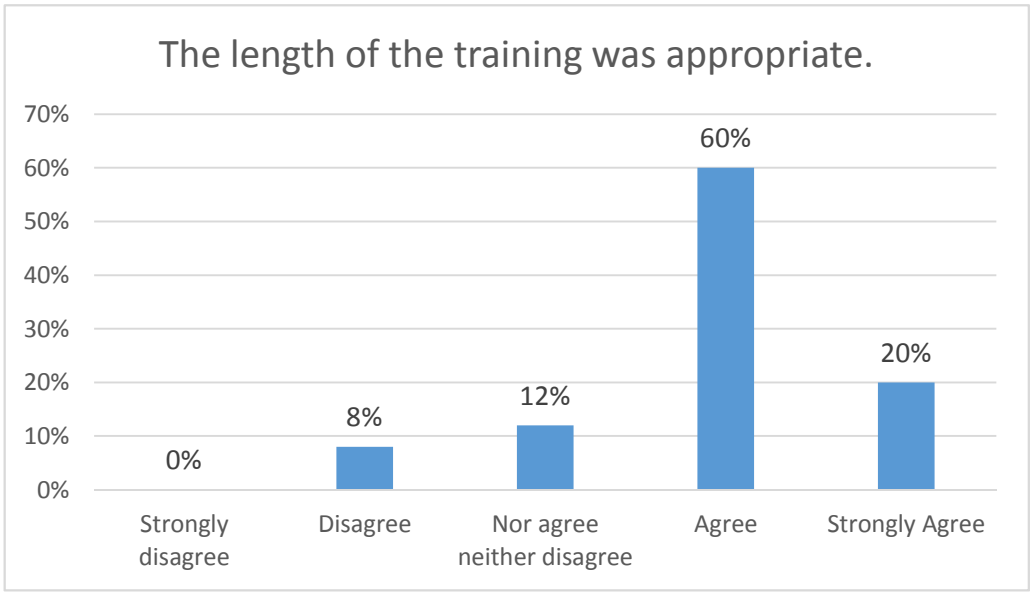



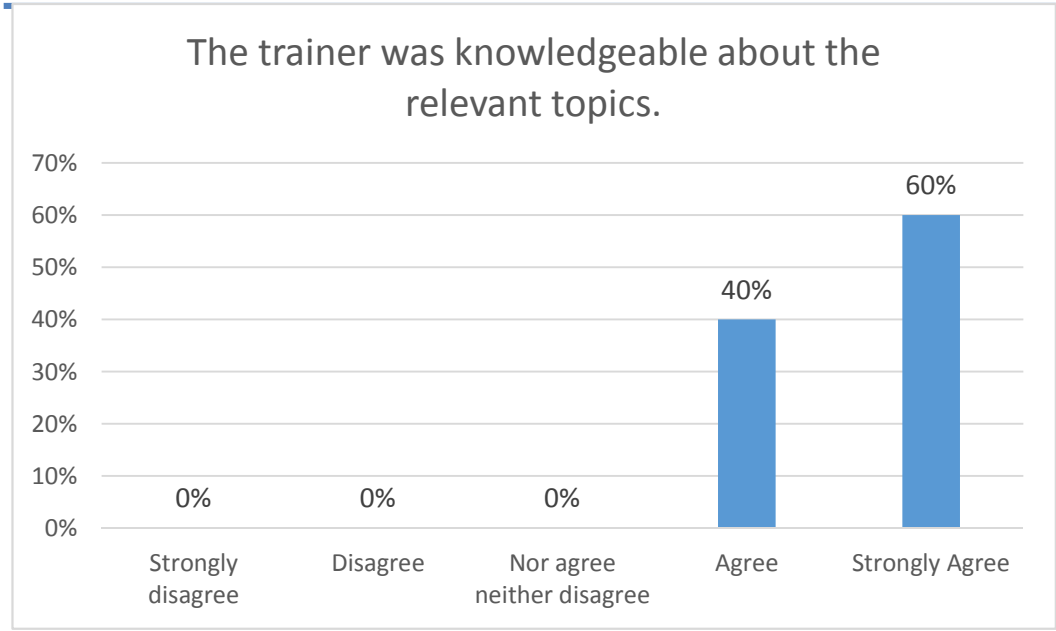
# Evaluation of the training (2)

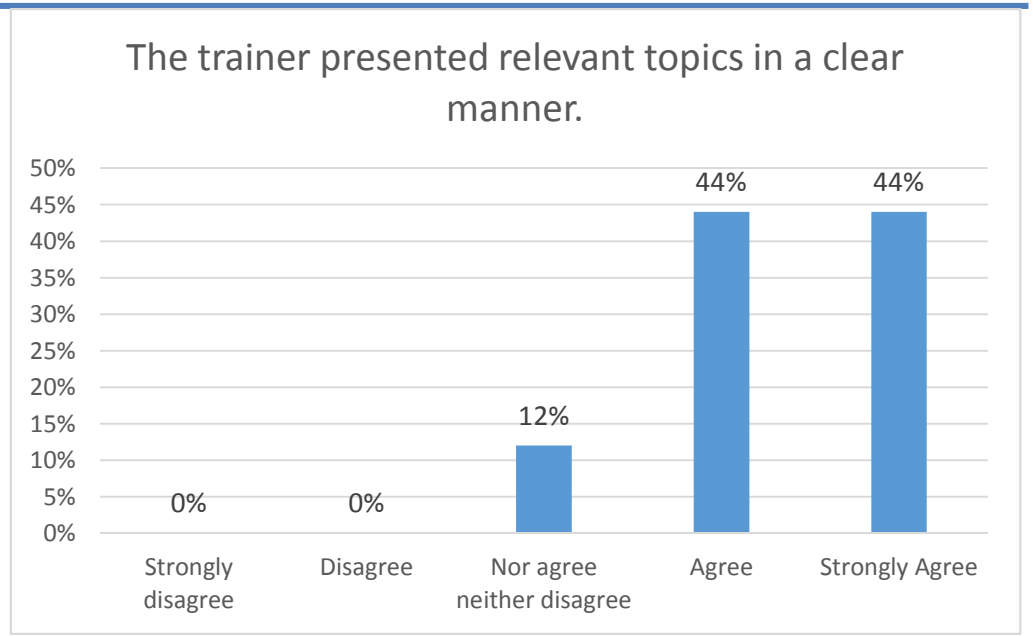


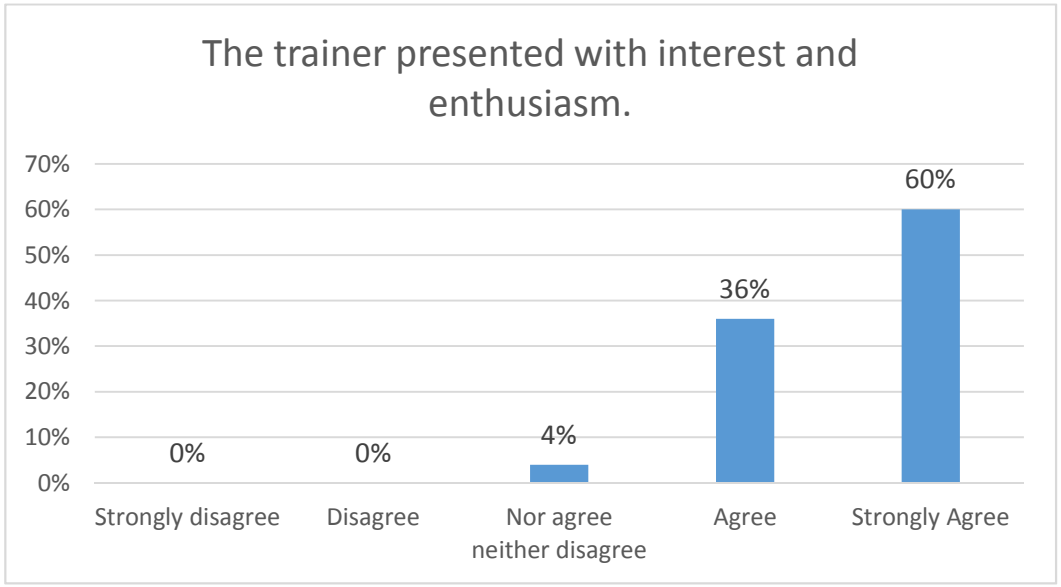



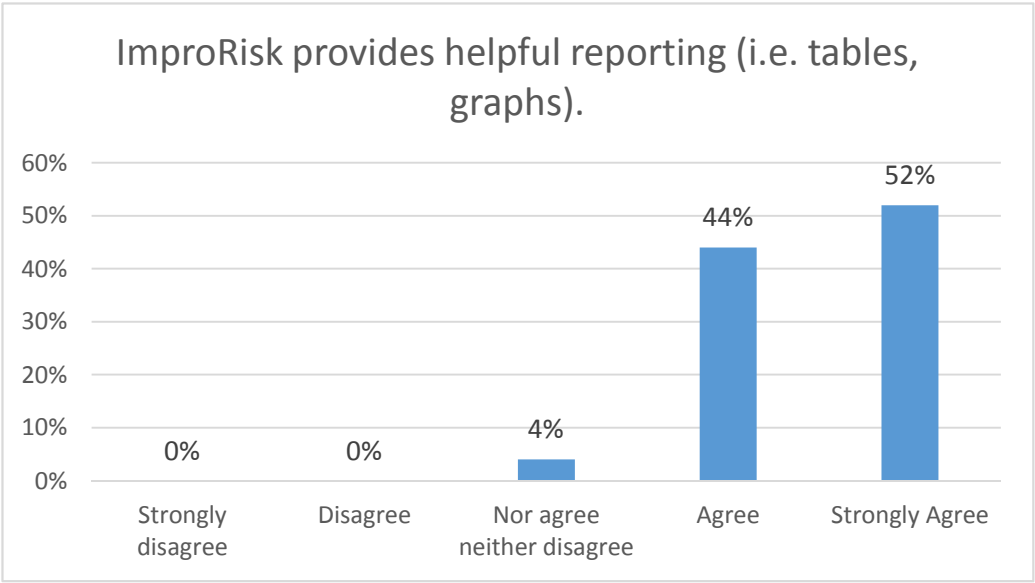
# Evaluation of the trainer

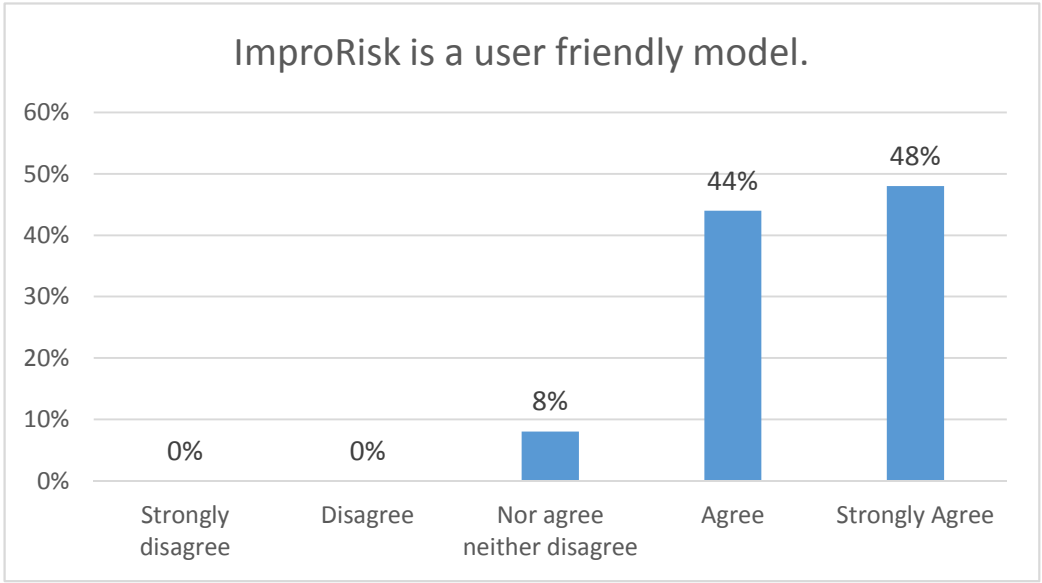


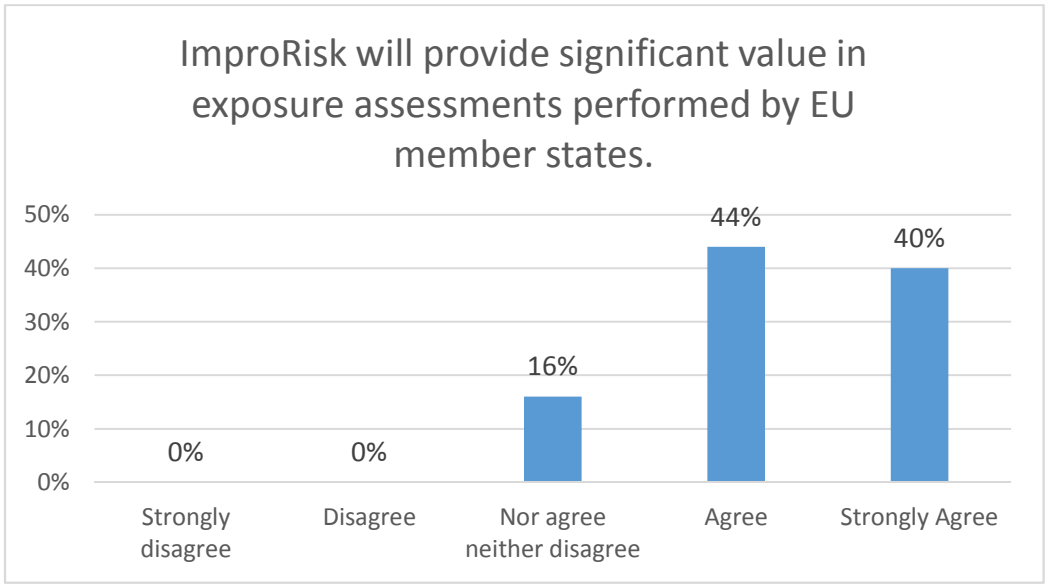



# Evaluation of the ImproRisk model



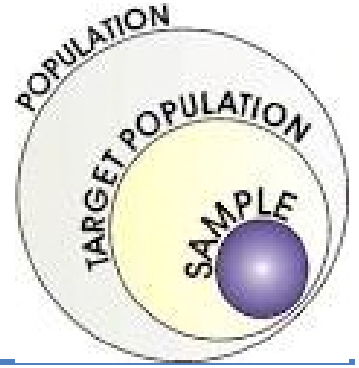



# Benefits of the ImproRisk model

- Fills the gap between simple deterministic and probabilistic and is compatible to the approach applied by EFSA for exposure assessment in many of its opinions (semi-deterministic)
- The significance of the model is enhanced as it fills a gap in the field of exposure assessment for Contaminants, since at an EU/EC Level exist only the Food Additives Intake Model FAIM or Additives and the PRIMo – Pesticide Residue Intake Model for Pesticides
- Is relatively simple (implemented in MS Excel) validated and not expensive
- Combines mean Occurrence data with Food Consumption data of a population (coded with FoodEx system ) at individual level and calculates the exposure rates for the population
- Takes into account the individual's body weight so that the proper exposure is calculated.

# Benefits of the ImproRisk model (2)

- **Derives probability & cumulative distributions of exposures**
- **Outputs can be derived for LB, MB, and UB scenarios of the occurrence data and the exposure is calculated at the FoodEx level 2, but also can be at lower level** (in the future according to FoodEx version 2)
- **Not a closed box model. All the calculations (in excel) are visible and there to inspect. Formulas and all the methodology is transparent so the model results can be validated easily**
- **Quite straightforward and user friendly model.**



# Acquisition of the ImproRisk model

- The Focal Point of one's country designates a competent person for using the model
- Designated persons should meet the following criteria:
  - ✓ Member State or pre-accession country
  - ✓ Art. 36 Organisation
- The designated person completes a registration form in the dedicated website, http://www.improrisk.com
- Notification of registration in personal mailbox
- Request subject to approval by SGL staff
- Upon approval the ImproRisk model with all the accompanied files are sent to the provided email address.

# Impact and status of the ImproRisk model

- Access to ImproRisk was initially granted to 18 MS and 4 pre-accession countries during the Workshop on ImproRisk
- Total registrations in the ImproRisk's website: 52
  - ✓ Workshop participants: 22
  - ✓ New registrations: 30 (from Spain, Belgium, the Netherlands, Germany, Ireland, Austria, Switzerland, France, Ukraine)
- Based on feedback from workshop participants, an updated version of the model (ImproRisk 1.3.3) was prepared and sent to 45 registered persons (those who met the criteria) on 29/08/2016
- Training in Belgium on the use of the ImproRisk model (05/09/2016).

# Training in Montenegro :Basic concepts and methodology of Food Safety Risk assessment

**Meeting date: 30th May – 1st June 2016**
**Meeting venue:Montenegro, Podgorica**

- This training was organised under the EFSA Pre-Accession Programme 2015-2017 (Programme), financed by the European Commission (EC). The overall objective of the Programme was to:
  - promote the understanding of EFSA's work, share expertise and create information exchange mechanisms to
  - get a knowledge of the scientific principles and methodology of Food Safety Risk Assessment (RA) and the differences between various RA topics (chemical, microbiological)and
  - understand the importance and role of Risk Communication in Risk Analysis
- ImproRisk model was presented in quite a detail

**Invited**: 30 participants from Albania, Bosnia and Herzegovina, FYR of Macedonia, Montenegro, Serbia, Kosovo and Turkey.

# small country

but trying to find economically feasible solutions
like the RA model with a positive IMPACT
at EU level

# in Food Safety and Risk Assessment

# Acknowledgements


- Dr. Eleni Ioannou-Kakouri, ex-Head of RA Unit of SGL
- Mr. Lefkios Paikousis, Senior Data Analyst at Improvast co.
- EFSA for capacity building, empowering and supporting SGL



***Thank you for your attention!***