

Mapping the competence situation and needs for chemical risk analysis and safety in the Nordic countries

Preliminary results from survey –
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Background

As active in the area of Chemical Risk Analysis (Risk assessment and Risk communication) of chemicals, we are concerned that our five Nordic countries within some years will not be able to meet societal demands for highly educated and well-trained professionals to contribute with high quality knowledge in the governmental, private and nongovernmental sectors. The concern is further pronounced as such competence needs will become even more demanding as the European Commission Green Deal initiatives are to be managed. The prevention of health hazards from chemicals is high on the political agenda through, among others, the Chemicals Strategy for Sustainability and the EU Action Plan: Towards Zero Pollution for Air, Water and Soil

Process

Step 1. National users of toxicology in government and private industries are kindly asked to fill in the electronic questionnaire and return it according to the instructions in the questionnaire.

Universities will be approached separately by interviews and emails in order to collect their view on the risk analysis competence provision task.

Step 2. (OPTIONAL) For those responding in the questionnaire that want to have a direct contact with the project group for clarifications purposes or for expanding their input, will be contacted after we have received such a request from you. Please respond to your national contact point for this survey.

Step 3. A report based on the answers we have received, will be prepared for the Nordics as a whole.

Final steps. Launching the results of the mapping (digitally) and approaching our Nordic governments and other relevant decision makers. The result of the mapping will be presented to the European Commission

Results - preliminary

The total number of respondents are:

7 of 24 in Denmark – research, authority, industry, private consulting

13 of 50 in Finland- research, authority, industry, private consulting

0 from Iceland,

8 of 59 from Norway - research, authority, hospital, industry, other

12 of 74 from Sweden - research, authority, NGO, industry, private consulting

A total of 40 respondents from the Nordics

Results DK

Is there a **need for hiring** of replacement/expanding the number of chemical risk assessment/communication personnel over the next 10 years in your organization, e.g. due to retirement or change in duties/deliverables within your organization? Number of responses **YES 6 (100,0%)** NO 0 (0,0%)

Hopefully we will need additional expertise in exposure assessment and risk assessment. We will need expertise at the highest level.

Expertise in probabilistic risk assessment based on artificial intelligence and novel approach methodologies (NAMs) and exposure modelling.

The primary need is for personnel with experience in regulatory (eco)toxicology. Both highly specialized and more general competences are needed for different tasks.

We expect to be able to recruit general scientists and provide education in toxicology.

Challenge will be to include scientists strong in computational skills with insight in our field
Personnel in field exposure assessment/monitoring (science education).

Epidemiologists with skills in register studies (public health education) Maybe toxicologists

Results DK

Indicate if academia delivers sufficient number of candidates to fulfill your needs (master and/or PhD level)?

Not (yet) with the expertise (probabilistic risk assessment, AI, NAMs, exposure modelling)
Not sufficient regarding toxicologists.

Difficult for public administration to compete with private companies.

Yes, as we can provide further competence development. However, a general concern exists as there is strong competition in getting the best candidates.

For exposure assessment, there are not sufficient candidates.

It is also difficult in other fields, maybe not so much in toxicology

Do you find it necessary to **train your new personnel** in the areas of chemical risk assessment/communication due to limited/poor knowledge from academia or previous affiliation (s) /work experience? Number of responses **YES 6 (100,0%)**

Results DK

Please give suggestions what can be done nationally to optimize the numbers of competent persons for your organization.

Proper toxicology education in DK fx a master of toxicology at one of the universities, and to have a PhD school that focusses on different aspects of toxicology

Include more risk analysis courses in relevant educations (such as chemistry, biology etc.).

Organize courses and training that fit into New Generation Risk Assessment (i.e., without the use of animals).

Establishment of a toxicology education. Course in Applied toxicology in Denmark

Please suggest how the Nordic countries could act jointly to optimize the numbers of competent persons for your organization.

The master of toxicology and the PhD school could be a Nordic activity or be coordinated between key institutes in Nordic countries cooperate to establish a joint education (cf. ERT).

Start with talking and identifying gaps. Relevant courses with selected topics.

Joint courses including industry focus

Exchange between countries - Common course

Results DK

Do you expect that the number of personnel involved in international assignments will increase or decrease in the coming 5 years?

Number of responses Increase 2 (33,3%) Decrease 2 (33,3%) No change is expected 2 (33,3%) Total 6 (100,0%)

These activities are difficult to cover by external funding, and we have to cover our research 120% by external funding. Small increase.

One will retire, and the cost of participating in ISO working groups are high. Our institute is cutting down costs and focusing on our core tasks, so less and less time is available for participation in such tasks.

There are a lot of EU initiatives aiming at chemical risk assessment without the use of animals. Analyze the needs and expectations of these initiatives and build relevant courses, workshops, webinars, ... to train new risk assessors, managers, communicators for these new tasks and challenges.

Use of toxicological discipline could be better integrated part of several lines of education. Could benefit from industrial perspective also

The survey is not closed, and you can still provide information

Questions?

