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Concerns regarding the quality and number of Occupational Exposure Limit Values

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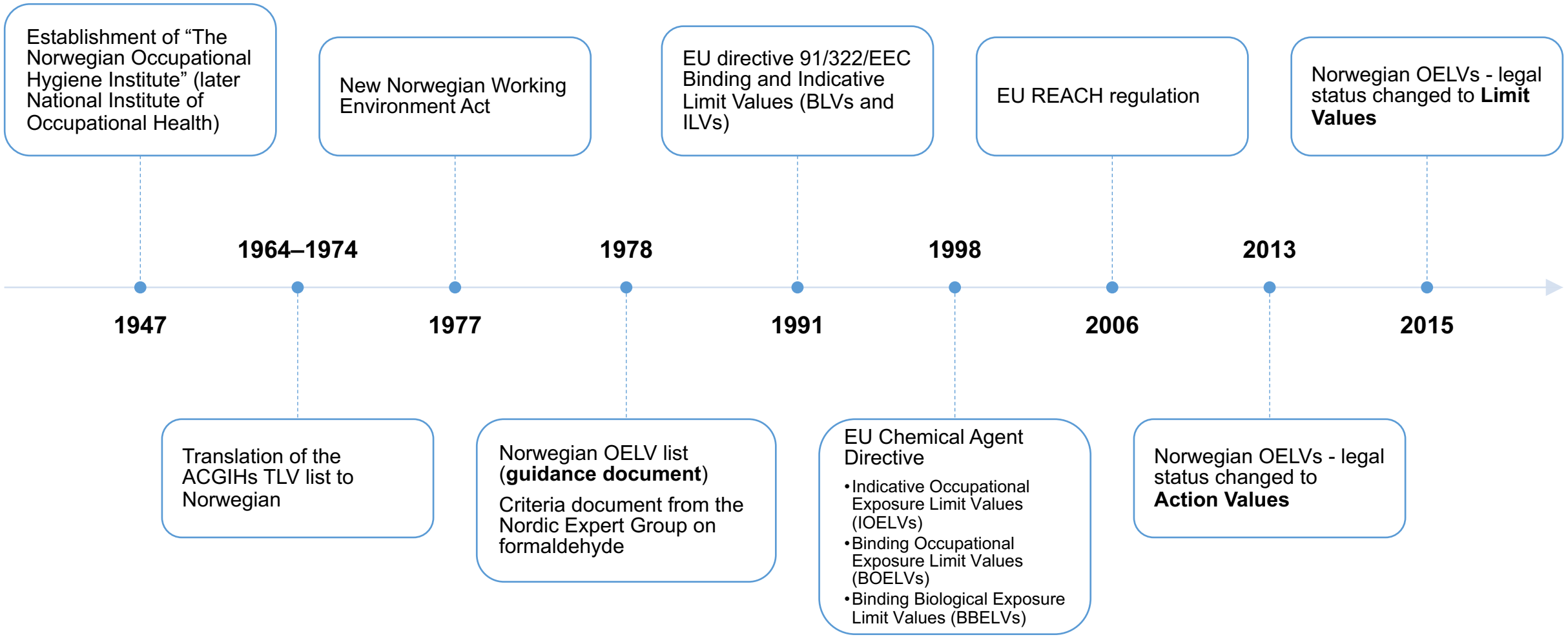
STATEMENT SLIDE

I have no conflicts of interest to disclose

Content

- Norwegian Occupational Exposure Limit Values:
  - Background
  - Revision practice
  - New OLEVs pr year
- Norwegian OELVs compared with the OELV index
- The global challenge regards the Quality and Number of OELVs

History of the Norwegian OELVs



Revision of the Norwegian OELVs

Substanses in the 1978 Norwegian OELV list with year of revision (n=489)

Revision year	1978	1979-99	>= 2000	Total
TWA 8h	219	135	89	443
Ceiling values	28	7	3	38
- *	9			9

⇒ 49% of the origin TWA 8h values have not been changed
⇒ 74% of the origin Ceiling values have not been changed

2021 Norwegian OELV list with year of revision (n=710)

Revision year	1978	1979-99	>= 2000	Total
TWA 8h	219	232	142	593
Ceiling values	28	13	3	44
STEL			61	61
- *	9	1	2	12

* Substances listed with notes without an OELV

Photo: Hans Thore Smedbold

⇒ On average 5 new OELVs pr year since 1978
⇒ 20% of the OELVs new or revised since 2000

COMPARISON of NORWEGIAN OELVs with Index OELVs

OELV index created based on the lowest value of the 2020/21 fullshift 8h German OELVs and the ACGIHs TLV.

Only substances with CAS no were matched (n=453).

Comparison of Norwegian OELVs with Index OELVs (n=453)

NOR vs Index	N	%
<	129	28
= (+- 5%)	168	37
>	153	35

Approximate 2/3 of the Norwegian OELVs were at the same level or stricter than the index OELV.

The review indicate that about 1/3 of the Norwegian OELVs need revision.

Photo: Articulate 360 content library

GESTIS - International limit values for chemical agents (OELVs)

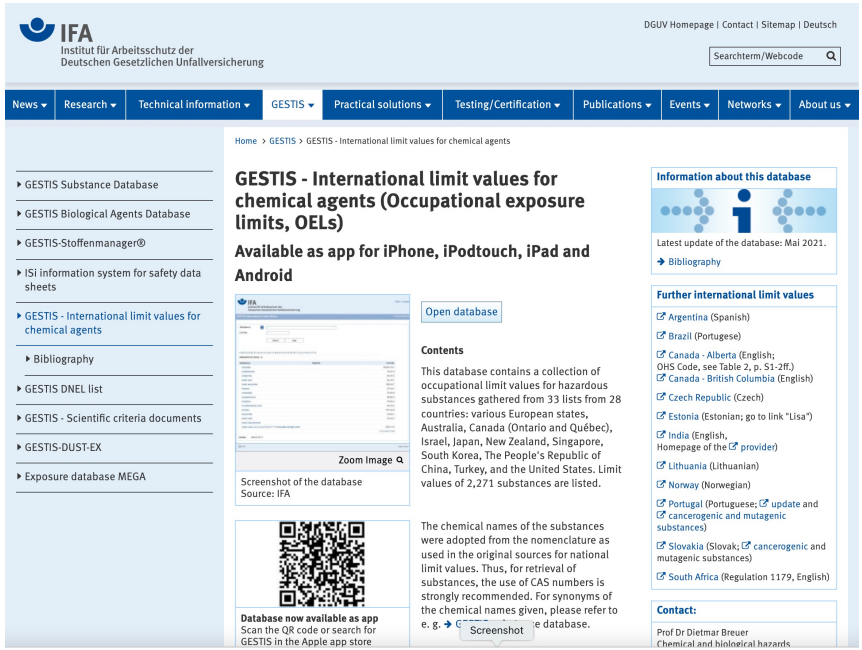
GESTIS ILV database contains a collection of occupational limit values for hazardous substances gathered from 33 lists from 28 countries: various European states, Australia, Canada (Ontario and Québec), Israel, Japan, New Zealand, Singapore, South Korea, The People's Republic of China, Turkey, and the United States

Limit values of 2,271 substances are listed.

Large variation between lowest and highest listed OELV for the same substances not uncommon.

SOME POSSIBLE REASONS:

- Year of revision
  - Changes in the criteria used
  - Changes in the knowledgebase
- Differences between counties setting the OELV
  - Data selection
  - Assessment of uncertainty
  - Influence of other factors than workers health
  - All workers vs healthy workers
- Different endpoints
- Different measurement and analytical methods
  - Sampling fraction of dust (total, inhalable, thoracal, respirable)



https://www.dguv.de/ifa/gestis/gestis-internationale-grenzwerte-fuer-chemische-substanzen-limit-values-for-chemical-agents/index-2.jsp

The GREEN SHIFT calls for swift development of new OELVs

Examples of new challenges:

- Increased use of nano technologies
- New battery technologies and energy carriers
- New technologies for CO_2 capture
- New and increased use of marine products

And some old challenges:

- Fumes from hot work (cooking, welding, fires etc)
- Aerosols (bioaerosols)
- Exposure to mixtures

Photo: Articulate 360 content library

CONCLUSION

To be able to protect the worker in a global market

We NEED to:

- Increasing the quality and the number of the OELVs
- Increasing the international cooperation regarding the OELV process
- Increase the enforcement of the OELVs

AND

START use GESTIS ILV and appley the most stringent OELV listed in your work

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