



Noise **MA**chinery **D**irective

The NOMAD project – checking of noise emission data
in the instruction of use of machinery

Two Pillars of EU Noise Control Legislation

EU Lisbon Treaty

Article 114

**Free movement of goods
Avoidance of trade barriers**



**New Approach Directives
setting essential safety
and health requirements
(ESHRs)**



**Machinery Directive
(2006/42/EC)
Presumption of conformity
by using of harmonized ENs**

Article 153

**Health and Safety
Minimum requirements**



**Directives to be adopted
and if wanted tightened
on national level**



**Physical Agents/Noise
Directive (2003/10/EC)
on the minimum health
and safety requirements**

Noise reduction in the EU

Machinery Directive (2006/42/EC)

- minimization requirement
 - noise reduction at source
 - construction of quiet machines
- information about remaining risks (noise emission)



Quiet machinery on the market

Physical Agents Noise Dir. (2003/10/EC)

- Risk assessment using emission values
- Choosing quiet machines and production methods
- Noise reduction on the propagation path (workspace) etc.



Less noise exposure for employees

EU product noise reduction concept

Noise reduction requirement
– Machinery Directive 2006/42/EC



1.5.8. Noise

Machinery must be designed and constructed in such a way that risks resulting from the emission of airborne noise are reduced to the lowest level, taking account of technical progress and the availability of means of reducing noise, in particular at source.

The level of noise emission may be assessed with reference to comparative emission data for similar machinery.

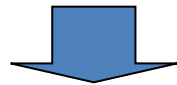
Machinery Directive 2006/42/EC

- Information about noise emission in sales literature

1.7.4.3. Sales literature

Sales literature describing the machinery must not contradict the instructions as regards health and safety aspects.

Sales literature describing the performance characteristics on machinery *must contain the same information on emissions* as is contained in the instructions.



Catalogues, brochures with specifications of machines have to provide information on noise emission.

Machinery Directive 2006/42/EC

- Information about the noise emission

Each instruction manual must contain, where applicable, at least the following information on airborne noise emissions:



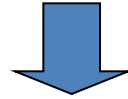
- **A - weighted emission sound pressure level (L_{pA}) at workstations**, where this exceeds 70 dB(A); where this level does not exceed 70 dB(A), this fact must be indicated,
- **sound power level L_{WA} emitted by the machinery** where the A-weighted emission sound pressure level (L_{pA}) at workstations exceeds 80 dB(A)
- **peak C-weighted instantaneous sound pressure value at workstations ($L_{pC,peak}$)**, where this exceeds 63 Pa (130 dB in relation to 20 μ Pa).

MD implicit EHSRs applying to all hazards

- EHSR 1.1.2b & 1.7.4.2l:
give information about residual risk
- EHSR 1.7.4.2k:
give instructions for safe use
- EHSR 1.7.4.2m:
**give instructions on protective measures e.g.
PPE**
- ...

„Outdoor“ – Directive 2000/14/EC

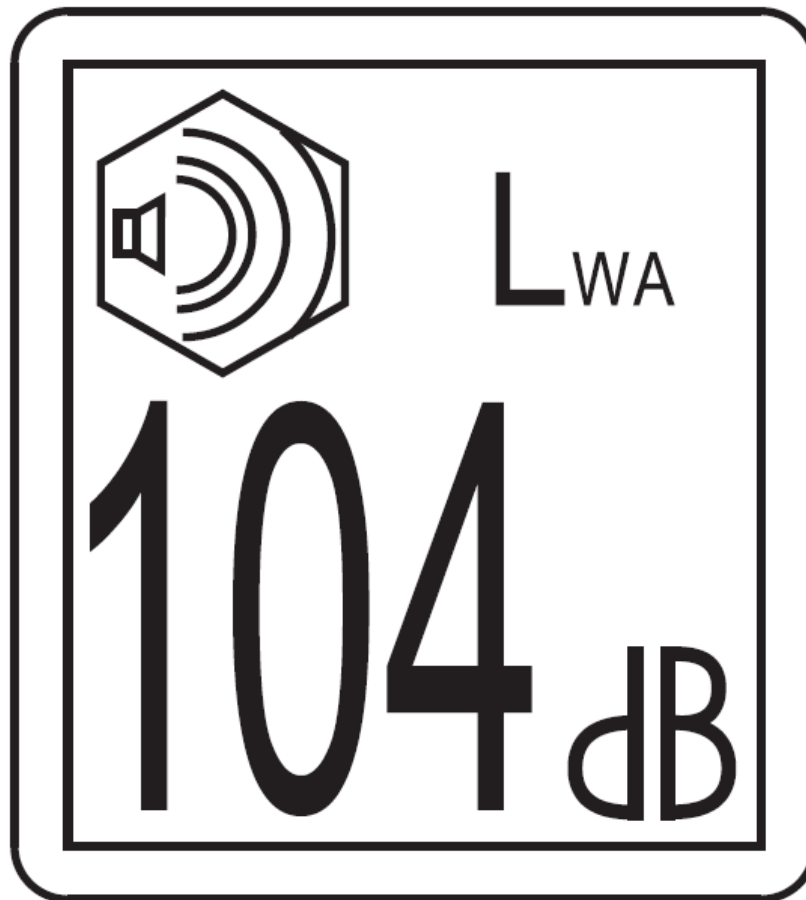
Environmental noise



„Outdoor“ – Directive 2000/14/EC

- it deals with the noise emission of machines normally used outdoors
- it sets limits on the noise emission that means for the sound power level of about 22 families of machines
- it requires to mark these and additional 39 families of machines with the guaranteed sound power level affixed on the machine's case

Noise emission labelling to comply with the requirements of the „Outdoor“ - Directive



NOMAD purpose

NOMAD is a survey

- to examine the **noise-related** content of machine instructions supplied with machinery in the European Economic Area (EEA)
- of machine instructions offered to purchasers to allow the selection of quiet machines on the market
- to determine compliance with the requirements of the Machinery Directive
- assess the instructions quality of information on noise

MD & Directive 2000/14/EC

- **For machines used outdoors 2000/14/EC supersedes the MD for what regards the sound power level (see Annex E of Report)**
- **NOMAD is a MD survey but some results relating to 2000/14/EC have been derived**

NOMAD collaboration

Collaboration between 14 Member-States

represented in the Steering Committee

- **Finland**
- **France**
- **Germany**
- **Poland**
- **Spain**
- **The Netherlands**
- **U.K.**

not represented in the Steering Committee

- **Cyprus**
- **Denmark**
- **Ireland**
- **(Italy)**
- **Lithuania**
- **Norway**
- **Romania**

Management

**NOMAD
STEERING COMMITTEE**
(7 countries)



NCP
National Contact Persons
1 per contributing country in charge of
managing NDPs and checking their inputs



NDP
National Data Providers
in charge of collecting manuals and filling up a
question-set in national language (see Annex F)

NOMAD STEERING COMMITTEE



NOMAD in figures

- **14 Member-States with various levels of involvement**
- **Total duration: 4 years (2008 to 2012)**
- **Time consumption: at least 12 000 hours including 4 000 hours spent by INRS team**
- **More than 1 500 manuals collected covering 40 broad families of machines from 800 different manufacturers**

Key result

80%

of instructions observed did not comply with the noise-relevant EHSRs of the Machinery Directive



The general state of compliance of machinery instructions with the noise-related requirements of the Machinery Directive is therefore

very poor.

Key results in detail

- **35%** of instructions: not compliant, unusable
- **45%** not compliant but some correct information
- **16%** information correct and understandable
- **4%** information correct and very clear

Other key results I

- **15%** of instructions contained no information on noise at all
- **39%** did not contain all required numerical values
- **8%** were not in the official language of the country
- **No significantly different results between**
 - countries
 - machinery families

Other key results II

- **No significantly different results for Annex IV and non-Annex IV machines**
- **No significantly different results between machines covered by MD and by both MD & 2000/14/EC**

Results pertaining to 2000/14/EC

30% (458) of collected instructions were for machines covered by both the MD and 2000/14/EC



- **20%** of them had no value of sound power level in the instructions
- **17%** had no reference made to the MD and no emission sound pressure level given in the instructions

Main reasons for failure

Non-compliant instructions failed due to one or more of the following reasons:

- Quantitative data missing
- Poor or no traceability of noise emission values to a measurement method and operating conditions
- Lack of credibility of noise emission values
- Lack of residual risk information
- Incorrect noise terminology

Consequences

- **in making a machinery procurement decision, employers are prevented from:**
 - **taking noise emissions into account**
 - **understanding what is necessary to manage the risks from noise relating to equipment that is procured.**
- **numerical values given are:**
 - **not traceable to machine operating conditions or measurement methods**
 - **not credible against stated conditions/methods or as warnings of likely risk in real use.**

Recommendations to ADCO I

ACTION	PLAYERS
Wide information, promotion and enforcement campaign aimed at machine manufacturers	Machinery ADCO Member-States EC
Wide information and promotion campaign aimed at machine users and the Occupational Safety and Health (OSH) community	National OSH organizations/ institutes EU-OSHA Bilbao

Recommendations to ADCO II

ACTION	PLAYERS
<p>Drafting of guidance documents, each specific to a machinery family, called</p> <p>“How to draft the noise contents of instruction manuals”.</p>	<p>Member States</p> <p>National OSH organizations/institutes</p> <p>Machinery manufacturers associations</p> <p>CEN/CENELEC machinery safety TCs</p> <p>CEN/CENELEC noise consultants</p>

Recommendations to ADCO III

ACTION	PLAYERS
<p>Setting up of a database for published harmonized noise test codes.</p>	<p>Machinery ADCO</p> <p>CEN-CENELEC Management Centre (CCMC)</p> <p>CEN/CENELEC noise consultants</p>
<p>Actions concerning the standardization system.</p>	<p>CCMC</p> <p>National Standardization Bodies</p>

Recommendations to ADCO IV

ACTION	PLAYERS
Targeted market surveillance campaigns	Machinery ADCO Member-States EC
Training of market surveillance personnel	Machinery ADCO National labour inspectorates
Clarification of the duties regarding noise emission of Notified Bodies for Annex IV machines	Machinery ADCO Notified Bodies under 2006/42/EC

European market and Member state market surveillance against global players

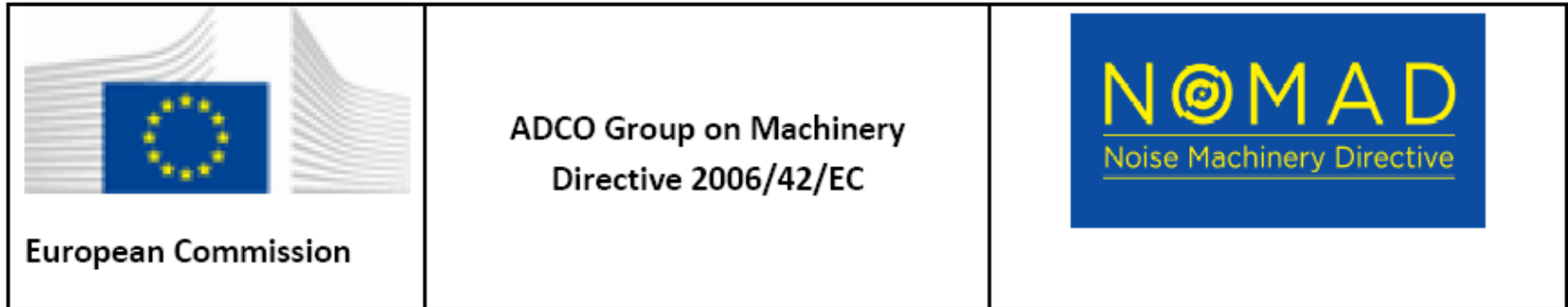
The effectiveness of corrective measures implemented at national level will be reinforced if Member-States

- **share their views and ideas**
- **bring as far as possible coherence and synchronization in their actions.**



Installation of an ADCO NOMAD Working Group, succeeding NOMAD Steering Committee

ADCO – Machines open Workshop on the NOMAD survey



Headline:

„Quiet machinery – Higher competitiveness and better health“

Date: 18.June 2013

Venue: La Plaza Hotel, Brussels

A joint objective of workshop:

“To help all stakeholders, in particular the machine manufacturing industry, do things right”

Guidance to manufacturers

- **Will be as much as possible based on Internet: a flow chart with hyper links**
- **Need to find a host: the EC web site? With links to it offered on websites of ministries of labour, OSH organizations, manufacture associations ...**
- **A still open question, how shall we consult manufacturers on the draft guidance?**

Other tasks ahead

- **Drafting a guidance for buyers & users**
- **Set up a “noise test codes” data base identifying precisely the machines covered by each code (to be seen within the EC policy of data base making?)**
- **Drafting a training module for Market surveillance personnel and labour inspectors (within the frame of the upcoming new package?)**

Thank you for your attention !

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