



CENELEC and IEC perspectives

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Sound pressure requirements for PMP's Short summary



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Introduction

- 2008: SCENIHR report

Scientific Committee on Emerging and Newly Identified Health Risks

Potential health risks of exposure to noise from personal music players and mobile phones including a music playing function

[SCENIHR report on PMPs](#)

- EU workshop on the subject in January 2009

At that time, CLC/TC 108X had already started working on the subject in a newly established WG 03

- Scope of TC 108

Standardization in the field of safety for audio/video and similar technology, information technology and communication technology equipment

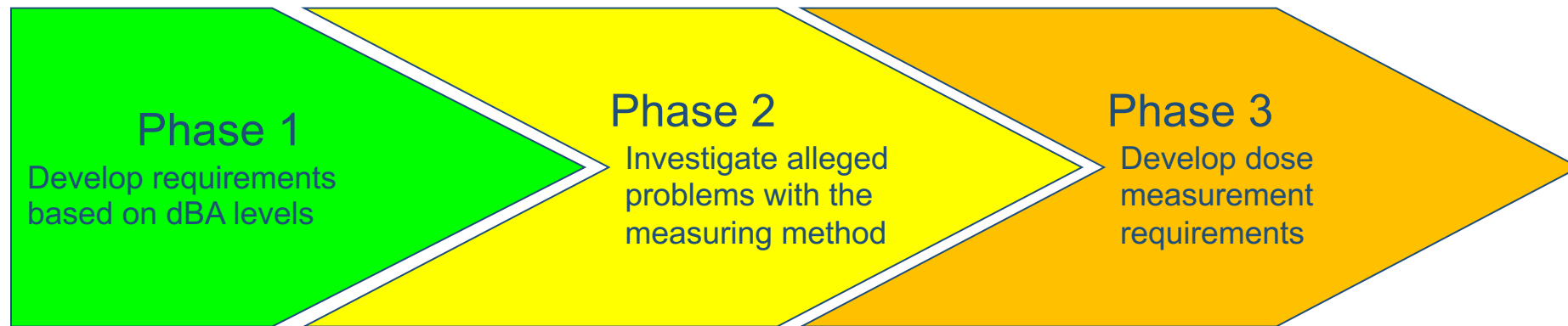
Standards concerned

- IEC/EN 60065
Title: Audio, video and similar electronic apparatus - Safety requirements
- IEC/EN 60950-1
Title: Information technology equipment - Safety -- Part 1: General requirements
- IEC/EN 62368-1
Title: Audio/video, information and communication technology equipment – Part 1: Safety requirements
- EN 50332-1 and EN 50332-2
Maximum sound pressure level measurement methodology

Phases



CLC/TC 108X/WG 03 decided to work in different phases:

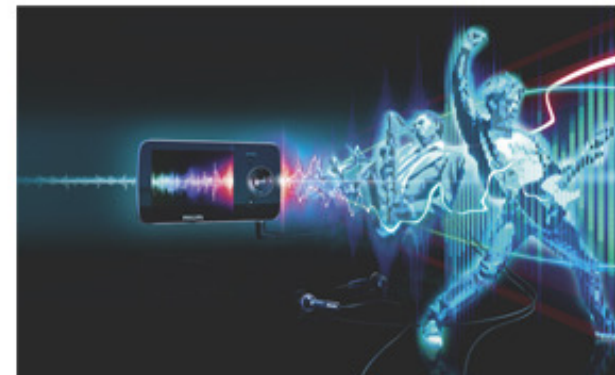


All these phases have been finished.

Phase 1 status

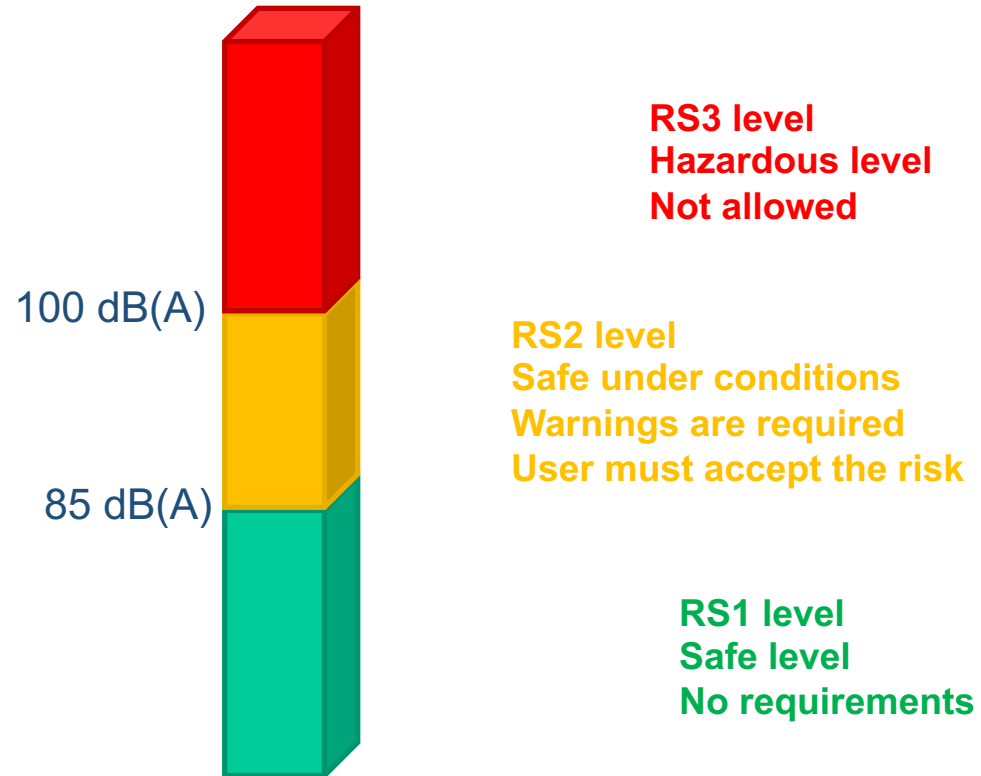
Updates to both EN 60065 and EN 60950-1

- Both updates were published in January 2011
- In both standards published as A12
- Short DOW 2 years => January 2013

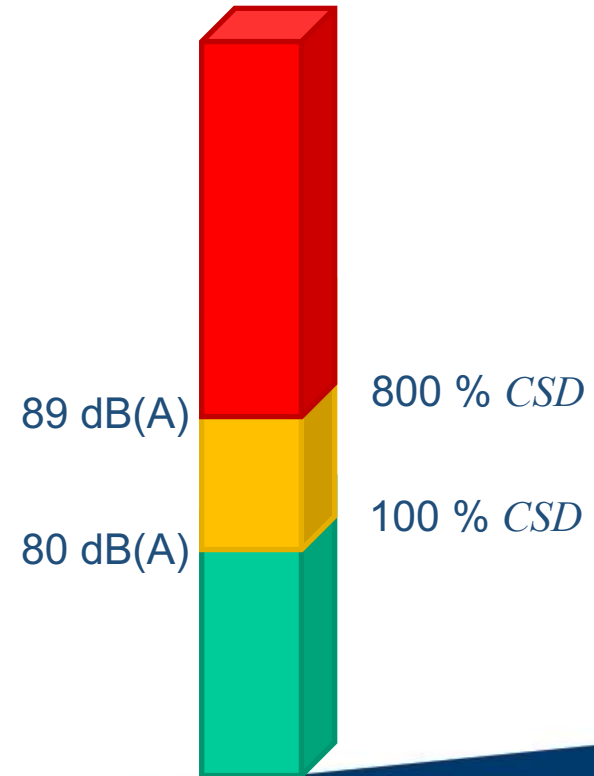


Comparison of Phases 1 and 3

Maximum exposure

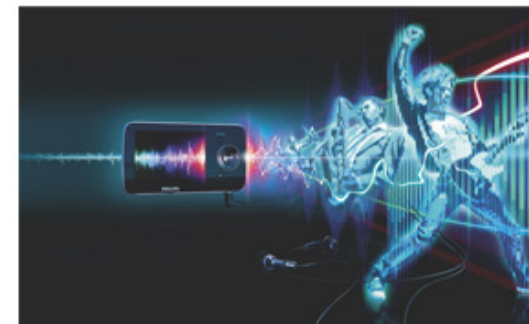


Dose measurement



Situation in IEC and CLC

- IEC had decided not to update IEC 60065 and IEC 60950-1 on this subject. IEC 62368-1 has replaced both standards in mean time.
- IEC 62368-1:2014 (edition 2) has the requirements of phase 1 and 2 implemented, see clause 10.6
- IEC 62368-1:2018 (edition 3) has the requirements of phase 3 (dose measurement) implemented as an alternative.
- No change in IEC 62368-1:2023 (edition 4). In respective EN 62368-1, dose based is preferred



Summary and conclusions

- Both IEC and CENELEC have mandatory requirements in place for PMPs
- No need for other competing standards for PMP's
- Additional requirements outside TC 108 scope are welcomed.
- Further work is being done in CLC/TC 108/WG 03 (see presentation Thomas Lund, chair of WG 03)



EN 62368-1 Status

Safety requirements to be met by European standards for personal music players

Thomas Lund

WHO/ITU-T Q28/16 Rapporteur Meeting • 9 June 2023



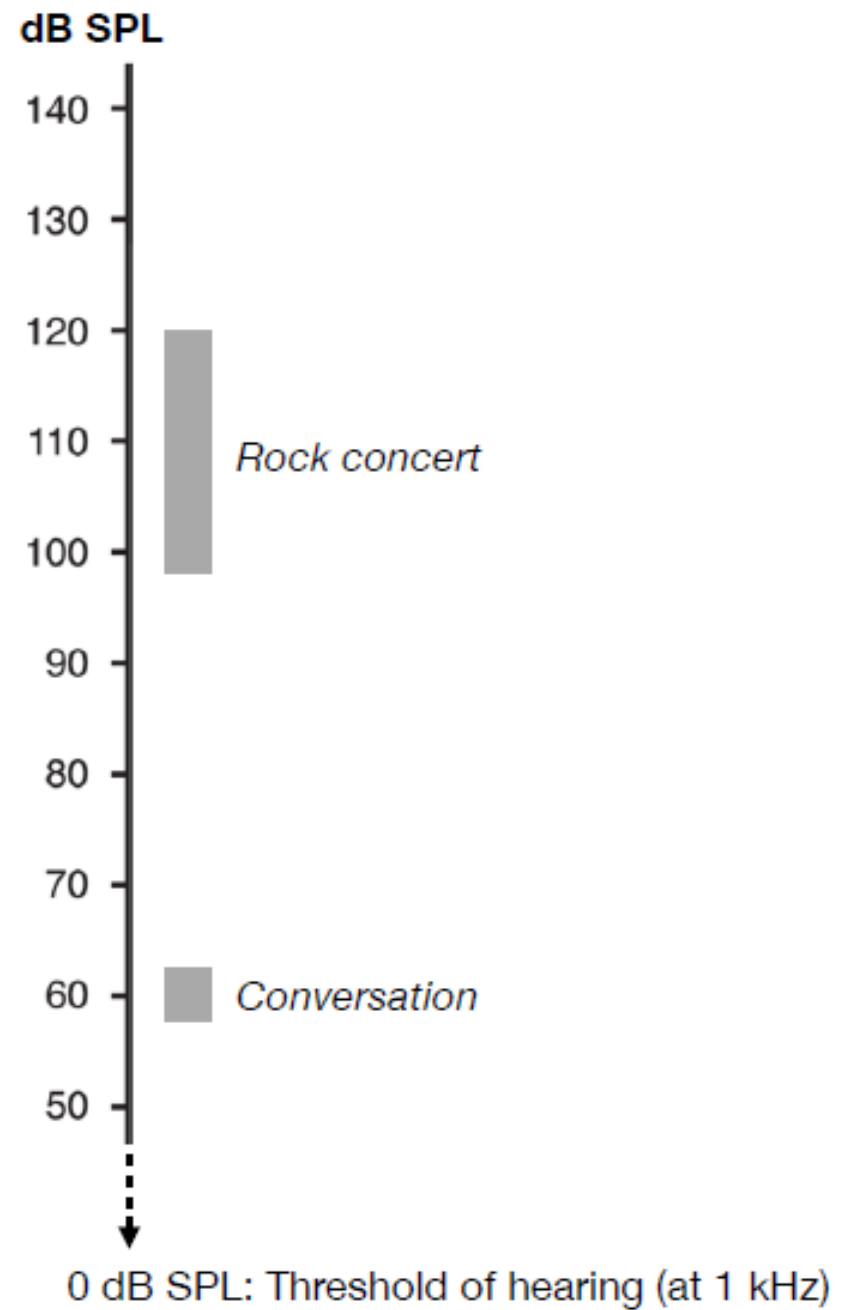
CEN and CENELEC



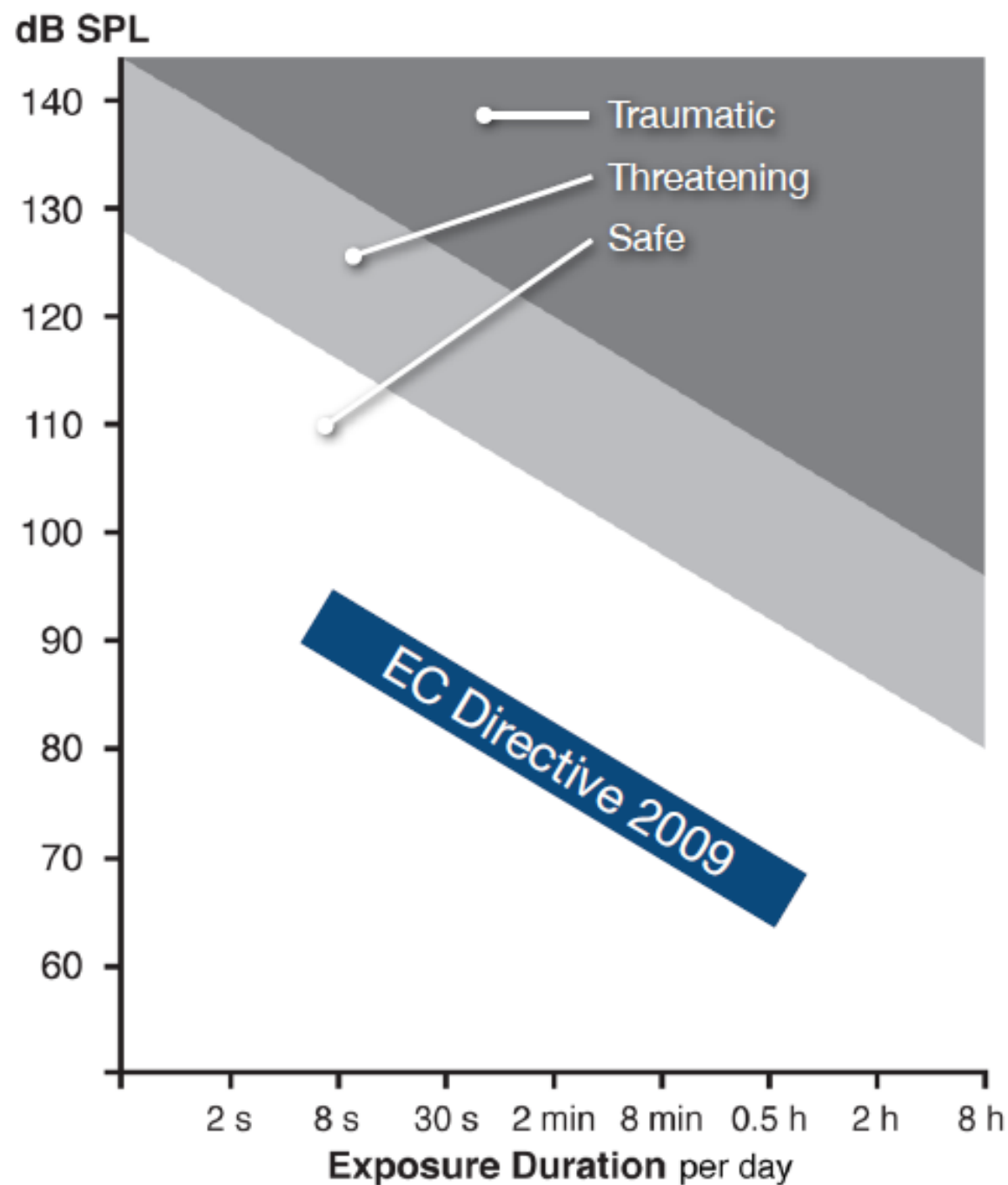
are international non-profit associations. They are officially recognized as European Standardization Organizations.

After the publication of a European Standard, each national standards body is obliged to withdraw any national standard which conflicts with the new European Standard. Hence, one European Standard becomes the national standard in all the 34 Member countries of CEN and/or CENELEC.

Sound pressure is a
measure of sound **power**

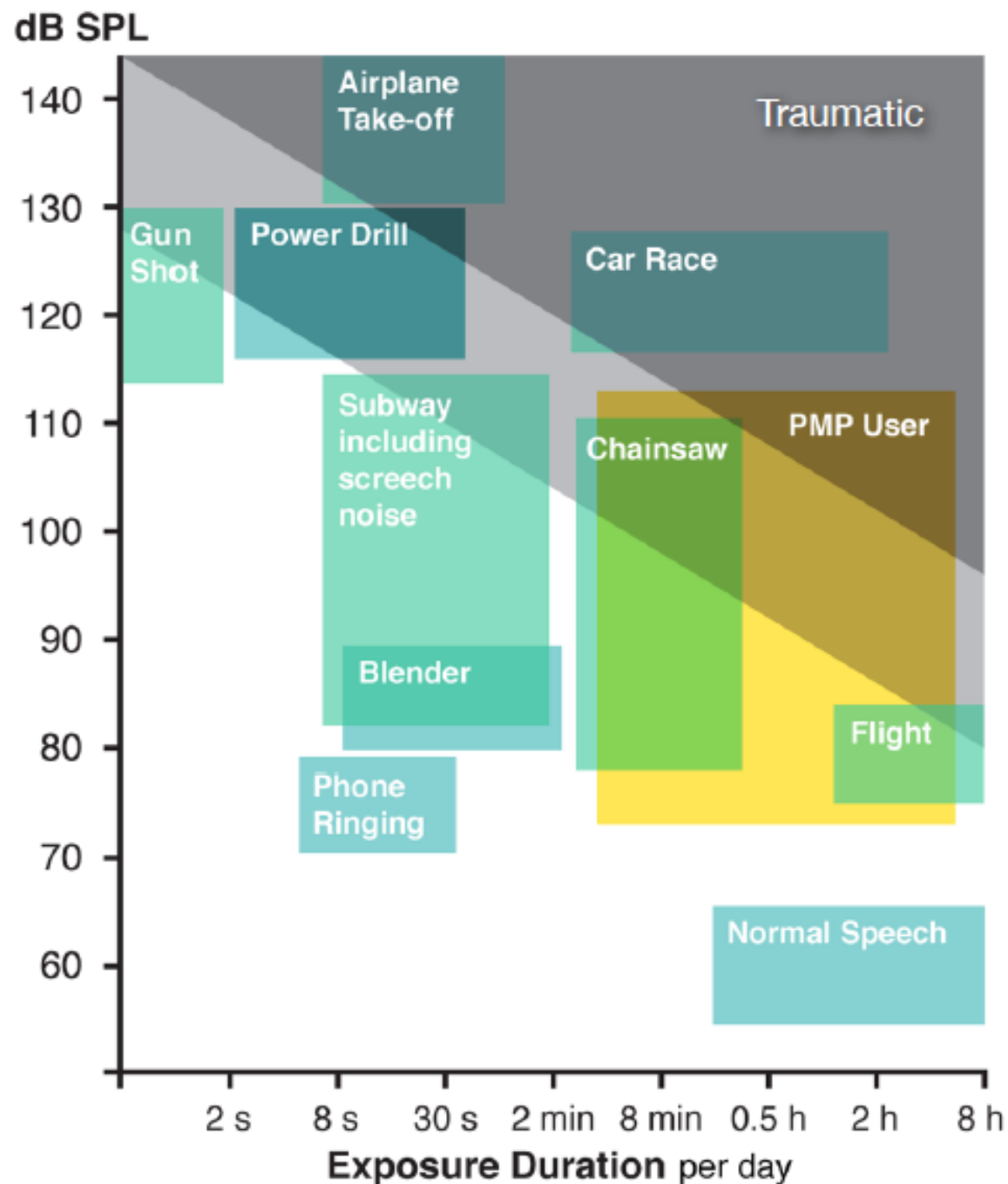


Sound **energy** needed to estimate risk of hearing damage



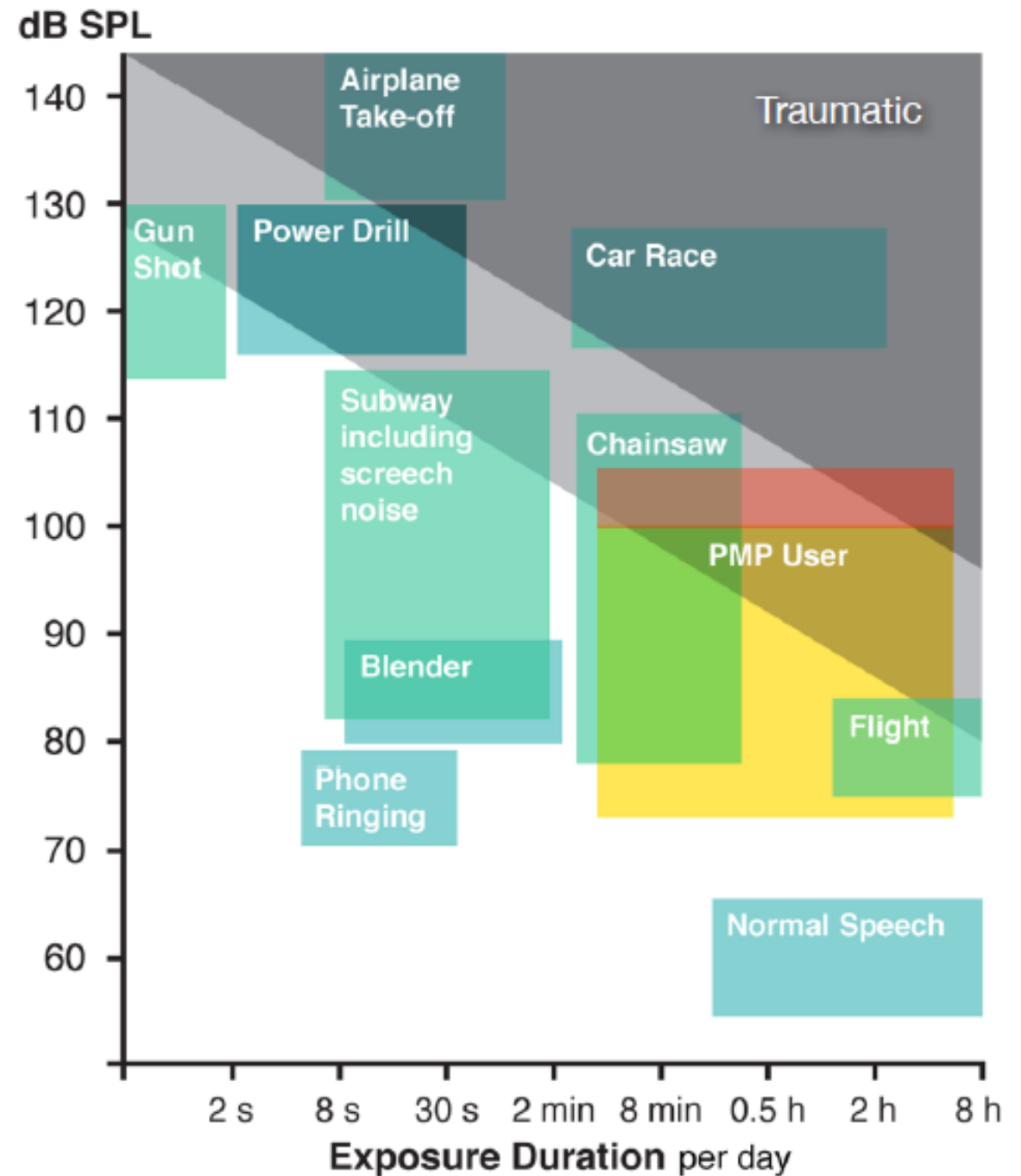
PMP listening by ordinary user

Before any EN requirements



PMP listening by ordinary user

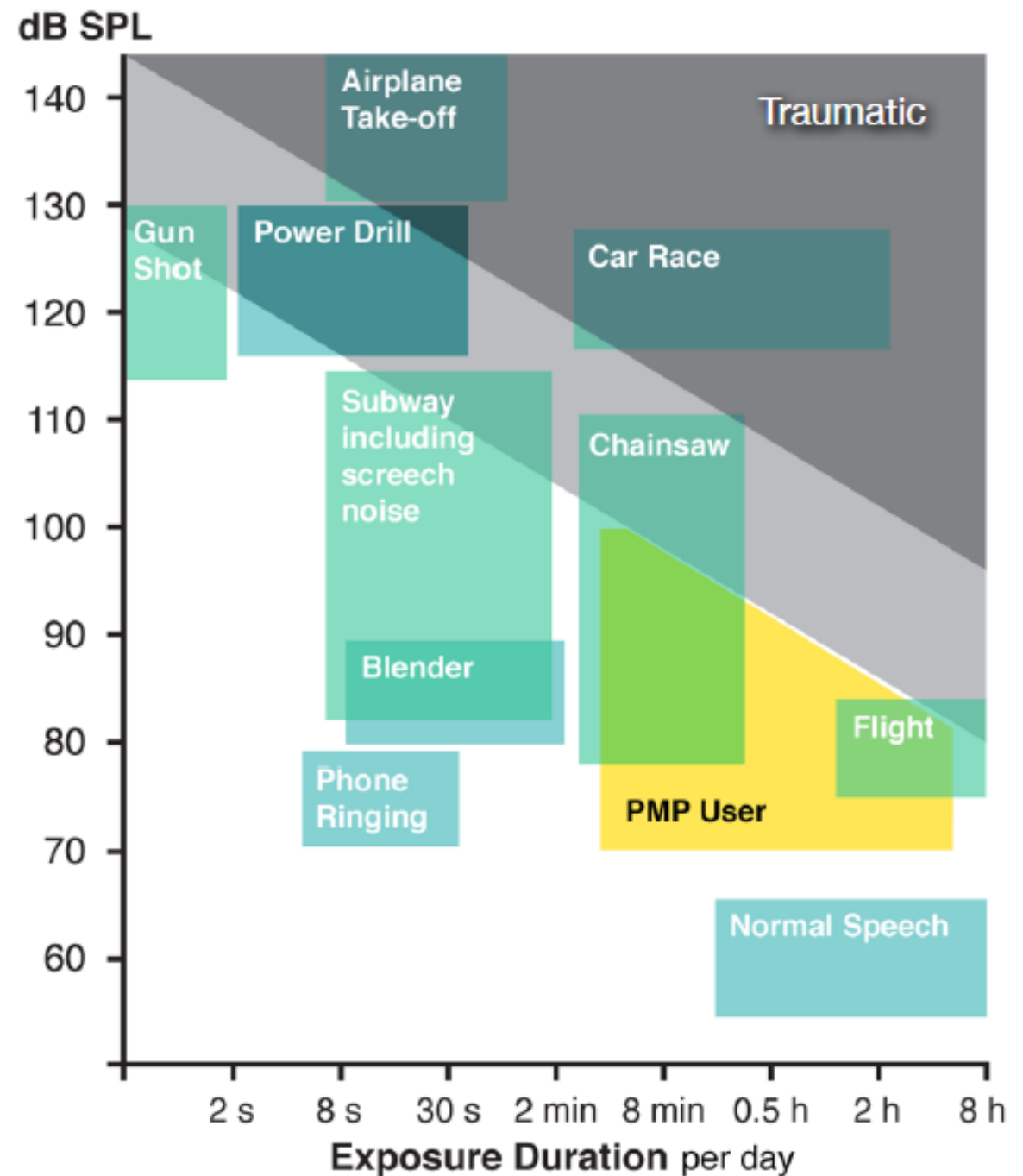
After the first EN requirements,
i.e. gain capping, explained by
Jos Remy



PMP listening by ordinary user

With current sound exposure
requirements

Now an option, but sound exposure
estimation will be the **only** way to
comply, come the next revision



Requirements for dose-based Systems

System thinking has been pervasive in WG03 work for >10 years.

Handshaking between devices is a prerequisite for user friendly dose estimation requirements, instead of dumb gain capping.



Wireless in-ear, on-ear or around-ear devices are sophisticated, and naturally part of a *system*.

Work currently ongoing. Expected conclusion by this year.

References

EU Commission (2009). *Decision of 23 June, 2009. On the safety requirements to be met by European standards for personal music players*

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B. Gourévitch et al. (2014). *Nature Neuroscience. Is the din really harmless? Long-term effects of non-traumatic noise on the adult auditory system*

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CENELEC EN50332, IEC/EN 62668-1

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