

SBS Study

Criticalities for lift SMEs in
the application of standards
EN 81-20 and *EN 81-50*



2023



Small Business Standards (SBS) is the association representing and defending Small and Medium-sized Enterprises (SMEs) interests in the standardisation system at the European and international levels. Its 22 members are national and European sectoral and interprofessional associations representing around 20 million SMEs in Europe.

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EFESME, the European Federation for Elevator Small and Medium-sized Enterprises, is the European SMEs voice in the lift industry, representing and defending at EU level the interests of SMEs operating in the lift business.

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Introduction

The current study aims to **investigate the difficulties and criticalities encountered by European lift SMEs in applying the following standards** in recent years:

- **EN 81-20** - *Safety rules for the construction and installation of lifts* - Lifts for the transport of persons and goods - Part 20: Passenger and goods passenger lifts
- **EN 81-50** - *Safety rules for the construction and installation of lifts* - Examinations and tests - Part 50: Design rules, calculations, examinations and tests of lift components

These two standards are the main ones at European level for the lifts sector. It would therefore **be desirable to have an instrument**, in this case the result of the study, **to enable SBS and EFESME**, given their role and commitment to European lifts SMEs. This would **provide the necessary information to intervene effectively** with both the Commission and CEN-CENELEC, **addressing and remedying the identified problems and criticalities** to the maximum extent possible.

The criticalities in the application of the [Directive 2014/33/EU on the harmonisation of the laws of the Member States relating to lifts and safety components for lifts - “Lifts Directive”](#) and the standards derived from it, focus mainly on the **availability of tools and instructions at the installation**. This a well-known problem in the European lifts sector: often, **neither tools nor instructions can be found at the installation**, as required firstly by the Directive and secondly by current standards. The national market surveillance bodies, starting with the notified bodies, should solve any problems with the lack of these elements.

Unfortunately, lifts SMEs involved in maintenance have struggled due to a **lack of tools and instructions**, encountering issues in applying the Directive. To assess the impact on these SMEs, EFESME and its experts created an online questionnaire in four languages. Through the EFESME national members' network, the survey engages European lift SMEs, allowing them to express challenges in applying specified standards. Key study questions include **identifying discrepancies** in applying the Lifts Directive, noting shortcomings in the post-installation phase, and pinpointing gaps compared to the Directive text. The study aims to **provide clear information** for SBS and EFESME intervention, offering **practical solutions** for challenges faced by European lift SMEs.



Objective of the SBS Study

The objective of this study is to collect feedback from SME lifts manufacturers in Europe regarding the **problems encountered in the implementation of the Directive** and to clarify what **deviations from the Lifts Directive and from current standards SME maintenance companies encounter daily**. To do so, it was decided to focus the study and its questionnaire on the difficulties in the application of standards EN 81-20 and EN 81-50, the main European standards in the European lift sector.

From the discussions already held over the years with lifts SMEs, their representatives, and their experts, including in working groups, it is known that market surveillance on this issue is rather weak. **The survey proposed here therefore aims at being a vital tool to highlight this issue and raise the awareness of the stakeholders involved** (European Commission, ESOs, notified bodies, ...), **to provide a factual and informed basis on which to intervene in a future on the problem**.



Impact on European Lift SMEs

This study is also intended to have a practical and useful impact on SMEs and the various stakeholders both involved in the response phase and recipients of the study. As such, its positive impact (both on the immediate term and on the long time) affects several actors, and is important for:

- Lifts SMEs themselves, which would have **a tool to explain their point of view and difficulties** on access to tools and instructions, and to provide fact-based information useful to the experts involved.
- The experts representing them, who could count on **a greater and more detailed knowledge** of the issue, based on the results of this study. This would mean **having more information and an even more factual basis for taking action where necessary** to improve the situation and alleviate this difficulty of access – i.e. during the revision of the standards to make them more SME-friendly;
- The Commission and the standardisation organisations involved. To have such a study in hand would mean having **evidence of a problem with the application of two standards**

that are fundamental to the industry, and to be aware of sound reasons for ensuring that, **with the revision of the standards, these problems are duly addressed and not ignored.**

The general objective, common to all three categories of stakeholders listed here with their specific focuses, is therefore to gain a better knowledge regarding the issue of tools and instructions, on which to base activities within the WGs concerned.

Methodology applied

To facilitate the participation of European lifts SMEs, the EFESME experts designed the questionnaire to be **absolutely within the reach of small and medium-sized enterprises**, with concise and targeted questions developed by lift experts with strong SMEs background and experience, in order to gather all the information needed for the study without taking up too much of the SMEs' time. Similarly, **technical language was used where necessary, to encourage the surveyed lift SMEs to express themselves** within a context and with terminology they are familiar with.

In order to carry out this study and collect answers and opinion, **the EFESME team contacted the main and largest European markets where the largest number of SMEs active in the lifts sector can be counted** (France, Germany, Italy, and Spain), as well as other smaller, but no less important, national realities. This was through the **EFESME member network, which represents 14 EU member states** including the largest markets mentioned above, via several communication means: specific and targeted emails, online posts on EFESME's social media accounts, and via a newsletter.

The results are hereby published in this final report, written with a technical approach but in comprehensible language so that it is accessible to all readers. The report **collects all the information on the difficulties encountered in the application of the Directive and the standards**, to provide all stakeholders with a document bringing together all the information gathered, **a useful tool to tackle the problem in the near future**. In case of interest, translations in foreign languages could be considered in the future.

Find here below a **detailed breakdown of the methodology used** by the EFESME Team.



1. Identification of the problem in the sector

The EN 81-20 and EN 81-50 standards are the two main standards for the European

lifts industry, and consequently among the most widely used tools for all stakeholders to work in the sector.

Over the years, and also within the many activities developed with SBS, **several issues**

have emerged in their application with regard to the daily work of small and medium-sized enterprises in the sector. Specifically, **the accessibility of standards is not always easy, while their understanding and awareness are key points in the work of lift SMEs.** Nevertheless, **the problem of accessibility to special tools and operating instructions** (now exacerbated by the growing digitalisation of the sector), **has always been present over the years.** This is a topic on which EFESME, with the full support of SBS, has been steadily working to provide with information and solutions.

By talking to the European lifts SMEs that EFESME represents and that SBS supports, talking to their technicians, and organising events to train and inform them, a common, underlying problem became clear, and is now the subject of this study: **there are critical issues in the application of the two main standards in the sector, EN 81-20 and EN 81-50.** Such criticalities must be recognised and explained, in order to have a scientific and factual basis on which to base all future activities of EFESME, SBS and their experts in this field, and with regards to European stakeholders, starting with CEN-CENELEC and the European Commission.



2. Analysis of the problem with EFESME's technical experts

EFESME's technical experts, having themselves a solid background and long experience in the lifts SME sector as technicians or entrepreneurs, gathered the

information received from their colleagues and their SMEs. **The study presented here, is the result of years of effort and investigation into the EN 81-20 and EN 81-50 standards,** as well as direct participation in their drafting and revision.

Having identified the problem as *'What are the critical issues in the application of these two fundamental standards'* and circumstantiated it, the Team then moved on to its analysis. It was therefore possible to rely on the direct and involved approach of several technicians who habitually deal with the standards themselves. **This made it possible to identify, what are the crucial points to be analysed in this study. The same analysis determined the choice of using a dry, multiple-choice questionnaire as the best tool to involve SMEs** and get their detailed point of view, corroborating what had already been heard and discussed over the years.



3. Questionnaire development

The questionnaire was developed by EFESME's team of technical experts - with their background from the world of small and medium-sized enterprises, **the experts developed the questionnaire in such a way that it was easy to understand and quick to answer,** so that SMEs do not spend too much time taking away from their work, and instead encourage them to give their opinion through a quick and immediate tool.

For this reason, the questionnaire meets the following characteristics and requirements:

- Multiple-choice questions, in order to avoid lengthy written answers
- Questions rated from 1 to 5, with equally quick response
- Questions grouped by topic, so as to go into detail
- Maximum completion time: 6 minutes

The questionnaire was then distributed to all the EFESME members and to its Swiss SME observer (as the Swiss market is integrated into the European lift market and is associated with the CEN, its SMEs might be encountering criticalities too when applying standards EN 81-20 and EN 81-50). Furthermore, in order to get more responses and to involve European SMEs, the questionnaire was also sent to the **various EFESME mailing lists, to European and international sectoral newspapers, and shared on the Federation's social media.**

However, **the strongest dissemination and distribution action was done via e-mail**, contacting the various EFESME members.

It is notable and somewhat to be expected that **most numerous answers came from those European countries and EFESME members where the lifts market is larger and more regulated**, and where the national lifts SME associations are well organised and present on the territory – **Italy and Spain**, As can be seen from the experts' analysis of the answers to the question on geographical origin.



4. Collection of contributions

Once the contributions sent by the national members had been collected, the EFESME experts compared the information received to verify:

- How many of the consulted EFESME members responded and from where;
- What are the most critical points among those identified;
- Which complementary rules cause the most difficulties/are less known;
- What is the level of knowledge of the two main standards under study;
- What are the main issues with instructions for use, special tools and their availability on site.

These are only the main aspects analysed by the experts in the first instance, who then went into detail in analysing the responses obtained.

The questionnaire was open and available to SMEs from 10 October to 17 November, to give them enough time to respond, and for EFESME to collect as many answers as possible.



5. Analysis of the answers obtained and comparison of the results of the questionnaire

Based on the nature of the questionnaire and the type of responses received, collected in a practical Excel table, **the experts decided to group the questions by theme, so as to be able to create explanatory graphs that could best explain similar situations.**

Starting from this practical assumption, **the team analysed the results in order to obtain**

clear and concise conclusions, so as to be **perfectly understandable and accessible** to both the informed reader and the more casual reader with a lesser understanding of the topic. **The technical language was respected and used, without however falling into the use of very specific technical terms** known only to those who are directly and actively involved in the world of standards development.

For the reader's convenience, **the questions that were grouped together are listed at the beginning of each short analysis**, so that reading is simple and straightforward without having to constantly refer to the text of the questionnaire.

The questionnaire as a whole in English is available in the *Annex I - Questionnaire*, at the end of the study. It also available online in the other three languages (French, Italian, Spanish) [HERE](#) – to change the topic, please use the drop-down menu in the top right-hand corner.

The comprehensive table containing the numerical results of the questionnaire can be found in *Annex II - Table*, again at the end of this document.

its language and in its content – to every type of reader, for example:

- The European institutions
- Standards bodies
- Notified and control bodies
- SMEs and their technical experts

With its conclusions, this study therefore aims to provide, practical, factual and scientific information on what the real difficulties of European lifts SMEs are in applying the EN 81-20 and EN 81-50 standards in their daily activities. It aims to be the basis for future discussions with institutions and bodies involved in each level of European standardisation to provide them with a solid factual basis to work on. It also aims to be a tool so that other European lifts SMEs, which perhaps have not had the opportunity to respond, can recognise themselves in this study and provide more and more examples to present to the European institutions and to all the relevant standardisation actors.



6. Development and finalisation of the conclusions

The experts finally finalised the analysis of the responses received in order to draw their conclusions. As previously mentioned, **the document aims at being accessible** – both in

Mathematical and numerical interpretation of the results obtained

To analyse the results and define the trend, a value was assigned to each answer ranging from 1 to 5 (lowest to highest). The following method was used to determine the final score for each question:

No. of answers with value $i = n_i$

Answer value = i

Score = $\sum n_i \cdot i$ (with $1 \leq i \leq 5$) \rightarrow Score = $n_1 \cdot 1 + n_2 \cdot 2 + n_3 \cdot 3 + n_4 \cdot 4 + n_5 \cdot 5$

All answers with the value 'null' were discarded when calculating the score.

This score is compared with the reference score for each question, which is obtained by multiplying the total number of valid answers (thus excluding those with a 'null' value) by the mean value (equal to 3).

Null value answers = n_{iTOT}

Reference score = $n_{iTOT} - 3$

In this way, **it was possible to group the answers according to the respective questions in order to be able to analyse them qualitatively** with respect to the deviation from the mean value and to draw conclusions.

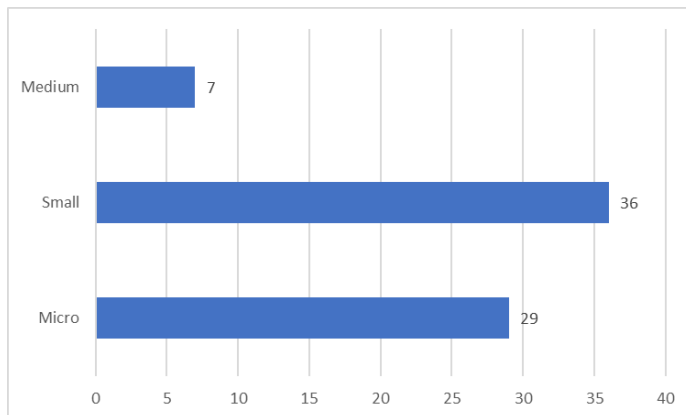
The values of the answers and their scores are summarised in the table at the end of the document, in the *Annex II - Table*.

Analysis of the results

As said in the methodology section, **the questions were grouped by theme**, in order to create explanatory graphs that could best explain similar situations. The questions that **were grouped together are listed at the beginning of each short analysis**, so that reading is simple and straightforward without having to constantly refer to the text of the questionnaire.

1. Select from the following options the one that best describes your company with regard to the number of employees:

- 1.1 From 0 to 9 (micro enterprise)
- 1.2 From 10 to 49 (small enterprise)
- 1.3 From 50 to 249 (medium enterprise)



Analysis of results

The size of the companies reflects the situation in the lifts SME sector, also considering that most of the responses come from Italy (see point 2) where the preponderance is of micro-small companies.

2. Where is your company based?

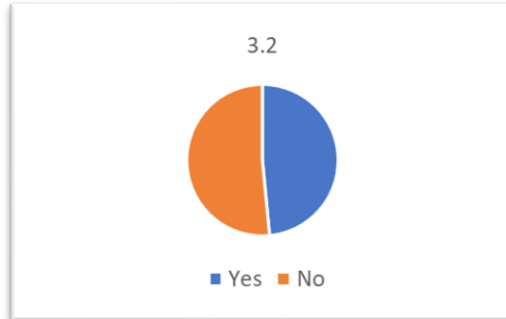
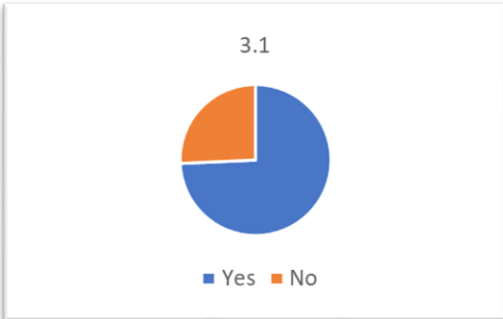
The relative highest number of responses came from Italy and Spain. Probably, this is due to the fact that these are the countries where the national lifts SMEs associations have a greater presence and are more active towards their members.



3. Within your company, who follows the technical/regulatory aspects?

3.1 Is there a technical department or a dedicated person within the company?

3.2 There is no real technical department, it is the owner who follows them directly?



Analysis of results

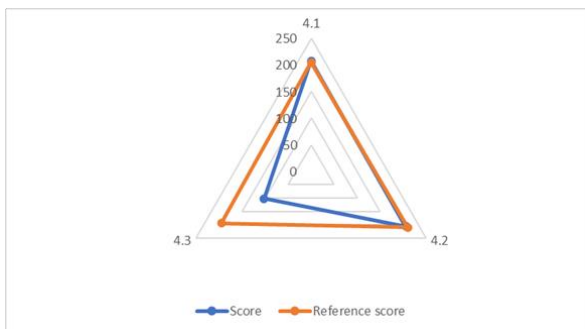
In all lifts SMEs, technical aspects relating to regulations are considered fundamental, so much so that in the vast majority of companies there is at least one person dedicated to this activity. In smaller companies (but not only) it is not uncommon for the owner to deal directly with these aspects, highlighting once again that the sector has a strong technical imprint and regulatory aspects are considered strategic.

4. What is your standard channel for regulatory updates?

4.1 Via courses organised by the national SME association

4.2 Through courses organised by others (suppliers, other associations, etc.)

4.3 We do not do any, we rely on a design studio/consultants as needed



Analysis of results

On average, lifts SMEs rely both on courses organised by the associations and on courses organised by other parties (especially suppliers, cross-referencing the results with the previous question), whereas the use of third parties is not a particularly popular route.

5. Within your company, what is the level of knowledge of the main standards EN 81-20 and EN 81-50?



Analysis of results

Harmonised standards are crucial for lifts SMEs in their daily work and activities, so they know them very well and in depth.

6. What is the level of knowledge and/or use of the various sections of EN 81-20 and EN 81-50 within your company?

6.1 The sections relating to installation (requirements for travel space, machinery spaces, machinery, cab, doors, electrical installation, etc.).

6.2 The sections on the manufacture of electrical/electronic components (e.g. switchgear, electrical fault protection, PESSRAL or SIL Rated Circuit, etc.).

6.3 The sections on the manufacture of safety components

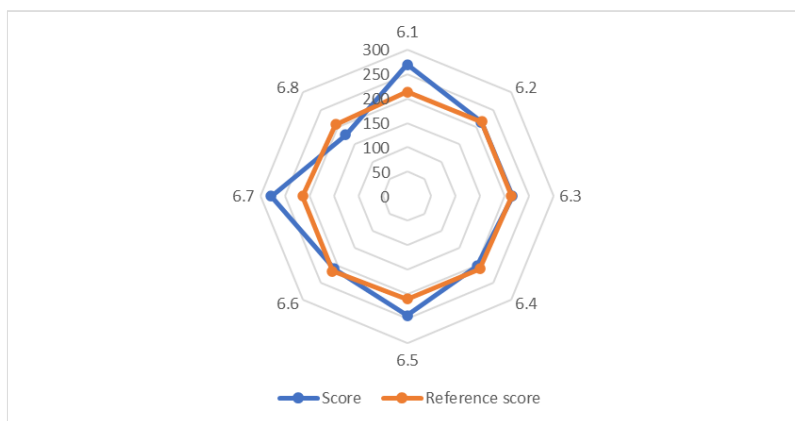
6.4 The type examination sections for the certification of safety components

6.5 The final test sections for CE certification of the installation

6.6 Calculation sections (EN 81-50)

6.7 The sections on the documentation to be attached to the installation

6.8 Annex ZA



Analysis of results

The results show that lifts companies are very familiar with those parts of the regulations that they use on a day-to-day basis for the installation of the lift system; other aspects of the regulations - e.g. those relating to safety components - are known but not as thoroughly.

Lifts SMEs typically either assemble the various components they purchase from their own suppliers or they purchase the "complete package", i.e. the entire set of components from a single supplier, whose suppliers are therefore entrusted with the knowledge of the regulatory aspects relating to the manufacture and/or marketing of these components.

In addition, it can be noted that there is less knowledge of Annex ZA, which basically confirms the above: lift SMEs use and know the regulations and apply them, not particularly caring about the link between regulations and the Essential Health and Safety Requirements (EHSRs) of the relevant Directives.

7. Within your company, how is the level of knowledge of the complementary standards?

7.1 EN 81-21

7.2 EN 81-28

7.3 EN 81-41

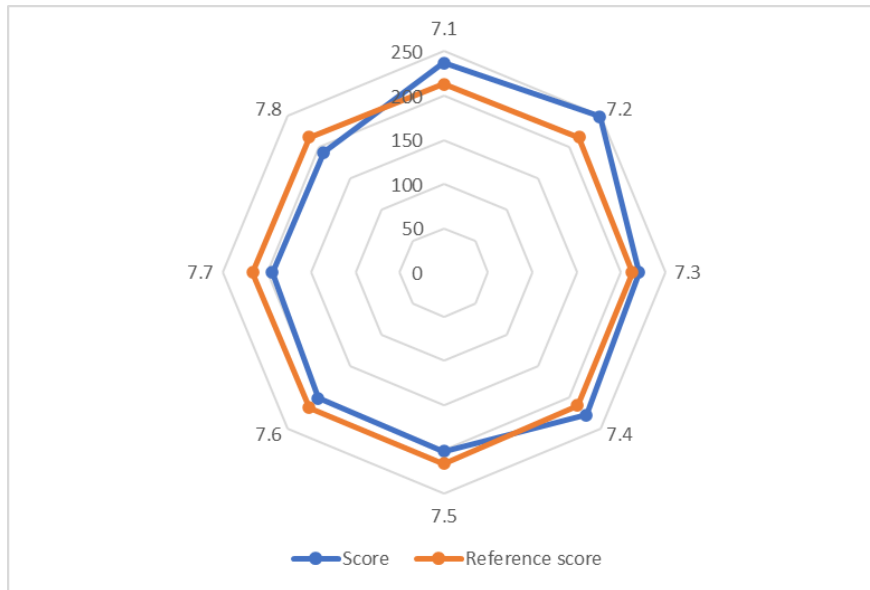
7.4 EN 81-70

7.5 EN 81-71

7.6 EN 81-72

7.7 EN 81-73

7.8 EN 13015



Analysis of results

The standards that are regularly used, i.e. EN 81-21, EN 81-28, are particularly well known; in general there is a greater knowledge of EN 81-70, compared to the "secondary" standards, even if in the member states it is not necessarily the reference standard for the elimination of architectural barriers. On the other hand, for EN 81-41 we can hypothesise that - since it deals with lifting platforms - lift SMEs normally purchase them from their trusted supplier, therefore they delegate to them the most in-depth knowledge of this standard.

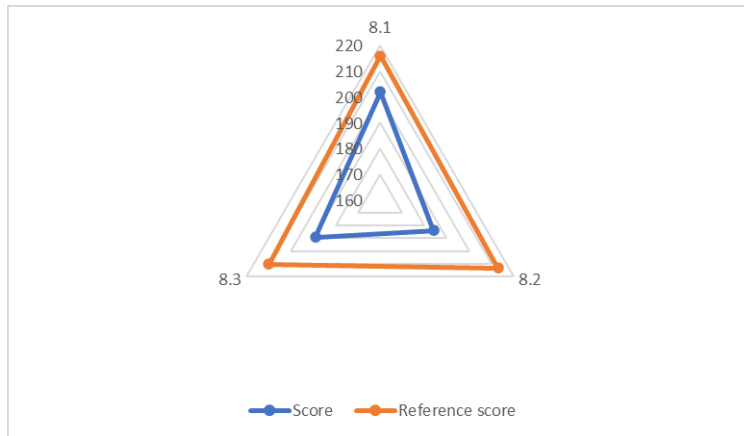
On the other hand, the lesser knowledge of EN 13015 stands out, which is an unexpected result as it should be well known by lifts SMEs; on the other hand, integrating these results with those of the following questions, we can hypothesise the reason why (*see below*).

8. Normative references of the standards (e.g. EN 101305 series, EN 12385-5 series, IEC 60947 series, HD 60364 series).

Within the EN 81-20 and EN 81-50 standards, several standards external to our sector are referred to in the questions above.

With reference to the external standards and with your company in mind:

- 8.1 How familiar are those relating to installation (e.g.: guides, ropes, etc.)?
- 8.2 How familiar are the external standards relating to the electrical/electronic part (e.g. relays, low-voltage electrical installations, low-voltage switchgear and controlgear)?
- 8.3 How many external standards are available for consultation (after purchase or via a subscription)?



Analysis of results

In general, the standards that are the subject of external references in EN 81-20 and EN 81-50 are practically unknown, a result that could be expected considering the large number of these references and their perhaps improper use within the standards.

In particular, **the very poor result of knowledge of the standards relating to the electrical part stands out**. This can be explained by the fact that a large part of these are mainly used by those who build the switchboard rather than by the actual installer (as noted earlier in question #6, lifts SMEs rely on their suppliers to purchase the individual components to be assembled).

9. Within your company, what is the level of knowledge of the Lifts Directive 2014/33/EU?

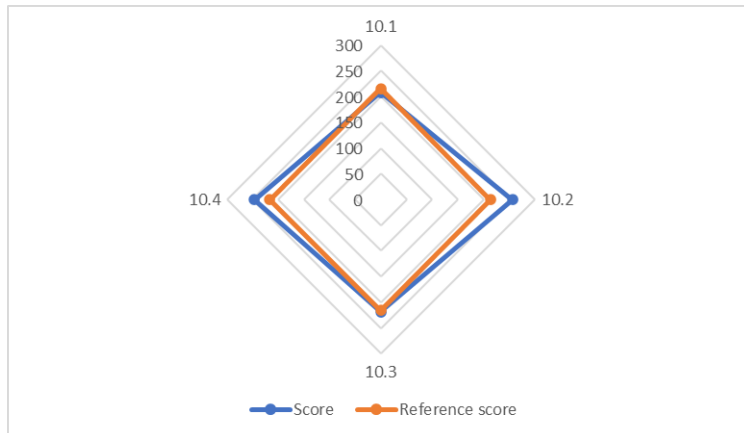


Analysis of results

The level of knowledge of the Lifts Directive, after more than twenty years of application, is also high within lift SMEs.

10. What is the level of knowledge and/or use of the various sections of the Lift Directive 2014/33/EU?

- 10.1 The sections relating to EHSRs in Annex I
- 10.2 The sections relating to the obligations of the installer
- 10.3 The sections relating to the procedures for certifying a model
- 10.4 The sections relating to the procedures for CE certification of the lift



Analysis of results

Again, it appears that the parts that are best known to lifts SMEs are those they use for the construction of the lift system, although in general we can say that the other parts are also fairly well known.

It is confirmed (point 10.1) that knowledge of the EHSRs related to the reference Directives are not a priority for lift SMEs, for which it is "sufficient" to apply the harmonised standard, which becomes - as a further confirmation - fundamental for the lift sector.

11. Inside your company, what is the level of knowledge of the Machinery Directive 2006/42/EC?



Analysis of results

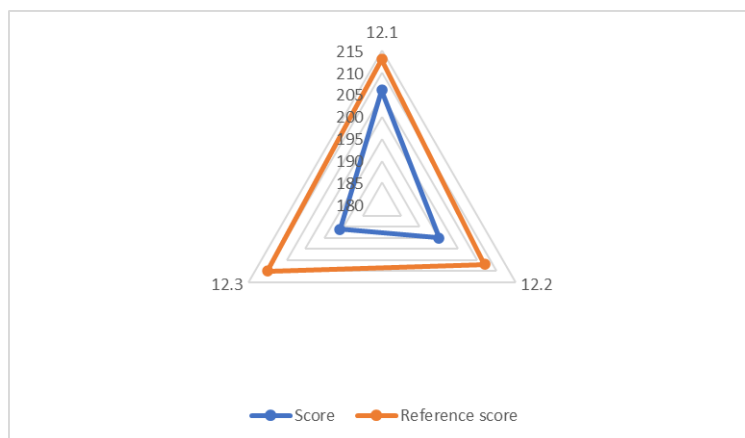
The Machinery Directive is also fairly well known, although less so than the Lifts Directive; in fact, this result is somewhat at odds with the next question, where there is little knowledge of the various sections of the Machinery Directive.

12. What is the level of knowledge and/or use of the various sections of the Machinery Directive 2006/42/EC?

12.1 The sections relating to the EHSRs of Annex I (for the part relating to lifts and lifting platforms)

12.2 The sections relating to the manufacturer's obligations

12.3 The sections relating to the procedures for certifying a model



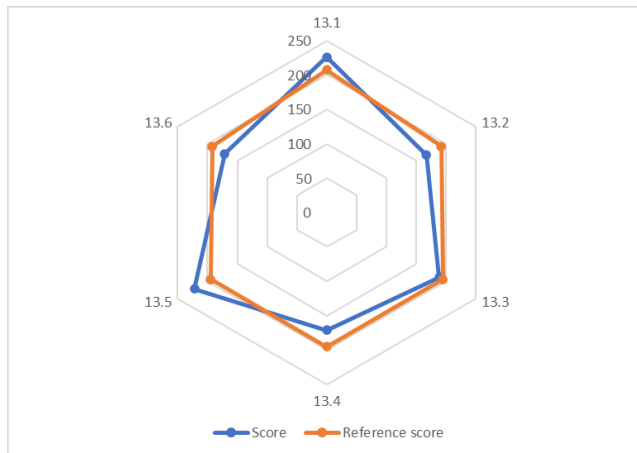
Analysis of results

Generally speaking, one can say that the various parts of the Machinery Directive are not very well known by the responding SMEs in the lifts sector. This aspect could be traced back to the fact that in most cases (as highlighted for question #7), lifts SMEs directly purchase the lifting platform - which is the main product in the sector that fully covers the Machinery Directive - from their trusted supplier. It is the supplier who is responsible for the knowledge and application of the Machinery Directive and the related standard EN 81-41.

13. The Lifts Directive 2014/33/EU requires that the installer must provide - at the time of commissioning - all the instructions necessary for maintenance, inspection, repair, periodic checks, rescue operations and the use of any special equipment (such as special tools or software) necessary for maintenance or rescue operations.

On systems undergoing maintenance, have you found the lack or inadequacy of instructions for maintenance operations and emergency operations, such as to prevent the adequate execution of these activities?

- 13.1 Lack of instructions at the systems installed following the harmonised standards
- 13.2 Adequacy of instructions at systems installed following harmonised standards
- 13.3 Lack of instructions at a model installation
- 13.4 Adequacy of instructions on model installations
- 13.5 Lack of instructions for using special tools or software
- 13.6 Adequacy of instructions for the use of special tools or software



Analysis of results

The results generally show both a lack of and inadequate instructions attached to the lift system, as well as instructions for the use of any special tools, when present.

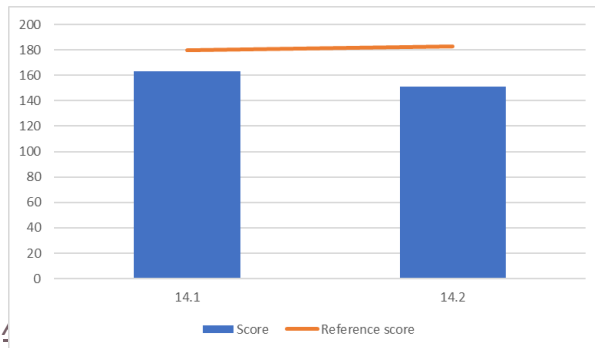
On the other hand, it appears that there is a greater lack of instructions in the case of lift installations according to harmonised standards (typically installed by lifts SMEs) rather than model installations (typically installed by larger companies).

We can hypothesise that the instructions for lift systems assembled by lifts SMEs are often unique, in the sense that they are implemented on a case-by-case basis and highly customised, whereas for model lift systems these instructions are normally the same for the same model lift system. So basically, while for model lift systems it is enough to have a copy of the original instructions and stick to those, in assembled lift systems this is not feasible.

14. Do you think that, at present, the standards adequately specify the requirements for writing maintenance instructions?

- 14.1 Are the instructions sufficiently adequate and detailed?

14.2 Are the requirements indicated in the standards too general and not adequately detailed (each installer can decide the details of the activities to include in the instructions)?

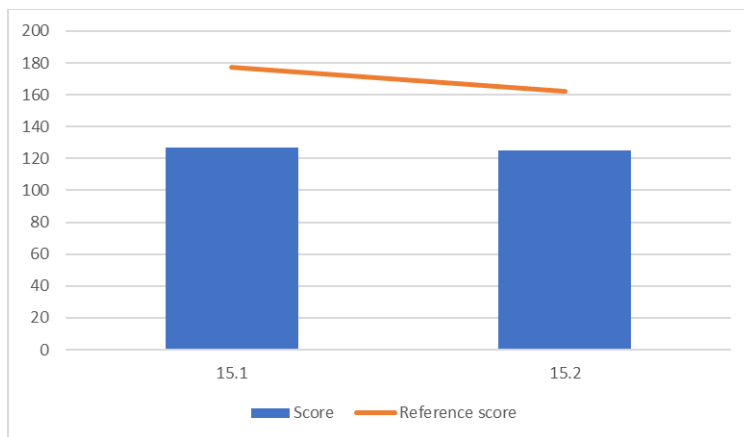


Both the instructions and the requirements for maintenance instructions are not adequate or sufficiently detailed. If one considers it together with the result that the EN 13015 standard is not very well known (question #7); and that in the end the maintenance instructions in assembled lift systems are not adequate, one can say that the set of requirements required by the Directive and the requirements required by the rules are not sufficiently clear and understandable by lifts SMEs. It must also be said that the problem could be due to the high diversity and heterogeneity in the composition of the systems of different companies, for which it could be complicated to define valid general requirements.

15. Do you think that, at present, the standards adequately specify the requirements for completing the instructions relating to the use of special tools and software?

15.1 Are the instructions sufficiently adequate and detailed?

15.2 Are the requirements indicated in the standards too general and not adequately detailed (each installer can decide the details of the activities to include in the instructions)?



Analysis of results

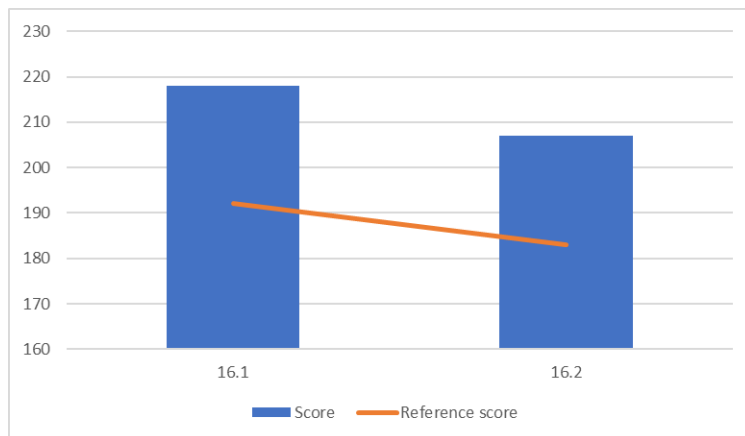
As regards special tools and software, there is a complete inadequacy of the instructions, even more marked than the instructions for maintenance of the lift system.

16. The Lifts Directive 2014/33/EU requires that when special tools or software are necessary for maintenance or rescue operations, these special devices are supplied with the lift at the time of commissioning and are always available on the system for its entire lifecycle.

On the systems under maintenance, have you found the lack of special tools, the lack of accessibility to the software, diagnostics and configurable parameters, such as to not allow the adequate execution of maintenance or emergency manoeuvre activities?

16.1 There is a lack of special tools and/or accessibility to the expected software

16.2 There is a lack of accessibility to diagnostics and configurable parameters:



Analysis of results

In the event that special tools are present, the provisions of the Lifts Directive and the Machinery Directive are largely disregarded, as is the possibility of modifying parameters relating to the configuration of the system.

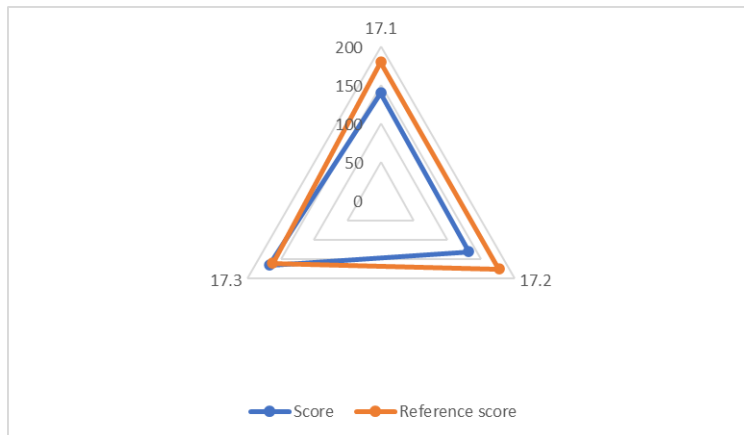
On the other hand, it is not sufficiently clear what these special tools are given that both in the Lift Directive and in the relevant standard they are not defined in a sufficiently exhaustive way, so - even among professionals - this specific topic can create confusion as to which ones and when these devices must be considered special tools.

17. Do you believe that, at present, the standards adequately specify the necessary requirements so that the special tools and software are available for the entire life of the system and accessibility to diagnostics and configurable parameters is guaranteed?

17.1 Regarding the special tools and software available on the system, the requirements in the standards are:

17.2 Regarding accessibility to diagnostics and configurable parameters, the requirements in the standards are:

17.3 The requirements indicated in the standards do not prevent foreseeable misuse (e.g. the technician can forget to place the long emergency key on the system and forget it in his pocket)



Analysis of results

Considering the situation highlighted in the previous points (#15 and #16), the answers highlight the need to modify what is foreseen in the standards for the special tools and the configuration of the parameters, given that it appears that - despite being required by the directives - essentially are present on-site as expected.

Here too, please refer to the Analysis of results of point #16 regarding greater clarity on what the special tools are.

18. The Lifts Directive 2014/33/EU requires the system to be equipped with a remote emergency device.

On systems undergoing maintenance, have you encountered - when the company in charge of maintenance changes - inaccessibility and/or blocking issues in these devices, such that you have to replace them?

On some types of systems (specify later) it is necessary to replace the remote assistance device because it cannot be reset.



Analysis of results

Many lifts SMEs detect problems with two-way communication devices when the owner decides to replace the company in charge of maintenance. Therefore, here too the requirements of the Lift Directive are largely disregarded, as are those of the standards.

19. If this type of problem is encountered, please specify on what type of system

When the field was filled in by the participants (for a total of 34 responses), the result was 100% related to lifts installed by large or multinational companies, and the relative difficulties encountered when working on them.

Findings

From the analysis of the answers and the data obtained from the questionnaire (available in *Annex I*), the team of experts drew a number of conclusions both on the knowledge of the standards by European lifts SMEs and on the main critical issues encountered by them in the application of EN 81-20 and EN 81-50 in their daily work, namely:

- Maintenance instructions
- Availability of special tools
- Modifications to settings and parameters of two-ways communication device

1. Knowledge of standards within lifts SMEs

As one might have expected, the importance of standards for lifts SMEs is confirmed, as lifts SMEs themselves are generally quite familiar with them and keep up to date with their evolution. Knowledge of standards is mainly related to those that are used by the installation of the lift system, considering that lifts SMEs normally purchase and assemble components from their trusted suppliers, to whom they entrust compliance with EU directives and standards.

A separate discussion can be had on the maintenance instructions, as they are not particularly well known. We can assume that this is also due to the fact that lifts SMEs not infrequently purchase the complete lift system directly from their supplier, so that the latter is also entrusted with the aspects of maintenance instructions.

However, it remains to be investigated further to see where lifts SMEs associations can take action to make installers more responsible for drafting their own maintenance instructions.

2. Criticalities: Maintenance Instructions

The **inadequacy of maintenance instructions - both in general and with regard to *special tools*** - is evident despite the fact that the Lifts Directive and harmonised standards have been in place for more than ten years.

It is strongly suggested that these aspects be better implemented and clarified both within the Lifts Directive and within the standards themselves.

3. Criticality: Availability of special tools

It is evident that **the special tools and instructions necessary to be able to modify the parameters of both the system and the two-way communication system are lacking**.

It is strongly suggested to better implement and clarify these aspects both within the EU directives and within the standards themselves, especially with regard to special tools, it would be appropriate to better define what they are to avoid subjective interpretations.

4. Criticality: Modifications to settings and parameters of two-ways communication device

The difficulty encountered in some cases in being able to modify the settings and parameters of the two-way communication device should lead to the system being taken out of service (since it relates to an Essential Health and Safety Requirement of the Lifts Directive), whereas this is not usually the case.

Furthermore, the new revision of EN 81-28 goes in the direction of "depowering" this situation, allowing the installation to be kept in operation with a simple piece of information.

It is suggested to avoid "depowering" the functionality of the two-way communication device in order to avoid the drawbacks mentioned above.



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