DNV·GL

BUSINESS ASSURANCE

THE NEW ISO 9001, ISO 14001 AND ISO 45001

7.2 Competence management

DEAR READER,

The previous Espresso Surveys have analyzed and focused on the new requirements in the revised and new ISO standards (quality, environment and occupational health & safety). In this and coming editions, we will focus on other areas in the standards where we believe there are valuable lessons to be shared and benefits created from sharing experiences.

The first topic in this new series that we will investigate is **7.2 Competence management.** Although, the requirements are not significantly changed compared to previous editions, it is a central element of any management system standard.

The overall performance and improvement of a management system ultimately depends upon the involvement and execution of competent persons. They must be properly trained and integrated into the organization and its processes.

The involvement and integration of the persons who will be operating within or using the management system every day is important for any organization to achieve outcomes that are consistent and aligned with their objectives, strategies and values. Hence, to identify, develop and evaluate knowledge, competences and behavior – in a structured way- is key to ensure you reach your intended outcomes from the implemented management system.

In this Espresso Survey, we therefore wanted to investigate a few elements relevant to 7.2's core requirements. Thank you to those who contributed by responding, and we hope you find this Espresso Survey report both interesting and useful!

THE VIEWPOINT ESPRESSO

- The Viewpoint Espresso is our way of sharing with you what your peers think and how they are moving on hot topics. Our hopes are that what we share may trigger some curiosity, improved understanding and possibly action on select topics.

- This is an extended initiative of ViewPoint, our customer community. While the main ViewPoint surveys provide in-depth analyses, the ViewPoint Espresso are meant to be more agile, providing a concentrated injection of insight.

- Previous initiatives can be found here: **dnvgl.com/viewpoint**

THE REQUIREMENT IN FOCUS: 7.2 – COMPETENCES

Clause 7.2 in ISO 9001:2015, ISO 14001:2015 and draft ISO 45001 requires the organization to determine the necessary competence of person(s) doing work under its control that affects the performance and effectiveness of the management system and ensure that these persons are competent on the basis of appropriate education, training or experience. Where applicable, actions must be taken to acquire the necessary competence, and evaluate the effectiveness of the actions taken and retain appropriate documented information as evidence of competence.

Respondents are customers with a certified quality, environmental and/or occupational health and safety management system.

We investigated how companies are dealing with requirement 7.2 of the new ISO standards by asking questions related to three areas:

1. Extent of implementation of wider training processes
2. Which processes are most frequently applied as input for determining training needs
3. To what extent is training executed as planned

QUESTION 1
TO WHAT EXTENT ARE THE FOLLOWING TRAINING PROCESSES EFFECTIVELY IMPLEMENTED IN YOUR ORGANIZATION? →

1 = *not applied*
2 = *somewhat applied*
3 = *structurally applied*
4 = *way of life*

OVERALL RESULTS

- 🔴 ISO 9001
- ⚫ ISO 14001
- 🔵 ISO 45001

RESPONDENTS = 996
AVERAGE SCORE

Determination of the necessary competence of persons affecting the performance and effectiveness of management system (competence analysis)
- 2.8
- 2.6
- 2.8

Assessment of individual competence to determine training needs
- 2.8
- 2.6
- 2.9

Effective planning and execution of education and training based on identified training needs
- 2.8
- 2.7
- 2.9

Measuring the effectiveness of delivered education/training
- 2.6
- 2.5
- 2.6

● ISO 9001
● ISO 14001
● ISO 45001

RESPONDENTS = 974
PERCENTAGES

Not applied	ISO 9001	9.1%
	ISO 14001	15.2%
	ISO 45001	6.4%
Somewhat applied	ISO 9001	35.6%
	ISO 14001	31.5%
	ISO 45001	44.0%
Structurally applied	ISO 9001	39.1%
	ISO 14001	39.4%
	ISO 45001	33.9%
Way of life	ISO 9001	14.9%
	ISO 14001	13.3%
	ISO 45001	15.6%
Sum of Structurally applied & Way of life	ISO 9001	54.0%
	ISO 14001	52.7%
	ISO 45001	49.5%
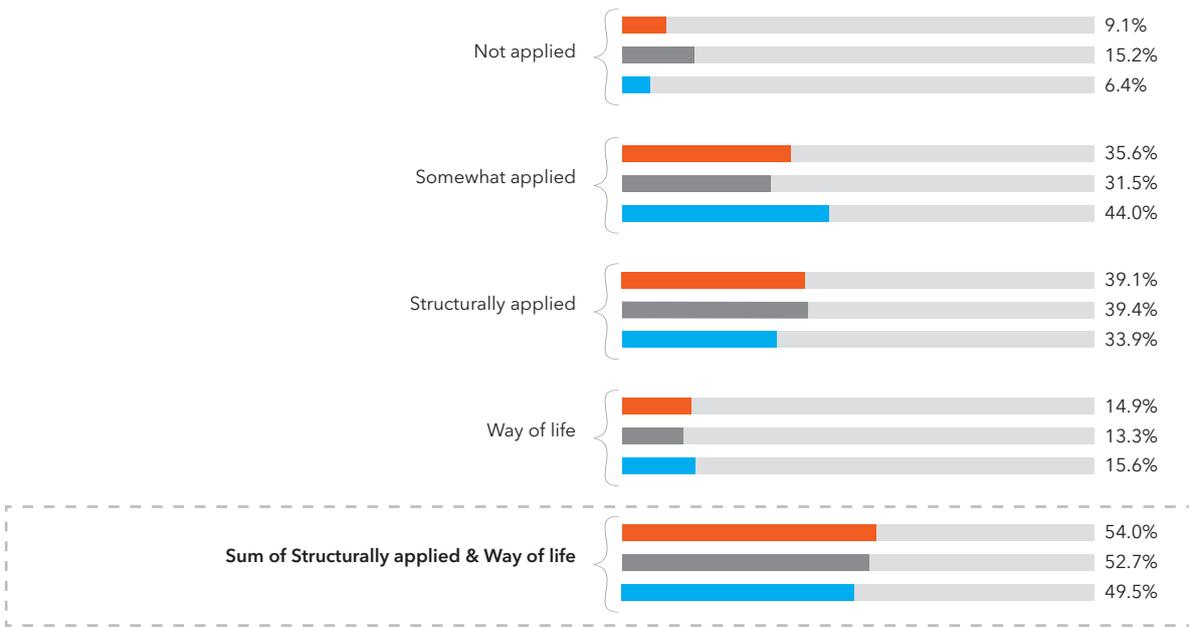
WHAT ARE THEY SAYING?

- The average scores are notably similar for the three standards, all within the range 2.7±0.2, which means in between somewhat applied and structurally applied.

- ISO 14001 shows a somewhat lower average score for each of the training processes compared with occupational health and safety and quality.

- Deep dive on the last training process in question 1: When it comes to "Measuring the effectiveness of delivered education/training", the general scores are somewhat lower than for the other training processes. Among the three standards, the response for ISO 14001 stands out with 15.2% answering *Not applied*.

WHAT DO WE THINK?

Respondents were asked to indicate to what extent they have implemented different training processes in their organization on a scale from 1 to 4: where 1 is not applied, 2 is somewhat applied, 3 is structurally applied and 4 is way of life. When commenting on the results, we have interpreted the answers *structurally applied* and *way of life* as having a structured approach.

Quality together with occupational health and safety generally score somewhat higher than environment for every training process. A possible reason is that for most companies, quality and occupational health and safety will be relevant for the majority of the personnel as these disciplines are directly linked to their daily work activities. Use of a structured approach is therefore considered to be needed.

For environment, we see that training is quite often focused on general awareness rather than being tailored to individual work activities. This is typically seen for non-manufacturing companies where the environmental impacts are limited. In addition, achievement of reduced environmental impact may for some companies be seen as being more driven by better technical solutions rather than being related to personal behavior, e.g. more energy efficient equipment or use of a different material/components in their products. These factors may explain why some companies perceive less need for a structured approach.

When it comes to *Measuring the effectiveness of delivered education/training*, the scores are lower than for the other three processes. This confirms what we often see, i.e. that companies perceive this step to be more difficult to implement and execute in a structured way. Questions raised include: How do we measure

effectiveness of provided training? How do we do this in a good and effective way that provides value?

When deep diving into *Measuring the effectiveness of delivered education/training*, for ISO 14001, the number answering *Not applied* (15.2%) was higher compared with ISO 9001 and OHSAS 18001. Moreover, for this process and in general, the occupational health and safety scores are on average in the higher range. Training within occupational health and safety is often influenced by regulatory requirements. In addition, the relative importance of securing workers' health and wellbeing are key drivers for a structured approach to training.

In general, we could expect average scores to be somewhat higher (closer to 3 or higher) since the survey respondents do have certified management systems. However, these results may also be influenced by factors such as the size of the organization and type of operations the respondents represent. Smaller-sized companies and those where environmental aspects are limited would probably tend to score lower as they would typically apply a less structured approach to assure competence acquisition and people involvement. The company-size distribution has not been analyzed in this survey.

PREVIOUS ESPRESSO SURVEYS TOPICS
- 4.1 Understanding the organisation and its context.
- 4.2 Understanding the needs and expectations of interested parties and requirement.
- 5.1 Leadership & Commitment.
- 6.1 Actions to address risks and opportunities.
- 7.4 Communication

TO WHAT EXTENT DOES YOUR COMPANY USE THE FOLLOWING ELEMENTS AS BASIS FOR ASSESSMENT OF INDIVIDUAL COMPETENCE TO DETERMINE THE TRAINING NEEDS?

To determine training needs, the following elements can be used as a basis for individual competence assessment.

1 = *not applied*
2 = *somewhat applied*
3 = *structurally applied*
4 = *way of life*

OVERALL RESULTS
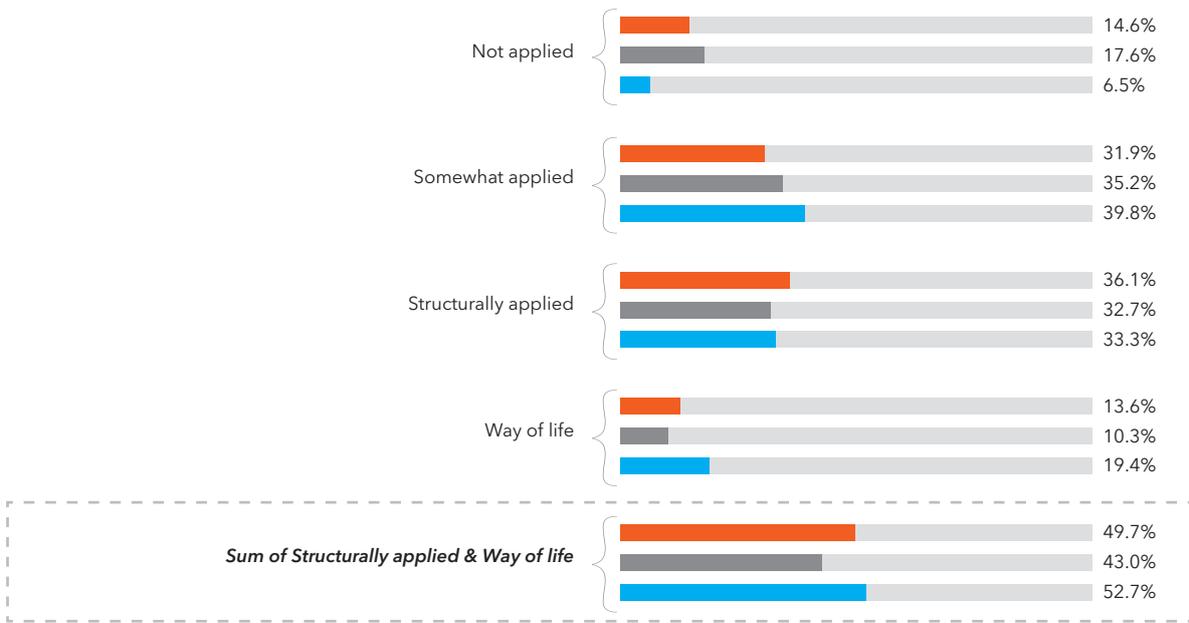
● ISO 9001
● ISO 14001
● ISO 45001

RESPONDENTS = 973
AVERAGE SCORE

Company strategic direction, policies and objectives (overall need of your company)
2.8
2.7
2.7

Assessment of individual's existing knowledge, skills and experience (competence mapping)
2.7
2.6
2.7

Review of the profile (expectations) for a given function/role
2.6
2.5
2.7

Individual performance assessment (employee appraisal)
2.8
2.7
3.1

Company specific training objectives/requirements
2.7
2.5
2.9

Requirements for refresher training
2.4
2.3
2.6

● ISO 9001
● ISO 14001
● ISO 45001

RESPONDENTS = 973
PERCENTAGES

Not applied
14.6%
17.6%
6.5%

Somewhat applied
31.9%
35.2%
39.8%

Structurally applied
36.1%
32.7%
33.3%

Way of life
13.6%
10.3%
19.4%

Sum of Structurally applied & Way of life
49.7%
43.0%
52.7%

WHAT ARE THEY SAYING?

■ The environmental standard generally shows somewhat lower scores when comparing average score across all elements used to determine training needs. The average score is 2.5 for environment, while similar score for occupational health and safety is 2.8 and for quality 2.7.

■ The occupational health and safety standard tops the rankings for all elements used to determine training needs, except for one: *Company strategic direction, policies and objectives (overall need of your company).*

■ *Individual performance assessment (employee appraisal)* stands out as the most used element for all three standards to determine the training needs: occupational health and safety standards (average score 3.1), quality (average score 2.8) and environmental standards (average score 2.7).

■ *Company strategic direction, policies and objectives* is among the top-ranking for quality (average score 2.8) and environmental (2.7) standards.

■ Deep dive on the last element of Question 2: *Requirements for refresher training* is seemingly the least used element to determine training needs for the three standards: occupational health and safety (average score 2.6), quality (average score of 2.4) and environmental (average score 2.3). When looking at the answers behind the average figures:

1. This is the element with the highest number of "Not applied" for all three standards (17.6% for environment, 14.6% for quality and 6.5% for occupational health and safety).

2. If "structurally applied" and *way of life* answers are combined as indication of a structured approach, we see that occupational health and safety and quality standards show scores at about 50% (52.7% and 49.7% respectively) while the environmental standard rates somewhat lower at 43%. These results are lower than for the other elements, where respondents indicating a structured approach are closer to 2/3.

Respondents were asked to indicate to what degree they have applied or not the different elements for determining training needs on a scale from 1 to 4: where 1 is not applied, 2 is somewhat applied, 3 is structurally applied and 4 is way of life. When commenting on the results, we have interpreted the answers *structurally applied* and *way of life* as having a structured approach.

For companies with a certified occupational health and safety management system, we see a tendency of slightly higher scores in applying all elements and using a structured approach. *Individual performance assessment (employee appraisal)* and *Company specific training objectives/requirements* score particularly high. Many countries have labor legislation that sets requirements for working conditions, worker's participation and involvement. As a result, many companies have implemented periodical employee dialogues and evaluations through appraisal systems where training needs are identified, as well.

The more we come down to legislation at the individual level, the stronger we can expect that training is applied and hence mechanisms for determining training needs. In some countries, individual assessment is a step incorporated into the legislation. However, not everything can be attributed to legislation for occupational health and safety. Companies also set their own requirements and standards to reduce risks for personnel where training is a crucial element. This could for example be mandatory training for use of protective equipment, training as a prerequisite to enter production areas to understand risks, etc.

It is interesting to see the relatively high score for *Company strategic direction, policies and objectives* across the standards. This is clearly in line with the intentions of the standards, where training and competence shall be a support for reaching the company's intended outcomes.

When it comes to the element "Requirements for refresher training" where the "Not applied" is the highest, we believe that this is an element that should not to be underestimated. Certain types of competence require reminders to assure the right level or even training in smaller changes/amendments in a particular area.

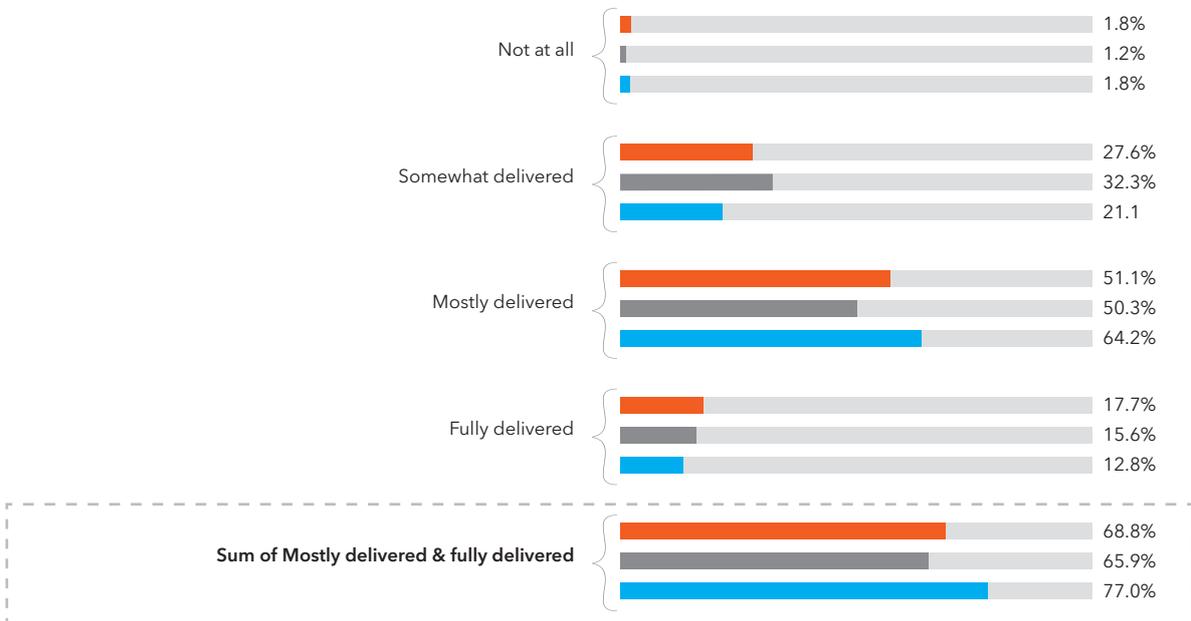**TO WHAT EXTENT HAVE THE IDENTIFIED TRAINING NEEDS FOR 2016 BEEN DELIVERED ACCORDING PLAN?**

1 = *Not at all*
2 = *Somewhat delivered*
3 = *Mostly delivered*
4 = *Fully delivered*

OVERALL RESULTS

● ISO 9001
● ISO 14001
● ISO 45001

RESPONDENTS = 982
PERCENTAGES

Not at all		1.8%
		1.2%
		1.8%
Somewhat delivered		27.6%
		32.3%
		21.1
Mostly delivered		51.1%
		50.3%
		64.2%
Fully delivered		17.7%
		15.6%
		12.8%
Sum of Mostly delivered & fully delivered		68.8%
		65.9%
		77.0%

WHAT ARE THEY SAYING?

- The combined scores of *mostly delivered* and *fully delivered* range from 65.9% to 77% across standards (77% occupational health and safety, 68.8% for quality and 65.9% for environment).
- The results show indications that training planned in 2016 to a large extent has been delivered as planned.

WHAT DO WE THINK?

- Respondents were asked to indicate to what extent the identified training needs for 2016 were delivered according plan on a scale from 1 to 4: where 1 is not at all, 2 is somewhat delivered, 3 is mostly delivered and 4 is fully delivered.
- Generally, we consider the score quite high, which is positive due to the importance of training and benefits of enhancing the competence of personnel.
- One reflection is that the score reasonably coincides with the around 65% of respondents in Question 1 claiming to use a structured approach for *Effective planning and execution of education and training based on identified training needs.*

PEOPLE INVOLVEMENT AND COMPETENCE ACQUISITION PROCESS

Competence can be addressed in development plans which also contribute to people involvement. THE ISO 10018 GUIDELINE ON PEOPLE INVOLVEMENT AND COMPETENCE ACQUISITION describes a process for addressing competence through development plans. It provides a structured framework for determining what is necessary competence, identifying training needs, effective planning and execution of that training and finally measuring its effectiveness.

The 4 steps are:

1. ANALYSIS
Data are collected and analyzed in relation to the organization's short- and long term objectives for people involvement and competence.

2. PLANNING
Procedures are established and maintained to plan the people involvement and competence acquisition process on an organizational, group and individual level.
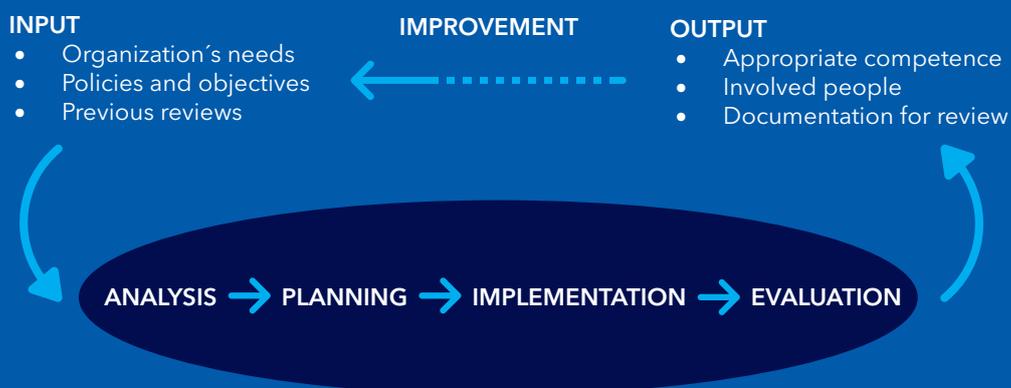
3. IMPLEMENTATION
The plans and associated actions are implemented in order to achieve the objective of people involvement and competence.

4. EVALUATION
Plans, actions and outcomes are reviewed and evaluated for continual improvement.

These steps apply to all levels of the organization, group and individual. A review should be carried out at every step to ensure that the input and output data are correct. Although this guideline is not a prerequisite to use in relation to the management system standards, it may provide useful insights for your organization.

INPUT
- Organization's needs
- Policies and objectives
- Previous reviews

IMPROVEMENT

OUTPUT
- Appropriate competence
- Involved people
- Documentation for review

ANALYSIS → PLANNING → IMPLEMENTATION → EVALUATION

Development process of people involvement and competence acquisition within an organization.
Reference: ISO 10018 :2012 Quality management – Guidelines on people involvement and competence.

FINAL THOUGHTS

Although reworded, the intent and interpretation of clause 7.2 Competence management requirements are the same when comparing with previous edition of the standards.

A structured approach to competence management allows you to address technical knowledge and competences, motivation and behavioral aspects of the individual while monitoring their progress. As we know, the overall performance and improvement of a management system ultimately depends upon the involvement and execution of competent and motivated persons. To achieve this, all relevant personnel must be properly trained and integrated into the organization and its processes.

The picture painted by the respondents, showing slightly higher scores for a structured approach to competence management for occupational health and safety and quality, is not surprising. Competence management in these two discipline normally require a bigger effort from any organization as they affect a higher number of personnel and focus on the individual's work activities. Safety training directly prevents adverse impact on the personnel, for example, safeguarding their health and safety both short- and long-term, and it assures compliance with applicable legislation.

Common for all, however, is that to get the true benefits of structured competence management, you must ensure that your approach includes the following step:
1. Identify the knowledge, motivation and/or behavioral gaps in the individuals.
2. Plan for required development/training activities.
3. Execute the training.
4. Follow up the progress of the individuals.

A workplace with a structured approach to competence management should create an environment causing less stress due to personal errors and behavioral issues, for example. Within such a framework, everyone knows what to do and when to do things. And, they know what to do when things go wrong.

But, follow up action is a must activity to see the effect of the performed development/training activities on your employees. If the benefits are not as effective as expected, then you need to identify the reasons for this and adjust your approach to meet your expectations.

Most companies execute training – but if one of the above steps is missing, outcomes may be harder to achieve and you will not get the additional benefits that a structured approach drives. You may not be able to get the best out from your plans.

Structured competence management contributes to the overall organizational learning, as well. Learning in organizations has always been naturally developed from constant interaction from persons, groups within the organizational context and the organization's external environment. However, this is not always enough in order to ensure that the organization has at its disposal the right competence in order to develop and renew themselves, for example. Training can in such cases be considered a special lever that acts to supplement what individual learn on the job, interaction with others persons, internal groups or external stakeholders.

SURVEY
METHODOLOGY

- 996 qualified management system experts completed the online survey between December 12 to 18, 2016.
- Respondents were drawn from quality, environment and safety companies certified by DNV GL.
- Experts surveyed span around quality, environment and safety certified customers in the following proportions:

  - 72% Quality
  - 17% Environment
  - 11% Safety

DEMOGRAPHIES & RESPONDENTS

IN TOTAL

996

AMERICA	EUROPE	ASIA	OTHERS
158	**444**	**379**	**15**

TOR GUNNAR TOLLEFSEN

Global Service Manager – Management Systems

Tor Gunnar Tollefsen participated as a national expert delegate to the ISO committee TC 207/SC1 WG5, which was responsible for the ISO 14001 revision.

BASTIAAN POLDERMANS

Global Service Responsible – ISO 9001

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Patrick Smink is a member of the ISO committee ISO/PC 283 WG1, which is responsible for the development of ISO 45001.

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