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european nuclear education network

NUSHARE
PROJECT FOR SHARING & GROWING NUCLEAR SAFETY CULTURE COMPETENCE

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NUSHARE TG3- *A Programme to support Top Level Managers to better understand and improve the Culture for Safety of their Organizations.*

José I. Villadóniga
Director of Safety Management

1. OBJECTIVE AND BACKGROUND
2. CONTENT
3. SAFETY MANAGEMENT DIVISION
4. PROGRAM DESIGN PROCESS
5. MICRO-MOBILE-E-LEARNINGS
6. LEARNING MECHANISMS
7. SUMMARY

1 OBJECTIVE

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OBJECTIVE

- To present the status of work done in NUSHARE TG3 regarding a program for the development of competencies regarding Culture for Safety (previously named Safety Culture).

  The Target group for NUSHARE TG3 is Top Level Managers (CEO, CNO, Director General, etc.) of the European Unión Nuclear Industry Sector, including operators, designers, suppliers, waste handlers, researchers, etc.

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BACKGROUND

- NUSHARE is an excellent initiative of the European Commission.

- There is copious evidence of the significant impact of Organizational Culture on the economic and safe performance of the nuclear industry.

- Two recent nuclear examples from the Nuclear Energy Agency (NEA/OECD), the International Atomic Energy Agency (IAEA)

BACKGROUND

Whatever else is said about the Fukushima disaster, it is clear that it was not a failure of technology. In fact, all evidence thus far demonstrates that the reactors responded as they were designed and performed well in delaying the release of large amounts of radiation such that the public was largely protected from significant exposures. The failures were failures of human decision making, training, and safety culture. Most prominently, they included failures in the effectiveness of a regulator that allowed the plant to operate without modification despite evidence and concern expressed by several experts that the site might be exposed to extreme tsunami events.

"Soft issues": organisational decision-making; safety culture of the plant staff and the regulator; training to assure that operators are prepared for a wide range of possible challenges – these are all key factors that led to or contributed to the accident, ***and these factors exist around the world****. If we are to truly learn the lessons of Fukushima, we must turn our eyes toward the human aspects of safety – aspects can be both difficult to discuss and to solve. Aspects which often involve sociological and psychological sciences more than nuclear science and engineering. Aspects which require countries to recognise that there may not be a universal safety culture, but that* ***safety cultures must exist within a broader cultural framework****. In comparison to these issues, pouring concrete and installing emergency pumps and power systems is a simple matter.* ***But learning only half of the lessons of Fukushima is to have learned nothing at all.***

Opening remarks
William D. Magwood, IV
Director-General of the Nuclear Energy Agency
Challenges and enhancements to the safety culture of the regulatory body
A CNRA/CSNI/CRPPH Workshop, Paris, France, 3 June 2015
[CNRA Report (2015)8 at https://www.oecd-nea.org/nsd/docs/indexcnra.html]

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BACKGROUND

Issuance of a coordinated research program by the IAEA on ***ORGANIZATIONAL CULTURAL BASIS FOR SUCCESSFUL PERFORMANCE IN NUCLEAR POWER PLANTS*** *(I22004)*. http://cra.iaea.org/cra/stories/2015-12-11-I22004-Org-Culture-NPP.html

The following paragraphs are extracted from the program description:

*…..While research in the area of **organizational culture** is evident and many aspects of **organizational culture** have been identified, this CRP will cover elements that are believed to be important for the Member States with respect to their specificity to nuclear performance. Initial research topics that have been identified to be the most significant for this CRP include:*

- *The unique role of leadership and management in managing high risk organizations.*
- *An analysis of the use of the existing frameworks for safety culture to date; do the frameworks also encompass the more complex view of safety?*
- *The role of external influences, specifically the regulator, on organizational culture and the consequences of the paradox of combining compliance and innovation on performance.*
- *The less mechanistic and more dynamic process of managing change through values and norms to ensure long term and sustainable results.*

…..The outcomes of the CRP will facilitate discovery and understanding of the underlying cultural influences for successful performance. This understanding will support sustained change for improved performance. Additional beneficiaries will be the participating organizations and individuals through knowledge exchange and the networking of experts. Some results of the research will be equally useful for other high risk, non-nuclear organizations.

The IAEA will act as a coordinator for this research to bring together diverse organizations worldwide to address key scientific and technical challenges in an emerging domain relevant to the international nuclear community as evidenced by recent industry events.

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IAEA
International Atomic Energy Agency

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1. OBJECTIVE AND BACKGROUND
2. CONTENT
3. SAFETY MANAGEMENT DIVISION
4. PROGRAM DESIGN PROCESS
5. MICRO-MOBILE-E-LEARNINGS
6. LEARNING MECHANISMS
7. SUMMARY

2 CONTENT

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1. OBJECTIVE AND BACKGROUND
2. CONTENT
3. SAFETY MANAGEMENT DIVISION
4. PROGRAM DESIGN PROCESS
5. MICRO-MOBILE-E-LEARNINGS
6. LEARNING MECHANISMS
7. SUMMARY

3 SAFETY MANAGEMENT DIVISION

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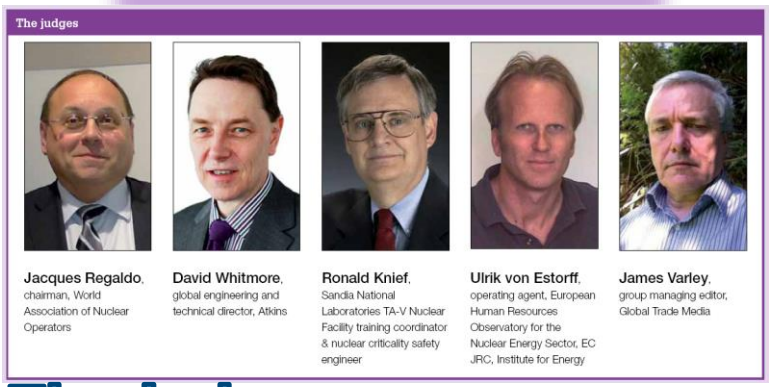
SAFETY MANAGEMENT DIVISION

- Supporting leaders of high risk industries to improve leadership and culture for safety
- Extensive experience in helping some 1000 leaders in cultural improvement processes and leadership development
- Conducted research to select a sound model of leadership and incorporated safety
- Leadership model shortlisted in the 2014 Nuclear Training Awards



The judges

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1. OBJECTIVE AND BACKGROUND
2. CONTENT
3. SAFETY MANAGEMENT DIVISION
4. PROGRAM DESIGN PROCESS
5. MICRO-MOBILE-E-LEARNINGS
6. LEARNING MECHANISMS
7. SUMMARY

4

PROGRAM DESIGN PROCESS

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JUNE PROGRAM

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TG3 PROGRAM WORSKHOP

DATE:

23 June 20165

PLACE:

Tecnatom Offices. Sede1-PB6 room
Avda Montes de Oca, 1
San Sebastián de los Reyes
Madrid, Spain.

Time Schedule:

08:00-8:30	*Briefing of Facilitators and Mentors.*
09:00-9:10	*Opening of the workshop.*
09:10-9:20	*Discussion of Agenda and possible changes.*
09:20-10:30	*Refreshment of Micro-M-Learnings (MML) content. Q&A*
10:30-11:00	*Coffee Break.*
11:00-11:30	*List of successful practices.*
11:30-12:30	*List of difficulties to overcome. Group search of potential practical solutions.*
12:30-13:30	*Light Lunch.*
13:30-14:00	*Brief individual reflection by participants taking into account MMLs, Journal data and previous discussion.*
14:00-14:50	*Sharing of ideas and open dialog.*
14:50-15:10	*Next steps. Forum for participants.*
15:10-15:40	*Coffee Break.*
15:40-16:00	*Pluses and deltas of the workshop. Recommendations for further improvement.*
16:00	*Closing.*

Recommended Hotel:

AC HOTEL SAN SEBASTIAN DE LOS REYES
Avenida del Cerro del Aguila, 15-17
San Sebastián de los Reyes, Madrid.
Phone: +34 91 6237055

FINAL GOAL: To support Top Managers of the European Nuclear Industry in improving Culture for Safety.

WORKSHOP GOAL: To complement the rest of activities of the program (where participants are not physically together) and facilitate:

- **A reflection on actions to improve Culture for Safety.**
- **A peer to peer support.**

EXPECTATIONS FOR PARTICIPANTS IN THE WORKSHOP:

- ***TO SHARE EXPERIENCE IN ORGANIZATIONAL AND SAFETY CULTURE.***
- ***TO REFLECT ON ACTIONS TO IMPROVE CULTURE FOR SAFETY AT HIS/HER ORGANIZATION.***
- ***TO SUPPORT OTHER PARTICIPANTS.***

EXPECTATIONS FOR MENTORS:

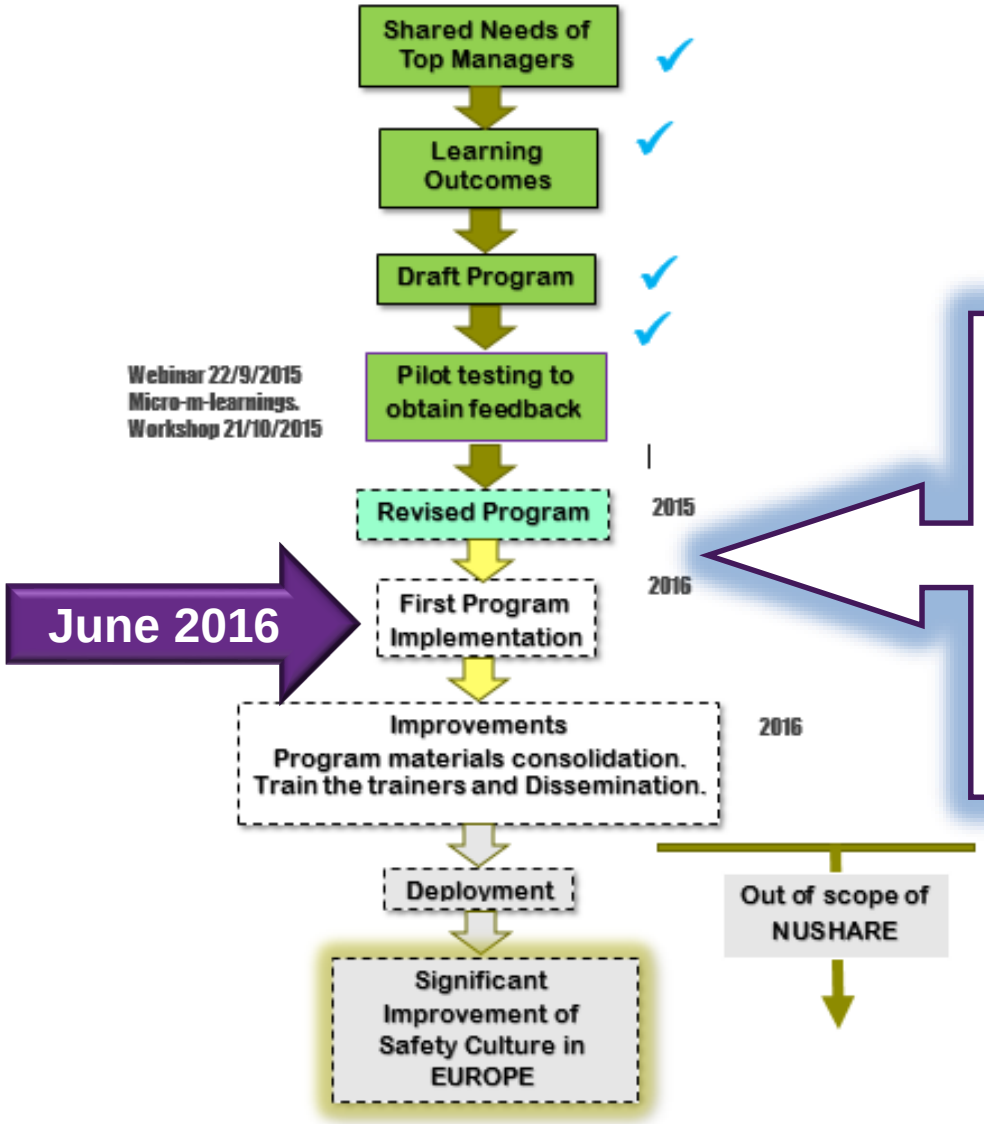
- Share personal experience.
- Support participants in their reflection on how to improve Culture for Safety at their Organizations.

EXPECTATIONS FOR FACILITATORS:

- **Conduct workshop according to needs of participants.**
- **Facilitate a dialog that addresses needs of participants.**
- **Support participants in their reflection on how to improve Culture for Safety at their Organizations.**

video

PROGRAM IMPLEMENTATION



IAEA
International Atomic Energy Agency

International Conference on Human and Organizational Aspects of Assuring Nuclear Safety – Exploring 30 years of Safety Culture
22-26 February 2016

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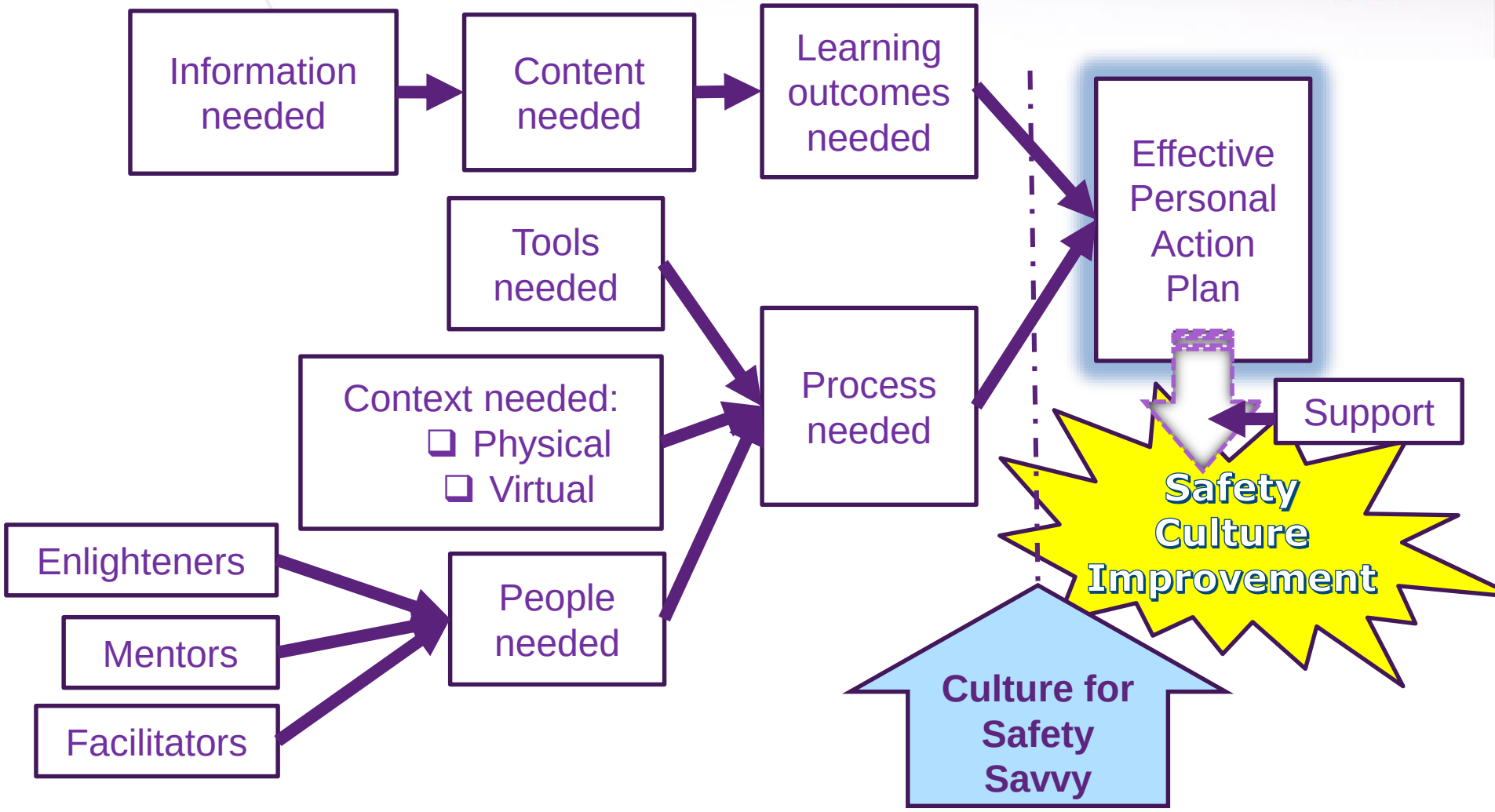
PROGRAM DESIGN PROCESS



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PILOT PROGRAM

- Allowed the testing of of the program and to receive essential comments from several top level managers of nuclear utilities, a waste management organization and a supplier, in addition to international organizations like WANO (World association of Nuclear Operators)

- Many improvements are being implemented in the program elements:
  - ✓ Initial webinar
  - ✓ Micro-mobile-learnings.
  - ✓ Workshop.
  - ✓ Forum.

IAEA CONFERENCE. OUR VIEW

- Safety is the result of the interaction among different aspects and organizations (stakeholders). There is a need for a **systemic vision**. We need to work effectively on the integration of **human/ technology/ organization**. Perhaps the framework for that could be the Integrated Management Systems.

- We need to understand **organizational culture** because working blindly (without understanding organizational culture first) in safety culture risks trying approaches that strongly fight against the organizational culture.

- **Leadership drives the culture**. We need to understand deeply what leadership approaches are more beneficial for safety in different situations. In many countries, where nuclear competes in a free market with other sources of electricity it is extremely important that the leadership approach ensures also excellent economic performance.

All these aspects included in TG3 Program

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IAEA CONFERENCE. OUR VIEW

- We specially need to understand the **deep assumptions and beliefs that conform the culture**. How can we enhance the capability of one organization to recognize those beliefs and assumptions and the role they are playing in their behaviors?

- We need to advance considerably the practices to **develop a strong culture for safety** in an organization.

- We need to ensure a proper evolution of **Integrated Management Systems** in the nuclear industry.

- It is important to pay attention to the Culture for Safety in **all stakeholders** (not only the regulatory body) including contractors, journalists, politicians, etc. This is part of the systemic view of safety. [Covered by TG1,TG2 and TG3]

- We need to pay more attention to Safety II / resilience and enhance the learning from what works well.

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The first three aspects included in TG3 Program

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1. OBJECTIVE AND BACKGROUND
2. CONTENT
3. SAFETY MANAGEMENT DIVISION
4. PROGRAM DESIGN PROCESS
5. MICRO-MOBILE-E-LEARNINGS
6. LEARNING MECHANISMS
7. SUMMARY

5

MICRO-MOBILE E-LEARNINGS

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MICRO-MOBILE-LEARNING

EXAMPLE OF 2ND MML

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BENEFITS OF MMLs

- We all carry Smartphones most of the time
- MMLs can be downloaded and from then on can be used again and again even when not connected to a net
- Once the smartphone is reconnected information is downloaded to the Learning Management System
- Material of lessons needs to be brief and simple (to avoid memory overuse)
- Material is available at any moment of need (***just in time*** training or application)
- Several people may look at the information and share their views

Obviously MMLs can not be used in isolation
Complementary learning mechanisms must be used

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1. OBJECTIVE AND BACKGROUND
2. CONTENT
3. SAFETY MANAGEMENT DIVISION
4. PROGRAM DESIGN PROCESS
5. MICRO-MOBILE-E-LEARNINGS
6. LEARNING MECHANISMS
7. SUMMARY

6 LEARNING MECHANISMS

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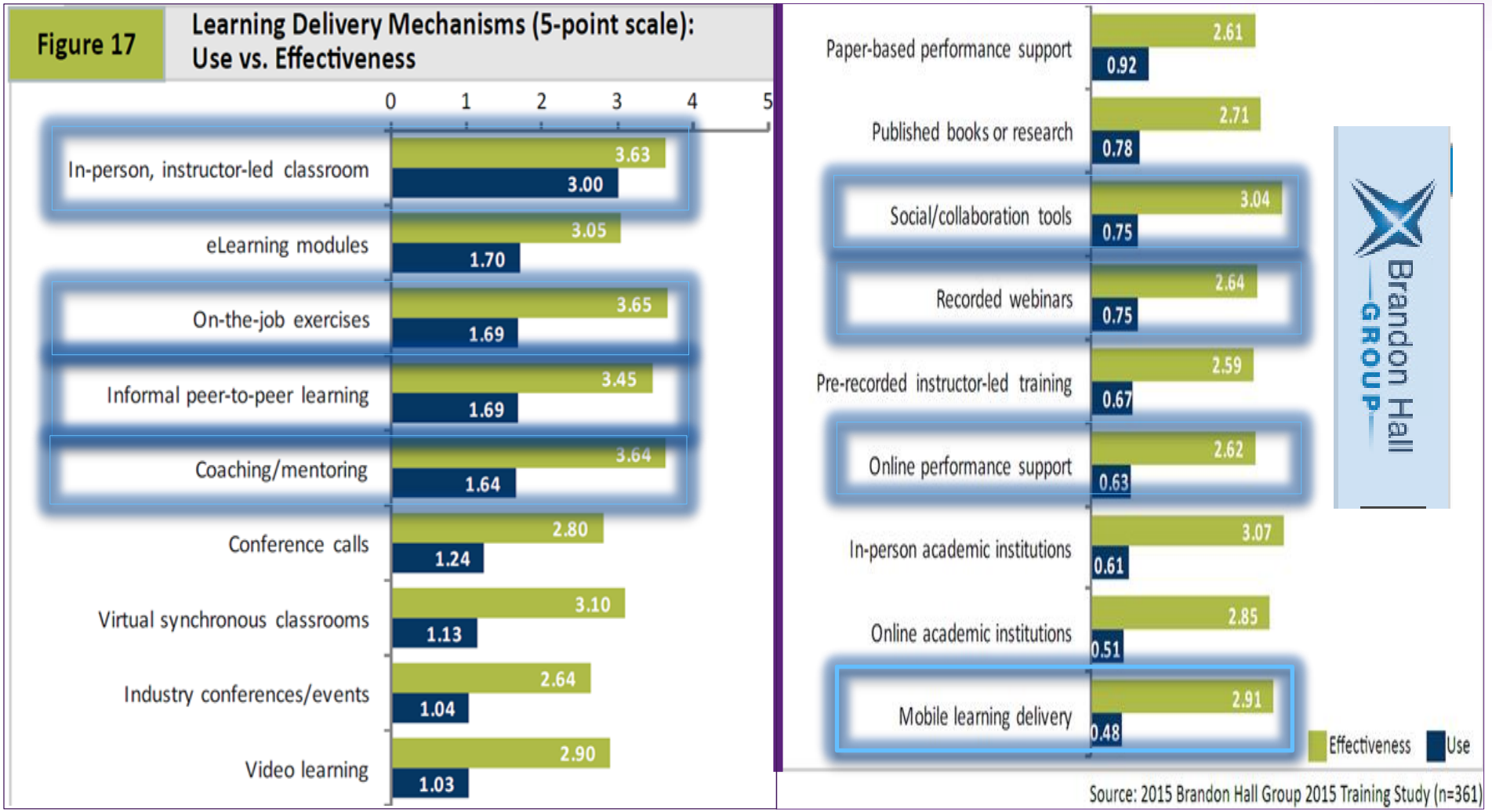
LEARNING DELIVERY MECHANISMS



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PROJECT FOR SHARING & GROWING NUCLEAR SAFETY CULTURE COMPETENCE

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1. OBJECTIVE AND BACKGROUND
2. CONTENT
3. SAFETY MANAGEMENT DIVISION
4. PROGRAM DESIGN PROCESS
5. MICRO-MOBILE-E-LEARNINGS
6. LEARNING MECHANISMS
7. SUMMARY

7 SUMMARY

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SUMMARY

- As part of NUSHARE TG3 Project Tecnatom has developed a Program to support Top Level Managers to better understand and improve the ***Culture for Safety*** of their organizations

- It has been a major challenge to design a program that can make a difference in ***Culture for Safety*** by combining simplicity with conceptual soundness

- The pilot conducted with very qualified representatives of the target group gives us the confidence that the program could achieve the objectives pursued

- We realize that still important improvements can be introduced, carefully. It is a goal of the next implementation phase of the program

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