



The European Network of National Safety Authorities on Ammunition

Enhancing the Harmonization of Ammunition Qualification (HAQ)

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Introducing EDA ENNSA



- European Network of National Safety Authorities on Ammunition
- Established by EDA in 2010 to provide a forum and networking opportunity for the national experts on ammunition safety
 - 26 participating Member States (pMS) + NOR + CHE
 - semi-annual meetings, additional workshops as necessary
- Scope: Ammunition Safety
 - Communication between experts, sharing of expertise
 - Evaluation of the implementation and use of standards
 - Exploring possibilities to achieving a higher level of harmonization
 - Identification of best practices and development of guidelines
 - Recommendations to the pMS for a coordinated approach

ENNSA Working Principles



- Based on pMS decision to work together on Ammunition Safety
 - beneficial to (collaborative) development programs and off-the shelf procurement
- Acceptable level of ammunition safety still is a national decision
- Coordinated, collaborative approach
 - Regular contacts with Industry
 - Coordination with relevant European networks, bodies, groups and initiatives
 - Avoidance of duplication with NATO
- ENNSA follows EDA rules in relation to the practical aspects of handling and sharing information

The Problem

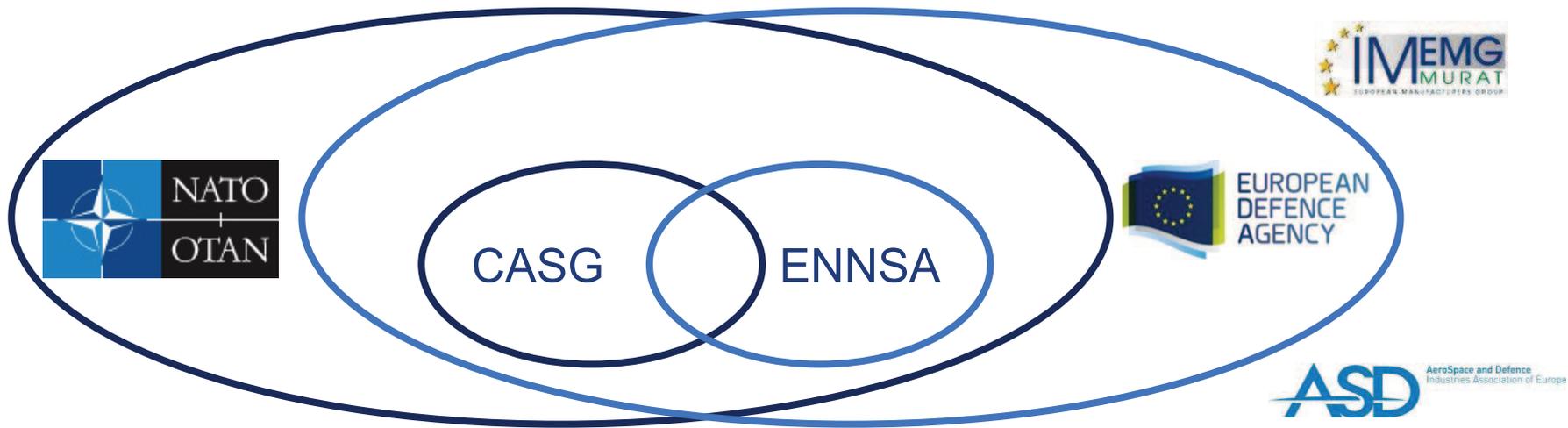
- Standardization and Harmonization* have been keywords for many years, not only for Ammunition Qualification
 - considered easy from a top-level perspective
 - difficult from a user's and expert's perspective; progress is slow
- Ammunition Qualification is directly linked with safety
 - safety is highly regulated at the European and the national level
 - qualification also demonstrates function, reliability and performance
- Qualification is a considerable factor in procurement cost
- **The lack of harmonization in ammunition qualification**
 - **increases national procurement costs due to duplicate testing**
 - **puts the EU defense industry at a competitive disadvantage**

*Harmonization here is defined as an agreement below the level of formal Standardization

Key Players



- Nations (especially national safety experts)
- NATO
 - AC/326 - CNAD Ammunition Safety Group (CASG)
- EDA
 - European Network of National Safety Authorities on Ammunition (ENNSA)



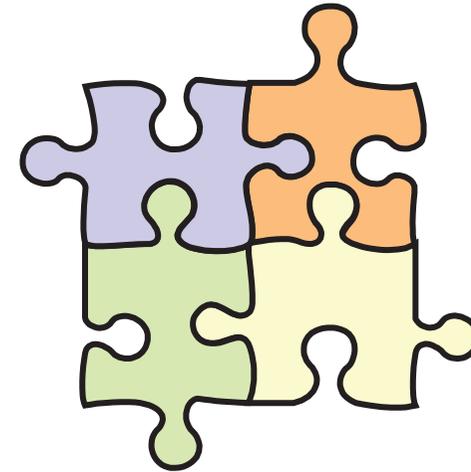
Early ENNSA Key Findings

- Many EDA member states are also members of NATO or associated with NATO (e.g. Partnership for Peace nations)
 - requirements by EDA should not contradict NATO requirements
- EDA should not create its own ammunition qualification standards
 - avoidance of discrepancies and conflicting requirements
 - NATO CASG has good reputation; no need to duplicate that effort
 - often national CASG and ENNSA group members are identical
 - national resources for standardization efforts are limited
- EDA ENNSA should complement NATO CASG
 - ENNSA could strengthen European position in CASG
 - CASG welcomes ENNSA efforts and is willing to utilize its findings

Harmonization...

Harmonized Ammunition Qualification (HAQ) should mean:

- Based on harmonized user requirements,
- to apply the same design standards,
- to apply the same test standards
- to use the same test procedures and
- to report in a standardized format
- in order **to enable**
the widest acceptance of qualification results
and use of ammunition.



Does it?

Reality Check: User Requirements

- National user requirements are based on national agendas
 - organization, tactics and use of armed forces, scenarios of futures conflicts
 - national current inventory and defense budget
 - exception: multilateral development programs
- To substantially reduce cost, full harmonization of European user requirements is necessary
 - definition of EDA core scenarios is not sufficient
 - all-encompassing EDA (safety) scenario is beyond national budgets
- Harmonization of user requirements is a key element
 - extremely difficult and beyond the scope of ENNSA
 - but: harmonization of user requirements is an ongoing EDA effort

Reality Check: Standardization

- NATO has worked on design & qualification standards for 60+ years
- NATO standards are widely recognized, but...
 - stated requirements often based on lowest common denominator
 - national implementation and interpretation of NATO standards differ
 - application of requirements differs and is driven by national priorities, perspectives and legal requirements
- Full NATO standardization would require
 - intensive consultation over every paragraph of every standard,
 - followed by an unanimous agreement on the application
 - written down with unambiguous language,
 - implemented, agreed and applied by all nations without reservations.

Reality Check: Standardization



- Full standardization in NATO has not yet been achieved and is not expected in the near to midterm future
 - recent budget-driven trend towards more tailoring of qualification programs runs counter to more harmonization

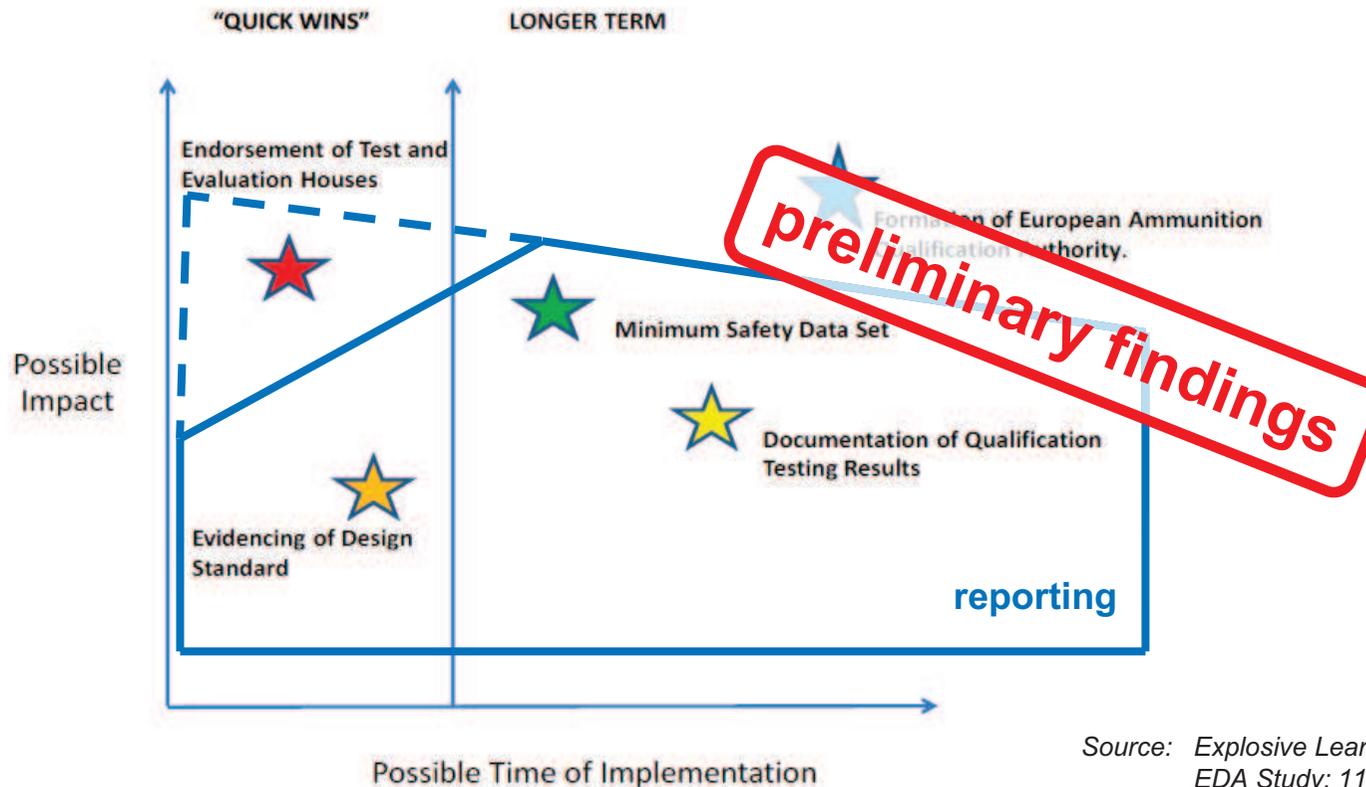
- Full standardization within EDA currently is highly unlikely for similar reasons
 - EDA has more members than NATO
 - however, limited harmonization should be feasible and is under investigation (ENNSA Ammunition Standards User Groups)

Reality Check: Qualification Reports

- Qualification reports are written for the national user/customer;
 - level of detail sufficient for national recipient, but not for others
 - test procedure (incl. tailoring) based on national regulations
 - user requirements & life cycles not sufficiently documented
- Qualification reports often mix safety and performance data
- Complete result consists of multiple reports from different sources that are neither easily available nor sufficiently linked
 - individual reports on design, different types of tests, waivers, ...
- Sharing/accepting foreign qualification reports is difficult
- **Many qualification tests are duplicated within Europe due to the lack of necessary information!**

Ammunition Qualification Study Results

- ENNSA has studied the issue of Ammunition Qualification and identified the exchange of information as a key subject

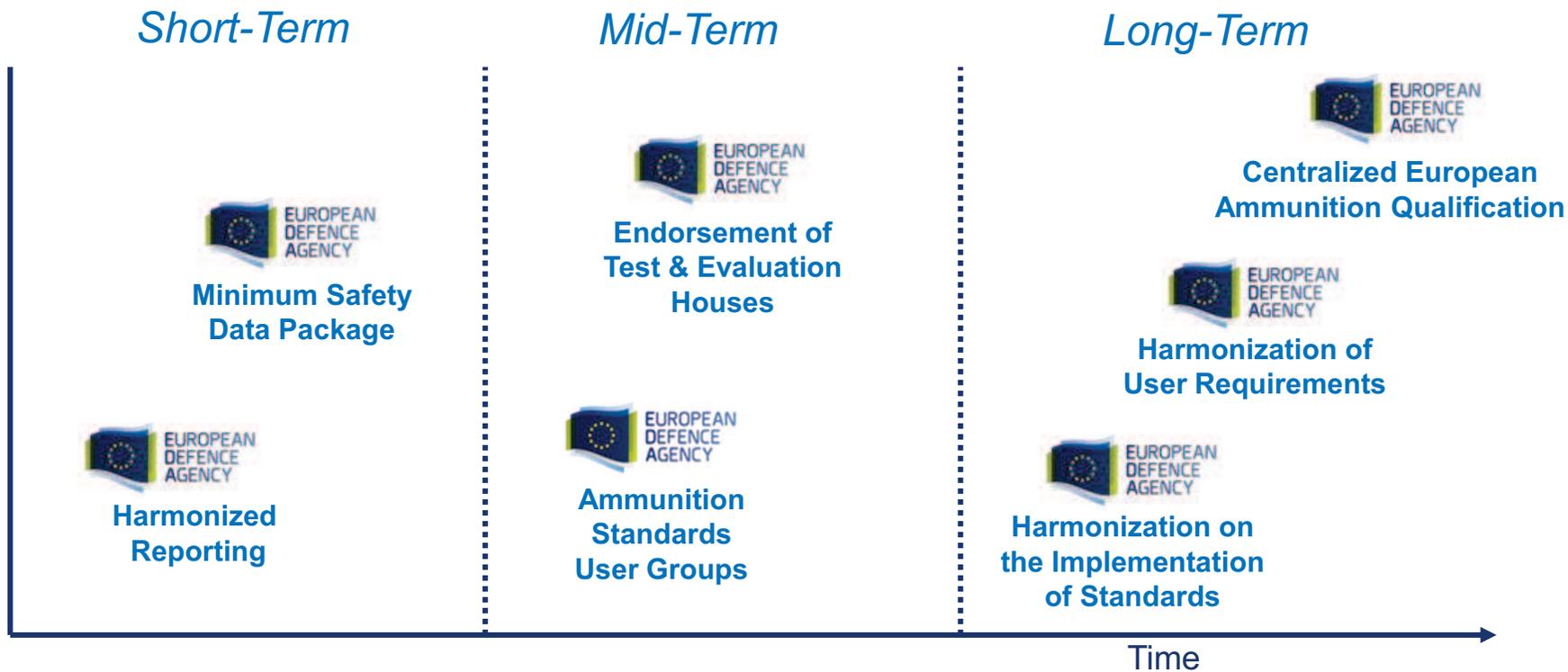


Source: Explosive Learning Solutions:
EDA Study: 11.I&M.OP.152;
Harmonization of Ammunition
Qualification Procedures

www.eda.europa.eu

ENNSA HAQ Road Map

- ENNSA has developed a Road Map to improve the Harmonization of Ammunition Qualification (HAQ) in Europe
 - some long-term aspects have political and legal implications



Short-Term Goal: Harmonized Reporting

- Definition of key requirements to enhance sharing and usability of existing results
 - separation of safety and performance data
 - completeness of report (“Recommended Safety Data Package”)
 - design & test standard compliance and provision of waivers
 - traceable references to design & test requirements for all tests executed
 - details on all tests performed and results achieved
 - no requirements as to language or format
 - low acceptance threshold

- Harmonized Reporting does not directly influence the qualification process, but complements it
 - provides considerable benefits with little additional effort
 - no additional test resources by nations required

Short-Term Goal: Recom. Safety Data Package

- Definition of key information typically sought by NSAA
 - explosive material qualification data (STANAG 4170/4147)
 - hazard/material safety data sheet (toxicology, REACH etc.)
 - qualification results (materials, components & full round)
 - environmental testing (climatic & mechanical), EMC, RADHAZ,...
 - IM assessment, UN and IATA classification
 - safety assessment report (incl. waivers design & test compliance)
 - ...

- “Recommended” in order to lower acceptance threshold
 - initial difficulties (information gaps) are expected to be overcome in time

Mid-Term Goal: Endorsement of Test & Evaluation Houses



- Regular visits to European test centers by international experts (working level), starting in 2013
 - managed by EDA Industry & Market
 - informal process, no formal certification
- Goal: Building trust between national test centers and experts
 - understanding of other nations' procedures, processes and technical approach
 - enhance communication between international test experts
 - lower threshold for quick (cross-border) inquiries at working level
- Mutual trust enhances the acceptance of foreign test results

Mid-Term Goal: Ammunition Standards User Groups

- Small working groups by interested pMS
 - specific topics or standards, such as
 - STANAG 4240: Liquid Fuel / External Fire, Munition Test Procedures
 - AAS3P-20: Safety and Suitability for Service Assessment Testing of Large Calibre Ammunition Greater than 40mm
- Establish common ground and common approach
 - harmonized test procedures and/or
 - harmonized limitations on certain test procedures and/or
 - mutual acceptance of test results, e.g. based on comparison studies
- Potential core for future harmonization of standards

Future Steps

- Harmonization on the Implementation of Standards
 - coordinated European approach to application of ammunition safety standards
- Aspects beyond the scope of ENNSA, but already pursued by EDA
 - harmonization of European user requirements
 - Pooling & Sharing
- “Food for Thought”
 - establishment of a *European Munition Safety and Qualification Authority*
 - but: political & legal implications need to be considered
 - common European procurement

Summary

- ENNSA is working on mitigating the current deficits in the European qualification process for ammunition
 - Harmonization of Ammunition Qualification Road Map
- ENNSA has identified areas where further action is required by EDA and European nations
- With the support of EDA and the pMS, ENNSA actively contributes to the Harmonization of Ammunition Qualification
 - **to support the users on a European level**
 - **to make procurement in Europe more cost effective**
 - **to increase the competitiveness of the European defense industry**



Thank you for your attention!