

STANDARDS RELATED DOCUMENT

AUDP-1 SRD-2

IMPLEMENTING UNIQUE IDENTIFICATION (UID) OF ITEMS AS A NATO NATION OR INDUSTRIAL SUPPLIER

MAY 2016



NORTH ATLANTIC TREATY ORGANIZATION

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NATO LETTER OF PROMULGATION

18 May 2016

1. The enclosed Standards Related Document, AUIDP-1 SRD-2, Edition A, Version 1, Implementing Unique Identification (UID) of Items as a NATO Nation or Industrial Supplier, which has been approved in conjunction with AUIDP-1 by the nations in the Life Cycle Management Group, is promulgated herewith.
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3. This publication shall be handled in accordance with C-M(2002)60.

A handwritten signature in black ink, appearing to read 'Edvardas MAŽEIKIS', with a stylized flourish at the end.

Edvardas MAŽEIKIS
Major General, LTUAF
Director, NATO Standardization Office

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Implementing Unique Identification (UID) of Items as a NATO Nation or Industrial Supplier

Prepared by:
AC/327 Working Group 5

What is the Need?

Implementing many of the analytical tools and approaches for systems life cycle management require item level traceability based on:

- Quality data
- Item level configuration
 - As envisioned
 - As built
 - As maintained
- Life cycle event capture

What isn't Working Today?

- Data capture quality limited by the accuracy of written or typed entries
- Lack of automatic identification and data capture increases capture time
- Storage and data access keys between information systems are inconsistent
- Functional information applications capture different item level information sets

UID of Items – a Traceability Enabler

- A method for expanding item level management beyond:
 - NATO Codification
 - A closed-loop national or organizational approach
- Establishes a globally unique number called a Unique Item Identifier (UII):
 - Composed of a combination of an entity enterprise identifier (e.g. NCAGE) and a serialization schema complying with ISO standards 15459
 - Uses at a minimum a two-dimensional barcode with the data formatting defined in ISO 15434 to ensure quality data capture
- Is the NATO accepted method for identifying an item with a globally unique serial number



Resulting UII: D6B023678910L004568

Unique Identification (UID) of Items

- Follows ISO 15459 to format a globally unique number - Unique Item Identifier (UII)

- Notional Example:- Glock 17

- CAGE/NCAGE: 0143N
- Part # PG-17502-03
- Serial # A1234

Resulting ISO 15459 UII = D0143NPG-17502-03A1234

(Where D is ISO Issuing Agency Code for CAGE/NCAGE)



- Following ISO 15434 to generate the 2D Data matrix barcode results in:



- Supplemental identification technologies are also UII capable (e.g., RFID can host the UII in “user memory”)
- Package marking involves encoding UIIs in primary packing label (PDF 417)

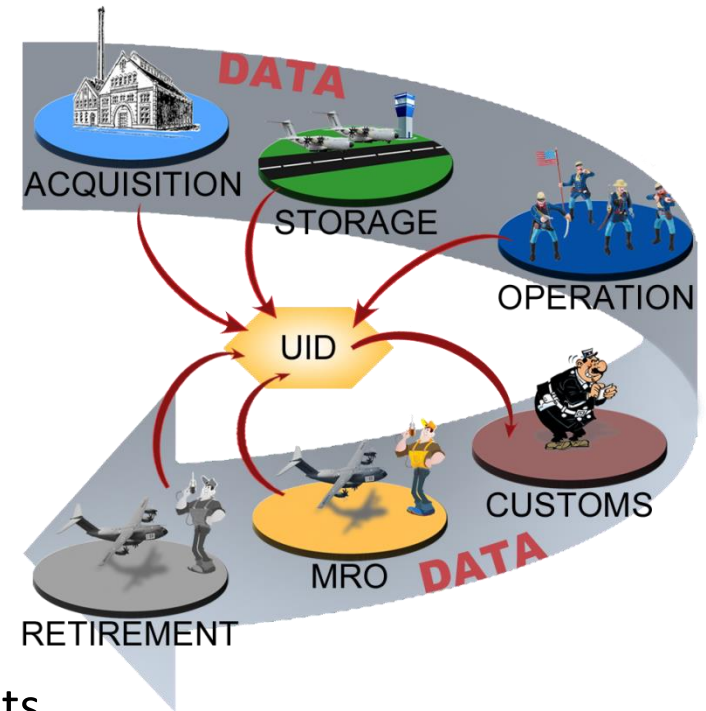
Additive Technologies

- Where business processes gain value, in addition to the ECC 200 Data Matrix consider:
 - Radio Frequency Identification
 - Contact memory buttons
 - 1D Linear Barcodes
 - Etc
- Package marking can also encode the Ull to “connect” supply, inventory and item data

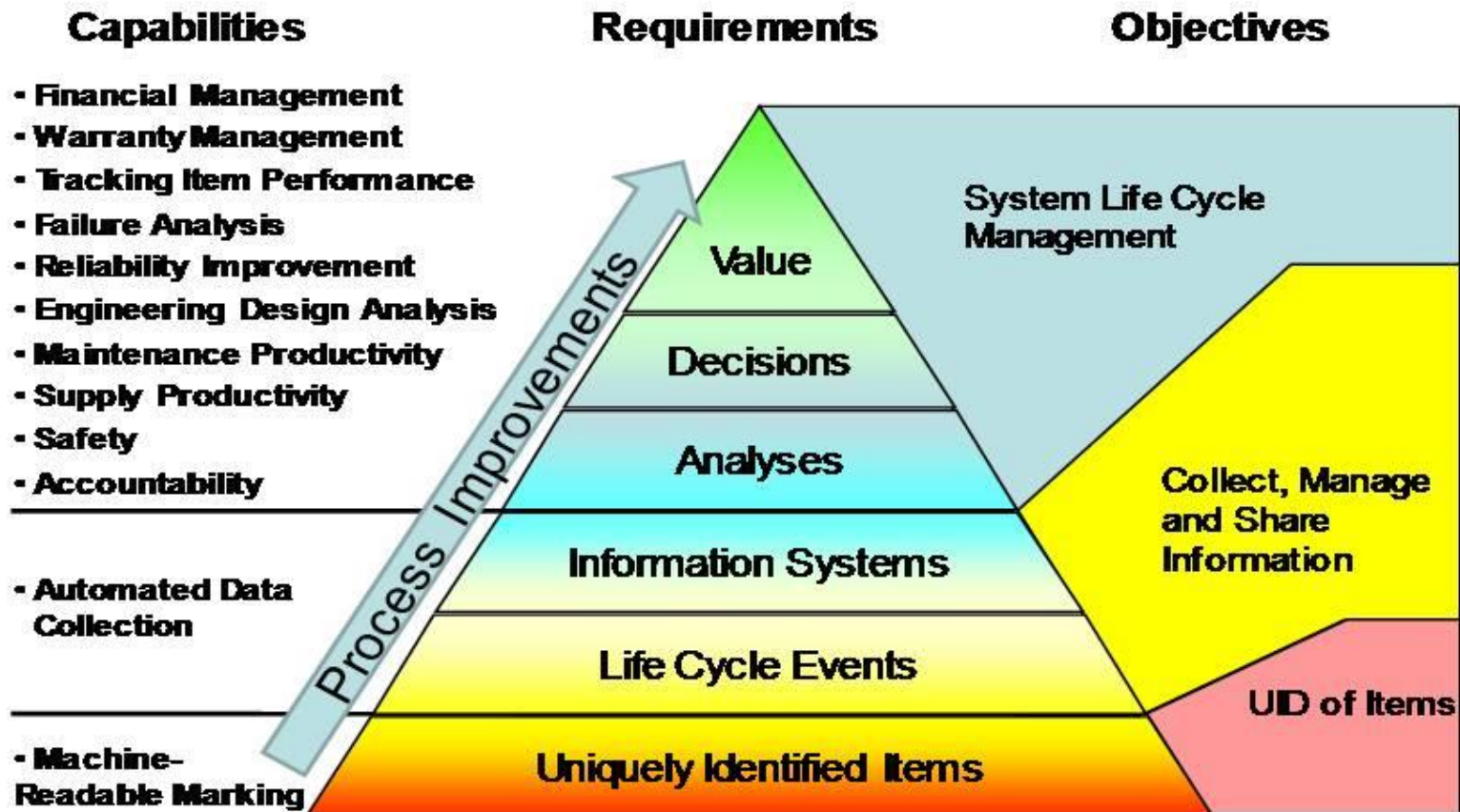
UID Enabled Item Level Traceability

Provides Value for:

- Systems Life Cycle Management
 - Operational Optimisation
 - Enhanced Configuration Management
 - Predictive Maintenance
 - Documentation of Retirement/Disposal
 - Obsolescence Planning
- Financial traceability
 - Property Accountability
 - Life Cycle Cost
 - Government Furnished Property/Equipment
 - Customs/Excise Tax
- Assuring Authenticity of Supplied Components
 - Anti-Counterfeit
 - Supplier Management
 - Critical Safety Items
- Meeting Customer Mandate/Requirement for Item Level Traceability



UID Enabled Intensive Life Cycle Support Management (AUIDP-1)



Through NATO engagements vision ...

Rapid troops movements in a multinational context:

- *Better information on assets state,*
- *Optimization and knowledge of resource positioning,*
- *Better Interoperability and interdependency*



How to ensure asset tracking process continuity?



Ambition :

- *To reinforce mutual trust*
Methodology, technologies, standardization
- *To allow*
The compatibility of assets tracking processes with various information tools

Challenges to Implementation

- Cultural indifference to eliminate poor data quality
- Silos of functional data by different users
- Understanding the value of lifecycle management (and implementing LCM)
- Needed resources not directly attributable to a specific mission or function

Strategies for UID Implementation

- A. Deliver as a program to ensure coherence:
 - A. Apply broad requirements across platforms/categories
 - B. Implement as needed on individual items/platforms
- B. Implement UID of Items as part of Automatic Identification Technology (i.e. barcoding, RFID and other AIT technologies) generally from logistics
- C. Do UID only where it adds value using existing change management processes
- D. Perform a strategic assessment and establish requirements based on internal and external requirements
- E. Implement an Enterprise-wide solution based on requirements

Key Questions for Implementers

1. What Identification approach provides the most value for you and your customer?
2. How deep in the item/system configuration should you apply UID?
3. What data capture capability is in place or will be?
4. How will the data be exposed or shared throughout the lifecycle?
5. How can implementation be logically phased?

Enabling Resources

- **Allied Publication AUIDP-1** “Unique Identification (UID) of Items” - Contains NATO approved guidance for a nation or organization seeking to implement UID of Items
- **STANAG 2290**, “UID of Items” - Provides the technical details in constructing the UID compliant 2D barcode.
- **Allied Publication AAP-48** “NATO System Life Cycle Processes” – Explains how UID of Items can enable Item Level Traceability
- **NATO Support Agency (NSPA) UID Enabling Contract** – Provides a pre-competed national or organization resource to contract for UID products and services.

What Products and Services are Available on the NATO Support Agency (NSPA) UID Enabling Contract?

- **Implementation Planning** – Establish goals for a unique identification policy, implementation strategies, and to develop subsequent marking requirements
- **Policy Writing** – Prepare the policy, procedure and guidance documents necessary to transition to , communicate and implement unique identification
- **Data Management** - Manage the data integrity for a client. This includes internal processes to capture and verify serial numbers from assets, as well as reconciliation with property records
- **Engineering** - Each asset is evaluated for marking based on the surface to be marked, the item usage and environmental factors. Specifications for marking each asset type are then written and used by installation teams and serve as a training guide for marking and production teams, as they include the approved marking location for each item.

What Products and Services are Available on the NATO Support Agency (NSPA) UID Enabling Contract?

- **Marking Production** - This can include the offsite production and “kitting” of durable labels or use of onsite mobile marking capabilities including direct part marking
- **Mark Installation** - Locate and mark assets on-site at military bases, depots or in-theatre quickly and accurately for efficient installation. In addition, each mark is scanned and validated during this process.
- **Item Registration** – Asset data, including the UII, item history, corresponding data and ITAR status is sent electronically to a managed database using set rules for consistency. Once marks are produced and installed, item data can be uploaded and registered with any nation’s UID registry. National UID Registry design or hosting services are also available.

Conclusions

- **Maintaining Interoperability** with other NATO Nations is critical so follow NATO AUIDP-1 and STANAG as closely and broadly as possible.
- **The implementation of UID** by a nation or industrial supplier will be dependent on their ROI, organizational structure, budgetary considerations and other expected outcomes
- **Goals for the implementation** should be carefully considered in the beginning and re-evaluated on an ongoing basis to maximize value/ROI
- **Implementation of UID** should not be solely based on what is being required by the customer rather it should also be based on organizational business value and concept of operations

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