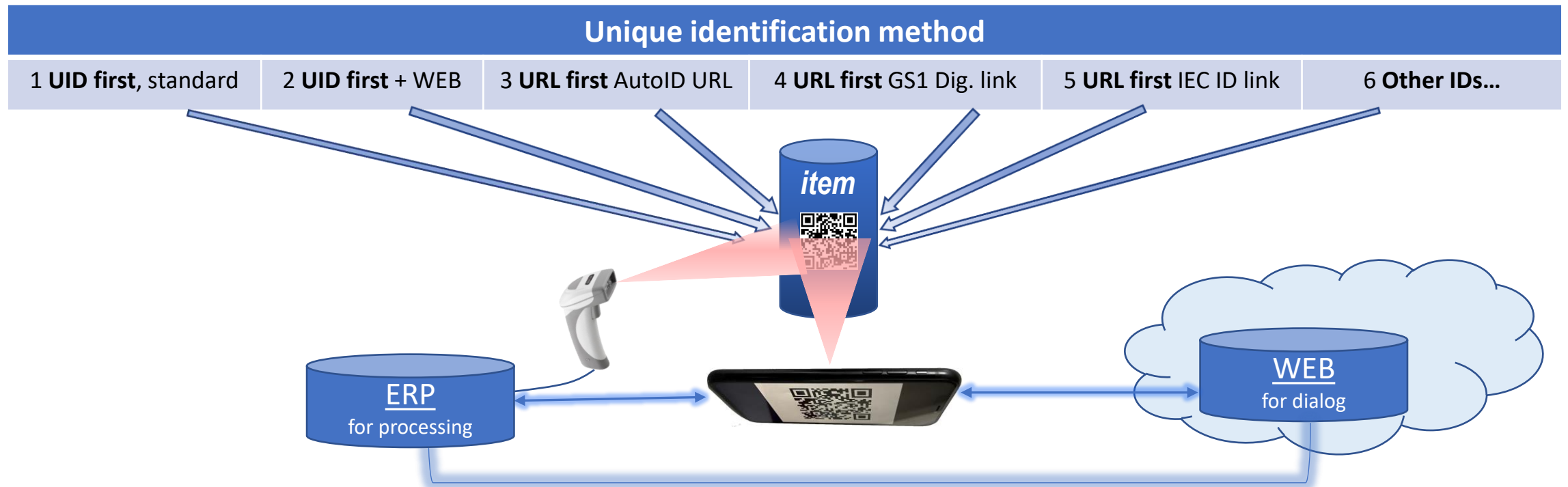


# Unique identification and WEB link METHODS Part II

Extended research and considerations to methods suitable for the Digital Product Passport (DPP)  
in response to the  
Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL  
establishing a framework for setting ecodesign requirements for sustainable products,  
Brussels, 30.3.2022 COM(2022) 142 final, 2022/0095 (COD)



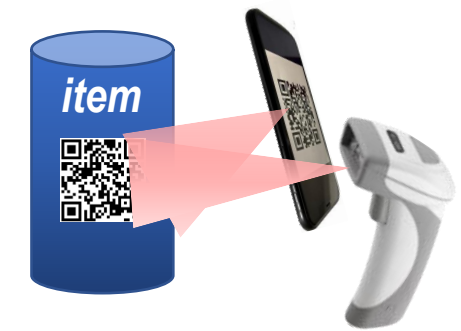
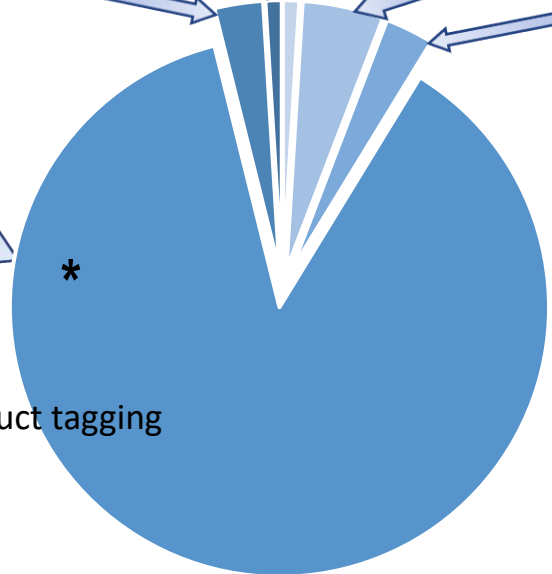
# Unique identification and WEB link Methods for today and tomorrow

## Unique identification methods with AIDC media (BC & RFID)

1 *UID first, standard	2 UID first + WEB	3 URL first AutoID URL	4 URL first GS1 Dig. link	5 URL first IEC ID link	6 Other ID schemes
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### 1 Today's standard AIDC applications, according to

- ISO/IEC 15459 Unique identification
- IEC 62090 Product package labels for electronic components
- ISO 28219 Labelling and direct product marking
- ISO 17367 (17360)-Supply chain applications of RFID — Product tagging
- Industries guidelines (see method 1, page 3)



\* **UID**: Unique ID according to ISO/IEC 15459 Unique Identification and ISO/IEC 15418 GS1 Application Identifiers and ASC MH Data Identifiers

# Unique identification and WEB link

## METHOD 1: "UID first", WEB access via APP support


### Unique identification method

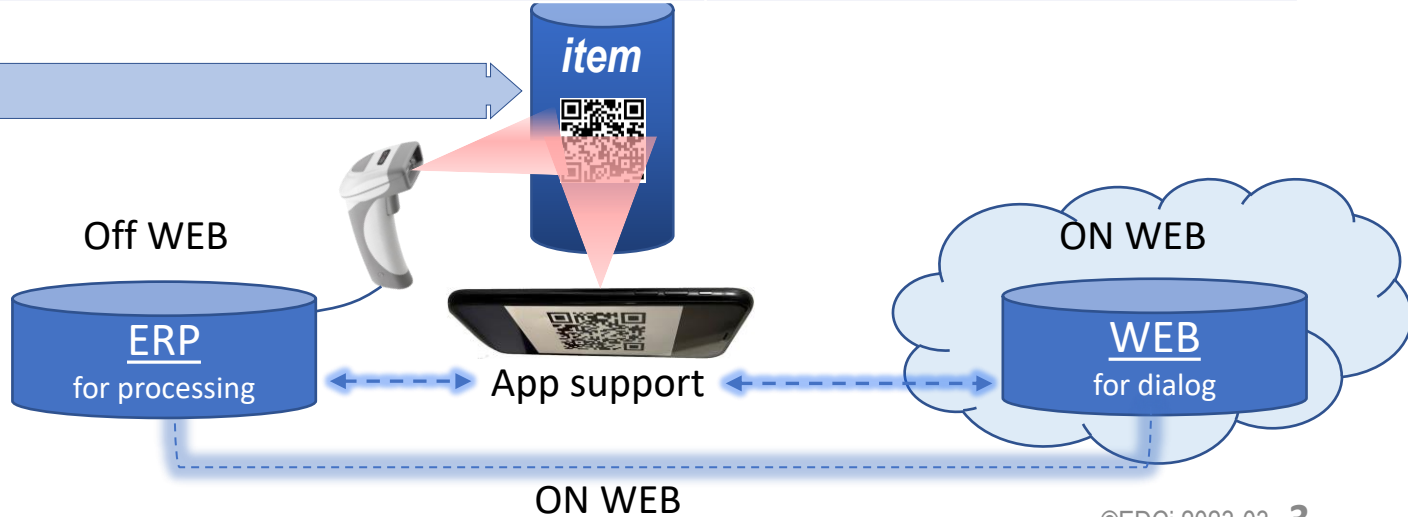
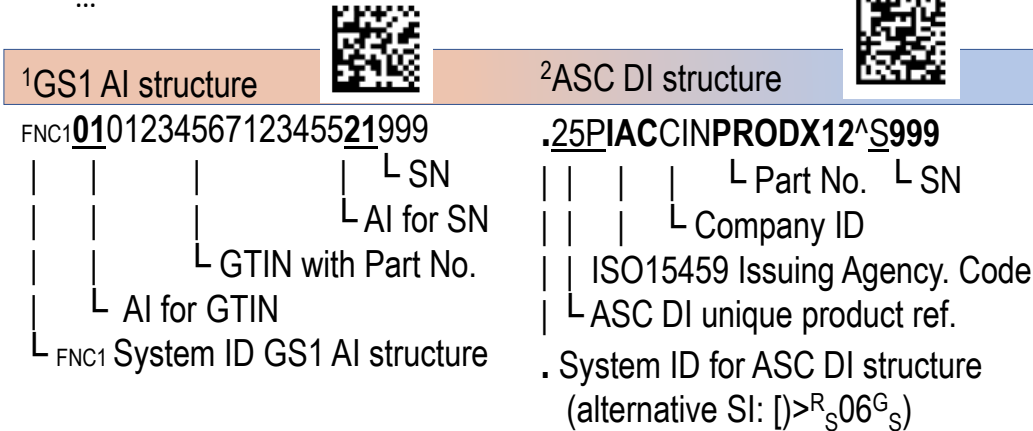
1 UID first, standard	2 UID first + WEB	3 URL first AutoID URL	4 URL first GS1 Dig. link	5 URL first IEC ID link	6 Other Ids ...
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Application VERY HIGH since the 90th:

All industries, e.g

- Air & space.
- Automotive and suppliers
- Chemical
- Consumables
- Electro, electronic
- Engineering
- Healthcare (UDI, PPN, ...)
- ...


Standard „UID first“ based on ISO/IEC 15418 and ISO/IEC 15459	Example with
ISO/IEC 15459-4 Unique identification: Individual products (support by ~40 ISO/IEC 15459-2 Issuing Agencies and its registered CIN holders world wide)	<sup>1</sup> GS1 AIs: (01) GTIN + (21) SN <sup>2</sup> ASC DIs: (25P) IAC.CIN, PN + (S) SN
ISO 28219 Labelling and direct product marking linear bar code and 2D	
ISO 17367 (17360)-Supply chain applications of RFID — Product tagging 	
+ Industry guidelines like LR05 Automotive for Barcode and RFID on item level	ASC DI: (37S) IAC CIN PN + SN




# Unique identification and WEB link

## METHOD 1: "UID first", WEB access via APP support



	jd2	GS1DataMatrix	Symbology type GS1DataMatrix passed by reader
Raw data:	0101234567123455 21999		
Structure type:	GS1	Application Identifier (AI) following ISO/IEC15418	
Packing index:	01	0	
Article:	123456712345		GTIN-14 product code Labeller ID Issuing Agency: GS1
Check character:	5	Modulo 10 check character correct	
Serial number:	21	999	
			▼ Result of last scan
Resume:			GS1 structure OK



	ID	Data	Comment
▼ Scan no. 1			
Symbology:	jd1	Datamatrix	Symbology type Datamatrix passed by reader
Raw data:	.25PIACCINPRODX12 ^S999		
Structure type:	.	ASC	Data Identifier (DI) following ISO/IEC15418 (with CSID '.')
Labeler:	25P	IACCIN	Labeller ID Issuing Agency: ISO/IEC 15459
Article:	PRODX12		
Serial number:	S	999	
			▼ Result of last scan
Resume:			ASC structure OK

# Unique identification and WEB link

## METHOD 2: "ISO/IEC 15459 UID first" - ERP and WEB compatible

### Unique identification method

<b>2 UID first + WEB</b>	3 URL first AutoID URL	4 URL first GS1 Dig. link	5 URL first IEC ID link	6 Other IDs ...	1 UID first, standard
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Standard since 2016  
ISO/IEC 15418 ASC DI "34L"

Application areas:

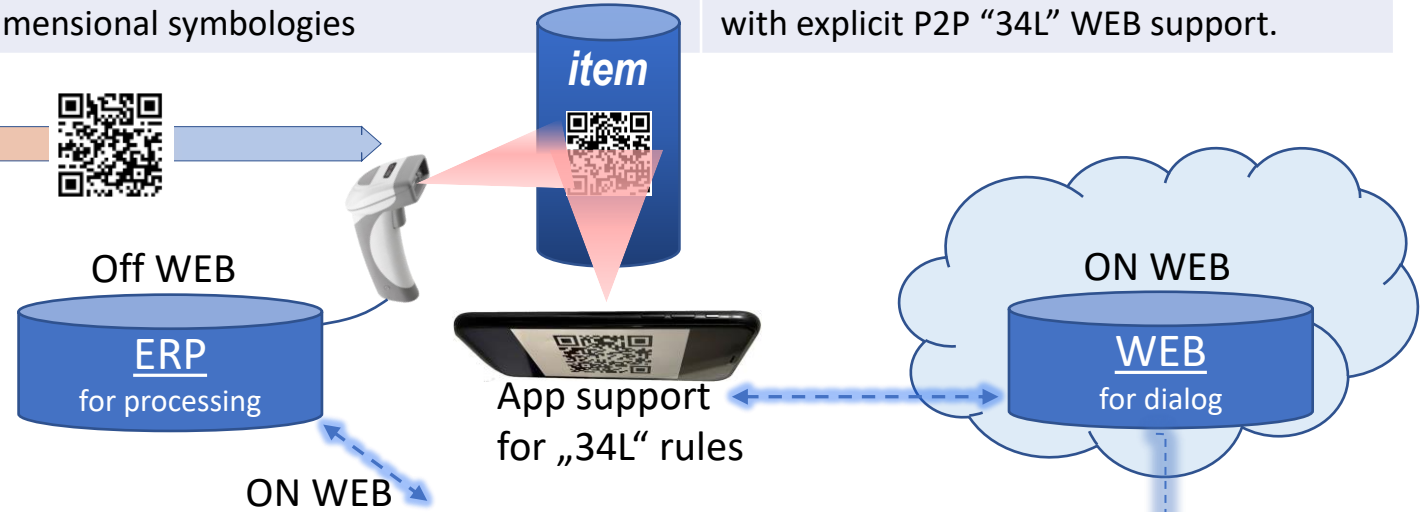
- All industries and healthcare using ASC DI structure and ISO/IEC 15459 properties

ASC DI Standard „UID first“ with WEB option	Example with ASC DIs
ISO/IEC 15418, part ANS MH10 Data Identifiers, ASC DI „34L“ P2P	(25P) IAC.CIN PN + (S) SN + (34L) WEB addr.
ISO 28219 Labelling and direct product marking linear bar code and 2D	
ISO 17367 (17360) - Supply chain applications of RFID-Product tagging	RFID
IEC 62090 Ed.2.0 - Product package labels for electronic components using bar code and two-dimensional symbologies	with explicit P2P "34L" WEB support.

ASC DI structure with WEB access

`.25PIACCINPRODX12^S999^34LWWW.PORTAL-99/?SCAN=`

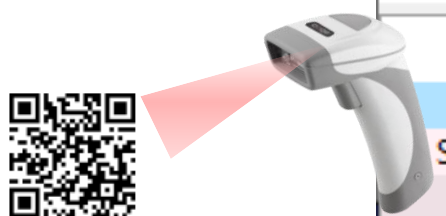
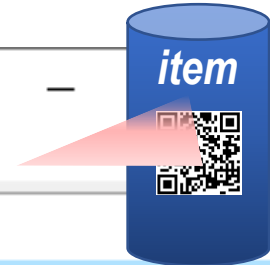
	└ Part No.	└ SN	
	└ Company ID		portal with query link
	└ ISO15459 IAC		
	└ ASC DI unique product ref.	└ ASC DI „34L“ setting the	
	System ID for ASC DI structure	*34L rules for WEB access	
	(alternative SI: ${}^R_S06^G_S$ )		







\*34L rules for WEB access: Turn the string for WEB access → `WWW.PORTAL-99/?SCAN=.25PIACCINPRODX12^S999`  
 (omit Data Identifier)

# Unique identification and WEB link

## METHOD 2: "ISO/IEC 15459 UID first" - ERP and WEB compatible

	ID	Data	Comment
			<ul style="list-style-type: none"> <li>Scan no. 1</li> </ul>
Symbology:	JQ1	QR	Symbology type QR passed by reader
Raw data:		.25PIACCINPRODX12 ^S999^34LWWW.PORTAL-99/?SCAN=	
Structure type:	.	ASC	Data Identifier (DI) following ISO/IEC15418 (with CSID '.')
Labeler:	25P	IACCIN	Labeller ID Issuing Agency: ISO/IEC 15459
Article:		PRODX12	
Serial number:	S	999	
URL:	34L	WWW.PORTAL-99/?SCAN=	<a href="http://www.portal-99/?scan=25piaccinprodx12%1ds999">URL HTTP://WWW.PORTAL-99/?SCAN=25PIACCINPRODX12%1DS999</a>
			<ul style="list-style-type: none"> <li>Result of last scan</li> </ul>
Resume:			ASC structure OK

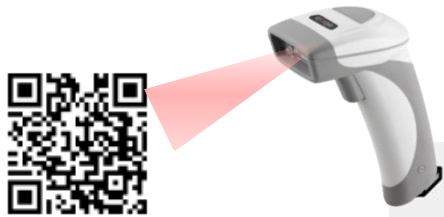









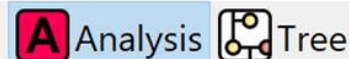
# Unique identification and WEB link

## METHOD 3: "URL first" - WEB compatible + ERP parsing



HTTPS://SRV.DE/ART?.25P=IACCINPRODX12&.S=999

	ID	Data	Comment
			<ul style="list-style-type: none"> <li>Scan no. 1</li> </ul>
Symbology:	JQ1	QR	Symbology type QR passed by reader
Raw data:		HTTPS://SRV.DE/ART?.25P=IACCINPRODX12&.S=999	
Structure type:		MobileTagging	Mobile Tagging
URL:		HTTPS://SRV.DE/ART?.25P=IACCINPRODX12&.S=999	<b>URL</b> HTTPS://SRV.DE/ART?.25P=IACCINPRODX12
			<ul style="list-style-type: none"> <li>Contained AutoID URL fields</li> </ul>
Labeler:	25P	IACCIN	Labeller ID Issuing Agency: ISO/IEC 15459
Article:		PRODX12	
Serial number:	S	999	
			<ul style="list-style-type: none"> <li>Result of last scan</li> </ul>
Resume:			AutoID URL Ok





# Unique identification and WEB link

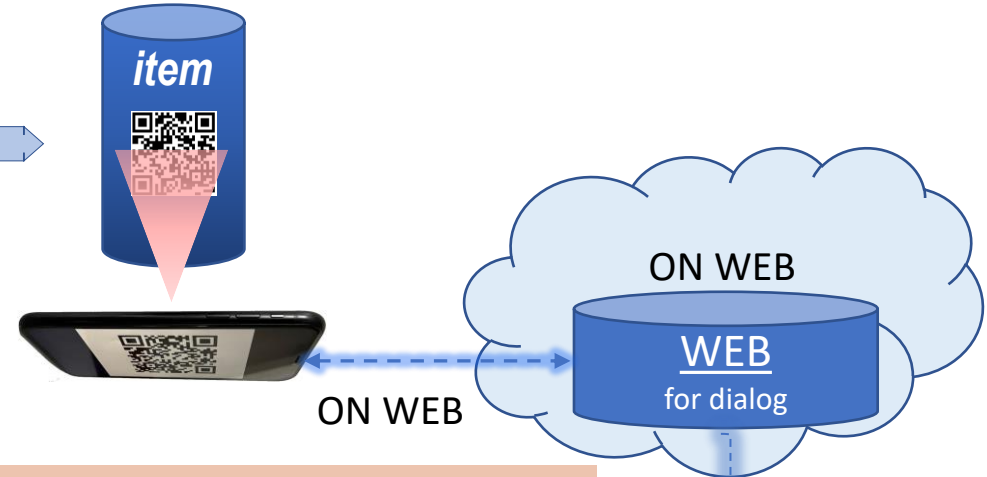
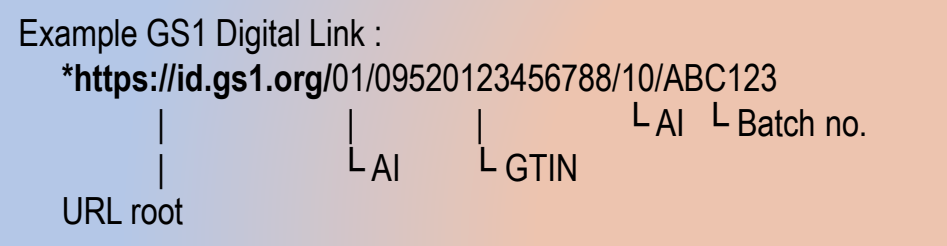
## METHOD 4: "URL first" GS1 Digital Link

Unique identification method					
4 URL first GS1 Dig. link	5 URL first IEC ID link	6 Other IDs...	1 UID first, standard	2 UID first + WEB	3 URL first AutoID URL

New potential application areas:

- All industries and healthcare using GS1 structure

„URL first“ WEB compatible	Example with GS1 AIs
GS1 Digital Link Standard - URI Syntax: 2022	WEB addr. + AI/GTIN/AI/Attribute/...
<i>GS1 Digital Link Standard based on data standards: RFC syntax + ISO/IEC 15418, part GS1 Application Identifiers, ISO/IEC 15459 properties for company Ids.</i>	



Code ready for direct WEB access → <https://id.gs1.org/01/09520123456788/10/ABC123>

\*Source example: GS1 Digital Link Standard: URI Syntax, chapter 5.3: GTIN+Batch → <https://ref.gs1.org/standards/digital-link/uri-syntax/>

# Unique identification and WEB link


## METHOD 4: "URL first" - GS1 Digital Link




Elmi-ScanLink Verify

View Device Parse Config Help


<https://id.gs1.org/01/09520123456788/10/ABC123>

	ID	Data	Comment
			▼ Scan no. 1
Symbology:	]Q1	QR	Symbology type QR passed by reader
Raw data:		<a href="https://id.gs1.org/01/09520123456788/10/ABC123">https://id.gs1.org/01/09520123456788/10/ABC123</a>	
Structure type:		MobileTagging	Mobile Tagging
URL:		<a href="https://id.gs1.org/01/09520123456788/10/ABC123">https://id.gs1.org/01/09520123456788/10/ABC123</a>	 <a href="https://id.gs1.org/01/09520123456788/10/ABC123">https://id.gs1.org/01/09520123456788/10/ABC123</a>
			▼ Result of last scan
Resume:			MobileTagging structure OK



 Analysis

 Tree

 Process editor

 elmicron

# Unique identification and WEB link

## METHOD 5: “URL first” IEC 61406-1/02

Unique identification method					
5 URL first IEC ID link	6 Other IDs...	1 UID first, standard	2 UID first + WEB	3 URL first AutoID URL	4 URL first GS1 Dig. link

New potential application areas:

- Electronic and related industries

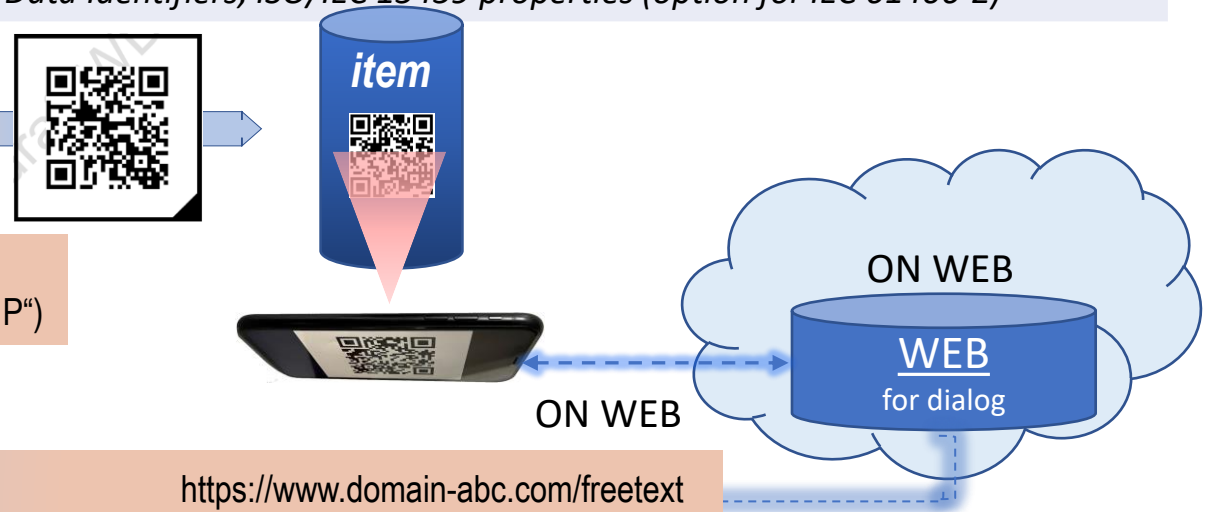
„URL first“ WEB compatible	Example with ASC DIs
IEC 61406-1 Identification Link : 2022, WEB domain as ID, no data parsing	WEB address
<i>Specifications based on data standards: RFC syntax</i>	
IEC draft 61406-2 – Domain ID + parsing ASC DIs	WEB addr. + (1PPN + (1T) Batch no.
<i>IEC draft 61406-2 based on data standards: RFC syntax + ISO/IEC 15418, part ASC Data Identifiers, ISO/IEC 15459 properties (option for IEC 61406-2)</i>	

\*Example IEC 61496-1: URL as company ID and labellers construct  
<https://www.domain-abc.com/freetext>  
 \*Source: IEC 61406-1, figure 6)

Example IEC 61496-2: WEB domain as company ID and ASC DI attributes,  
 example see method 3 (but PN to be applied with ASC DI „1P“)

See method 3

IEC 61496-1 Code ready for direct WEB access → <https://www.domain-abc.com/freetext>



# Unique identification and WEB link

## METHOD 5: "URL first" IEC 61406-1/02

Example IEC 61496-1: URL as company ID and labellers construct  
<https://www.domain-abc.com/freetext>



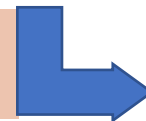
QR source:  
IEC 61406-1, fig. 6

The screenshot shows the Elmi-ScanLink Verify application window. The title bar reads "Elmi-ScanLink Verify" and the menu bar includes "View Device Parse". The address bar contains the URL <https://www.domain-abc.com/freetext>. Below the address bar is a table with the following data:

	ID	Data	Comment
			<ul style="list-style-type: none"> <li>Scan no. 1</li> </ul>
Symbology:	]Q1	QR	Symbology type QR passed by reader
Raw data:		<a href="https://www.domain-abc.com/freetext">https://www.domain-abc.com/freetext</a>	
Structure type:		MobileTagging	Mobile Tagging
URL:		<a href="https://www.domain-abc.com/freetext">https://www.domain-abc.com/freetext</a>	<b>URL</b> <a href="https://www.domain-abc.com/freetext">https://www.domain-abc.com/freetext</a>
			<ul style="list-style-type: none"> <li>Result of last scan</li> </ul>
Resume:			MobileTagging structure OK

The bottom toolbar contains icons for file operations (copy, paste, print, PDF), UDI DB, Analysis, Tree, Process editor, and the Elmicron logo.

Example IEC 61496-2: WEB domain as company ID and ASC DI attributes,  
 example see method 3 (but PN to be applied with ASC DI „1P“)



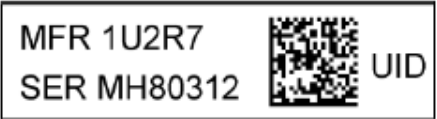
Example see method 3

# Unique identification and WEB link

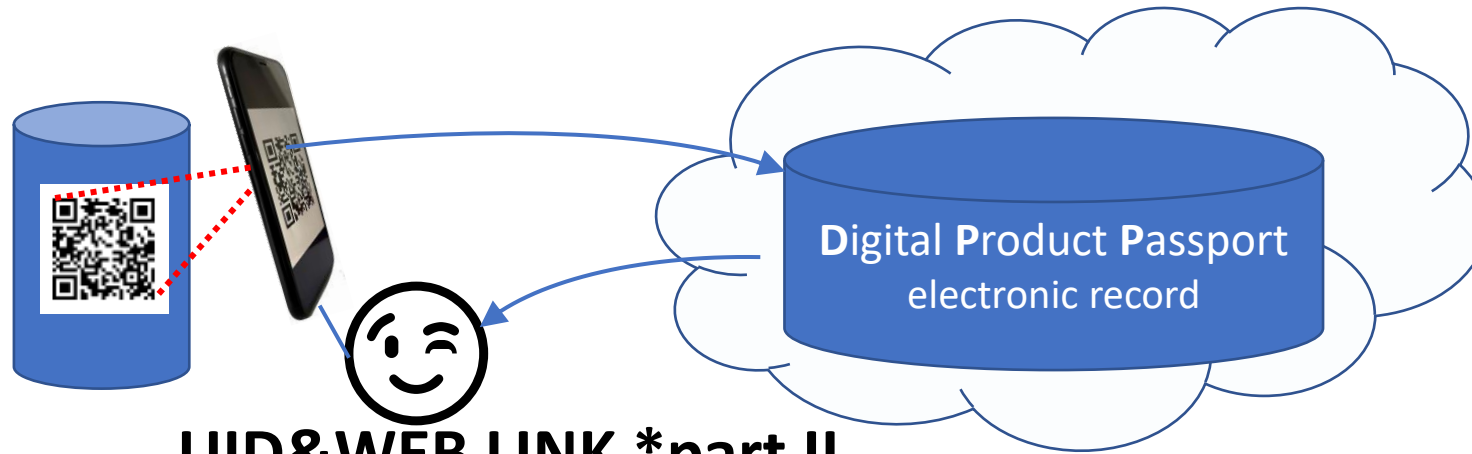
## METHOD 6: “Other Identification schemes (for AIDC media)”

Unique identification method					
<b>6 Other ID schemes</b>	1 UID first, standard	2 UID first + WEB	3 URL first AutoID URL	4 URL first GS1 Dig. link	5 URL first IEC ID link

Application:  
• Special areas

Other identification schemes	Feature	Barcode/Rfid	Example
URI approach RFC 3987, flat URIs	WEB only	See IEC 61406-1	See method 5
Text Element Identifiers (TEI)	MIL STD., ISO/IEC 15434 format 12	ISO/IEC AIDC media	
UN/EDIFACT qualifier	ISO/IEC 15434 format 04	ISO/IEC AIDC media 2d/Rfid	On request
JSON syntax	ISO/IEC 15434 format 15	ISO/IEC AIDC media 2d/Rfid	On request
IPv6 address 128 bits (mentioned externally for check)	Network address	No solution for barcoded use found	?
Digital object identifier (mentioned externally for check)	Communication	No solution found	?
etc.			





## UID&WEB LINK \*part II

\*see also part I and AutoID URL demonstrator

**Questions, contributions, suggestions are appreciated**



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Association Register Stendal, Germany Nr. VR6180