MODELS FOR UNSTRUCTURED, NON-GEOMETRIC INFORMATION OF TECHNICAL REQUIREMENTS

XSB, Inc

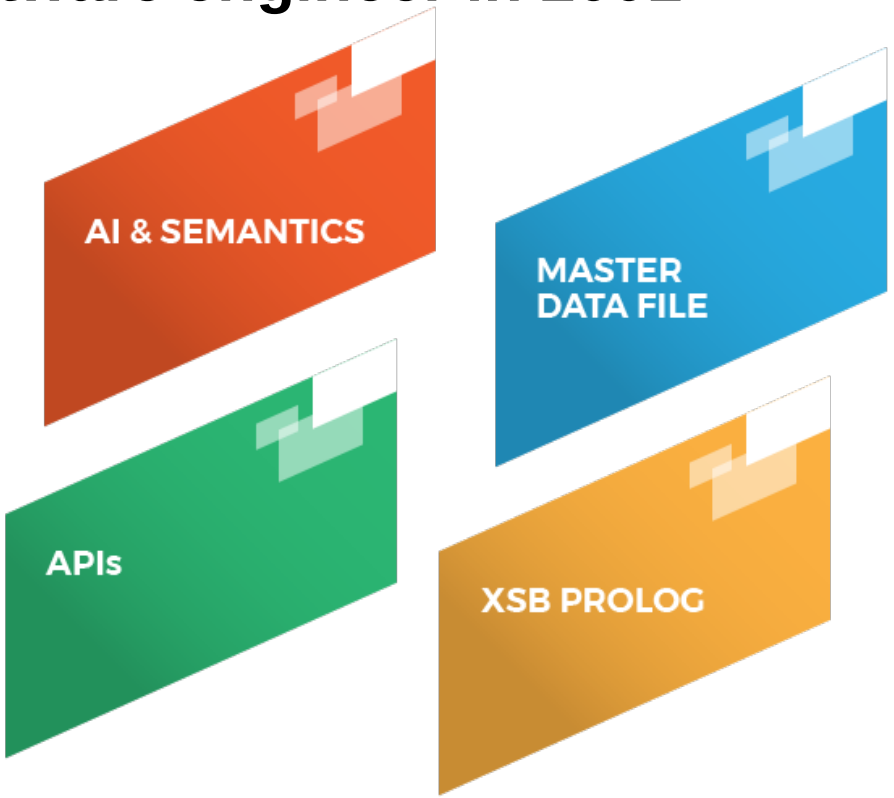
GLOBAL PRODUCT DATA INTEROPERABILITY

SUMMIT 2019

About the Speaker: Tatyana Vidrevich

- **Chief Operating Officer at XSB**
- **Joined as a Data Science software engineer in 2001**
- **Interest:**

  enabling machines to help humans solve engineering problems in unexplored spaces



What is Unstructured, Non-geometric Information?

NOTES:

1. SPEC MIL-W-13855 AWS ANSI Y14.5M-1982 APPLY.
2. MATERIAL: STEEL, BAR, ALLOY 4320 OR 8620.
3. UNLESS OTHERWISE SPECIFIED, ALL EXTERNAL SHARP EDGES SHALL BE BROKEN 0.05 TO 0.25; INTERNAL EDGES R0.2 MAX.
4. UNLESS OTHERWISE SPECIFIED, ALL SURFACE FINISH IS 3.2.
5. PROTECTIVE FINISH: FINISH 5.3.1.1 OR 5.3.2.1 OF MIL-STD-171.
6. QUALITY ASSURANCE PROVISION REQUIREMENTS PER DRAWING 12993884 APPLY.
7. APPLY CONTRACTORS CAGE CODE THIS AREA, MIL-STD-130 APPLIES.

402 Y — MATERIAL

402 Y — PROTECTIVE FINISH

108 III C — HARDNESS

205 II V — Ra 16 SURFACE ROUGHNESS

206 II V — PROTECTIVE FINISH

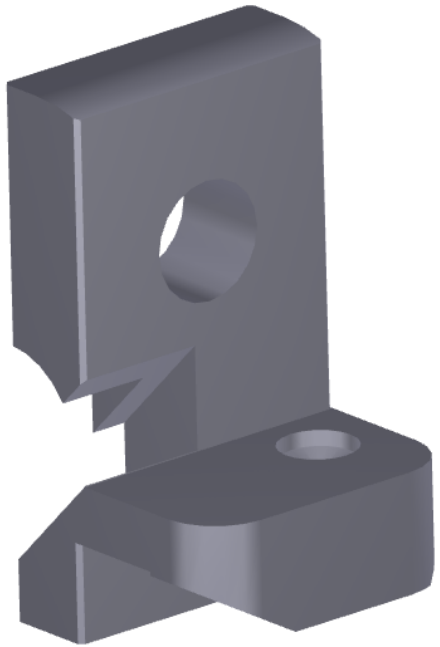
207 II V — WORKMANSHIP PER MIL-W-63150

502 Z — SALT SPRAY TEST

503 Z — COATING WEIGHT

504 Z — SUPPLEMENTAL OIL SALT SPRAY TEST

505 Z — CASE DEPTH HARDNESS



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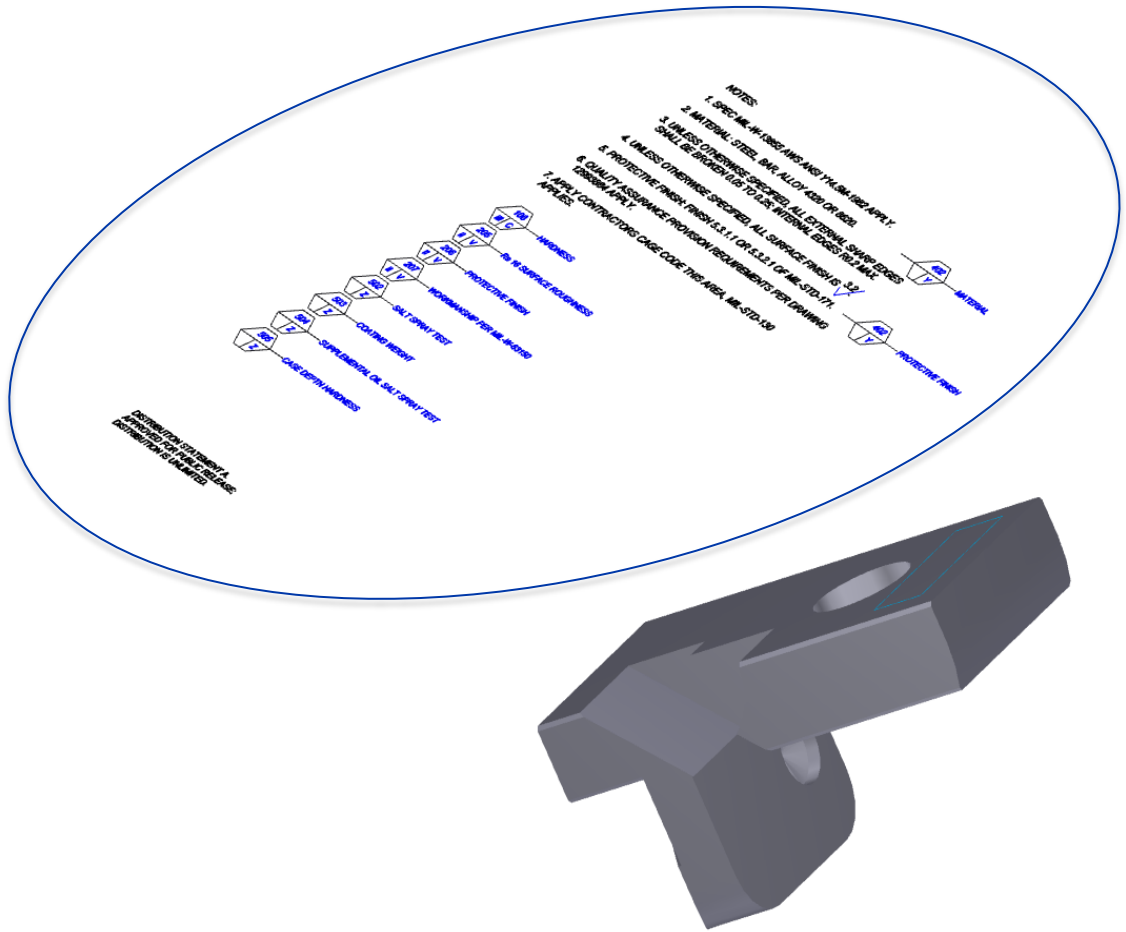

How About This?

METRIC/NON-METRIC ROUND

KSC-C-123J
JULY 17, 2009
Supersedes
KSC-C-123H
September 25, 1995
and incorporates
Change Notices
1 Through 6

SURFACE CLEANLINESS OF GROUND SUPPORT EQUIPMENT FLUID SYSTEMS, SPECIFICATION FOR

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ENGINEERING DIRECTORATE

National Aeronautics and
Space Administration

John F. Kennedy Space Center

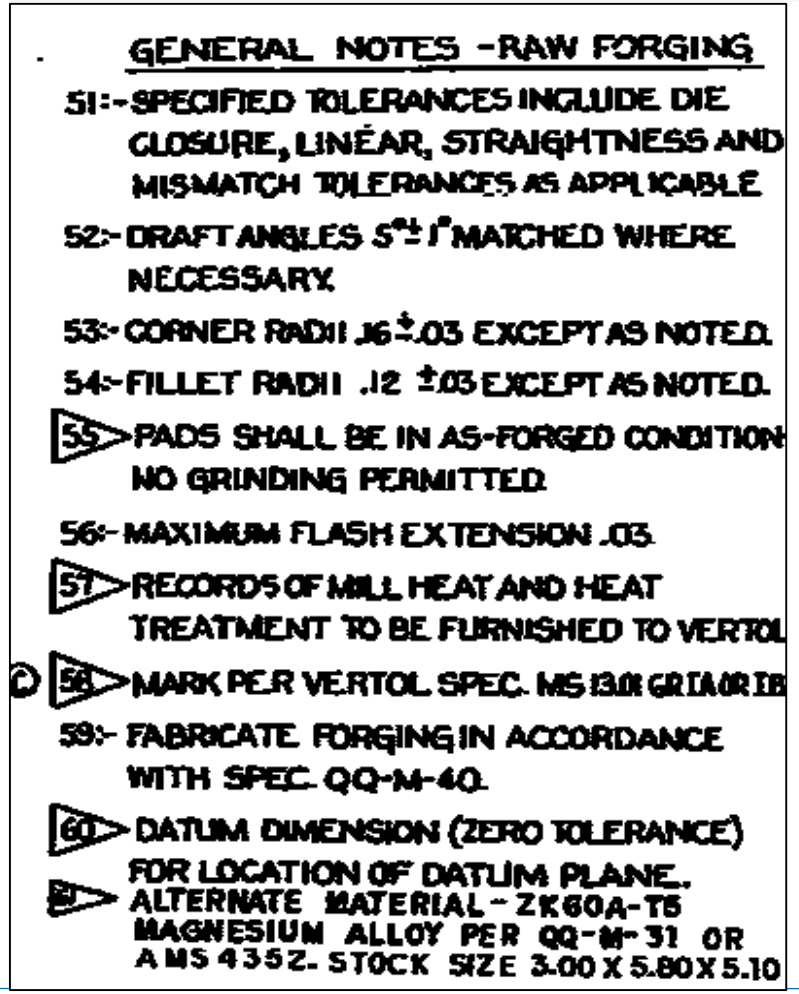
KSC FORM 16-12 (REV. 8/95) PREVIOUS EDITIONS ARE OBSOLETE (OG 11/96)

Table 1. Fluid Surface Cleanliness Levels

(Table 1A) Particulate Matter Contamination Levels			(Table 1B) NVR Contamination Levels		(Table 1C) Visible Contamination Levels	
Level	Particle Size Range µm (micrometer)	Maximum Number of Particles per 0.1 m²	Level	Maximum NVR (mg/0.1 m²)	Level	Definition
25	<5 5 to 15 >15 to 25 >25	Unlimited * 19 4 0	A	1.0	GC	Freedom from manufacturing residue, dirt, oil, grease, etc.
50	<15 15 to 25 >25 to 50 >50	Unlimited * 17 8 0	B	2.0	VC	The absence of all particulate and nonparticulate matter visible to the normal unaided eye or corrected-vision eye, commercially cleaned.
100	<25 25 to 50 >50 to 100 >100	Unlimited * 68 11 0	C	3.0	UV	Visually clean and inspected with ultraviolet light, requires precision cleaning methods
150	<50 50 to 100 >100 to 150 >150	Unlimited * 47 5 0	D	4.0		Notes Allowable particulate and NVR are based on 0.1 m² (1 ft²) Dewpoint and moisture can be waived if the critical surface is normally opened to the atmosphere (Test Method III, A.3.3) * Silting is not permitted
200	<50 50 to 100 >100 to 200 >200	Unlimited * 154 16 0	E	5.0		
250	<100 100 to 200 >200 to 250 >250	Unlimited * 39 3 0	F	7.0		
300	<100 100 to 250 >250 to 300 >300	Unlimited * 93 3 0	G	10.0		
500	<100 100 to 250 >250 to 500 >500	Unlimited * 1073 27 0	H	15.0		
750	<250 250 to 500 >500 to 750 >750	Unlimited * 205 9 0	J	25.0		
1000	<500 500 to 750 >750 to 1000 >1000	Unlimited * 34 5 0				

Or This?

Original Drawing Notes



GENERAL NOTES -RAW FORGING

51:-SPECIFIED TOLERANCES INCLUDE DIE CLOSURE, LINEAR, STRAIGHTNESS AND MISMATCH TOLERANCES AS APPLICABLE

52:-DRAFT ANGLES 5° ± 1° MATCHED WHERE NECESSARY.

53:-CORNER RADII .16 ±.03 EXCEPT AS NOTED.

54:-FILLET RADII .12 ±.03 EXCEPT AS NOTED.

55 PADS SHALL BE IN AS-FORGED CONDITION NO GRINDING PERMITTED.

56:-MAXIMUM FLASH EXTENSION .03.

57 RECORDS OF MILL HEAT AND HEAT TREATMENT TO BE FURNISHED TO VERTOL

58 MARK PER VERTOL SPEC. MS 1301 GRADE B

59:- FABRICATE FORGING IN ACCORDANCE WITH SPEC. QQ-M-40.

60 DATUM DIMENSION (ZERO TOLERANCE) FOR LOCATION OF DATUM PLANE.

61 ALTERNATE MATERIAL - ZK60A-T5 MAGNESIUM ALLOY PER QQ-M-31 OR AMS 4352. STOCK SIZE 3.00 X 5.80 X 5.10

SWISS Conversion to Text and Data

GENERAL NOTES - RAW FORGING

MATERIAL : MAGNESIUM
PROCESS : FORGING
STATE : CANCELLED

51- SPECIFIED TO
STRAIGHTNESS A

52 - DRAFT ANGL

53 - CORNER RADII 0.16 +/- AS NOTED.

54 - FILLET RADII 0.12 +/- .03 EXCEPT AS NOTED.

55 – PADS SHA
PERMITTED.

56 - MAXIMUM F

57 - RECORDS OF MILL HE T TREATMENT TO BE FURNISHED TO VERTOL

58 - MARK PER VERTOL SP MS 1301

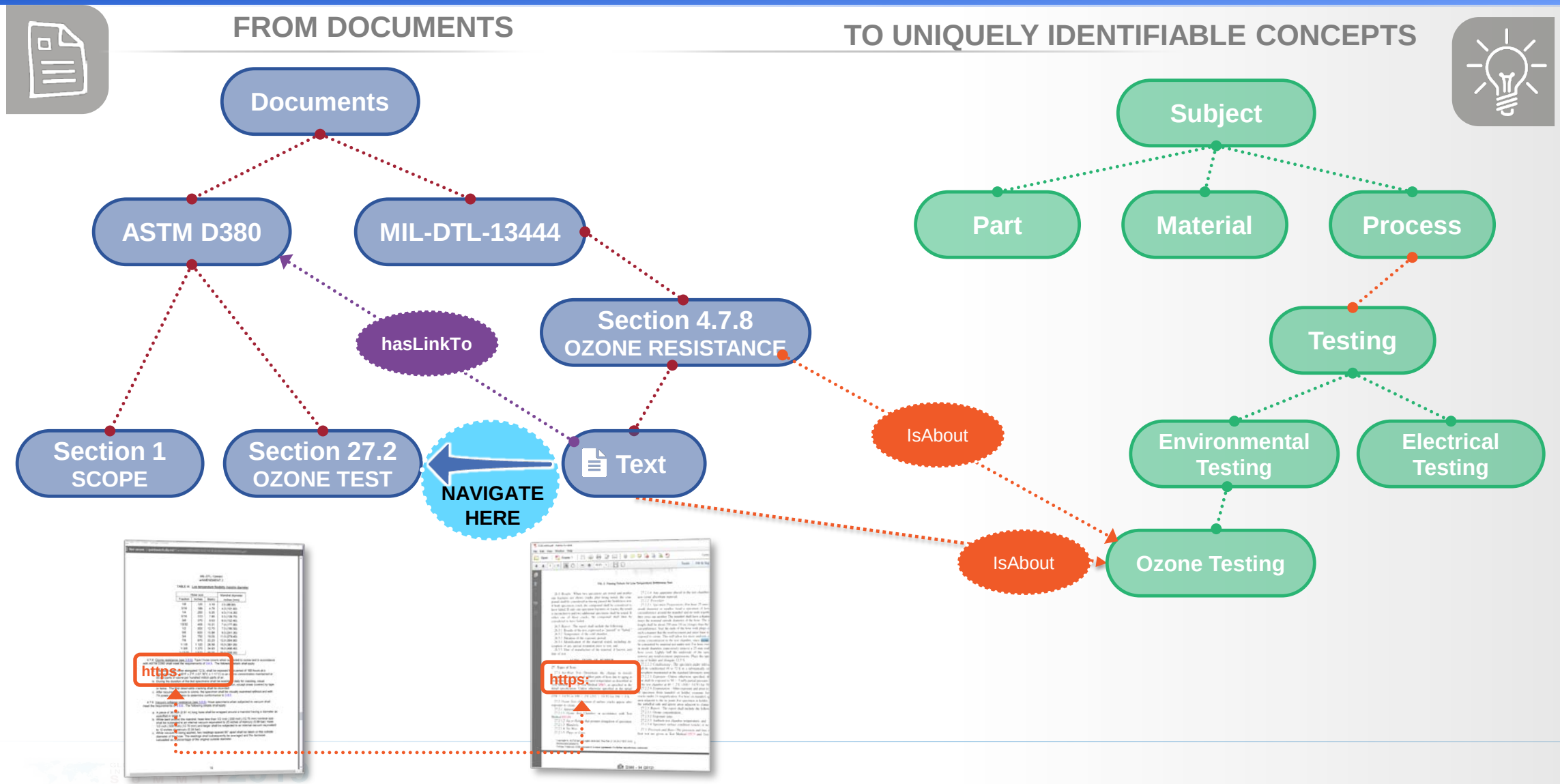
59 - FABRICATE FORGING IN ACCORDANCE WITH SPEC. QQ-M-40.

60 – DATUM DIMENSIONS (ZERO TOLERANCE) FOR LOCATION OF DATUM PLANE.

61 - ALTERNATE MATERIAL~ ZK60A-T5 MAGNESIUM ALLOY PER GQ-4-31 OR AMS 4352.

FORGING IN ACCORDANCE WITH SPEC. QQ-M-40

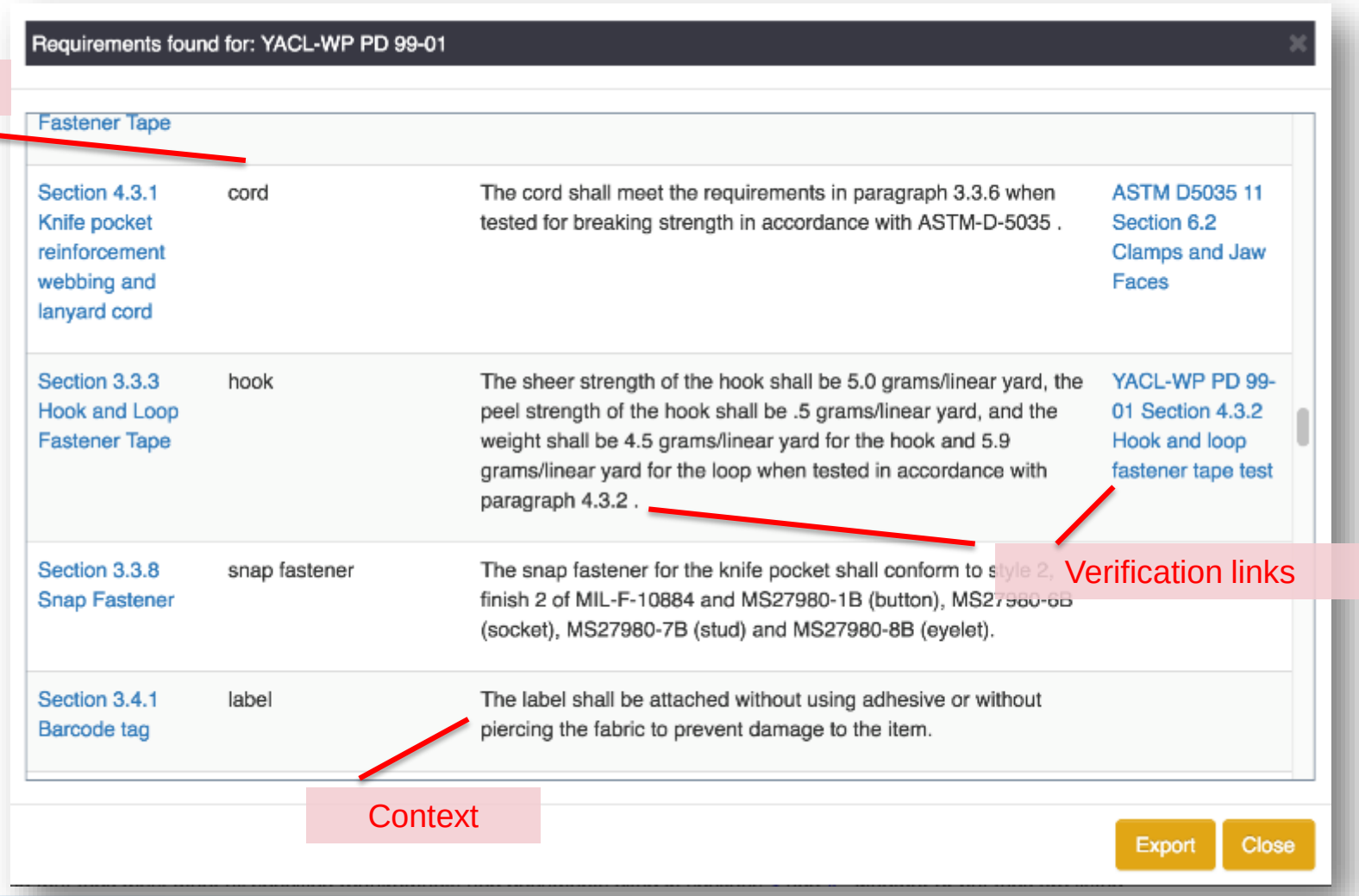
Semantic Linking: "Who" am I pointing to and "why"



Extending the Spec Model Through Requirements Extraction

Controlled vocabulary

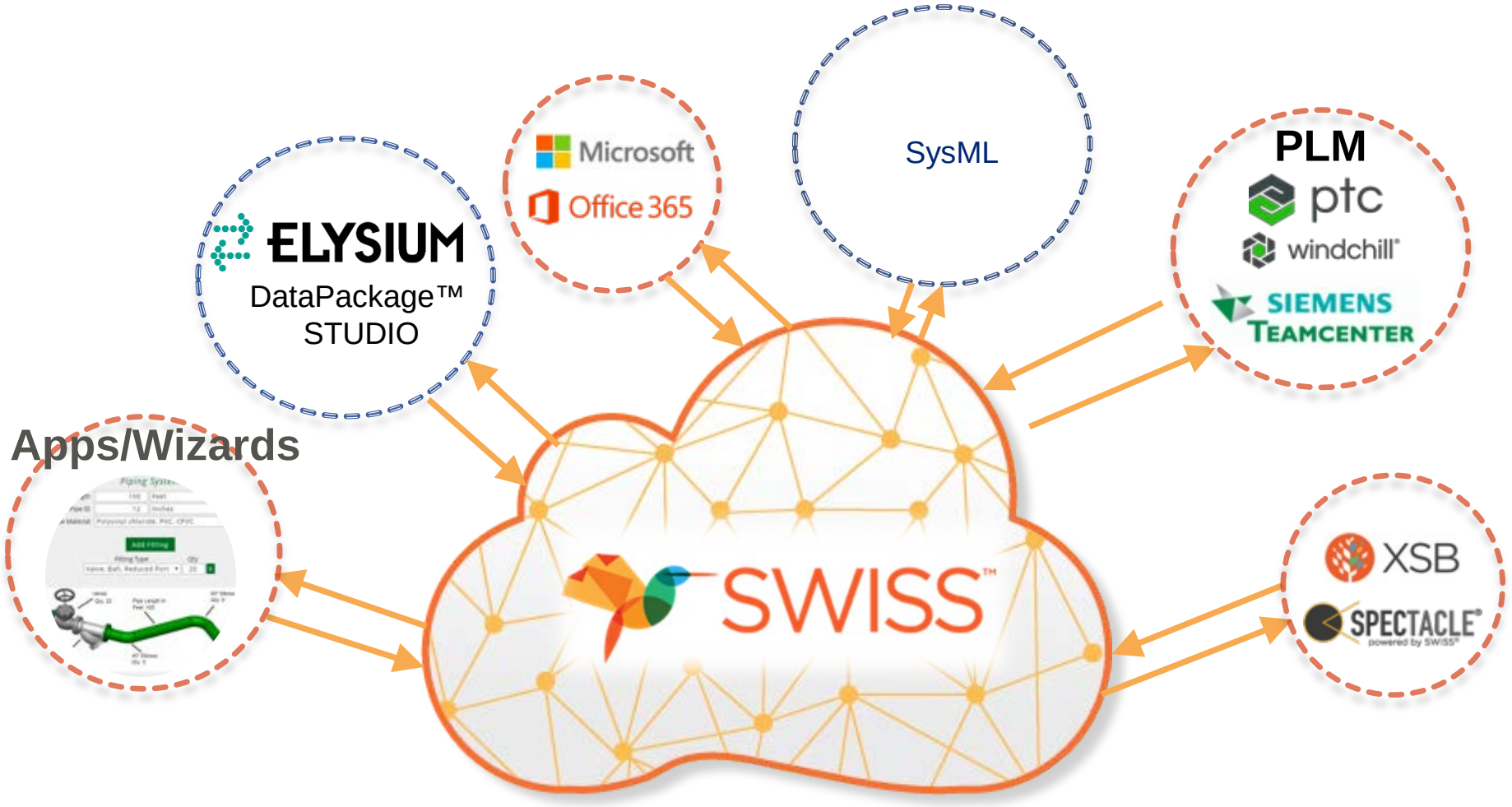
RESEARCH OBJECTIVES



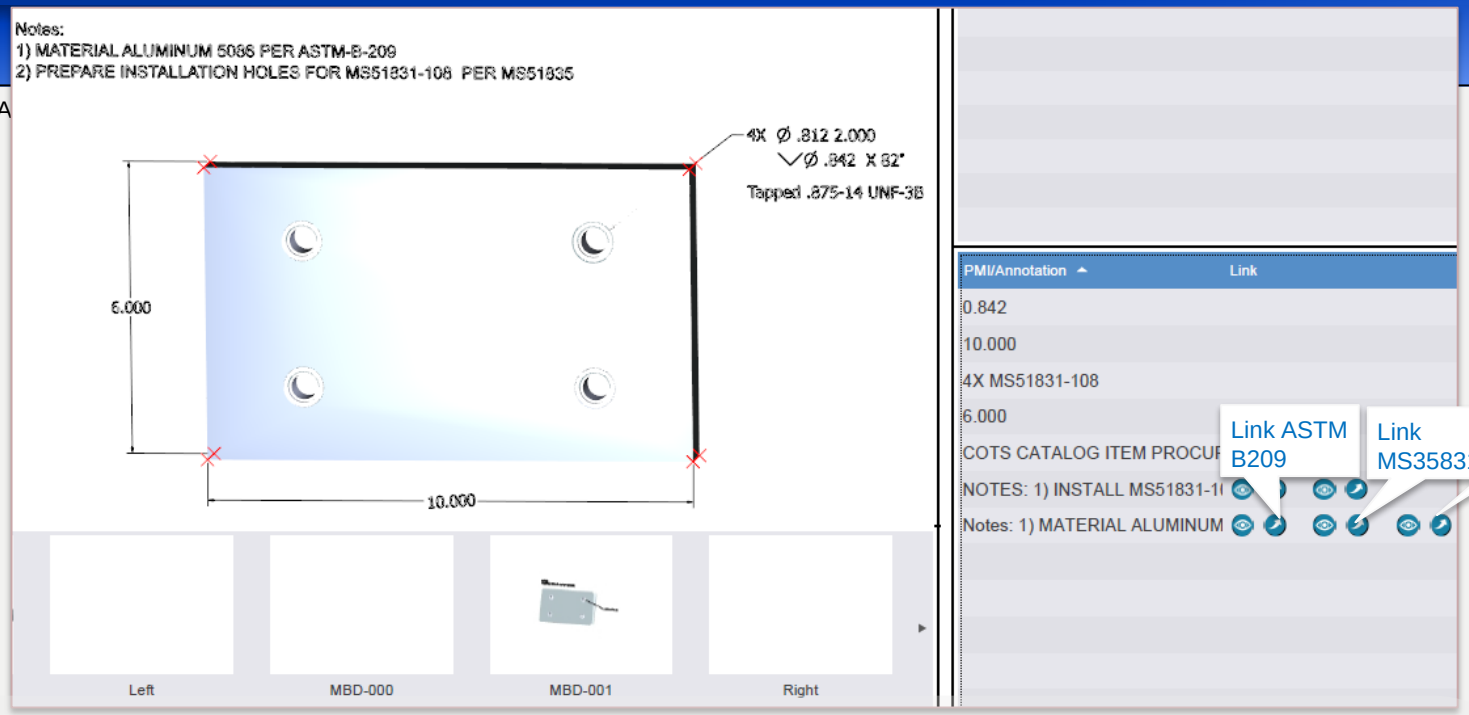
Verification links

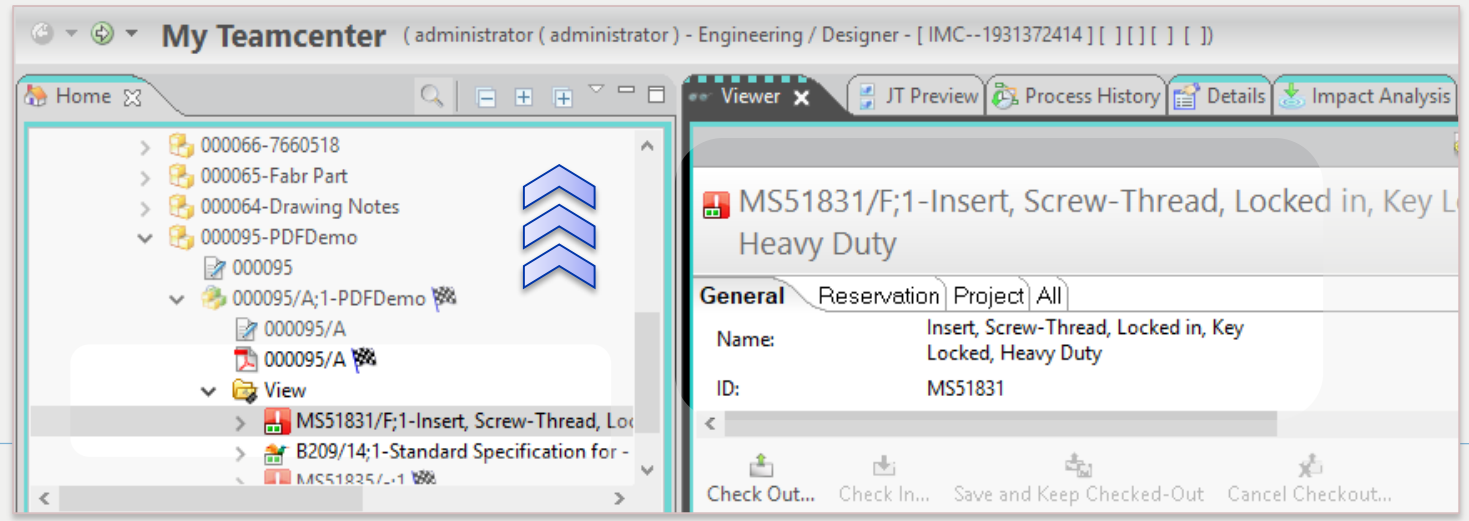
Context

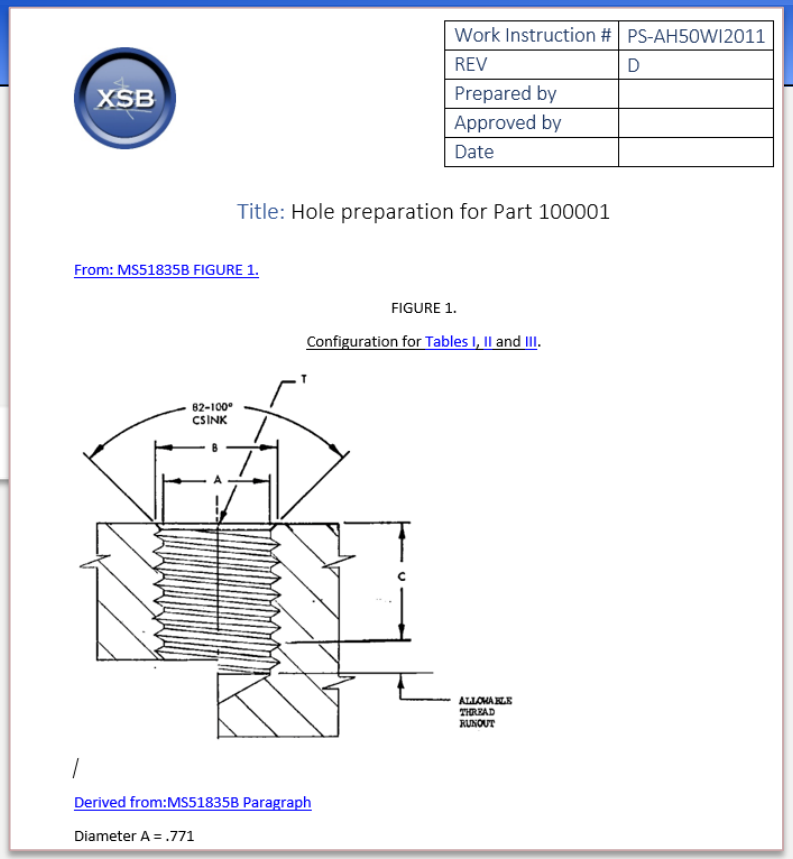
The SWISS API Delivers Data to the Apps and Standards You Already Use



Demonstration of the Elysium 3D PDF plugin







Five SWISS Game Changers

Global Product Data Interoperability Summit | **2019**

INTEROPERABILITY

Move effortlessly between concepts, within documents, work instructions, and industry specs. Saves time, increases accuracy.

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