The Semantic Web for Interoperable Specs and Standards
INTEROPERABLE STANDARDS FOR THE ENTERPRISE AND SUPPLY CHAIN
WHY WE DO WHAT WE DO?

Millions of engineers spend hours every day navigating and analyzing information in order to make the next decision in their workflow. Those decisions are fraught with significant time, cost, and risk.
$W_2 = \frac{aS_y}{4} \left[ 1 - \frac{S_y}{4n\pi^2 E}\right] (r)^2$ 

“Go to Section 4.2.4.”

“Must comply with API 650.”
"Must comply with API 650."

**Data Element**

**References**

Obtain API 650, and find the relevant section (498 pages)

**Equations**

\[ W_2 = \frac{aS_y}{4} \left[ 1 - \frac{S_y}{4n\pi^2E} \left( \frac{l}{r} \right)^2 \right] \]

**Tables of Numbers**

Copy manually or rekey into notebook, Word, Excel, Matlab, calculator, software, etc.

**CAD Drawings**

Recreate in CAD.
ONE PROJECT, TENS OF DOCUMENTS, THOUSANDS OF DATA ELEMENTS

"Refer to AGMA 1010-E95."

"Must comply with ASTM B104."

\[ W_2 = \frac{aS_y}{4} \left[ 1 - \frac{S_y}{4n\pi^2E} (\frac{l}{r})^2 \right] \]
INTEGRATION IS THE NORM (BUT VERY DIFFICULT)

"Do not exceed weight limits expressed in ASTM B104."

"Refer to AGMA 1010-E95."

\[
W_2 = \frac{aS_2}{4} \left[ 1 - \frac{S}{4\pi^2 E} \left( \frac{1}{r} \right)^2 \right]
\]
CHANGE MANAGEMENT IS DIFFICULT

These get updated

But these do not

- RFP
- INTERNAL STANDARDS
- INSTITUTIONAL KNOWLEDGE
- SUPPLIERS
- SOFTWARE
- SPREADSHEETS
- CAD DESIGNS
- WORK ORDER

✓

These get updated

But these do not

- ASTM
- ASME
- ISO
- GM
- Boeing
- AP

✖

These do not get updated

- Internal Standards
- Institutional Knowledge
- Suppliers
- Software
- Spreadsheets
- CAD Designs
- Work Order
- RFP

✓

These get updated

But these do not

- ASTM
- ASME
- ISO
- GM
- Boeing
- AP

✖

These do not get updated

- Internal Standards
- Institutional Knowledge
- Suppliers
- Software
- Spreadsheets
- CAD Designs
- Work Order
- RFP
SEARCH VERSUS USAGE

Most advancements since 2000

Ten Minutes

Navigation, Analysis, Integration

Many hours

SWISS Focus

Search

"Refer to AGMA 1010-E95."

"Must comply with ASTM B104."

$W_2 = \frac{aS_y}{4} \left[ 1 - \frac{S_y}{4\pi^2E} \left( \frac{l}{r} \right)^2 \right].$
VERSION COMPARISON IS PAINFUL

2012 version

Can you tell the difference?

2016 version

The method used in this specification for determining the geometry factors for pit loading resistance is simplified. A more precise and detailed analysis may be made using the method in ACMA 2001-04 and AGMA 900-03. The more precise method mentioned previously shall be used for non-circular contact ratios less than 1.0. When the indentation of the mating gear is determined in accordance with ACMA 2001-04, the indentation shall be determined in accordance with ACMA 2001-04 and AGMA 900-03. The more precise method mentioned previously shall be used for non-circular contact ratios less than 1.0. When the indentation of the mating gear is determined in accordance with ACMA 2001-04 and AGMA 900-03 and if \( P / (2a) \) is not equal to straight tooth diameter minus two standard addendum, the operating pin diameter of the pinion in all of the preceding rating equations shall be defined in accordance with ACMA 2001-04 and AGMA 900-03. The method used in this specification for determining the geometry factors for pit loading resistance is simplified. A more precise and detailed analysis may be made using the method in ACMA 2001-04 and AGMA 900-03. The more precise method mentioned previously shall be used for non-circular contact ratios less than 1.0. When the indentation of the mating gear is determined in accordance with ACMA 2001-04 and AGMA 900-03 and if \( P / (2a) \) is not equal to straight tooth diameter minus two standard addendum, the operating pin diameter of the pinion in all of the preceding rating equations shall be defined in accordance with ACMA 2001-04 and AGMA 900-03.
WHY SWISS?

SWISS gives users the knowledge to act, and the ability to make better decisions faster.
- Standards as digital data
- Cloud-based platform of interoperable “data elements”
- Seamless navigation within and between documents – right to the section that matters
- Easy integration into *controlled* Word, Excel, PLM, etc.
- Always up-to-date, always connected to source data