SMART Capabilities for Language Engineering

SMART AI Software and Digital Publishing Services

- Experts in ASD-STE100 Simplified Technical English with MAXit Checker
- Design and translation of technical publications for mobile devices
- Technical Writing Services, Consultation, Writer Training, ITARs audits
- Text Mining, Electronic Publishing (.xml), Natural Language Processing
- Safety Management Systems, Six Sigma Quality Standards, Simplification
- Software tools for S1000D, ATA2200, Mil. Spec., Artificial Intelligence (AI)

SMART

COMMUNICATIONS, INC.

Complexity to Simplicity

SMART Software Tools and Services

The SMART team has 20+ years experience with the successful implementation of STE programs. Our linguistic services include text mining for custom technical dictionaries, compliance software, linguistic consulting and training of technical writers. To make STE easy to implement, we offer a **MAXit** Starter Kit that is ideal for *proof-of-concept*.

The ASD-STE100 Dictionary

The ASD-STE100 Simplified Technical English (STE) specification is issued by the *AeroSpace and Defense Industries Association of Europe* (ASD). This specification provides a "core" vocabulary of 985 common words for aerospace maintainers. Companies add their technical nouns to create a custom dictionary for a product or service. A typical custom dictionary has approximately 8,500 technical terms. The **SMART Text Miner** can quickly identify hidden terminology and ambiguous language.

SMART Language Engineering

The **SMART Text Miner** extracts terminology and shows words in context and frequency of use. The reports from the **SMART Text Miner** are analyzed to develop the custom dictionaries and synonym lists. These knowledge assets are used in the **MAXit Checker**, eLearning text, Help Desks, machine translation, Natural Language Processing (NLP), AI Prompt engineering and terminology standardization.

The **Lexicon Manager** manages the custom dictionaries for global collaborative authoring. The Lexicon Manager has two *easy-to-use* screens so that users can add and share new terms or synonyms in seconds.

The **MAXit Checker** is a text critique tool that uses approximately 19,000 rules and custom dictionaries to validate texts for STE compliance.

MAXit is a ***plug-in*** to Adobe FrameMaker, Microsoft Word, PTC Arbortext Editor (.xml) and RTX EAGLE Publishing System. The **MAXit** program can share custom dictionaries in the Cloud for terminology standardization and collaborative authoring.

See **MAXit Checker** features shown on next page.

Simplified Technical English

The text below shows the simplification of maintenance information for an aircraft electrical system. The words that have errors are marked with colors by the **MAXit Checker**.   The writer clicks each color to get suggestions and guidance for in-place editing and corrections.

The specific location (position number) of the CWAP will be defined by the discrete input states based on cable wiring to the J3 connector inputs on pins 1 through 4 in Table 2.

The input to connector J3 controls the position number of each Cabin Wireless Access Point (CWAP).
Table 2 shows the input on pins 1, 2, 3 and 4.

Rewritten in STE

Key Features of the MAXit Checker
- Checks abbreviations in long and short form.
- Makes full-sentence grammatical analysis.
- Processes text by <tag>, text selection, paragraph, table cell or document.
- Suggests valid STE verbs for errors.
- Shows terms that are NOT FOUND in the dictionaries.
- Creates six sigma QA and readability reports.
- Navigates hypertext links and references.
- Marks nice-to-know text that can be removed.
- Marks awkward and complex English.
- Checks sentence length, 21-24 words.
- Checks subject agreement, noun to verb.
- Marks gerunds (-ing) that cause legal problems.
- Navigates HTML, XML and .dita codes.
- Marks language that can cause a risk or failure.
- Marks words that have the wrong meaning.
- Matches to preferred spelling and style.
- Identifies problem phrasal verbs and prepositions.
- Marks wrong prefixes and suffixes (non-, -ize, -ness)
- Marks apostrophes and possessives.
- Identifies and marks technical jargon for correction.
- Marks all gender pronouns.
- Marks passive voice to convert to active voice.
- Marks nouns incorrectly used as verbs.
- Marks word clusters that cause translation problems.
- Suggests where to insert definite (the) articles.
- Includes a Metric Conversion tool.

The SMART team has successfully adapted STE, with modifications, to these industries: Automotive, Autonomous and Electric Vehicles, Mining Machines, Aerospace (Drones), Wind Power, SatCom, Cyberspace, Banking Software, Finance, Civil Engineering, Semiconductor Manufacturing, Education, Law Enforcement, Healthcare, Medical Devices, Telecom 5G and Satellite Navigation, Hydrogen Fuel Cells, Pharmaceuticals, Robotics, Process Control, Oil and Gas, Software Engineering, Information Technology and Consumer Electronics. The Smart Plain English version is used by Federal and State Government agencies to comply with Plain Language and Limited English Proficiency (LEP) laws. The US Department of Defence mandates STE and ITARs compliance.

The Company

SMART Communications, Inc., New York City, was formed more than 20 years ago by John Smart, a graduate of the Rochester Institute of Technology (RIT) in computer and publishing sciences. The company develops *Artificial Intelligence* (AI) and *Natural Language Processing* (NLP) linguistic software.

The SMART team includes technical writers, software engineers, eLearning specialists, technical translators, data scientists and linguists.
Our team understands S1000D, S3000L, ICAO levels of Aviation English, Military Standards, .XML, .dita, ASD-STE100, ATA iSpec2200 and ITARs.

Our defense industry clients include US Army, US Navy, USAF, BAE Systems, Northrop Grumman, RTX Naval, Airbus, Boeing, Leonardo(USA), Honeywell, Safran and Lockheed Martin Rotary and others.

Simplified Technical English (STE)
The objective of ASD-STE100 Simplified Technical English is to control the risk of human error, failure and miscommunication through the use of a controlled language. To remove ambiguity, the STE dictionary uses 1% of the English language. The use of STE is mandated by 1,200+ airlines, ICAO, FAA, DOD, NATO for Air, Land, Space, Cyber and Sea.

The results are procedural and maintenance information written in clear, concise, accurate and *easy-to-read* technical English.

SMARTer Digital Publishing

The SMART team uses the latest technical authoring tools (.xml) from Microsoft, Adobe, PTC and RTX to create Interactive Electronic Technical Manuals (IETMs).
All texts are checked by the **MAXit Checker** for compliance to STE and by our **Sherlock** tool to monitor for key ITARs terms that must be automatically redacted.

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