



## AI-powered tools for Language Simplification

**SMART Communications, Inc.**, New York City, is an experienced developer of *Artificial Intelligence* (AI) software. The **MAXit Checker** is an AI agent that helps technical writers create clear, concise, technical documentation for software and user manuals.

### MAXit Checks Three Controlled Languages

**1** **Simplified English** is ASD-STE100 Simplified Technical English (STE) for aerospace (MRO) and defense maintenance information used in 150 countries.

**2** **Controlled English** is a controlled vocabulary, ideal for operator training and instruction manuals. Example uses, construction machinery, software documentation, medical devices, telecommunications, semiconductors, nuclear power, oil and gas and ship building. **MAXit** monitors compliance to federal regulations and safety management systems.

**3** **Plain English** is designed for *Citizen Services* and compliance to federal and state Plain Language regulations. **Plain English** texts are ideal for readers who have Limited English Proficiency (LEP) or use English as a second language.

### Size of a Controlled English Vocabulary

The English language has more than one million words. A **controlled vocabulary** uses 5,000 to 8,500 terms, or 1% of the English language. A product or service vocabulary removes ambiguity and increases readability for global English readers.

### MAXit Checker is AI powered

The **MAXit Checker** uses 19,000 inferences (*AI rules*) that instantly validate texts for clarity, consistency, translatability and valid terminology. **MAXit** has a *Six Sigma* quality measurement tool that shows compliance to STE, style and language standards.

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### The Results ...

A controlled vocabulary creates texts that are clear, concise, consistent and easy-to-understand. The benefits of simplicity include improved *customer satisfaction* and cost savings through avoidance of errors.

### MAXit Checker Versions - see above

All versions share common dictionaries, user interfaces, grammar rules and functions for structured and unstructured texts.

### Partial list of MAXit features in all versions

- Checks abbreviations in long and short forms for correct capitalization.
- Makes full-sentence grammatical and syntactical analysis.
- Processes text by paragraph, page, table and document.
- Suggests verbs that are easier to translate and understand.
- Shows a list of words that are NOT FOUND in the MAXit dictionaries.
- Creates six sigma and readability reports.
- Navigates FrameMaker links, cross-references, indexes and tags.
- Marks adverbs that do not modify verbs, or can be deleted.
- Marks *nice to know* versus *need to know* phrases.
- Marks awkward, complex, emotional, pretentious and idiomatic English.
- Checks sentence length. Procedures 21 words, descriptions 24 words.
- Displays errors in 40 messages derived from 16,000 AI rules.
- Validates product terminology and trademarks.
- Checks text for possible translation problems and shows suggestions.
- Checks sentences for noun verb agreement and missing references.
- Marks present participles, gerunds (-ing) that cause problems.
- Checks for correct verb negation and double negative statements.
- Ignores text inside selected <tags>, example <comment>, <warning>
- Navigates structured FrameMaker text and text in DITA format.
- Validates aerospace Component Maintenance Manuals for S1000D.
- Marks phrases that can cause a risk for product liability (might, fail safe).
- Suggests alternatives for words that have the wrong meaning.
- Matches and marks preferred spelling, including British and American.
- Validates instrument labels for type style, for example, OFF switch.
- Checks texts for Controlled English, Plain English or Simplified English.
- Identifies phrasal verbs, example, lit up, carrying out, opt in.
- Marks incorrect suffixes (-ize, -ness) and prefixes (non- and un-).
- Marks and suggests the use of hyphens, example, 64-bit system.
- Marks apostrophes and possessive nouns for translation.
- Identifies technical jargon, including medicalesse and legalese.
- Marks missing references and antecedents, for example, "it," "they."
- Marks missing commas and shows where commas must be inserted.
- Marks gender pronouns and references, example, *he* and *she*.
- Marks passive voice and suggests active voice for clearer sentences.
- Marks nouns used as verbs that cause comprehension problems.
- Marks noun clusters and phrases to delete without loss of meaning.
- Suggests where to insert articles (*a, an, the*) to increase readability.
- Shows a list of synonyms with a *click-to-insert* dialog box.
- Includes a Metric Conversion tool for dual dimensions.
- Includes a Verb Finder to show the correct verbs.
- Includes a Word Finder to find the correct term or synonym.