



HyperSTE - ASD STE-100 Software

Standardizing the content of technical publications

Berry Braster – S1000D UF, Moscow



Commercial & Military Requirements

What we produce:

- Training manuals
- Instructor guides/manuals
- Student guides/manuals
- Installation instructions
- Operator's/Owner's/Operation manuals
- Troubleshooting guides/manuals
- Diagnostic guides/manuals
- A variety of maintenance/service manuals
- System schematic manuals
- Maintenance requirement cards
- Service bulletins
- Software documentation
- Hardware documentation

What we produce it for:

- Commercial/Business Aircraft and Systems
- Commercial and Military Components
- Military Aircraft
- Ground Support Equipment
- Light Sport Aircraft/General Aviation

According to:

- ▶ S1000D
- ▶ ASD-STE100
- ▶ MIL SPEC
- ▶ ATA iSpec 2200
- ▶ PVE800001, B0009
- ▶ IETMs, IETPs

Questions to consider

Content control:

- Do we manage our terminology?
- Do we have a style guide?
- Do we have to comply with content standards like S1000D, MIL SPEC or Grade Level Reading?
- Do we communicate clearly and efficiently?
- Do we measure our quality of content?
- Are we efficient and cost effective information developers?



What do we communicate?

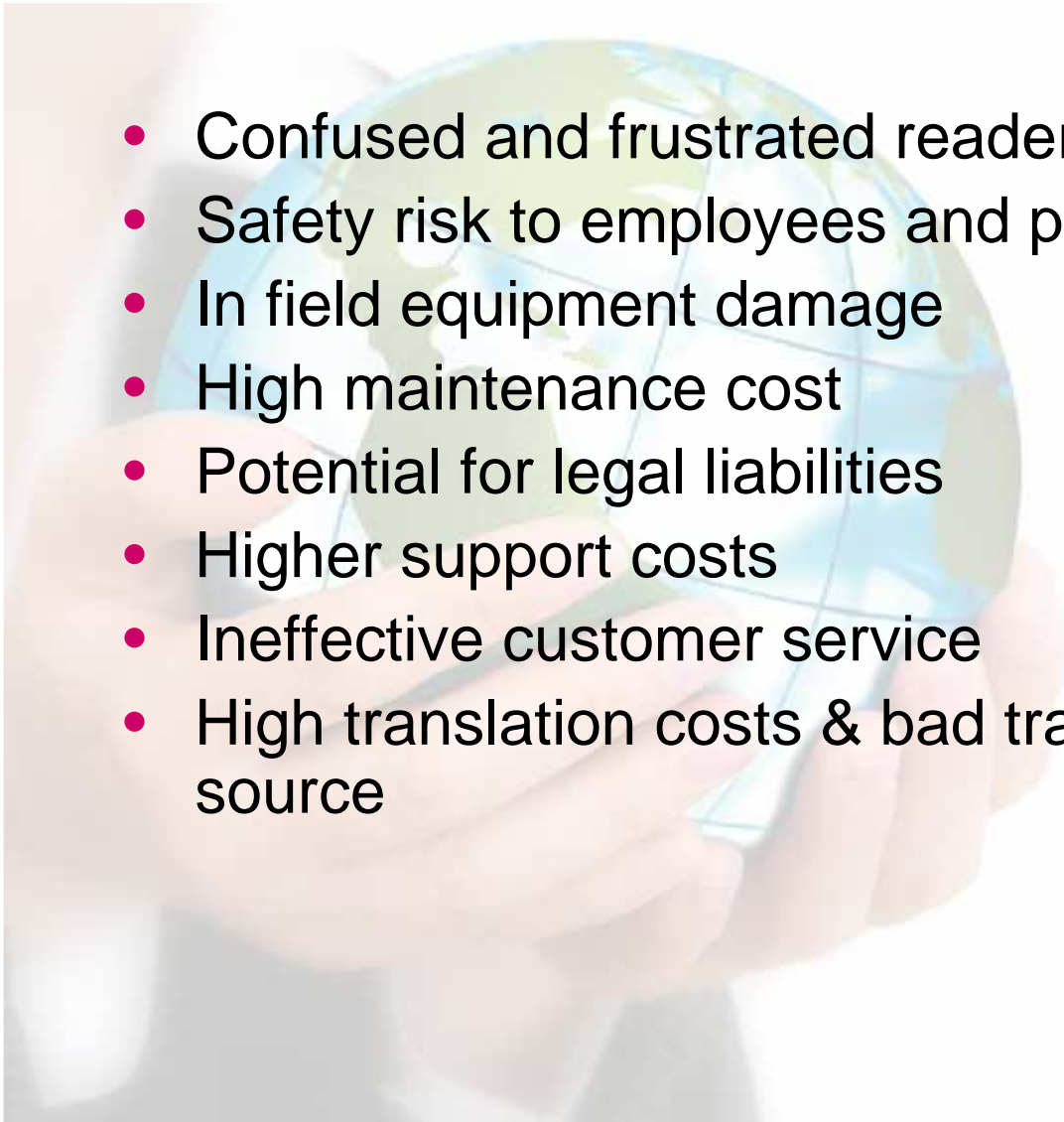
Found in a different aircraft manuals:

- “Clean the turret dome chassis thermal window securing screw threaded holes and the thermal window 16 securing screws of all previously used sealant using solvent.”
- “Turn off the engines not required.”
could mean:
 - Turn off the engines that are not required, or
 - Turning off the engines is not required



The result of not addressing these questions

- Confused and frustrated readers
- Safety risk to employees and partners
- In field equipment damage
- High maintenance cost
- Potential for legal liabilities
- Higher support costs
- Ineffective customer service
- High translation costs & bad translations due to unclear source





The larger costs of not getting it right

- A power transformer company was sued for \$5M after a transformer blew up due to badly worded and confusing documentation.
- The largest single problem area for Google in internationalizing their service was language / translation issues - accounted for 35% of all reported issues.
- EMC estimates it was spending \$762,000 on internationalization errors in just one product set.
- Failure to convert English measures to metric values caused the loss of the Mars Climate Orbiter, a spacecraft that smashed into the planet instead of reaching a safe orbit. Total project cost: \$327.6M.
- An FAA survey of aircraft technicians revealed that, although user evaluations of the accuracy and quality of technical manuals are generally good, the manuals themselves were noted as having poor usability.
- Using the wrong word in an accounting system cost the New York City Department of Education \$1.4M
- A badly worded sentence in a contract cost a Canadian utility company \$2.3M.
- Several medium sized engineering companies going out of business because they lost customers due to either poor quality documentation, or after they stopped producing any docs at all to 'save money'.

So...avoid miscommunication

- ▶ Consider your audience
- ▶ Write unambiguous
- ▶ Write consistent
- ▶ Provide your customer with quality





Simplified Technical English (ASD-STE100)

- STE makes technical English easy to understand
 - **Writing rules:**
Keep it simple, be specific, be consistent
 - **Core dictionary:**
± 3000 words
 - Add **company-specific terms** to core dictionary:
One word = one meaning
- STE can help you reduce 80,000 words to 8,000 words

Writing Rules
Grammar & Style
Approx. 60 rules

Core Dictionary
approved words
non-approved words

Company Dictionary
Company specific
terminology

ASD-STE100

Required by S1000D & ATA iSpec 2200 for:

- Most Boeing and Airbus commercial planes
- Nimrod 2000
- Tornado
- Eurofighter
- Eurocopter EC 120, NH 90
- Chinook helicopter
- Beriev Be-200
- And more..





Benefits

- Quality assurance and improvement
- Standardized way of writing (Simplified Technical English, Corporate Style Guide, Grade Level)
- Improved safety
- Efficient authoring
- Reduced time to market
- Improved customer experience
- Facilitates content management, XML
- Facilitates S1000D structured authoring
- Considerable cost savings
- Cheaper, faster and better translations

Steps for Implementation

Three steps:

1. Standardize corporate terminology
2. Train writers on writing rules
3. Check documentation with HyperSTE:
 - Quality assurance / quality control / quality measurement
 - Faster time to market, reduced translation costs
 - Efficient Authoring

Writing Rules

Core Dictionary

Customer Dictionary



HyperSTE

What users have to say

- “If our manuals are ambiguous, we are at risk.”
– *FAA*
- “We saved 30% in tech writing labor cost.”
– *Rolls-Royce*
- “We saved 30% in translation cost.”
– *L3 Communications*





How STE facilitates XML, S1000D, CMS

STE: clear and consistent source

Turn off the engines that are not required.

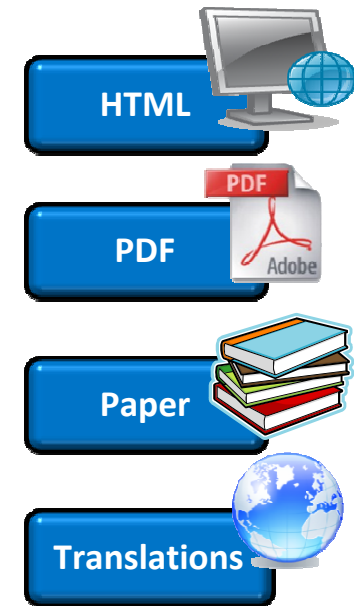
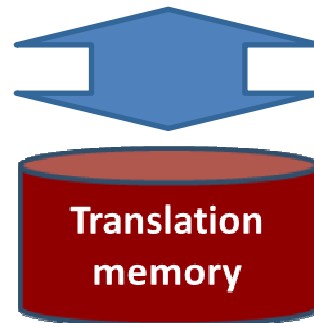
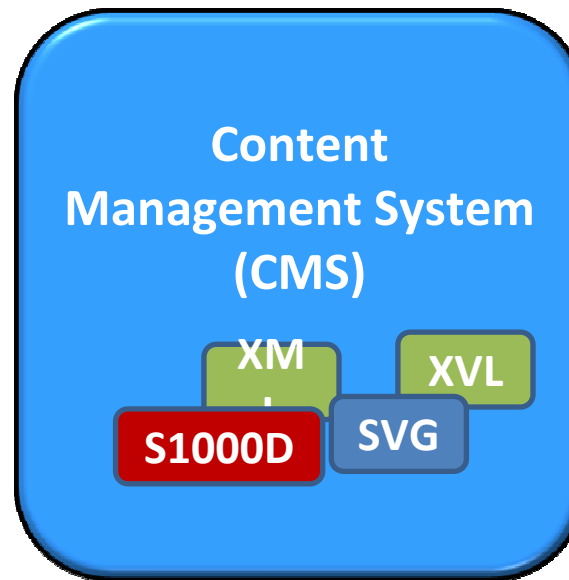


Unclear, too many words, not consistent source

Turn off the engines not required
Turning off the engines may not be required.
Ensure you turn off the engines.
All engines should be turned off.
Switch off the engines that may not be required.
Put the engines in the off position.
Not all engines should be switched off.
The system should be turned off, but not all.
Check to make sure the engines are OFF.
To make sure the engines are off, check them.
Makes sure the systems are in the off position.
Verify the engines are not in the ON position.
Please check to make sure the engines are OFF.



Switching off the engines may not be allowed.



Result

- ▶ Information Quality
- ▶ Efficient use of S1000D and CMS
- ▶ Up to 40% cost savings!



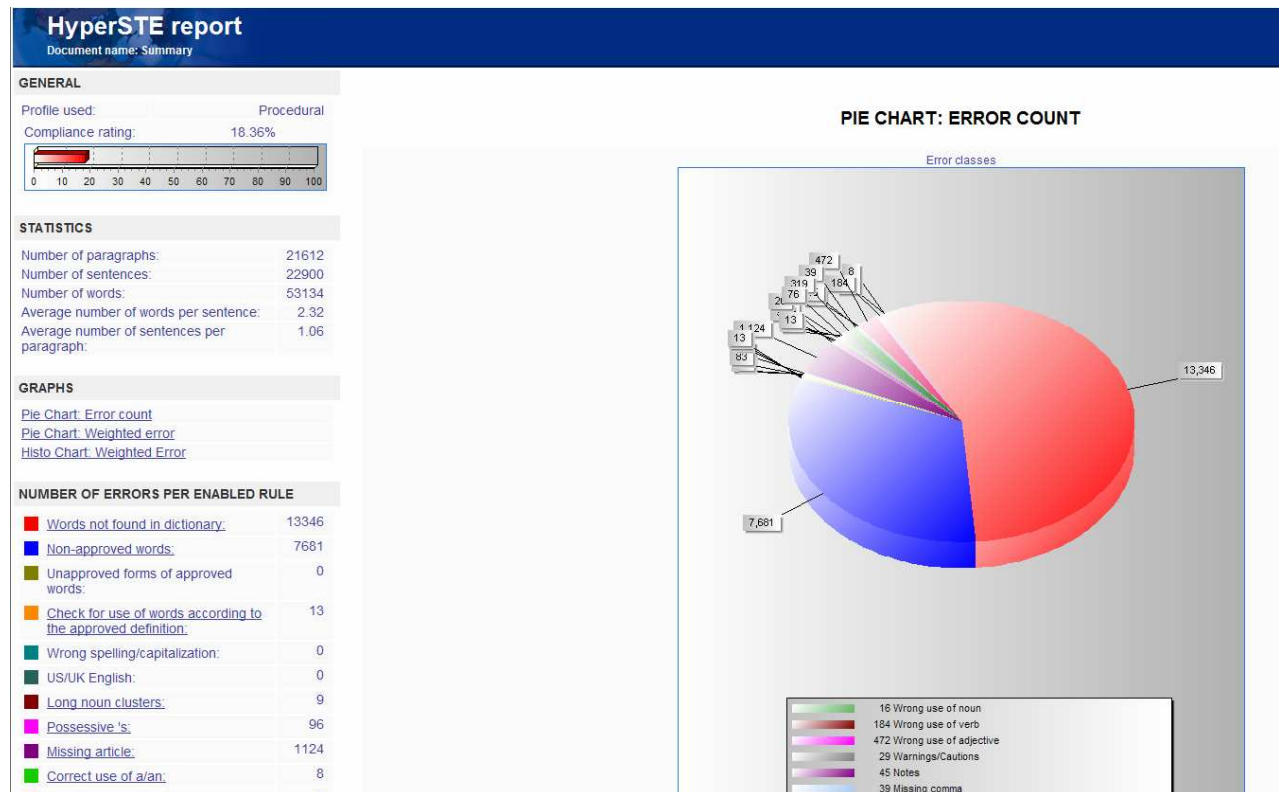
Initial Report: compliance rating

Compliance rating: 18,36%
based on STE standard,
measuring:

- ▶ Readability
- ▶ Translatability
- ▶ Reusability

Primary issues:

- ▶ No standardization of terminology (unknown and unapproved words based on linguistic standard)
- ▶ Common use of unapproved words leading to confusing and ambiguous content.
- ▶ Overuse of common phrases leading to inflated volume of words.



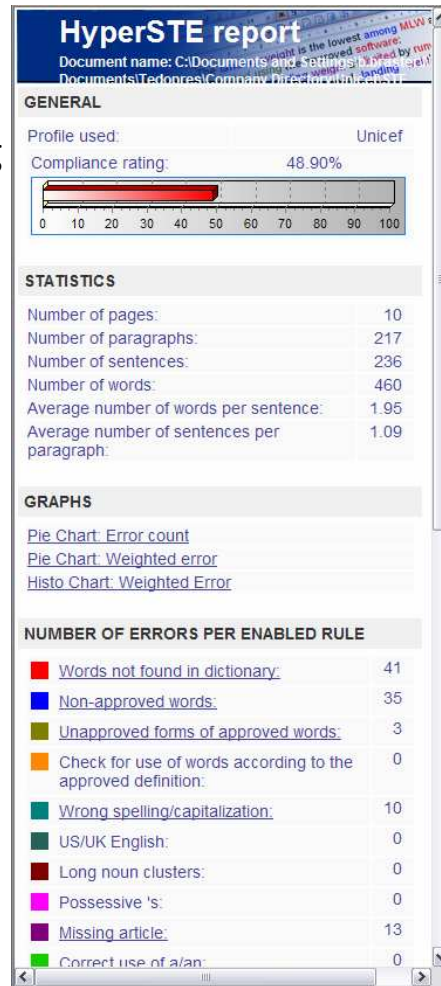


Re-writing, measure the quality

Step 1:

Standardize on terminology by building company dictionary including approved and non-approved words.

New compliance rating:
48.90%

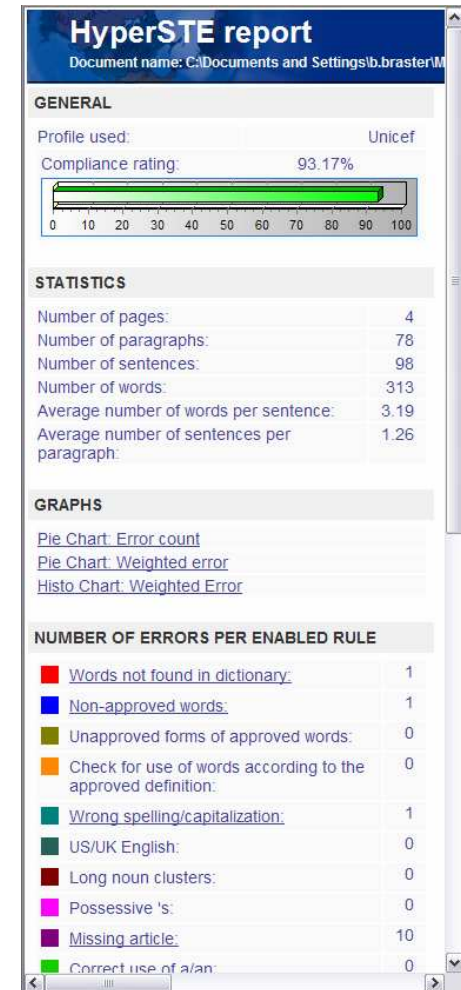


Step 2:

Re-write the manual using STE rules and HyperSTE.

New compliance rating:
93.17%

Before a document is released it should have a minimum compliance rating of 90%.





Some before and after examples 1/3

BEFORE

UniTrack Client Installation

1. To install the UniTrack Client, run the UnitrackSetup.EXE file from the CD.
2. On the Welcome to Setup Wizard screen the default is C:\Program Files\UniTrack\. Do not change the default. Click on the Next button to proceed with the installation. Click on the Cancel button to exit the install.
3. On the Backup of replaced files screen select the 'No' button for the first time installation of UniTrack.
4. On the Setup summary screen click on the Next button to continue.
5. On the Setup completed screen click on the Done button to complete the installation.

Installation of the UniTrack software is now complete!!

AFTER

Installation of the UniTrack client

1. Put the installation CD into the CD-ROM drive.
2. Use UnitrackSetup.exe to install the software.
3. Read the notes.
4. Do one of these steps:
 - Click **Next** to install the software.
 - Click **Cancel** to stop the installation of the software.

Note: You must not change the directory for installation:

5. Click **No** to install the UniTrack software.
6. Click **Next**.
7. Click **Done** to complete the installation.

Results:

- Clearer instructions
- Consistent use of words, reuse increase by 11%
- Less words (from 109 to 76, reduction of 30%)
- Cheaper, better and faster translations



Some before and after examples 2/3

BEFORE

Care and Handling of the Microscope

- When you move your microscope, you should always use two hands. Place one hand around the arm, lift the scope, and put your other hand under the base of the scope for support. If you learn to carry the scope in this way, it will force you to carry it carefully, ensuring that you do not knock it against anything while moving from one place to another.
- When you put the scope down, do so gently. If you bang your scope down on the table eventually you could jar lenses and other parts loose. Your microscope seems like a simple instrument but each eyepiece and objective is actually made up of a number of lenses, put together in a wonderful way to create wonderful magnification. If you bang your scope around, you are shaking upwards of 15 to 20 lenses.
- Always have clean hands when handling your scope. It would be a shame to damage your scope with too much peanut butter!

AFTER

Care and Handling of the Microscope

- Make sure that your hands are clean when you use your microscope.
- Put one hand around the arm of the microscope.
- Lift the microscope.
- Put your other hand at the bottom of the microscope for safety.
- Carefully put the microscope down.

Caution: Carefully use your microscope. It has 15 to 20 lenses that can be damaged if you do not obey these instructions.

Results:

- Clearer instructions
- Consistent use of words, reuse increase by 15%
- Less words (from 171 to 74 words – 57% reduction)
- Cheaper, better and faster translations



Some before and after examples 3/3

BEFORE

WARNING:

To reduce the risk of fire, electric shock or product damage,

- Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
- Use only the recommended accessories.
- Do not remove the cover (or back); there are no user serviceable parts inside. Refer servicing to qualified service personnel.

CAUTION!

- Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation vents.
- Do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.
- Do not place sources of naked flames, such as lighted candles, on the unit.
- Dispose of batteries in an environmentally friendly manner.

CAUTION!

This product utilizes a laser. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure. Do not open covers and do not repair yourself. Refer servicing to qualified personnel.

AFTER

Warning

- Obey the instructions.
- Do not let this unit get in touch with any type of liquid.
- Use recommended accessories.
- Do not remove the front or back cover. Refer to approved personnel to do servicing.

This decreases the risk of fire, electrical shock, dangerous radiation or damage.

Caution

Do not install or put this unit in a confined space, such as a bookcase or cabinet. Make sure that there is no blockage of the air vents. Make sure that the unit has a good airflow. This decreases the risk of fire, electrical shock or damage.

Do not put items on the unit that cause heat, such as burning candles.

Obey the environmental guidelines to discard the batteries.

Results:

- **Clearer instructions**
- **Consistent use of words, reuse increase by 15%**
- **Less words (from 196 to 125, reduction of 40%)**
- **Cheaper, better and faster translations**



ROI Projection

	Source Language	Target Language 1	Target Language 2	Target Language 3	Target Language 4	Target Language 5	Total
# Word	5.000.000	5.000.000	5.000.000	5.000.000	5.000.000	5.000.000	-
Buy Price Per Word	-	0,03	0,05	0,07	0,09	0,11	-
Total Cost	-	150.000	250.000	350.000	450.000	550.000	1.750.000
Word Count Reduction	15%						
# Word	4.250.000	4.250.000	4.250.000	4.250.000	4.250.000	4.250.000	-
Buy Price Per Word	-	0,03	0,05	0,07	0,09	0,11	-
Total Cost	-	127.500	212.500	297.500	382.500	467.500	1.487.500
Cost Reduction	-	22.500	37.500	52.500	67.500	82.500	262.500

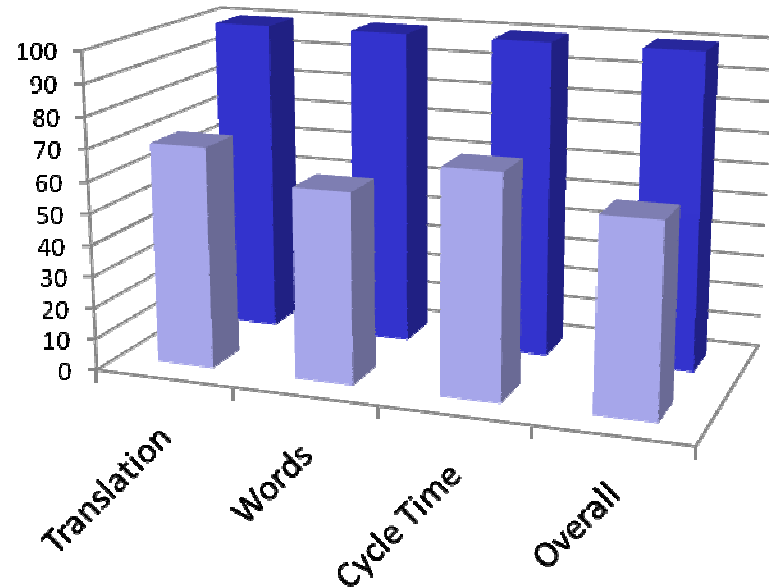
	Source Language	Target Language 1	Target Language 2	Target Language 3	Target Language 4	Target Language 5	Total
# Word	5.000.000	5.000.000	5.000.000	5.000.000	5.000.000	5.000.000	-
Buy Price Per Word	-	0,03	0,05	0,07	0,09	0,11	-
Total Cost	-	150.000	250.000	350.000	450.000	550.000	1.750.000
Word Count Reduction	25%						
# Word	3.750.000	3.750.000	3.750.000	3.750.000	3.750.000	3.750.000	-
Buy Price Per Word	-	0,03	0,05	0,07	0,09	0,11	-
Total Cost	-	112.500	187.500	262.500	337.500	412.500	1.312.500
Cost Reduction	-	37.500	62.500	87.500	112.500	137.500	437.500



HyperSTE 2009 Survey Results

A survey amongst HyperSTE users in 2009 showed that the use of HyperSTE resulted in the following benefits:

- ▶ Up to 30% in cost savings on translation and localization
- ▶ Up to 40% in reduced word count
- ▶ Quality improvement in writing and translations
- ▶ Up to 30% in reduced product cycle time
- ▶ Up to 40% reduction in overall documentation cost
- ▶ Efficient conversion of legacy documents





Case Study – Rolls-Royce

The challenge

- To standardize documentation in compliance with the Simplified Technical English specification ASD-STE100
- To improve quality and readability of manuals
- To reduce cycle time

The solution

- Tedopres developed a dictionary containing Rolls-Royce standardized terminology and trained Rolls-Royce technical writers and editors on the rules of ASD Simplified Technical English (ASD-STE100) and how to use the HyperSTE software.
- As part of the implementation process, Rolls-Royce uses the HyperSTE checker software to ensure that all manuals comply with ASD Simplified Technical English (ASD-STE100), including the use of standardized and consistent Rolls-Royce terminology.

The results

- Compliance with ASD Simplified Technical English (ASD-STE100)
- Better quality and readability of manuals
- Reduced cycle time
- Better reusability of text
- Standardized terminology and style



Rolls-Royce



Some HyperSTE users





Thank you

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