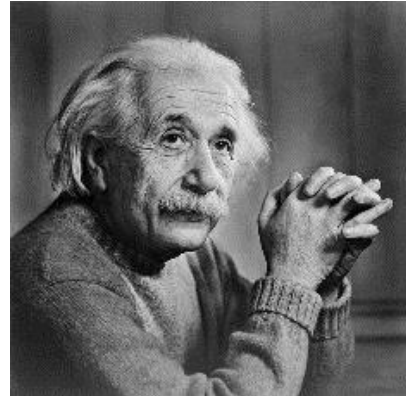


# System Safety Using Ten Hundred Words

Don Swallom  
AMCOM Safety Office

If you can't explain it simply,  
you don't understand it well  
enough.

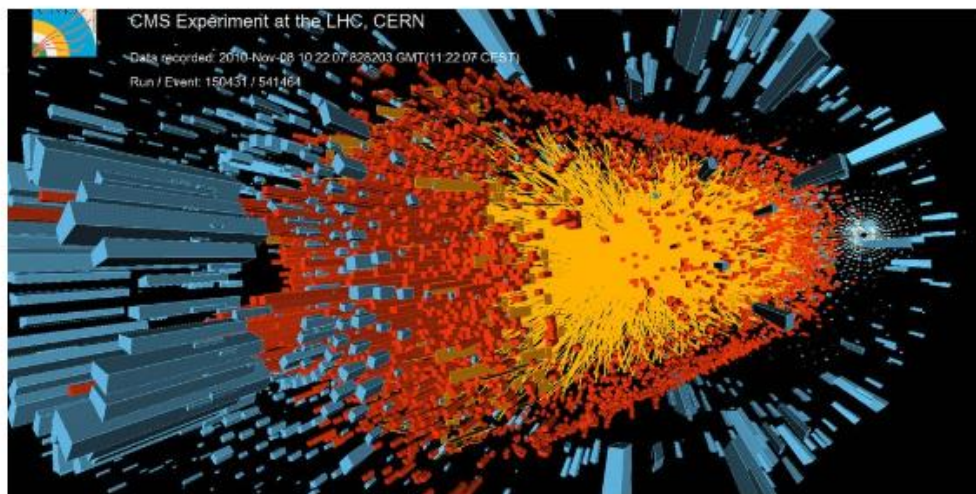
Albert Einstein?



# Technically Speaking: Simple is Hard

Home | [Technically Speaking: Simple is Hard](#)

JAN  
20



## Explaining science plainly can lead to new insight— and a challenge

By Dr. Roberto Trotta

*Technically Speaking is a new column for Army AL&T magazine. Its title is frankly ironic, because its aim is to challenge subject-matter experts to explain a highly technical job, a system or a concept in the plainest language possible. The point is that, as Dr. Jacques Gansler and many other former and present defense dignitaries have noted, DOD science and technology (S&T) experts often do not do the best job of explaining what they do and why it's important.*

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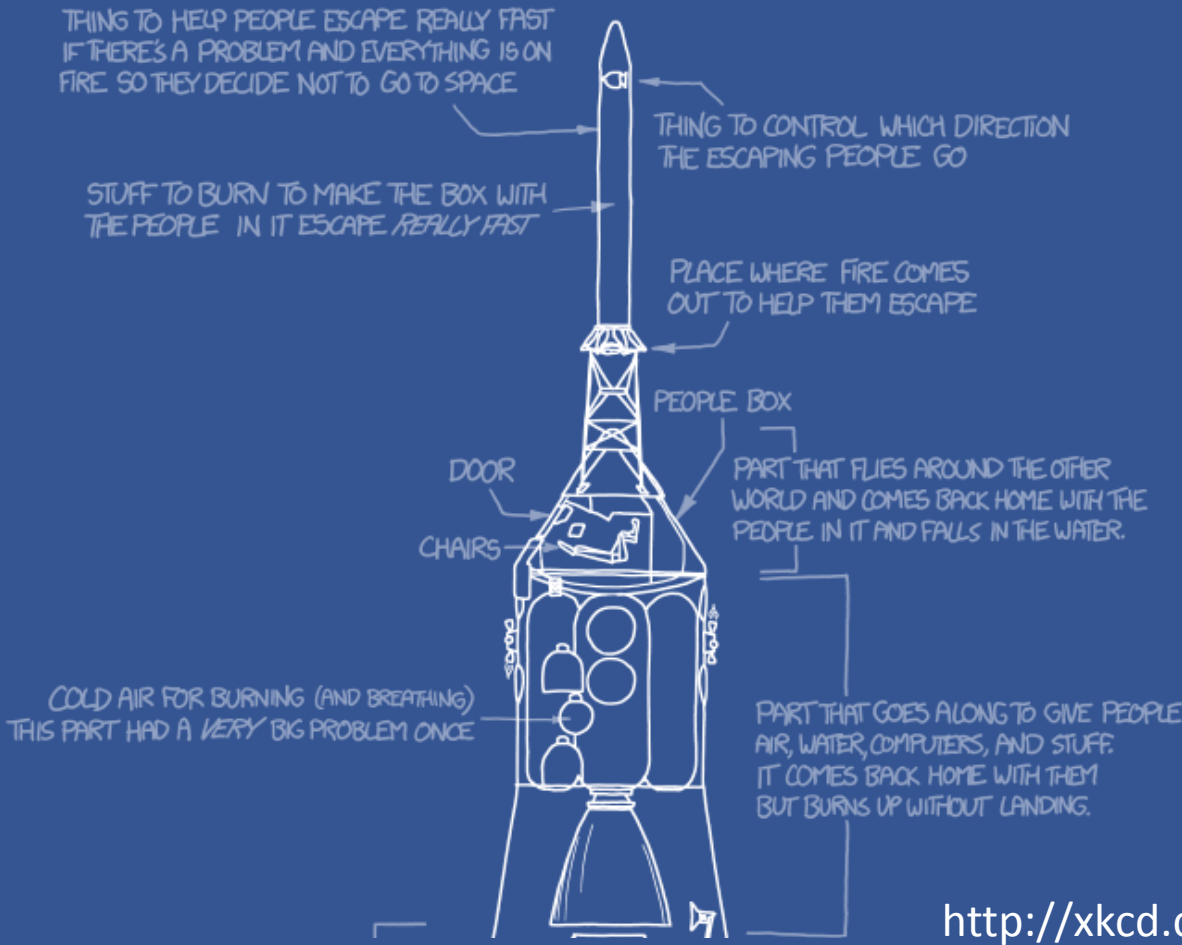


# US Space Team Up Goer Five

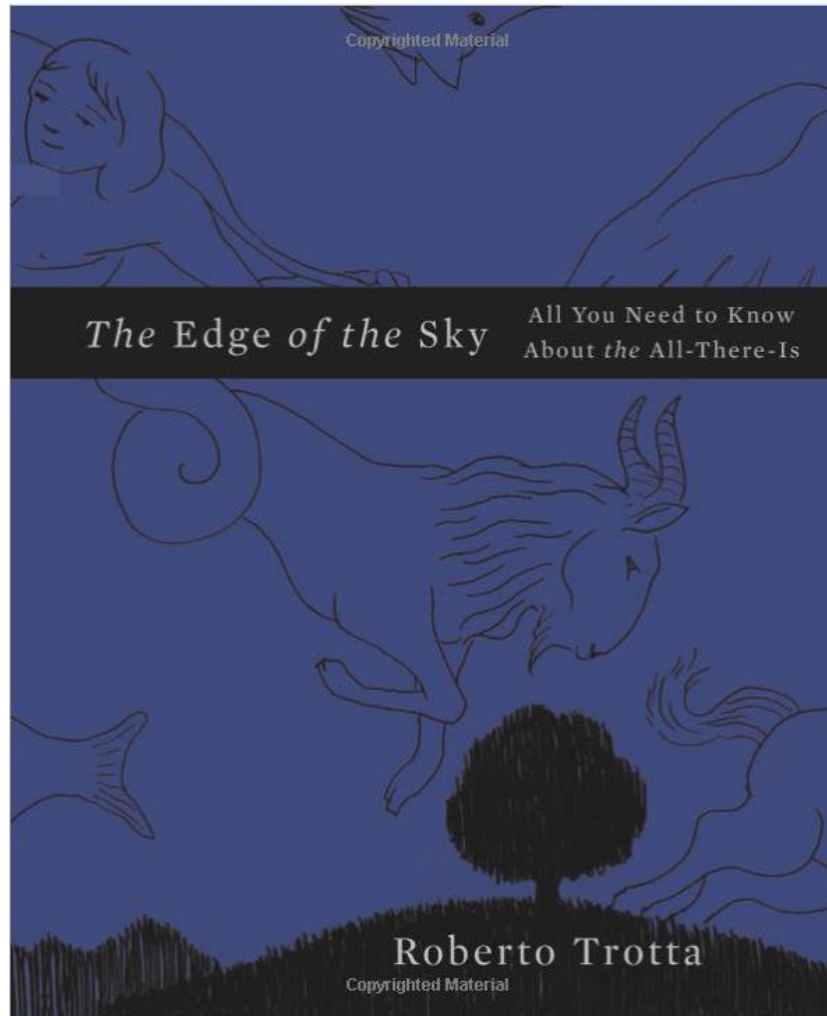
## US SPACE TEAM'S UP GOER FIVE

THE ONLY FLYING SPACE CAR THAT'S  
TAKEN ANYONE TO ANOTHER WORLD

(EXPLAINED USING ONLY THE TEN HUNDRED  
WORDS PEOPLE USE THE MOST OFTEN)



# The Edge of the Sky: All You Need to Know About the All-There-Is



# Ten Hundred Words

a able about above accept across act actually add admit afraid after afternoon again against age ago agree ah ahead air all allow almost alone along already alright also although always am amaze an and anger angry animal annoy another answer any anymore anyone anything anyway apartment apparently appear approach are area aren't arm around arrive as ask asleep ass at attack attempt attention aunt avoid away baby back bad bag ball band bar barely bathroom be beat beautiful became because become bed bedroom been before began begin behind believe bell beside besides best better between big bit bite black blink block blonde blood blue blush body book bore both bother bottle bottom box boy boyfriend brain break breakfast breath breathe bright bring broke broken brother brought brown brush build burn burst bus business busy but buy by call calm came can can't car card care carefully carry case cat catch caught cause cell chair chance change chase check cheek chest child children chuckle city class clean clear climb close clothes coffee cold college color come comment complete completely computer concern confuse consider continue control conversation cool corner couch could couldn't counter couple course cover crack crazy cross crowd cry cup cut cute dad damn dance dark date daughter day dead deal dear death decide deep definitely desk did didn't die different dinner direction disappear do doctor does doesn't dog don't done door doubt down drag draw dream dress drink drive drop drove dry during each ear early easily easy eat edge either else empty end enjoy enough enter entire escape especially even evening eventually ever every everyone everything exactly except excite exclaim excuse expect explain expression eye eyebrow face fact fall family far fast father fault favorite fear feel feet fell felt few field fight figure fill finally find fine finger finish fire first fit five fix flash flip floor fly focus follow food foot for force forget form forward found four free friend from front frown fudge full fun funny further game gasp gave gaze gently get giggle girl girlfriend give given glad glance glare glass go God gone gonna good got gotten grab great green greet grey grin grip groan ground group grow guard guess gun guy had hadn't hair half hall hallway hand handle hang happen happy hard has hate have haven't he he'd he's head hear heard heart heavy held hell hello help her here herself hey hi hide high him himself his hit hold home hope horse hospital hot hour house how however hug huge huh human hundred hung hurry hurt I I'd I'll I'm I've ice idea if ignore imagine immediately important in inside instead interest interrupt into is isn't it it's its jacket jeans jerk job join joke jump just keep kept key kick kid kill kind kiss kitchen knee knew knock know known lady land large last late laugh lay lead lean learn least leave led left leg less let letter lie life lift light like line lip listen little live lock locker long look lose lost lot loud love low lunch mad made make man manage many mark marry match matter may maybe me mean meant meet memory men mention met middle might mind mine minute mirror miss mom moment money month mood more morning most mother mouth move movie Mr. Mrs. much mum mumble music must mutter my myself name near nearly neck need nervous never new next nice night no nod noise none normal nose not note nothing notice now number obviously of off offer office often oh okay old on once one only onto open or order other our out outside over own pack pain paint pair pants paper parents park part party pass past pause pay people perfect perhaps person phone pick picture piece pink piss place plan play please pocket point police pop position possible power practically present press pretend pretty probably problem promise pull punch push put question quick quickly quiet quietly quite race rain raise ran rang rather reach read ready real realize really reason recognize red relationship relax remain remember remind repeat reply respond rest return ride right ring road rock roll room rose round rub run rush sad safe said same sat save saw say scare school scream search seat second see seem seen self send sense sent serious seriously set settle seven several shadow shake share she she'd she's shift shirt shxx shock shoe shook shop short shot should shoulder shouldn't shout shove show shower shrug shut sick side sigh sight sign silence silent simply since single sir sister sit situation six skin sky slam sleep slightly slip slow slowly small smell smile smirk smoke snap so soft softly some somehow someone something sometimes somewhere son song soon sorry sort sound space speak spend spent spoke spot stair stand star stare start state stay step stick still stomach stood stop store story straight strange street strong struggle stuck student study stuff stupid such suck sudden suddenly suggest summer sun suppose sure surprise surround sweet table take taken talk tall teacher team tear teeth tell ten than thank that that's the their them themselves then there there's these they they'd they're thick thing think third this those though thought three threw throat through throw tie tight time tiny tire to today together told tomorrow tone tongue tonight too took top totally touch toward town track trail train tree trip trouble true trust truth try turn TV twenty two type uncle under understand until up upon us use usual usually very visit voice wait wake walk wall want warm warn was wasn't watch water wave way we we'll we're we've wear week weird well went were weren't wet what what's whatever when where whether which while whisper white who whole why wide wife will wind window wipe wish with within without woke woman women won't wonder wood word wore work world worry worse would wouldn't wow wrap write wrong yeah year yell yes yet you you'd you'll you're you've young your yourself

# The rules

- All the words on the 1,000 words list are allowed, and so are words obtained from the list by adding the following suffixes: -(e)s, -er, -ed, -ing (possibly in combination. So -ers is also allowed).
- For adjectives, comparatives (-er) and superlatives (-est) can be formed from the adjective given.
- Adverbs can only be used if present in the list, e.g. "completely" is allowed (because it appears as such in the list), but "deeply" is not allowed (because only "deep" appears on the list).
- Possessive forms are allowed, as well.
- Names of people are allowed but NOT names of places - although obviously the box below won't be able to distinguish between the two, so it's up to you to stick to the rules!. Capitalized words are allowed so that you can use names of people, but don't use this feature to cheat! :)

<http://robertotrotta.com/1000-words/>



# MIL-STD-882E Definitions (441 words)

a accept acceptable acceptance accomplish accountable achieve acquire acquisition acronym across action activity adaptation adapt additional address adverse agency all also an analysis and another any application apply approach appropriate approve architecture are arrangement as assess assessment assignment associate at authority autonomy available **balance baseline be been behavior biological breadth budget but by** can cannot capability catastrophic category causal cause change characterization chemical cleanup combat combination command commercial communication complex compliance component comprehensive computational computer concept condition confidence configuration connect consequence consideration consistent constraint context continue continuously contractor contract contribute control cost could credible criteria critical cycle damage **data death decision defense define definition degree deliver demilitarization demonstration deployment depth describe design designate determine develop development developmental device direct directly discipline disposal document documentation due during** e.g. early effective effectiveness effort either eliminate employ enable encompass encounter engineer enter entity environment environmental equipment equivalent establish estimate etc. evaluation event every executive explosive expose expression facility factor failure fault field fine firmware first fix fleet for formally freedom from function functional fund furnish given good government **habitability hardware harm has hazard hazardous health high human** i.e. identify illness impact implement impose improve in include incorrect independent individual industry information infrastructure initial injury instruction integrate integration intend interdependent interface into inventory involve is it item its **joint** knowledge known **language law lead learn lessen lesson level liability life likelihood limitation limit logic loss low lower** made magnitude maintenance management manager manpower marginal material materiel may measure mechanism medium meet milestone mishap mitigate mitigation mode modification modify module monetary multiple **nature necessary need negative negligible network new no non-developmental non-fielding non-government normally not** objective occupational occur occurrence of off on one only operate operation operational operationally or order ordnance organization other otherwise over overarch own **package part partially path peer penalty people perform performance personal personnel pertain phase physical place plan platform policy pollution possession post-fielding potential potentially precedence prevention previously principle privacy private probability procedure process procure produce product production program programmable project property provide public purpose** read readily real reduce redundant refer regulation relate repair replacement report represent representative require requirement research reside resource response responsibility responsible result re-use rigor risk rule **safety schedule scientific security separate series serious service set several severity shelf should significant similar single skill software solution specialize specification specify standard state status storage subsequently substance subsystem such sufficient suitability suitable summation support survivability sustainment system** taken target team technique technology term test that the then this through throughout time to tolerance total toxicological track train transition transport trigger typical **under unintentional unique unit unplanned use** verification **weapon when wholly whose will willing with within without word work**

# MIL-STD-882E Not Ten Hundred Words (337 words)

acceptable acceptance accomplish accountable achieve acquire acquisition acronym action activity adaptation adapt additional address adverse agency analysis application apply appropriate approve architecture arrangement assess assessment assignment associate authority autonomy available [balance](#) [baseline](#) [behavior](#) [biological](#) [breadth](#) [budget](#) capability catastrophic category causal characterization chemical cleanup combat combination command commercial communication complex compliance component comprehensive computational concept condition confidence configuration connect consequence consideration consistent constraint context continuously contractor contract contribute cost credible criteria critical cycle [damage](#) [data](#) [decision](#) [defense](#) [define](#) [definition](#) [degree](#) [deliver](#) [demilitarization](#) [demonstration](#) [deployment](#) [depth](#) [describe](#) [design](#) [designate](#) [determine](#) [develop](#) [development](#) [developmental](#) [device](#) [direct](#) [directly](#) [discipline](#) [disposal](#) [document](#) [documentation](#) [due](#) e.g. effective effectiveness effort eliminate employ enable encompass encounter engineer entity environment environmental equipment equivalent establish estimate etc. evaluation event executive explosive expose [facility](#) [factor](#) [failure](#) [firmware](#) [fleet](#) [formally](#) [freedom](#) [function](#) [functional](#) [fund](#) [furnish](#) government [habitability](#) [hardware](#) [harm](#) [hazard](#) [hazardous](#) [health](#) i.e. identify illness impact implement impose improve include incorrect independent individual industry information infrastructure initial injury instruction integrate integration intend interdependent interface inventory involve item [joint](#) knowledge [language](#) [law](#) [lessen](#) [lesson](#) [level](#) [liability](#) [likelihood](#) [limitation](#) [limit](#) [logic](#) [loss](#) [lower](#) magnitude maintenance management manager manpower marginal material materiel measure mechanism medium milestone mishap mitigate mitigation mode modification modify module monetary multiple [nature](#) [necessary](#) [negative](#) [negligible](#) [network](#) [non-developmental](#) [non-fielding](#) [non-government](#) [normally](#) objective occupational occur occurrence operate operation operational operationally ordnance organization otherwise overarch [package](#) [partially](#) [path](#) [peer](#) [penalty](#) [perform](#) [performance](#) [personal](#) [personnel](#) [pertain](#) [phase](#) [physical](#) [platform](#) [policy](#) [pollution](#) [possession](#) [post-fielding](#) [potential](#) [potentially](#) [precedence](#) [prevention](#) [previously](#) [principle](#) [privacy](#) [private](#) [probability](#) [procedure](#) [process](#) [procure](#) [produce](#) [product](#) [production](#) [program](#) [programmable](#) [project](#) [property](#) [provide](#) [public](#) [purpose](#) readily reduce redundant refer regulation relate repair replacement report represent representative require requirement research reside resource response responsibility responsible result re-use rigor risk rule [safety](#) [schedule](#) [scientific](#) [security](#) [separate](#) [series](#) [service](#) [severity](#) [shelf](#) [significant](#) [similar](#) [skill](#) [software](#) [solution](#) [specialize](#) [specification](#) [specify](#) [standard](#) [status](#) [storage](#) [subsequently](#) [substance](#) [subsystem](#) [sufficient](#) [suitability](#) [suitable](#) [summation](#) [support](#) [survivability](#) [sustainment](#) [system](#) target technique technology term test throughout tolerance total toxicological transition transport trigger typical unintentional [unique](#) [unit](#) [unplanned](#) verification [weapon](#) [wholly](#) [whose](#) [willing](#)

# Ten Hundred Words & 882E (104 words)

a accept across all also an and another any  
approach are as at be been but by can cannot  
**cause** change **computer** continue **control** could  
**death** during early either enter every expression  
**fault** field fine first **fix** for from given good has  
**high** **human** in into is it its **known** lead learn  
**life** **low** made may meet need new no not of  
off on one only or order other over own part  
people place plan read real **serious** set several  
should single **state** such taken team that the  
then this through time to **track** **train** under use  
when will with within without word work

**red** = potentially useful for defining system safety terms

# Ten Hundred Words - Nouns

act add afternoon age ago air anger animal answer anything apartment approach area arm ass  
attack attempt attention aunt baby back bag ball band bar bathroom beat bed bedroom bell bit bite  
blink block blonde blood body book bore bother bottle bottom box boy boyfriend brain break  
breakfast breath brother brush build burn burst bus business but call calm can car card care case  
catch cause cell chair chance change chase check cheek chest child children chuckle city class  
climb clothes coffee cold college color comment computer concern control conversation corner couch  
counter couple course cover crack crazy cross crowd cry cup cut dad dance date daughter day  
dead deal dear death desk die dinner direction doctor dog door doubt drag draw dream dress drink  
drive drop ear edge empty end escape evening everyone everything excuse expression eye  
eyebrow face fact fall family fast father fault favorite fear feet few field fight figure fill find fine  
finger finish fire first fix flash flip floor fly focus food foot force form friend front frown game gasp  
gaze giggle girl girlfriend given glance glare glass God good grab grin grip groan ground guard  
guess gun guy hair half hall hallway hand handle he he'd he's head heart hell hello help herself  
hide high him himself his hit hold home hope horse hospital hour house hug human hurt I I'd I'll  
I'm I've ice idea interest interrupt it it's jacket jeans jerk job joke jump keep kid kill kiss kitchen  
knee knock lady land laugh lead leave leg letter lie life lift light line lip lock locker look lot love  
lunch make man mark match matter me meet memory men mention middle mind minute miss mom  
moment money month mood morning mother mouth move movie mumble music name neck need  
night nod noise none nose note nothing number offer office one order pack pain paint pair pants  
paper parents park part party pass past pause pay people person phone pick picture piece place  
plan play pocket point police pop position power present press problem promise pull punch push  
question quiet race rain raise reach read reason relationship reply rest return ride right ring road  
rock roll room rose round rub run rush safe saw say scare school scream search seat second self  
sense set seven shadow shake share she she'd she's shift shirt shit shock shoe shop short shot  
shoulder shout shove show shower shrug side sight sign silence sister situation skin sky sleep slip  
smell smile smirk smoke snap someone something somewhere son song sort space spot stair stand  
star stare start state stay step stick stomach stop store story street struggle student study stuff  
suck summer sun surprise table talk teacher team tear teeth tell them they thing those thought  
throat tie time tire today tomorrow tone tongue tonight touch town track trail train tree trip trust  
truth television type uncle visit voice wake walk wall want watch water wave we week well whisper  
wife will wind window wish woman women wonder wood word work world wrap wrong year yell you  
you'd you'll you're you've yourself

# Ten Hundred Words – Verbs

accept act add admit age ago agree allow am amaze annoy appear are aren't arrive ask  
avoid beat became become been began begin believe best better bit bite blink blush  
breathe bring broke brought brush burn call calm came can can't carry catch cause  
check close come complete concern consider continue control cool corner couch could  
couldn't counter couple crack cross crowd cry cup cut damn decide did didn't die do  
does doesn't dog don't down drop drove dry eat enjoy escape excite exclaim expect  
explain eye face fall fear feel fell fill find fire fit fix flash flip fly focus follow foot force  
forget forward free front further game gave gaze get give go gonna got gray grin grip  
groan ground grow guard guess handle hang has hate have haven't hear heard held  
help hide hold home hope horse hug hung hurry hurt I'd I'll I'm I've ice ignore imagine  
interest interrupt is isn't it's jerk join joke jump keep kept kill kiss knew knock know  
known land last laugh lay lead lean learn leave led left let lie lift like line listen live lock  
look lose lost lunch made make man manage mark marry match matter may mean  
meant meet mention met mind miss mouth move mumble must mutter name need nod  
nose note number offer open order pack paint pair paper park part party pass pause pay  
pick picture piece piss place plan play please pocket point police pop position power  
present press pretend promise pull push put question quiet race rain raise ran rang reach  
read realize reason recognize relax remain remember remind repeat reply respond rest  
return ride right ring rock roll room rose round rub run rush said sat saw say scare  
scream search seat second see seem seen send sense sent set settle shadow shake  
share she'd she's shift shit shock shoe shook shop short shot should shouldn't shout  
shove show shower shrug shut side sight sign silence sit slam sleep slip slow smell  
smile smirk smoke snap sort space speak spend spent spoke spot stand stare start state  
stay step stick still stomach stood stop store struggle stuck study stuff suck suggest  
suppose surprise surround table take talk team tear tell thank that's there's they'd they're  
think threw throw tie tire told took touch track trail train trust type understand visit voice  
wait wake walk wall want warm warn was wasn't watch water wave we'll we're we've  
wear went were weren't what's whisper will wish woke won't wonder wore work worry  
would wouldn't wow wrap write wrong yell you'd you'll you're you've

# Ten Hundred Words – Other

a able about above across actually afraid after again against ago agree ah ahead  
all allow almost alone along already alright also although always an and angry  
annoy another any anymore anyone anyway apparently aren't around as asleep at  
attention avoid away bad barely be beautiful because before behind beside besides  
better between big black blonde blue both bright broke broken brought brown burn  
busy buy by carefully cat caught clean clear completely confuse cute dark deep  
definitely different disappear don't done dry during each early easily easy either else  
enough enter entire especially even eventually ever every exactly except far felt  
finally five for found four from fudge full fun funny gently glad gone gonna gotten  
great green greet group had hadn't happen happy hard heavy her here hey hi  
himself hot how however huge huh hundred if immediately important in inside  
instead into is isn't it it's its jacket just key kick kid kill kind large late least less  
little locker long loud low mad many maybe middle might mine mirror more most  
Mr. Mrs. much mum my myself near nearly nervous never new next nice no normal  
not notice now obviously of off often oh okay old on once only onto or other our  
out outside over own perfect perhaps pink possible practically pretty probably quick  
quickly quietly quite rather ready real really red sad safe same save serious  
seriously several sick sigh silent simply since single sir six slightly slowly small so  
soft softly some somehow sometimes soon sorry sound straight strange strong  
struggle stuck stupid such sudden suddenly sure sweet taken tall ten than that the  
their them themselves then there these they thick third this those though three  
threw through tight tiny to together too top totally toward trouble true try turn twenty  
two under until up upon us use usual usually very wake warm was wasn't way we  
weird wet what what's whatever when where whether which while white who whole  
why wide wipe with within without worse yeah yes yet you young your yourself

# <http://splasho.com/upgoer5/>

[HINTS](#) [T](#)



## THE UP-GOER FIVE TEXT EDITOR

CAN YOU EXPLAIN A HARD IDEA USING ONLY THE [TEN HUNDRED](#) MOST USED WORDS? IT'S NOT VERY EASY. TYPE IN THE BOX TO TRY IT OUT.

INSPIRED BY [XKCD](#). (THE IMAGE IS FROM [#386](#).)  
CREATED BY [THEO SANDERSON](#). HOW DOES IT [WORK](#)?

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## THE UP-GOER SIX TEXT EDITOR

THIS IS A PROTOTYPE WHICH COLOURS WORDS DEPENDING ON HOW COMMON THEY ARE. CLICK A COLOURED WORD TO SEE HOW COMMON IT IS. DATA FROM [HERE](#).

A real or possible state that can lead to one thing that happens or things that happen one after another that cause death, or hurt to a person or thing or the world around us, or death or lost stuff.

Message from webpage



Happens is number 589 in the list of most common words

OK

A real or possible state that can lead to one thing that happens or things that happen one after another that cause death, or hurt to a person or thing or the world around us, or death or lost stuff.

[\(Perma-link to share this\)](#)



# Category 1

## Fundamental System Safety Terms

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Hazard	A real or potential condition that could lead to an unplanned event or series of events (i.e. mishap) resulting in death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment.
Possible Hurt	A real or possible state that can lead to one thing that happens or things that happen one after another that cause death or hurt to a person or thing or the world around us, or lost stuff.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Mishap	An event or series of events resulting in unintentional death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment. For the purposes of this Standard, the term "mishap" includes negative environmental impacts from planned events.
Bad Surprise	One thing that happens or things that happen one after another that cause death, or hurt to a person or thing or the world around us, or lost stuff.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Mitigation measure	Action required to eliminate the hazard or when a hazard cannot be eliminated, reduce the associated risk by lessening the severity of the resulting mishap or lowering the likelihood that a mishap will occur.
Hurt Less Act	Act that causes the possible hurt to go away or if it can't go away, to make it hurt less or less often.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Probability	An expression of the likelihood of occurrence of a mishap.
How Possible	An expression of how often a hurt can happen

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Risk	A combination of the severity of the mishap and the probability that the mishap will occur.
Expected Losing	How much we can expect to lose from bad surprises when we use our part-group. The hurt together with how possible the hurt is.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Risk level	The characterization of risk as either High, Serious, Medium, or Low.
How Much Expected Losing	Stating expected losing as either High, Serious, Middle or Low.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<b>Safety</b>	Freedom from conditions that can cause death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment.
<b>Safe</b>	Free from being hurt or killed or hurting or losing stuff, or hurting the world around us.



# Definitions

MIL-STD-882E Term

Ten Hundred Word

Severity	The magnitude of potential consequences of a mishap to include: death, injury, occupational illness, damage to or loss of equipment or property, damage to the environment, or monetary loss.
Hurt	How much possible hurt comes from a bad surprise.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Software	A combination of associated computer instructions and computer data that enable a computer to perform computational or control functions. Software includes computer programs, procedures, rules, and any associated documentation pertaining to the operation of a computer system. Software includes new development, complex programmable logic devices (firmware), NDI, COTS, GOTS, re-used, GFE, and Government-developed software used in the system.
Soft words	That which a computer reads to do its job

# Definitions

MIL-STD-882E Term

Ten Hundred Word

System	The organization of hardware, software, material, facilities, personnel, data, and services needed to perform a designated function within a stated environment with specified results.
Part-group	The group of parts, people, jobs, soft words, places, stuff, and helps needed to do a picked job within a said part of the world with picked out comes.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>System safety</p>	<p>The application of engineering and management principles, criteria, and techniques to achieve acceptable risk within the constraints of operational effectiveness and suitability, time, and cost throughout all phases of the system life-cycle.</p>
<p>Safe part-groups</p>	<p>Using the knowing of how to use the facts about the world around us to build part-groups and how to manage the building of part-groups to get expected hurt that managers can accept within the stops of how well it does its job, time, and money throughout the part-groups entire life.</p>

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>System safety engineering</p>	<p>An engineering discipline that employs specialized knowledge and skills in applying scientific and engineering principles, criteria, and techniques to identify hazards and then to eliminate the hazards or reduce the associated risks when the hazards cannot be eliminated.</p>
<p>Safe part-groups building</p>	<p>Using the special knowing of how to use the facts about the world around us to build part-groups to get expected losing that managers can accept within the stops of how well it does its job, time, and money throughout the part-groups entire life.</p>

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>System safety management</p>	<p>All plans and actions taken to identify hazards; assess and mitigate associated risks; and track, control, accept, and document risks encountered in the design, development, test, acquisition, use, and disposal of systems, subsystems, equipment, and infrastructure.</p>
<p>Safe part-groups managing</p>	<p>Managing the building of part-groups to get expected losing that managers can accept within the stops of how well it does its job, time, and money throughout the part-groups entire life.</p>

# Category 2

## Derived System Safety Terms

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Acceptable Risk	Risk that the appropriate acceptance authority (as defined in DoDI 5000.02) is willing to accept without additional mitigation.
Take-it expected losing	Expected losing the Big Job Manager can live with.



# Definitions

MIL-STD-882E Term

Ten Hundred Word

Causal factor	One or several mechanisms that trigger the hazard that may result in a mishap.
Cause	Thing that makes a bad surprise happen

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Event risk	The risk associated with a hazard as it applies to a specified hardware/software configuration during an event. Typical events include Developmental Testing/Operational Testing (DT/OT), demonstrations, fielding, post-fielding tests.
Test possible losing	Expected losing from a test or another thing that happens.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Initial risk	The first assessment of the potential risk of an identified hazard. Initial risk establishes a fixed baseline for the hazard.
First idea expected losing	The first idea of the expected losing of a known possible hurt.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Level of rigor	A specification of the depth and breadth of software analysis and verification activities necessary to provide a sufficient level of confidence that a safety-critical or safety-related software function will perform as required.
How much trying	Stating how much soft words study and checking must be done to give managers and builders a good feeling that the soft words will do the job that's needed.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Safety-critical	A term applied to a condition, event, operation, process, or item whose mishap severity consequence is either Catastrophic or Critical (e.g., safety-critical function, safety-critical path, and safety-critical component).
Safe-very-serious	A word for a state, thing that happens, job steps, or thing whose hurting causes death or serious hurt or serious stuff lost.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Safety-critical function	A function whose failure to operate or incorrect operation will directly result in a mishap of either Catastrophic or Critical severity.
Safe-very-serious job	A job that a part does that study shows can cause a bad surprise with hurt to the point of death or serious hurt or serious stuff lost.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>Safety-critical item</p>	<p>A hardware or software item that has been determined through analysis to potentially contribute to a hazard with Catastrophic or Critical mishap potential, or that may be implemented to mitigate a hazard with Catastrophic or Critical mishap potential. The definition of the term "safety-critical item" in this Standard is independent of the definition of the term "critical safety item" in Public Laws 108-136 and 109-364.</p>
<p>Safe-very-serious thing</p>	<p>A hard thing or soft words thing that study shows can cause a bad surprise with hurt to the point of death or serious hurt or serious stuff lost.</p>

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Safety-related	A term applied to a condition, event, operation, process, or item whose mishap severity consequence is either Marginal or Negligible.
Safe-serious	A word for a state, thing that happens, job steps, or thing whose hurting causes less serious hurt or less serious stuff lost.



# Definitions

MIL-STD-882E Term

Ten Hundred Word

Safety-significant	A term applied to a condition, event, operation, process, or item that is identified as either safety-critical or safety-related.
Safe-important	A word for a state, thing that happens, job steps, or thing who is safe-very-serious or safe-serious.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>Software control category</p>	<p>An assignment of the degree of autonomy, command and control authority, and redundant fault tolerance of a software function in context with its system behavior.</p>
<p>Soft words control name</p>	<p>Setting how much being able to act alone, the power to decide what to do, and having more than one way to deal with faults for a soft word job keeping in mind the way the part-group acts.</p>

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Software system safety	The application of system safety principles to software.
Safe Soft Words	Safe part-group known facts for soft words

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Target risk	The projected risk level the PM plans to achieve by implementing mitigation measures consistent with the design order of precedence described in 4.3.4.
Wanted expected losing	Expected losing the part-group manager wants to have

# Category 3

## Derived System Safety Terms

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>Acquisition program</p>	<p>A directed, funded effort that provides a new, improved, or continuing materiel, weapon, or information system or service capability in response to an approved need.</p>
<p>Get-it big job</p>	<p>A big job with direction and money that gets new, better, or the same old stuff, attack thing, or computer part-group or help because someone proved they needed it.</p>

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Commercial-off-the-shelf	Commercial items that require no unique Government modifications or maintenance over the life-cycle of the product to meet the needs of the procuring agency.
Business-bought-stuff	Things businesses already have that do not need changes made for The Man.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Contractor	An entity in private industry that enters into contracts with the Government to provide goods or services. In this Standard, the word also applies to Government-operated activities that develop or perform work on acquisition defense programs.
The Business	A group of people looking to make money that agrees with the Man to give him stuff or work.



# Definitions

MIL-STD-882E Term

Ten Hundred Word

Contractor	An entity in private industry that enters into contracts with the Government to provide goods or services. In this Standard, the word also applies to Government-operated activities that develop or perform work on acquisition defense programs.
The Business	A group of people looking to make money that agrees with the Man to give him stuff or work.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Environmental impact	An adverse change to the environment wholly or partially caused by the system or its use.
World Hurt	Hurt to the world around us from using our part-group.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Fielding	Placing the system into operational use with units in the field or fleet.
Fielding	Placing the part-group into use by users in the field or on the waves.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Firmware	The combination of a hardware device and computer instructions or computer data that reside as read-only software on the hardware device. The software cannot be readily modified under program control.
Read-only words	Soft words and facts that are read-only on a hard thing and cannot be easily changed.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Government -furnished equipment	Property in the possession of or acquired directly by the Government, and subsequently delivered to or otherwise made available to the contractor for use.
Stuff-the- Man-gives	Stuff the Man owns or will get he will give the Business to use

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>Government-furnished information</p>	<p>Information in the possession of or acquired directly by the Government, and subsequently delivered to or otherwise made available to the contractor for use. Government furnished information may include items such as lessons learned from similar systems or other data that may not normally be available to non-Government agencies.</p>
<p>Facts-the-Man-gives</p>	<p>Facts the Man owns or will get that he will give to a Business to use to build a part-group. Facts the Man gives may be facts learned from building part-groups like the one being built or facts a business usually does not have.</p>

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>Government -off-the-shelf</p>	<p>Hardware or software developed, produced, or owned by a government agency that requires no unique modification over the life-cycle of the product to meet the needs of the procuring agency.</p>
<p>The Man's stuff</p>	<p>Hard things or soft words built, made or owned by the Man that needs no changes over the entire life of that thing to meet the needs of the Man.</p>

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>Hazardous material</p>	<p>Any item or substance that, due to its chemical, physical, toxicological, or biological nature, could cause harm to people, equipment, or the environment.</p>
<p>Bad stuff</p>	<p>Any thing or stuff that, because of its nature, could cause hurt to people, work things, or the world around us.</p>



# Definitions

MIL-STD-882E Term

Ten Hundred Word

Human systems integration	The integrated and comprehensive analysis, design, assessment of requirements, concepts, and resources for system manpower, personnel, training, safety and occupational health, habitability, personnel survivability, and human factors engineering.
Human-part-group together building	The together and complete study, building, needs study, ideas, and stuff for getting the right people, training, staying safe and not getting sick on the job, building things people can live in, keeping people safe from attacks, and building things humans can use easily.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Life-cycle	All phases of the system's life, including design, research, development, test and evaluation, production, deployment (inventory), operations and support, and disposal.
Entire life	All the time of a part-group's life

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Mode	A designated system condition or status (e.g., maintenance, test, operation, storage, transport, and demilitarization).
Job state	A state of a part-group that goes with a job it does

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>Monetary Loss</p>	<p>The summation of the estimated costs for equipment repair or replacement, facility repair or replacement, environmental cleanup, personal injury or illness, environmental liabilities, and should include any known fines or penalties resulting from the projected mishap.</p>
<p>Money losing</p>	<p>All the money lost fixing or getting new things, fixing or building new buildings, cleaning up the world around us, healing and losing people hurt or sick, paying for hurt to the world around us, paying known fines because of a known possible bad surprise.</p>

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>Non-developmental item</p>	<p>Items (hardware, software, communications/ networks, etc.) that are used in the system development program, but are not developed as part of the program. NDIs include, but are not limited to, COTS, GOTS, GFE, re-use items, or previously developed items provided to the program "as is".</p>
<p>Given things</p>	<p>Things used for a part-group that are already ready.</p>

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Program Manager	The designated Government individual with responsibility for and authority to accomplish program objectives for development, production, and sustainment of the system/product/equipment to meet the user's operational needs. The PM is accountable for credible cost, schedule, and performance reporting to the Milestone Decision Authority.
Big job manager	The person the Man tells to do what is needed to get a part-group together and gives the stuff to do it.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Re-use items	Items previously developed under another program or for a separate application that are used in a program.
Use-again things	Things used before that can be used again.

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Software re-use	The use of a previously developed software module or software package in a software application for a developmental program.
Soft words re-use	Using words that are read by one computer to do its job for another computer to do its job.



# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>System/ subsystem specification</p>	<p>The system-level functional and performance requirements, interfaces, adaptation requirements, security and privacy requirements, computer resource requirements, design constraints (including software architecture, data standards, and programming language), software support, precedence requirements, and developmental test requirements for a given system.</p>
<p>Part-group needs book</p>	<p>A book that shows all the things a part-group must have and be able to do.</p>

# Definitions

MIL-STD-882E Term

Ten Hundred Word

System-of-systems	A set or arrangement of interdependent systems that are related or connected to provide a given capability.
Part-group-of-part-groups	A group of part-groups that work together to do a job

# Definitions

MIL-STD-882E Term

Ten Hundred Word

Systems engineering	<p>The overarching process that a program team applies to transition from a stated capability to an operationally effective and suitable system. Systems Engineering involves the application of SE processes across the acquisition life-cycle (adapted to every phase) and is intended to be the integrating mechanism for balanced solutions addressing capability needs, design considerations, and constraints. SE also addresses limitations imposed by technology, budget, and schedule. SE processes are applied early in material solution analysis and continuously throughout the total life-cycle.</p>
Part-group Building	<p>The steps that a part-group team uses to get from something we want to be able to do to a part-group that can actually do it.</p>

# Definitions

MIL-STD-882E Term

Ten Hundred Word

<p>User representative</p>	<p>For fielding events, a Command or agency that has been formally designated in the Joint Capabilities Integration and Development System (JCIDS) process to represent single or multiple users in the capabilities and acquisition process. For non-fielding events, the user representative will be the Command or agency responsible for the personnel, equipment, and environment exposed to the risk. For all events, the user representative will be at a peer level equivalent to the risk acceptance authority.</p>
<p>User Person</p>	<p>When fielding happens, the part of The Man that he says can say whether a part-group is fine for users and is as important as the one who can say the expected losing of the part-group can be lived with.</p>

# Lesson 1

- Complex terms can be defined using the ten hundred words
  - Exercise took some effort at first
  - Once immersed, as much fun as doing a crossword puzzle or a similar word game

# Lesson 2

- Did improve understanding of the terms or improved the ability to explain it to others
  - Enabled to deal with system safety concepts at a more visceral level.
    - "Hurt" instead of "damage"
    - "Expected losing" instead of "risk."
  - "Now I can explain to my children what I do for a living"

# Lesson 3

- Some MIL-STD-882E terms overly complex
  - Should be defined more simply
  - The goal should be elegance
    - Precision, neatness, simplicity
  - Example: “software”
    - 882 definition is information that should be in the text
    - The definition is more like a short encyclopedia article than defining a term.

# Conclusion

- Ten Hundred words overly simple
  - Most people have a bigger vocabulary
  - “one thousand” is better than “ten hundred”
  - “system” is better than “part-group”
- Maybe use the ten thousand most frequent words
- The exercise was valuable
  - Reconnected with fundamental concepts of system safety



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