In 2020, [SpaceX](http://en.wikipedia.org/wiki/SpaceX) announced it would send a team to Mars. In his speech, the SpaceX CEO declared that aerospace technology would not be the deciding factor of success. He said, “It is the logistics of this endeavor. Knowing with a high degree of confidence what risks to worry about, and then to spend only the minimum amount of money to address. Projecting out with great accuracy who would be needed where, when, and if necessary, how many. Sequencing as efficiently as possible the plethora of tasks to accomplish. We believe in the lexeme approach, and will rely on a measured lexicon for success.”

His soaring rhetoric capped an amazing few years of discovery. It was not a smooth road all the way to that podium.

It started with [big data](http://en.wikipedia.org/wiki/Big_data). So much hype, so little results. The [Internet of Things](http://en.wikipedia.org/wiki/Internet_of_Things), ended up being the Internet of Overload. The rate of change was so great, yet the rate of taming enterprise performance kept lagging. Economic growth stagnated as productivity improvement fell to zero. Project failure rates stayed so high that dreams of journeying to Mars began to seem nothing more. All of the great challenges mankind faced morphed from righteous endeavors of assured victory to what seemed epic struggles to indeterminate ends.

And then, as always, some simple ideas emerged to light the way forward. Of course it had to be ideas, as over [80% of the value of American business](http://www.oceantomo.com/productsandservices/investments/intangible-market-value) was then based on the intangible. Today, in 2039 it is estimated that 95% of all economic value is based on intangibles. Thus, at the dawn of the 21st century, business realized that the project was the new assembly line. Projects could moves ideas to market. Projects could enhance the value of tangible goods. Projects could herd disjointed ideas into something of value.

Software and algorithms were made in great numbers to address the project as the value driver of the economy. In 2014, there were over 200 project related software products. However, improvements were small. Failure rates remained too high. But then, using the assembly line metaphor, researchers suggested a quest to find the new cogs driving process and projects. If the cogs could be found, and then measured, performance nearing the manufacturing holy grail of [six sigma](http://en.wikipedia.org/wiki/Six_Sigma) could be attained. A visit to Mars might seem real again. Victory over epic challenges could be a forecast.

The key idea was the realization that [lexemes](http://en.wikipedia.org/wiki/Lexeme), basic units of meaning, could become the cogs of commerce. With algorithms similar to Amazon buying recommendations and Google search, lexemes could be semantically matched as they were digitally produced in project plans, work flows, action items, to dos, risk registers, and anywhere else digital project artifacts existed. Once the software folks had collections of like things, they could begin to measure them. Now the promise of big data and the Internet of Things could be realized. If you had the cogs of performance, everything else was metadata – measures!

In 2016, GSA sponsored an XPRIZE-styled competition for the first company to produce the most accurate project schedule using big data. Judging would use a completed project schedule as the rubric, thus the winner had to not only identify what work had to be accomplished, the solution had to also sequence and size the work. The results were astounding. Lexemes could be mined. Lexemes could be measured. Lexemes could be algorithmically manipulated.

At the moment of SpaceX’s proclamation supporting lexeme based management, the birth of the modern way of managing projects had arrived. In 2022, the first tool to mine lexemes from requirements statements was developed, successfully solving one of the touchstone problems of project management – scope management. Linking lexemes from requirements statements to work products to schedule items to test cases was accomplished by software. Requirements traceability was solved. It did not matter if the organization iterated, waterfalled, or even furballed, the lexemes, their performance trails, and their measures provided clarity and projections.

The merger of Twitter and IBM in 2023 heralded in the next great capability. Lexeme trending and [Watson](http://en.wikipedia.org/wiki/Watson_%28computer%29) learning allowed people to leave their desks and venture…wherever. A message to their Watson instance and a project manager had 3D bubble charts and the status of lexemes on the critical path sent to their iPhone 15. Later in 2024, Google opened access to its full map universe, allowing lexeme location at the [office level](http://www.wired.com/2012/08/google-maps-street-view-wired-newsroom/). Where were people working on ideas that were in trouble? If presence was required, measured lexemes allowed identification of the person with the most experience of that particular lexeme nearby. Linkedin added a section and integration points with software tools to provide a professional’s lexeme statistics in the skills area of user profiles that same year.

In 2030, Princeton University finally finished updating the [WordNet Lexical Database](http://wordnet.princeton.edu/) to an unabridged lexemes database with measures. In 2032, Princeton finished all language translations of WordNet. SpaceX was a major contributor to the WordNet endeavor. At the press event, the SpaceX CEO declared, “Today, my [supply chain](http://en.wikipedia.org/wiki/Supply_chain) is finished. Next stop, Mars.” When asked by a reporter what he meant by supply chain, the CEO stated, “Today, I can see how ideas are moving through the Mars program. It is the ideas that are my raw materials. It is the measuring via taxonomy of ideas that are my products. It is the statistical sequencing of ideas of how I get to market. With the new WordNet, language, the final friction to my idea supply chain is now gone. How lexemes are used in a particular endeavor or program is the only language that matters.”

So much has been written about the Great Save of 2035 that the only point to be made in this paper is how the [Jet Propulsion Laboratory](http://en.wikipedia.org/wiki/Jet_Propulsion_Laboratory)’s Watson instance uncovered the lexeme trend that led to the discovery of the ballistic recovery system flaw. A risk management algorithm identified several converging lexeme trends within the SpaceX Mars Program and incredibly in general aviation lexemes. The key insight was how outside lexeme movements had such powerful affects on what was considered mostly an isolated system.

So, here we are today, July 20, 2039, the day of man’s first Mars landing. As Commander Sophia Mandrier readies her crew for their first steps on Mars, the Asteroid Deflection Program is working with SpaceX to re-route the Dragon 11 capsule to the rendezvous Lagrange point. Two of the largest programs, by at least several orders of magnitude, conducted concurrently. Both programs are currently operating at [seven sigma](http://en.wikipedia.org/wiki/Six_Sigma). Success is the high confidence forecast.