

# NASA CUSTOMER PROFILE



## Where Speed Translates to Profits

**Customer:** NASA; <http://www.nasa.gov/>

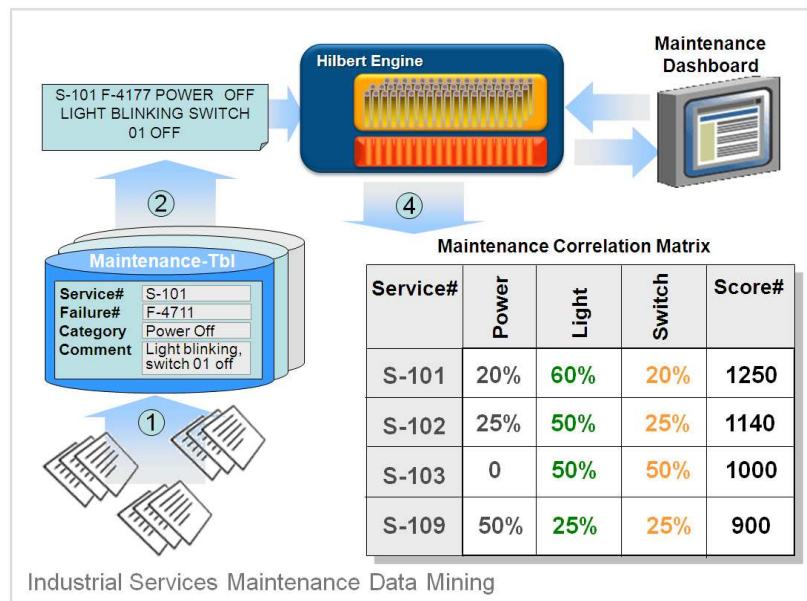
**Industry:** Aerospace

**Application:** Data Mining, Text Analysis

**Hilbert Products:** Hilbert Engine, Hilbert ExploreText

**Business Challenge:** NASA, the US aerospace agency, runs Hilbert Products to analyze the maintenance records of the Space Shuttle and the ISS Space Station. These analyses provide a basis for its decision making support system to provide operational safety. More than one million maintenance records needed to be analyzed containing structured checklist entries as well as unstructured “comment” text entered by the individual maintenance inspectors. NASA needs to explore more than “just” the structured data because it discovered that much of its knowledge is stored in the free form text fields (more than 75%), which cannot be explored with traditional database and retrieving technologies.

### Business Scenario:



# NASA

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**Business Solution:** With Hilbert ExploreText 1,000,000 maintenance records, each containing 65 structured fields and several unstructured comment fields are analyzed. In the initial setup, sample records (maintenance sheets) were selected by the agency and used as a “target document-corpus” for the Hilbert ExploreText application, which, in the final correlation analysis and identifies other records (maintenance sheets) with a high degree of correlation to the samples. The Hilbert ExploreText also finds more relations, delivering higher quality along with ultra high-speed. By correlating across 10-plus years of data, this agency can now more accurately predict “events” and identify failure trends.

**Performance:** Categorization and correlation of 1,000,000 maintenance records based on a “targeted document” in less than 2 minutes on a standard PC.

- Business Benefits:**
- Data analysis is now fast and accurate
  - Mission-critical information is harvested from both structured and unstructured data
  - Agency now has a robust data environment for problem resolution
  - Automatic categorization, ranking and correlation of all documents
  - Enables ad-hoc querying
  - Fast solution for alternative search scenarios
  - Risk analysis to prevent further faults

**About Hilbert:** Pennsylvania based Hilbert Technology Inc. is an international provider of data management and analysis solutions for large and medium size enterprises worldwide. The offering is based on the revolutionary, patented Hilbert Engine technology for the ultra high-speed access, manipulation, storage and analysis of large volumes of structured and unstructured data. The Hilbert solutions are offered as industry or process specific solutions. Organizations in public services, law, government, finance, communications, whole- and retail sales, transportation & tourism and chemical & pharmaceutical can employ Hilbert solutions to gain unparalleled speed in access and analysis over large data volumes.

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Hilbert Technology Inc.  
P.O. Box 330  
Newtown, PA 18940  
USA  
Web: [www.hilbertcompany.com](http://www.hilbertcompany.com)  
E-Mail: [info@hilbertcompany.com](mailto:info@hilbertcompany.com)  
Tel: +1 (212) 252 1600  
Fax: +1 (212) 252 1615