SOLUTION BRIEF

# Natural language processing for government efficiency

## Uncover meaningful insights and make faster, better decisions from vast amounts of text-based data

Fast, accurate processing for all types of documents

Streamlined workflows, model governance and transparency

Better citizen service via deeper insights, view of trends

## The Issue

Government agencies manage a plethora of documents, forms, comments and surveys – including huge stores of text-based data. There are many digital documents, but many paper documents still flow through these agencies. Transformation to a fully digital environment is stymied by:

- **The digital divide.** Many individuals still cannot access computers and fill out documents online. In fact, those who need government benefits disproportionately lack computer technology.
- **Processing.** Extracting information from paper documents can be difficult and subject to human errors.
- **Retention requirements.** Governments store documents for varying lengths of time, depending on type and purpose. In paper systems, people must manually review and remove documents that no longer fall within the retention period.

Unfortunately, manually converting piles of paper documents into searchable digital records is time-consuming and prone to costly errors. Governments need a more efficient, effective way to manage their data deluge.

Eliminating cumbersome, manual processes could address citizen demands for transparency and responsiveness, solve workforce challenges and unleash new insights from data. Techniques like optical character recognition (OCR) and natural language processing (NLP) are a way to get there.

## The Challenge

**Efficiently extracting insights from large volumes of paper documents and unstructured data.** With vast amounts of government data in analog or unstructured formats, agencies often outsource or pay highly skilled government employees to do tedious, repetitive tasks that could easily be automated.

**Capturing key data manually – or extracting it from a scanned document.** Many agencies either use basic OCR technology to extract the target data from a form or narrative document or rely on employees to manually enter information from paper forms into digital systems. Both approaches lead to mistakes, like extracting inaccurate data. Such errors may force additional manual reviews or result in downstream processing or analysis mistakes.

**Overcoming a lack of leading-edge technical skills.** Many technology platforms are designed primarily for people with technical skills. But slim agency budgets may not allow them to train current employees or hire new employees skilled at using NLP, text analytics and OCR technologies.

## Our Approach

SAS® helps government agencies rapidly identify and extract relevant information from paper and digital data, so they're positioned to uncover meaningful insights and make better decisions – with less effort. Freed from manual approaches, agency staff can spend more time analyzing data and improving services. SAS helps you:

- Extract insights from diverse, messy documents and put them in context quickly using combined technologies like OCR, text analysis and machine learning.
- Capture the unrealized value of vast paper archives by digitizing them and making that data available in other applications.
- Build, deploy and govern machine-learning models using an intuitive graphical interface. This approach helps address skills gaps and provides transparency, auditability and repeatability.
- Streamline workflows by automatically analyzing and classifying incoming documents.
- Uncover emerging trends and spot new opportunities for action in public documents, then explore how the trends change over time.

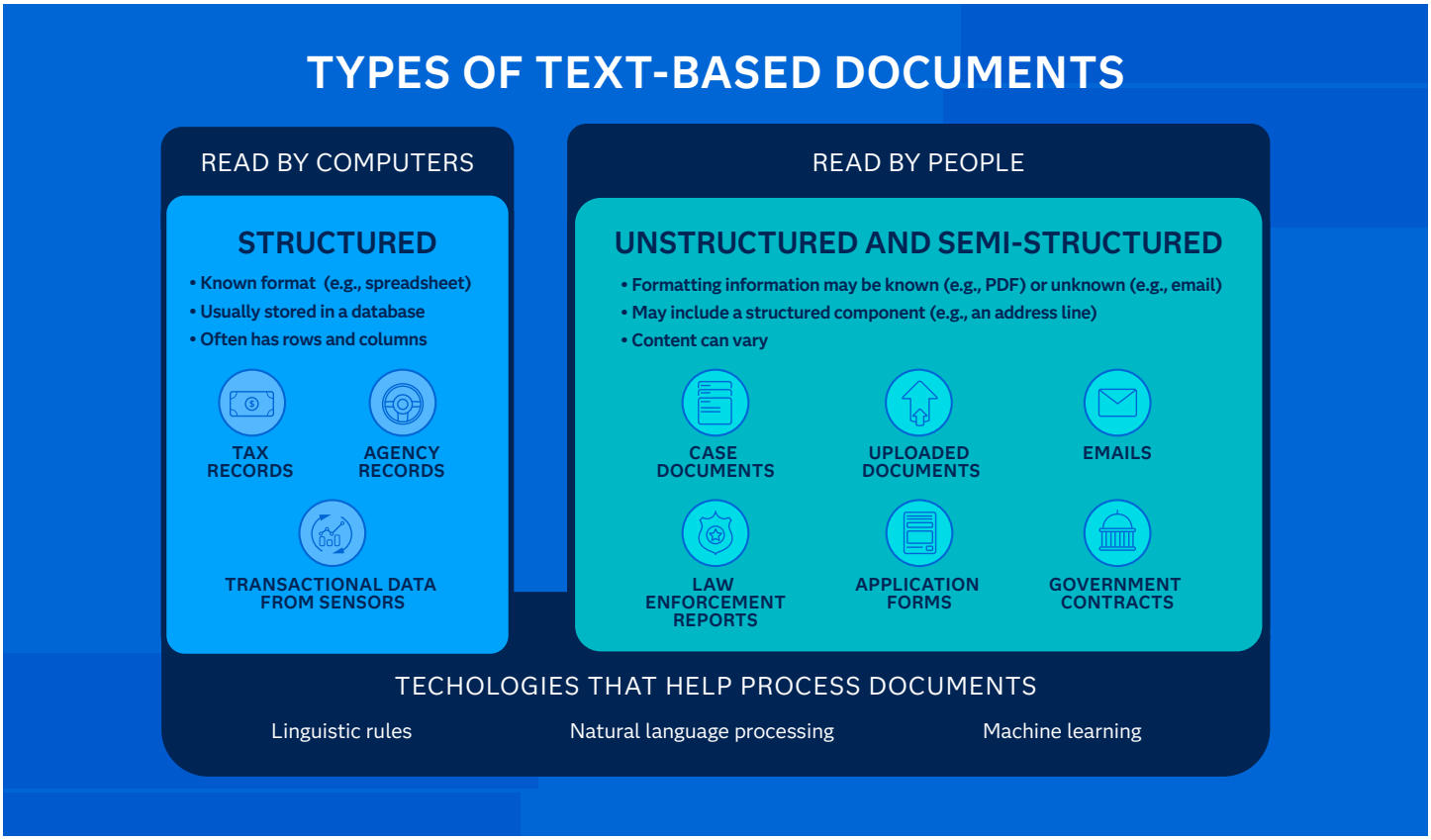
With SAS, you can analyze large volumes of unstructured documents to get valuable insights faster.

## The SAS Difference

Text analytics capabilities from SAS foster collaboration and information sharing through an ecosystem that integrates easily with existing systems and open-source technology. You can use SAS to:

- Get more value from your analytics investments with our open, user-friendly platform incorporating multiple techniques – NLP and text analytics, machine learning, linguistic rules, search and model-building capabilities.
- Automate and rapidly scale the traditionally manual processes of reading, organizing and extracting useful information from huge volumes of textual data.
- Increase the accuracy of text models by combining NLP methods with a rules-based approach that can be enhanced with subject-matter expertise.
- Generate models designed to help you easily extract concepts, detect common topics and effectively analyze public sentiment – with support for 33 different languages.

With SAS, you can use your text data to help ensure all voices are heard, improving efficiency and equity. Then you can deliver the outcomes constituents deserve – from public safety to human services, health care and beyond.




**Learn more** about how SAS helps governments transform.