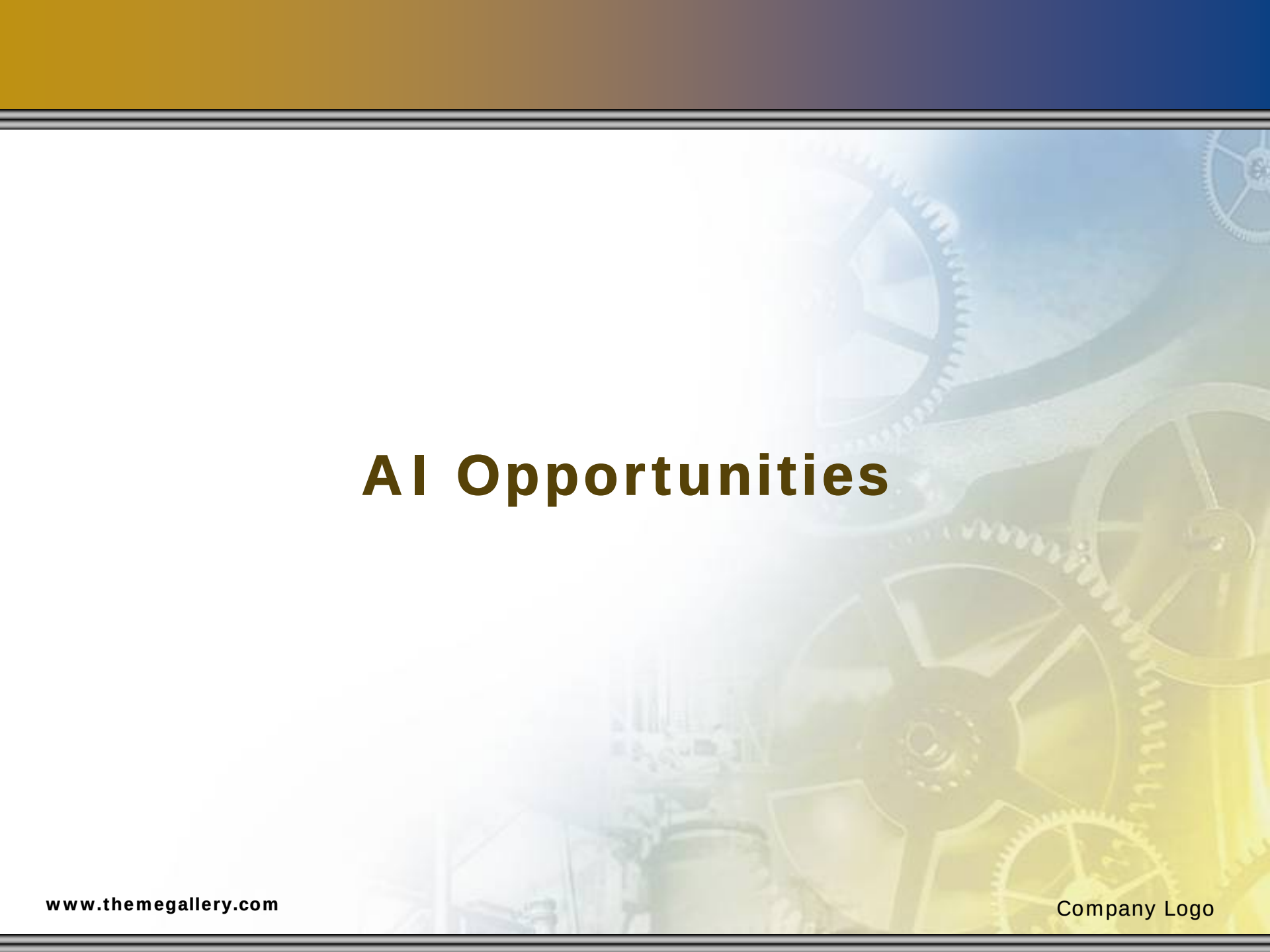




Transformation of the Statistical Analysis and Reporting Process Through Intelligent Automation

Dong Fang
Pfizer, Inc.

The background of the slide features a complex, artistic composition. On the right side, there are several large, interlocking gears in shades of blue and yellow, set against a light blue sky. On the left side, a faint, hazy image of a city skyline is visible. The overall color palette is dominated by light blues, yellows, and greys, with a dark blue header bar at the top.

AI Opportunities

Where we are applying AI at Pfizer

- ❖ Pfizer is establishing AI-based services and capabilities that are categorized under one or more of the following pillars

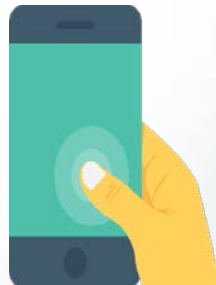
Insights

Detect key patterns and relationships from data in real-time to derive deep actionable insights



Engage

Use mass personalization and influence desired actions to improve customer, patient and employee engagement



Automate

Automate repetitive, knowledge & natural language-rich, human-intensive decision processes



Examples:

Identification of Precision Medicine Opportunities

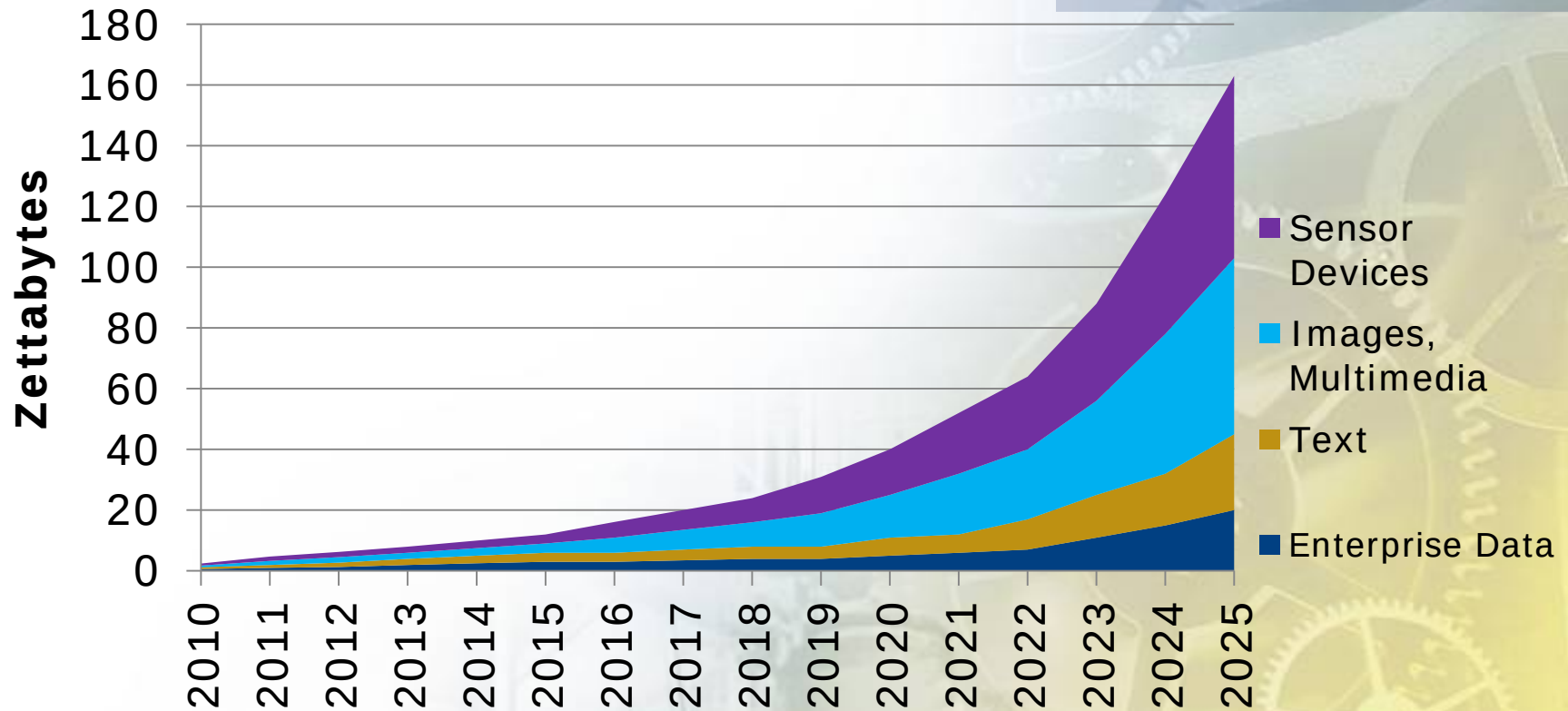
Digital assistants to improve patient adherence and maximize positive outcomes

Automating document processing & quality control to streamline submissions

Big Data is the New Oil

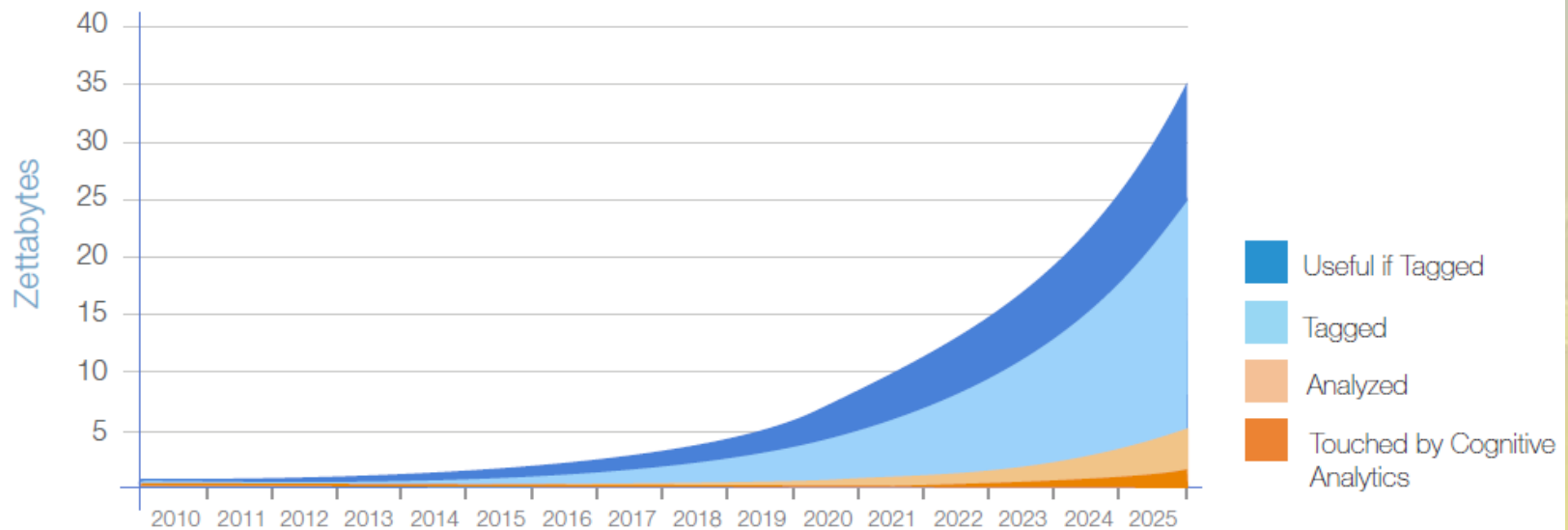
- ❖ IDC forecasted that by 2025 the global datasphere will grow to 163 zettabytes (that is a trillion gigabytes). That's ten times the 16.1ZB of data generated in 2016.

- *>80% of all data is 'dark' and not used today;*
- *>90% of all data in the digital universe will be unstructured.*



Data Tagging is Critical

- ❖ Data Tagging, especially automated tagging, is an important aspect of using AI.
- ❖ IDC estimated that by the end of 2025, only 15% of the data in the global datasphere will be tagged and only one-fifth of that will actually be analyzed.

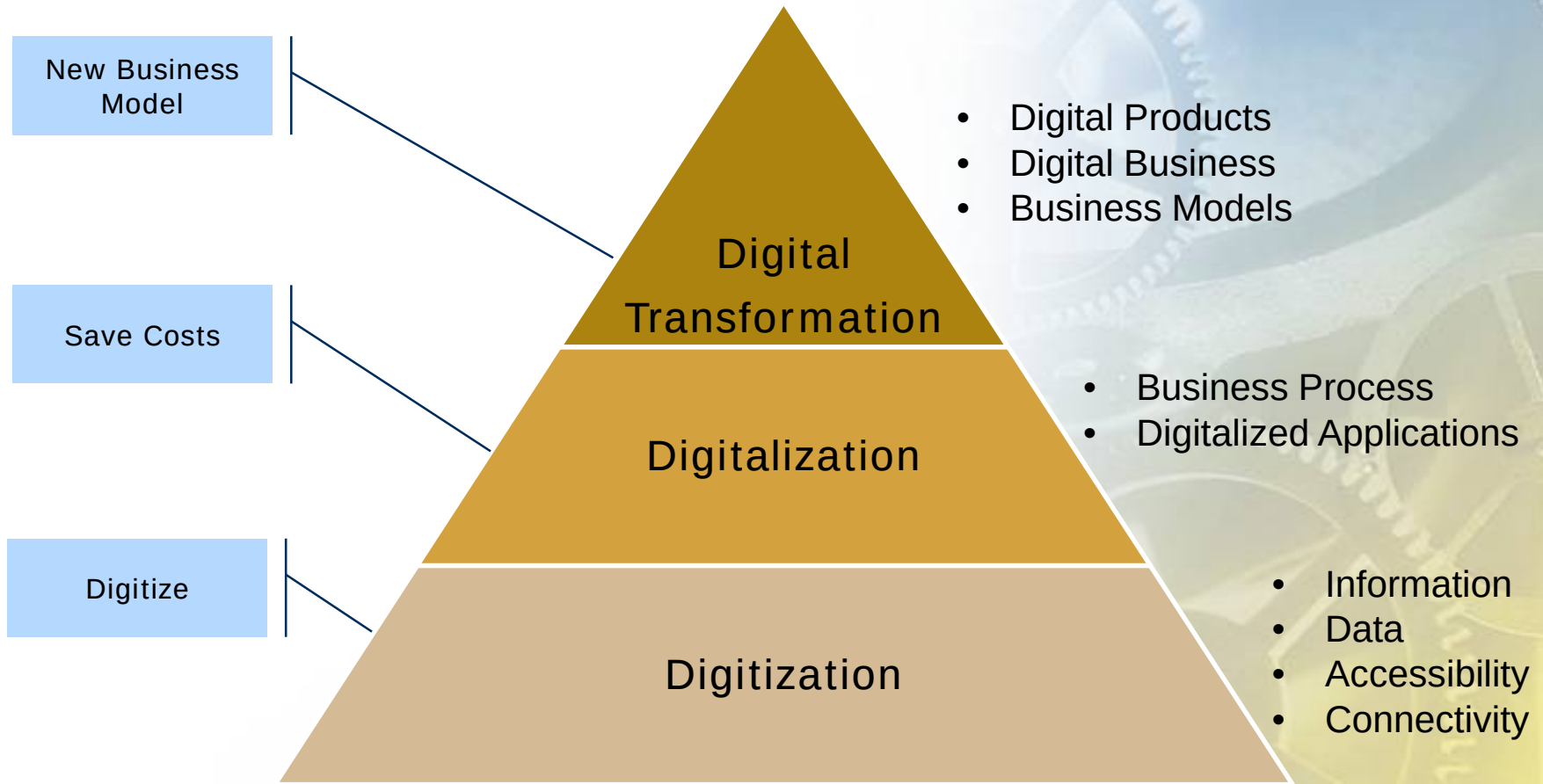


Source: IDC's Data Age 2025 study, sponsored by Seagate, April 2017



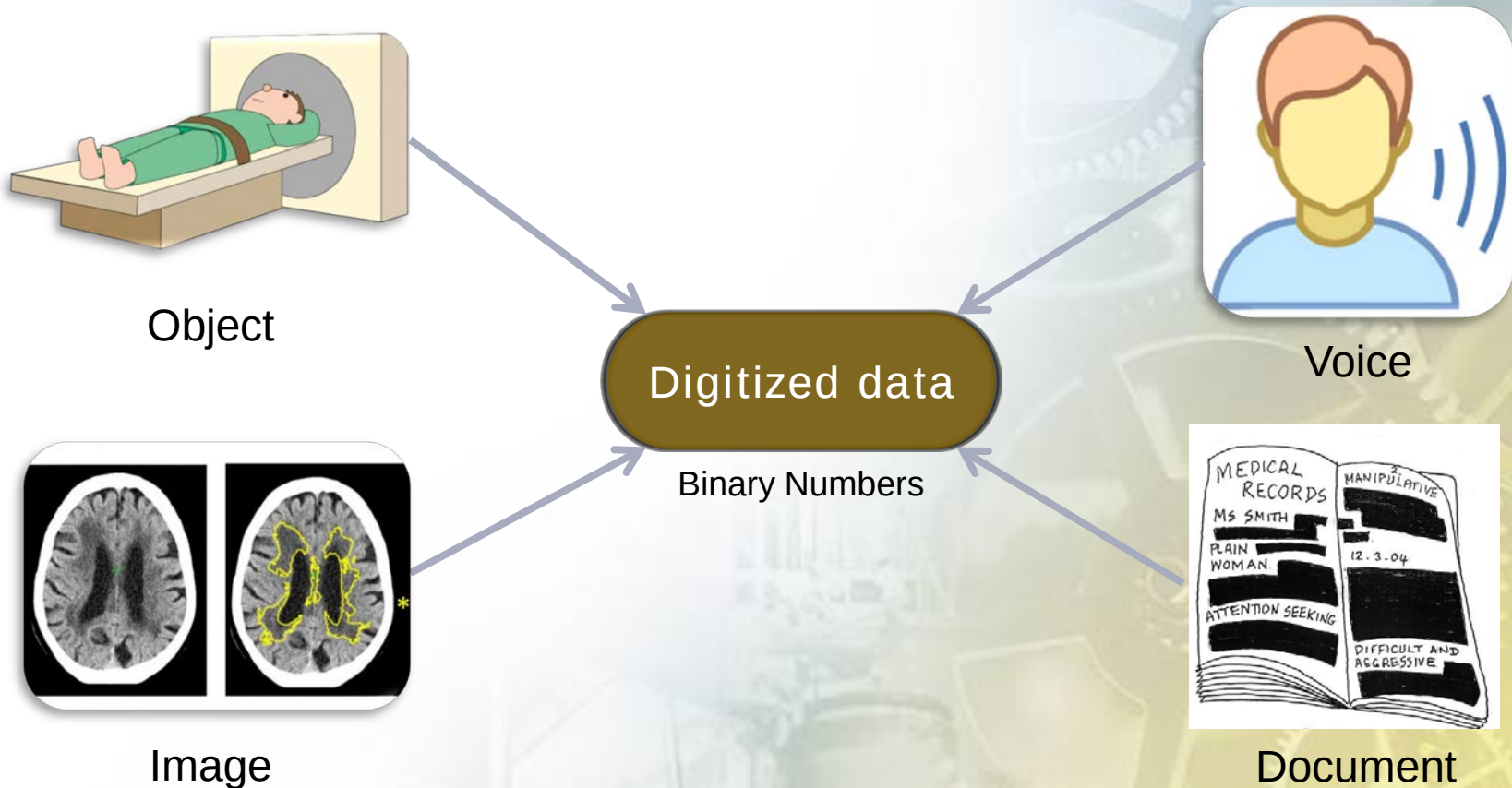
Digitization, Digitalization and Digital Transformation

Basic Concepts



Digitization

- ❖ The process of converting information into a digital (i.e., computer-readable) format, in which the information is organized into bits.



Digitalization

- ❖ The process of considering how best to apply digitized information to simplify specific operations.

Digitized Data

Excel Document

Word Document

PDF Document

Extracting Text



PDFminer & JSON

Processing Text

■ [RegEx]*



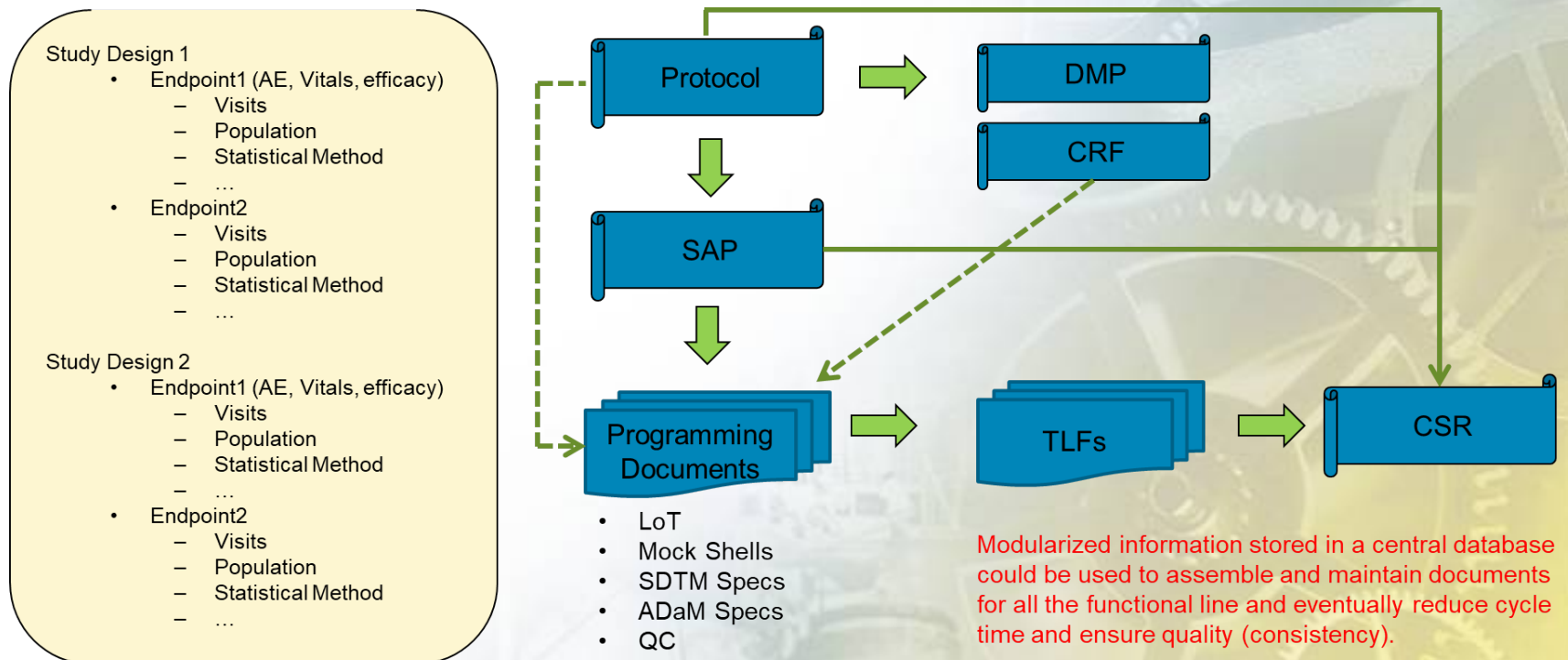
Digitalized Applications (**Bot**)

Digital Transformation

- ❖ The process of devising new business applications that integrate all the digitized data and digitalized applications.

Digitalize Protocol, SAP, ..., CSR

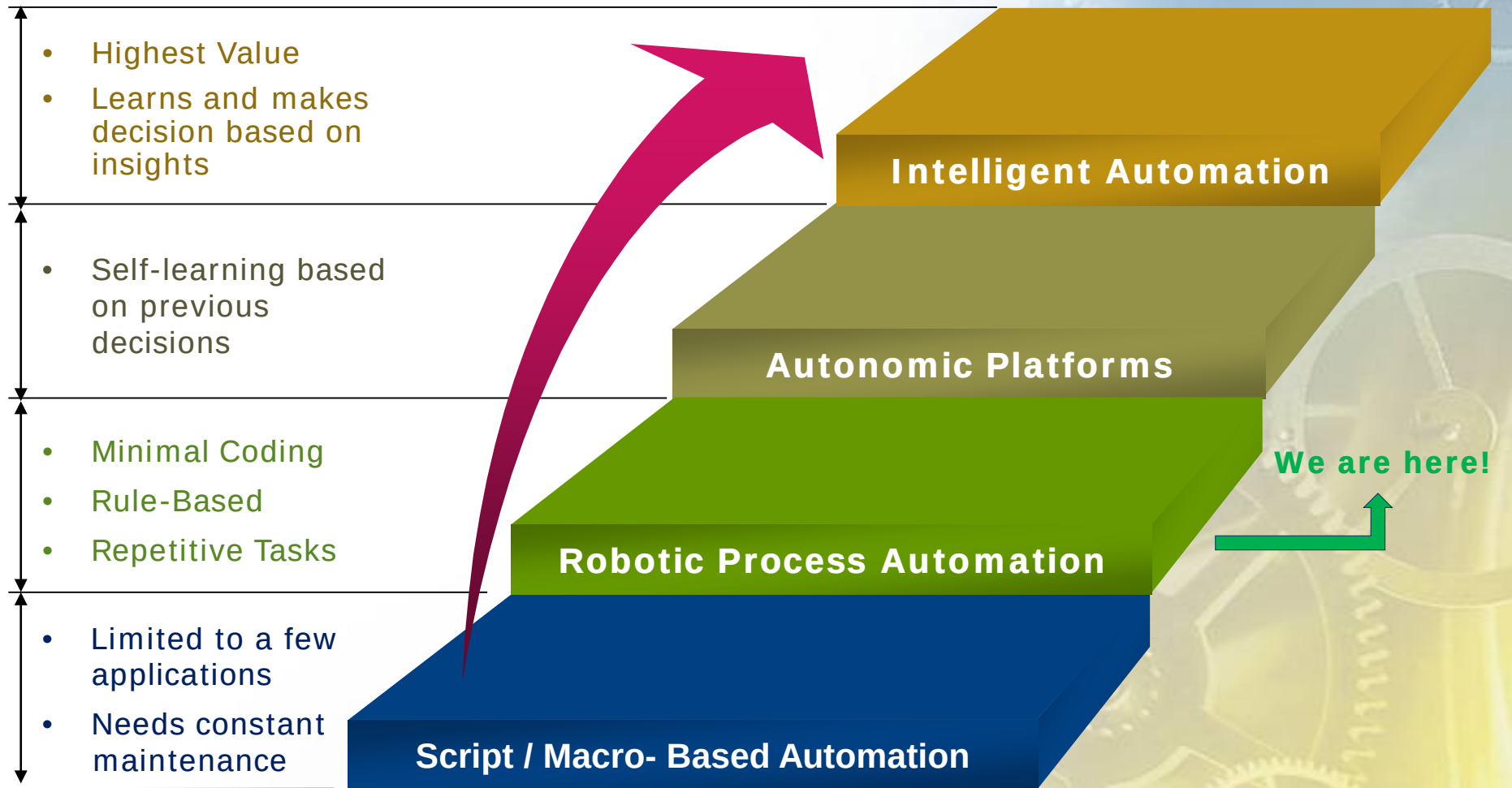
End-to-End Document Automation



The background of the slide features a complex, artistic rendering of interlocking gears and industrial machinery. The gears are depicted in various sizes and orientations, with a color palette transitioning from a warm golden-yellow on the right to a cool blue on the left. The overall effect is one of mechanical precision and industrial scale.

Automation

Spectrum of Automation



Use Case: Innovative Tools at Pfizer

- ❖ A website has been built with embedded eight automated tools across medical writing and statistical programming processes

Pfizer CRDC CPW CI
Clinical Programming & Writing Continuous Improvement

Search this site...

Useful Links

- About CPW
- About CPWCI
- Full User Guide
- Provide Feedback
- Get Support

Medical Writing Tools

Click on icon to choose different tool



CSR Abbreviation and TLF Reference QC Tool v1.1



CSR Table Generator v1.0



Prose Safety Narrative Generator (NarGen) v1.0



SAR Generator v1.0

Clinical Programming Tools

Click on icon to choose different tool



Mock Shells Generator (MSGen) v1.0



Programming Master Handbook v1.0



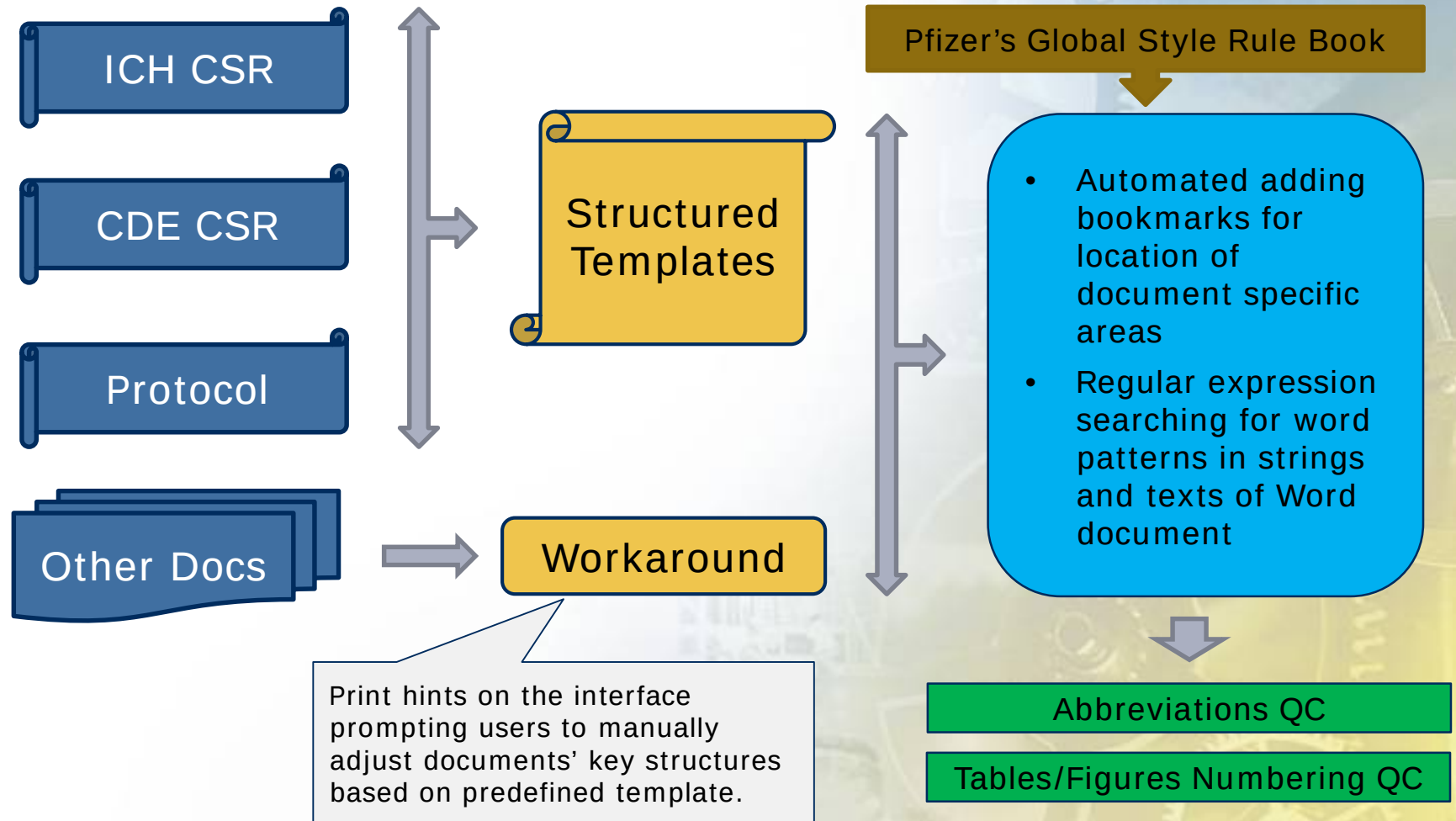
CDARS Table Search Tool



One-Click QC Toolkit v1.0

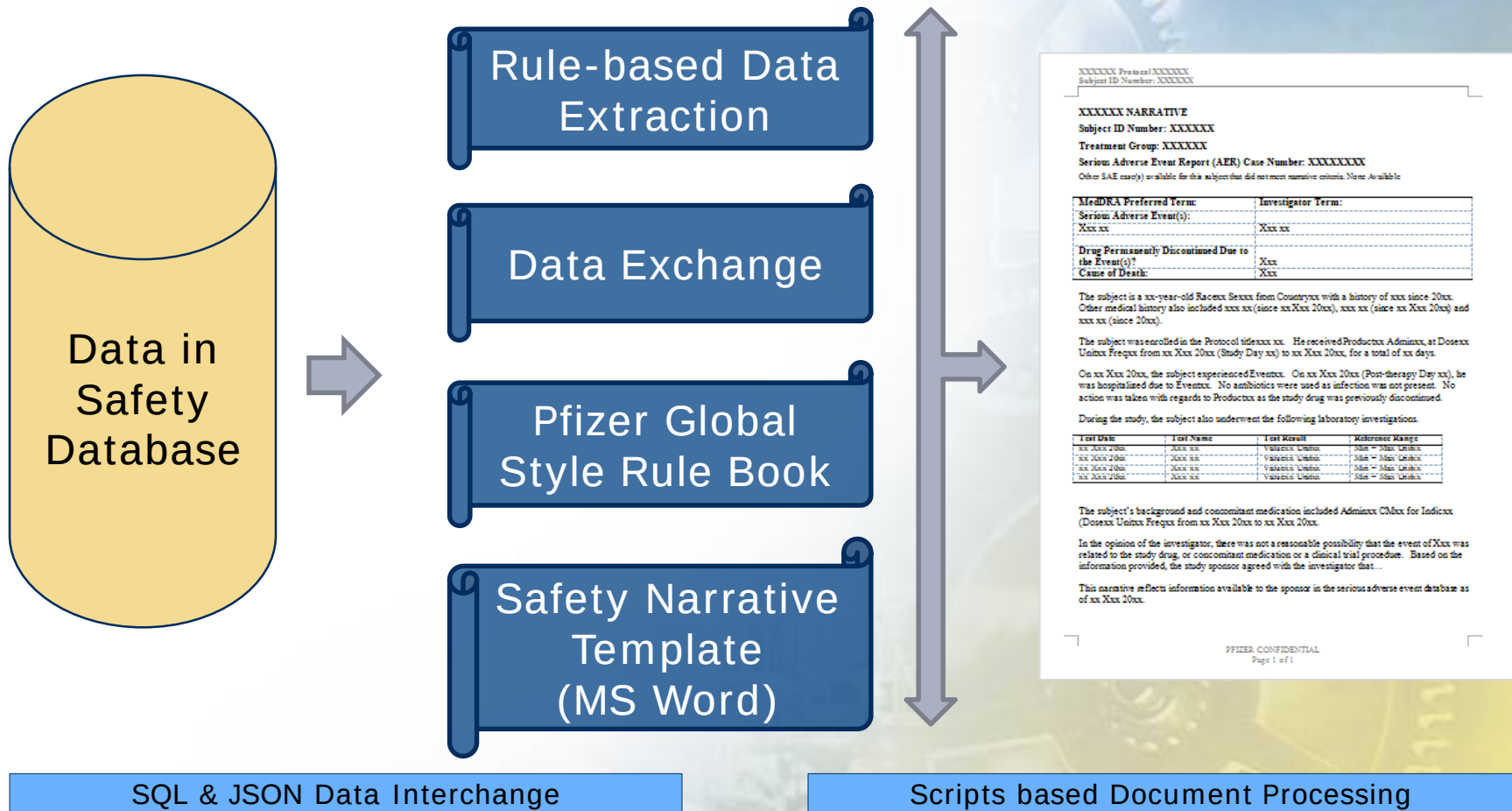
Use Case: Auto QC of CSR

❖ Macro-based Automation

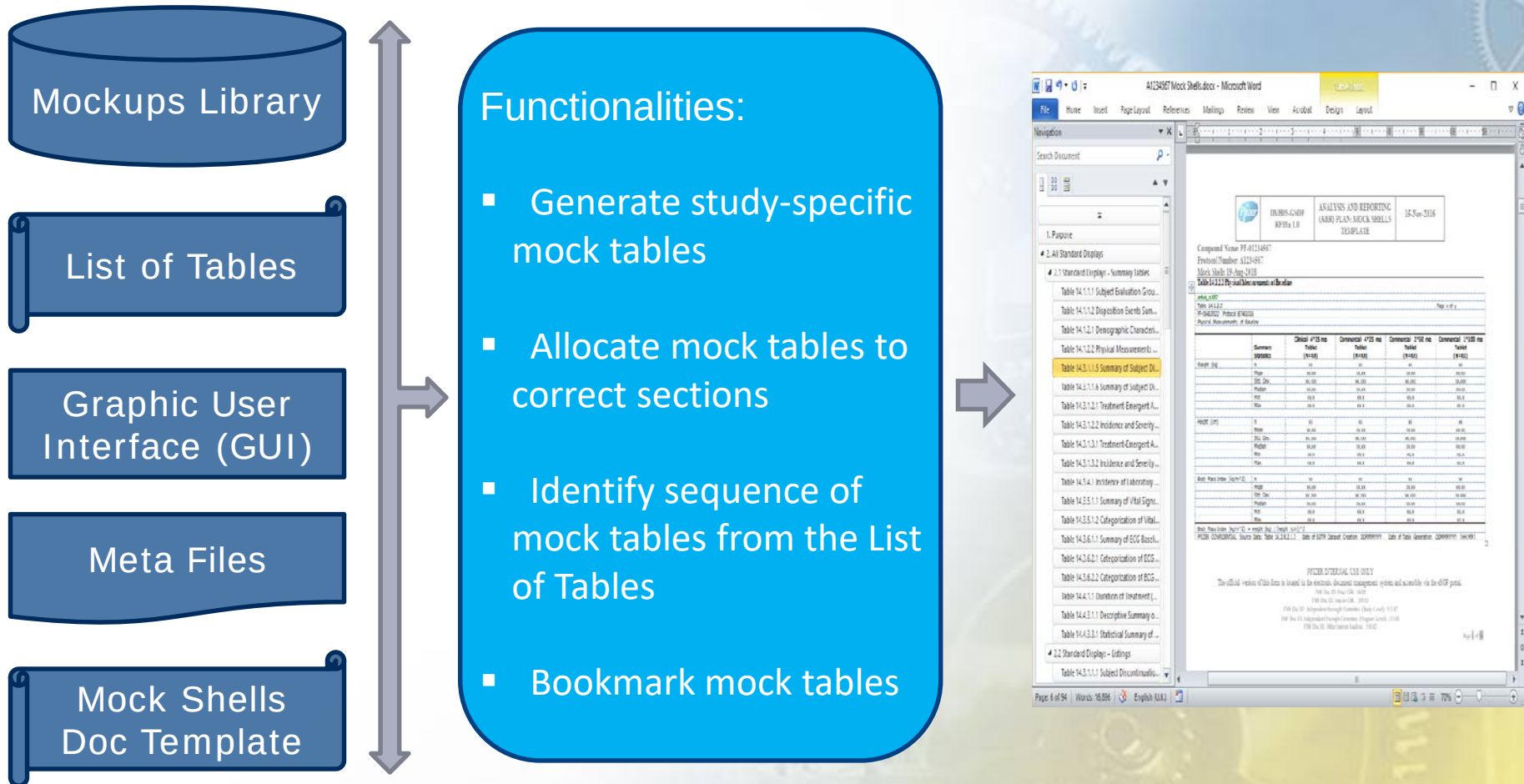


Use Case: Auto Narrative Writing

❖ Rule-based Automation (based on structured data)



Use Case: Auto Mock Shells Generation



Automated generation of Mock shells document based on GUI and metadata

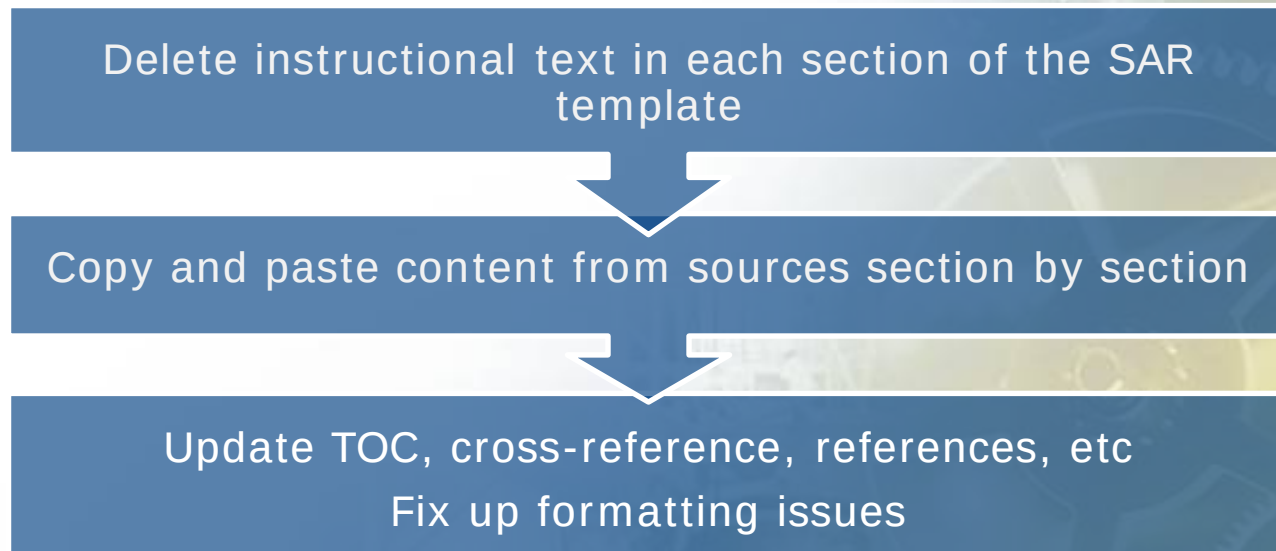


MSGen_demo.wmv

Use Case: Auto SAR Writing



SAR Generator – A content generation tool that can be used to create a draft SAR by one click. The tool mimics following manual process for SAR draft 1 writing.



The background of the slide features a complex arrangement of interlocking gears in various sizes, rendered in a light blue and yellow color scheme. In the lower-left portion, a faint, hazy image of a city skyline is visible. The top of the slide is bordered by a horizontal gradient bar transitioning from gold on the left to dark blue on the right.

**Working together to win the
digital race!**

The background of the slide features a complex industrial scene. On the left, there are various pipes, valves, and structural elements of a facility. On the right, several large, interlocking gears are visible, some in the foreground and others in the background, creating a sense of mechanical complexity. The entire image is overlaid with a blue-to-yellow gradient, which is darker on the left and lighter on the right.

Thank You !