

THINKLab

Cognitive Computing – Unlocking the Value of Big Data

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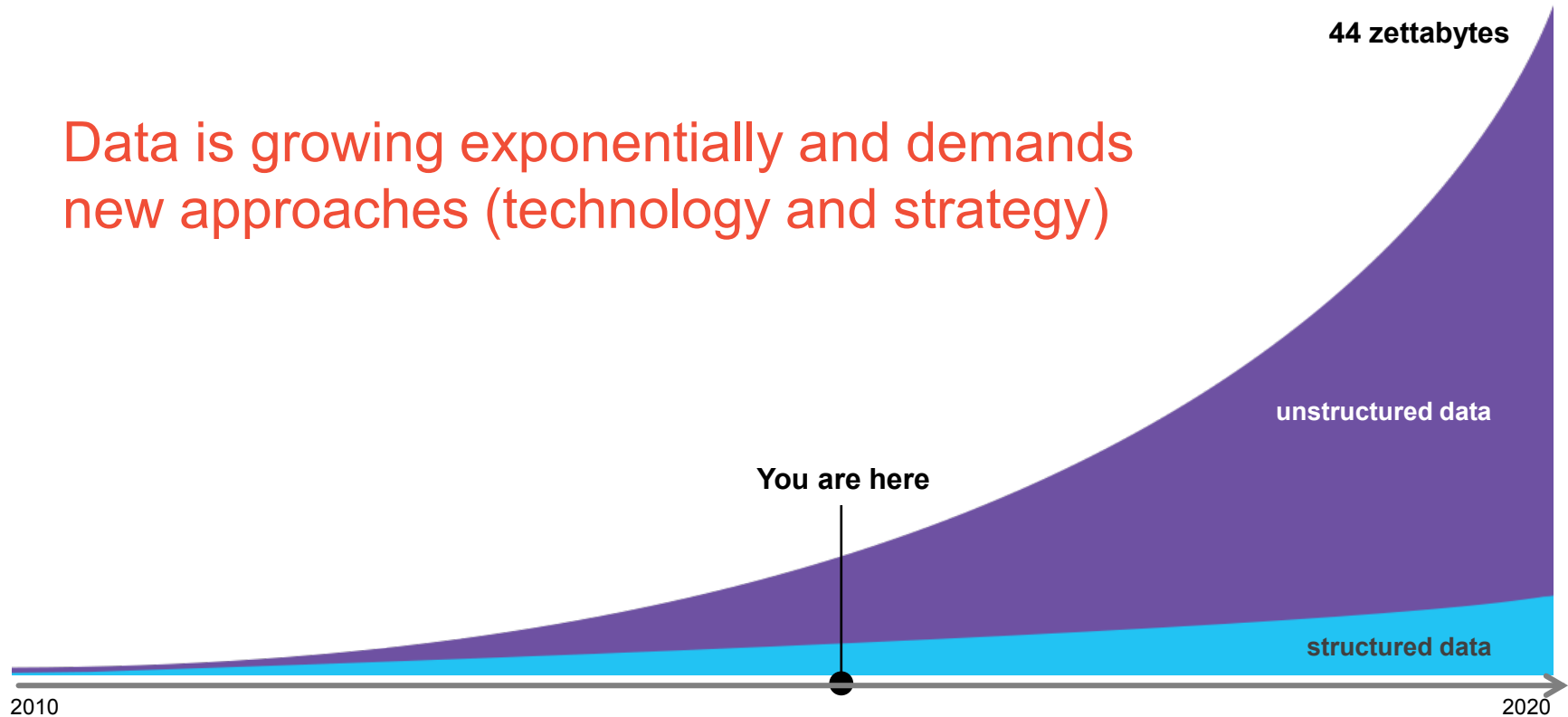
Entering the Cognitive Era - Made by IBM Research






The price of not knowing.

Data is growing exponentially and demands new approaches (technology and strategy)





Unstructured data – “dark data” –
accounts for 80% of all data
generated today.



Healthcare

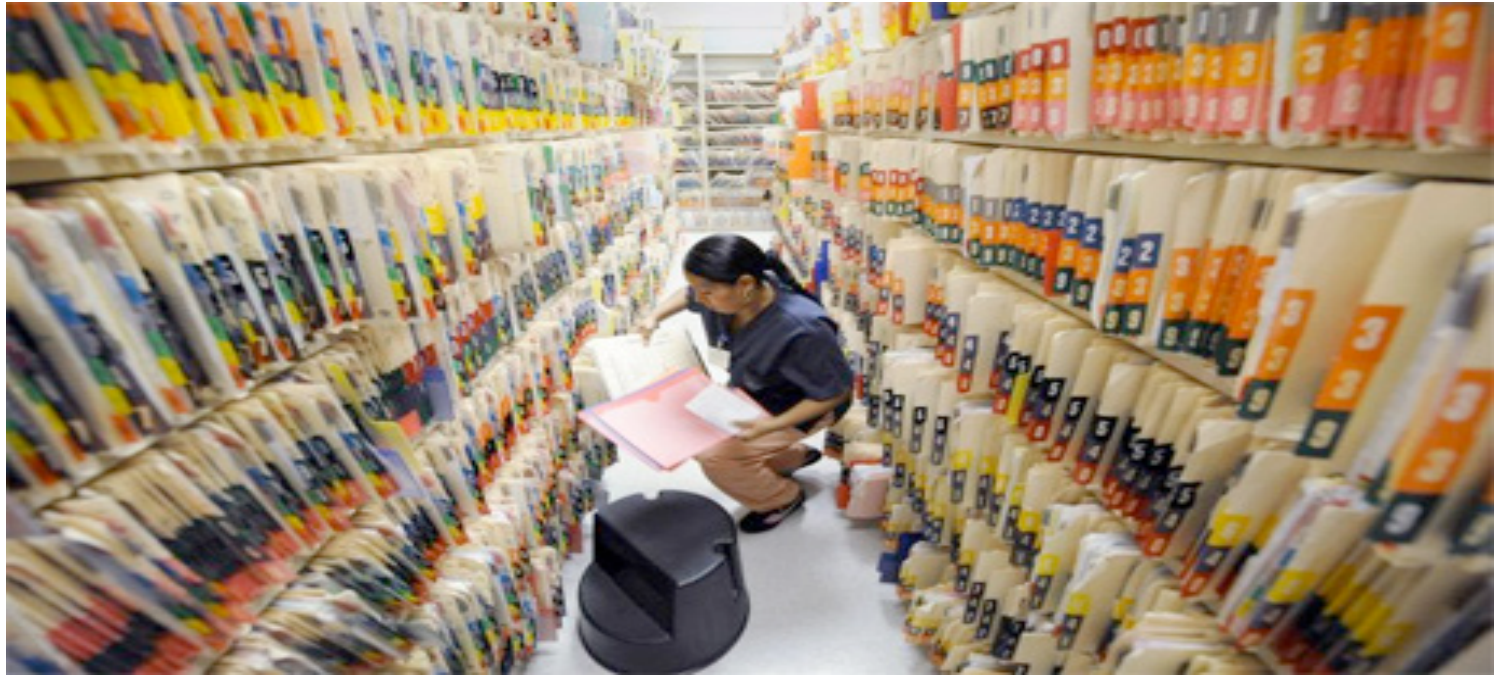
Each person will generate **1 million GB** of health-related data in their lifetime – equivalent to about **300 million** books.

Cognitive systems must learn at scale, reason with purpose, and interact with humans naturally.





Watson can read these medical records in six seconds!



IBM Watson for Oncology Trained by Memorial Sloan Kettering



Memorial Sloan-Kettering
Cancer Center

Challenge

- Ability to assess quickly the best treatments for an individual patient based on MSK expertise, latest research and clinical guidelines

Watson solution

- A tool to assist physicians make personalized treatment decisions
 - Analyzes patient data against thousands of historical cases and trained through thousands of Memorial Sloan Kettering MD and analyst hours
 - Suggestions to help inform oncologists' decisions based on over 290 medical journals, over 200 textbooks, and 12M pages of text
 - Evolves with the fast-changing field
 - Currently supports first line treatment (Breast, Lung, Colorectal cancers)

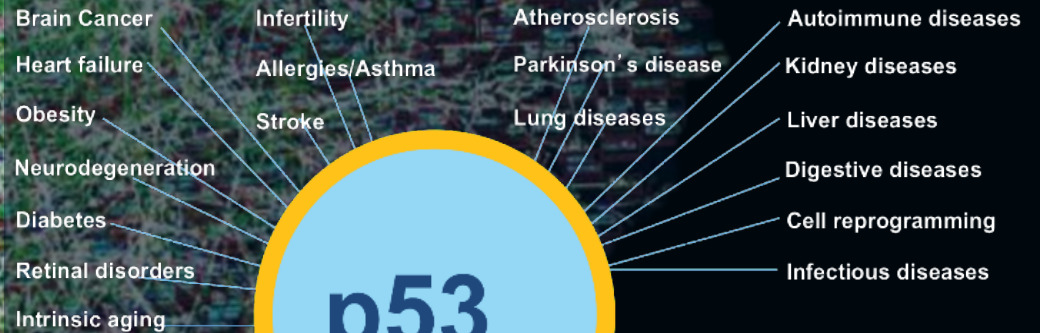


Advanced Decision Support: Training the computer to see

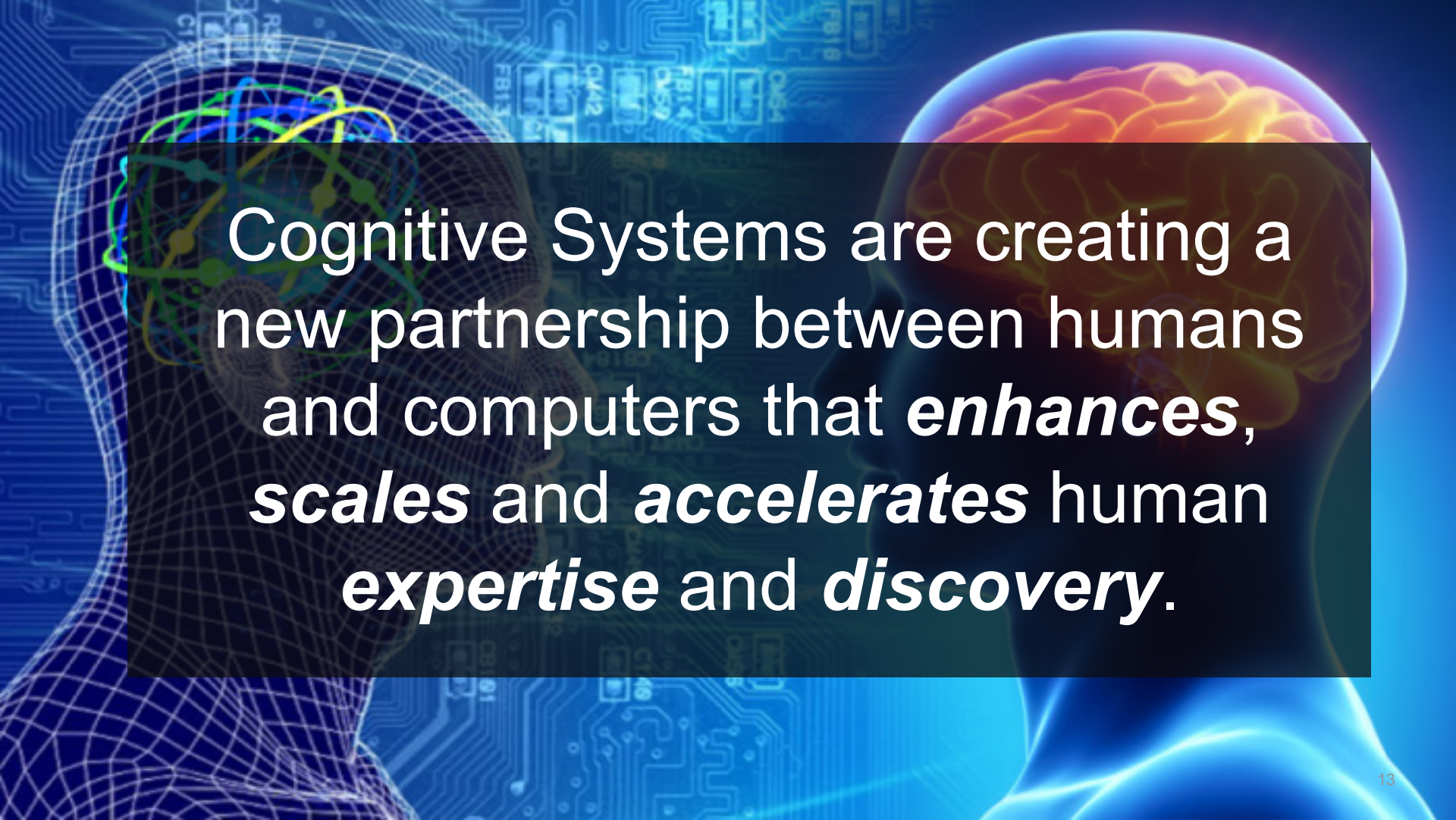
Medical Sieve is a Cognitive Assistant that

- understands diseases and their appearance in imaging
- integrates imaging with textual reports and clinical data
- provides patient at-a-glance summaries
- makes diagnosis and treatment recommendations
- assists the clinician in diagnosis and treatment planning

Intelligent Exploration & Discovery



**p53 is involved in
over 50% of all
cancers**



Cognitive Systems are creating a new partnership between humans and computers that ***enhances***, ***scales*** and ***accelerates*** human ***expertise*** and ***discovery***.

