Want to become a green cognitive business ?

WikiNet

Cognitive tool to support remediation technology selection

WatRem

IPEC 2017 by Daniel Fortin

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Topics

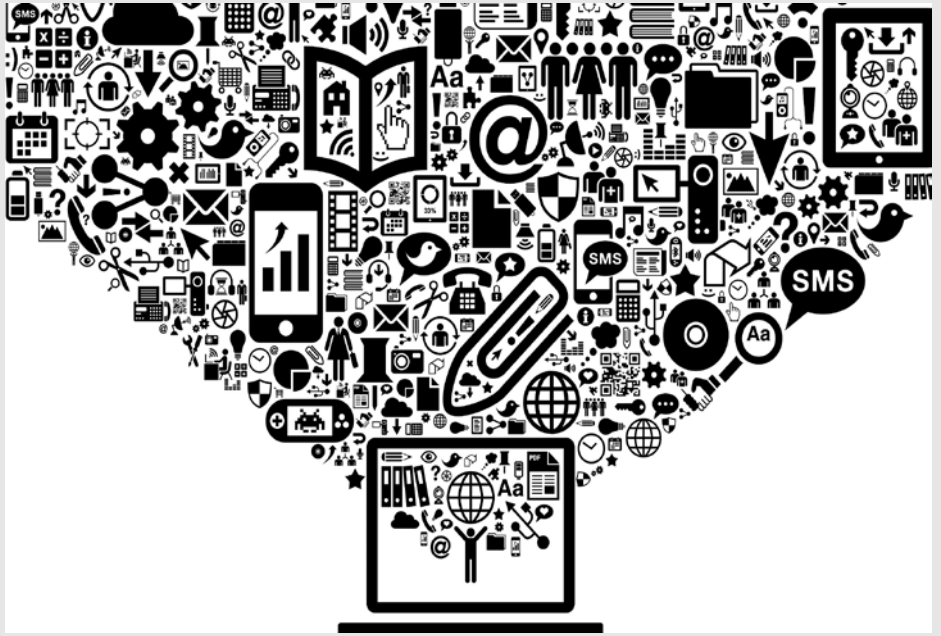
- Opportunity to Innovate with Artificial Intelligence (AI);
- What is Big Data?
- Why using a Cognitive Technology / AI?
- AI for remediation technology selection;
- Benefits;
- Question?

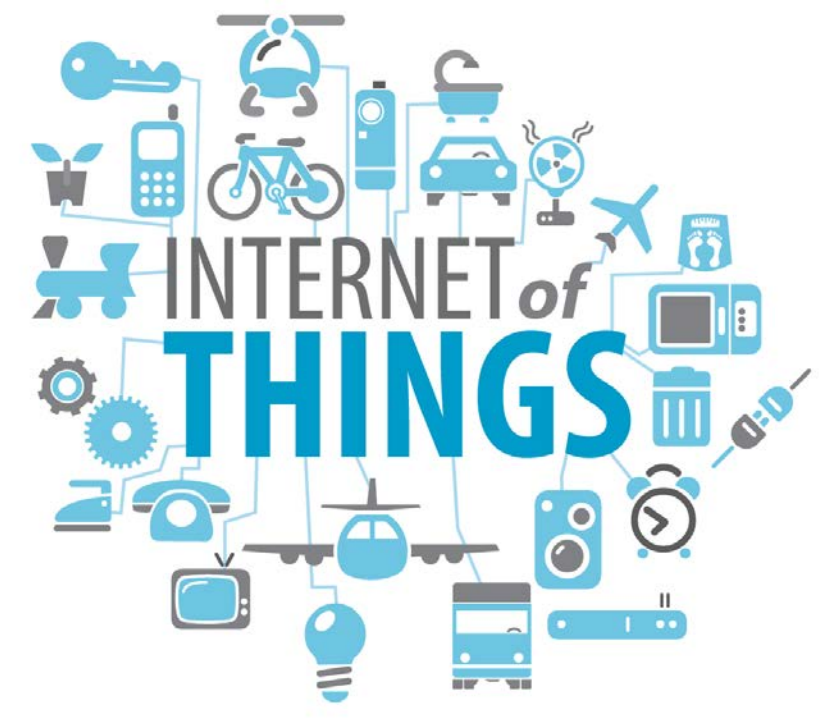
Innovation key differentiator to survive

- Pressure from competition;
- Cost increase;
- Resource scarcity;
- Knowledge/expertise retention;
- Volume of information growth and speed.

Big Data

- 80% of data is unstructured. Can not be processed or exploited by conventional software;

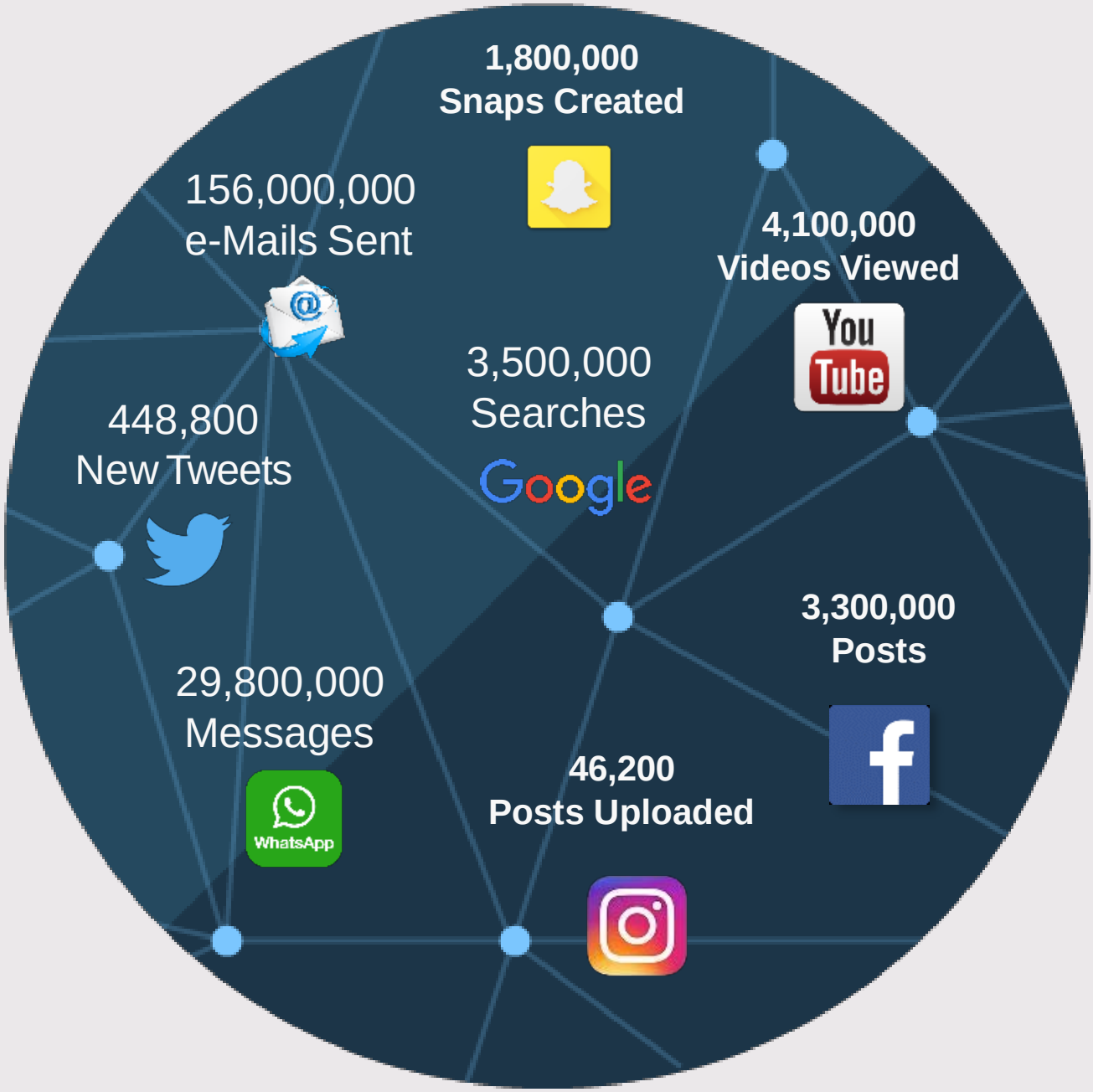




- Internet of Things (IoT) : data collected by physical devices, vehicles, sensors, smart phones, etc.

Data growth has far outpaced our ability to consume it.

What happens every 60 seconds?



Big Data in environment sector

- Expertise and site assessment reports;
- Environmental databases;
- Analytical results;
- Scientific papers;
- Photographs;
- Drawings;
- Charts;
- Chromatograms;
- Different formats : html, .xls, .pdf, .doc, .jpg, etc.

Solutions to manage Big Data

Traditional technology

IBM WATSON

Cognitive technology / Artificial Intelligence

Cognitive systems augment human intelligence, allowing faster and more informed decisions.

Watson and Cloud are at the core of our approach

The North Face customers shop with Watson

Experiencing Wimbledon with real time data

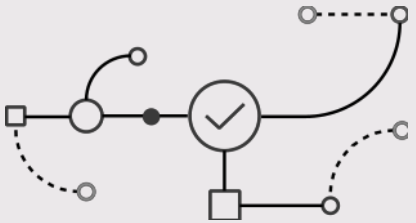
Watson Insights helps Under Armour fitness app users make better health decisions

cog·ni·tive

kägnədiv/

Understand

Like humans do



Reason

to extract ideas

Learn

From past results

Interact

In a natural way

Cognitive systems are **creating a new partnership** between humans and technology

Humans
excel at

COMMON SENSE (with biases)

MORALS IMAGINATION

COMPASSION DILEMMAS

ABSTRACTION

DREAMING

GENERALIZATION

Cognitive Systems
excel at

LOCATING KNOWLEDGE

ELIMINATING BIASES

PATTERN IDENTIFICATION

MACHINE LEARNING

NATURAL LANGUAGE PROCESSING AT SCALE

PROVIDING ENDLESS CAPACITY

Watson augments our cognitive capabilities.

Watson **understands, reasons, learns and interacts** naturally with us.

That is **cognitive**.

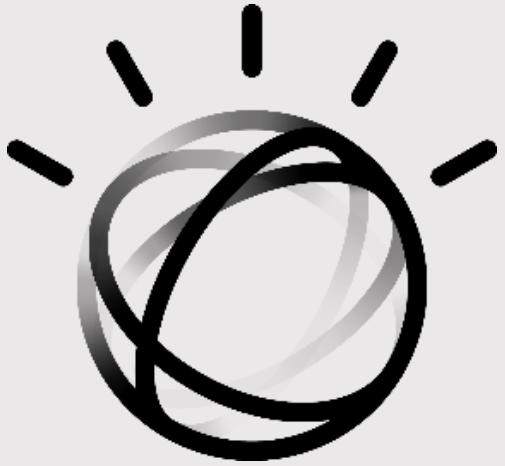
But you might still be asking What exactly is **Watson?**

A tablet you talk to?

A giant server?

A robot?

Watson can be all of those things

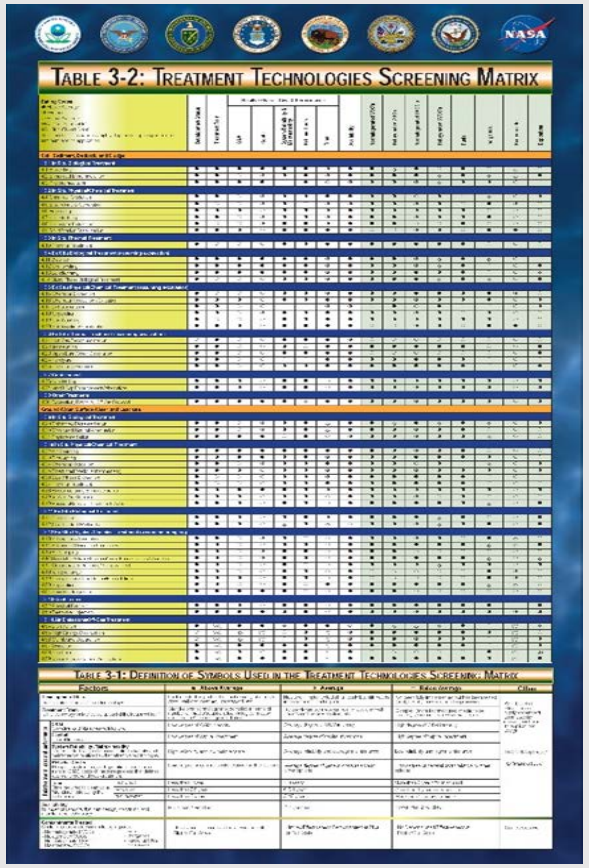


Watson is a powerful, natural learning software

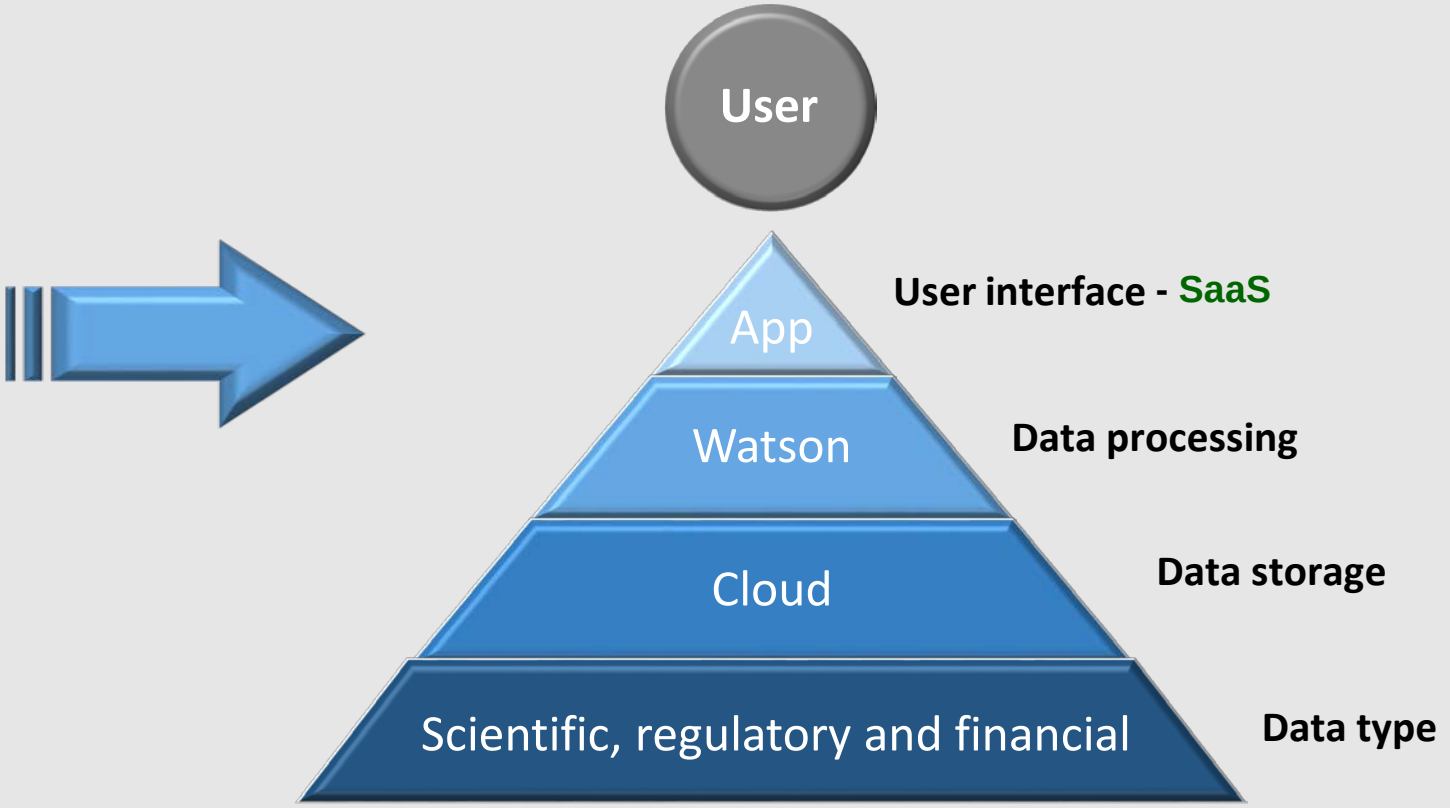
Embedded in most enterprise platform

to quickly consume data and share what it learned

Remediation technology selection tools

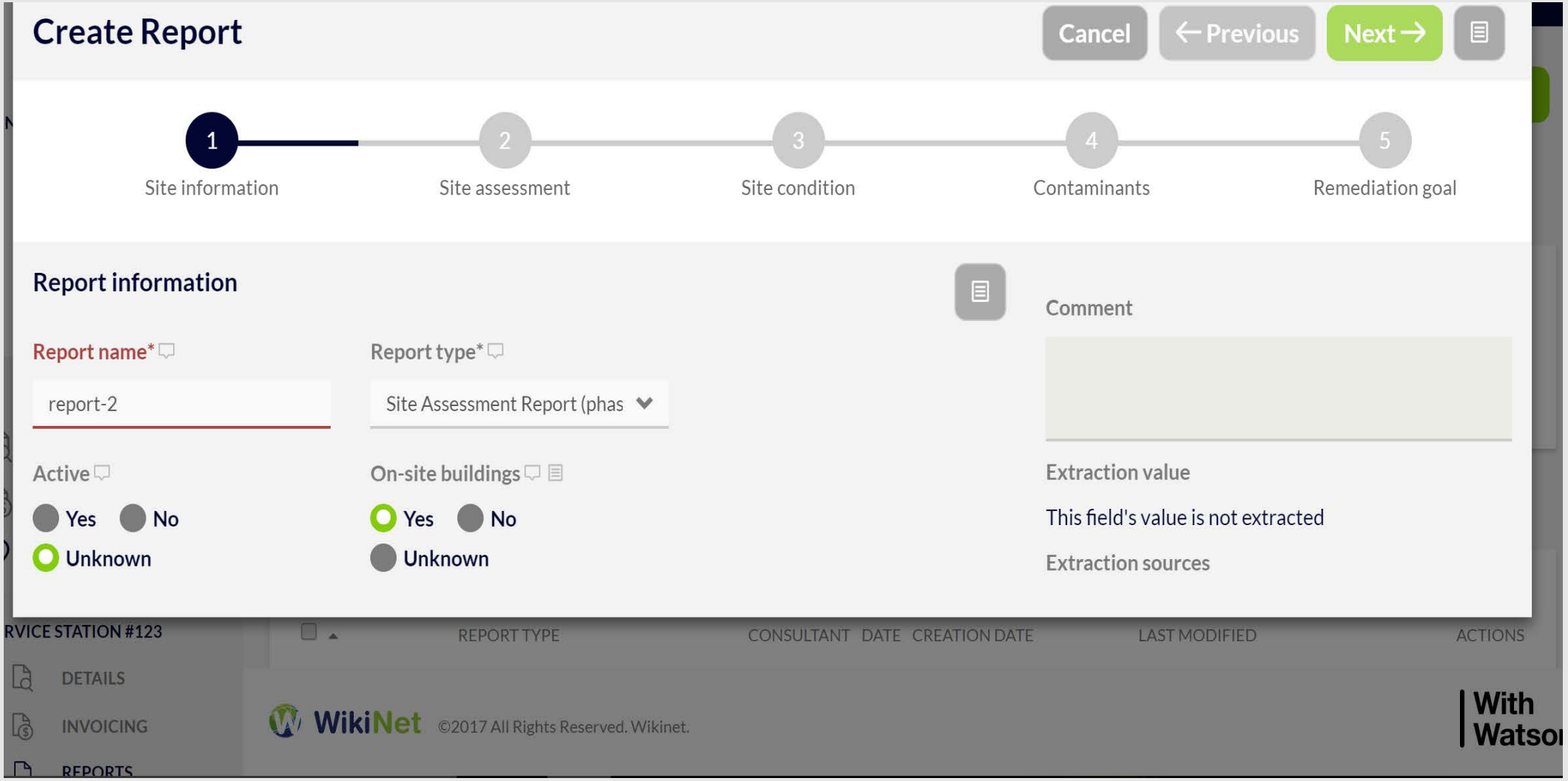


Traditional technology

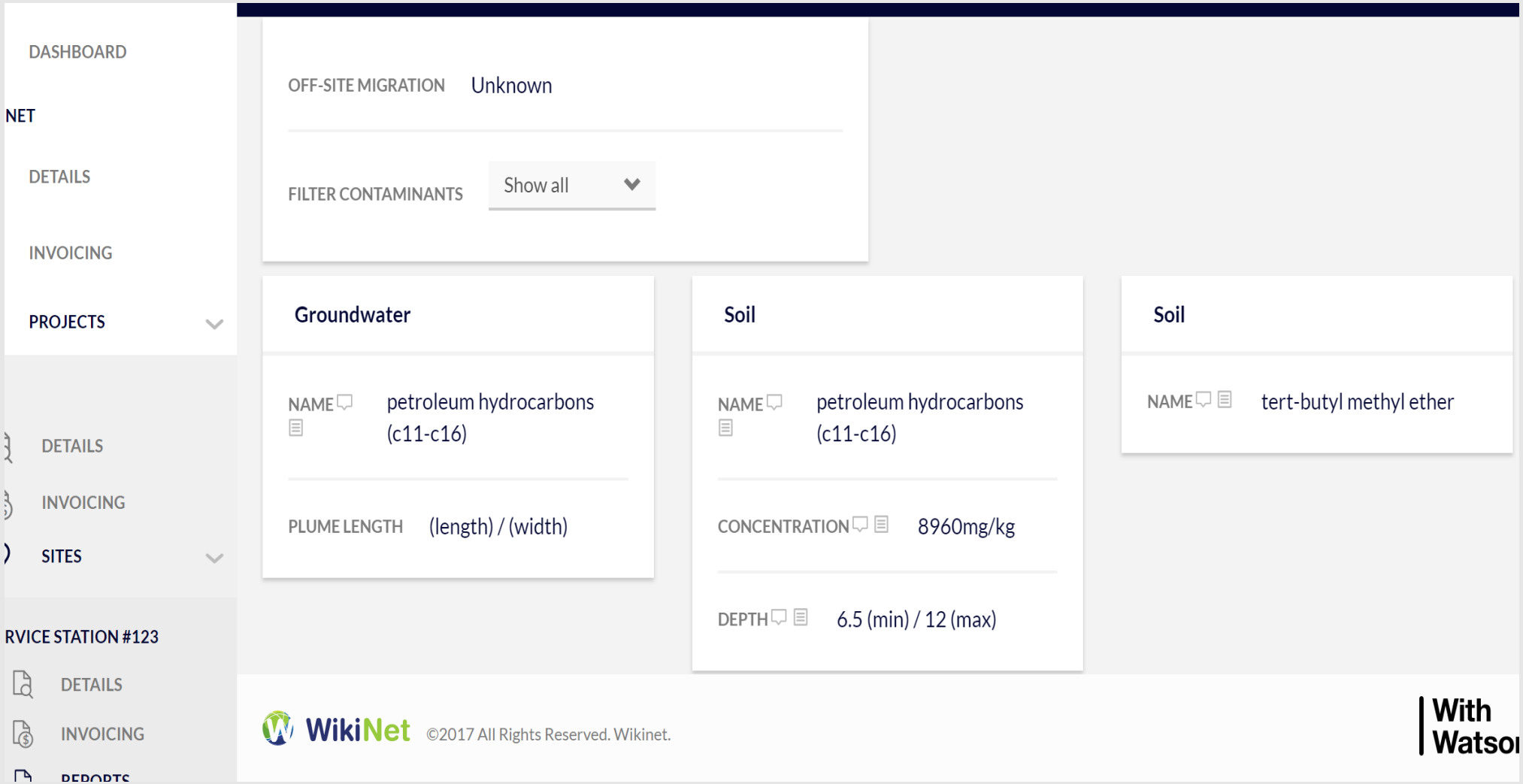


Cognitive technology

Data extraction from PDF report



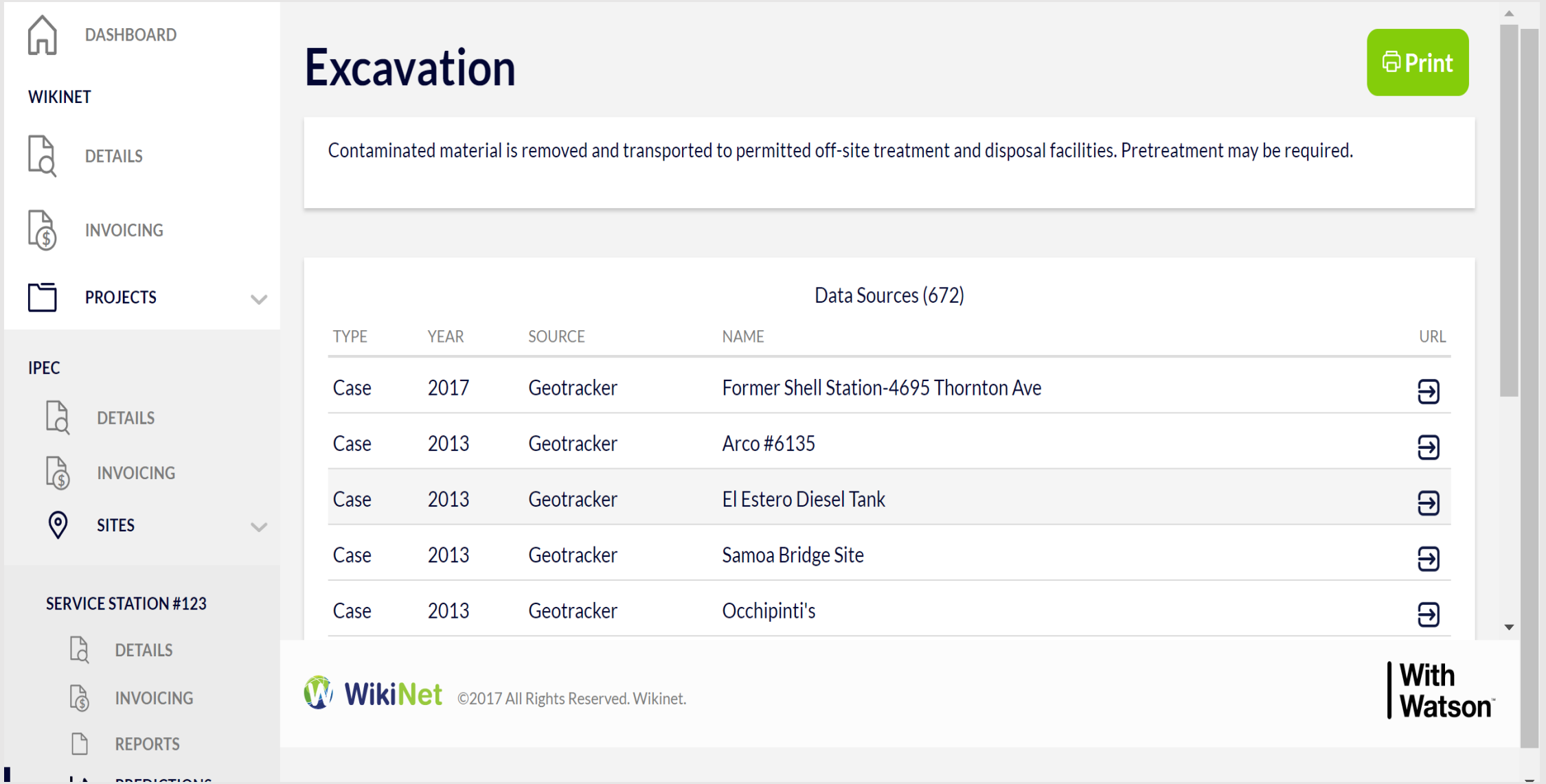
Extract required information



Outcome

TECHNOLOGY	PROBABILITY (%)	DETAILS
Excavation	32.7%	
Monitored Natural Attenuation	19.3%	
Soil Vapor Extraction	16.6%	
Pump and Treat	10.7%	
Bioremediation (In Situ)	7%	
Air Sparging	3.5%	
Multi Phase Extraction	3.5%	
Free Product Recovery	3.5%	
Chemical Oxidation (In Situ)	3.2%	

Decision base – similar cases



Benefits

- **User**:
  - Rapid access to specialized and various information;
  - Optimization of the time required to identify a remediation technology;
  - Quick access to domain experts.

- **Entreprise**:
  - Better selection of a remediation technology;
  - Lower uncertainty and business risk associated with the selection of a remediation technology;
  - Improved knowledge for the development and the use of new technologies;
  - Innovate in your field;
  - Development of new added value services.

WatRem Partners

Questions ?

See us in the Exhibit Hall booth # 13

Presentation available at : www.wikinet.ca

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