



# Using scientific literature to optimize your competitive advantage



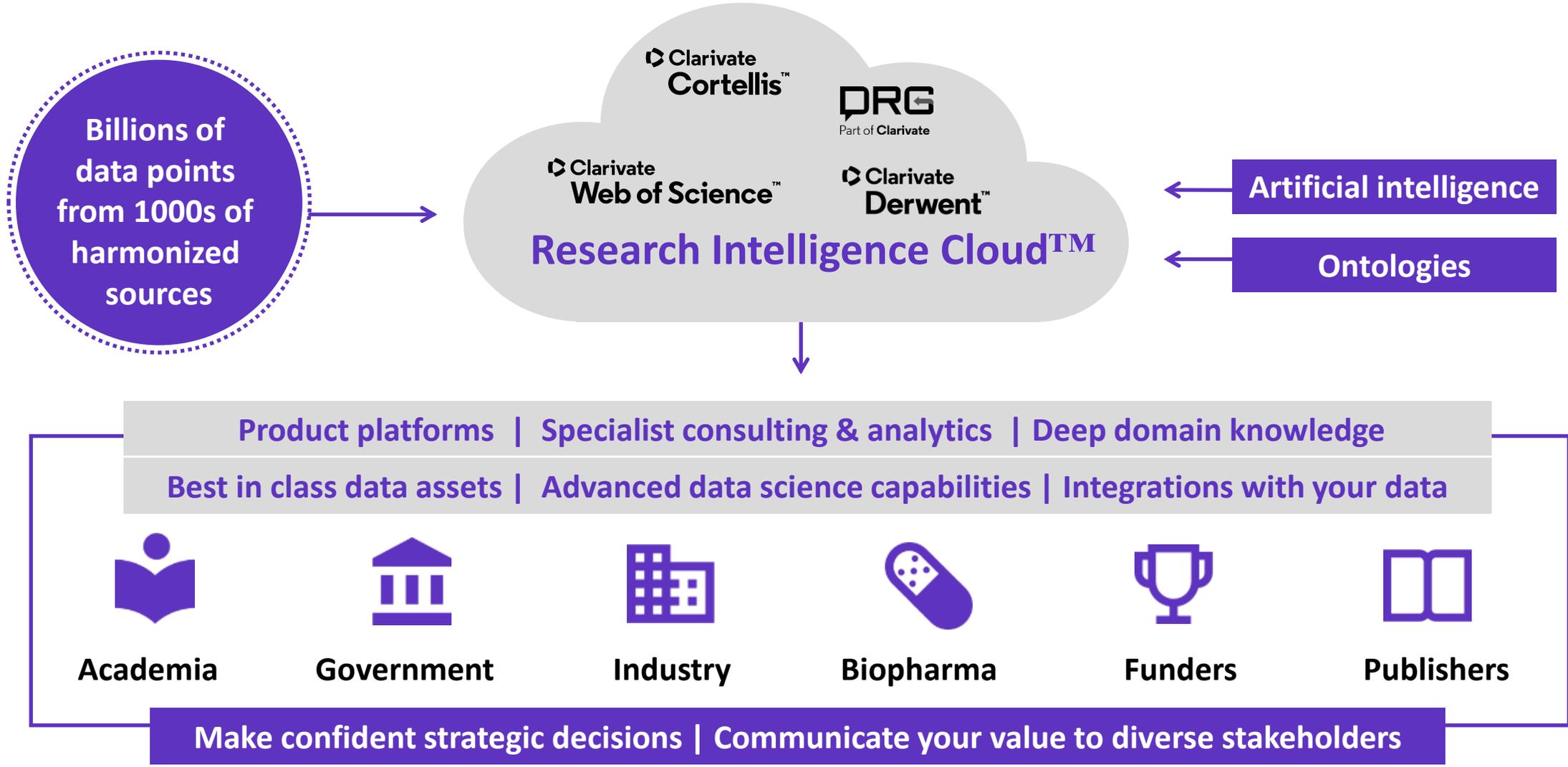
Michelle Fleetwood  
Solutions Consultant



Robert Poolman  
Vice President, Product

May 18, 2021





# Web of Science platform content

Gain a comprehensive view of worldwide research across the sciences, social sciences, and arts & humanities



**34,350+**

Journals across the platform

**97 million**

Patents for over 48 million invention families

**21,500+**

Total journals in the *Core Collection*

**12 million+**

Data Sets and Data Studies

**2.0 billion+**

Cited references

**Backfiles to 1900**

With cover-to-cover indexing

**180 million+**

Records

**225,000+**

Conference proceedings

**16.5 million +**

Records with funding data

**124,000+**

Books

# Meticulous metadata construction

View the complete research landscape on any topic, and conduct powerful analysis



Cited references for all papers back to 1900 help you discover the origins of today's scholarly research.



All author names and addresses captured for all papers ensures that your high stakes decisions are the right ones.



Funding data from 2008-present enables you to understand the funding landscape and connect outputs to grants.



Standardized author affiliations save you time compiling productivity statistics.



Cover-to-cover indexing provides you with the certainty that your discovery and analysis is free of any hidden gaps.



Daily updates equip you with information on the latest breakthroughs.

## Using Web of Science

Research  
Landscape  
Analysis



Thought  
Leader  
Identification



Research  
Funding  
Analysis



## Analyze the scientific literature to gain strategic research intelligence

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- ❑ What's the newest research coming out of academia, government, industry, not-for profit in a field?
  - ❑ How do corporate organizations collaborate with academia, government, and non-profits in this space?
- 
- ❑ Who are the Key Opinion Leaders in my interest areas?
- 
- ❑ Which funders sponsor research in our specialty areas?
  - ❑ How do research corporations benefit from agency funding?
  - ❑ Which institutions conduct research using competitive funding or benefit from our funding portfolio?

# Research Landscape in the Web of Science

Example: additive manufacturing

# Expanding your search in the Web of Science

All Databases

Example: “additive manufacturing” OR “3D printing”=79,112 results

Web of Science Core Collection (43,009)
  BIOSIS Citation Index (4,595)
  Russian Science Citation Index (356)

Current Contents Connect (25,528)
  Biological Abstracts (3,394)
  FSTA® - the food science resource (335)

Derwent Innovations Index (25,108)
  Chinese Science Citation Database™ (2,725)
  SciELO Citation Index (161)

Inspec® (22,381)
  Data Citation Index (1,362)
  Zoological Record (55)

MEDLINE® (11,325)
  KCI-Korean Journal Database (1,184)
  Arabic Citation Index (12)

BIOSIS Previews (4,597)
  CABI (526)

**Cumulative inaccuracies in implementation of additive manufacturing through medical imaging, 3D thresholding, and 3D modeling: A case study for an end-use implant**

From Repository: Working Data  
By Ahmad, Jan Shin

Working Data  
DOI: <https://doi.org/10.2753/379400000001>  
Viewed Date: 07 May 2020  
Published: 2020  
Document Type: Data set

**Abstract**  
This data belongs to an original scientific article that is Cumulative inaccuracies in implementation of **additive manufacturing** through medical imaging, 3D thresholding, and 3D modeling: A case study for an end-use implant by Jan Shin Ahmad, Mika Saloni, Sapan Keshavnagar, Linan Yin, Averi Tuomolahti, Mika Tuomolahti, Juuso Partanen, and Antti Lehto. It contains metadata of CT images of a neo-denture prepared using a Siemens Somatom Definition Edge CT system. Please cite the original scientific article if you use this data.

**Categories / Classification**  
Research Areas: Science & Technology - Other Topics  
Web of Science Category: Multidisciplinary Sciences

Data Citation Index provides links to datasets, data studies and software

**Three dimensional (3D) printing system for enabling analysis and classification of object models, has 3D printing backend that provides pre-printing process workflow and logic to control and monitor additive manufacturing solution**

Patent Number(s): WO/2018/17957-A1; US/2018/019415-A1  
Inventor(s): YONGJUN, YONGJUN  
Patent Assignee Name(s) and Address: YONGJUN (YONGJUN Individual), YONGJUN (YONGJUN Individual)  
Derwent Primary Accession Number: 2018-033495

Patents Cited by Examiner: 0  
Articles Cited by Examiner: 1

**Abstract:** WO/2018/17957-A1. The system (3000) has a 3D printing agent (310) that is operable to provide an automated control and monitoring device (340) to provide an additive manufacturing solution. A 3D printing backend (320) is operable to provide a pre-printing process or automated control and monitoring of additive manufacturing solution. The system combines the pre-printing process workflow to go with the 3D printing device to enable an additive manufacturing process of the associated object as a user defines 3D printing parameters.

**DESCRIPTION**  
The system can analyze a three-dimensional object model represented by one object file of an associated object to detect parameter-optimized the object model to the three-dimensional printing device for additive manufacturing using a user-defined 3D model. The ongoing machine learning training process can further can improve continuously, using them to generate better and fast system results. The method covers business usage resulting an automatic pre-printing workflow and further to perform an additive manufacturing printing device, creating a user experience of a user's 3D three-dimensional printing.

**Laser additive manufacturing of metallic components: materials, processes and mechanisms**

By Gu, S.D.; Womers, W.; Wollschlaeger, K.; Pappas, R.

International Materials Reviews  
Volume: 57 Issue: 3 Page: 151-64  
DOI: [10.1179/1741300X1713800000004](https://doi.org/10.1179/1741300X1713800000004)  
Published: May 2012  
Document Type: Journal Paper

**Abstract**  
Unlike conventional materials removal methods, additive manufacturing (AM) is based on a novel materials incremental manufacturing philosophy. Additive manufacturing builds layer by layer shaping and consolidation of powder feedstock to arbitrary configurations, normally using a computer controlled laser. The current development focus of AM is to produce complex shaped functional metallic components, including metals, alloys and metal matrix composites.

**Categories / Classification**  
Research Areas: Optics; Crystallography; Polymer Science; Materials Science; Physics; Engineering (provided by Clarivate Analytics)  
International Patent Classification: C22C15/02 By powder metallurgy; E02F Working metallic powder; Manufacture of articles from metallic powder; Making metallic powder; C22C15/04 By powder metallurgy  
Classification Codes: A42J24 Laser materials processing; A61K5 Structure of powders and porous materials; B2222 Powder technique; compact and sintering; B2226 Preparation of metals and alloys; compact; powder alloys; B4122 Solid-liquid transition; B4123 Microstructure; E1121 Engineering materials; E11211 Powder technology  
CODEN: IRRR10  
Controlled Indexing: additive; crystal microstructure; densification; laser-sintered composites; laser sintering; melting; powder metallurgy; powders  
Uncontrolled Indexing: laser additive manufacturing; incremental manufacturing philosophy; layer by layer shaping; powder feedstock; computer-controlled laser; complex shaped functional metallic components; metal matrix composites; aerospace industries; defense industries; automotive industries; biomedical industries; laser sintering; laser melting; laser metal deposition; complex nonplanar physical nature; chemical metallurgy of nature; metallurgical mechanisms; microstructural properties; mechanical properties; porous metal powder; prealloyed powder; multi-component metal/alloys/NMCs powder; assisted densification

Inspec provides classification codes and specialized indexing

Derwent Innovations Index provides descriptive information and coding

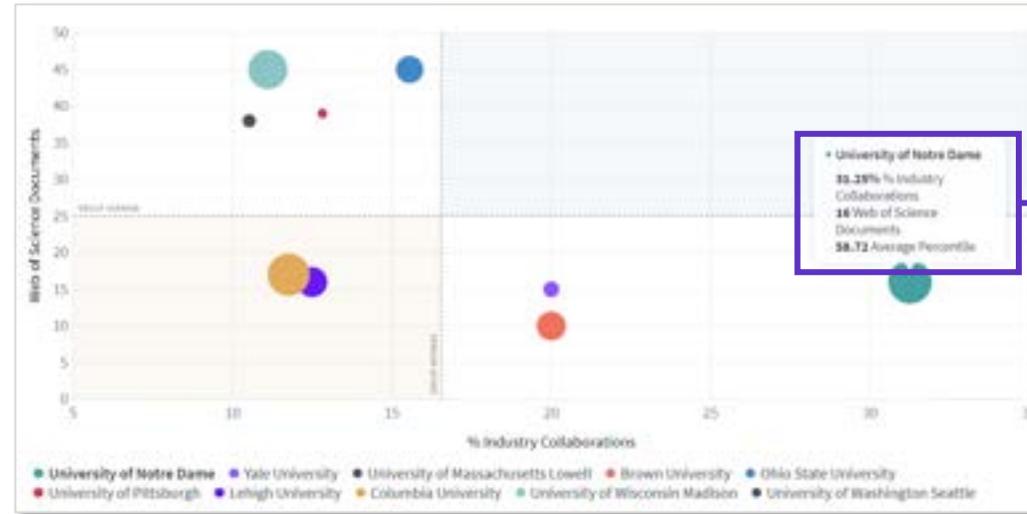
# Research Landscape Analysis

Example: additive manufacturing

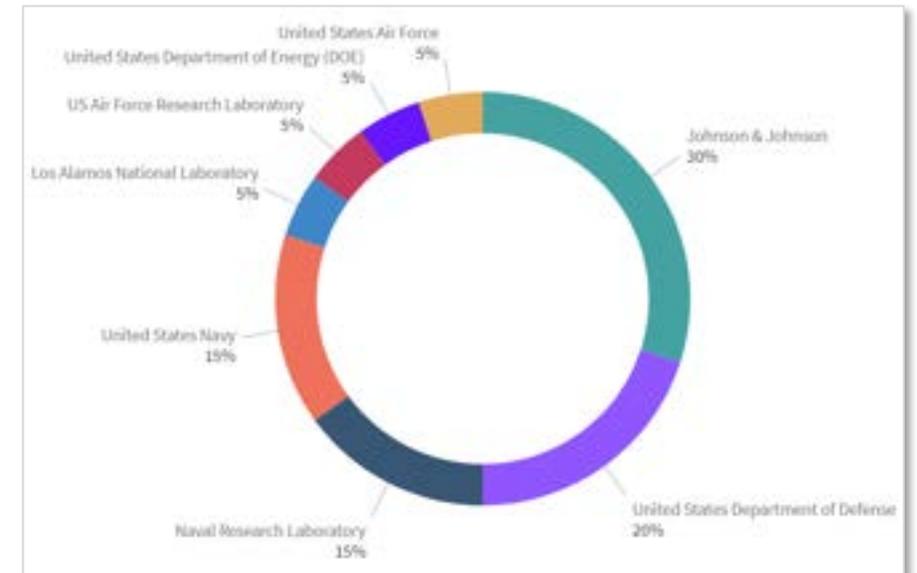
Identify the top producing and most impactful organizations in a research area

How do corporate organizations collaborate with academia?

## Top USA academic organizations in additive manufacturing with industry collaborators



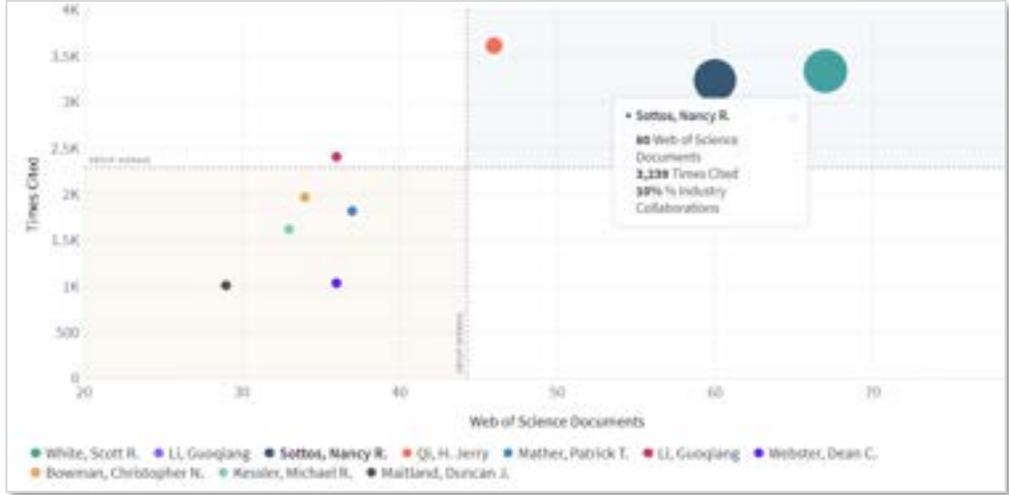
Re-focus your analysis to identify which industry, government and non-profit organizations are collaborating on this research with Notre Dame



# Thought Leader Identification in the Web of Science

Example: polyurethane

# Publication leaders in polyurethane research (2010-2019)

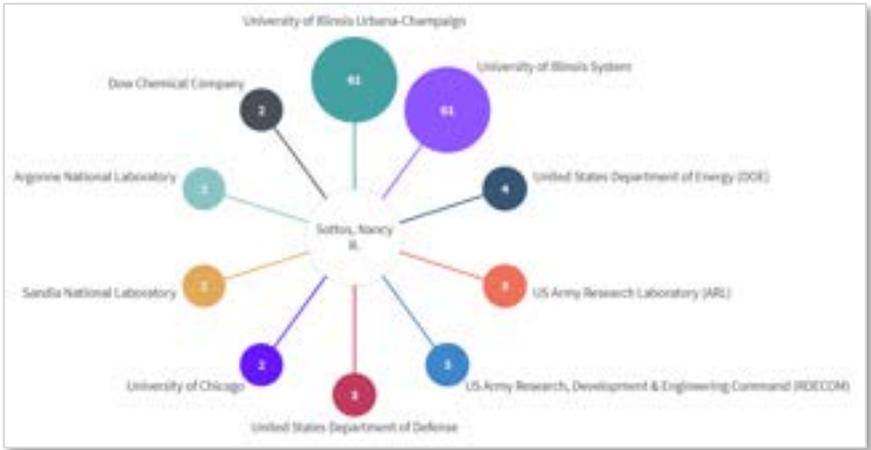


# Thought Leader Identification

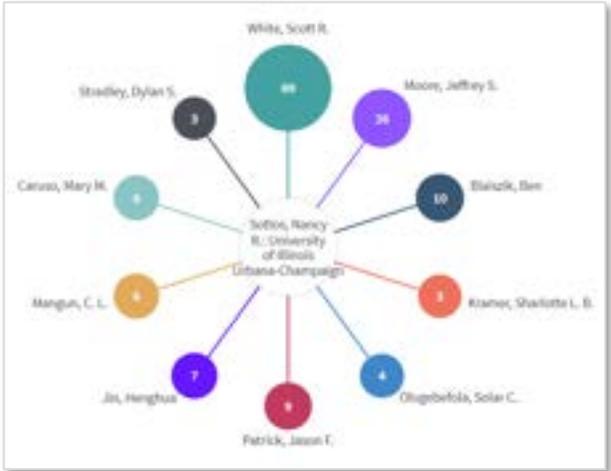
Example: Polyurethane

Identify the Key Opinion Leaders in your specialty areas for collaboration or potential hire

What organizations are collaborating with Nancy Sottos on polyurethane research?



Which researchers does Nancy frequently collaborating with?



# Funding Landscape in the Web of Science

Example: pesticides and herbicides

# Funding Analysis

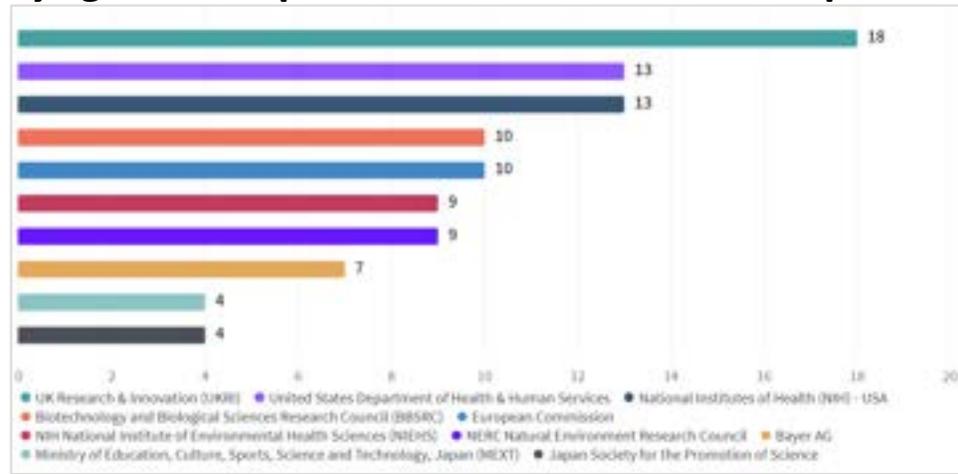
Example: pesticides and herbicides

Which funders sponsor research in our specialty areas?

How do research corporations benefit from agency funding?

Which institutions conduct research using competitive funding or benefit from our funding portfolio?

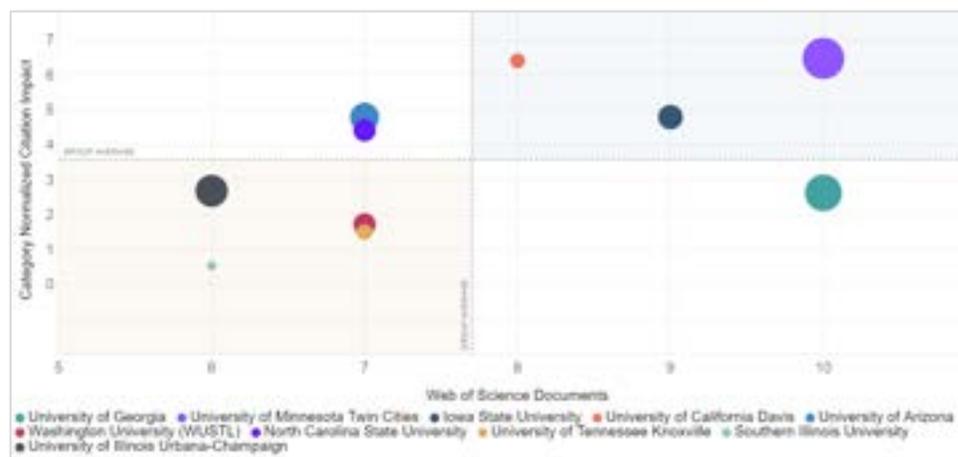
## Syngenta's top funders in herbicides and pesticides (1980-2019)



Use the new document-level classification schema, Citation Topics, for InCites Benchmarking & Analytics to dive into granular research areas

[Learn More: Citation Topics](#)

## Top academic institutions receiving funding from Monsanto (2000-2019)



Isolate academic organizations benefiting from your funding and analyze how impactful this research is

# Evolving the Web of Science

# Investing to help the research community turn great ideas into real-world outcomes

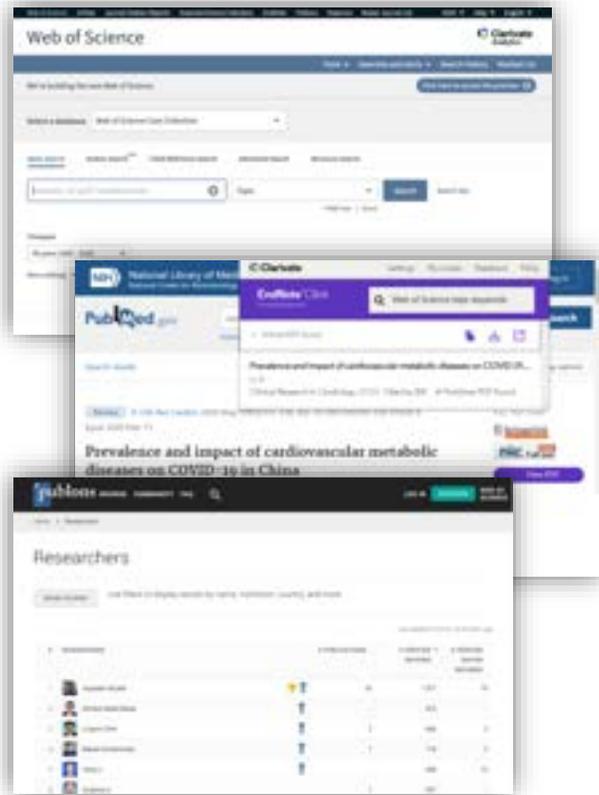
Integrated, Personalised and Intuitive suite of Web of Science products delivering a proactive and connected experience for the research community



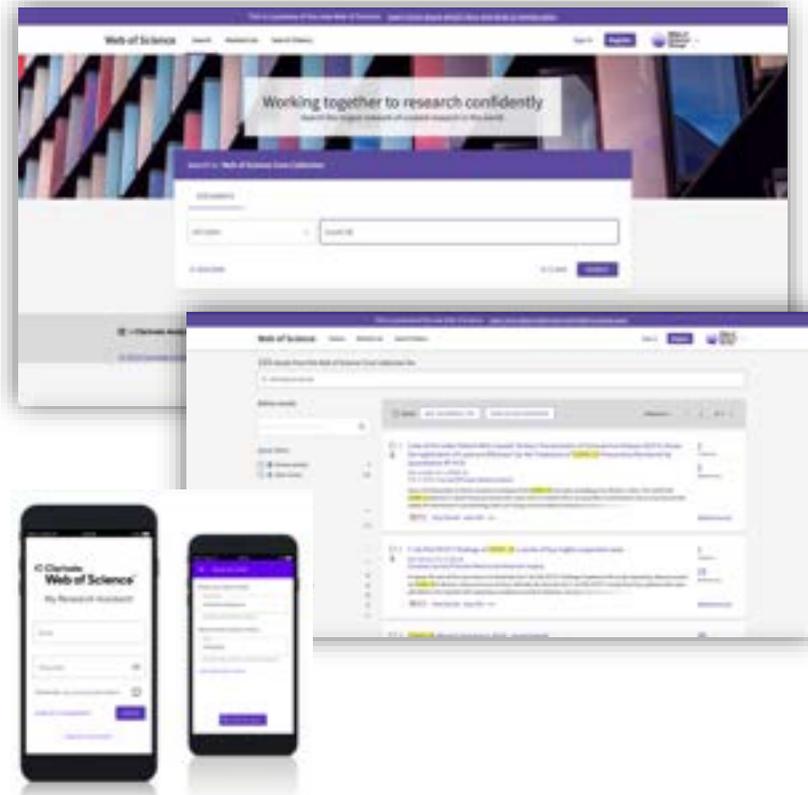
# Evolving Web of Science to help you thrive in a complex landscape

From a trusted suite of products to a research intelligence platform

Classic Web of Science

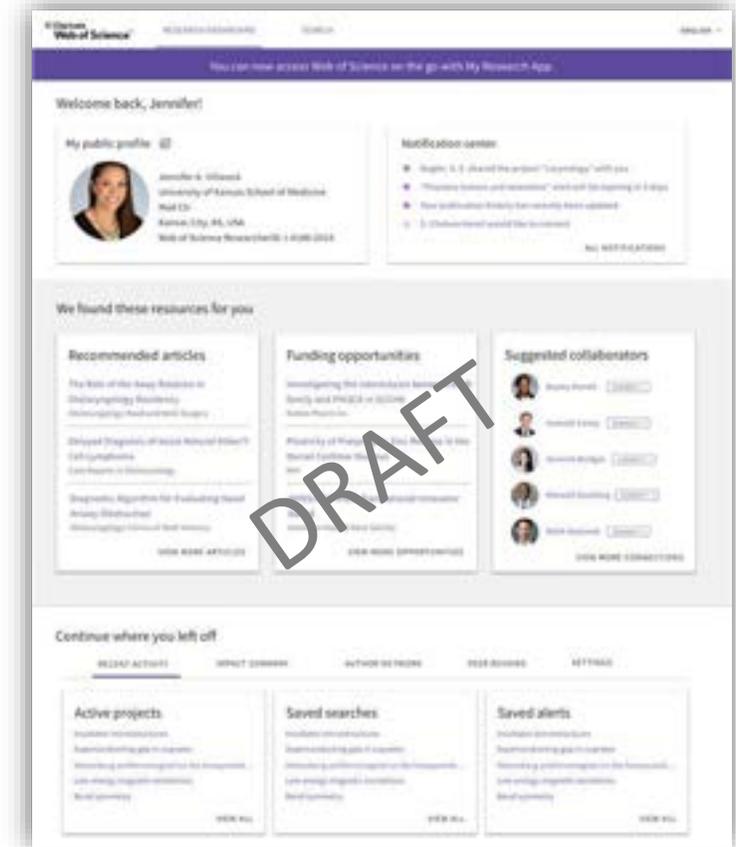


Today (Dual Access)  
New Web of Science



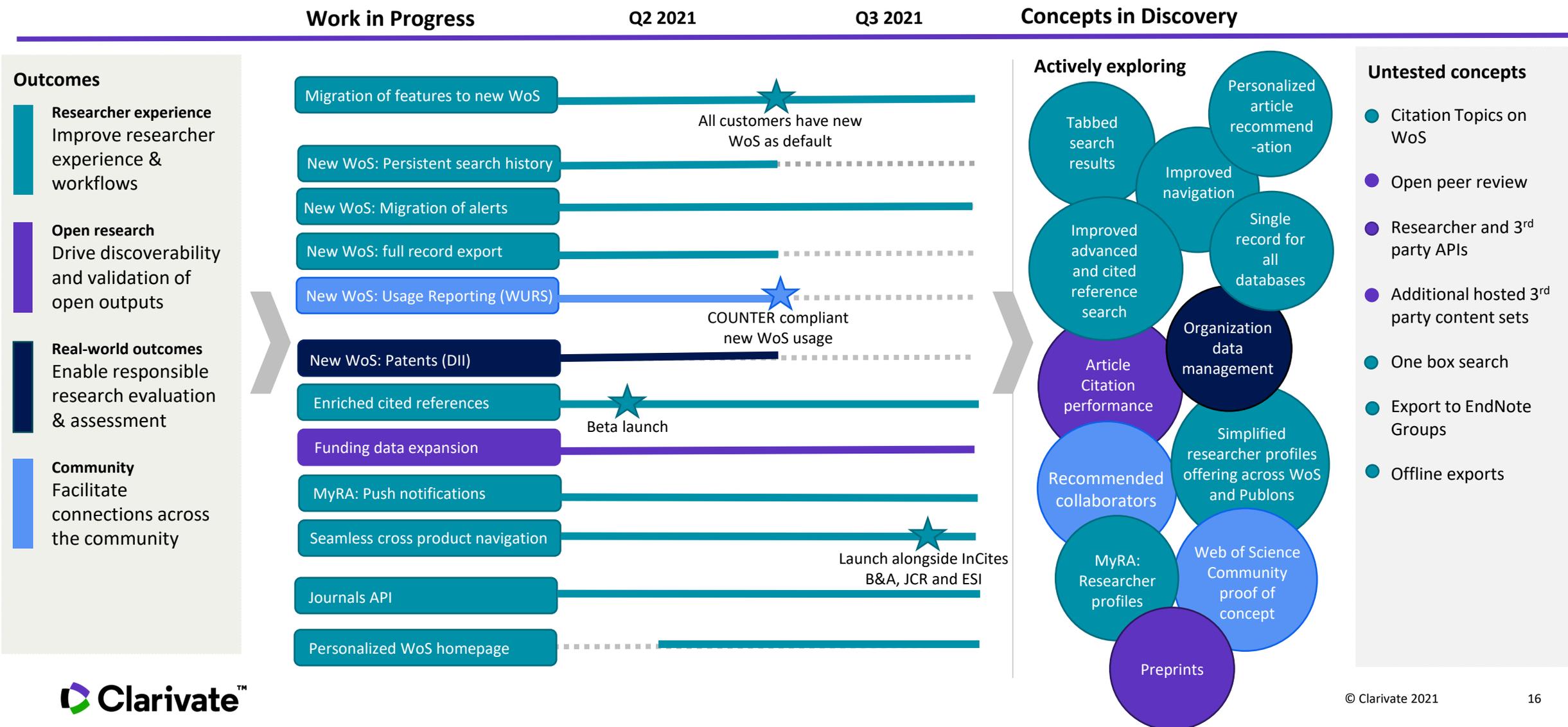
Improved performance and user experience, accessibility compliance

2021+  
"Next Gen" Web of Science



Proactive, Personalized and Connected

# Web of Science and My Research Assistant 2021 product roadmap





# Thank You

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