

Robotaxis, Microplastics & Regulatory Pressure

# How to steer clear of regulatory pitfalls in your innovation process

**PRESCOUTER**



# Agenda



PreScouter Introduction

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Webinar overview

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## SME Introduction



**Norbert Teston**

25 years in Compliance Excellence at Adidas

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## Topic #1

How do I successfully transition my company into a new service with unfamiliar regulatory requirements?

- Robotaxi's
  - Electronic Shoes
- 

## Topic #2

How do I successfully manage our product line to ensure we are aligned with potential regulatory requirements?

- PFAS
  - Electronic Shoes
- 

Q&A Session

# PreScouter intro

**MODERATORS:**

**Dr. Daniel Morales & Dr. Garrett Wheaton**

*Technical Director and Senior Project Architect*

*Consumer Goods @ PreScouter*



PreScouter intro

**Corey Katz**

*Commercial Director of Consumer Goods @ PreScouter*





# Custom Intelligence, On Demand



## RESEARCH TIME IS LIMITED

- › PreScouter serves R&D, Product Development, and Corporate Development professionals from every major industry.

We operate as an extension of your in-house teams, helping you quickly get up to speed on what you need to know on a topic.



## INCREASE REACH & BANDWIDTH

- › PreScouter saves clients the time and pain of having to look for particular information, and does this at lower cost than using internal resources.

In effect, we eliminate the overhead of hiring, training and managing employees to perform research tasks.



## ENHANCE GLOBAL PERSPECTIVE

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In effect, we eliminate the overhead of hiring, training and managing employees to perform research tasks.

## FACTS:

Founded  
in 2010

Over **5,000+**  
**PROJECTS**

A truly global (and local)  
perspective, with **CLIENTS IN MORE  
THAN 50 COUNTRIES** around the  
world

Network of **10,000+ Global  
Experts and Analysts**

## DYNAMIC GLOBAL RESEARCH NETWORK

**10,000+** researchers, analysts, scientists, engineers, economists & subject matter experts



**10,000 AND  
GROWING**



**INDUSTRY  
EXPERTISE**



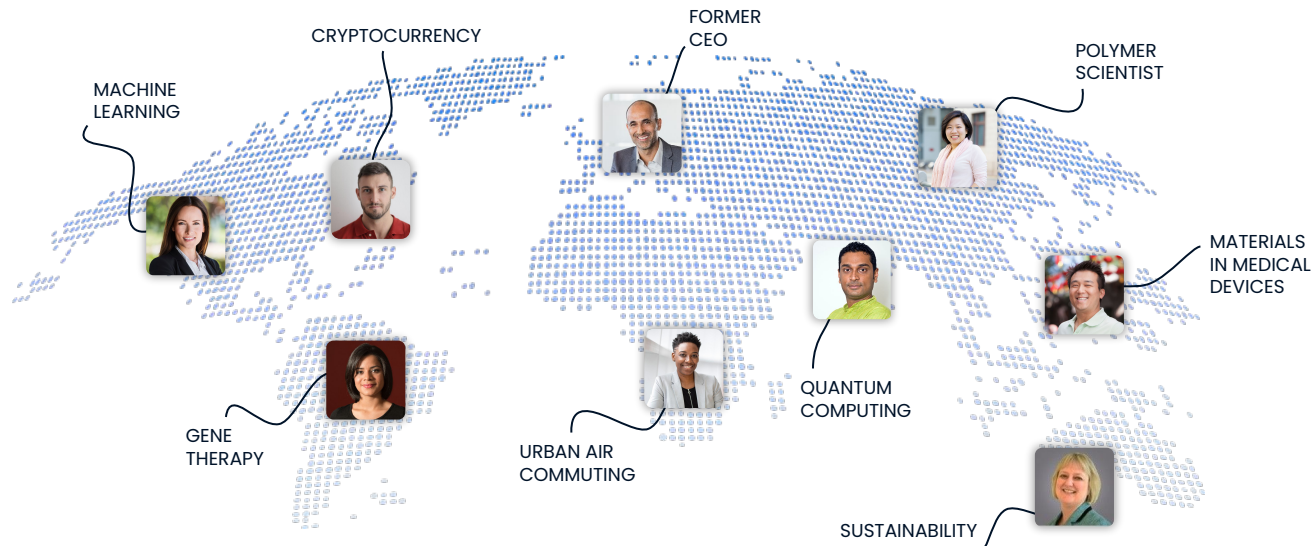
**GLOBAL  
PERSPECTIVE**



**UNBIASED**



**CONFIDENTIAL**



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# Navigating the unforeseen challenges of introducing new services and expanding customer reach

How do regulations and product compliance affect product design, and when is it best to incorporate these factors into the production timeline?

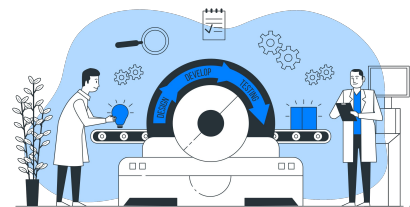


How do I successfully transition my company into a new service with unfamiliar regulatory requirements?

Many of PreScouter's clients see opportunities for growth in adjacent areas to their business. One area that has received a lot of attention lately is technologies enabling autonomous vehicles and the opportunities/risks for pursuing their development.

How do I successfully manage our product line to ensure we are aligned with potential regulatory requirements?

Many of PreScouter's clients are seeking to identify PFAS and/or microplastic-free product formulation or packaging strategies in anticipation of upcoming regulations.



**PreScouter works with client to ensure they are successfully navigating the pitfalls of new regulatory spaces and emerging product compliance specifications.**


Topic #1:

**How do I successfully transition my company into a new service with unfamiliar regulatory requirements?**



## Robotaxi Poll

**Is your team currently developing products outside of your company's core area of regulatory and product development expertise?**

1. Yes
  2. No
  3. Not yet, but we are planning to
  4. I'm unsure
- 
- An abstract graphic at the bottom of the slide consisting of a network of small blue dots connected by thin, light blue lines, forming a complex, interconnected web-like structure.



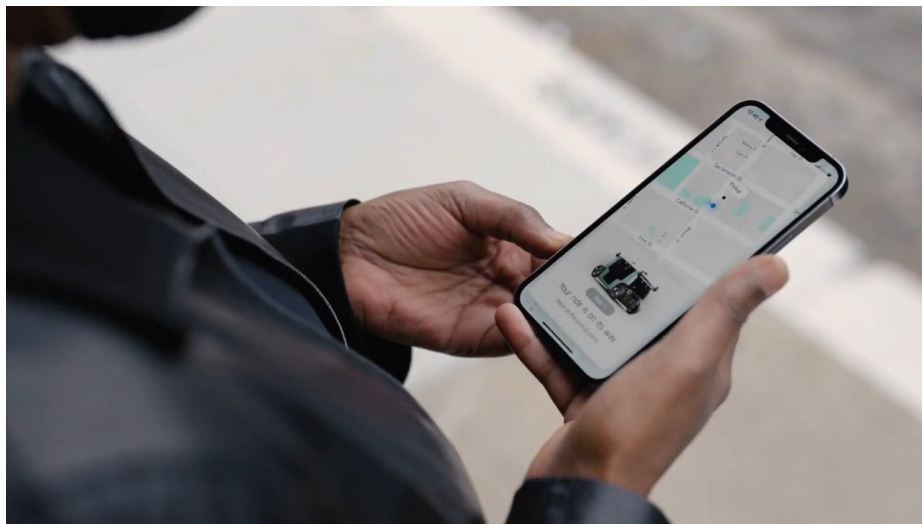
# Robotaxis

Transitioning from manufacturer to service provider



# WHY ROBOTAXI'S?

- Safer, lower-cost, and more efficient transportation
- Could replace car ownership
- Optimize routes and reduce traffic congestion
- Reduce the carbon footprint of urban transportation
- Increased and faster accessibility options



## **Robotaxis**

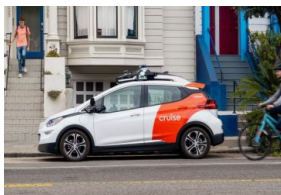
Transitioning from manufacturer to service provider

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*Market estimates indicate a proposed a multibillion dollar market ranging from 10-100 billion by 2030!*



**Waymo One**  
Since October 2020, Phoenix, AZ



**Cruise**  
Since June 2022, San Francisco  
Expanding to Austin and Phoenix by end of 2022



**Argo AI (with Lyft)**  
Since December 2021, Miami  
October 2022, Austin

## Robotaxis

Transitioning from manufacturer to service provider

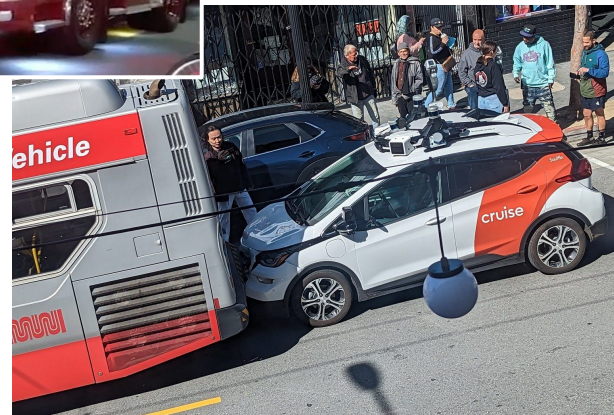
# IN THE NEWS

- Shutdowns and road blockages
- Damage to construction sites
- Collisions with city buses and emergency response vehicles
- Collisions with.... pedestrians!



"A driverless robotaxi [hit a woman](#) in downtown San Francisco and pinned her under the car, sending her to the hospital with serious injuries."

*LA Times*



**Unfortunately, there is no standard, government-approved framework for evaluating the safety of autonomous vehicles.**

## Robotaxis

Transitioning from manufacturer to service provider

# Current Regulatory Framework

Why should brand managers care?

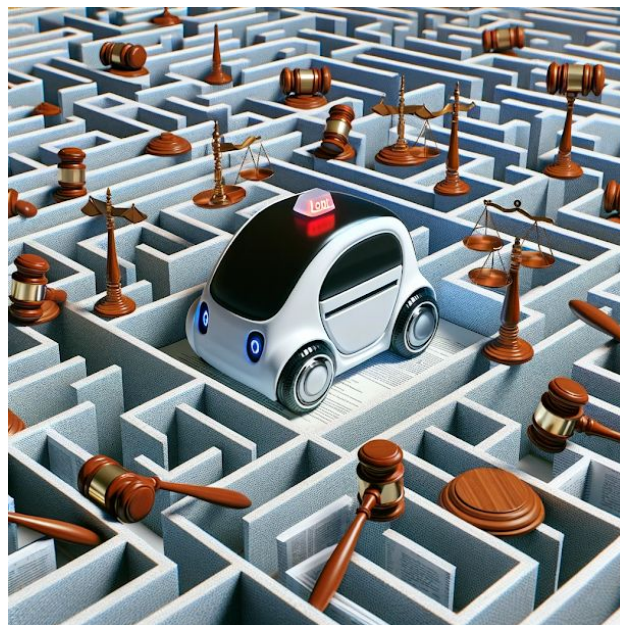




## Robotaxis are a tangle of technologies and services.

A robotaxi marries an autonomous vehicle with mobility on demand, and a service that may or may not employ electric vehicles.

This combination creates ambiguity as to who has authority to oversee or regulate this service.



### So, who is responsible when a driverless car crashes?

The focus will shift to what went wrong with the navigation, electronics, and parts, rather than driver error.

As vehicles become increasingly autonomous liability may shift toward parties in the supply chain, including carmakers, Tier 1 suppliers, software companies, and those responsible for the “smart” infrastructure.

### Current Regulatory Framework

Why should brand managers care?



# Why should brand managers care?

## Benefits of planning early for this challenge:

- Failure to adhere to these standards can result in legal repercussions, damage to brand reputation, and compromised customer safety.
- Increased market dominance driven by early entry into new markets
- Avoid having your product line shutdown by internal or external stakeholders

*Regulatory bodies and cities frequently sense a lack of involvement as novel technologies are introduced despite being accountable for ensuring the safety of innovations developed and implemented by private entities.*



## PreScouter's Suggested Framework When Entering New Categories

- Champion a framework where one doesn't exist, such as Decision Making Under Deep Uncertainty.
- Identify the right software tools to ensure up to date compliance with regulations and laws.
- Create early partnerships with regulatory bodies, legal experts, and industry stakeholders.

## Current Regulatory Framework

Why should brand managers care?

## MEET THE EXPERT

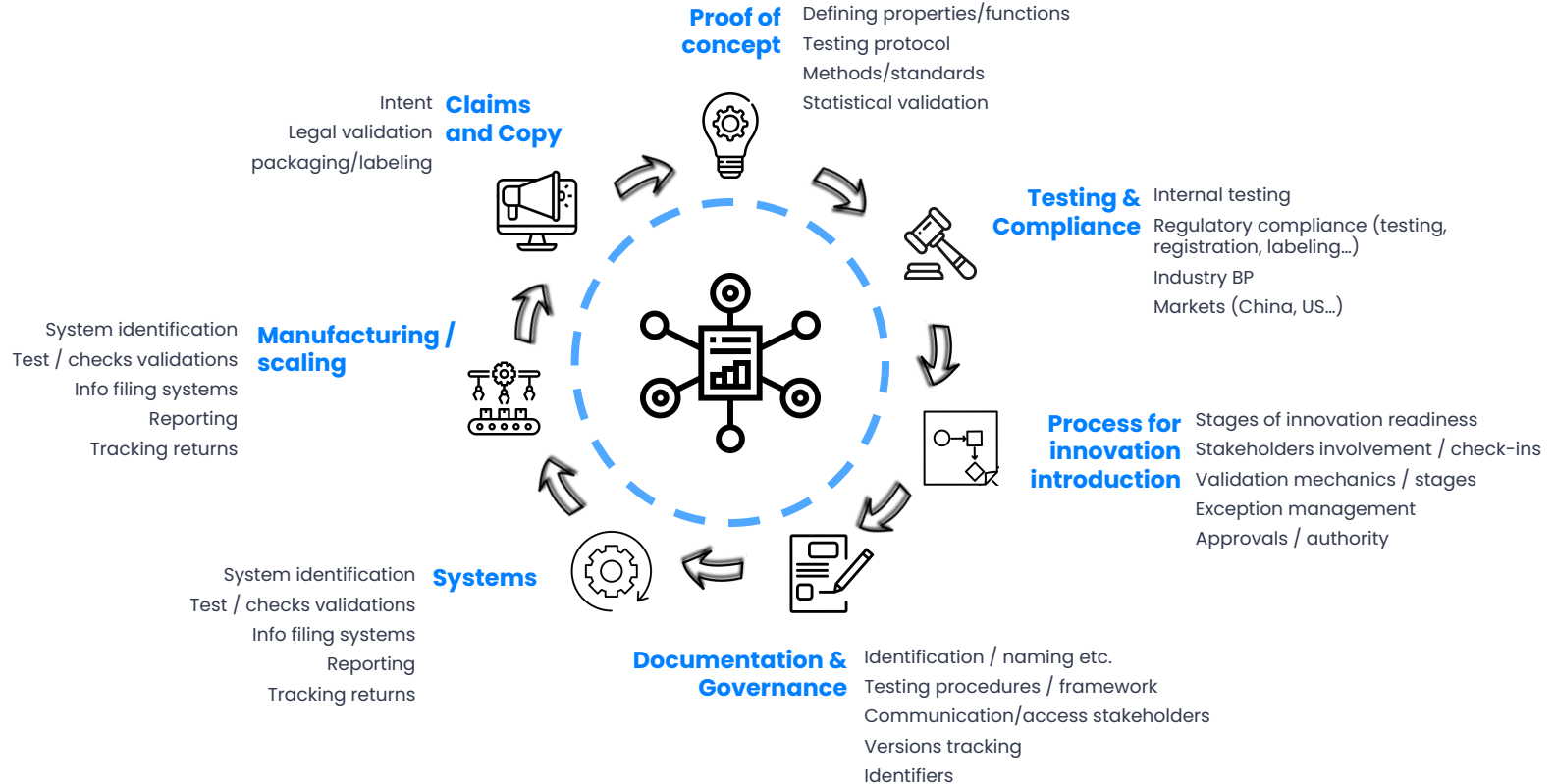


# NORBERT TESTON

Founder and principal consultant at NT Creative and Consulting LLC. Norbert helps organizations eliminate the worry of product recalls by making quality and compliance certain, predictable and sustainable.

25 years experience in product integrity for the sportswear industry.

# Innovation management framework



# Behind the curtain of the iconic Smart Ride from Adidas



Topic #2:

**How do I successfully manage our product line to ensure we are aligned with potential regulatory requirements?**



# PFAS & Microplastics Poll

**How many people are considering PFAS chemistries or microplastics in relation to your products or packaging?**

1. Yes
2. No
3. Should I be?





# PFAS

## Navigating Emerging Regulatory Requirements



## What are PFAS and how are we exposed?

"Perfluoroalkyl and polyfluoroalkyl substances (PFAS)", also known as forever chemicals, are a family of almost 5,000 chemicals designed to make products resistant to heat, oil, stains, grease, and water.

Consumers are getting exposed daily via common items such as fast food and takeout packaging and cosmetics.

## Why should we care?

Specific compounds have hazardous health effects, some linked to various cancers and reproductive health issues.

### PFAS

Navigating Emerging Regulatory Requirements

## Daily Dangers of PFAS



## PFAS Sources



Photography



Firefighting foams



Stain-resistant products



Fast food packaging



Nonstick cookware



Paints



Shampoo



Pesticides



Candy wrappers



Dental floss



Nail polish



Pesticides

## Key Takeaway:

Not only increasing health impacts and exposure risks, but new government regulations and litigations

### Recent Regulatory Updates

- **Significant New Use Rule for Inactive PFAS:** In January 2024, the EPA finalized a rule preventing companies from manufacturing or processing 329 PFAS compounds.
- **Designation of PFOA and PFOS as Hazardous Substances:** In April, 2023 The EPA restarted the process to designate PFOA and PFOS as hazardous substances.
- **Enhanced Toxics Release Inventory Reporting:** In October 2023, EPA released a final rule to improve reporting on PFAS to the Toxics Release Inventory (TRI).
- **States enacting laws**, including Maryland, Main, Colorado, and Washington, prohibiting the sale of specific PFAS containing products.

### Litigation

- March 2023, Onaka v. Shiseido Americas Corp.
- March 2023, Brown v. Coty
- September 2023, Hicks, *et al.* v. L'Oreal USA, Inc.
- November 2023, Equibel, *et al.* v. Colgate-Palmolive, Co.
- Despite the early dismissals, due to failure by plaintiffs to show they purchased an affected product, **cases alleging harm from PFAS-containing products will continue.**

# Three categories of products in which PFAS can be phased out

Challenges persist in finding smart alternatives to this valuable class of chemicals



## Nonessentials:

PFAS not essential for health and safety, typically driven by market preferences (e.g. to make a product feel a certain way). Use can be phased or banned.

### Example:

PTFE for smooth & sleek finish in cosmetics.

**Company:**  MICRO POWDERS, INC.



## Substitutable:

PFAS performs a key function, but alternatives exist with similar performance. Use can be phased or banned.

### Example:

Polytetrafluoroethylene (PTFE) membranes for water repellency

**Company:**  OrganoClick®



## Essential:

PFAS essential because they are necessary for health and safety with no alternatives. Here R&D is needed

### Example:

Perfluorosulfonic acid (PFSA) membranes for flame protective clothing for workers.

**WARNING:** Using short-chain PFAS to replace long-chain PFAS might be just as problematic.

## Key Takeaway:

Similarly to PFAS, microplastics are becoming an emerging health threat, which companies will need to respond to as government regulations emerging and litigation becomes more prevalent.

May, 2022, a study shows microplastics found in human blood for first time, present in 77% of tested patients.



July, 2022, a study finds microplastics found in human breast milk for the first time, present in 76% of donors.

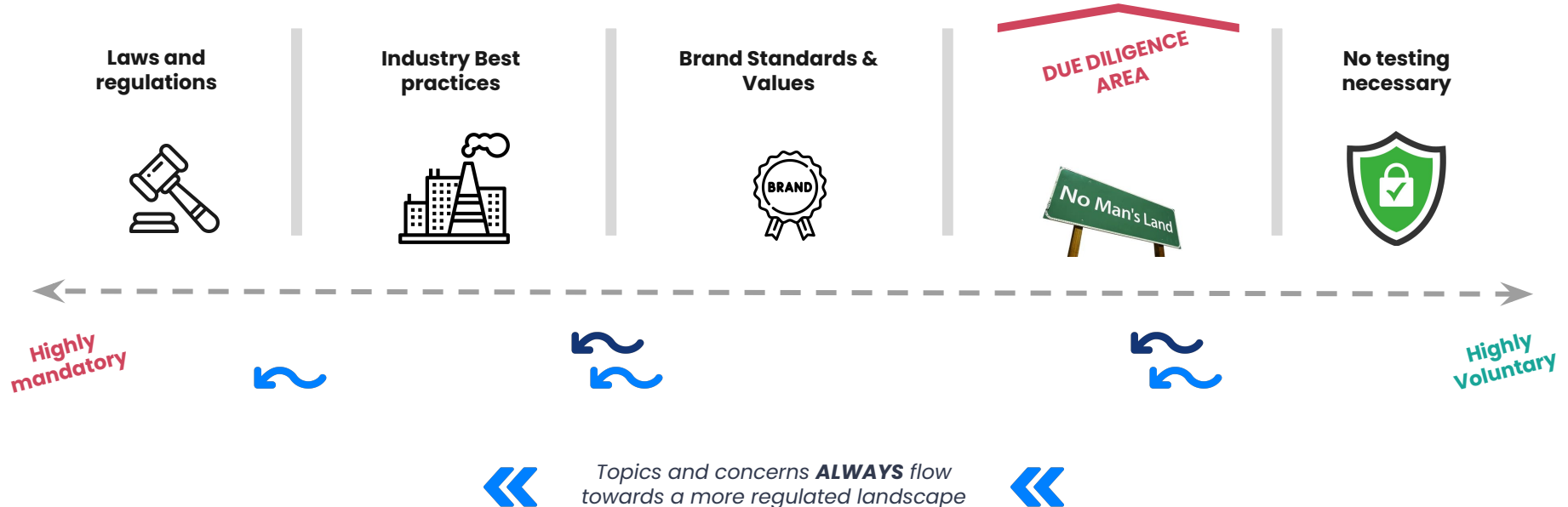
February, 2024, a scientific study shows microplastics found in every human placenta tested



# Standards creation framework

How to manage  
that unregulated  
space?

- Employees / brand experience (supply chain)
- Analyze consumer standing
- Partner with research orgs / universities
- Study existing landscape of existing & upcoming regulation and standards (trends)
- Conduct thorough testing / trials: test, test and test again
- Practice: Due diligence and the Court Trial exercise.





PreScouter leverages PhD-level analysts and industry experts to help our clients navigate strategic growth opportunities and resolve challenges with existing product lines in the context of compliance and regulatory considerations.



TECHNOLOGY  
LANDSCAPING



TRENDS  
MAPPING



TECHNOLOGY  
ROAD MAPPING



INTERVIEWING  
STARTUPS



IP  
LANDSCAPING



SUPPLIER  
OVERVIEWS



COMPETITIVE  
INTELLIGENCE



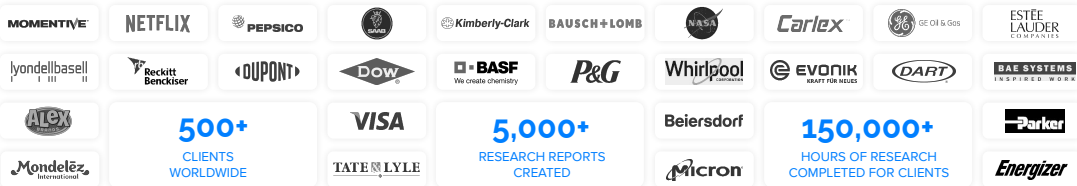
MARKET  
ANALYSIS



PARTNER  
OVERVIEWS



REGULATORY  
LANDSCAPE



THANK YOU FOR ATTENDING:  
**Robotaxis, Microplastics  
& Regulatory Pressure**

If you're interested to learn more about PreScouter feel free to contact **Corey Katz** at [ckatz@prescouter.com](mailto:ckatz@prescouter.com).

**PRESCOUTER**

# PRESCOUTER

## About PreScouter

PreScouter helps clients gain competitive advantage by providing customized global research. We act as an extension to your in-house research and business data teams to provide you with a holistic view of trends, technologies, and markets.


Our model leverages a network of 5,000+ advanced degree researchers, industrial experts, engineers, and analysts across the globe to tap into information from small businesses, national labs, markets, universities, patents, startups, and entrepreneurs.

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