

# Empowering Market Diversification, GTM for Emerging Markets: Tailored Market Intelligence and Strategic Insights through Hybrid Intelligence.

Use Case: Clean Energy, Carbon Capture, Utilization, and Storage (CCUS)

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**PLUGANDPLAY**

 Microsoft  
Partner

 NVIDIA

**PREFERRED  
PARTNER**

# Introduction to Use Case

## Situation

- Client: Key player in the scientific research and innovation fields
- Revenue: Tens of billions of dollars
- Market cap: Over \$100 billion
- Employees: More than 80,000

## Complication

- Declining organic revenue growth
- Broader economic pressures
- Increasing regulatory pressure
- Need to enhance corporate image and brand value
- Ambition to deliver on corporate social responsibility goals

## Opportunity

- Market diversification: Including **entering the Carbon Capture market**



# Strategic Challenges of our Client

## Challenges

- Strategic alignment and coordination
  - e.g. input and feedback from multiple senior leaders: Senior Director Marketing & Strategy, GM Green Energy, Director Industrial Markets, Global Director Portfolio & Technology, Director Clean Energy, Senior Director Business Development, and many more
- **Acquiring specialized market knowledge and deep technical understanding**
- Managing risks and uncertainties, e.g. evolving regulations and policies
- Integrating new initiatives with existing operations
- Addressing financial considerations, investment in R&D, technology acquisition, and market entry activities



## Questions

**Where are top Oil & Gas companies investing for green transition and how can our client become their technology partner?**



**What are key Carbon Capture, Utilization, and Storage (CCUS) investments, techniques, challenges and what motivates the investment?**

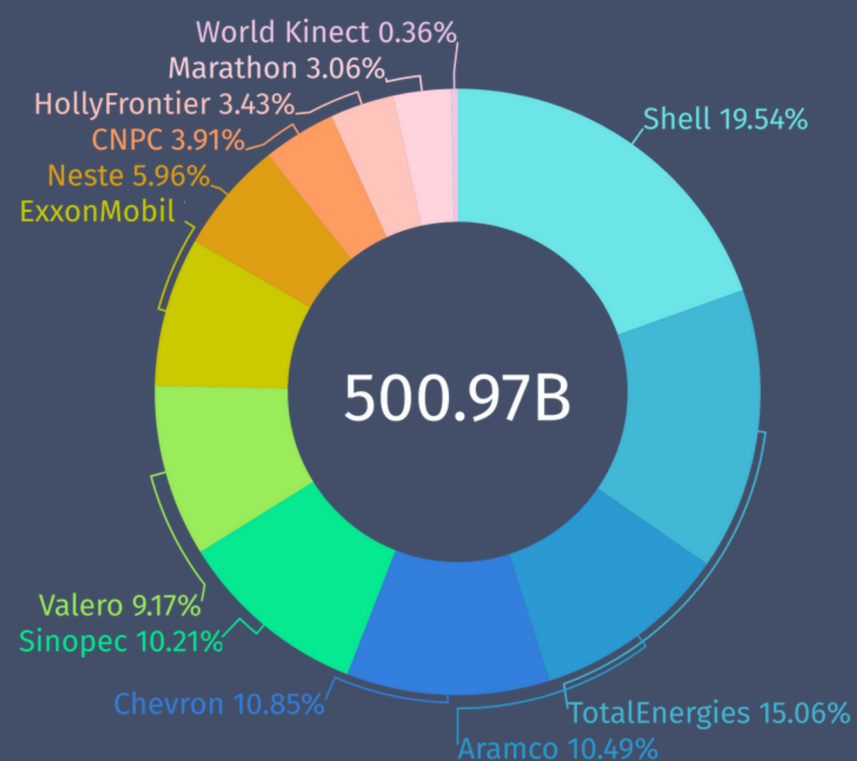
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# Where are top Oil & Gas companies investing for green transition and how can our client become their technology partner?

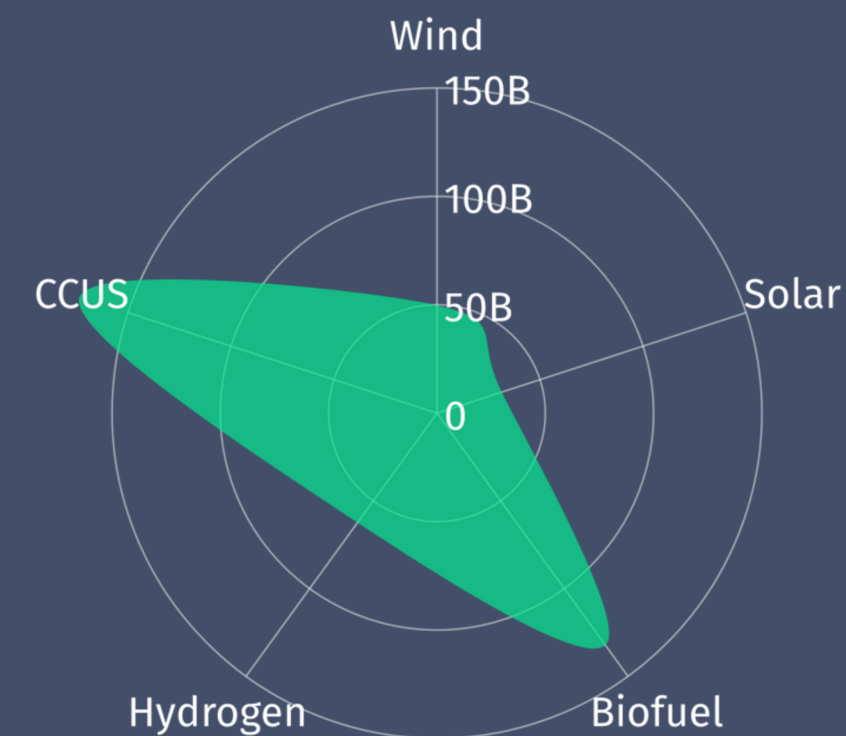
## Our approach and results

- Assembled the big picture from details
- Analysis of over 100,000 pages of reports
- Extracted, categorized and aggregated investments of 1,170 Clean Energy projects
- Computed estimations for unavailable data using alternative methods
- **Found Carbon Capture, Utilization, and Storage (CCUS) to be the largest segment**

Investment Size in \$ by Company



Investment Size in \$ by Segment



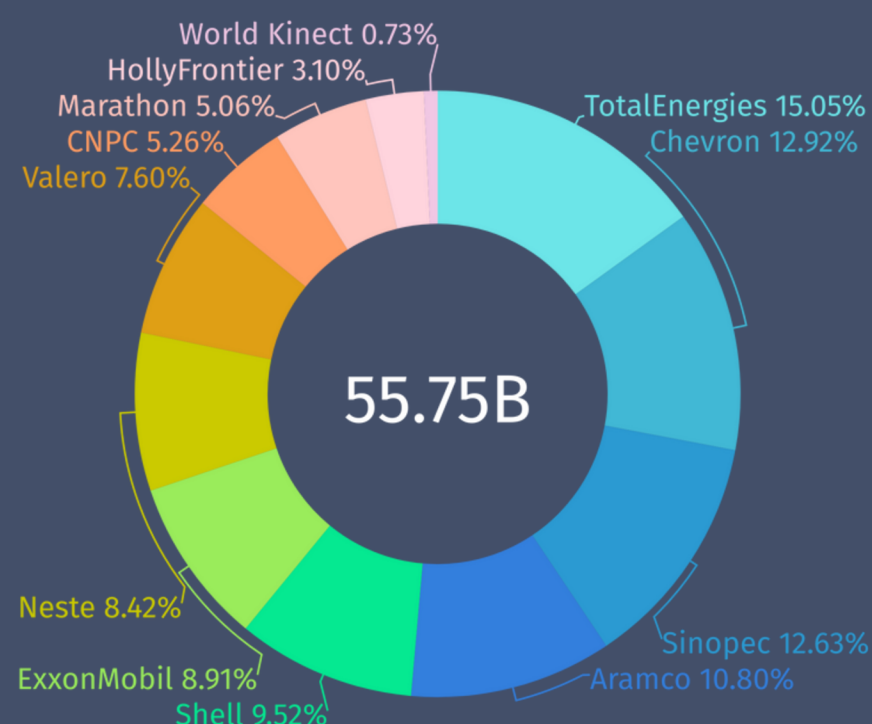


# Where are top Oil & Gas companies investing for green transition and **how can our client become their technology partner?**

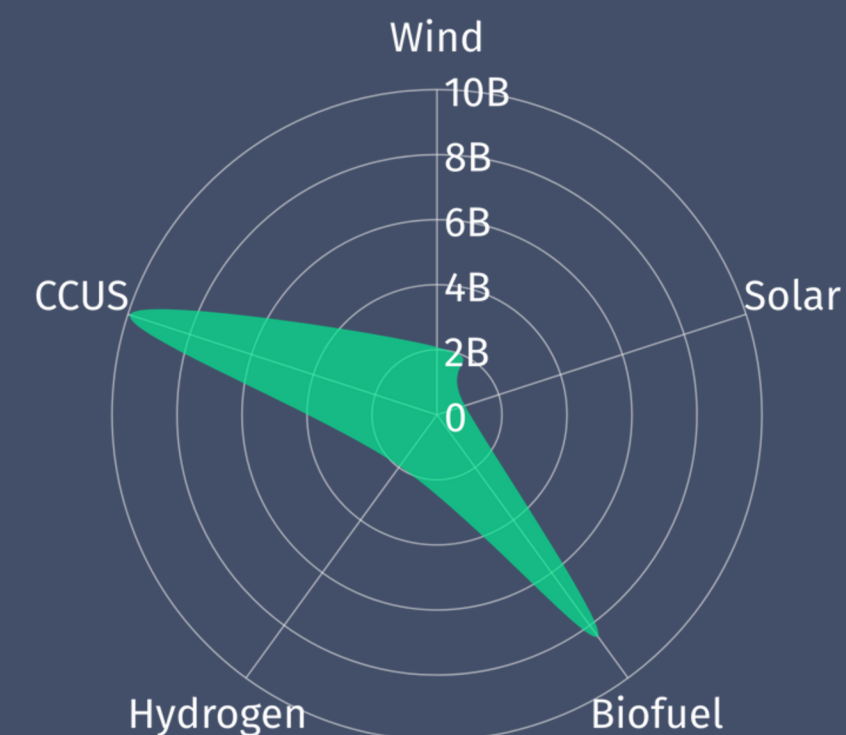
## Our approach and results

- Identified the main technical challenges for each of the 1,175 projects, as well as project start date and planning/operational status
- Compared the challenges with our client's product portfolio to assess the potential impact in \$
- **Formulated short-, mid-, and long-term strategies on a product by product-level** to optimally position our client for growth

Opportunity Size in \$ by Company



Opportunity Size in \$ by Segment

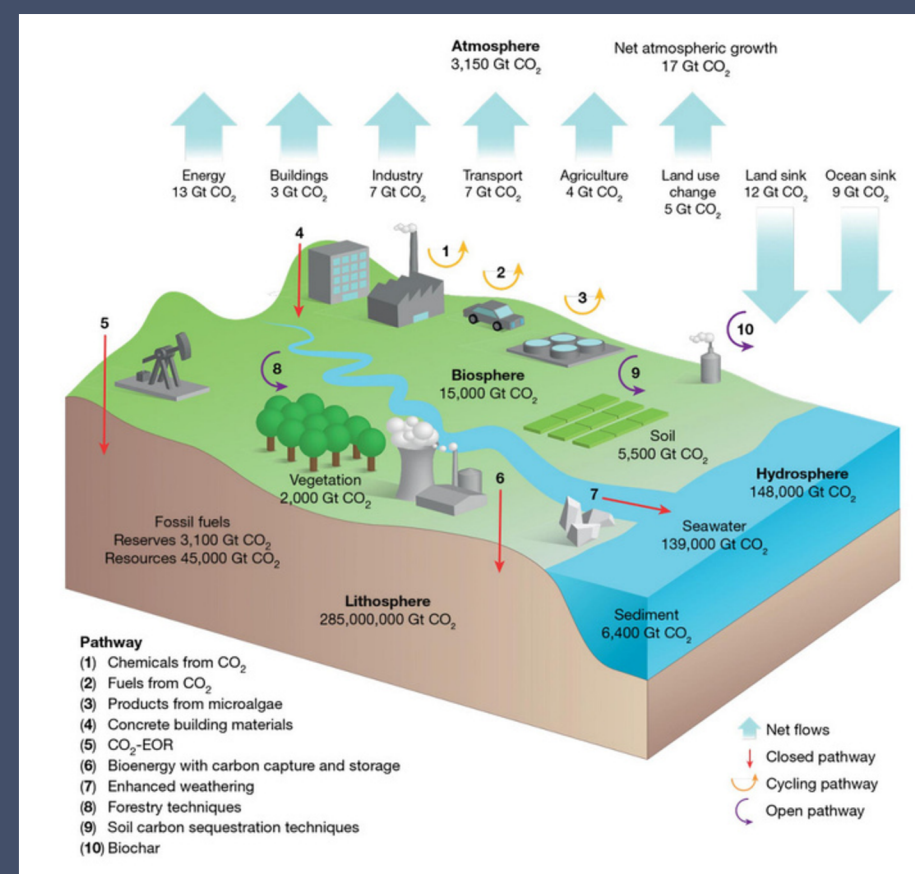


# What are key Carbon Capture, Utilization, and Storage (CCUS) investments, techniques, challenges and what motivates the investment?

## Our approach and results

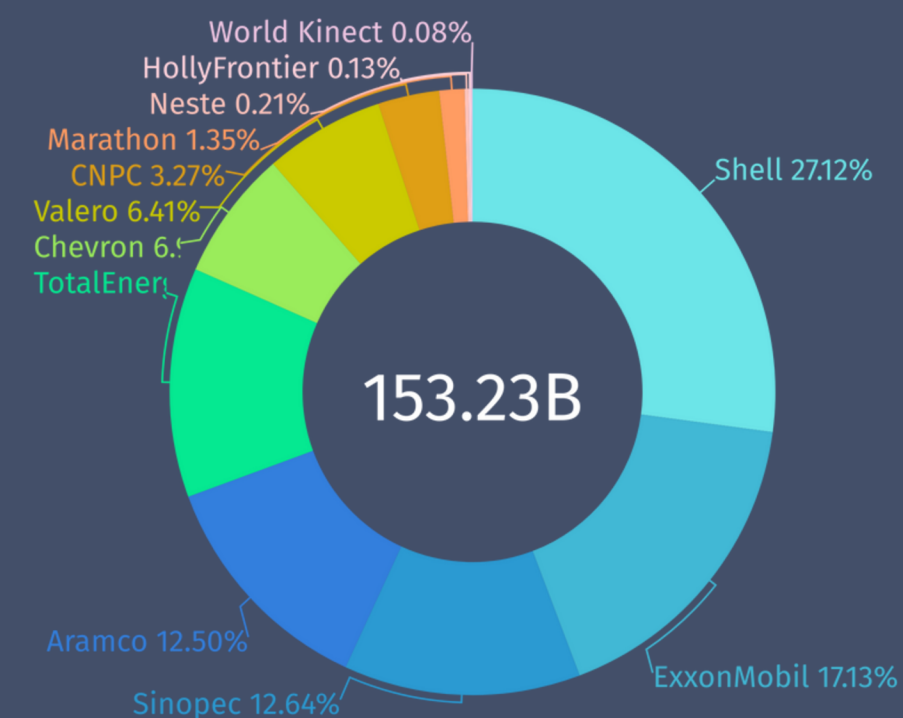
- **Established expert-level foundational understanding** for our client through research paper-, patent-, and technical documentation analysis
- Extracted, categorized and aggregated investments of over 300 CCUS projects
- Identified four major categories attracting over 80% of total investment, **Geological Storage and Enhanced Oil Recovery the largest** categories

## CCUS Techniques



Adlen, E. and Hepburn, C. (2019) Comparing 10 carbon capture methods on costs, scalability, permanence, cleanliness, World Energy. Available at: <https://www.world-energy.org/article/3816.html> (Accessed: 12 September 2024).

## Investment Size in \$ by Company



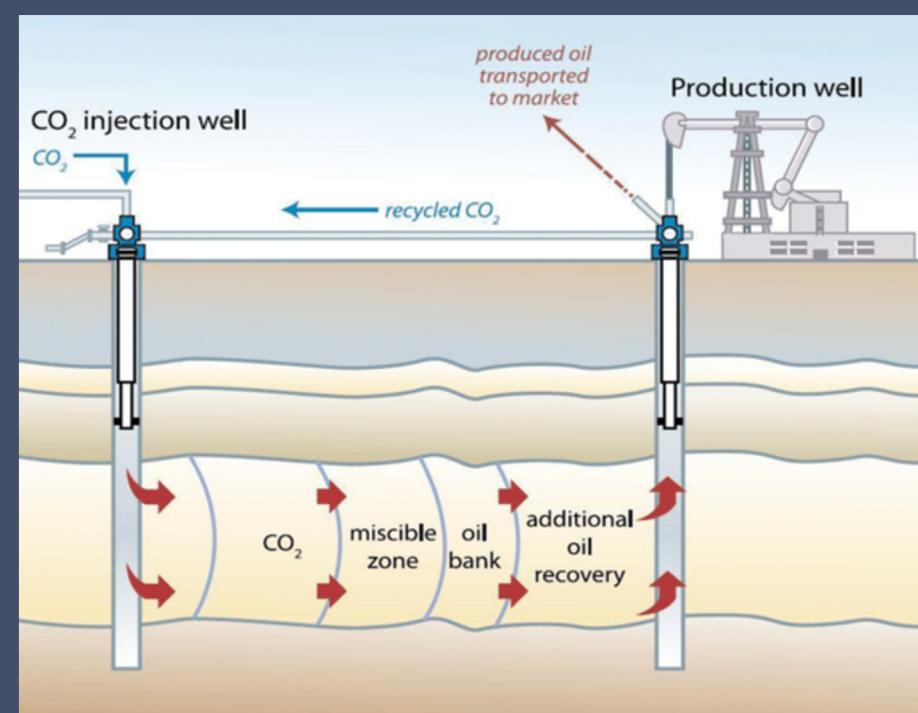
# What are key Carbon Capture, Utilization, and Storage (CCUS) investments, techniques, challenges and **what motivates the investment?**

## Our approach and results

- **Found Enhanced Oil Recovery offers the best monetary incentive**
- 2/3 of oil reserves in US are not accessible by primary and secondary recovery methods
- 1/2 of it can be extracted by CO<sub>2</sub> EOR → 200 billion barrels
- **Formulated short-term strategy to position our client's technologies for commercial opportunities**

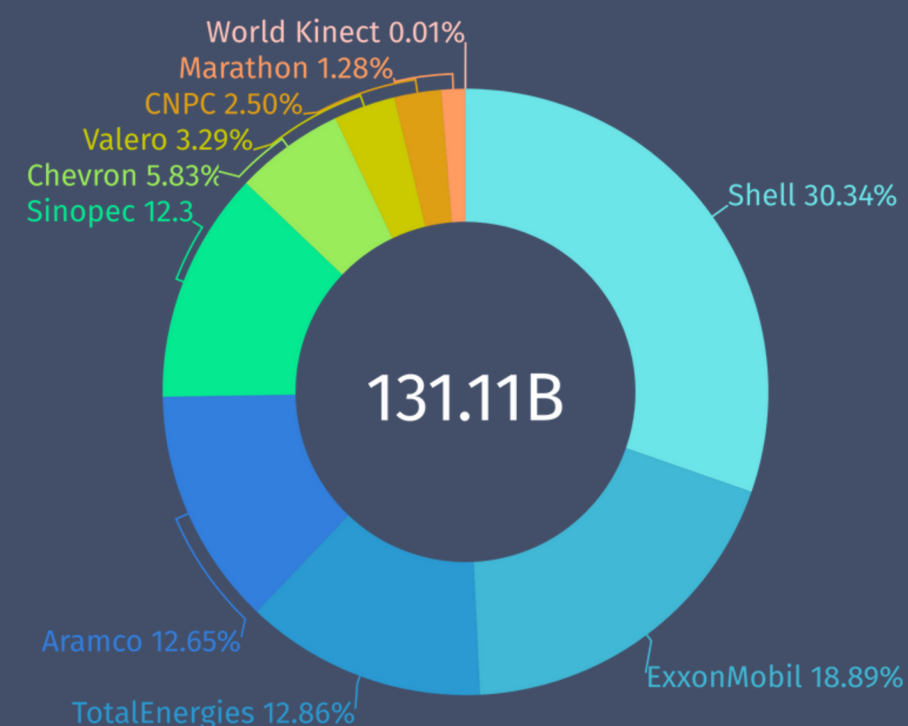
9.2. commercial carbon dioxide uses: Carbon Dioxide Enhanced Oil Recovery (no date) netl.doe.gov. Available at: <https://netl.doe.gov/research/coal/energy-systems/gasification/gasifipedia/eor> (Accessed: 12 September 2024).

## Enhanced Oil Recovery (EOR)



Petros, Peter & Heilweck, Matthias & Moore, David. (2021). Saving the Planet with Appropriate Biotechnology: 5. An Action Plan Salvando el planeta con biotecnología apropiada: 5. Un plan de acción. 10.29267/mxjb.2021.6.2.1.

## Investment Size in \$ by Company

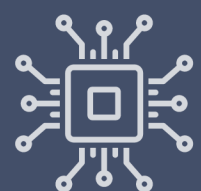


100+ innovators and leaders have conquered  
their markets with our expertise





# We specialize in fast-growing, complex deep-tech verticals.



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Hardware  
Technologies



Biotechnology,  
Health, and Life  
Sciences



Clean Energy



Sustainable  
Technologies



Materials and  
Manufacturing



Robotics and  
Automation



Aviation and  
Aerospace



Sustainable  
Agriculture  
and Food  
Production

- **CCUS \$352B**
  - Capture \$236B
    - Post-Combustion Capture \$107B
    - Direct Air Capture \$67B
    - Biological Carbon Capture \$23B
    - Pre-Combustion Capture \$19B
    - Absorption-Based Capture \$6B
    - Adsorption-Based Capture \$5B
  - Storage \$77B
    - Geological Storage \$56B
    - Sub-seabed Storage \$15B
    - Wetland Restoration \$5B
  - **Utilization \$38B**
    - Hydrogen and Syngas Production \$14B
    - Power Generation with Carbonation \$11B
    - **Enhanced Oil Recovery \$6**
- Biofuel \$198B
  - Hydrogenated Vegetable Oil \$61B
  - Second-Generation Biofuels \$51B
  - Biodiesel \$27B
  - Bioethanol \$23B
  - Thermochemical Conversion \$11B
  - First-Generation Biofuels \$7B
- Wind \$177B

# And we can help if you are looking to....

Determine the total addressable market (TAM) for your product

Identify the regions to target first for your campaigns

Explore long-term growth opportunities in emerging markets

Increase your market share short-term

Analyze key competitors' strengths and weaknesses

Monitor immediate competitive threats

Forecast future technology adoption trends in your industry

Prioritize and leverage market-application-relevant product specifications

Consider a technology for acquisition to strengthen your market position

Consider companies for acquisition to strengthen your market position

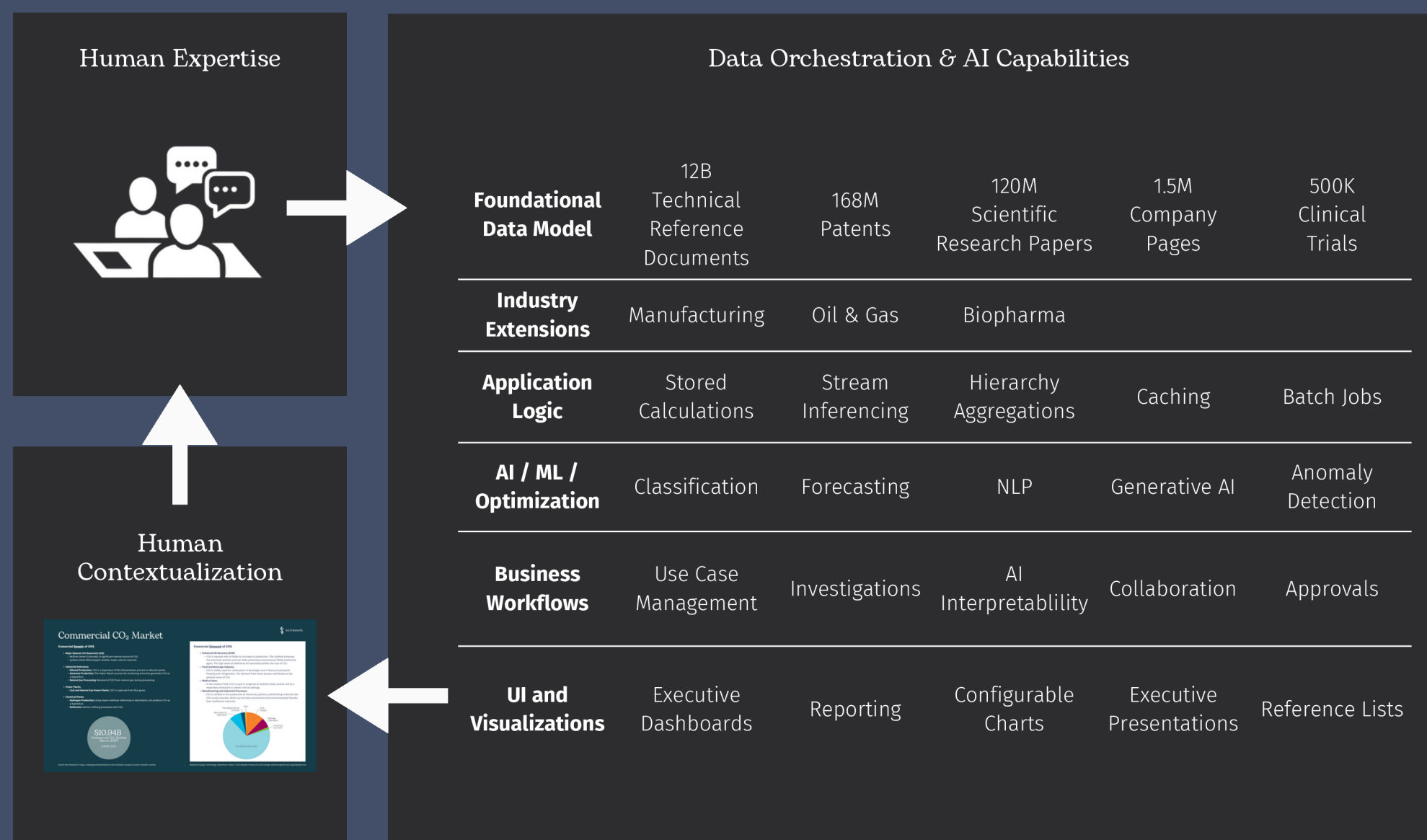
←  
Strategic  
Objectives

→  
Tactical  
Objectives

# Our Unique Edge

## Hybrid Intelligence

- **Human Expertise:** co-develop the problem, understand the client's needs, and create the workflow
- **Data Orchestration:** multiple sources, large volumes, normalized, up-to-date, and accurate
- **AI Capabilities:** process large amounts of data quickly and efficiently to generate insights
- **Human Contextualization:** Interpret and align AI-generated insights with the client's specific situation



We are seeking companies excited to partner and start a pilot project with us to explore market application opportunities for photonics (in Clean Energy).

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