



Specialty Industrials



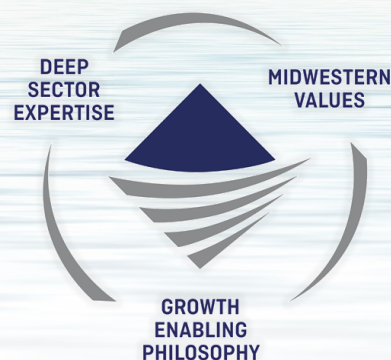
Life Science



Advanced Materials



Specialty Chemicals

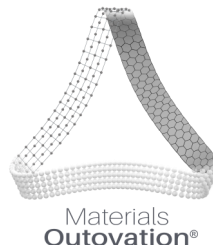


## Investment Thesis:

### *Ceramic Membrane Filtration*

Dr. Rakesh Kapoor

Operating Partner - *Materials Outovation*®



#### Market Overview

The worldwide water industry is estimated to be in excess of \$750B.<sup>i</sup> In this space, the ceramic membrane filtration market has been estimated to exceed \$5.0B in 2020.<sup>ii</sup> Materials of interest include alumina, zirconia, silicon carbide, titania, among others. It is an active area of research – with several emerging technology breakthroughs – which co-exist with “classical” ceramic membranes, modules and systems developed many decades ago.

#### Investment Thesis

As a sector focused, lower mid-market fund, Edgewater Capital’s investing strategy emphasizes a high degree of technical differentiation coupled with a focus on niche markets. Portfolio companies typically serve a niche where they are highly differentiated; selling process is usually technical and the products are often described as “mission critical”. Thus Edgewater is interested in a narrow segment of the vast micro-filtration and ultra-filtration market (see illustration below highlighting zones of filtration by particle size). Ceramic membranes – with structures carefully engineered to meet an end-customer needs - fit the Edgewater investment criteria.

End customers often prefer providers who can work with partners to provide a complete solution (and not just a unique ceramic membrane). Thus knowledge of the overall filtration system, application and the ability to tailor the system to meet the unique challenges of each customer (quality, throughput, cost per capita, balance of capital and operational costs) are key differentiators – both within an end market and across end markets.

At Edgewater Capital, Rakesh Kapoor serves as the Operating Partner, responsible for the Materials Outovation® Practice. He has worked continuously in ceramics since 1985. For two decades Rakesh worked at Saint-Gobain – including 4 years leading the efforts for business development of silicon-carbide ceramic membranes for filtration. He is familiar with the ceramic membrane applications in North America, Europe, Middle East and Asia in multiple end markets. Rakesh is leading this effort for Edgewater Capital and can be reached at [rkapoor@edgewatercapital.com](mailto:rkapoor@edgewatercapital.com) (Cell : +1-508-925-0729).

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## *Ceramic Membrane Filtration*

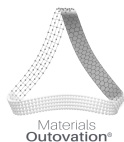


### Desired Attributes of Ceramic Filtration Investments for Edgewater Capital

1. Understands the complexity of the full system or possesses system engineering capability with requisite application engineering skills (critical)
  - a. The company likely outsources the physical manufacture of sub-assemblies but the thinking, design, and analysis of the customer problem must be within the company
  - b. We welcome companies that fabricate ceramic membrane or modules containing membranes
2. Emphasis on difficult to solve customer problems
  - a. Extreme chemistry (acid / base)
  - b. Extreme temperatures
  - c. High solids loadings
3. Actively selling to one and preferably 2 market segments of the filtration market including:
  - a. Industrial
  - b. Pharma (preferably certified)
  - c. Food and Beverage (preferably certified)
  - d. Desalination
  - e. Oil and Gas
  - f. Aquatics – large pools / theme parks (like 6 Flags)
  - g. Wastewater filtration and remediation
4. Exposure to ceramic membranes (bought or sold systems with ceramic membranes)
5. Strong historical track record and commercial experience
6. Sales of >\$10 million and EBITDA > \$3 million
  - a. Preference for companies that build small size systems
7. Team having as many of the following characteristics as possible:
  - a. Experienced Application Engineering Team
  - b. Experienced System Building Team
  - c. Professional sales team knowledgeable about technical sales

<sup>i</sup>Raymond James – Industrials – Water – Discussion Materials (June, 2020)

<sup>ii</sup>[Markets and Markets](#) (July, 2020)



# Investment Thesis:

## Ceramic Membrane Filtration



### About Edgewater Capital Partners

Edgewater Capital Partners, headquartered in Cleveland, Ohio, is a sector focused private equity firm investing in lower, middle-market performance materials businesses. We have extensive experience and expertise in niche manufacturers of specialty chemicals, pharmaceuticals, and engineered substances. Twenty years of industry specific investing has allowed us to develop a deep understanding of the complexities and nuances common to performance materials businesses. As a result, we believe expertise in our target markets enables us to quickly and comprehensively understand a company's value proposition, customer relationships, and perceived or misunderstood risks.

### About the *Materials Outovation*<sup>®</sup> Practice

*Materials Outovation*<sup>®</sup> Practice of ECP focuses on businesses whose core theme for growth relies on leveraging the composition, structure, properties, and processing of materials to provide customized performance in a material or a component for a specific application. Material families of interest include metal, alloys, ceramics, glasses, polymers, composites, adhesives, coatings, cements, concrete, and others. Phrases such as "mission critical", "enabling", "high performance", among others are often used to describe the materials and components produced by companies in this practice.

*Materials Outovation*<sup>®</sup> refers to the systematic process of looking "outside" the organization (at suppliers, consultants, other companies, customers, universities, experts, startups) to find ways of triggering innovation "inside" the organization for new markets, new applications, new customers and new technology – all of which enhances highly profitable growth. The professional networks of our operating partners provide a rich source for industry specific contacts.

The practice aspires to instill in each portfolio company world class business tools including environmental health and safety conscious culture, a lean operational culture inspired by the Toyota Production System and a streamlined supply chain – all in a spirit of continuous improvement, set in a backdrop of highly professional governance practices (adopted from the NACD guidelines).

We encourage a transparent open culture, emphasizing management team and employee empowerment including continually investing in the development of our people.

For more information please contact Rakesh Kapoor at [rkapoor@edgewatercapital.com](mailto:rkapoor@edgewatercapital.com) (+1-508-925-0729)