



By Thomas Kalb
November 1, 2025

2025 Year in Review Coastal Bend Midstream Program



Texas A&M University-Corpus Christi established the Coastal Bend Midstream Program (CBMP @ cbmp.tamucc.edu/) in November 2024 to act as a bridge between the university and the midstream industry. Housed within the College of Engineering and Computer Science (CECS), CBMP's mission is to be a trusted partner with the midstream sector through industry-driven, practical R&D, consulting, education, and knowledge transfer.

On CBMP's launch, we assessed the strengths and interests of research faculty at TAMU-CC and current industry operational concerns, and we recruited an Industry Advisory Board (IAB) of senior midstream industry professionals. We then analyzed how the university could collaborate with the midstream industry, considering our strengths and industry needs.

Working with the IAB, we began developing relationships with operators, service companies, and industry organizations.

Our IAB includes senior executives from Plains All American, Williams, Kinetik, Corrpro, Baker & O'Brien, Buckeye, Honeywell, Howard Energy, and Purgerite, as well as a retired executive from Shawcor.

We established relationships with GPA Midstream (GPA), GPSA Midstream Suppliers (GPSA), the International Offshore Pipe Line Contractors Association (IPLOCA), the San Antonio Pipeliners Association (SAPA), Pipeline Research Council International (PRCI), the Pipeline Open Data Standard Association (PODS), the Eastern Gas Compression Roundtable (EGCR), and the American Energy Society (AES).

CECS leadership and faculty have embraced this commitment to the midstream sector and our developing industry focus. As we advance the mission, we are identifying specific projects where our capabilities match midstream sector interests, including:

- (i) Applying artificial intelligence (AI) to in-line inspection data analysis and preventative maintenance in compression and pumping systems.
- (ii) Developing digital twin training applications focused on reducing the frequency of pipeline incidents caused by human error.
- (iii) Creating smart cement used in construction applications.
- (iv) Advancing unique materials science efforts focused on “hard spots” and the effects of introducing hydrogen and carbon dioxide into existing midstream systems.

In recent months, we worked with faculty like Dr. Jangwoon Park, Associate Professor of Industrial Engineering, to win a \$722,000 grant from the Pipeline and Hazardous Materials Administration (PHMSA) for “Human-Centered HMI Protocol Development for Pipeline Control Rooms Using a Functional Digital Twin Technology.”

We are also working with a large pipeline operator on two projects, including (i) a novel application of proven technology to enhance identification of hard spots more likely to cause a pipeline failure, and (ii) application of AI to assess relationships between ILI-identified anomalies and pipeline operations with the objective of enhancing risk management in pipeline systems.

A third R&D collaboration with operators is the application of AI to enhance pump efficiency through the identification and management of cavitation and vibration in large pumps.

In pursuing the education of students and faculty about the midstream sector, we have captured:

- (i) Scholarships for four students from SAPA and PODS.
- (ii) EGCR funding enabling three professors to attend the 2025 EGCR Compression Roundtable in Pittsburgh.
- (iii) PODS sponsorship enabling Islander Energy Club members to attend the PODS 2025 Spring Forum in Houston.

- (iv) Funding by Howard Energy Partners for our annual midstream essay contest.
- (v) Campus guest speakers from Rockwell Automation and Balcones Field Services.

CBMP also partnered with GPA Midstream to produce the 2025 and upcoming 2026 *Top Ten Issues Facing the Midstream Sector Survey*, and is a regular contributor to GPA Midstream's *Let's Clear The Air* consumer education campaign [Blog](#).

We continue to seek R&D and consulting projects directly with midstream players and research funding from government agencies and industry organizations. We are also seeking senior managers from midstream companies to serve on our IAB.

Please contact Thomas Kalb at thomas.kalb@tamucc.edu to discuss prospective midstream-related R&D or consulting projects, program funding, scholarship funding, guest speaking, joining the IAB, or to discuss how we might otherwise work together.