CHALLENGE
AN ENERGY-EFFICIENT SEPARATION
Separating olefins and paraffins is a critical process in the petrochemicals industry that produces the chemical building blocks that ultimately produces important materials like rubber, nylon and PVC. But the traditional method for effecting this separation of molecules requires using large distillation columns, which demand enormous amounts of capital and energy.

ALPHA MOMENT
DEVELOPING A MEMBRANE FOR OLEFIN/PARAFFIN SEPARATION
It has been a dream in the petrochemicals industry for years to use membranes to separate olefins and paraffins, but stability was always an issue. However, membrane technology expert Sudip Majumdar, CTO of Compact Membrane Systems, was able to guide the development of a customized amorphous fluoropolymer membrane that successfully separates olefins and paraffins while remaining stable – a feat that earned Majumdar an Alpha Innovator of the Year (Environment and Sustainability) award.

BUSINESS IMPACT
SAVING ENERGY AND MONEY
Compact Membrane Systems’ new technology offers a significant cost and energy savings over the current method generally used for olefin/paraffin separation. The company believes that, for certain applications, its customers will see increased revenues of $10-50M while easily integrating the technology into their existing infrastructure.