



## AIR BLOWN FIBER- CASE STUDY



**ATOFINA** Petrochemicals, Inc.

### Overview:

ATOFINA Petrochemicals Inc., part of ATOFINA, the 6<sup>th</sup> largest chemical company in the world, has a major production plant located in LaPorte, TX. This facility is the largest single production site for Polypropylene in the world. It has several systems that operate on a fiber network including Honeywell Distributed Control Systems, remote I/O's and various analyzers that perform process control and analysis. Internal data, voice, security and control systems also run on a fiber backbone.

### Needs:

In 1996 ATOFINA decided to install the Train-8 project, which would increase production of polypropylene. Several new fiber runs were needed connect the new systems. The Train-8 project along with the growth and maintenance of the plant's fiber network created considerable network planning and design challenges. Estimating fiber requirements for unknown future expansion proved to be difficult and the extremely high labor cost to install conduit and pull in fiber was also a major concern. ATOFINA needed a flexible, scalable system that would that would provide pathways to meet move/add/change requirements for future growth while minimizing costs.

### Solution:

After evaluating several options, Bob Dove- Instrument and Electrical Superintendent decided to install the FutureFLEX Air Blown Fiber System by Sumitomo Electric Lightwave Corp. This innovative system consists of flexible tube cables that act as a "highway" to transport fiber. Tube cable counts are available from 1 to 19 cells that are protected by a tough durable outside jacket. The tube cables, which can be routed through conduit and cable tray or direct buried, are joined in outdoor or indoor junction boxes (TDUs – Tube Distribution Units) using simple push-fit connectors. TDUs replace conventional fiber splice hardware at tube cable transitions / branching locations to provide point-to-point connectivity. The fiber cable, which comes in counts ranging from 2 to 18 fibers is made with a lightweight foam jacket and is blown through the tube network on a stream of nitrogen or compressed air. The fiber travels through the system at 100-150 feet a minute, may exceed distances of 6000 feet and can traverse outdoor, riser and plenum tubes in a single run. Various FutureFLEX certified cabling contractors installed the tube cable underground and through pipe racks and blew in only the fiber that was initially needed without wasting money on dark fiber. The initial cost of the FutureFLEX System was about equal to a conventional fiber system after all factors were analyzed.

### Benefit:

The FutureFLEX System provided ATOFINA a redundant fiber network throughout the plant with multiple open paths for future use. The unused tube-cells were capped off at strategic TDUs for easy access. In 1997 Jacobs Engineering Group, Inc. designed and engineered the much larger Train-9 project and utilized the FutureFLEX System for fiber routing. Several runs were blown in quickly and easily thus enabling ATOFINA to get a low cost, seamless expansion of the network from the Train-8 control room. Another expansion project was completed in 2002, and again the fiber runs were installed by simply blowing fiber point-to-point through the system. FutureFLEX enabled ATOFINA to grow and expand their fiber network without high labor costs since only two technicians are needed to blow in the fiber. Bob Dove said "The FutureFLEX ABF System has saved us about \$250,000 in expansion, maintenance and upgrade costs compared to a conventional fiber system and is definitely the best long term solution for any industrial / manufacturing facility."