



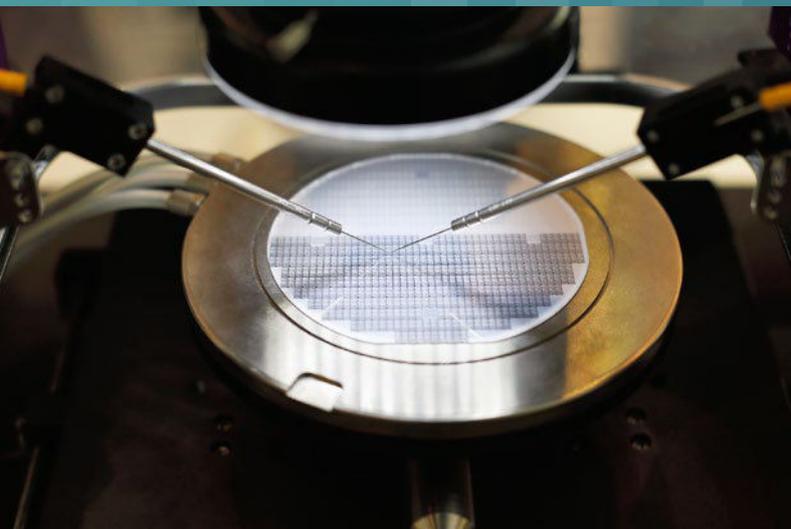
# Case Study:

## OIL & GAS SENSOR

## Introduction

Historically, fiber optic sensors used within industrial applications have been more expensive than traditional electronic sensors. In certain industrial applications where there is a 'high consequence-of-failure', one where a minor deviance from specification parameters can have a catastrophic outcome, the level of accuracy and reliability offered by fiber optic sensors make them the only viable choice.

A specific example of where fiber optic sensors has to be the default standard is ensuring accuracy of data when sensing measurements of dangerous liquids or gases. An example why this is so can be seen when a traditional level gauge sensor failed due to poor performance at an oil storage depot. This failure resulted in a citywide disaster which injured numerous people and resulted in a criminal trial. When correctly specified and installed fiber optic components can provide exceptional performance and accuracy.



## ACP in action

One of our clients, a major manufacturer of fiber optic sensors for industrial oil wells, has been buying components from us for over ten years. As they have grown and created more and more advanced solutions for their clients, their performance specifications have also grown—but exponentially. During their growth period our internal ‘Engineering-on-Demand’ teams have worked closely with their own resources to create a product roadmap of potential solutions which surpass traditional electronic solutions in both terms of safety, price, and performance.



One specific challenge was when we needed to improve the crosstalk of a Polarization Insensitive Optical Circulator (PIOP); this specification was the critical requirement for the performance of the client’s industrial oil well sensor. Although the circulator was specified at a standard 1550nm wavelength, it was required that the crosstalk was low at both 1550nm and 1480nm. Our client had been buying PIOPs from us for many years and did not want any other parts of the components specification allowing the new product to be a drop-in replacement. As a long-term and valuable client, they also did not want to incur additional costs for the design work and additional premium features.

## The outcome

ACP improved the one key specification that the client cared about without modifying the component in any other way or creating any redundant features the client did not need or want to pay for. Our internal production teams created a unique semi-automated solution to solve the clients’ needs from a manufacturing standpoint which ensured the product manufacturing cost didn’t increase, even though there was a significant performance enhancement. The result is a component that is optimized for performance in our client’s updated system, with no cost increase. Our client continues to purchase this product for their fiber optic sensors along with other active and passive components because our products are tailored to their needs; this differentiation has enabled them to gain market share through offering the safest, most reliable systems in the space.

## Contact our team to have your challenge solved today:

Every acp solution is backed by 25 years of unparalleled success in providing photonic solutions for global OEMs coupled with our uncompromising pursuit of excellence.

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