

Knowledge Transfer Partnerships (KTP)

Case Study **Advanced Chemical Etching Ltd**

KTP is the ACE up the sleeve

The Company

Advanced Chemical Etching Limited (ACE) is constantly stretching the boundaries of innovation in delivering solutions to some of the world's biggest names. Located in Shropshire, the company specialises in the manufacture of precision photo etched metal components for customers involved in the aerospace, automotive, electronics, medical and fuel cell industries.

Challenge



The company identified a need to improve its existing process for etching aluminium, an attractive metal with many applications in the automotive and aerospace industries.

Conventional chemistry yields poor quality in the final product when used to etch aluminium. It was therefore very important for ACE to develop the capability to etch aluminium, allowing high quality parts to be produced at relatively low costs.

A Knowledge Transfer Partnership was seen as the ideal mechanism to improve ACE's process and meet the requirements of customers in the aerospace sector.

Solution

Dr Muhammad Eesa, a graduate in Chemical Engineering was recruited by the University of Wolverhampton as a KTP Associate, working as Technical Research Manager within ACE.

Various ways to improve the current process for etching aluminium were explored; however this only highlighted the limitations of the existing procedure. A new process was developed which involved a new etching chemistry as well as an innovative method for cleaning the etched parts.

This process has opened up business opportunities in the aerospace, automotive and electronics industries. The new method offers outstanding precision with sharp and well defined features, and it has also reduced the costs of raw materials as well as reducing wastage.

Results

The KTP produced positive results for all those involved.

Key successes include:

- Increased capability of etching aluminium to high quality standards
- New business opportunities in the aerospace, automotive and electronics industries
- New skills and knowledge embedded into the company
- Investment in two new etching machines to accommodate the increase in productivity
- Further investment planned to expand the company's R&D activities
- Improved customer satisfaction due to higher quality and more cost effective products
- Increased awareness and accessibility of the University's capability and resources
- Development of a new manufacturing degree at the University of Wolverhampton
- Associate employed permanently at end of KTP

In their words

Company

"The KTP has been a real success story and shows what can be achieved from collaboration with Academia and industry.

As a result of the KTP a new awareness has established itself in the mind-set of the company from the Managing Director down. Total credit to the Associate and Wolverhampton University."

Alan Rollason
Company Chairman

Associate

"The KTP project was a fantastic learning experience for me and a great opportunity to experience the manufacturing industry first-hand.

The support I had throughout the project from the University of Wolverhampton and Advanced Chemical Etching was critical to the success of the project. This success is an example of the potential that collaboration between industry and learning organisations can offer for the benefit of everyone."

Dr Muhammad Eesa
KTP Associate

Academic Partner

The project allowed the university and company to work together on developing this novel process with an excellent associate, which has opened up new business opportunities for ACE. The partnership also gave the academics involved current experience of manufacturing – to be fed back into teaching – and has added to our related research areas.

We hope to remain involved in moving the business forward and look forward to further collaborations in the future.

Julian Spence
Senior Research Fellow
University of Wolverhampton

For further information:

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