Outline

• Caledonian Alloys
• What was it all about?
• What happened?
• Why was it so successful?
• What’s happened since?
Caledonian Alloys

- Formed in 1996 with 5 people
- Revert Management services to the aerospace, oil & gas, petrochemical sectors
- Now over 200 people we have grown to be one of the world’s largest specialist recyclers of superalloy material
- Customers include Rolls-Royce, Pratt & Whitney and all of the world's leading aerospace melters and their supply chains
How did it start?

- Existing process in place
- CA keen to optimise & develop process but usual barriers – time, resource, knowledge
- KTP Centre the link between CA and Heriot-Watt Chemical Engineering department
- Developed project together
- Completed Application
- Go-ahead & funding
- Recruited Associate
The Team

Robin Westacott
Heriot-Watt University Edinburgh
Lecturer, School of Chemical Engineering

John McCabe
Caledonian Alloys Ltd
Global Engineering Manager

Cameron Fraser
Environmental Consultant
ERM
What was it all about?

Reducing waste and emissions
Maintaining value
Improved quality
New markets
New products
How did it start?

Solvent degreasing
Outcomes

Ni Alloys

- Optimise performance
- New operating procedure and operator training
- reduced emissions of volatile chemicals by 70%
- reduced operations costs by 24%
- increased efficiency – single pass cleaning
- Increased product recovery
- releasing processing capacity equal to £insert big number during the life of the KTP project.
Cameron awarded “Business Leader of Tomorrow”
Phase 2

Titanium alloys

- Design and build a process to clean Ti alloys
- Market dictates build in USA!
- Associate spends 6 months in NC
- Communication becomes challenging!
Cameron goes to the USA
Outcomes

• investment of £big number to build a titanium turnings processing facility in USA
• new revenue stream of £ (investment x 5) generated from this plant
• increase in profit before tax 110% of investment (4 times target in year 1)
• new internet-based control system developed - company’s plants can be operated remotely from Livingston.
Why was it so successful?

Top class Associate
Associate developed by KTP Scheme
Open & positive relationship between partners
Excellent communication
Sub-projects undertaken by HW students
Summer Placements for HW students
What’s happened since?

- two further KTP projects between CA and HWU
- additional funds for equipment provided by CA
- Continued development of related projects for 6 u/grad and p/grad students
- CA provide site visits and access to placements.
- Associate(s) give expert lectures to students.
Key Points for Academics

- Find a company with an interesting problem
- Find a dedicated and motivated associate
- Be prepared for the business world
- Be lucky
- Trust the KTP Advisor
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