Remanufacturing, Reuse or Recycle?

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Maintaining Products in Use
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  – Reuse
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  – 2 case studies

• **Making the right decision**
  – Key Factors
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• **Overview of The Centre for Remanufacturing and Reuse**
Why reuse?

Increase product lifespan

Remanufacturing and reuse = increased product lifespan = improved resource efficiency

BUT

appropriate choice = economic and environmental benefits
Strategies for Product Life Extension
Reuse spectrum

‘Secondary utilisation of products and components’
Remanufacturing

“A series of manufacturing steps acting on an end-of-life part or product in order to return it to like-new or better performance, with warranty to match.”

Customer benefits

Customer confidence

Leveraging assets & skills

Reclaiming embedded value

Centre for Remanufacturing & Reuse
Scale of Activity

- £5 billion to UK economy p.a.
- Savings of 800 kt CO2e per year
- c. 50,000 employed
- Material recoveries 50-90%
- Product life extensions x 2,3,4,5 .... infinite
Why is it interesting?

Sustainability

- Long history
- Profitable
- Resource efficient
- Job-preserving
Remanufacture and reuse - summary

- Remanufacture is a viable reuse option
- Economic & environmental benefits
- Remanufacture – low profile activity
- Under exploited
- Wide range of reuse options
- Environment determines strategy
- Some require modified ways of doing business
Case Studies
Caterpillar

“As Good As New, As Strong As Ever”

WHO?
• Construction and mining equipment manufacturer
• Operations in 40 countries
• <95,000 employees
• Remanufacturing began in 1972
• Perkins Engine Company in 1997
• Shrewsbury – Remanufacturing Centre of Excellence
HOW?

- Secure returns
- Core deposit
- Decision process
  - Remanufacture on-site
  - Remanufacture overseas
Benefits for the Customer

- Continued support for legacy equipment
- Minimum equipment downtime
- Reduced capital outlay
- Reduced environmental impact
- Closer relationship
- Improved profit margins

Benefits for Caterpillar

- Protect brand by preventing substandard equipment entering market
- Improve product lifecycle knowledge
- Remanufacture service can be sold to other manufacturers
BENEFITS

• 43 million tonnes of core material reused
• Up to 90% cost savings over new – feeds through to customer price
• 52 million tonnes of C02 saved
• Expansion into other sectors - rail
WHO?

• Sony Corporate Entertainment Europe (SCEE)
• PS2 - one of the most successful game machines in history
• In 1998 Sony engaged Infoteam International Services Ltd to handle all UK console returns
• Infoteam have a core competence in remanufacture for electronics companies wishing to outsource their repair operations.
Sony

WHAT?
• PS2 Consoles
• Service exchange system

WHY?
• Cost - Expensive to repair independently
• Assures customer loyalty

HOW?
• Centralised repair facility
• Collect from home
• Replaced within 48 hours
• Failure rate of remanufactured products is less than 1%
Sony

BENEFITS

- Valuable components recovered
  - Components reused – 6.8 million
- Fast replacement for customer – 24 to 48 hours
- Strict quality control – customer happy
- Collect from home – no postage costs
- 40% returns out of warranty – diversion from landfill
- Encourages reuse
- Minimal costs
- Polycarbonate cases recycled
Making the best decision
Making the best decision

Don’t remanufacture when:

- **Low value**
  - Use parts for spares - *reuse*
  - Recycle
  - Reuse in secondary markets

- **High technological evolution**
  - Reuse in secondary markets
  - Recycle

- **No return channels**
  - Recycle
Key challenges

Business
• Integrating design for remanufacture
• Making the right decision – which R?
• Demonstrate business benefits
• Alternative business model
• Core returns – competition/damage
• Supporting infrastructure

Consumer
• Public perceptions of remanufactured/reused goods
• Trust in supplier essential
  – Warranty, supply and return channels
• Acceptance of different ways of product ownership
• Cost advantages must be made clear
Overview of the Centre for Remanufacturing and Reuse
CRR - Introduction

- **Defra funded initiative**
  - BREW programme
  - Business resource efficiency and economic improvement
  - Landfill tax

- **Pioneers**
  - 1st UK centre dedicated to remanufacturing and reuse
CRR – Year One

2006 - 2007

Evidence base

- >16 product groups
- Estimated benefits
- Barriers
- Enablers
- Identified actions

STAKEHOLDER CONFERENCE
January 2007
CRR – Year Two

Implementation
Engage, Identify, Activate

- Cross-sector initiatives
- Creators of goods and services
- Sector-specific initiatives
- Purchasers of goods and services
- Actions
Get Involved

• Buy/use re… products or ASK – drive the demand

• It can be done, by OEM’s, 3rd parties and social enterprises – could your company benefit too?

• BUT - make sure it is the best option

• Visit the remanufacturing website, become a member!
Thank You

For more information and to get involved please visit:

www.remanufacturing.org.uk

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