Introduction

‘End of life recoverability potential’ is one of six product-based environmental indicators that the aerospace, defence, security and space (ADS) DfE Working Group is developing to help industry effectively evaluate and reduce their environmental impacts and business risks. Other metrics include energy consumption, hazardous substance use, waste production, access to resources, and water consumption.

Definition

This position paper broadly defines ‘end of life recoverability potential’ as the potential for material or a product manufactured by the ADS industries to be recovered at end of life for further use. This includes (but is not limited to) the recyclability, reusability, and energy recovery potential of component parts or materials within the product.

ADS Industry Position

ADS firmly believes that:

1. Increasing demands for materials and pressure on reducing the environmental and social impact of raw material extraction, are affecting the long-term stability of material supply.
2. Instability of material supply chains and the recovery of critical material is a major concern for maintaining business continuity, and the high performance standards and requirements of products used within the ADS industries.
3. Organisations within the ADS industries need consistent, transparent, and accessible data about the end of life recoverability potential of products to evaluate end-of-life options for the benefit of the business, environment, and society.
**Environmental relevance:**

Depletion of natural resources leads to the degradation of the environment through extraction activity, loss of resources for future generations, and possibly irreversible damage to eco-systems. The extraction and processing of materials is generally energy intensive and subsequently a large emitter of emissions. Recovering materials can reduce or obviate the environmental impacts associated with raw material extraction and waste sent to landfill, such as: land use change, resource depletion, and emissions to air. There is a social responsibility to sustainably manage material use to meet the needs for society whilst minimising adverse impacts on the environment.

**Business relevance:**

Manufacturing companies centre on the transformation of raw materials into high value products. The supply of raw material is likely to be constrained in the future as demand increases, which may impact business growth. Understanding ‘material risks’ at the product level is important for business sustainability. Recovering material and products will help prevent the loss of business-critical materials, reduce supply chain risks, stabilise material costs, and minimise disposal costs. The use of recovered materials in production can also lead to reduced production costs and improve the material efficiency of products.

Additionally, there is a significant opportunity for material and product recovery presented by the increasing number of aircraft retiring from active service. A consistent approach towards measuring and declaring the recoverability potential of material and products will enable the ADS industries to develop cost-effective end-of-life strategies, manage ‘material risks’, and demonstrate their commitment to reducing environmental impacts.

**Legal and policy relevance:**

There is a growing awareness and advocacy within the EU of transitioning towards a more resource efficient and low carbon economy. In addition, there are a growing number of product-based environmental policies and legislation worldwide on reducing waste sent to landfill, improving recycling rates, and extending manufacturers’ responsibility for particular product groups or waste categories. A consistent approach within the ADS industries towards collating data for evaluating the ‘recoverability potential’ of products will support the development of effective policies for the benefit of the economy, society, and environment.
## About ADS and the Design for Environment working group

ADS is the premier trade association advancing the UK's Aerospace, Defence, Security and Space industries. ADS comprises around 900 member companies across all four industries, with over 850 of these companies identified as Small and Medium Size Enterprises (SMEs). Together with its regional partners, ADS represents over 2,600 companies across the UK supply chain.

The Design for Environment group reports to the Environmental Working Group of ADS and its remit is to:

- be the industry reference platform regarding product sustainability;
- develop a standard in eco-design for the ADS industry; and
- ensure that eco-design adds value to our products and businesses.

Its objectives are to:

- Promote awareness on product sustainability / eco-design by sharing best practices,
- Strengthen the industry position on product sustainability / eco-design,
- Contribute to legislation-watch in the field of eco-design and related topics,
- Respond to consultation on behalf of the ADS industry sectors,
- Engage on eco-design with other industries,
- Develop a standard for the industry to ensure the deployment of eco-design in the ADS industry's supply chain (methodology and metrics)
- Anticipate risks (Prevent material obsolescence and material supply disruption, be less fragile to price volatility, avoid potential risks due to non-conformance to legislations, etc.)
- Foresee opportunities (Be the first ADS industrial chain with eco-design considerations standardised and embodied in the products, processes and businesses.)