Introduction

‘Access to primary resources’ is one of six product-based environmental indicators 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, recyclability potential, waste production, and water consumption.

Definition

This position paper broadly defines “Access to resources”, which is also referred to as “Materials Criticality”, as the availability or supply of non-energy and non-food resources of economic importance to the manufacture and use of products from ADS industries. This includes (but not limited to) the use of scarce metals, Rare Earth Elements (REE), conflict metals, recycled materials, and other metals considered “critical”.

ADS Industry Position

ADS firmly believes that:

1. Increasing demands for materials and better understanding of the environmental impact of extraction, and geo-political responses to these demands, are all affecting the long-term stability of material supply.
2. Due to the high safety standards, performance demands, and long-life cycles of products from ADS industries, instability of material supply chains is a major concern.
3. To address this, organisations within the ADS industries need consistent, transparent, and accessible data on the factors affecting material supply, changes in demand, supply concentrations, environmental and social impact of extraction, and the availability of substitutes. With this information, organisations within the ADS industries will be better placed to evaluate the risks to business continuity and minimise the industries’ impacts to the 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. Additionally, the extraction and processing of metals and minerals is energy intensive and subsequently a large emitter of emissions, contributing to impact areas such as air pollution and climate change. There is also a social responsibility to sustainably extract and consume resources in a manner that meets society's material needs without causing irreversible environmental damage.

**Business relevance:**

As manufacturing companies centre on the transformation of raw materials into high value products for sale, it is important to understand “material risks” at the product-level to safeguard business continuity against hazards arising from competition for resources, price volatility, and potential interruptions in material supply. Being able to identify materials within the value chain that present significant risk to supply continuity is necessary for businesses to manage risk effectively.

Additionally, what makes a material critical is not just the lack of availability or the potential for disruptions to supply but the ability of a company to continue to provide products on an economical basis to fulfil functions enabled by that material. The ability of a company to replace a material in the event of a supply constraint, or to effectively out-compete other uses of the material by competing on price, also need to be factored in.

Consistent data that can be fed into criticality assessments will help businesses and the ADS industries to cost-effectively identify and manage exposure to such risks and demonstrate responsible resource management to other stakeholders.

**Legal and policy relevance:**

There is growing awareness and advocacy within the EU of transitioning towards a more resource efficient and low carbon economy. For example, through adopting circular economy principles, reducing consumption of natural resources, improving recyclability rates, securing strategic materials, reducing waste, etc. Additionally, there is growing legislation worldwide on procuring resources responsibly, such as the Dodd-Frank Act and proposed regulation within the EU, to name but a few. A consistent approach within the ADS industries towards collating data for evaluating “material risks” at the product-level 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.)