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| Project Title:                      | Optimizing performance of global mobility using Life Cycle Assessment & Technoeconomic Assessment |
| Lead Supervisor and co-supervisors: | Marcelle McManus, Steve Allen, Antoine Bouchard, Matthew Davidson                                 |
| Industrial Partner:                 | K2 Mobility   |

## Project Summary

K2 (<https://www.k2corporatemobility.com/>) are a global mobility company who want to increase their sustainability. Working with numerous global companies they are responsible for moving people, offices, and goods across the globe. This comes with environmental impact, and K2 and the University will work together through this PhD project to identify where the critical impacts are and work towards their reduction. However, this requires multi criteria optimization for customer acceptance, costs as well as greenhouse gases and other environmental impacts. Therefore this project will:

- use LCA and systems thinking to undertake an analysis of the processes and outline where key impacts occur within their processes. This will involve analyzing the impacts of several case studies/scenarios.
- Building on the areas identified, identify key areas for new processes/systems to improve sustainability as well as identifying potential trade offs
- Build scenarios to show which changes result in cost, GHG, wider impact reductions and increases – enabling choice over the multiple criteria.
- Create and develop robust methods and tools to embed sustainability within the company. This will include the development of optimization tools for determining in advance where key impacts will occur in any situation and help the company long term to reduce impact. This will be able to be more widely used in the transport and mobility sector.

It is envisaged that packaging will form a critical part of the PhD as it is clear that customers wish to see sustainable packaging used. Therefore, an understanding of materials will be required or developed as part of the PhD process

## Sustainability issues addressed

K2 (<https://www.k2corporatemobility.com/>) are a global moving company who want to fundamentally improve their sustainability. This project will focus on the sustainability of:

- Travel and transport
- Packaging

Optimization of processes over a wide range of criteria

## Eligibility criteria and selection process



Institute for  
Sustainability



UNIVERSITY OF  
**BATH**

**Application:**

Formal applications should be made via the University of Bath's online application form for a PhD in Mechanical Engineering. Please ensure that you state the full project title and lead supervisor name on the application form.

<http://www.bath.ac.uk/guides/how-to-apply-for-doctoral-study/>

We are looking for a student to start before March 2023.

**Funding Eligibility:**

This studentship is for 3.5 years' duration and includes Home tuition fees, a stipend (£17,668 per annum, 2022/23 rate) and a budget for research expenses and training.

Information may be found on our [fee status guidance webpage](#), on the [GOV.UK website](#) and on the [UKCISA website](#).