



ASPARi

Paving the way forward

Bachelor or Master project within the ASPARi research unit

Company and Location	The student will initially be based in the ASPARi research unit at the University of Twente
Type of project	B.Sc or M.Sc project possibilities depending upon needs and time available
Title of topic	Applying principles of circular economy to the infrastructure sector
Project background / context	<p>Sustainability has become a global concern these days in order to reduce the environmental, economic and social impact from the human activities. The infrastructure sector is an important economic engine with one of the largest users of raw materials and energy. Moreover, this sector stocks the emission from the energy consumed during the construction, operational phase until the demolition of the infrastructure. Therefore, it is important to quantify the environmental, economic and social performance of any infrastructure in order to observe the potential environmental impacts and their influence on sustainable development.</p> <p>The circular economy seems intuitively to be more sustainable than the current linear economic system or 'take, make, dispose'. The economic growth based on linear economy is increasingly hindered due to the huge demand of resources, in consequence the linear economic system entails significant limits and resource losses such as: resource loss as waste in production chain, resource loss as end-of-life waste, and resource loss as energy. Therefore, it is important that the resources are used as long as possible until the maximum value from them are extracted whiles in use and then the products and materials are recovered and regenerated at the end of their life cycle. To achieve this goal, the circular economy strategy and principles need to introduce/integrate in infrastructure sector.</p> <p>Project aim: to study the sustainability of infrastructure to minimize the environmental, economic and social impacts of future construction projects.</p>
Research method	The scope and research method(s) will be finalised with the supervisors given below.
Contact(s) at the company / UT	At the UT – Silu Bhochhibhoya s.bhochhibhoya@utwente.nl and Joao Oliveira dos Santos j.m.oliveiradosantos@utwente.nl
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