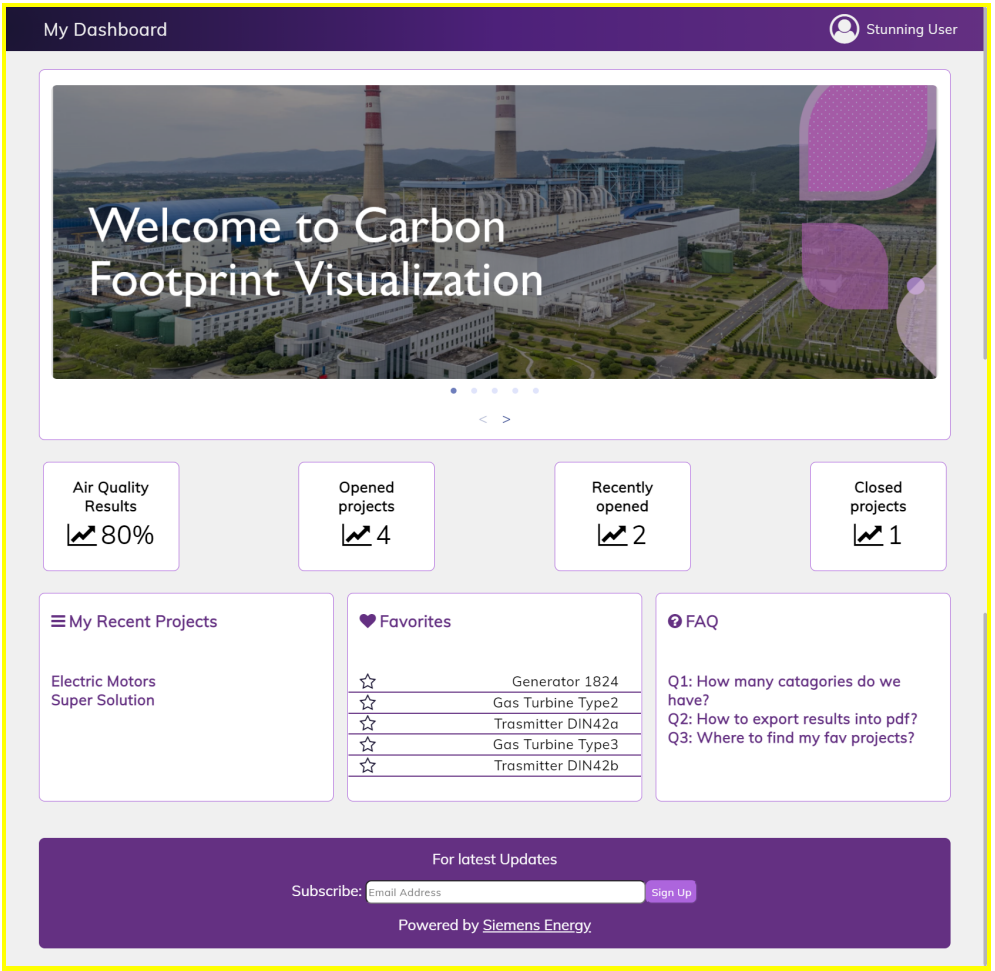
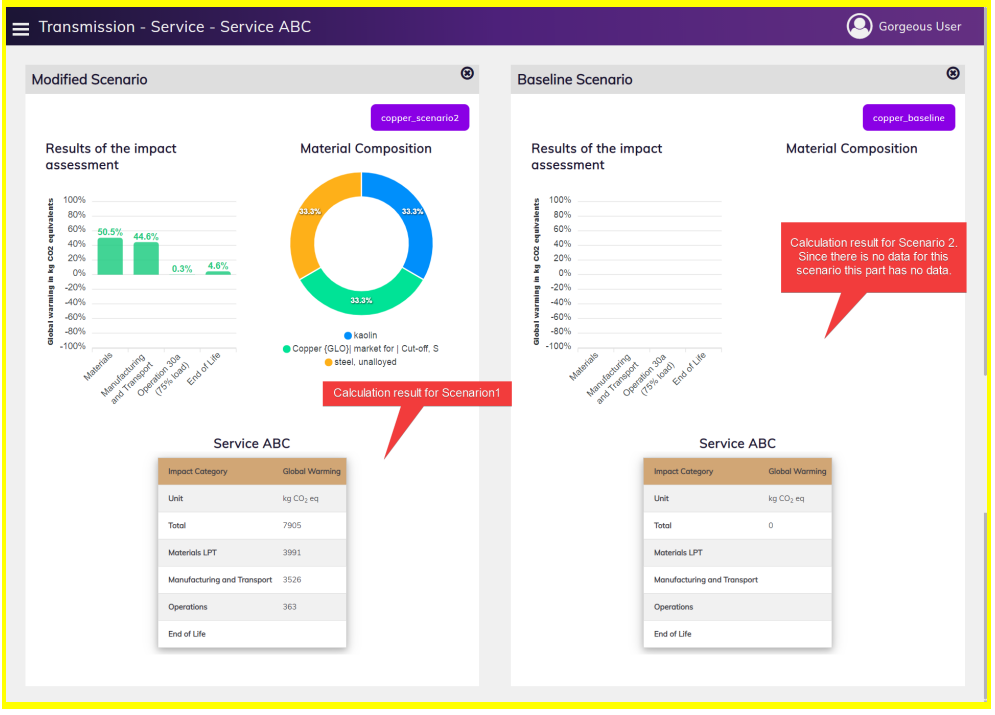
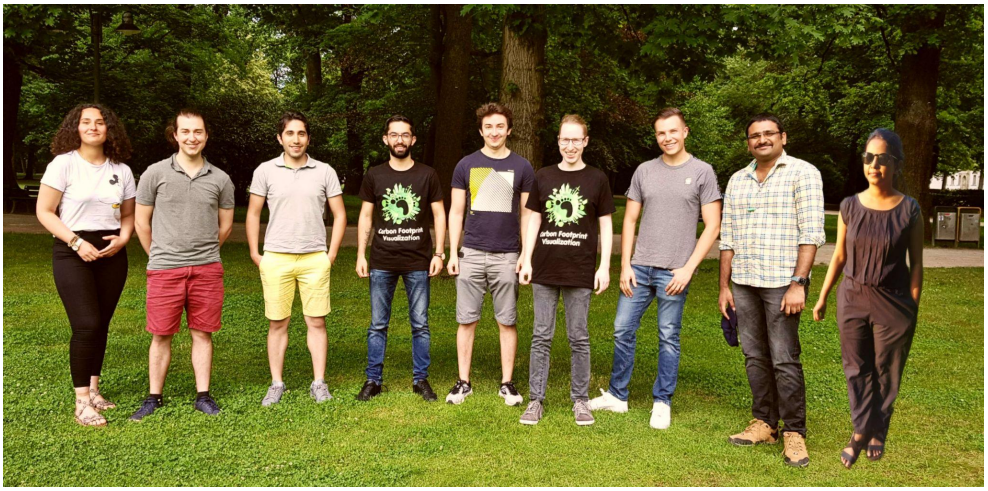
AMOS SS21 Project 8 Carbon Footprint Visualization

Project name	Carbon Footprint Visualization
Project mission	We pursue ambitious goals with regard to resource efficiency and environmental protection, and hence create long-term value by treating people and the environment in a responsible manner. The main objective of our environmental work is to prevent pollution and continually reduce the environmental impact of our activities in order to protect the environment for future generations. To meet these objectives, we will maintain and further develop a culture in which reducing the environmental impact over each product's life cycle is an integral part of our daily work practices.
Industry partner	Siemens Energy
Team logo	
Project summary	A carbon footprint is the total amount of greenhouse gases that are generated by the actions of human beings such as deforestation or consumption of fossil fuels. For instance, burning fossil fuels while driving our cars and the use of other kinds of energies in our daily lives adversely affect our ecological life which induces climate change. The release of these naturally produced gases, such as the amount of carbon dioxide (CO2) produced through the burning of fossil fuels, are released into the atmosphere, a greenhouse effect is created which leads to the warming of the Earth. This greenhouse effect has been a big challenge for human beings for decades especially in the industrial sectors but its overwhelming adverse effects on our world has become even more challenging in the past couple of years. Global warming is an overarching problem, which should be treated seriously by the industry even though it can be costly for the sake of our cleaner and safer future. Therefore, the purpose of this project is to furnish support to our customers by providing a comprehensive architectural overview of the Carbon Footprint Visualization tool for them to visualize their solutions themselves to help them to speed up their business while meeting global challenges such as urbanization, demographic change, climate change, and resource scarcity.
Project illustration	Implemented most of the features as per the Industrial Partner requirement. The client side of the application is written in JavaScript with React framework. The

server side of the application which relays the requests from Client to the API is written in C# with the .NetCore 5.0 framework. The requests are relayed to the API which returns the calculation data for a project for a specific scenario. Each product has different scenarios which can be chosen from the details page of the product. The results of different scenarios can be compared with results of another scenario as shown in the screenshots below:





Team photo	
Project repository	https://github.com/amosproj/amos2021ss08-carbon-footprint
Additional information	The user request management is not implemented as we cannot access the internal data of Siemens energy. The feature was dropped after a brief discussion with Industry Partner.