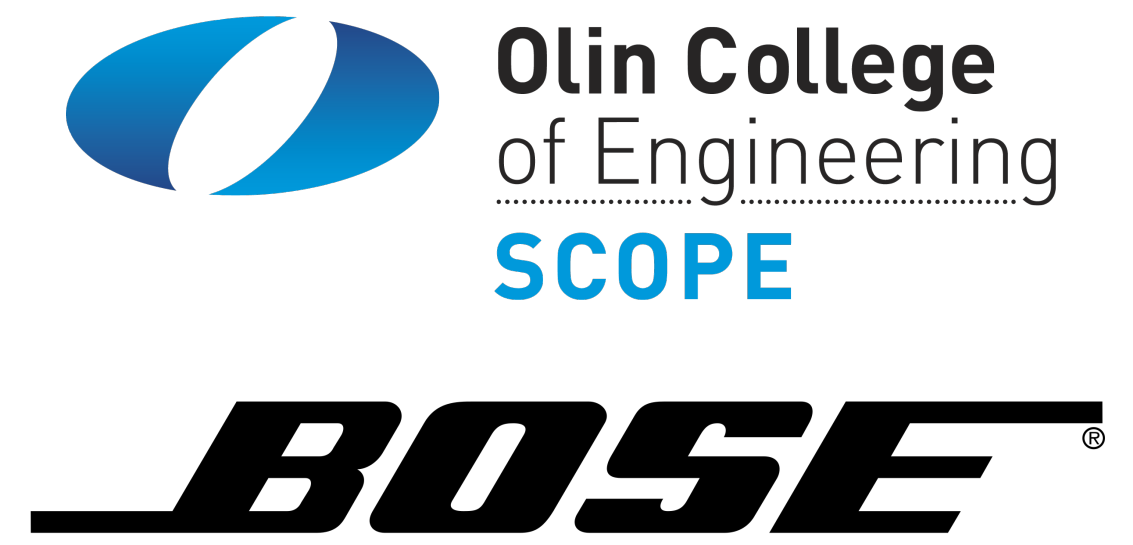


CIRCULARITY AND REPAIRABILITY OF BOSE PRODUCTS



For nearly 60 years, the Bose brand has been synonymous with great sound. As the world moves farther and faster toward embracing environmental, social, and corporate governance (ESG), Bose is committed to supporting that shift through advances in efficiency and repairability. The 2022-23 Bose SCOPE team is working with Bose to infuse sustainability and product circularity across its global business operations.

● EU Regulations

The EU has begun a new legislation movement, the **Right to Repair**, to move towards a greener environment by setting requirements for easy disassembly and replacement of key components for various IT products, including smartphones, laptops, and headphones.

Goal: Reduce needless e-waste by prioritizing repair over whole product replacement

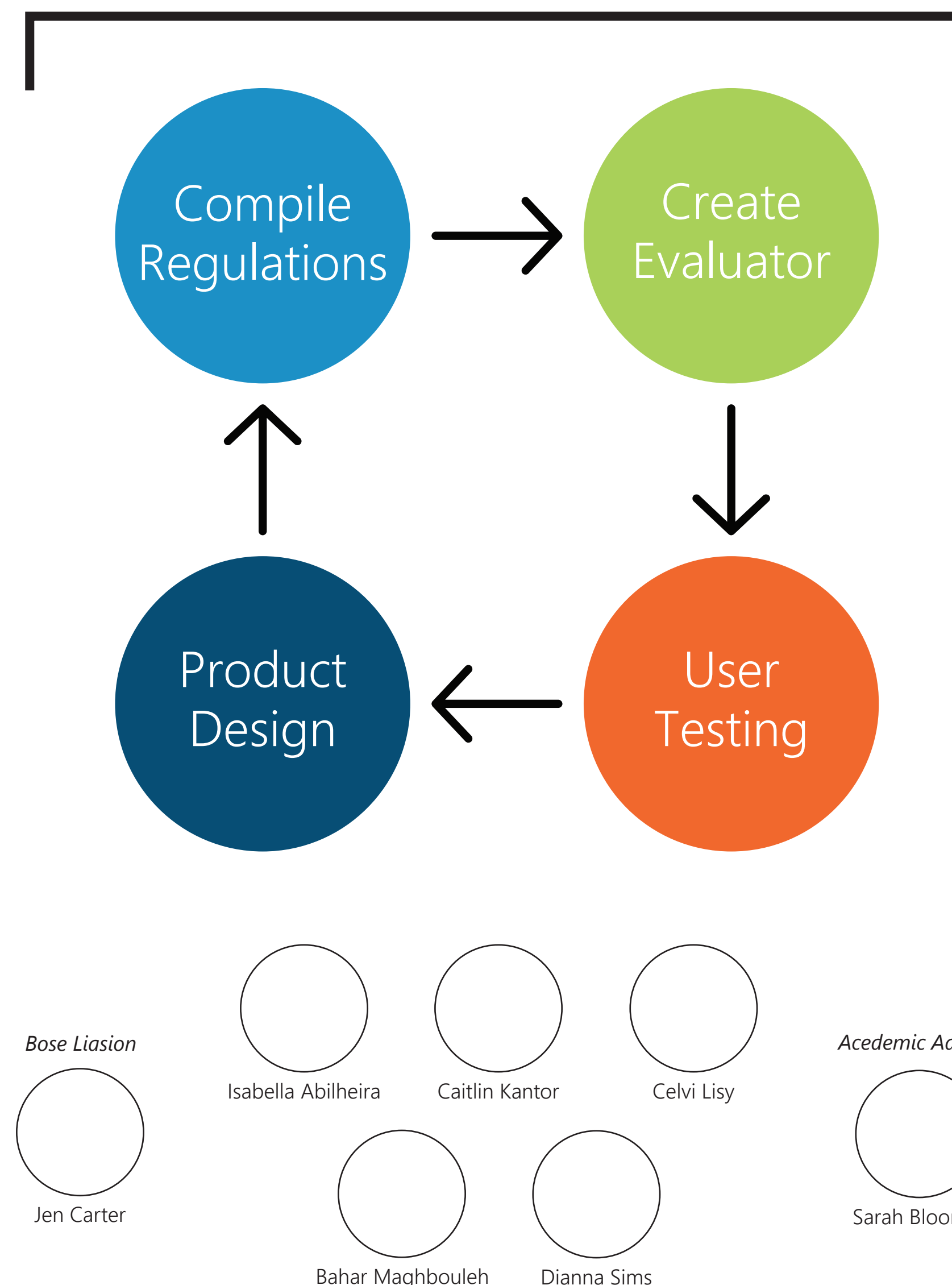
● Product Design

The TREE is for use in the early architecture and design phases, while the engineers have the time and flexibility to try a variety of designs and test and validate them.

Benefits of Repairable Designs:

- Remain competitive
- Consumers in the EU will likely buy greener products (if functionally identical)
- Upcoming EU regulations - require repairability
- Being compliant to regulations

Our Process



● Repairability Evaluator

The **Technology Repairability Evaluator for Engineering (TREE)** is an internal evaluator tool that will help the Bose engineers to evaluate repairability of their different design options in the early architecture stages of their wearable electronics.

The TREE criteria focuses on key product components that are:

- Functionally important
- Likely to fail or to be upgraded

The TREE provides an EU repairability score estimate

Includes Pass/Fail metric to highlight score irreparability (and therefore area of focus!)

The TREE allows for ease of comparison to other designs

- Internally – Bose design alternatives
- Externally – Bose competitors

● User Testing

The TREE was prototyped and tested with the Bose engineers in order to make the evaluator clear and user friendly. A User Guide is also included that will have more detailed background information and resources for when the evaluator gets passed off.