

Airbus Sustainability Dashboard

AeroXplorers: Proposed Solution

Manufacturer

- Recycling Facility Search
- Collaboration Tools
- Recycling Progress Tracking
- Sustainable Knowledge Base
- Feedback and Rating

Customer (airline)

- Aircraft/Part Submission
- Recycling Request Tracking
- Recycling Guidelines
- Analytics and Reporting
- Component swap from manufacturer

Recycling Facility

- Request Management
- Inventory Management
- Reporting and Analytics
- Communication
- Compliance and Certification Tracking

Additional features

- Data Analytics and Insights
- Carbon Footprint Calculation
- Recommendation Engine
- Waste Management and Tracking
- Resource Optimization
- Collaboration and Knowledge Sharing
- Real-time Monitoring and Alerts



Manufacturer

Planned features for the manufacturer end for understanding recyclability of products and sustainability goals

■ Inventory Management

■ Production Data

■ Business Analysis

■ Sustainability Analysis

■ Recycling Facility Search

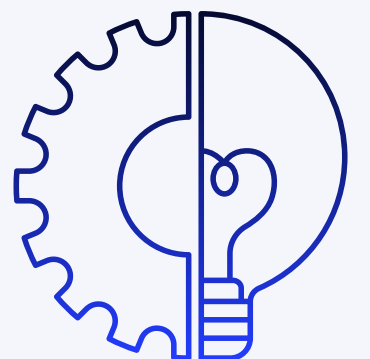
■ Recycling Potential Analysis

■ Recycling Progress Tracking

■ Environmental Impact Reporting

■ Sustainable Knowledge Base

■ Feedback and Rating





Customers (airline)

Planned features for the customer end for understanding recyclability of products and sustainability goals

- Parts Tracking
- Procurement of spares/repurposed parts
- Recycling Facility Search
- Sustainability Dashboard
- Maintenance Scheduling
- Recycling Participation
- Sustainable Knowledge Base
- Recycling Guidelines



Login

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Designed frontend



WING

\$4.99

Description!

Quantity:

Add to Cart



WING

\$4.99

description!

Quantity:

Add to Cart



WING

\$4.99

Description!

Quantity:

Add to Cart



WING

\$4.99

description!

Quantity:

Add to Cart

AIRPLANES

INDIGO 6E-404

InterGlobe Aviation Limited, doing business as IndiGo, is an Indian low-cost airline headquartered in Gurgaon, Haryana, India. It is the largest airline in India by passengers carried and fleet size, with a ~54.6% domestic market share as of February 2023.

Color

☒ ☐ ☐

Cable configuration

Straight

Coiled

Long-coiled

How to configure your headphones

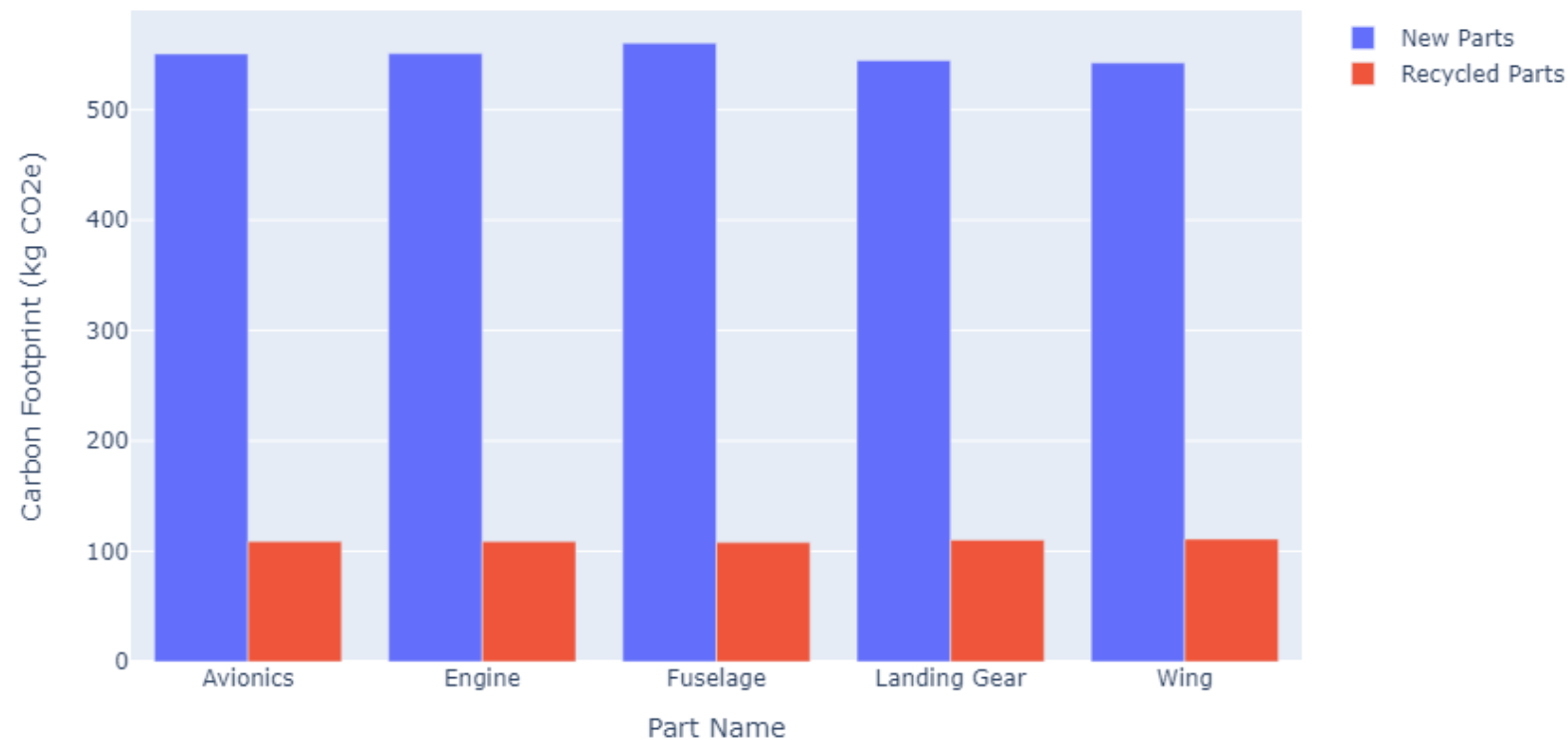
148\$

Add to cart

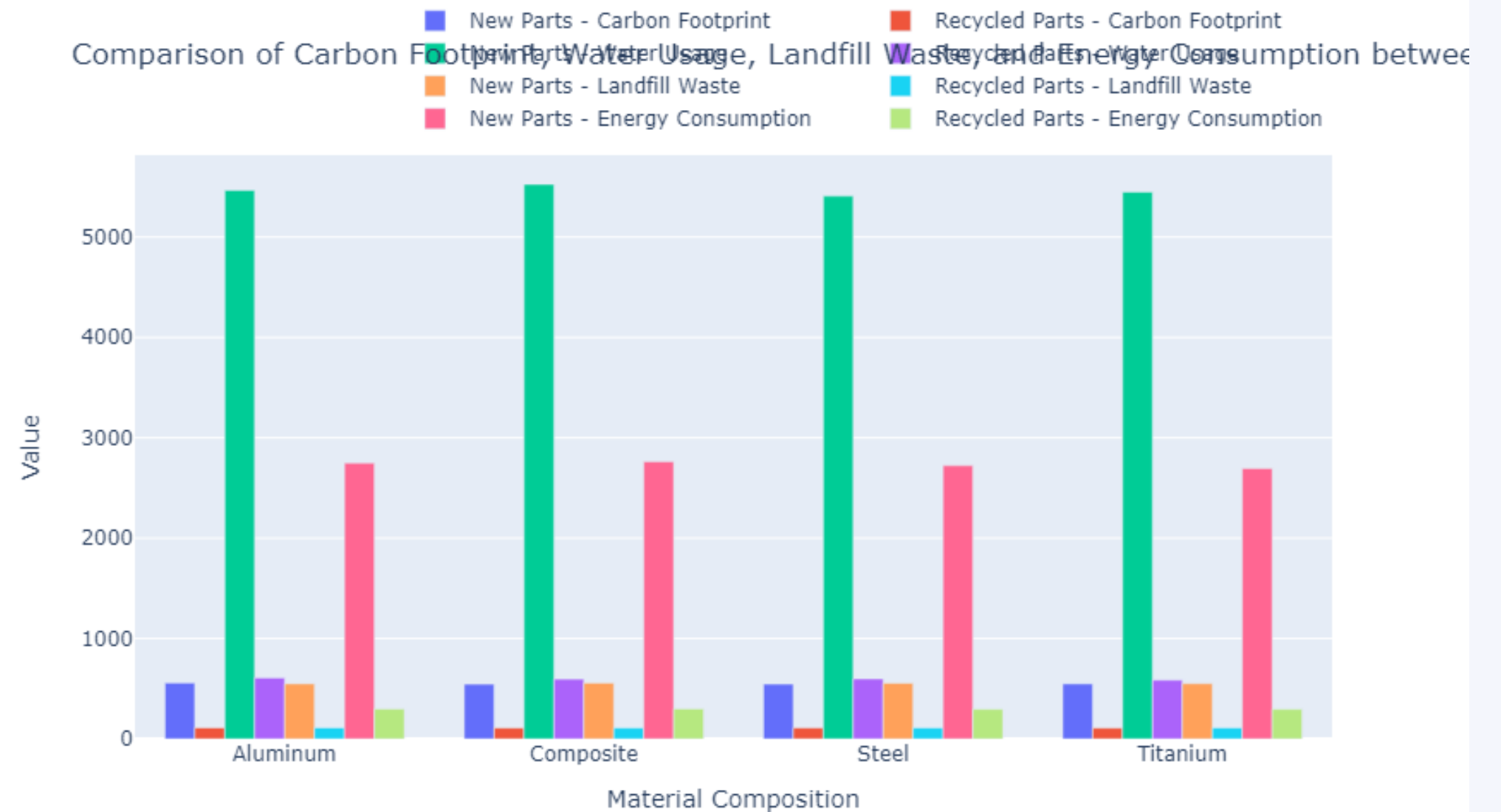


Key analysis

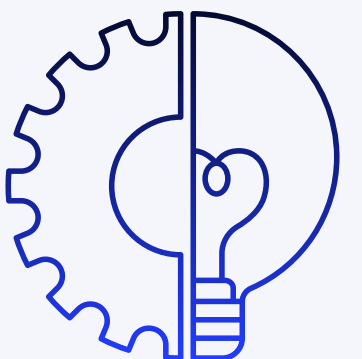
Comparison of Carbon Footprint between New and Recycled Parts



Comparison of Carbon Footprint, Water Usage, Landfill Waste, and Energy Consumption between New and Recycled Parts by Material Composition

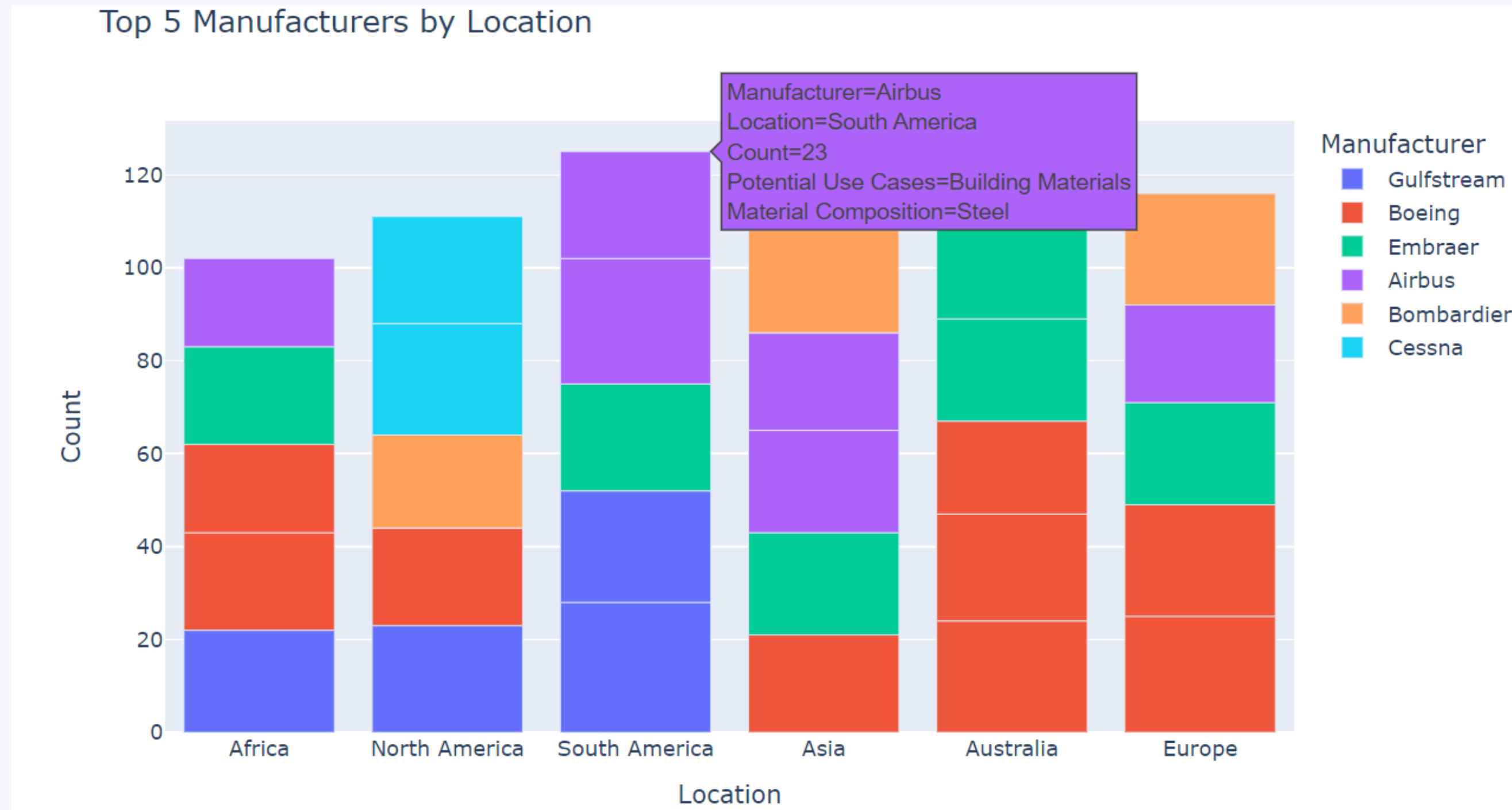


Recycled parts leave a smaller net carbon footprint, consume less net energy, water - steps towards BETTER sustainability





Key analysis

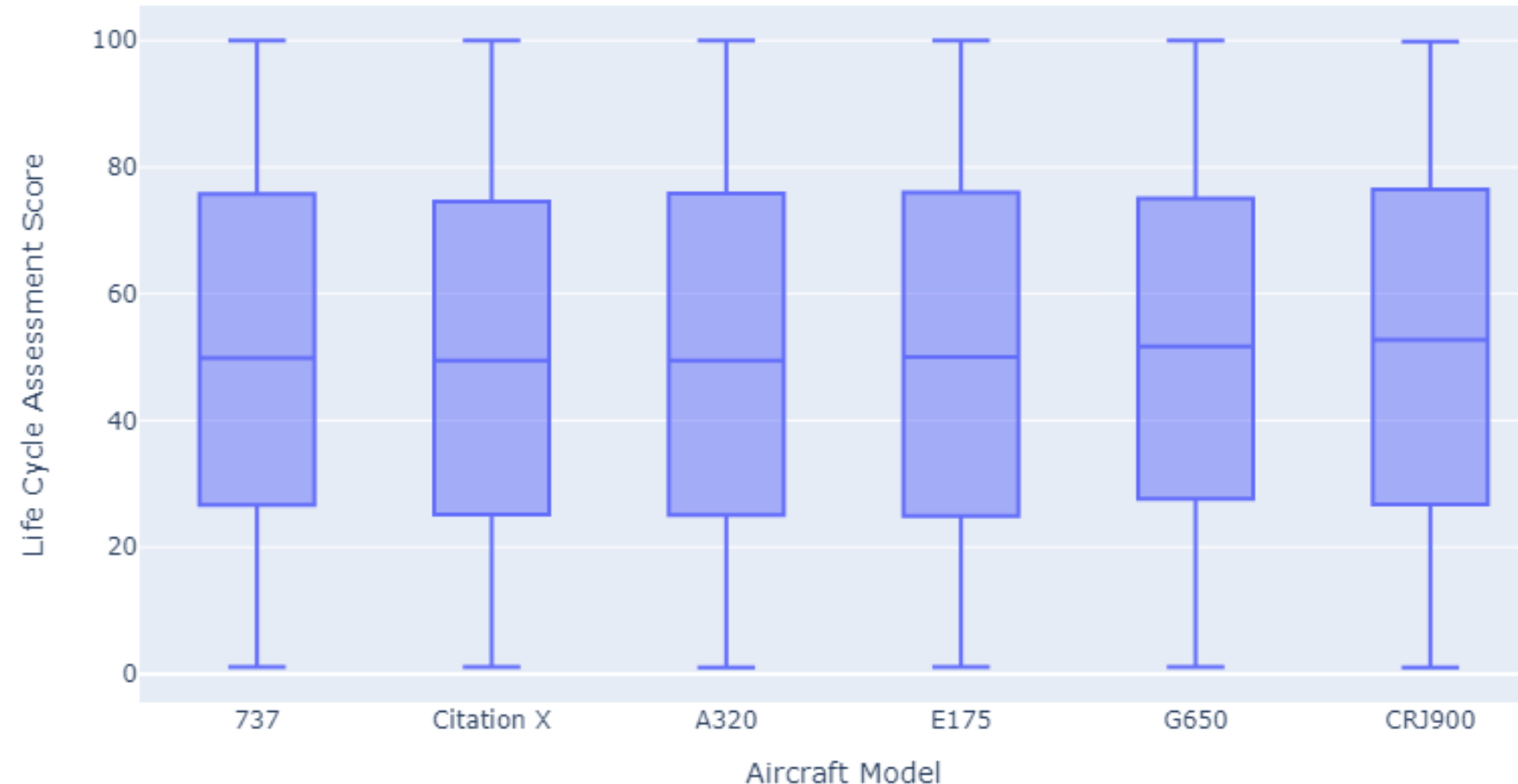


Helps us understand at which location which of the manufacturers and corresponding parts can be procured efficiently: eg. In S.America, Airbus has 23 potential recyclable steel parts that can be used for 'Building materials'. Will help in location wise sustainability.



Key analysis

Comparison of Life Cycle Assessment Scores by Aircraft Model



- Helps us understand the components on which aircraft sustain longer and are more recyclable
- 50% of all aircraft models lie between 23 to 77, there are no outliers
- Plan to build ML models to predict life cycle assessment scores - insights for sustainability, when parts have to be recycled

Future Roadmap

Phase 1

- API integration: connecting backend to front end, include endpoints for managing users, parts, transactions, and metrics.
- Universal authentication and encryption
- Machine learning models to predict end-of-lifecycle, recycling benefits, recommendation systems
- Sustainability and business analysis dashboards

Phase 2

- Deployment: containerized using Docker and orchestrated using Kubernetes, deployed on Cloud
- Database: PostgreSQL or MongoDB for dealing with large volumes of data
- Caching and indexing, improve data retrieval performance.
- Data Partitioning

Phase 3

- Dealing with large volume of live data received at frequent time intervals, data streaming
- Dealing with network interaction and size of data
- Testing and maintenance