# Business Model Canvas

Created by **ASSS TEAM**

Designed via AltexSoft BMC Tool

## Key Partnerships

- **IoT Hardware Manufacturers:** Suppliers of high-quality sensors (e.g., accelerometers, strain gauges) and edge devices for data collection.
- **Cloud Providers:** Partnerships with providers like AWS, Azure, or Google Cloud for data storage and real-time processing.
- **Civil Engineering Consultants**: Firms or experts that provide insights into interpreting data and actionable maintenance recommendations.
- **Government and Regulatory Bodies**: Ensures that the system complies with safety regulations and standards.
- **Data Analytics Firms:** Partnering with analytics firms for advanced predictive models and ongoing algorithm improvement

## Key Activities

- **System Installation and Deployment:** Initial setup of sensors and edge devices across the metro rail network's structural components.
- **Data Collection and Aggregation:** Continuous data gathering from sensors and edge devices across multiple metro locations.
- **Data Analysis with AI/ML:** Use of machine learning algorithms to analyze data, detect patterns, and identify anomalies or emerging issues.

## Key Resources

- **IoT Sensors and Edge Devices:** Physical infrastructure for data collection, including vibration, strain, temperature, and displacement sensors.
- **Cloud Infrastructure:** High-performance cloud storage, processing, and analytics services for managing and analyzing large data volumes.
- **Data Science and Engineering Teams:** Experts in AI/ML and structural engineering to analyze data, improve algorithms, and generate meaningful insights.

## Value Propositions

- **Enhanced Safety and Reliability:** Increases passenger safety by proactively identifying structural risks.
- **Cost-Effective Maintenance:** Reduces maintenance costs by predicting failures and allowing preventive maintenance.
- **Operational Continuity:** Minimizes service interruptions by providing timely alerts and maintenance insights.
- **User-Friendly Monitoring:** Intuitive dashboard allows users to quickly understand the health of various structural elements in real-time.
- **Customizable Alerts and Reports:** Ability to customize thresholds for alerts and generate reports tailored to operational needs.

## Customer Relationships

- **Dedicated Account Managers:** A single point of contact for metro authorities to handle any queries or system updates.
- **Customizable Training Programs:** Personalized training for metro staff on using the dashboard, interpreting data, and responding to alerts.
- **Continuous Feedback Loops:** Regular feedback collection from users to improve the system based on real- world usage and requirements.

## Channels

- **Mobile and Web Applications:** Real-time monitoring and alerts via mobile and desktop platforms for easy access.
- **Direct Sales and Onboarding:** Sales team and onboarding sessions for metro rail operators and authorities to ensure effective system integration.
- **Email and SMS Alerts:** Automated notification system for alerts on critical issues to maintenance and engineering teams.

## Customer Segments

- **Metro Rail Operators and Authorities:** Primary customers who rely on structural health monitoring for safe and reliable operations.
- **Maintenance and Engineering Teams:** Direct users of the dashboard who plan and execute maintenance based on system insights.
- **Government and Safety Regulators:** Entities concerned with public safety and infrastructure stability, potentially interested in reports and compliance information.
- **Insurance Companies:** Interested in risk assessment and mitigation data to adjust premiums and coverage based on system reliability.

## Cost Structure

- **Initial Equipment and Installation Costs:** Costs associated with procuring and installing sensors, edge devices, and other physical components.
- **Cloud Services and Data Storage:** Ongoing expenses for cloud infrastructure, data Software
- **Development and Maintenance:** Regular updates to the dashboard, mobile applications, and analytics algorithms.
- **Research and Development:** Investment in improving AI/ML algorithms, system features, and expanding capabilities based on customer needs. Costs for providing continuous support, training programs, and customer service resources.

## Revenue Streams

- **Subscription Fees:** Monthly or annual subscription plans for access to the SHM system and dashboard.
- **Installation and Setup Fees:** One-time setup charges for installing the sensors and configuring the system on site.
- **Predictive Analytics Services:** Premium fees for more advanced predictive analysis and tailored reports for risk management.
- **COUSTAMIZED REPORTING:** Additional charges for customized, detailed reports needed by regulators or specific business needs.
- **Extended Support Packages:** Premium support options for extended customer service hours or dedicated support personnel.