



Transportation & Logistics Technology

Safehur IoT-AI Platform: Eliminating disruptions in road transportation chains

Nov 2019

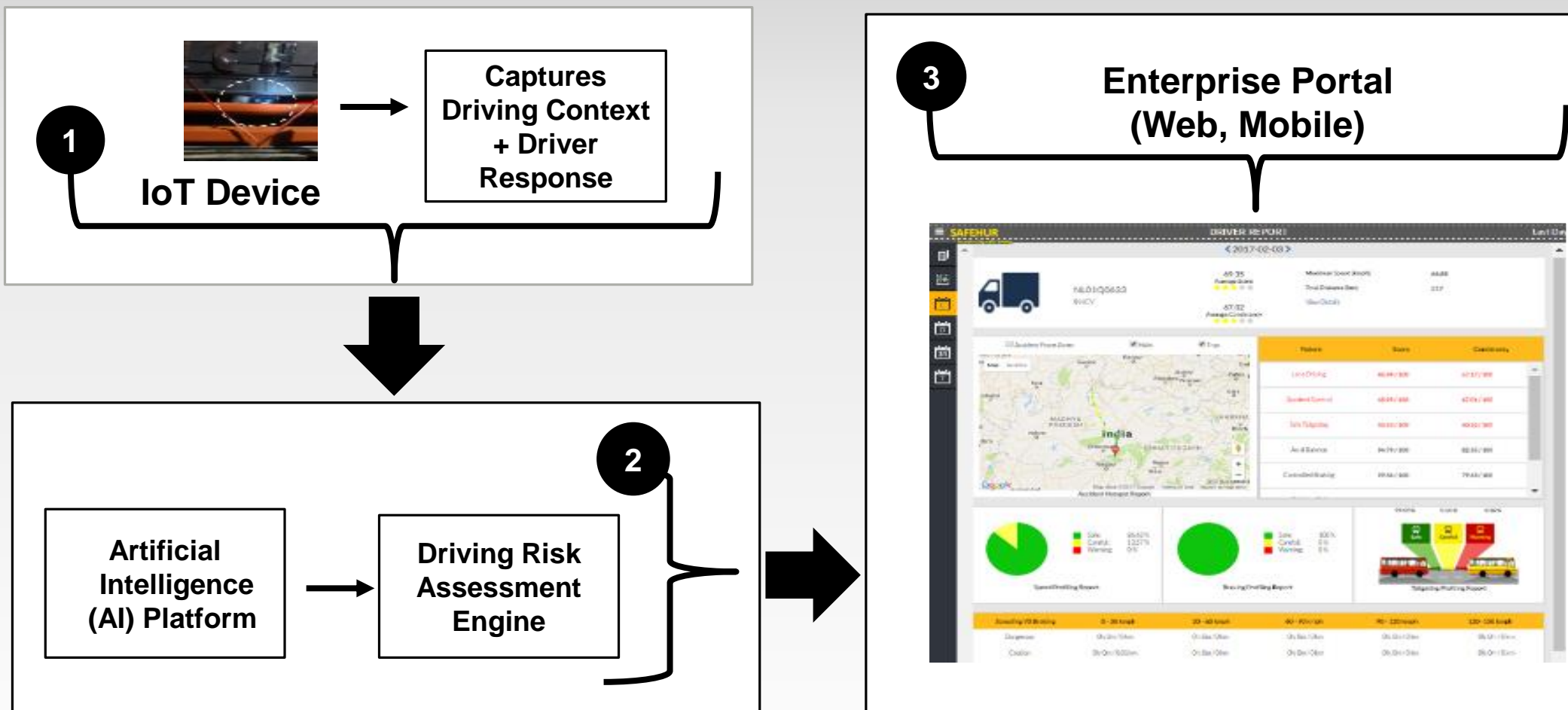
Presenter:
Birendra Bisht
Founder & CEO



Safehur → Technology Architecture

IOT-AI ENTERPRISE PORTAL FRAMEWORK

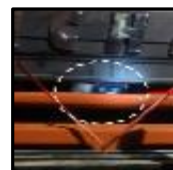
Safehur Driving Risk Profiles are generated through our unique Safehur IoT - AI Tech. Platform



Safehur IoT Device: Live data acquisition of driving risk data



Safehur IOT Device



Vehicle Installation

**Data → Driving Context +
Driver Response**

A Sensor Configuration

- Distance Ranging
- 3-axis Accelerometer
- 3-axis Gyroscope
- E-Compass Sensor
- GPS Sensor
- Thermometer

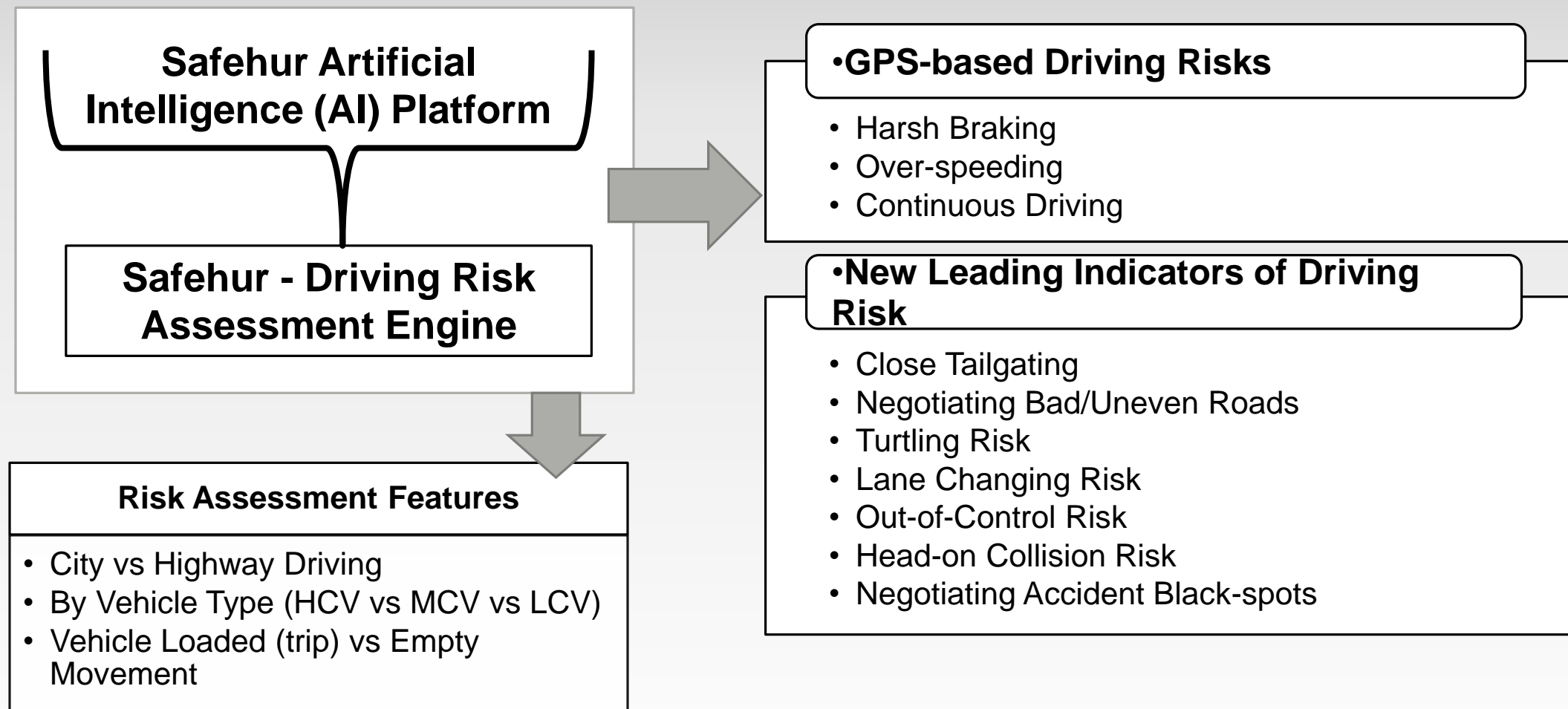
B Features

- GSM: data transfer from device to backend AI engine
- Split-second data capture → every 200 millisecond
- Live alerting via Buzzer module → Real-time driver alerts on three (3) risk patterns

C Firmware

- User-defined Driving Risk norms
- Real-time Computation of key Driving Risk patterns

Safehur AI Platform: Processes real-time data for continuous driving risk profiling





Safehur → Leading Indicators of Driving Risk

A BRIEF DESCRIPTION

Safehur → Leading Indicators of Driving Risk...1

Safehur assesses Driver Risk Performance across 9 Leading Indicators of Driving Risk, real-time, as a function of multiple driving parameters.

<p>Close Tailgating</p>	<p>Safehur measures this dynamic driving risk from the emerging relationship between “Distance from the Front Vehicle” (Collision Distance) and “Vehicle Speed”. It measures the “Time to Collide”.</p>
<p>Negotiating Uneven Roads</p>	<p>Safehur measures this dynamic driving risk from the emerging relationship between “Road Gradient” (Angle) and “Vehicle Speed”, when the driver drives at higher speeds on uneven roads, and uphill/down-hill/gradient roads</p>
<p>Negotiating Sharp Turns</p>	<p>Safehur measures this dynamic driving risk from the emerging relationship between Turbulent Roads/ Sharp Curves/Highly Banked Roads” and “Vehicle Speed”</p>

Safehur → Leading Indicators of Driving Risk...2

Over-speeding	Safehur measures this dynamic driving risk as a function of “Over-speeding” and “duration of Over-speeding” compared to the Speed Limit.
Harsh Braking	Safehur measures this dynamic driving risk as a function of “Braking Intensity” and “Vehicle Speed”.
Harsh Acceleration	Safehur measures this dynamic driving risk as a function of “Vehicle Acceleration” and “Vehicle Speed”.
Lane Changing	Safehur measures this dynamic driving risk from the emerging relationship between changes in “Steering Angle” and “Vehicle Speed”.

Safehur → Leading Indicators of Driving Risk...3

a.Out-of-Control

This is a composite metric that assesses the dynamic driving risk from the relationship between Close Tailgating, Axial Balance and Gradient Control of the vehicle arising from Driver's maneuvers.

Safehur computes this risk as a function of at least two of the three defined risk patterns that exceed prescribed safety limits.

a.Head-on Collision

A composite metric that assesses the dynamic driving risk from the relationship between Close Tailgating and High Braking Intensity.

Safehur computes this risk as a function of the two risk patterns.

Negotiating Accident Black- spots

Safehur has mapped and geo-fenced the Accident Black-spots in Delhi.

Safehur tracks and measures all Driving Risk patterns of a driver in each Black Spot and aggregates its into a single Driving Risk Score.