

LIVEROADTM

ANALYTICS

Meteorological Technology

*Next-Generation Weather Solutions for
Transportation, Energy, and Agriculture*

THE FUTURE OF WEATHER ANALYTICS

- Weather is a very traditional Industry going through a transformation. Traditional weather solutions are constrained by limited reporting stations, limited model resolutions, and limited update cycles.
- Transportation, Energy, and Agriculture are heavily impacted by weather. These 3 industries account for over \$1.1T of Q1 2020 US GDP – weather accounts for 6% GDP variability.
- The growth of technology and IoT across these 3 industries is creating data rich environments that are not being taken advantage of by traditional weather solutions because the data is often siloed.

There Is A Need For Improved Weather Analysis

MetTECH – NEXT GENERATION WEATHER DATA



MetTech = Meteorological Technology

The combination of meteorology, IoT, and data science.

LiveRoad is a TECHNOLOGY SOLUTION, not only a weather data provider. We generate weather forecasts and risk analysis based on best of class input data (either sourced regionally or generated internally) combined with ground truth and risk analysis from IoT sensors.

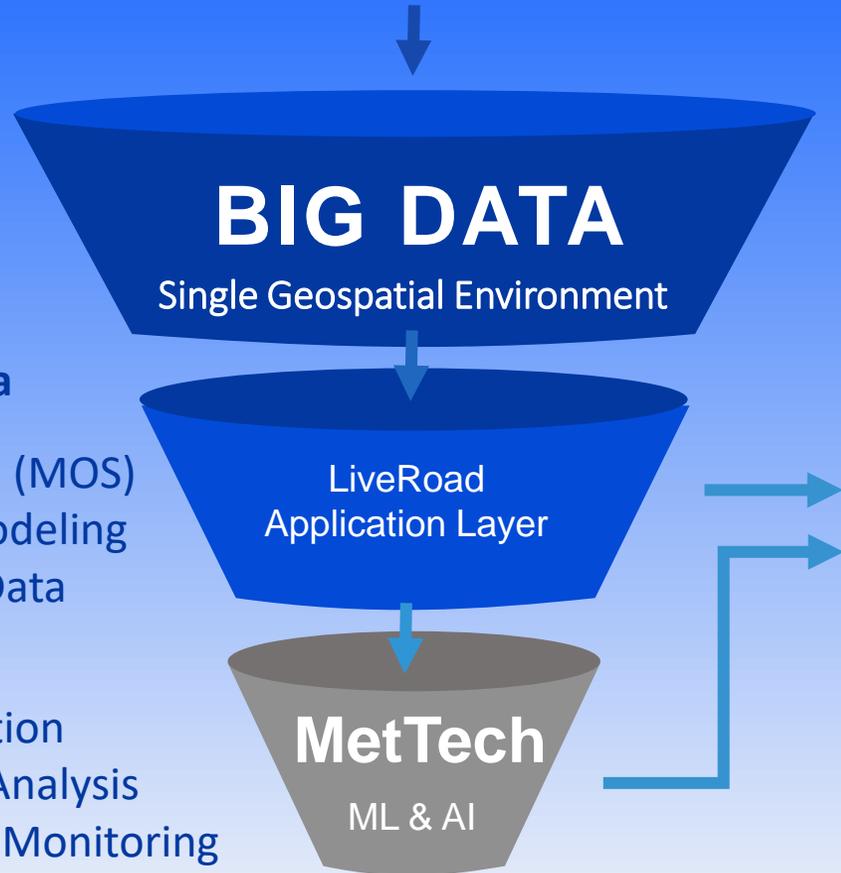
LiveRoad Analytics brings a new approach to meteorological solutions across major established industries. Solutions support fleet management, AV/ADAS, outage management, transmission and distribution, crop management, predictive modeling.

THE TECHNOLOGY

LiveRoad Geospatial Analytics Platform

An Innovative Meteorological Technology Solution Bringing Data into a Single Environment

- Customer Data
- LiveRoad Sensors
- Raw Government Models
- GIS and Topographical Data
- **IoT & Connected Vehicle Data**
- Statistical Model Correction (MOS)
- Custom High-Resolution Modeling
- High-Resolution Historical Data Generation
- Data Analysis Integration
- Weather Regression Analysis
- Fixed & Mobile Asset Monitoring
- Predictive & Prescriptive Modeling



LIVESIGN™ API & Display

Data Feeds, Alerts, Reports,
and Web Portals Supporting:

High Resolution Forecasts

Weather Impact Analysis

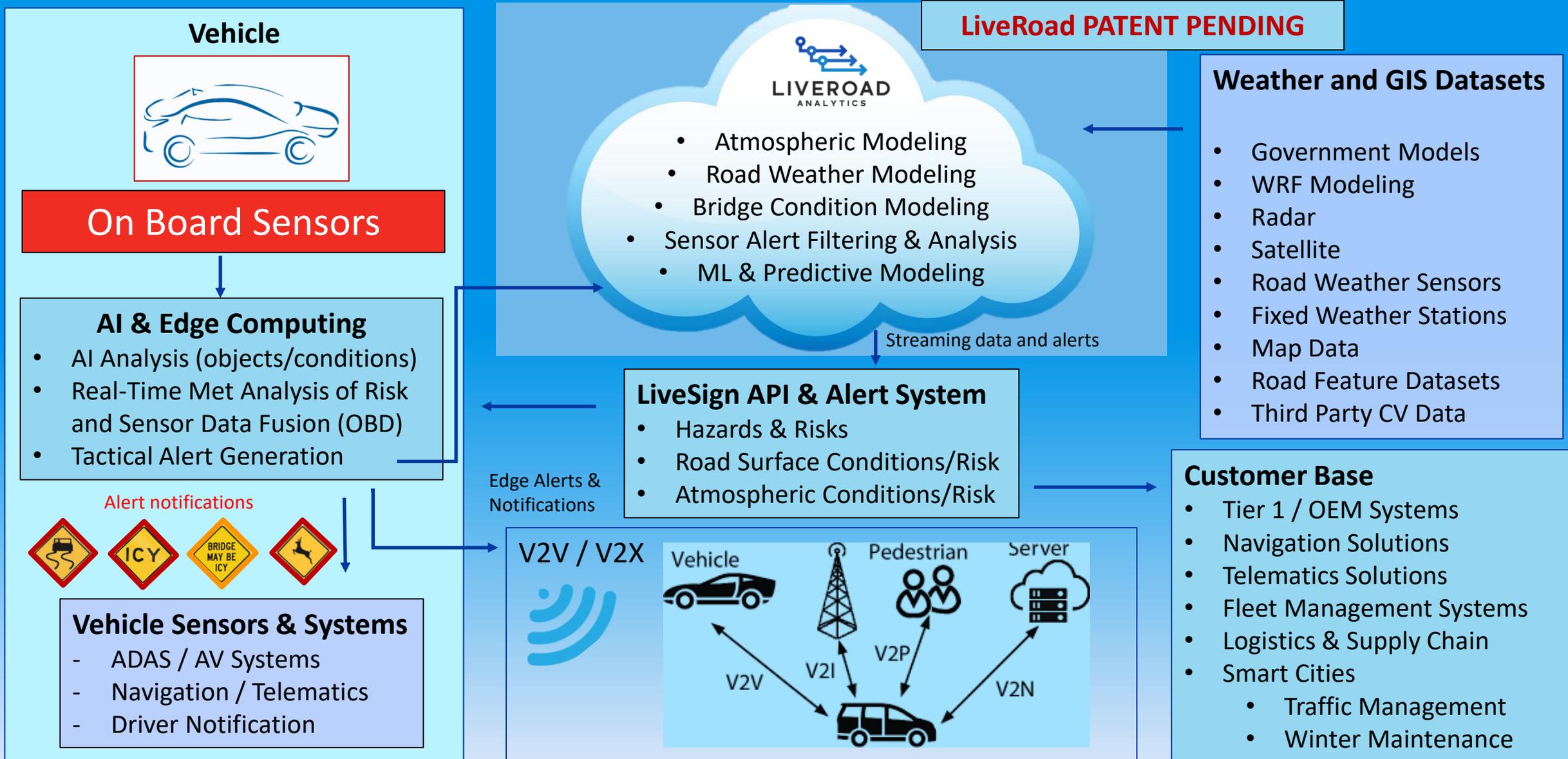
Improved Road Weather Forecasting

Weather Hazard & Risk Profiling

Location Safety Monitoring

Predictive & Prescriptive Models

AIoT & DATA FLOW WITH EDGE COMPUTING



SAMPLE TRANSPORTATION INTEGRATION

LiveRoad keeps vehicles moving, operators safe and deliveries on time.



Real-Time Road & Weather Information

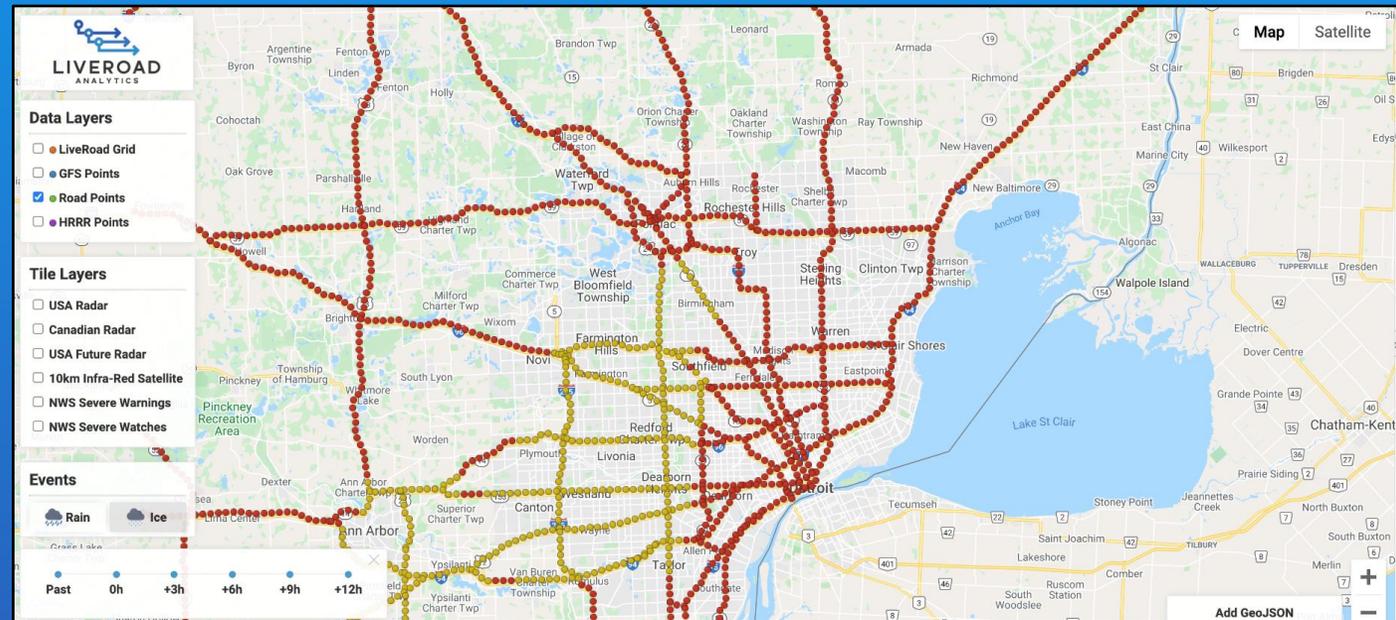
Road Surface State
Surface Temperature
Cross Winds
Wind Gusts
Reduced Visibility
Precipitation Type
Wind Speed
Wind Direction
Solar Radiation



Hazard Notification

Route/Lane Monitoring
AV ODD Monitoring
Severe Weather Event
Black Ice & Surface State
Reduced Visibility
Hydroplaning Risk
Wind Rollover Risk

*Strong Cross Winds
Too Fast for Conditions
Increased Risk Factor
Event Notification*



ENERGY USE CASES

- Improved Impact Analysis for Outage Management
- Improved Generation and Demand Prediction
- Improved Personnel Safety

MetTech Differentiators:

- High resolution historical data for past storm analysis
- High resolution forecast data
- Integration of vehicle data for improved forecasting

AGRICULTURE USE CASE: IMPROVED FORECASTING

- Improved Forecasting Through IoT Integration
- Improved Predictive Yield Modeling
- Improved Hazard Prediction – Weather, Pest, Mold

Potential Data Sources

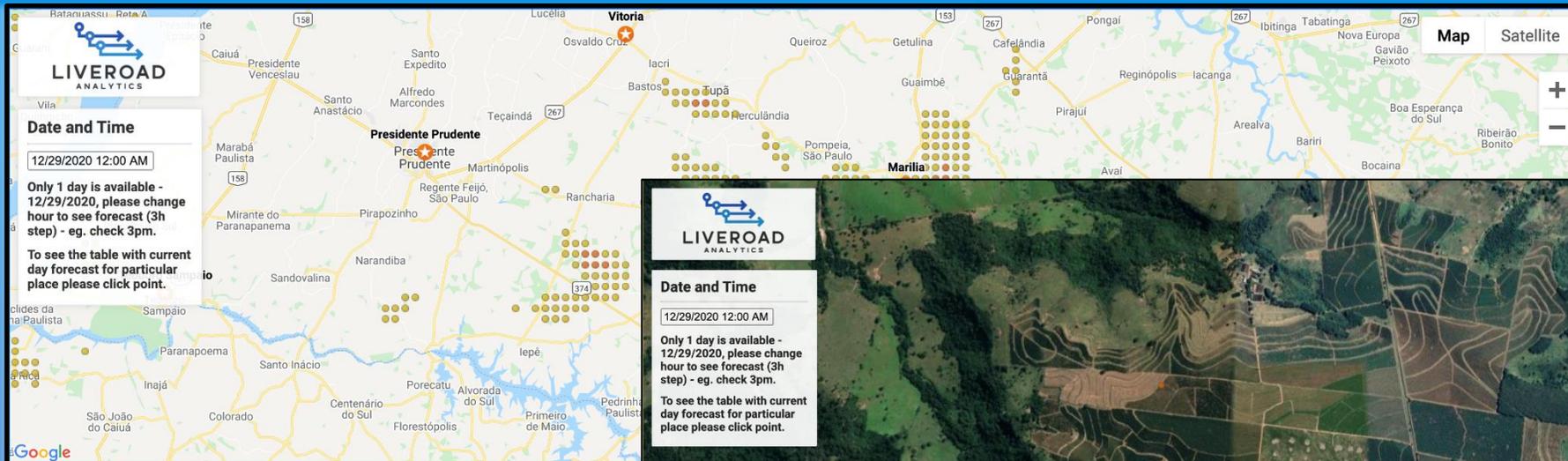
- Agricultural and Farm Vehicles
- Customer Weather Stations
- Wide Range of IoT Sensors

Deliverables

- Field Level Forecasting
- Model Statistics Correction
- Historical Data Generation



CUSTOM DOMAIN PORTAL FOR AG - BRAZIL



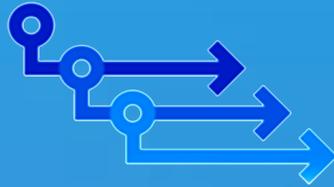
PRECIPITATION						
Wednesday, 2nd December, 2020						
LOCATION	Daily Total	00 - 06	0600-1200	1200-1800	1800-2400	Daily
Presidente Prudente	32mm	2mm	5mm	10mm	15mm	32
Panorama	7mm	0mm	0mm	2mm	5mm	7
Aracatuba	4mm	3mm	1mm	0mm	0mm	4
Marília	4mm	3mm	1mm	0mm	0mm	4
Nova Esperanca	32mm	10mm	15mm	2mm	5mm	32
Maringa	7mm	0mm	0mm	2mm	5mm	7
Londrina	4mm	0mm	1mm	3mm	0mm	4
Ourinhos	4mm	3mm	1mm	0mm	0mm	4
Assis	32mm	15mm	10mm	5mm	5mm	32
Vitoria	7mm	0mm	0mm	2mm	5mm	7
Teodoro Sampaio	4mm	3mm	1mm	0mm	0mm	4
Cocal	32mm	10mm	15mm	2mm	5mm	32
Narandiba	32mm	10mm	15mm	2mm	5mm	32

City	Observed	GFS Model		WRF Model		Soil Moisture 0-10cm	Surface pressure [mb] Min	[mb] Tendency 00-06	[mb] Tendency 06 - 12	[mb] Tendency 12 - 18	[mb] Tendency 18 - 24	10m wind [m/s]	Visibility Min [km]	Visibility Max [km]	Min 2m Temp [C]	Max 2m Temp [C]	Comment			
		GFS Daily Preci Totalp	Precip POP	WRF Daily Precip Total	00 - 06													0600-1200	1200-1800	1800-2400
12/2/2020	12/3/2020	-	9mm	10%	32mm	2mm	5mm	10mm	15mm	1010-1012	0.4	-1.9	-3.9	3.7	2-5, variable	3 to 4	over 10	24-26	35-37	Afternoon thunderstorms
12/2/2020	12/4/2020	-	12mm	10%	7mm	0mm	0mm	2mm	5mm	1009-1011	0.6	-0.8	-4.2	4.1	2-5, variable	3 to 4	over 10	23-25	32-34	Overcast
12/2/2020	12/5/2020	-	4mm	10%	4mm	3mm	1mm	0mm	0mm	1009-1011	1.2	-2.5	-4.2	4	3-6, NNW	3 to 4	over 10	22-24	32-34	Light rain
12/1/2020	12/2/2020	Site Obs	12mm	10%	32mm	10mm	15mm	2mm	5mm	1010-1012	0.4	-1.9	-3.9	3.7	2-5, variable	3 to 4	over 10	23-25	32-34	Afternoon thunderstorms
12/1/2020	12/3/2020	Site Obs	5mm	10%	7mm	0mm	0mm	2mm	5mm	1009-1011	0.6	-0.8	-4.2	4.1	3-7, NNW, Gust 12	3 to 4	over 10	22-24	31-33	Overcast
12/1/2020	12/4/2020	Site Obs	2mm	10%	4mm	0mm	1mm	0mm	0mm	1009-1011	1.2	-2.5	-4.2	4	2-5, variable	3 to 4	over 10	22-24	31-33	Light rain
11/30/2020	12/1/2020	Site Obs	12mm	10%	32mm	15mm	10mm	5mm	5mm	1010-1012	0.4	-1.9	-3.9	3.7	2-5, variable	3 to 4	over 10	23-25	32-34	Afternoon thunderstorms
11/30/2020	12/2/2020	Site Obs	5mm	10%	7mm	0mm	0mm	2mm	5mm	1009-1011	0.6	-0.8	-4.2	4.1	3-7, NNW, Gust 12	3 to 4	over 10	22-24	31-33	Overcast
11/30/2020	12/3/2020	Site Obs	2mm	10%	4mm	3mm	1mm	0mm	0mm	1009-1011	1.2	-2.5	-4.2	4	2-5, variable	3 to 4	over 10	22-24	31-33	Light rain

LET'S WORK TOGETHER

- **B2B:** LiveRoad Analytics is interested in engaging with companies working in automotive, fleet management, logistics, and mapping companies. LiveRoad would like to connect with key decision-makers who are involved in ADAS solutions and navigation systems. API's are ready to test!
- **Hardware Partners:** LiveRoad is seeking a relationship with an innovative hardware and mobility solutions company to further develop and deploy next-generation safety and mobility solutions with a combined hardware and software solution for smart safety and mobility data.
- **Investment:** LiveRoad is open to investment and currently raising its Seed Round.

THANK YOU



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ANALYTICS

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