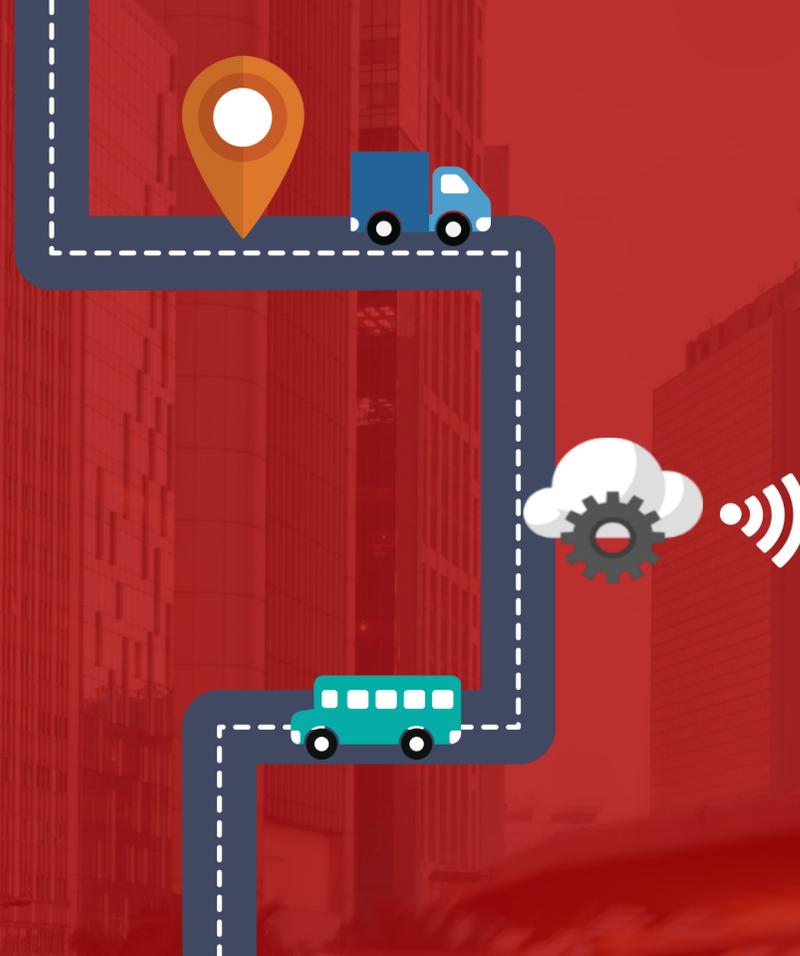
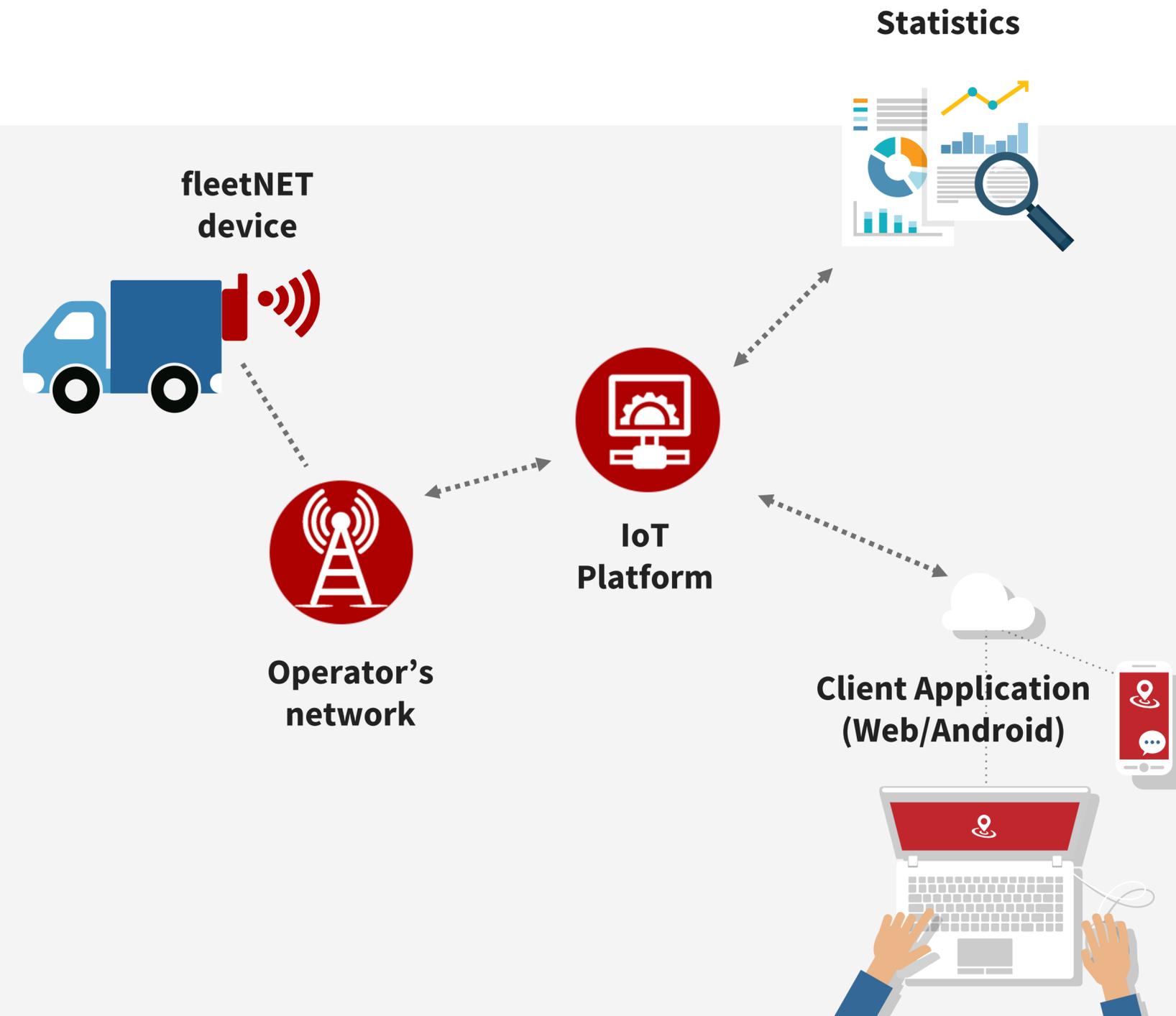


fleetNET



WHAT IS GPS vehicle tracking?

- Tracking your vehicles using GPS data and mobile network connection
- Data access in real-time, anytime, using any internet-connected device
- Reduce fuel consumption, tear&wear of vehicles
- Improve driving styles of drivers
- Optimize utilization of vehicles
- Reduce paperwork, increase efficiency and customer satisfaction
- Prevent thefts and inappropriate usage



fleetNET solution

Data collection

- Vehicle location, activity, speed, start/stop, harsh acceleration and braking, sensor data
- CAN bus information (if available)
- Driver ID

Real time control

- Map view of all vehicles' locations and activities
- Current status of engine (on/off) - moving, idling
- Geo-fencing
- Configurable alarms (e.g. SMS sent for harsh breaking)

Reporting

- Reports for chosen period – travel history, driver profile
- Rules of the road - monitor driving and resting periods
- Incidents overview – harsh breaking/accelerating, route violations...

Visualization

- Route compliance monitoring – map view
- Geo-fencing – map view
- Real time fuel level and consumption – graph view



Device - data collected

GPS data

- Position
- Altitude
- Eco driving
- Green driving
- Crash detection
- Towing detection

Sensor data

- RFID 1-Wire
- iButton 1-Wire
- Temp. 1-Wire
- 3 digital inputs
- 2 analog inputs
- 2 digital outputs
- Built-in accelerometer

Board computer data for light vehicles

- Vehicle Driven Distance
- Total fuel consumption
- Fuel level (Dashboard)
- Engine speed (RPM)
- Vehicle speed (wheel)
- Acceleration position



Solution - Current vehicles' location

The screenshot displays the fleetNET web application interface. At the top, there is a navigation bar with the fleetNET logo and several menu items: View vehicles, Vehicle tracking, Geo fencing, Safety, Reporting, Service book, and Settings. Below the navigation bar, the interface is split into two main sections. On the left, there is a 'Choose parameters' panel with various filters and a table of vehicle data. On the right, there is a map showing the current location of vehicles, with an information popup for a selected vehicle.

Choose parameters

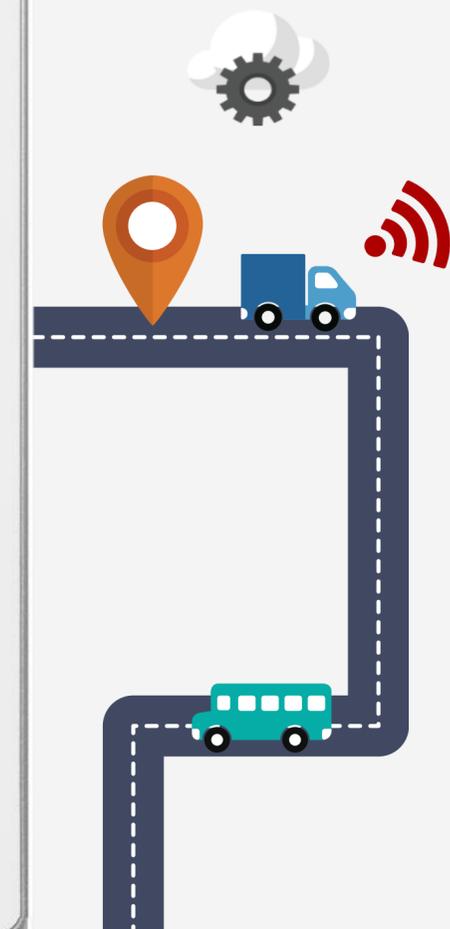
- Vehicle: [input field]
- Search: [input field]
- Deselect all: [button]
- Select vehicle groups: [dropdown]
- Additional options:
 - Select POI: [dropdown]
 - Select zones: [dropdown]
 - Select route: [dropdown]
- Track vehicles
- Show label
- Vehicles selection

Vehicle	Current speed	Driver	Km/day	POI	POI - time
Demo vehicle 1	0.00		13.17	POI test 1-2	20/03/2018 10:32:08
Demo vehicle 2	46.00	Nikola Nkolic	54.96		
CAN 2	52.00	Dejan Popovic 345	88.13		
Demo vehicle 3	0.00		1.32		
Demo				Novi	20/03/2018

Map

Info

- Vehicle: Demo vehicle 8
- IMEI: 3561730607412669
- Vehicle type: Car
- Vehicle brand:
- Driver:
- Current speed: 0.00 km/h
- Today Km: 6.76
- All Km: 10933.42
- Current location: Dr Sime Miloševića 8, Novi Sad, Serbia
- Last measurement date: 20/03/2018 09:52:28
- Last data update: 20/03/2018 10:52:10
- Standing start time: 20/03/2018 07:51:28



Solution - Travel history



Choose vehicles or drivers and period

Tabs with graphical presentation of data coming from CAN

Map presentation of the trajectory

Exporting into Excel or PDF file

Periods of travel and stop time

Map	Driver name	Start location	Departure time	End location	Arrival time
		Unnamed Road, Preljina, Serbia	12/03/2018 18:48:01	Unnamed Road, Preljina, Serbia	12/03/2018 18:48
		Unnamed Road, Preljina, Serbia	12/03/2018 19:30:58	Unnamed Road, Preljina, Serbia	12/03/2018 19:30
		Unnamed Road, Preljina, Serbia	12/03/2018 19:31:16	Unnamed Road, Preljina, Serbia	12/03/2018 19:31
		Unnamed Road, Preljina, Serbia	14/03/2018 07:56:35	Unnamed Road, Preljina, Serbia	14/03/2018 07:56
		Unnamed Road, Preljina, Serbia	14/03/2018 08:22:26	Unnamed Road, Preljina, Serbia	14/03/2018 08:26
		Unnamed Road, Preljina, Serbia	14/03/2018 08:26:30	Unnamed Road, Preljina, Serbia	14/03/2018 08:26
		Unnamed Road, Preljina, Serbia	14/03/2018 08:35:32	Đorđa Tomaševića, Čačak, Serbia	14/03/2018 08:43

Solution – GEO-fencing



Zone name:

Zone name

Radius:

500 [m]

Forbidden

Forbidden

Allowed

Select vehicles

Clear map

Save zone

Back

Map

Choose zone's name and radius

Choose if zone is allowed or forbidden

Solution - CAN data on graphs



Solution - Concrete transport monitoring



Choose vehicles or drivers and period

Places where concrete unloading happened shown on the map

Concrete transport - blue
Concrete unload - yellow

Exporting into Excel or PDF file

The screenshot displays the fleet NET software interface. The top navigation bar includes options like 'View vehicles', 'Vehicle tracking', 'Geo fencing', 'Safety', 'Reporting', 'Service book', 'Settings', and 'Super admin'. The main area is divided into a left sidebar with filters (vehicle groups, stop time, time interval) and a central map showing a vehicle's route. The route is color-coded: blue for concrete transport and yellow for concrete unloading. A table at the bottom shows the travel history with columns for Map, Driver name, Start location, Departure time, End location, Arrival time, Distance traveled (km), Stop time (min), and Driving time (min).

Map	Driver name	Start location	Departure time	End location	Arrival time	Distance traveled (km)	Stop time (min)	Driving time (min)
			12/03/2018 09:45:07	44.6702716, 20.2522383	12/03/2018 09:45:07	0.00	0	0
			14/03/2018 08:54:46	44.6623633, 20.1751283	14/03/2018 09:23:38	21.23	0	28.87
			14/03/2018 09:27:08	44.6621083, 20.1752083	14/03/2018 09:30:02	0.02	0	2.9

Solution - Incidents



The screenshot displays the fleetNET dashboard with several key features highlighted by red callout boxes:

- Choice of one or more vehicles or drivers:** A sidebar on the left contains a 'Choose parameters' section with a 'Vehicle' dropdown menu and a 'No of selected vehicles' field set to 12.
- Specific incidents shown on the map:** A central map view shows a city area with several incident markers. A tooltip for one marker displays: 'Vehicle: [redacted]', 'Time: 13/02/2016 12:43:18', 'Route: -', 'Speed: 9.00', and 'Value:10'.
- Incidents that can be tracked:** A 'Harsh braking' dropdown menu is open, listing various incident types: Harsh breaking, Harsh accelerating, Harsh cornering, Route violation, Geo-fence violation, Speeding, Panic button, Towing, Unauthorised fuel dumping, Too long retention, and Remove all markers.
- Incidents grouped by drivers, vehicles and dates:** A table at the bottom lists incidents with columns for Driver, Vehicle, Date, Incident number, and Route name.

Driver	Vehicle	Date	Incident number	Route name
[redacted]	[redacted]	13/02/2016 00:00:00	37	NoLine
[redacted]	[redacted]	10/02/2016 00:00:00	36	Beočin-Ljig
[redacted]	[redacted]	01/02/2016 00:00:00	36	NoLine
[redacted]	[redacted]	08/02/2016 00:00:00	34	NoLine
[redacted]	[redacted]	03/02/2016 00:00:00	33	NoLine

Solution - Reports



Choice of report type

The screenshot shows the fleetNET Reporting interface. The top navigation bar includes 'View vehicles', 'Vehicle tracking', 'Geo fencing', 'Safety', 'Reporting' (highlighted), and 'Settings'. The right side shows 'English' and 'AdminTest'.

The 'Choose parameters' sidebar on the left includes:

- Report type: History travel report
- Vehicle: No of selected vehicles: 3
- The Time interval: Current day, Previous week, Previous month, Select a period
- Show report button
- Export: History travel report with XLS and PDF options

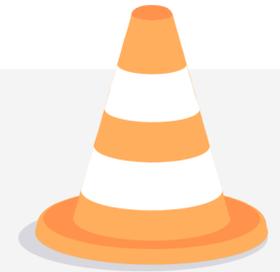
The 'History travel report' table displays the following data:

Profile	Vehicle number	Driver name	Start location	Departure time	End location	Arrival time	Distance trav
2	45.0992128, 19.7637504	28/01/2016 14:02:43	45.0992128, 19.7637504	28/01/2016 14:03:17	-
3	45.0991968, 19.7638080	28/01/2016 13:38:14	45.0992160, 19.7637488	28/01/2016 14:02:43	76
2	45.0992384, 19.7638880	26/01/2016 15:31:04	45.0991616, 19.7638624	28/01/2016 13:38:14	-
3	45.0991776, 19.7637536	26/01/2016 15:14:50	45.0992544, 19.7638048	26/01/2016 15:31:04	58
2	45.0991904, 19.7637600	26/01/2016 15:00:02	45.0991872, 19.7637616	26/01/2016 15:14:50	-
3	45.0992096, 19.7638528	26/01/2016 14:52:01	45.0991744, 19.7638128	26/01/2016 15:00:02	42
2	45.0991808, 19.7637680	25/01/2016 14:35:06	45.0992352, 19.7638400	26/01/2016 14:52:01	-
3	45.0992480, 19.7637424	25/01/2016 14:12:42	45.0992096, 19.7637808	25/01/2016 14:35:06	69
2	45.0991872, 19.7637328	21/01/2016 14:39:34	45.0992064, 19.7637920	25/01/2016 14:12:42	-
3	45.0992288, 19.7637744	21/01/2016 14:27:46	45.0991616, 19.7636944	21/01/2016 14:39:34	43
2	45.0992096, 19.7637904	17/01/2016 17:10:24	45.0992288, 19.7637760	21/01/2016 14:27:46	-
3	45.0992128, 19.7638624	17/01/2016 16:58:53	45.0992192, 19.7637392	17/01/2016 17:10:24	70

Vehicle, driver and period choice

Report exported to Excel or PDF file

Solution - Rules of the Road



Choice of one or more drivers and period

The screenshot shows the 'Rules of the Road' report configuration page. The top navigation bar includes 'New vehicles', 'Vehicle tracking', 'Geo fencing', 'Safety' (highlighted), 'Reporting', and 'Settings'. The right side shows 'English' and 'AdminTest'.

Choose parameters

Driver: No of selected drivers: 111

From date: 02/02/2016

Check period: Last 24h

Show result

Export: Rules of the road report (XLS, PDF)

Time

Total driving time (hh:mm:ss)

Total break time (hh:mm:ss)

Drivers | Results | Violations

Driver	Has violations
	No
	No
	No
	No data
	No
	No data
	No
	No
	No data
	No data

Period a report is looked for

Table with indication if drivers have violated Rules of the road

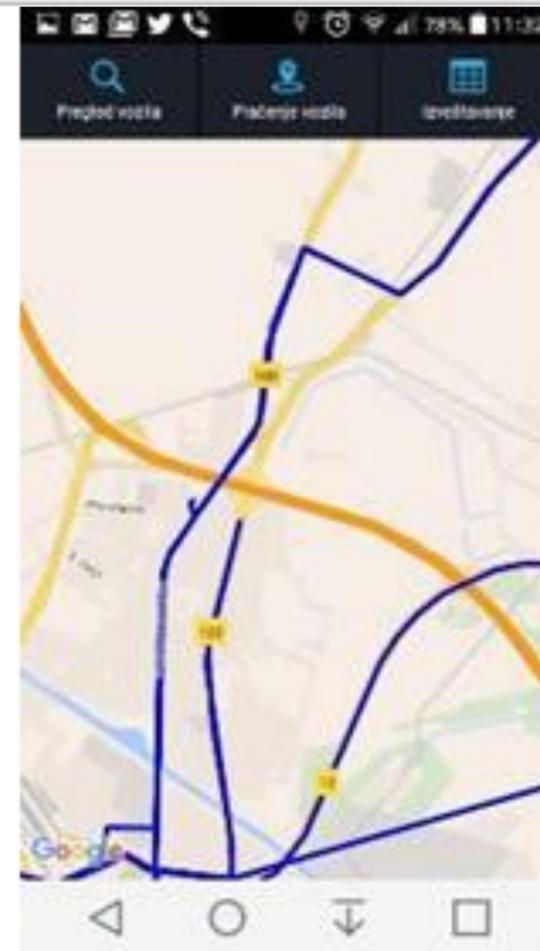
Solution – Mobile application



Current location



Travel history



Technologies used



GPS devices

- GPS device from different vendors are used (Teltonika, Ruptela)
- Communication over GPRS

Cloud

- Cloud based infrastructure enables efficient data processing and storage

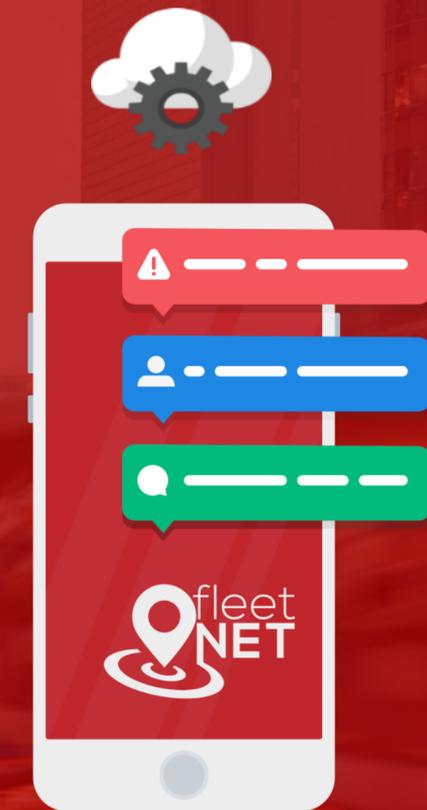
Web and mobile applications

- Providing data to end users in real-time





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