TESLA MODEL 3

TF 5033 Electric Vehicle Energy System

Bernardus Rendy - 13317041

Tesla

Model 3

3.2s
From 0-60 mph

310mi
Range

AWD
Dual Motor

ORDER NOW

You can return your car for a full refund within 7 days or 1,000 miles, whichever comes first.

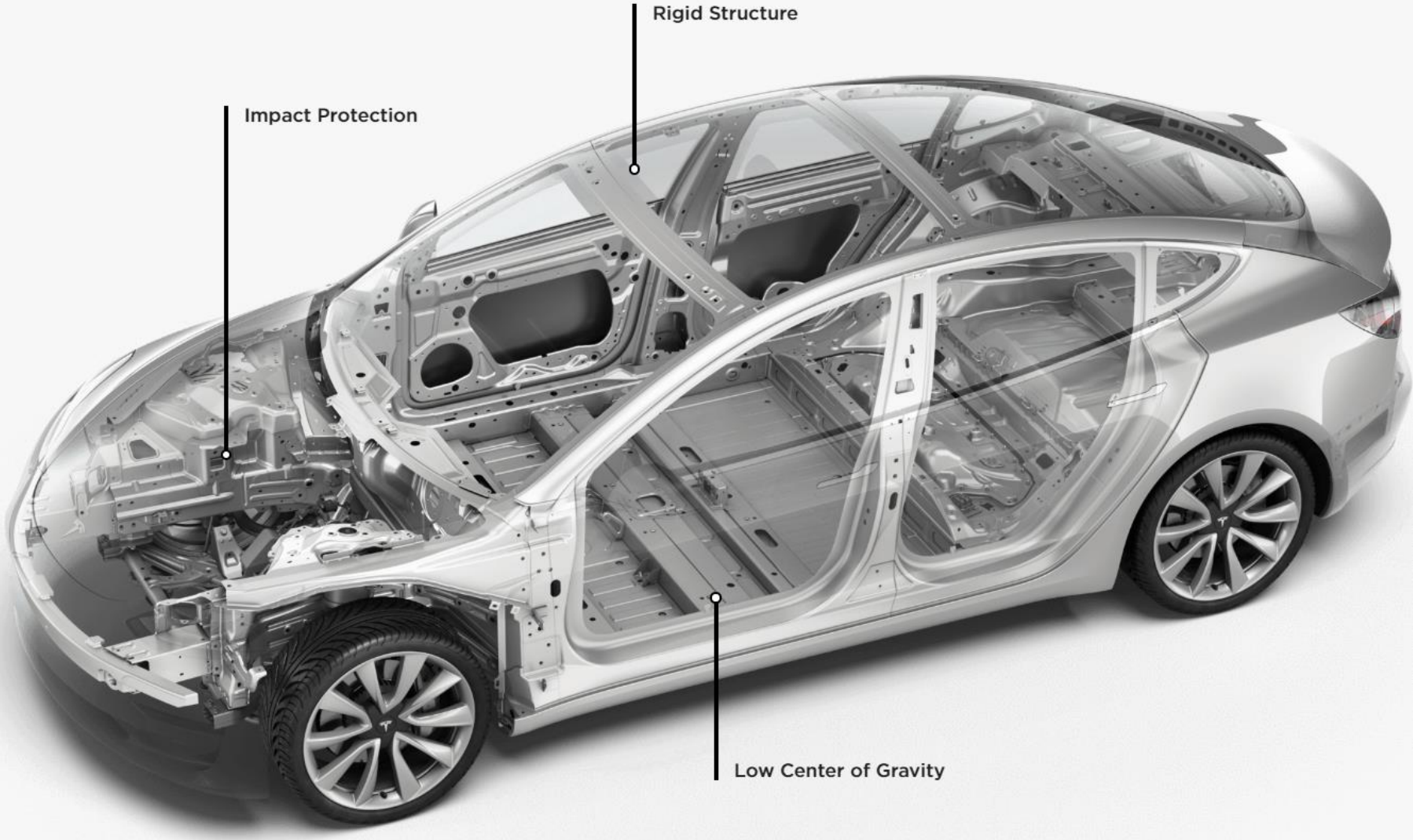
Safety

Built for Safety

Safety is the most important part of the overall Model 3 design. The metal structure is a combination of aluminum and steel, for maximum strength in every area. In a roof-crush test, Model 3 resisted four times its own mass, even with an all-glass roof: that's the same weight as two full-grown African elephants.

5-Star Overall NHTSA Rating

Driver Frontal	★★★★★
Passenger Frontal	★★★★★
Front Seat Side	★★★★★
Rear Seat Side	★★★★★
Rollover	★★★★★



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Model 3 earns 5-Star Safety Rating from Euro NCAP

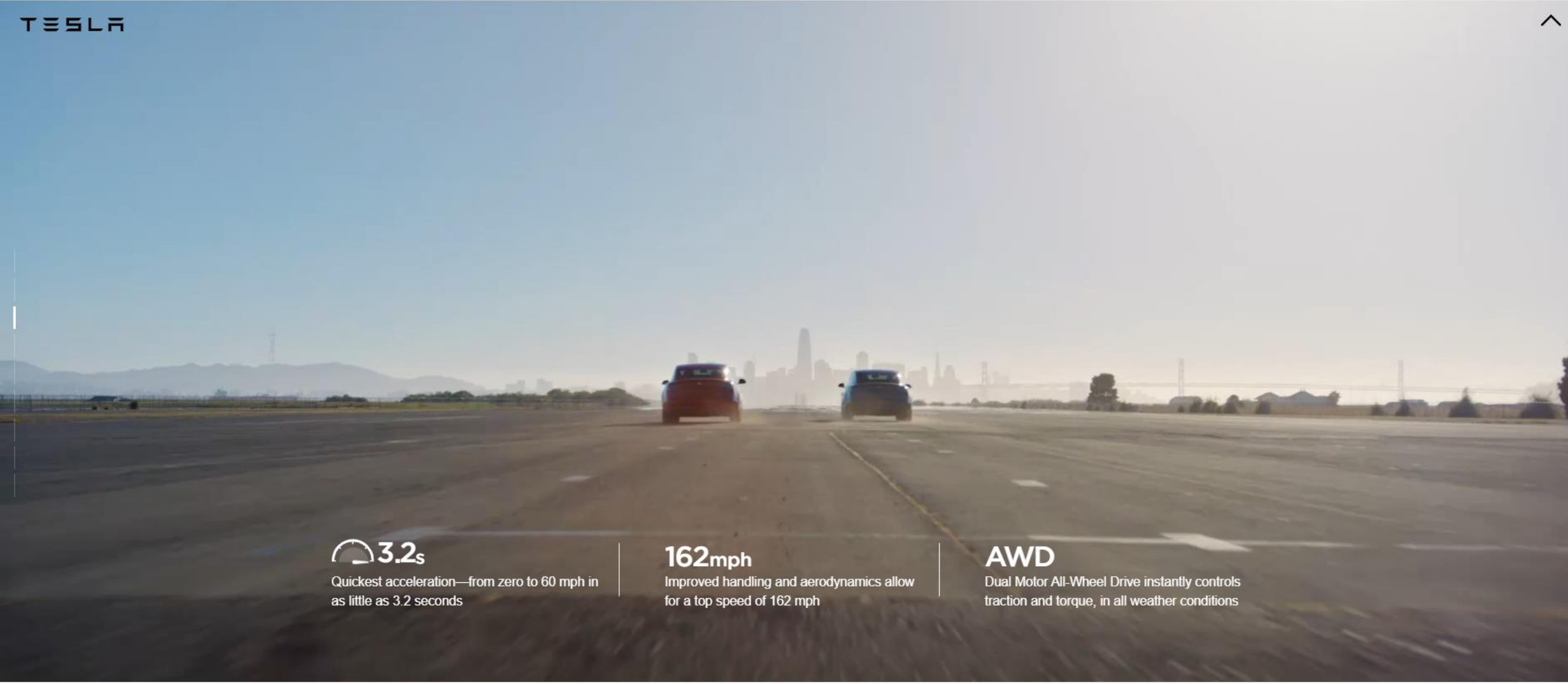
The Tesla Team • July 3, 2019

At Tesla, we're deeply committed to safety, which is why we engineered Model 3 to be the safest car ever built. In the U.S., Model 3 has already earned an overall 5-star rating from NHTSA (National Highway Traffic Safety Administration), including earning 5-stars in every category and sub-category, and scoring the lowest probability of injury of any car ever evaluated by the U.S. New Car Assessment Program.

Today, Model 3's safety record continues in Europe, where it has just been awarded a 5-star rating from the European New Car Assessment Programme (Euro NCAP). The Programme's four categories – each of which Model 3 earned 5-stars in – evaluate a car's ability to protect adults, children, vulnerable road users like cyclists and pedestrians, as well as its safety assistance features. In this latter "Safety Assist" category, which evaluates a car's active safety features including its ability to avoid accidents, mitigate injuries and prevent drivers from unintentionally drifting out of their lane, Model 3 earned the highest score that Euro NCAP has awarded to date under their 2018/2019 testing protocols.

Euro NCAP's results demonstrate the impact of recent improvements made to our Automatic Emergency Braking (AEB) system that were extended to all Model S, Model X and Model 3 cars built since October 2016 via an over-the-air software update earlier this year. They also reflect important safety improvements made with new features like Lane Departure Avoidance, Emergency Lane Departure Avoidance, and conditional speed limits based on time of day and weather conditions.

Tesla's engineers developed each active safety feature evaluated by Euro NCAP by leveraging the real-world data collected from the sensor suite of every Tesla vehicle made since October 2016, coupled with data from billions of inputs from actual drivers to help us understand how drivers



Performance

Quickest Acceleration

LEARN MORE

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Model 3 comes with the option of dual motor all-wheel drive, 20” Performance Wheels and Brakes and lowered suspension for total control, in all weather conditions. And a carbon fiber spoiler improves stability at high speeds, all allowing Model 3 to accelerate from 0-60 mph in as little as 3.2 seconds.

TESLA

Range

Go Anywhere

Model 3 is fully electric, so you never need to visit a gas station again. If you charge overnight at home, you can wake up to a full battery every morning. And when you're on the road, it's easy to plug in along the way—at any public station or with the Tesla charging network. We currently have over 14,000 Superchargers worldwide, with six new locations opening every week.

310 mi
Go anywhere with up to 310 mi of range on a single charge

15 min
Recharge 180 mi in 15 minutes at Supercharger location

14,000+
Superchargers placed along well-traveled routes around the world

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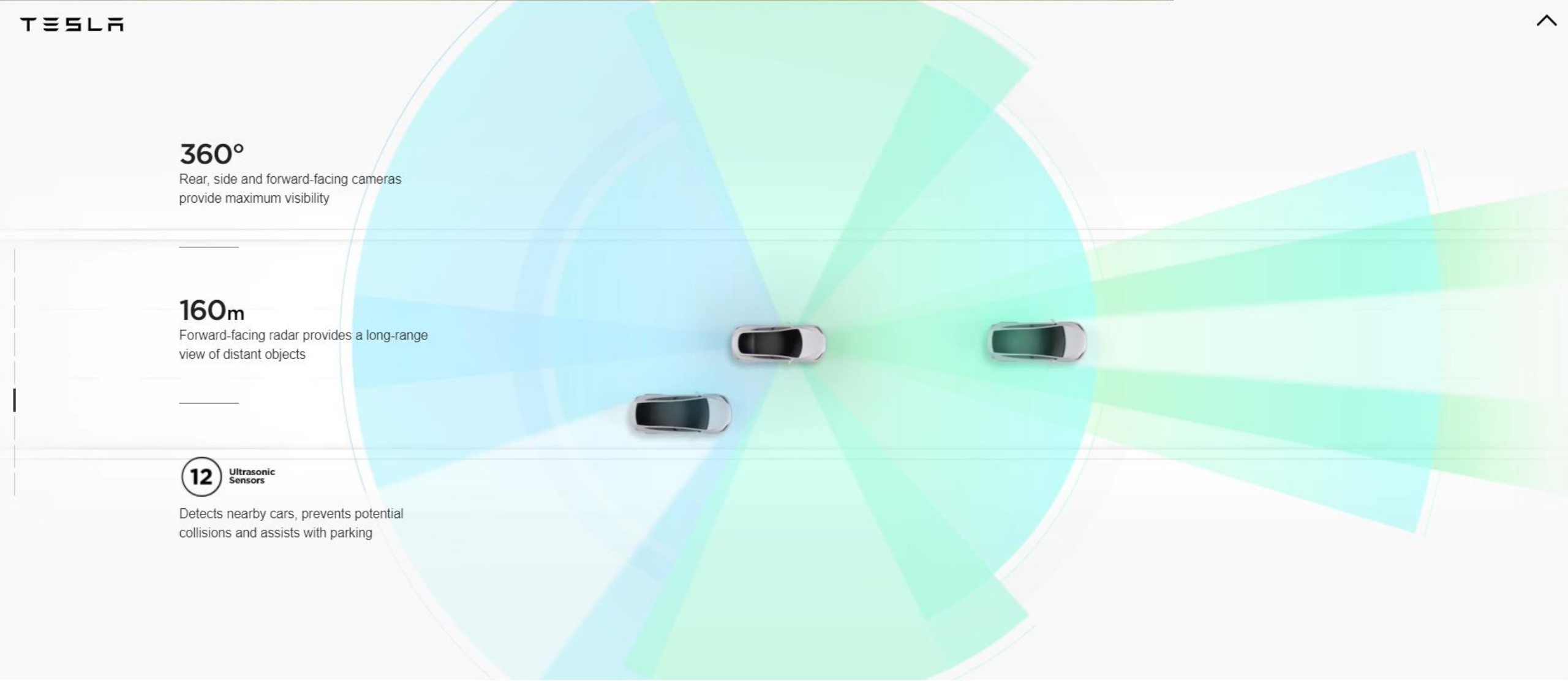
TESLA

360°

Rear, side and forward-facing cameras provide maximum visibility

160m

Forward-facing radar provides a long-range view of distant objects



12 Ultrasonic Sensors

Detects nearby cars, prevents potential collisions and assists with parking

Autopilot

Future of Driving

Autopilot advanced safety and convenience features are designed to assist you with the most burdensome parts of driving.

LEARN MORE

ORDER NOW

Autopilot

Autopilot advanced safety and convenience features are designed to assist you with the most burdensome parts of driving. All new Tesla cars come standard with driver assistance features such as emergency braking, collision warning and blind-spot monitoring.

Full Self-Driving Capability

- Navigate on Autopilot: automatic driving from highway on-ramp to off-ramp including interchanges and overtaking slower cars.
- Auto Lane Change: automatic lane changes while driving on the highway.
- Autopark: both parallel and perpendicular spaces.
- Summon: your parked car will come find you anywhere in a parking lot. Really.

Coming later this year:

- Recognize and respond to traffic lights and stop signs.
- Automatic driving on city streets.

Select Option $6,000

Includes the Full Self Driving Computer

Full Self-Driving Capability is available for purchase post-delivery, prices are likely to increase over time with new feature releases

The currently enabled features require active driver supervision and do not make the vehicle autonomous. The activation and use of these features are dependent on achieving reliability far in excess of

Interior

Built Around the Driver

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The inside of Model 3 is unlike any other car. You can use your smartphone as a key, and access all driver controls in the central 15-inch touchscreen. The all-glass roof extends from front to back, creating a sense of openness from every seat.

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SPECS

Model 3 Specs

PERFORMANCE | LONG RANGE AWD | STANDARD PLUS | COMPARE

Battery
Long Range

Acceleration
3.2 seconds 0-60 mph

Range
310 miles

Drive
Dual Motor All-Wheel Drive

Seating
5 Adults

Wheels
20" Performance Wheels

Weight
4,072 lbs

Cargo
15 cu ft

Displays
15" Center Touchscreen

Supercharging
Pay Per Use

Warranty
Vehicle
4 year 50,000 miles

Battery & Drive Unit
8 year 120,000 miles

EXPAND LIST

UTILITIES

17 - ELECTRICAL

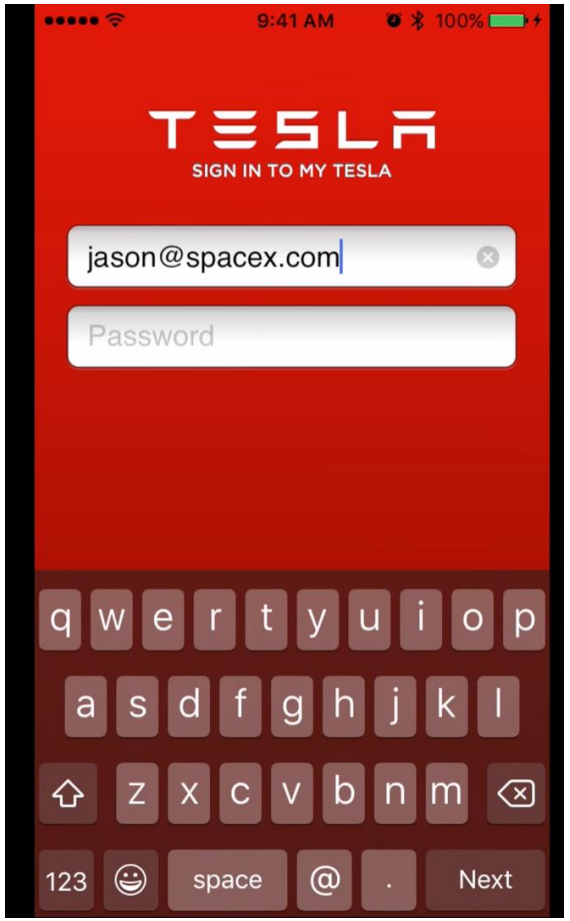
1701 - 12v Battery And Fuses
1710 - Harnesses
1715 - Electronic Control Modules
1720 - Radar Sensors
1723 - Front Camera
1725 - Rear Camera
1727 - Parking Sensors
1730 - Interior Switches And Aux Power Socket
1740 - Exterior Lights
1745 - Keyless Entry And Security
1750 - Wipers And Washers
1753 - Horn
1755 - Accelerator Pedal

18 - THERMAL MANAGEMENT

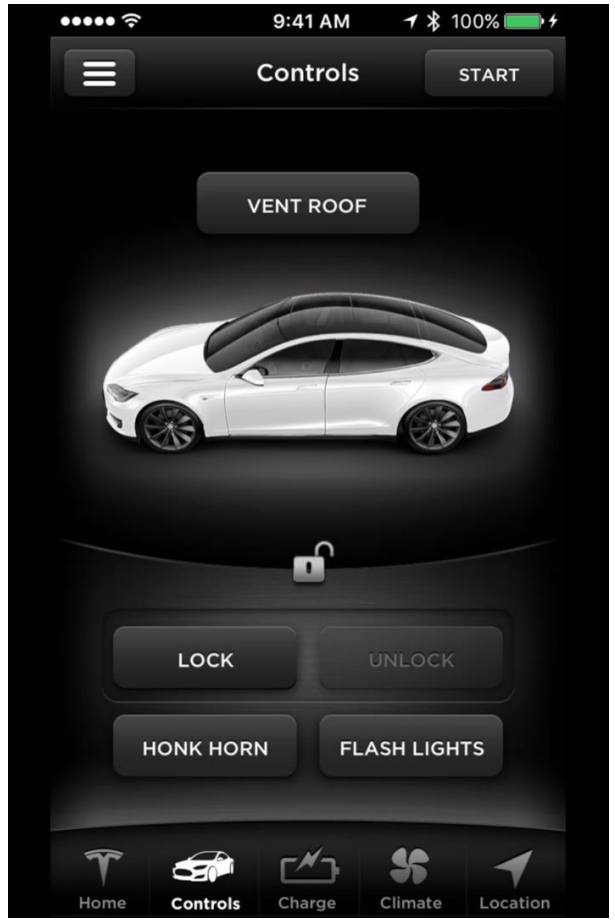
1810 - Cabin Hvac
1820 - Refrigerant System
1830 - Cooling System
1850 - Air Distribution

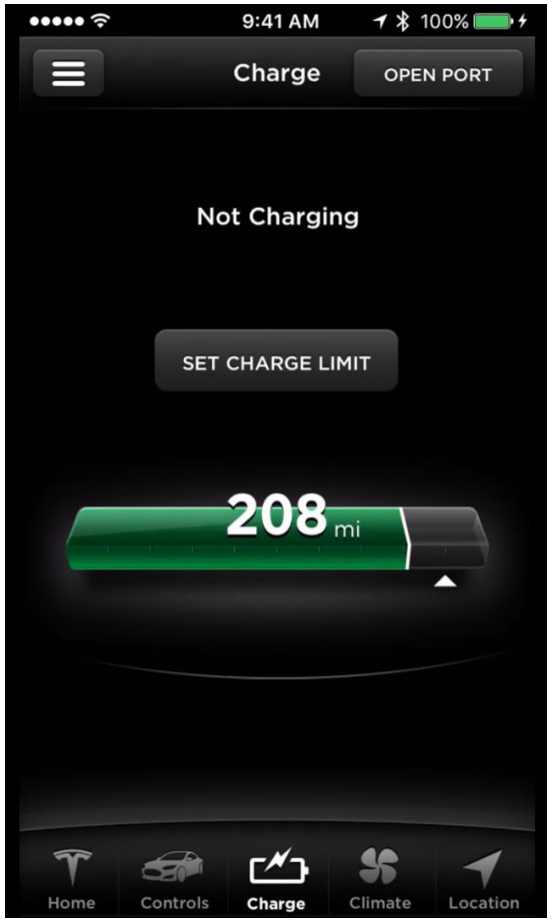
TESLA APP

TESLA APP

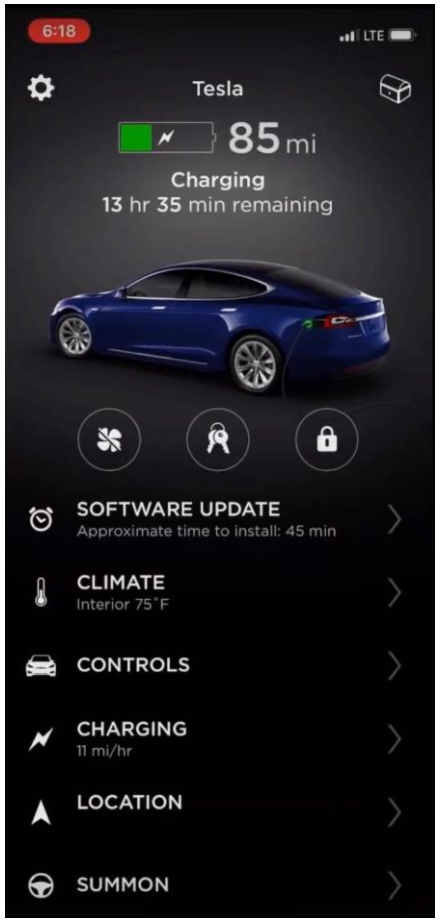

9:41 AM
100%
TESLA
SIGN IN TO MY TESLA
jason@spacex.com
Password
q w e r t y u i o p
a s d f g h j k l
z x c v b n m
123
space
@
.
Next

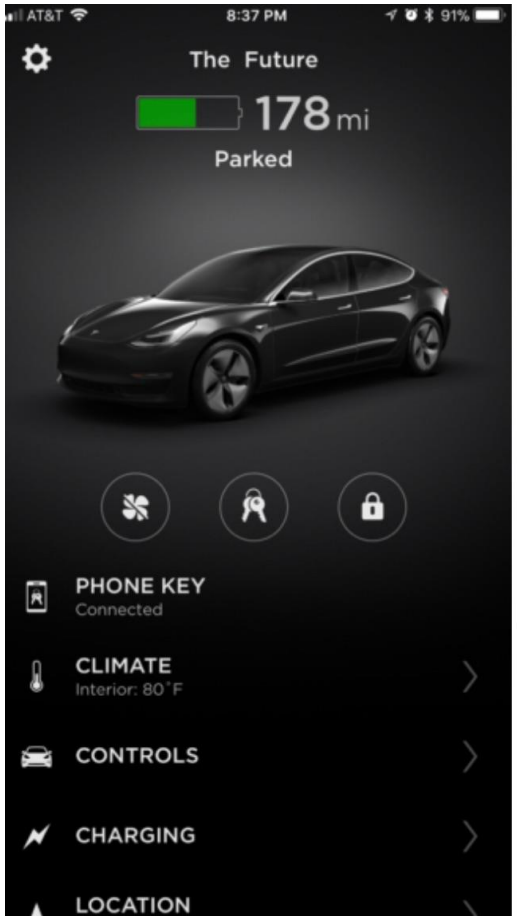

9:41 AM
100%
Grasshopper
SUMMON
208 mi
Rated Range
3500 Deer Creek Rd
Palo Alto, CA
Home
Controls
Charge
Climate
Location


9:41 AM
100%
Controls
START
VENT ROOF
LOCK
UNLOCK
HONK HORN
FLASH LIGHTS
Home
Controls
Charge
Climate
Location


9:41 AM
100%
Charge
OPEN PORT
Not Charging
SET CHARGE LIMIT
208 mi
Home
Controls
Charge
Climate
Location

TESLA APP


6:18
LTE
Tesla
85 mi
Charging
13 hr 35 min remaining
SOFTWARE UPDATE
Approximate time to install: 45 min
CLIMATE
Interior 75˚F
CONTROLS
CHARGING
11 mi/hr
LOCATION
SUMMON

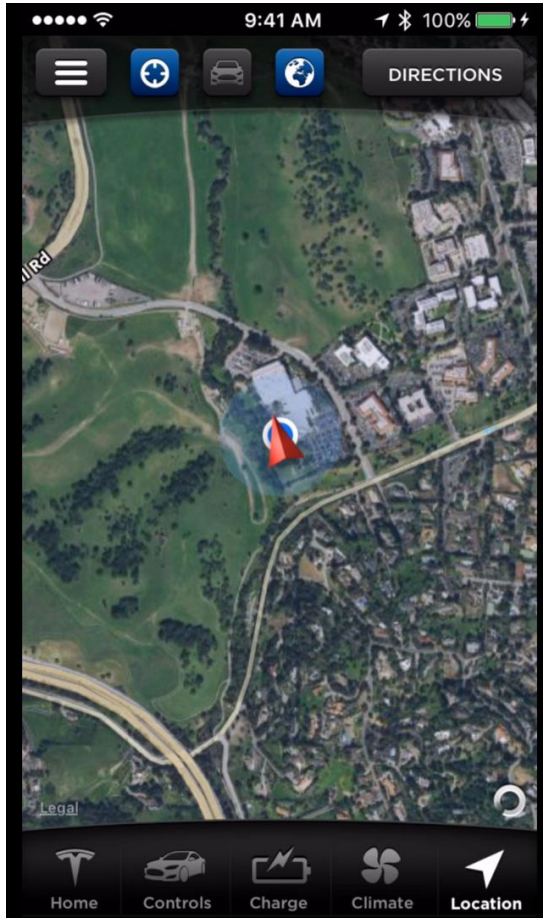

AT&T
8:37 PM
91%
The Future
178 mi
Parked
PHONE KEY
Connected
CLIMATE
Interior: 80˚F
CONTROLS
CHARGING
LOCATION

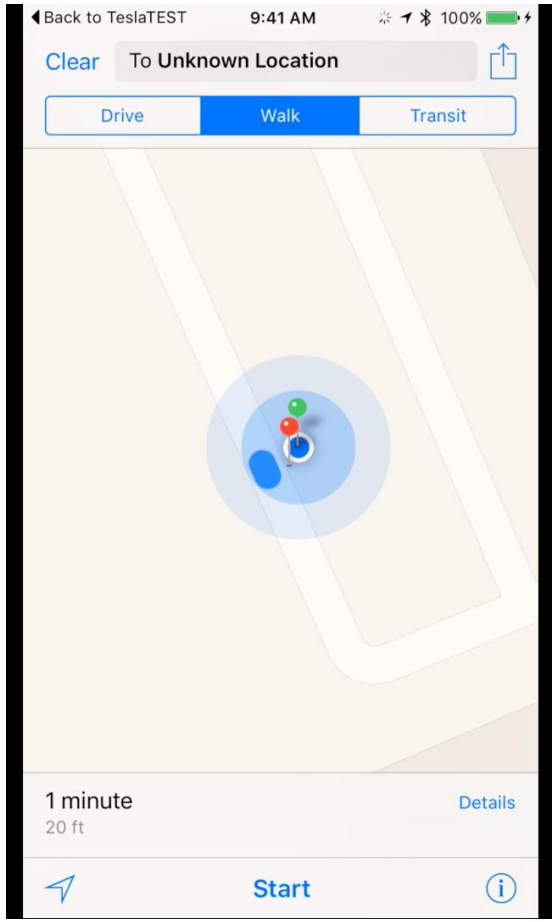

AT&T
8:43 PM
89%
CONTROLS
UNLOCK
FLASH
HONK
START
FRONT TRUNK
TRUNK
VALET MODE

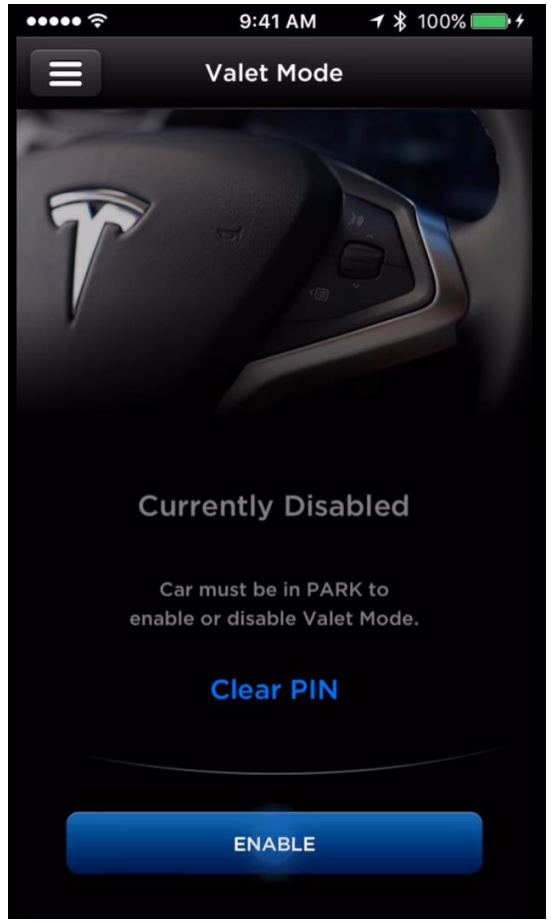

AT&T
8:37 PM
91%
CLIMATE
Interior: 80˚F
74˚
TURN ON

TESLA APP


9:41 AM
100%
Climate On
TURN OFF
Interior Temperature: 71°F
77°
Home
Controls
Charge
Climate
Location


9:41 AM
100%
DIRECTIONS
Legal
Home
Controls
Charge
Climate
Location


Back to TeslaTEST
9:41 AM
100%
Clear
To Unknown Location
Drive
Walk
Transit
1 minute
20 ft
Details
Start


9:41 AM
100%
Valet Mode
Currently Disabled
Car must be in PARK to
enable or disable Valet Mode.
Clear PIN
ENABLE

TESLA MODEL S
SMART GRID
ARCHITECTURE MODEL

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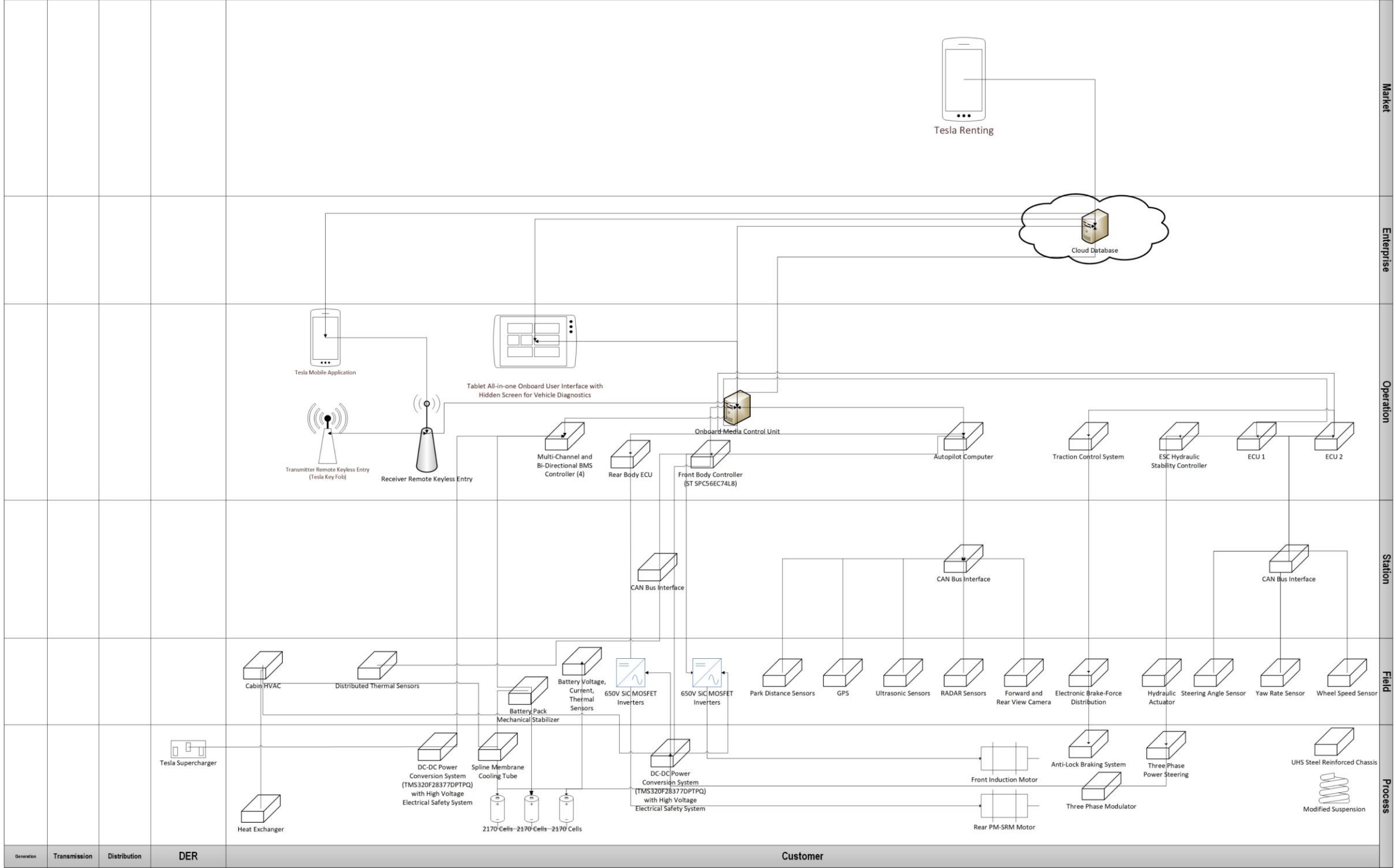
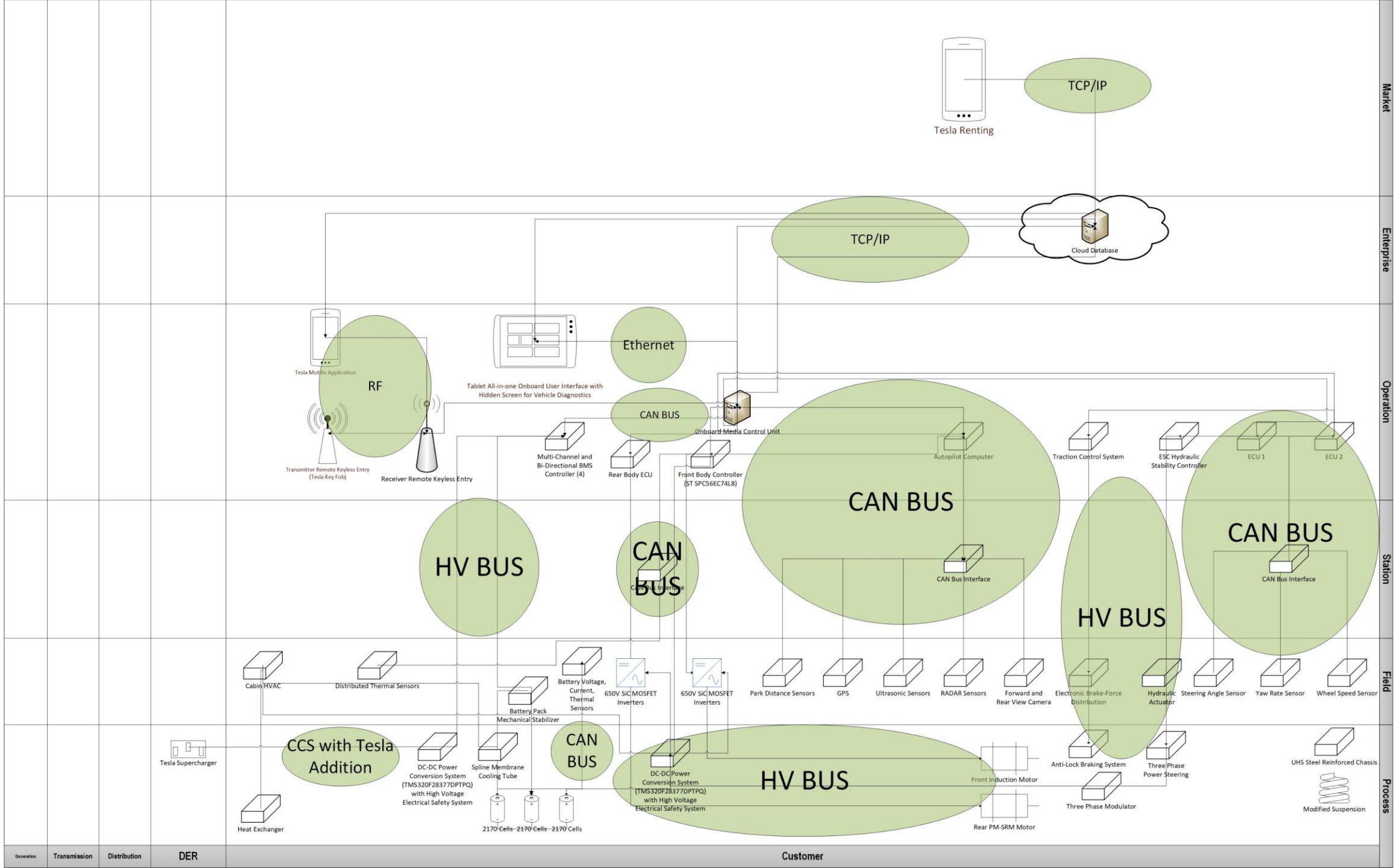
COMPONENT LAYER

- Ultra high strength steel reinforcement
- Modified Suspension Chassis
- Three phase power steering motor
- Dual ECU
- ESC Hydraulic Stability Control
- Wheel Speed Sensor
- Steering Angle Sensor
- Yaw Rate Sensor
- Anti-Lock Braking System (ABS)
- Electronic Brake-Force Distribution (EBD)
- Traction Control System (TCS)
- 2 PMSRM Induction Motor
- 650V SiC MOSFET Based Inverter
- Autopilot Computer
- Ultrasonic Sensors
- Forward Facing and Rear View Camera
- GPS
- RADAR Sensors
- Park Distance Sensors
- Front Body Controller (ST SPC56EC74L8)
- Rear Body ECU
- 2170 Cell Based NCA Battery Pack
- Battery Pack Stabilizer (Vibration reduction)
- Multi-Channel and Bi-Directional BMS
- Battery Voltage and Current Sensors
- DC-DC Power Conversion System (TMS320F28377DPTPQ)
- Tablet Based All-in-one User Interface with Hidden Screen for Vehicle Diagnostics
- Tesla Mobile Application
- Transmitter Remote Keyless Entry
- Receiver Remote Keyless Entry
- Spline membrane cooling tube
- Distributed thermal sensors
- Heat exchanger
- Cabin HVAC
- Front Body Controller
- Central Body Controller
- Rear Body Controller
- Cloud Database
- Onboard Media Control Unit

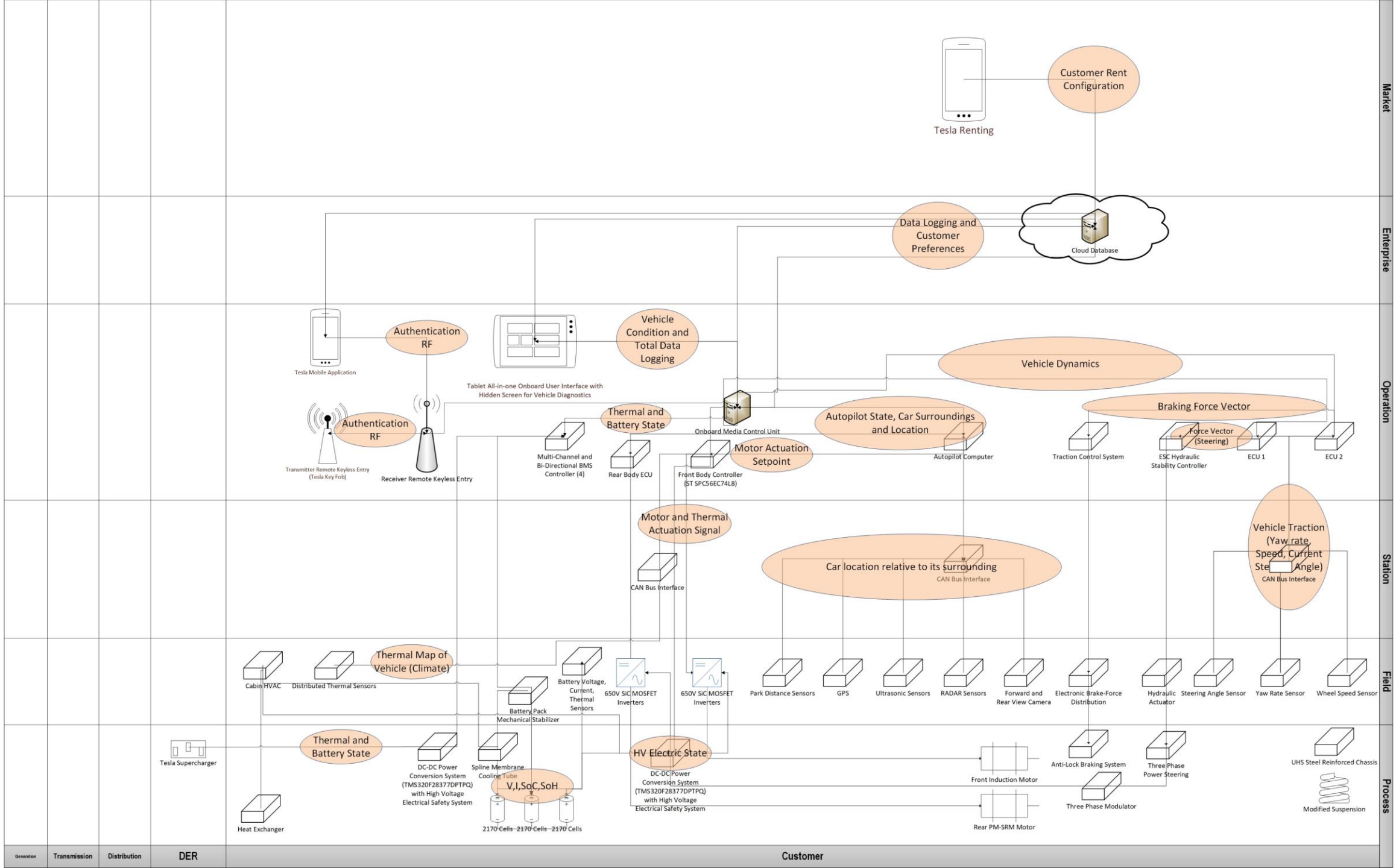
COMPONENT LAYER



COMMUNICATION LAYER



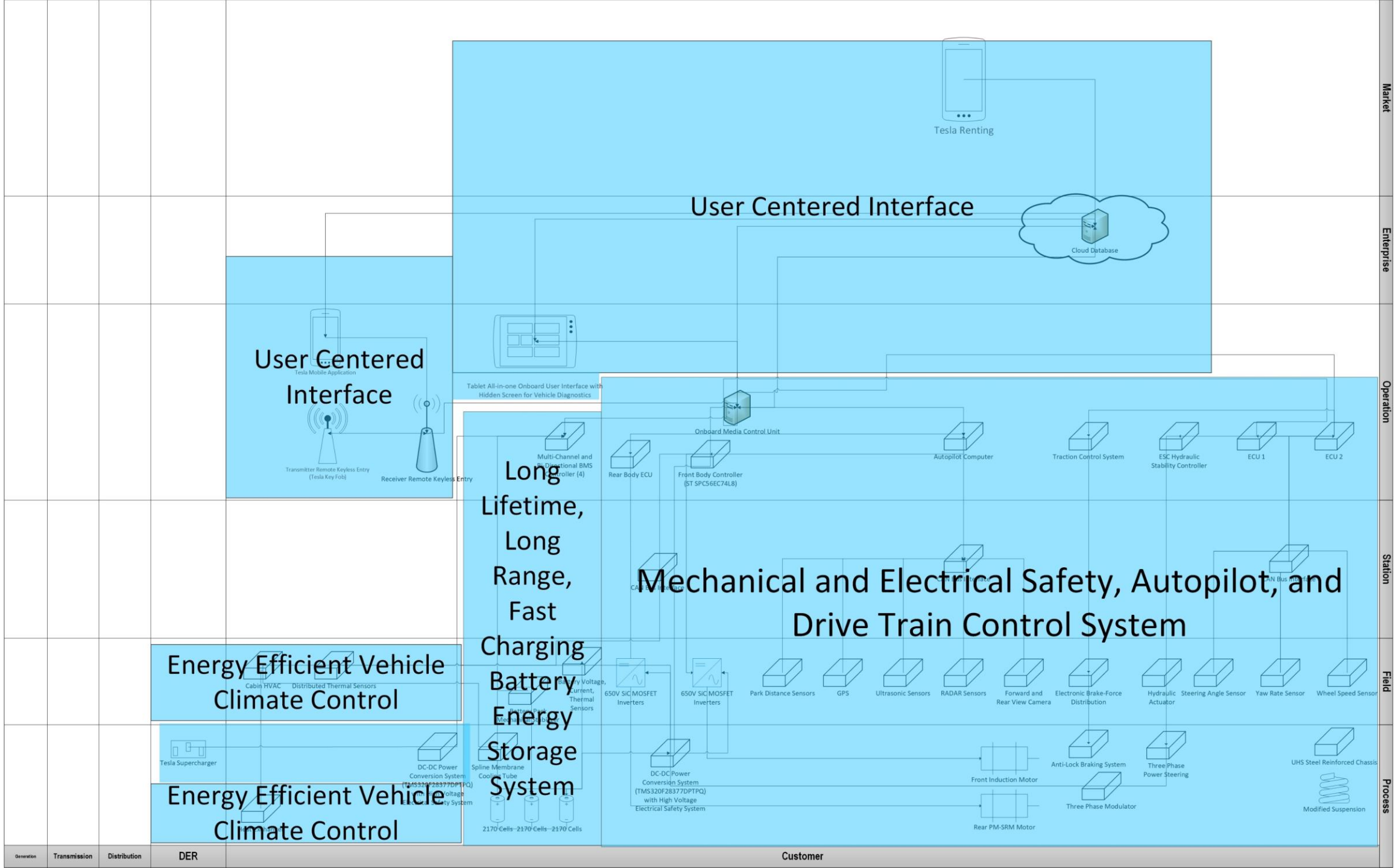
INFORMATION LAYER



FUNCTION LAYER

- Mechanical Safety, Autopilot, and Drive Train Control System
- Long Lifetime, Long Range, Fast Charging Battery Energy Storage System
- User Centered Interface
- Energy Efficient Vehicle Climate Control

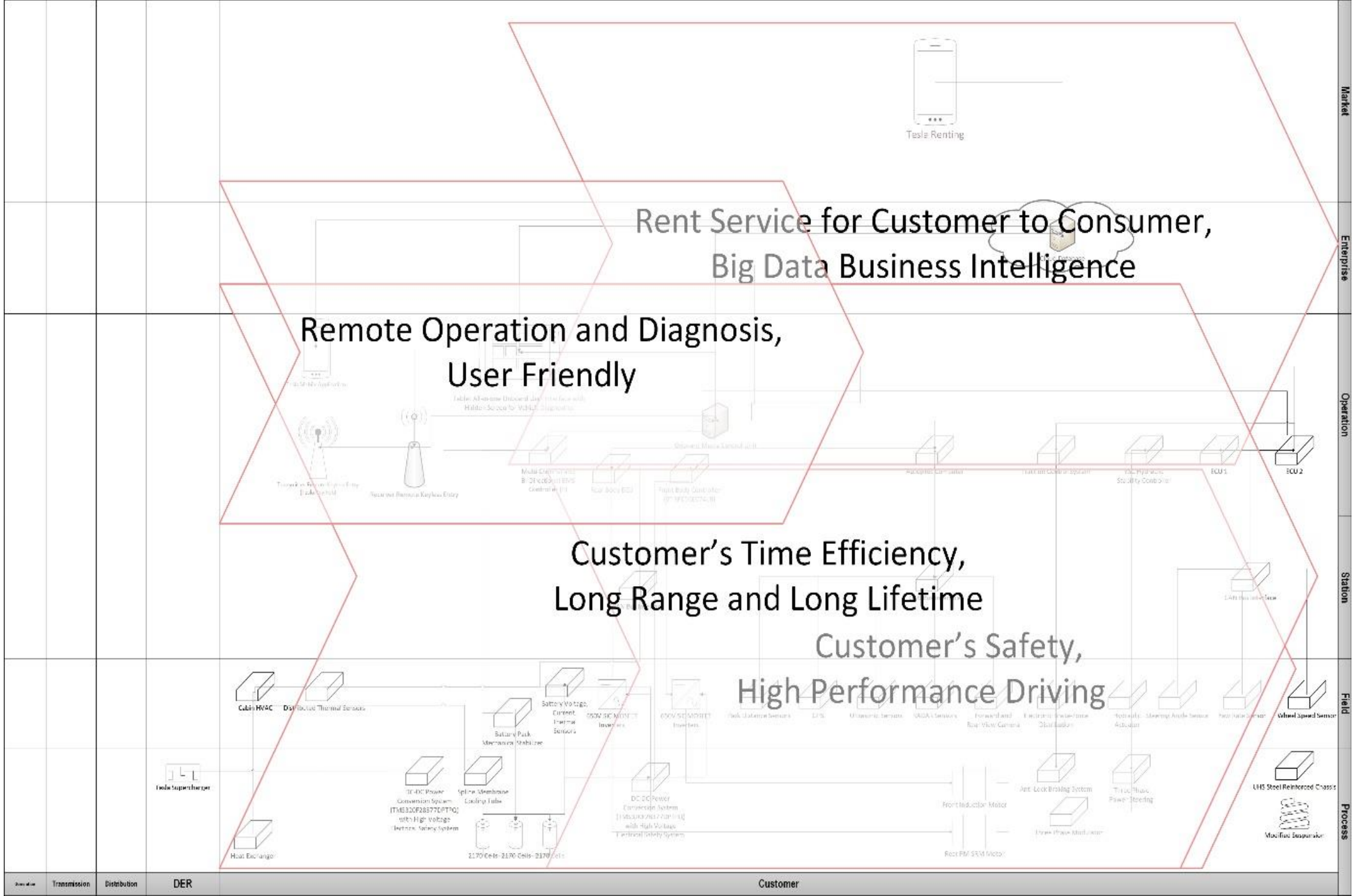
FUNCTION LAYER



BUSINESS LAYER

- Rent Service using Autopilot for Customers
- Big Data Business Intelligence
- Customer’s Safety
- Remote Operation and Diagnosis
- Long Range and Long Lifetime
- Customer’s Time Efficiency
- High Performance Driving

FUNCTION LAYER



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