



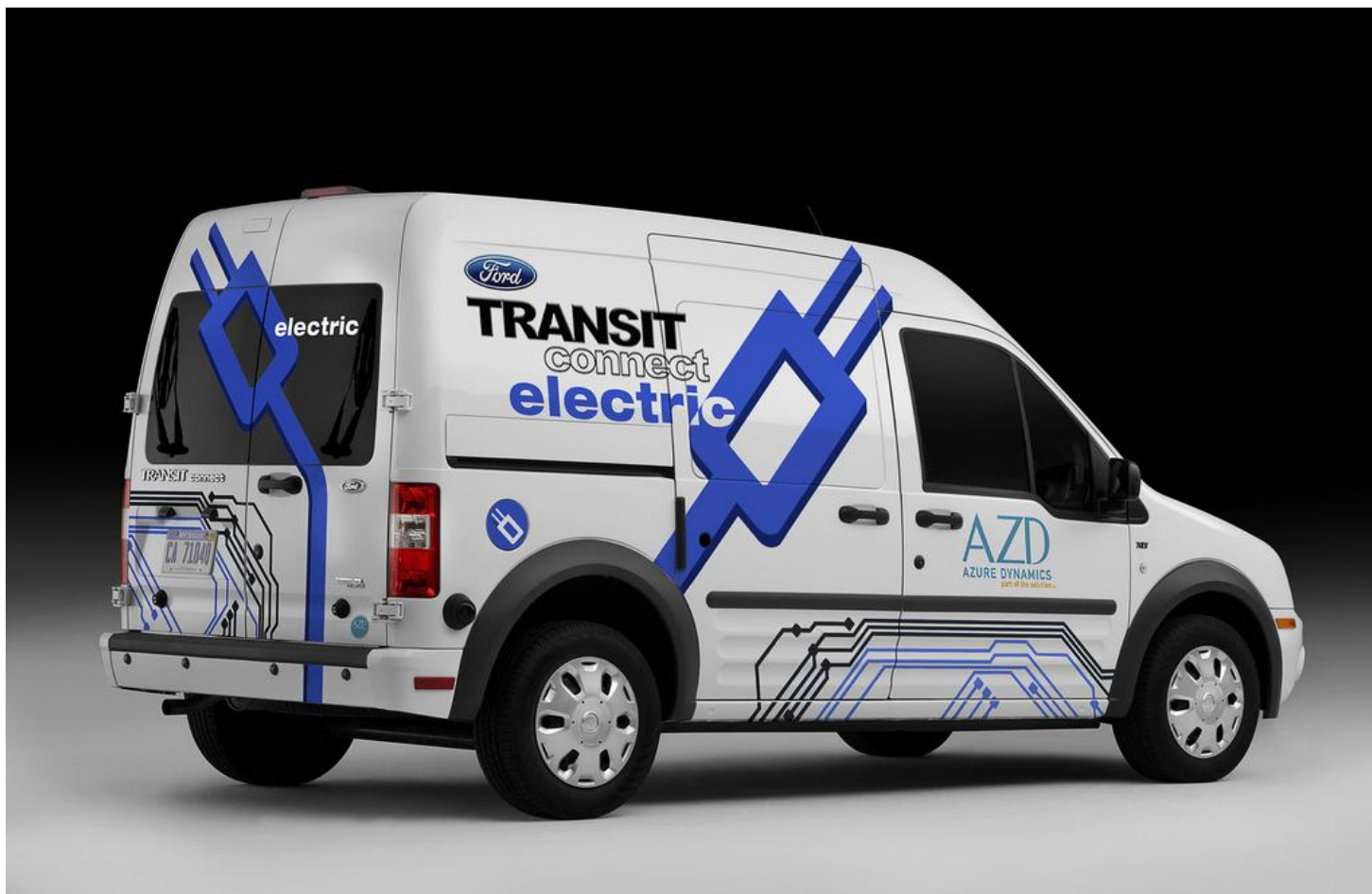
WCC Public Fleets Workgroup Teleconference

Tuesday, November 8th 2011

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A small, vibrant green plant with two leaves is growing out of a patch of moss. The background is a soft, out-of-focus green forest scene, suggesting a natural and growing environment.

Transit Connect Electric Vehicle



Driving a *world* of difference

AZD

Transit Connect Electric— Specifications

BATTERY ELECTRIC PROPULSION SYSTEM INTEGRATED BY AZURE DYNAMICS

- > 28 kWh, Lithium Ion Battery
(Supplied by Johnson Controls-Saft)
- > Driving Range: up to 80 miles (UDDS cycle)
- > Charge time: 6-8 hours with 240V/30A supply
- > Max speed: 75mph
- > Able to ascend up to a 20% grade
- > Ambient Operational temp: -30 F to 120 F*
(Lower temperatures require pre-conditioning)

PAYLOAD OFFERINGS

- > GVW—5,005 lbs
- > Maximum Payload—1000 lbs (estimated)
- > Maximum Interior Cargo Volume—135 cu. ft.

SAFETY FEATURES

- > C/FMVSS Certified
- > Collapsible Steering Column
- > Tire Pressure Monitoring System
- > Driver and Front Passenger Air Bags and Front
Seat Side Impact Air Bags
- > Available Roll Stability Control™ (RSC®)

EXTERIOR ATTRIBUTES

- > 114.6 in. Wheelbase and High Roof
- > XLT Trim Package
- > 2nd Row Sliding Doors on Both Sides
- > Exterior Rear Panel Perfect for Advertising

*Some power reduction may occur above 110° F.

*Specifications preliminary and subject to change at
introduction.*

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force drive™ components

1 LEVEL 2 CHARGE PORT

The vehicle is connected to the electrical grid through this port when charging. Capable of 120V or 240V AC charging.

2 HIGH-VOLTAGE BATTERY

Liquid cooled 28 kWh lithium-ion battery pack with internal sensors and controller.

3 HIGH-VOLTAGE JUNCTION BOX

Distributes DC power from battery to components and contains high-voltage fuses.

4 LEVEL 2 CHARGER

Uses 120V or 240V AC input from charge port. Converts AC power to DC power to charge battery in 6 to 8 hours at 240V.

5 MOTOR CONTROLLER & INVERTER

Converts DC from the battery to 3 phase AC for the traction motor. Controls the speed and torque of the traction motor.

6 TRACTION MOTOR

Converts electrical energy to wheel torque. Speed & torque outputs are based on accelerator input.

7 A/C COMPRESSOR

Integrated motor, compressor and controller powered by high-voltage DC. Used for interior air conditioning.

8 ELECTRIC VACUUM PUMP

Provides vacuum for the power brake booster.

9 DC/DC CONVERTER

Converts high-voltage DC power to keep the 12V battery charged and to supply power for 12V accessories.

10 GEARBOX

Fixed-ratio gear reduction increases torque and has integrated park pawl.

11 ELECTRIC POWER STEERING

12V powered smart system takes information from vehicle speed and steering sensors to provide the correct amount of assist which reduces energy consumption.

12 VEHICLE CONTROL UNIT (VCU)

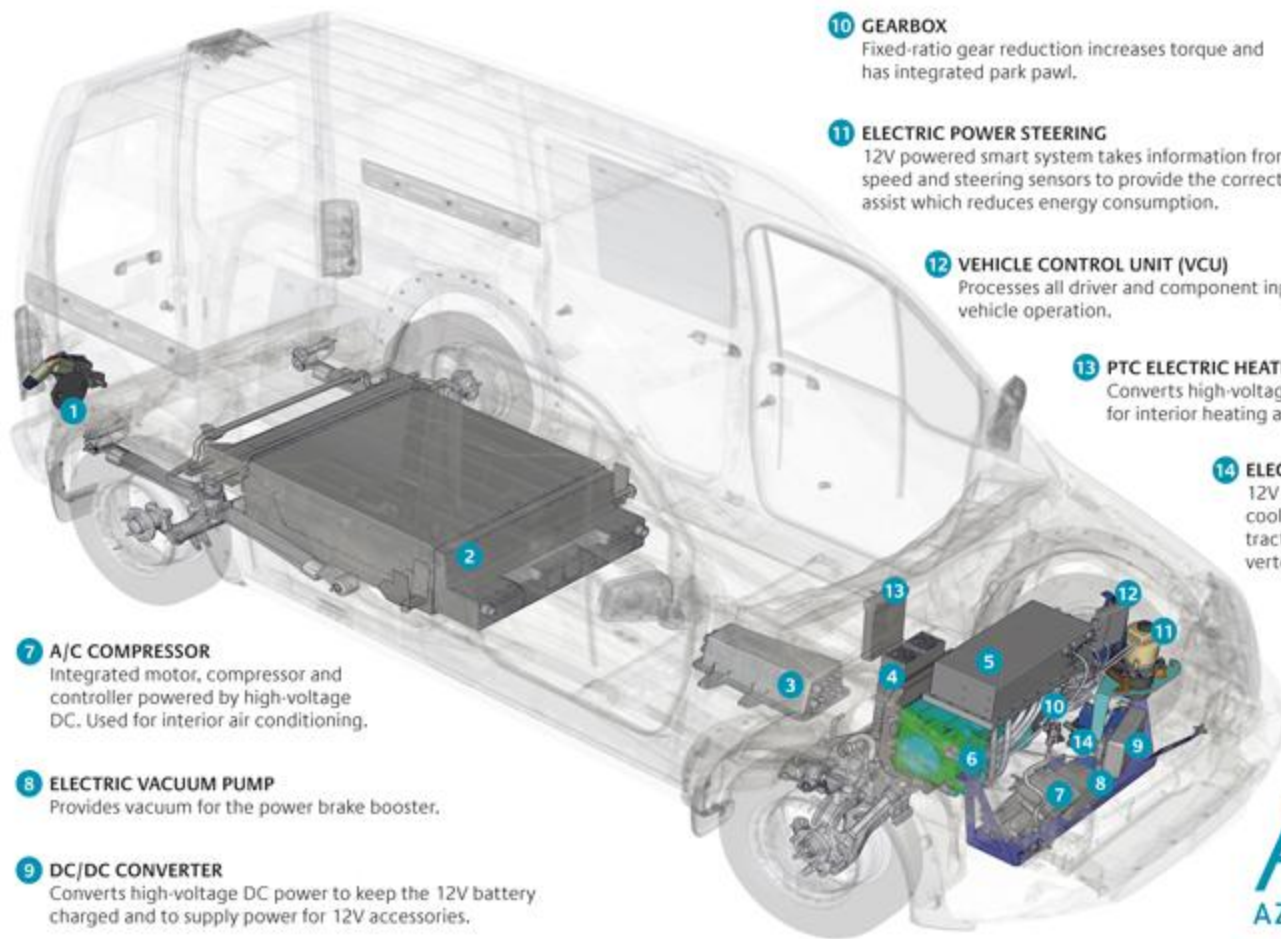
Processes all driver and component inputs in order to control vehicle operation.

13 PTC ELECTRIC HEATER

Converts high-voltage DC power to heat. Used for interior heating and windshield defrosting.

14 ELECTRIC COOLANT PUMP

12V powered pump circulates coolant through battery pack, traction system, DC/DC converter and heat exchanger.



AZD
AZURE DYNAMICS
part of the solution™

battery electric attributes

AZD FORCE DRIVE™ BATTERY ELECTRIC SYSTEM

- 28 kWh, lithium-ion battery (supplied by Johnson Controls-Saft)
- Driving range: up to 80 miles (drive cycle dependent)
- Charge time: 6 to 8 hours with 240V/30A supply
- Max speed: 75 mph
- Able to ascend up to 20% grade
- Ambient operational temp: -30° F to 120° F*

* Some power reduction may occur above 110° F and lower temperatures require pre-conditioning. Specifications preliminary and subject to change upon introduction of the Transit Connect Electric 2010.

Ford transit connect attributes

- GVWR: 5,005 lbs
- Maximum payload: 1000 lbs (estimated)
- 114.6 in. wheelbase and high roof
- Over 135 cu. ft. of cargo space
- 2 sliding side doors, 2 swinging rear doors
- Low side and rear load floor
- AdvanceTrac® with RCS® (Roll Stability Control™)
- Standard front and front seat-side airbags
- Standard Tire Pressure Monitoring System
- 39-ft. curb-to-curb turning radius
- Cargo vans have seating for 2 and an open cargo box

sales inquiries

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California HVIP

- > **New HVIP Category: Zero-Emission Commercial Vehicles (5,001 and 8,500 GVWR)**
 - > **Overview of manufacturers, uses, and configurations
Both Wagon and Cargo Versions Available Now.**
 - > **Proposed FY 2010-11 HVIP Voucher Amounts (begin November 1, 2011)**
 - > **\$15,000 for a fleet's first voucher**
 - > **\$12,000 thereafter**
 - > **Proposed FY 2011-12 HVIP will change slightly going down to \$10,000 per vehicle.**
 - > **Vehicle also Eligible for \$7500 Federal EV Tax Credit**

Transit Connect Early Adopters

- > AT&T
- > Florida Power and Light
- > Southern California Edison
- > US House of Representatives
- > Xcel Energy
- > Canada Post
- > New York Power Authority

Growing Order Book

Driving a world of difference

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EV vs. ICE Version Payback

- > Driving 75 Miles Per Day
- > Payback is 2.2 years w/HVIP
- > Saving Over \$4000/ year in Fuel
- > Average Maintenance Savings \$800/yr.

AZD Hybrid-Electric Technology

BALANCE™
HYBRID ▲ ELECTRIC



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Ford E450 Balance™

Base Spec:

- > Ford E-450 Chassis
- > 14,050 lbs. GVWR
- > 158" and 176" Wheelbase
- > 5.4 Liter V8 Engine (Gasoline)
- > 5 Speed Automatic Transmission

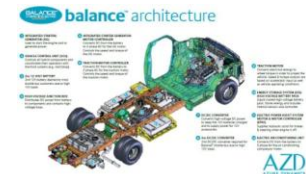
Available Incentives

- > HVIP for Balance Hybrid System
 - > \$25000 Voucher on First Unit
 - > \$20,000 for Additional Units.
 - > Payback in 3.2 yrs Using 100 miles /Day

Commercial Vehicle Electrification - Hybrids

Current Products

- > E-Series Cutaway and Stripped Chassis – Azure Balance™ Parallel Hybrid
 - > Primarily E-450 with 5.4 L gasoline engine
- > PHEV planned for 2012 CY



Approved Future Products

- > F-Series Super Duty Chassis Cab – Azure Balance™ Parallel Hybrid
 - > F-450 diesel proposed for 2013CY, followed by additional models



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Future Products – PHEV Balance Hybrid E-Series

balance™ hybrid electric

Improve fuel economy by up to **40%** and reduce your maintenance costs by up to **30%**



Azure Dynamics' Balance™ Hybrid is **driving a world of difference** in cities throughout North America.

- > **14 kWh Li-Ion battery (nominal = 346 V)**
- > **Electric drive motor cont. power ~ 50 kW**
- > **>20 mile electric range (blended)**
- > **Acceleration rates within ~ 10% of stock veh.**
- > **Level 1 & 2 Smart charging capability**
- > **Charge time (240V) ~ 4 hours**



EPRI | ELECTRIC POWER
RESEARCH INSTITUTE

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Future Products – Balance PHEV Design Features

- > Azure's PHEV product offer the following features:
 - > Engine Idle Off & Electric launch assist/drive (PHEV and HEV mode)
 - > Urban Electric drive Performance
 - > Regenerative braking
 - > Electric A/C – chassis cab and body
 - > Automatic conventional mode redundancy
 - > Electric power steering and brake assist
- > EV Range/performance:
 - > ~20 miles total EV-only range on UDDS (requires ~9 UDDS cycle repeats) with 14kWh battery
 - > vehicle resorts to charge sustaining HEV mode at 30% SOC, which will have similar performance to Azure's current Balance E-450 HEV
 - > Engine will be blended in to support higher accelerations and hi-speed in PHEV mode



Potential F-Series Super Duty Features

- > 6.7l diesel and/or 6.8l gas
- > PHEV [possible mild hybrid option]
- > Plug-in capability
 - 30% - 40% fuel economy improvement – traditional Balance™ results
 - 20 mile electric range equivalent
 - Electric launch/drive capability
 - Electric auxiliaries – 5 to 6 kw available power
 - 110 V AC power outlets
 - Electric hydraulic pump motors
 - Electric cab A/C system
 - Up to 14 kwh plug-in Li-Ion battery pack

Thank you!



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Questions? cabarca@azuredynamics.com

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