What is CANape?

CANape is the comprehensive tool for ECU development in vehicles. It was developed specifically for the development of driver assistance systems and electric drives. It records the behavior of the vehicle by measuring the signals and objects from ECUs, ADAS sensors, electric drives, buses, and much more. In doing so, they calibrate the parameters and thus adapt the control units to the vehicle. You analyze the measurement data manually or automatically and generate the reports you need for your evaluation. Data management - local and cloud-based - for measurement and calibration data rounds off the scope of services.

Overview of Advantages

> Open and flexible platform through use of standards
> Acquire and record measurement data from various sources synchronously and analyze them on your own PC. Or transfer the data to the cloud and analyze it there in the vMDM measurement data management system using the same tools
> Comfortably adjust and save parameters and manage them locally on your own PC Or directly into server- or cloud-based calibration data management system vCDM
> High-performance connection to control units and sensors (radar, LIDAR, video ...) with highest data rates via the VX1000 product family or Automotive Ethernet
> Process-safe logging-solution through interaction with CANape log

Record the ADAS sensor data and visualize them with CANape
> Comfortable integration of analog measurement technology with high sampling rates (High voltage measurements on inverter with 1MHz sampling rate)
> High-precision calculation of e.g. power values of the electric drive with the functions of eMobilityAnalyzer library
> Automated measurement data evaluation through data mining
> Visualization of Simulink/Stateflow models
> Rapid prototyping platform as efficient process environment for code and models
> Open interfaces for hardware integration of Third party providers
> Integrated programming language for calculations and automation of CANape

### Highlights of Version 19.0

**High performance**
- Fast loading of very large description files, such as A2L, arxml, ...
- Simultaneous loading of many measurement files
- Direct online calculation with Sampling rates up to 1 MHz

**Process reliability**
- Use your CANape project now also as a logger configuration with CANape log

**Cost efficiency**
- The eMobility-Analyzer now calculates all necessary parameters for the development of electric motors without special components
- Measure and parameterize models directly in Simulink without a paid option

### Basic Functions

> Synchronous real-time acquisition and visualization of ECU-internal signals with CCP/XCP, of bus messages, video, GPS, analog measurement technology as well as radar, LIDAR and video sensors
> Online calibration via CCP/XCP, real-time stimulation and bypassing via XCP
> Offline calibration of HEX files
> Offline measurement data evaluation from manual evaluation to automated data mining with the integrated function language or user generated DLLs
> Software-in-the-Loop solution: algorithms can be efficient testing with CANape as runtime environment
> Fast and safe flashing of binary files and parameter sets
> Seamlessly integrated diagnostics via KWP2000, UDS and OBD as well as OEM-specific security solution for diagnostic access
> Powerful management of calibration data, comparison and merging of parameter sets
> Extensive printing and reporting functionalities

### CANape Options

**Option Driver Assistance**
- Recording of ADAS sensor data and object verification

**Option vMDM**
- Direct connection between CANape and vMDM for the provision and analysis of measurement data

**Option vCDM**
- Convenient exchange of parameter sets and values within a team

**Option Bypassing**
- Bypassing computation with deterministic time behavior

**Option Thermodynamic State Charts**
- Display of thermodynamic data and informative state charts for online and offline analysis

### Hardware Interfaces and Protocols

> Bus monitoring of CAN, CAN FD, Automotive Ethernet, SOME/IP, FlexRay, LIN, SAE J1939, GMLAN, CANopen
> Analog measurement technology with sampling rates of 1MHz via Ethernet
> XCP on CAN, CAN FD, FlexRay, Ethernet, 100BaseT1, UART
> Fast controller interfaces such as JTAG, DAP, LFAST, RTP/DMM, Nexus AUX, AURORA via the VX1000 measurement and calibration hardware
> Fast processor interface with PCIe over VX1000
> Interfaces for video sensors
> DoIP (Diagnostics over Internet Protocol)
> CCP (CAN Calibration Protocol)
> ISO 14230 (KWP2000 on CAN) and ISO 14229 (UDS), Transport protocols ISO/TF2 and VW-TP2.0
> ISO 14229 (UDS) via FlexRay with the ISO transport protocol as well as the transport protocols “AUTOSAR” and “BMW” on request
> Integration of measurement technology and hardware interfaces from third party manufacturers

More information: www.vector.com/canape