



FEV Signature Solutions

Predictive torque and gear shifting based on eHorizon data

Optimize energy and fuel consumption with our ADAS predictive shifting software

FEV offers

- Series production ready functions for passenger and commercial vehicles with and without cruise control
- Innovative energy and fuel consumption optimization algorithm with low processor load
- Works both when driver and cruise control are controlling vehicle
- Easily integrable into your control unit and adaptable for other applications like optimum speed estimation to improve range
- Easy integration of other environment detection features like speed limit detection, radar or lidar

Why FEV

- Proven in vehicle with extensive tests under real road conditions and continuously optimized
- White box option to enable customer to use FEV's solution as basis for its own development
- Customization by FEV to exactly address customers' needs
- Customer friendly license model, as one time license fee and tailored license scope

Predictive shifting software for heavy duty vehicle

SELECTED REFERENCE PROJECT

- Series software development including calibration

FEV responsibility

- Providing predictive shifting function based on eHorizon slope and curvature to be integrated with customer transmission software
- Deploying an optimization algorithm on a mass production control unit
- Calibration and validation on MiL, HiL and Vehicle including durability testing
- Strategy comparison and evaluation of predictive vs conventional shifting algorithm



Patents

Predictive Gear Shifting Strategy

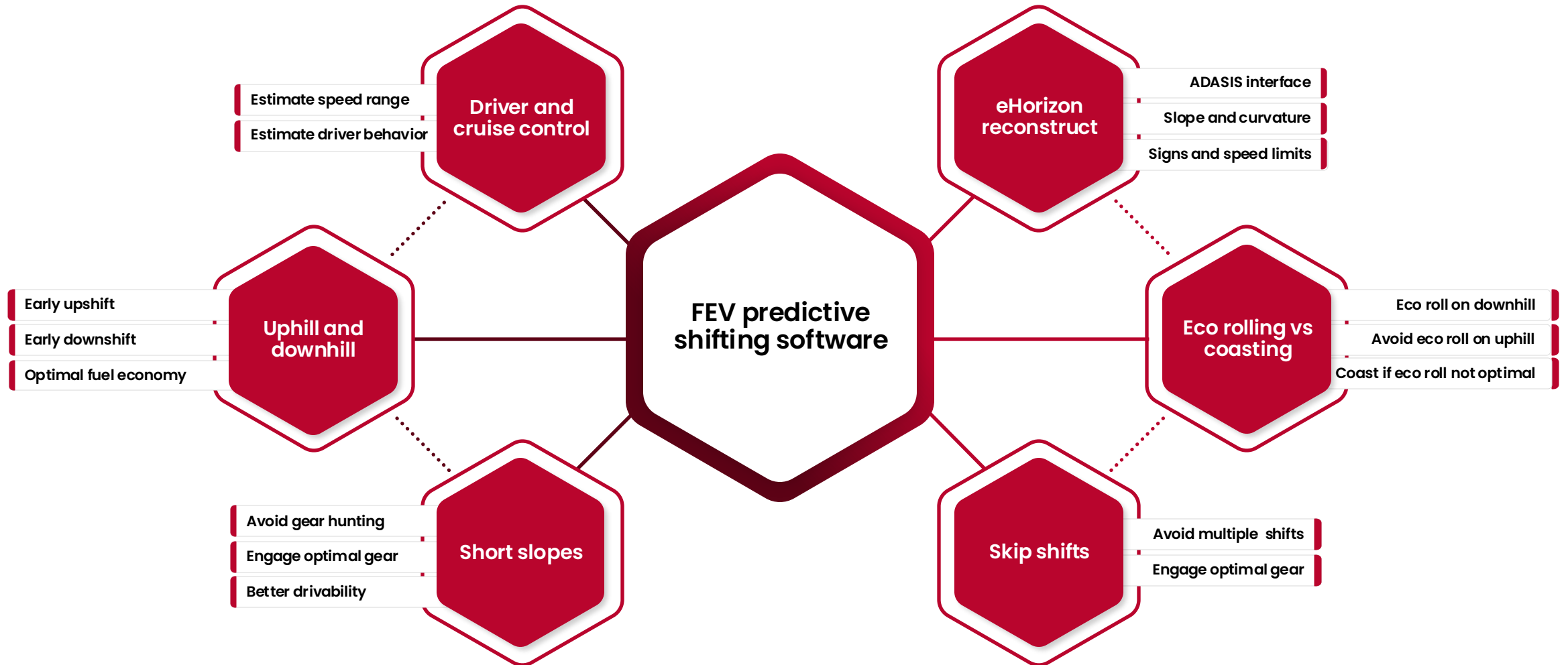
JAKKAMPUDI, REMELHE
DE102024102437A1
(application)

Driver Speed Prediction

BHATT, REMELHE, JAKKAMPUDI
DE102024120516.4
(application)

Function overview

FEV PREDICTIVE SHIFTING SOFTWARE



Optimal energy and drivability in different driving situations

FEV PREDICTIVE SHIFTING SOFTWARE

01 eHorizon data reconstructor

- Processing raw eHorizon data to usable format

02 Road data interpretation

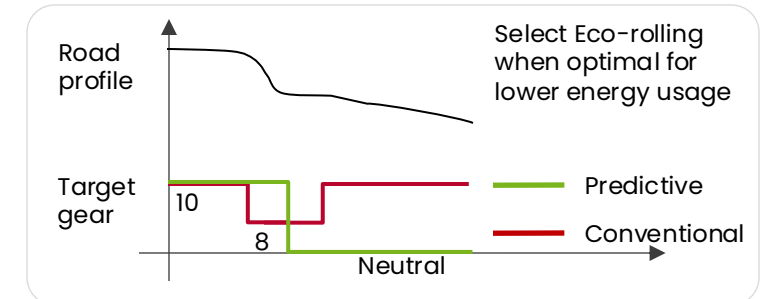
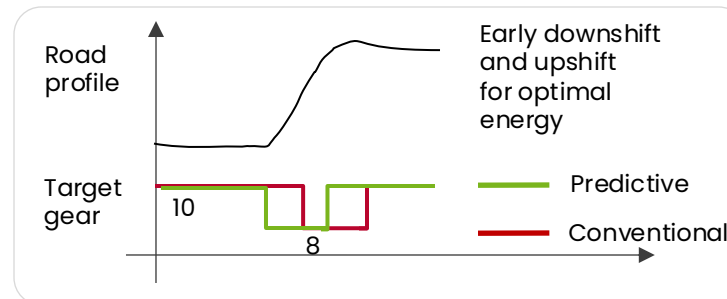
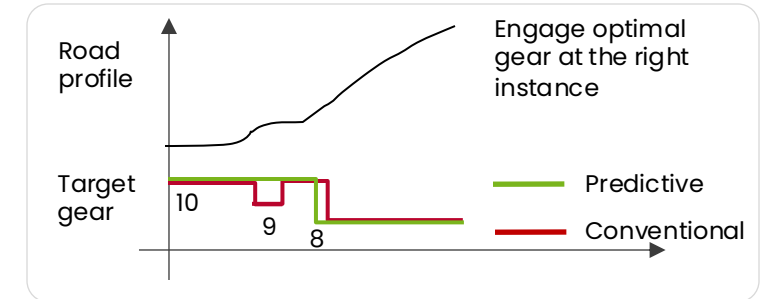
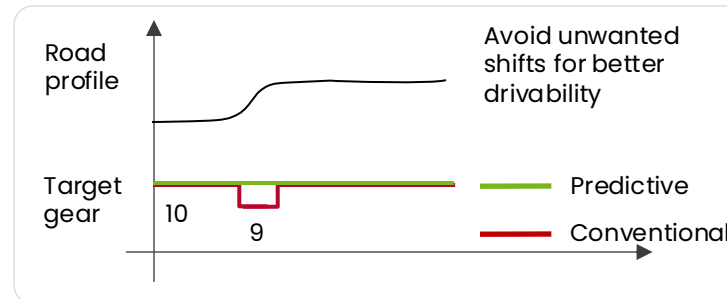
- Current and future road environment (e.g. position, slope, curvature, traffic signs, etc.)

03 Speed prediction

- Speed range prediction for driver including driver behavior and cruise control

04 ADAS optimum gear selection

- Optimization algorithm with cost function for best gear



Get in touch with us for further information



[www.fev.com/en/
signature-solutions](http://www.fev.com/en/signature-solutions)