"EV-Power Optimization" (lead MOBIS)
spin-off of "EV-Charging group" (lead FORD)

Goal:
Abstraction of an app for last mile extension based on VSS

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EV Power Optimization: Initiator MOBIS
Extend VSS for power management

Choice 1: (read-only or actuator set-value)

Add data points for current data value

e.g. "display brightness level", later powertrain, HVAC

1a) go for data type "sensor" [r]
   advantage
   power derating is done via actuator settings

1b) go for data type "actuator" [rw]
   advantage
   Power might be used also as a set value
      for power derating-SW below VSS
   VSS derating set-value can only be a recommendation to
   the low level SW below api (lowest brigdness is not "0")

RB recommendation

Choice 2: Where allocate to new data?

2a) new power data under each branch   2b) new power branch
   close link to component   condensed view

RB recommendation

APPROACH IN TRACKING TRAVEL RANGE ATTRIBUTES
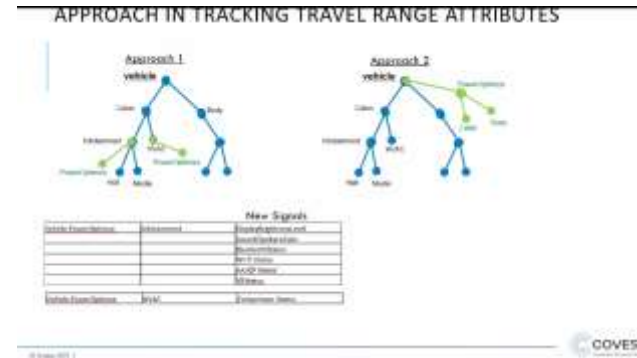
2c) Add meta data "power" to existing component
      → as a dynamic meta data [r]
      → as read-only "power" or "current"

Advantage: no extension of VSS tree
Disadvantage: no set value possible
                 some values might not map to individual VSS-data points

~100 components/vehicle -> additional points tbc

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EV Power Optimization: Initiator MOBIS
Split reading sensors value and the set-value

Set-value (actuator) − recommendation to component, only:

- Degradation system state = mode for each main branch (powertrain, body, Cabin, ADAS, Chassis ...) :
  [1...10] with [power system state "1": lowest power possible, ..., "10" max consumption allowed]

RB recommendation

- Or Power level-value for each domain (= main branch)
  [0...100%] with [0% lowest power possible, ... , 100% max power consumption]

Each component can overrule this power mode recommendation according local needs (legal, safety,...)

For later (if abstractable from different vehicle architectures)
- Dyn. Power [W] (Read for each component - RB-preferred)
- Dyn. Current [A] ← s. like CAAM
- s. also vHAL (e.g. µP power)

In a second step, based on use-cases

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