

The journey towards autonomous transport solutions





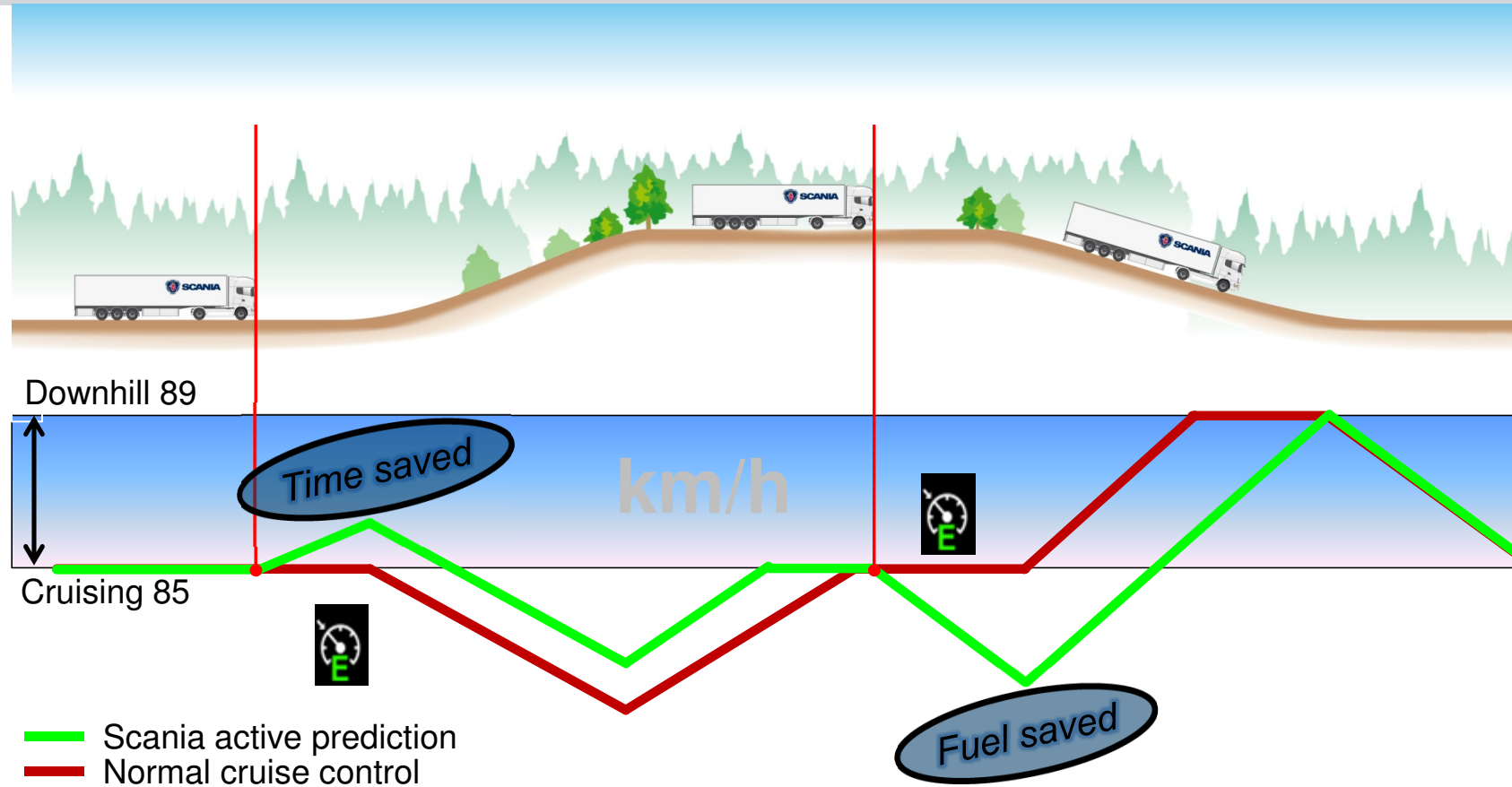
Advanced Driver Assistance Systems

*“Advanced Driver Assistance Systems represent a wide range of systems designed to help the driver, making the **driving process safer and more efficient**”*

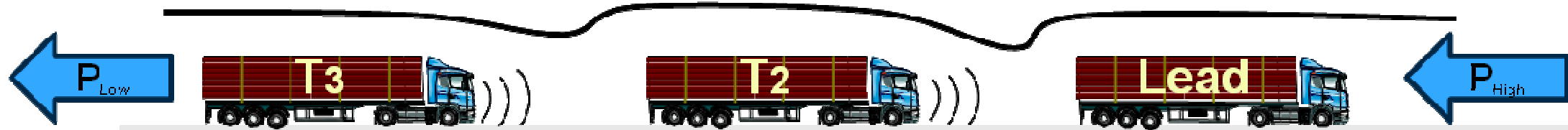
(Intelligent Transport Systems (ITS) for sustainable Mobility, UNECE publication, February 2012)



Cruise control with active prediction



Platooning

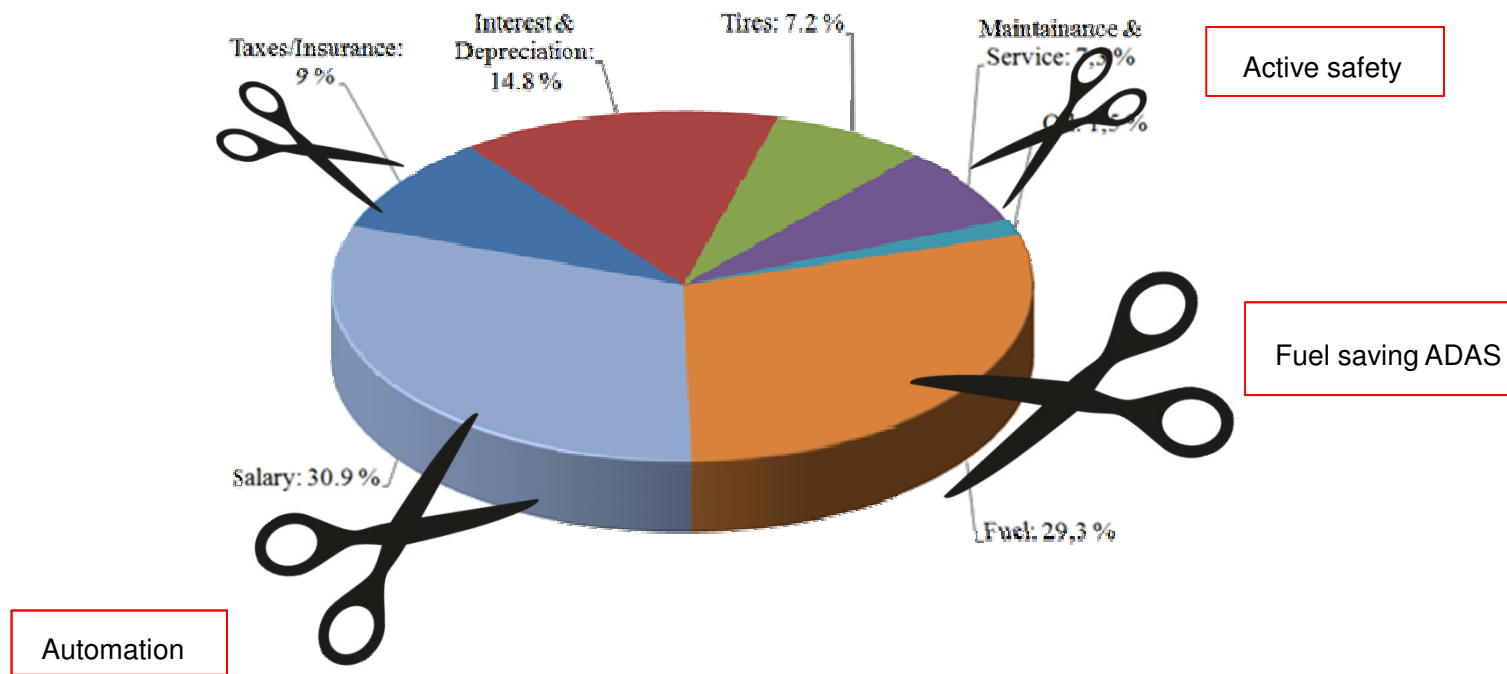


Why automate?



ADAS & automation from a customer's perspective

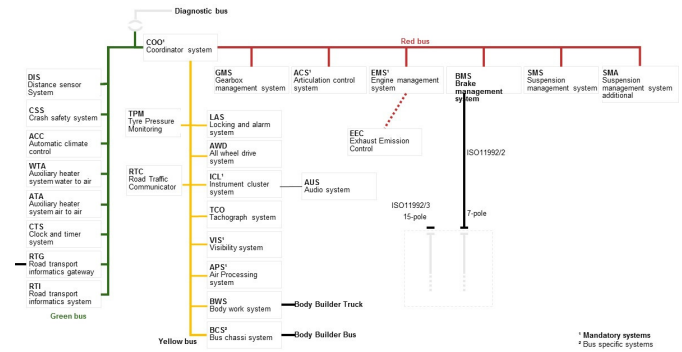
-Life cycle cost distribution over a 4 year period for a heavy duty vehicle in Europe.



Sustainability

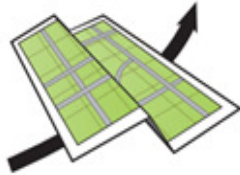


Modularization

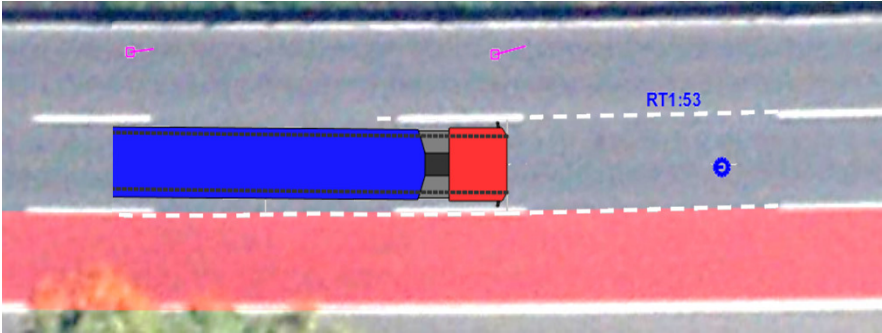


Centralized sensor fusion

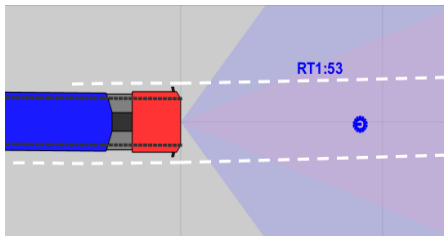
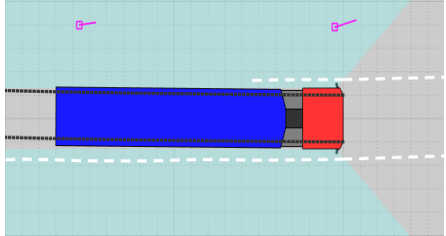
Sensor view



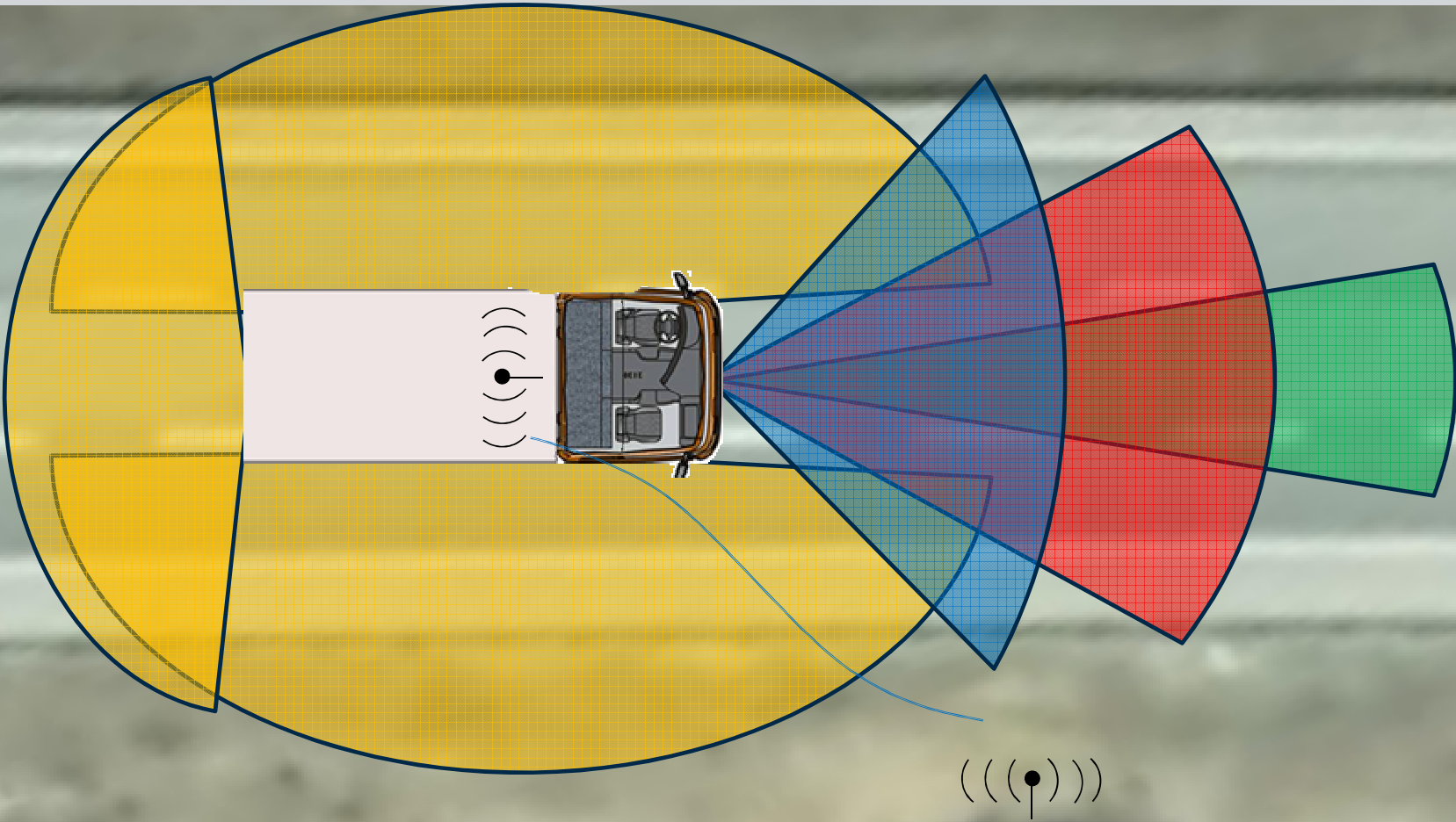
Sensor fusion view



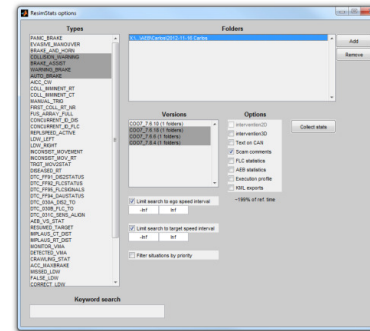
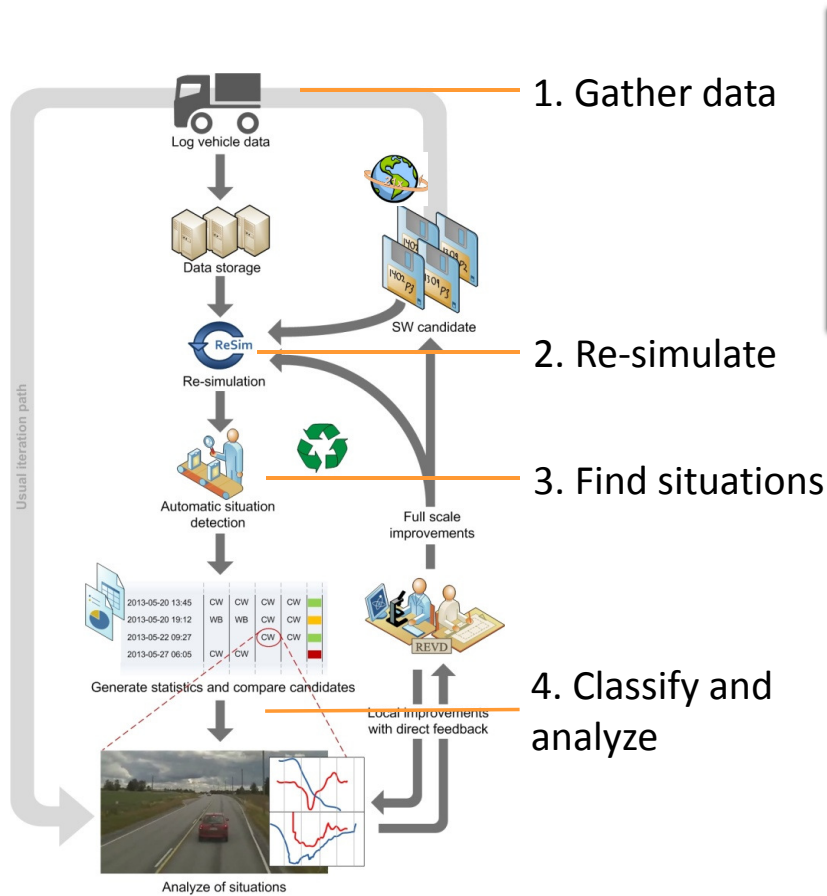
Function view



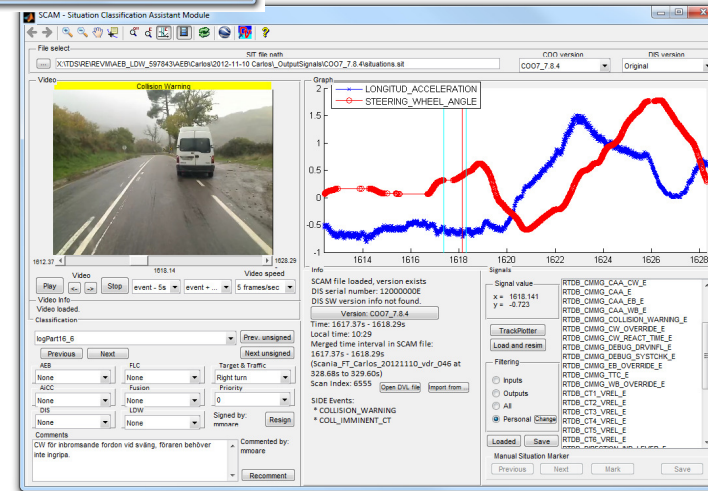
Centralized sensor fusion



Development workflow

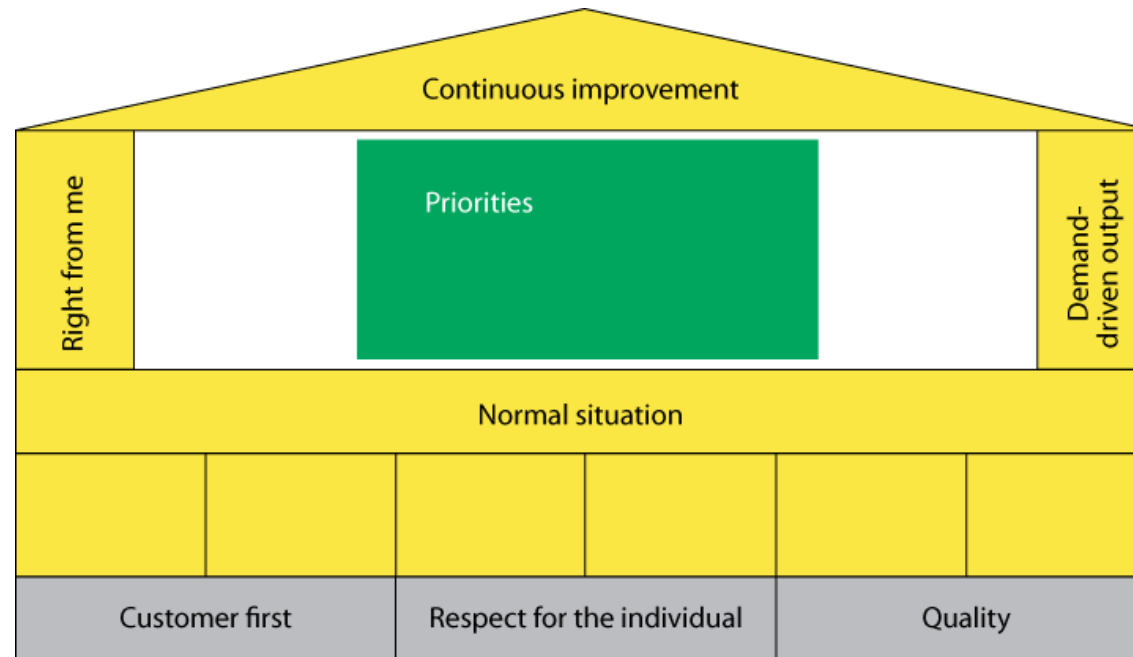


COOP_7.8.412	Host Speed	Target Speed	AEB	Traffic	Comments from SCAM
RA.CW.CT	39 km/h	14 km/h	Dynamic	Dynamic	Foreman suggest after CW
RA.CW.CT	20 km/h	12 km/h	Sudden braking	Dynamic	Foreman propose in other CW
RA.CW.CT	79 km/h	50 km/h	Right turn	Dynamic	CW for fordon ions swing or percis. Foreman believe into ingpa
RA.CW.CT	59 km/h	4 km/h	Failed	Dynamic	CW for packman fordon leave
RA.CW.CT	107 km/h	105 km/h	Speed limit	Dynamic	
RA.CW.CT	18 km/h	-1 km/h	Traffic light	Dynamic	Foreman propose for for offsideande fordon
RA.CW.CT	99 km/h	62 km/h	Sudden braking	Dynamic	
RA.CW.CT	25 km/h	13 km/h	Dynamic	Dynamic	Leadsh cause it do for vir road
RA.CW.CT	51 km/h	43 km/h	No target	Dynamic	Faldskil fordoner i de for ger CW
RA.CW.CT	16 km/h	14 km/h	Dynamic	Dynamic	Foreman vake la god konn of a fordonvande fordon vid CW
RA.CW.CT	51 km/h	47 km/h	Overtaking	Dynamic	Challenger or fordon yd viddigge fordon vid CW
RA.CW.CT	15 km/h	17 km/h	Traffic light	Dynamic	Foreman minne because the offsideande fordon after CW
RA.CW.CT	30 km/h	8 km/h	Right turn	Dynamic	Foreman believe into ingpa stannet for viddigge bil
RA.CW.CT	22 km/h	11 km/h	Right turn	Dynamic	Foreman because for viddigge bil en bil fordon
RA.CW.CT	16 km/h	14 km/h	Traffic light	Dynamic	CW for for fordon vid goddele percis after en ring
RA.CW.CT	14 km/h	2 km/h	Traffic light	Dynamic	Foreman minne because after CW for offsideande fordon vid trafiklj
RA.CW.CT	99 km/h	54 km/h	Overtaking	Dynamic	CW for bil i fordon vid under laura



Philosophy

Corporate principles



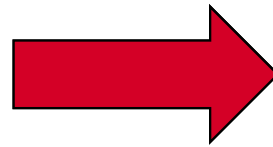
Trends



```
} else if (localDW->bitsForTID0.is_c2_deva_lib == grec_IN_HoldState) {  
  /* During 'HoldState': '<S42>:2' */  
  if (localDW->n_U32 >= rtp_holdTicks_U32) {  
    /* Transition: '<S42>:3' */  
    *rty_heldValue_B = FALSE;  
    localDW->bitsForTID0.is_c2_deva_lib = grec_IN_NormalState;  
  } else if (rtu_value_B) {  
    /* Transition: '<S42>:6' */  
    localDW->n_U32 = 0U;  
    localDW->bitsForTID0.is_c2_deva_lib = grec_IN_HoldState;  
  
    /* Entry 'HoldState': '<S42>:2' */  
    *rty_heldValue_B = TRUE;|  
  } else {  
    localDW->n_U32++;  
  }  
} else {  
  /* During 'NormalState': '<S42>:1' */  
  if (rtu_value_B) {  
    /* Transition: '<S42>:4' */  
    localDW->n_U32 = 1U;  
    localDW->bitsForTID0.is_c2_deva_lib = grec_IN_HoldState;  
  
    /* Entry 'HoldState': '<S42>:2' */  
    *rty_heldValue_B = TRUE;  
  }  
}  
}
```



Trends



Trends



Summary

- The rapid advances in technology benefit both industry *and* society
- Long term strategies help bridging the gap between advanced driver assistance systems and full automation
- Lean development is the key to success



Scania. It starts with you.

Nordic MATLAB EXPO 2016-04-21, Daniel Frylmark

