



# **Integrated Vehicle Based Safety Systems – Heavy Truck Platform**

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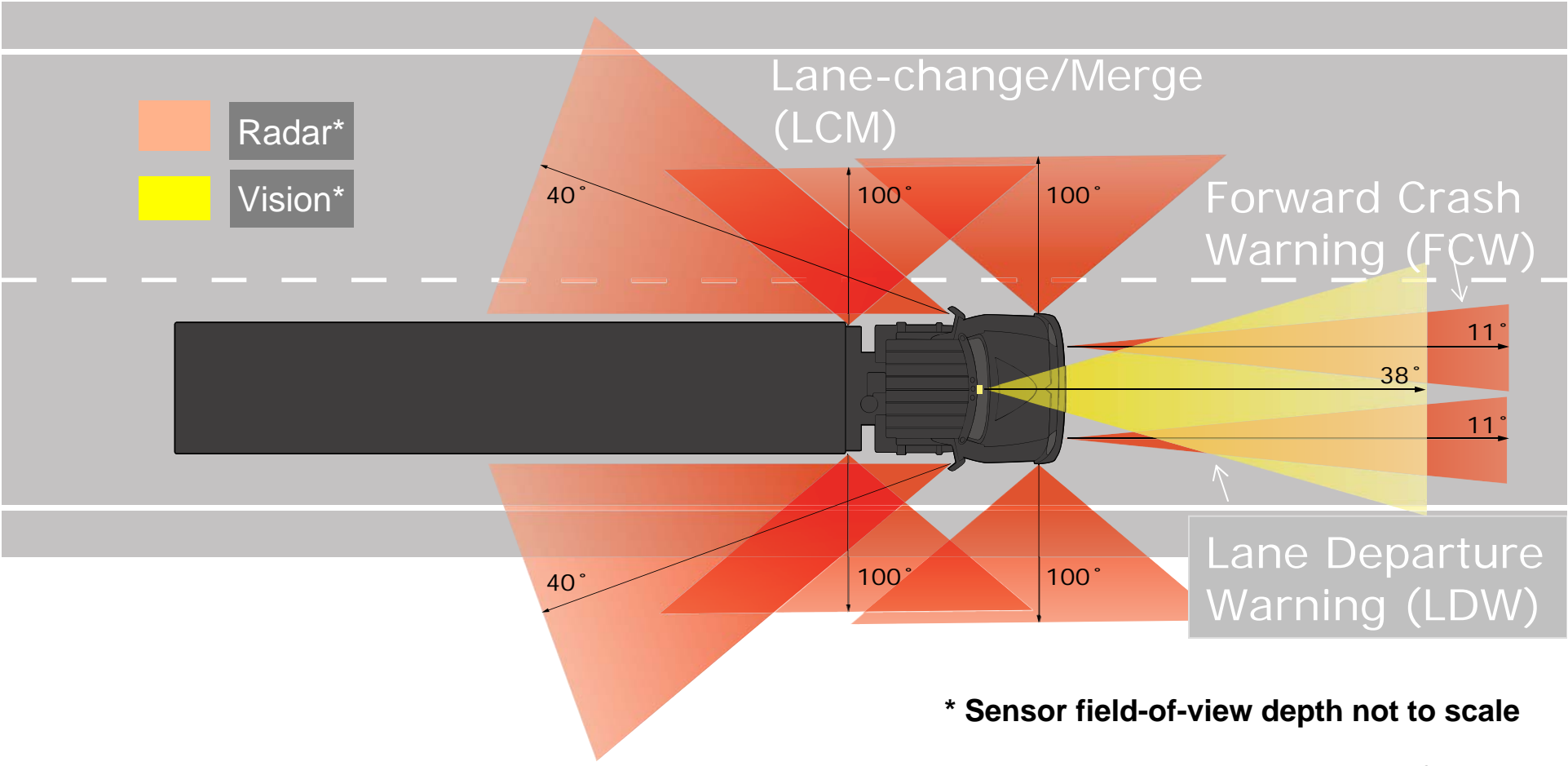
# Outline



- 
- System Overview
  - Key Developments in the last 12 months
  - Recent and Upcoming Milestones



# System Overview



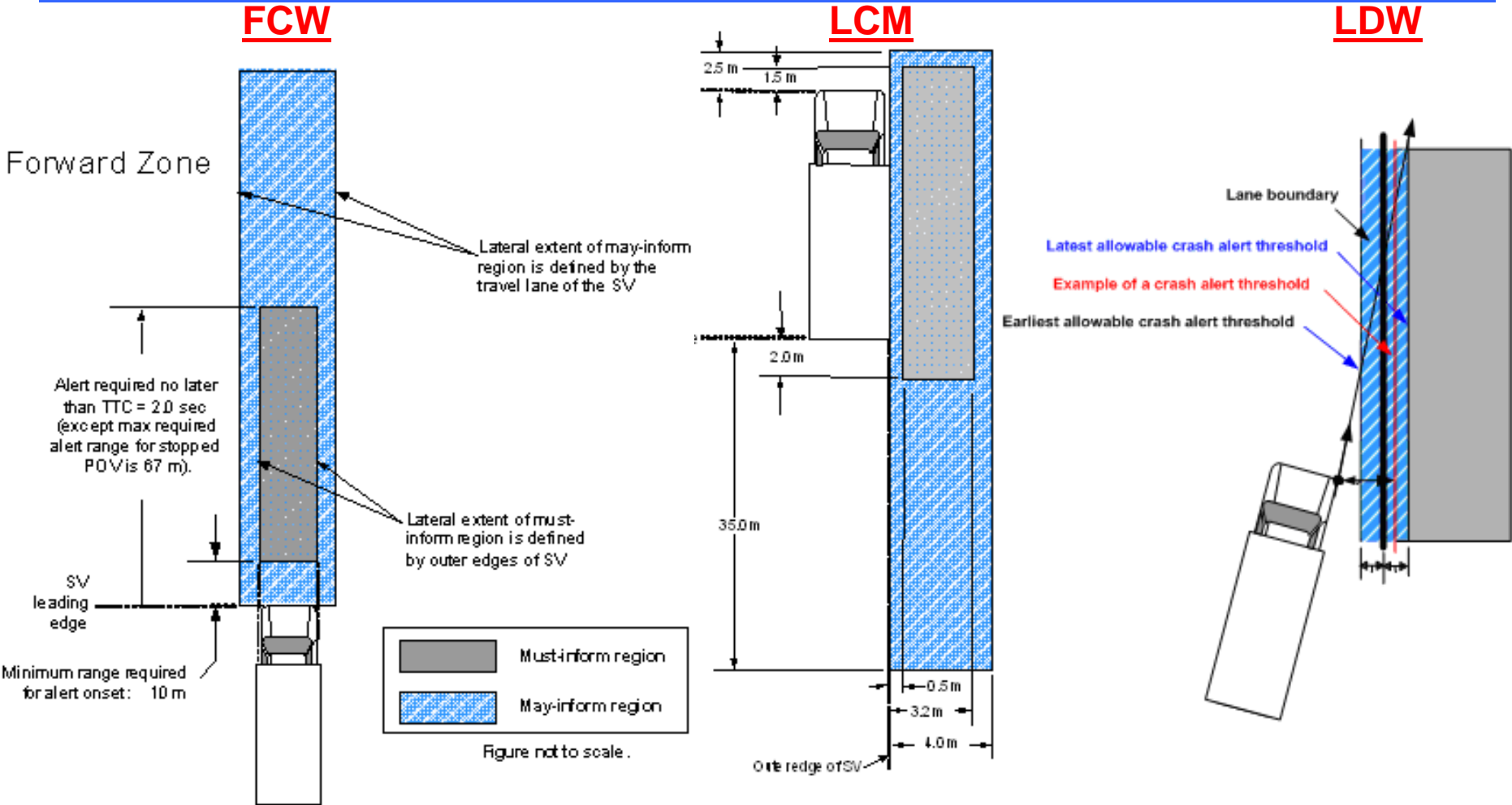


# Sensor Suite



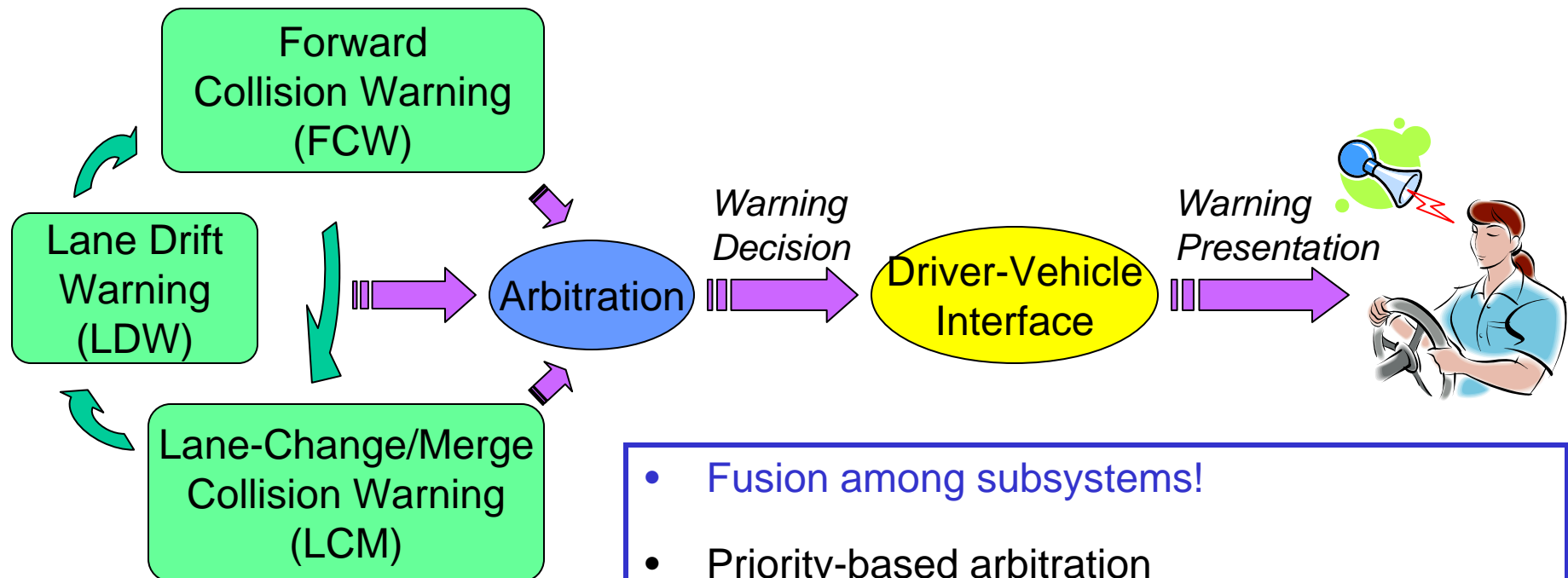


# Warning Zones





# System Architecture



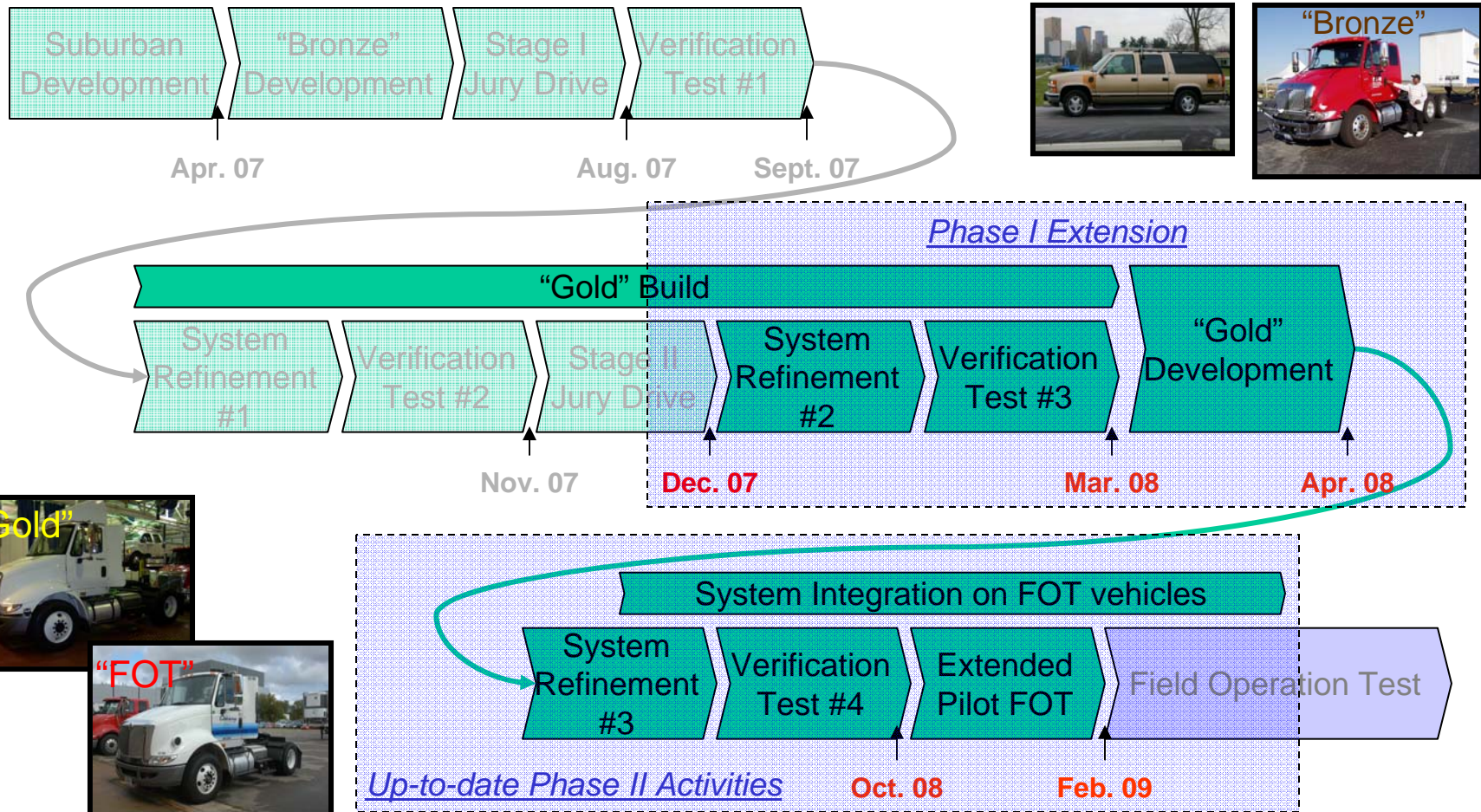
- Fusion among subsystems!
- Priority-based arbitration
  - At most one auditory alert to the driver in any moment
- Multi-level, directional driver-vehicle interface
  - Visual + audible, central + side

# Driver-Vehicle Interface





# Summary of Recent Progress







# Major System Development

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- Software improvement:
  - False alert mitigation
    - LCM: Vehicles in opposite direction; roadside stationary objects; vehicles in one-lane-over; trailer reflection classification
    - LDW: Repetitive LDW in caused by false lane markers
    - FCW: Overpasses; roadside objects on curves
  - Unnecessary alert suppression at the arbitration level
    - Alerts at low-risk situations (e.g. low speed, recent brake application)
- Driver-vehicle interface improvement
  - Less intrusive LCM sound
  - Trailer configuration input
  - Pre-emption logic for multiple alerts



# Major System Development

- Hardware improvement: less intrusive, more robust;

Before



After



# Recent & Upcoming Milestones



- The first FOT vehicle (FOT 1) integration completed in Sept. 2008
- FOT 1 passed all the on-track and on-road verification test witnessed by USDOT in Oct. 2008
- Extended Pilot FOT completed in Dec. 2008
- System integration on the FOT fleet completed in Mar. 2009
- FOT launched (with 4 trucks) on Feb. 2, 2009
- FOT 5-9 have entered FOT
- >100k miles accumulated (YTD)
- FOT 10 to enter FOT soon



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**Thank You!**