

# CHASSIS CONTROL



# MASAHARU SATOU

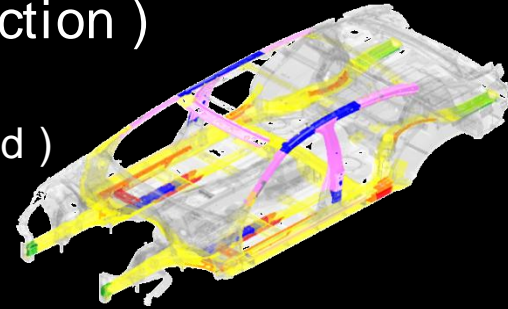
DEPUTY GENERAL MANAGER  
VEHICLE DYNAMICS ENGINEERING GROUP  
INFINITI PRODUCT DEVELOPMENT



# DYNAMIC PERFORMANCE of INFINITI Q50

In control ( Precise handling & Small correction )

- DAS ( Most advanced steering system in the world )
- Stiffer chassis ( Body & Suspension )
- Good aerodynamics Cl ( zero lift )
- Tire improvement
- Enhancing good fuel economy
- Improved thanks to initial media feedback



# STIFFER CHASSIS FOR BETTER HANDLING

- 60% Improvement in front end bending stiffness from previous model

## FR BODY BENDING STIFFNESS

G sedan

Q50

60%

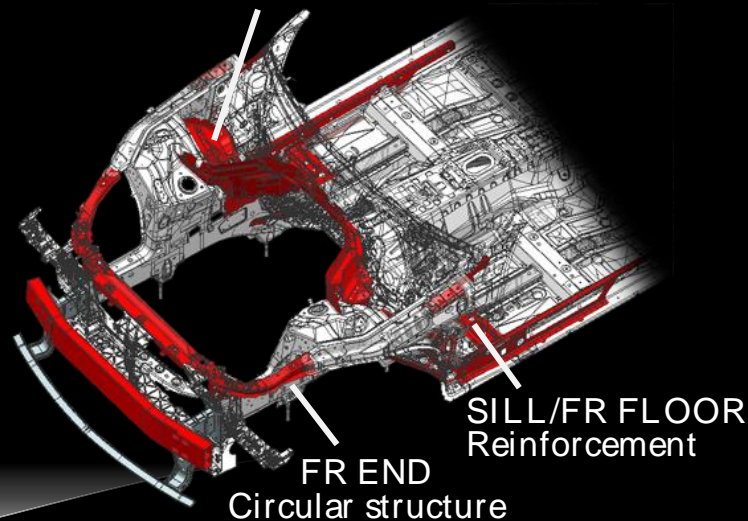
Stiffness ↑

Q50

G sedan

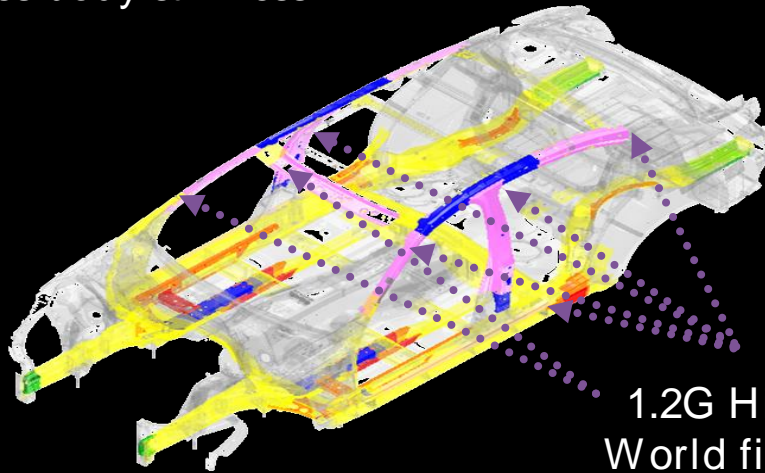
Smooth section to support circular structure

## DASH/COWL TOP panel Reinforcement








# HIGH TENSILE STEEL

- First use of 1.2G High Elongation and High Tensile Steel
- Weight reduction of 13 pounds
- Provides lower profile structure and additional headroom
- Increases body stiffness



1.2G High Tensile Steel  
World first for automotive

	Hot Press
	1.2GPa
	980MPa
	780MPa
	590MPa

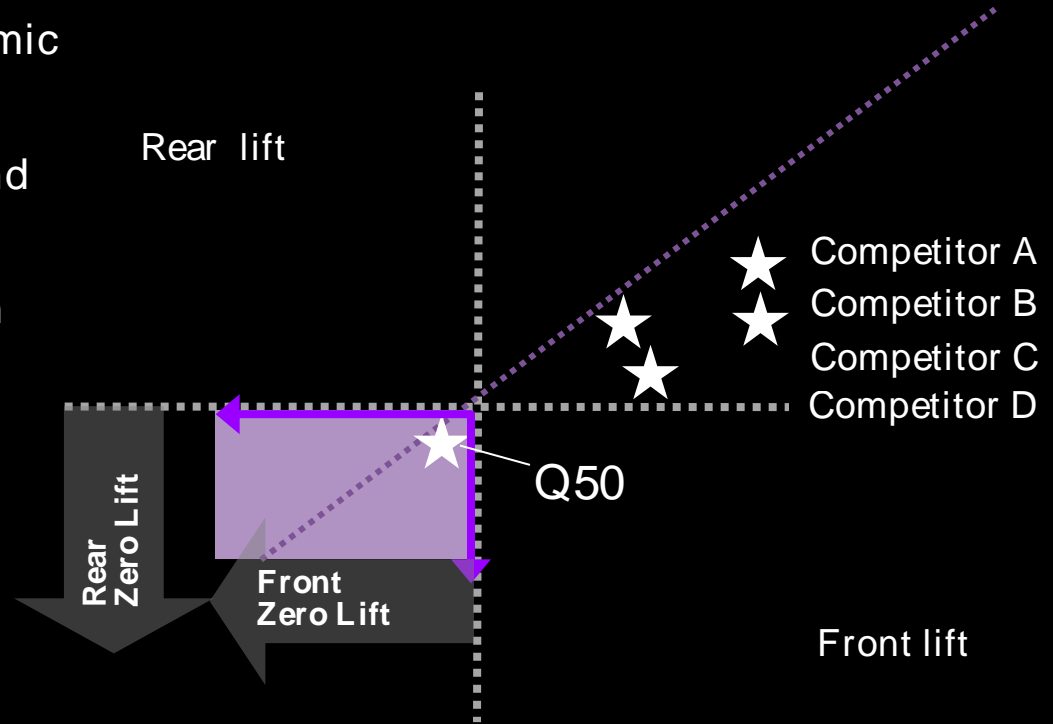
# NEW MULTI-LINK REAR SUSPENSION

- New geometry & structure
- Camber stiffness 8% improve
- Reduced road noise



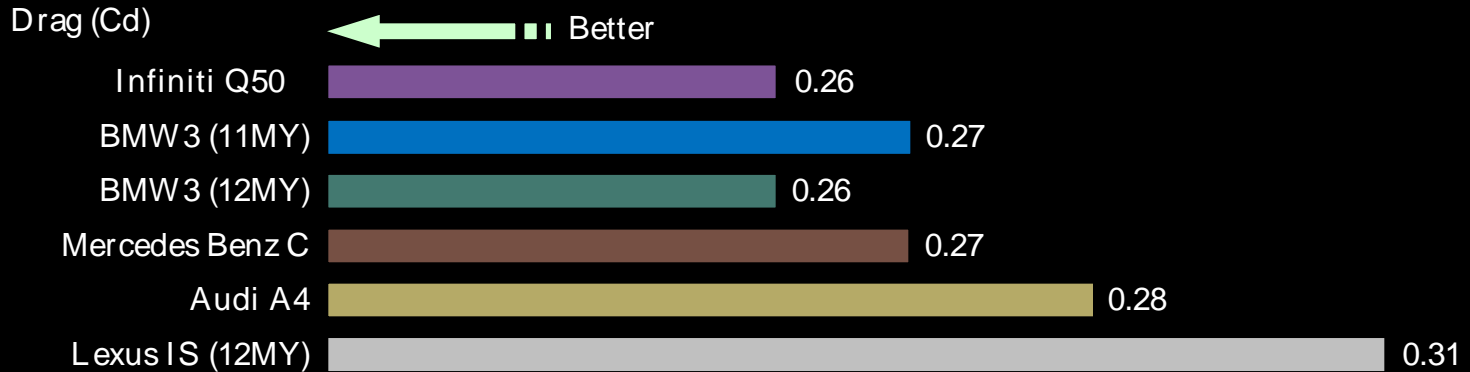
# AERODYNAMICS

- Infiniti Q50 has zero aerodynamic lift at the front and rear
- Accomplished without front and rear spoilers
- Early collaboration with design and engineering team



# AERODYNAMICS

- Drag coefficient is 0.26 Cd
- This contributes to improved fuel economy





# OTHER HANDLING UPGRADES



Upgraded double-wishbone front suspension

Reduced unsprung weight

3<sup>rd</sup> Gen. run-flat tire  
Good grip  
Low RRC

# DIRECTOR OF PERFORMANCE



# INFINITI Q50 CHASSIS BENEFITS

- Latest generation multi-link rear suspension – updated and refined
- Double-wishbone front suspension
- Lower cross-beams and side members from high tensile steel
- Wheel stiffness improved (benefits NVH and chassis stability)
- Active Noise Control (certain models) – noise cancelling sound generated from four door speakers
- Rear-wheel drive, mid-ship platform = good weight distribution and well balanced proportions
- Class leading aerodynamics
- World first automotive use – Ultra high tensile steel; 2x strength of mild steel
- Handling fine-tuned by four-time world champion, Sebastian Vettel
- Direct Adaptive Steering™ – accurate and direct steering

# UPDATES SINCE LAUNCH

- New optional Performance Package
- Staggered conventional tires and new forged wheels
  - 245/40R19 – front
  - 265/35R19 – rear
- Q50 Sport models with Direct Adaptive Steering™
  - DAS mode settings optimized

# CONCLUSION

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-1.2G High Tensile Steel





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