

Supplier Partnership for the Environment &
Tennessee Automotive Manufacturing Association
3rd Quarter Membership Meeting
September 8, 2011



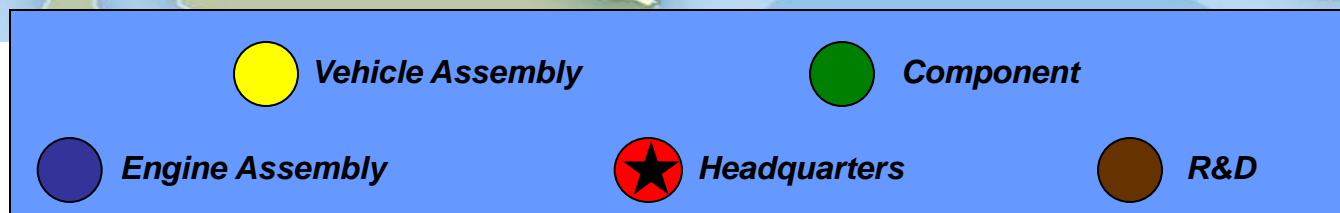
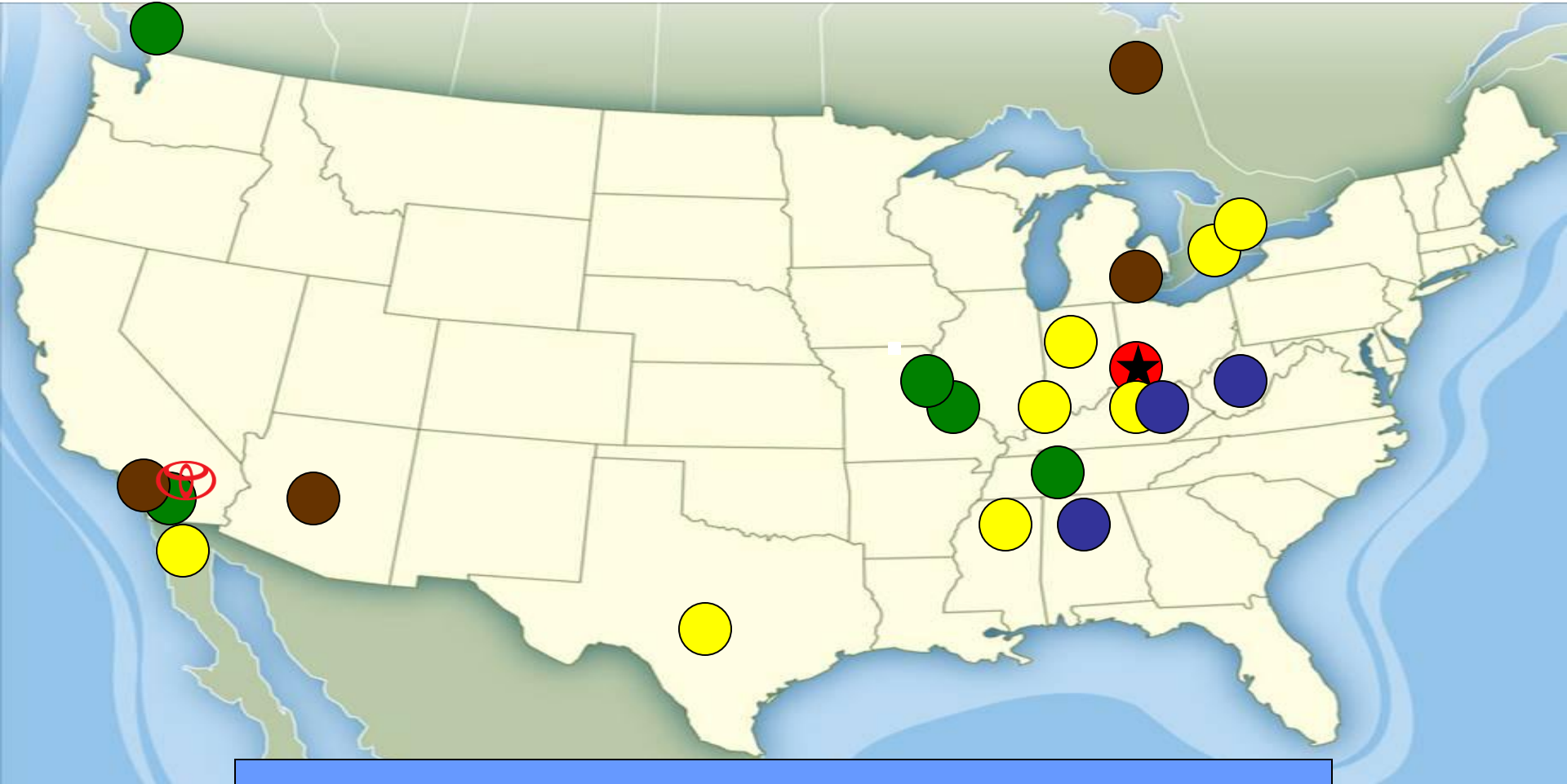
*Environmental Performance
and Lean Manufacturing*

Good Things to Share!!

Kevin M. Butt

***General Manager/Chief Environmental/Safety Officer
Toyota Motor Engineering & Manufacturing North America***

Manufacturing Locations



12 Locally Produced Vehicles

Avalon



Camry/Camry Hybrid



Corolla



Highlander



Lexus RX 350



Matrix



RAV4



Sequoia



Sienna



Tacoma



Tundra



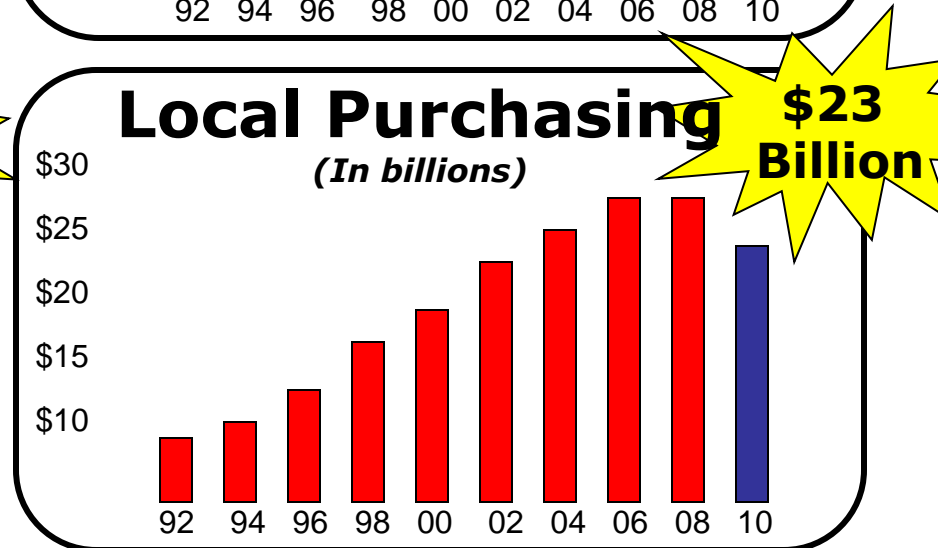
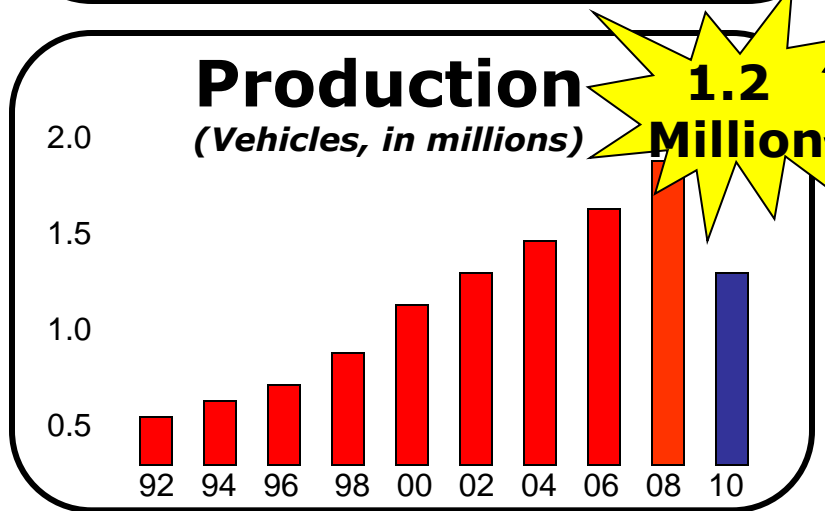
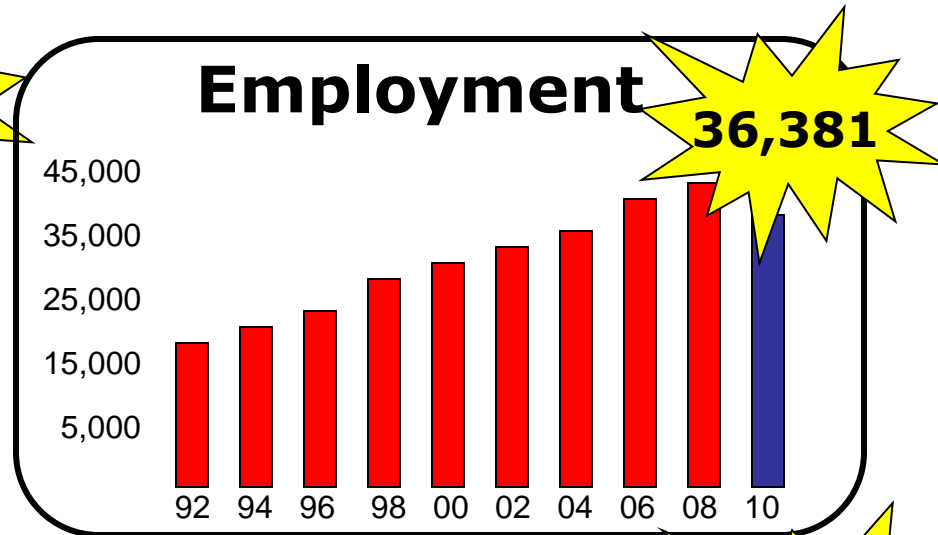
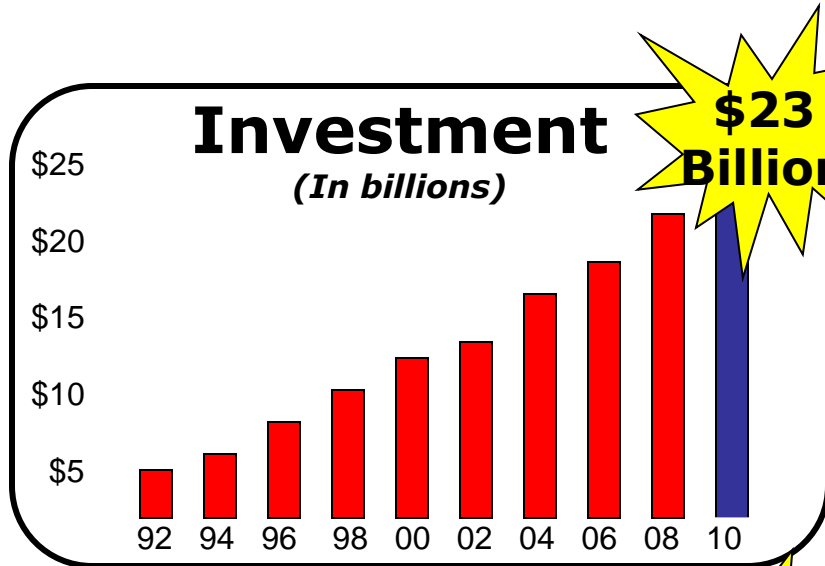
Venza



More Than 500 Supplier Locations



North American Impact



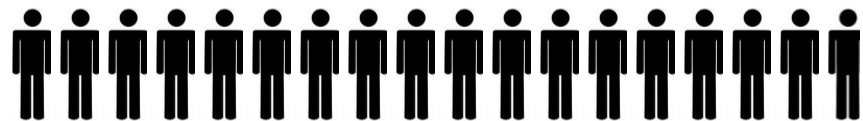
Toyota U.S. Economic Impact

 = 10,000 jobs


Direct employment:

 **29,089**

Indirect employment:

 **177,312***

Total impact:

 **206,401***



*Source: Center For Automotive Research Impact Study

Toyota's Environmental Vision

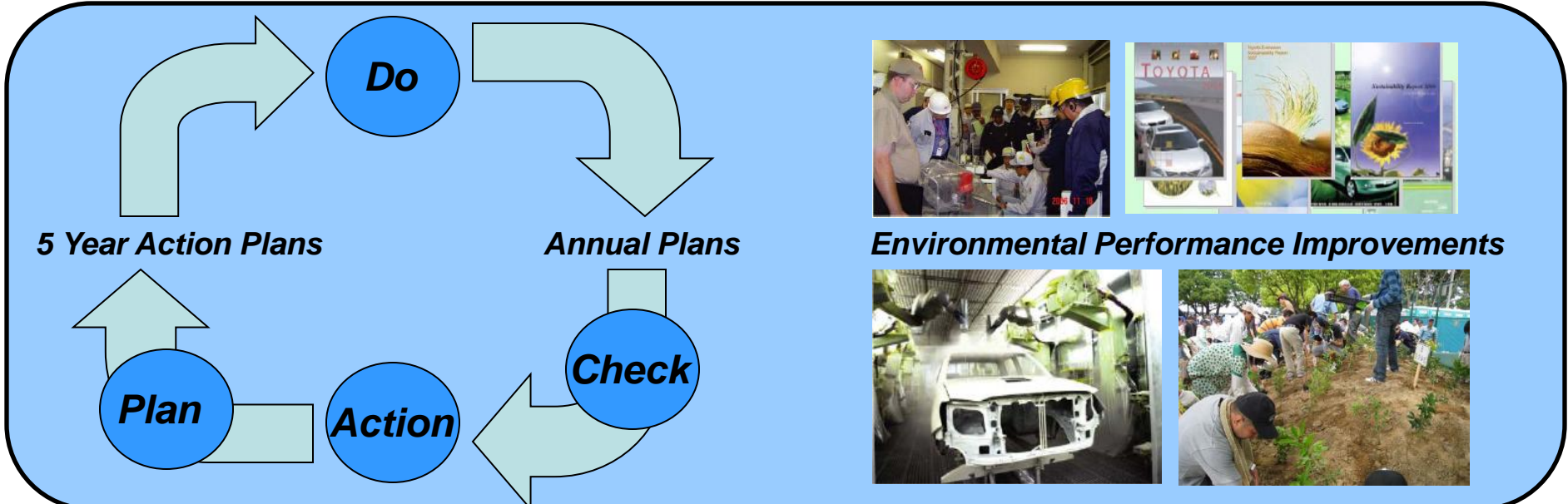
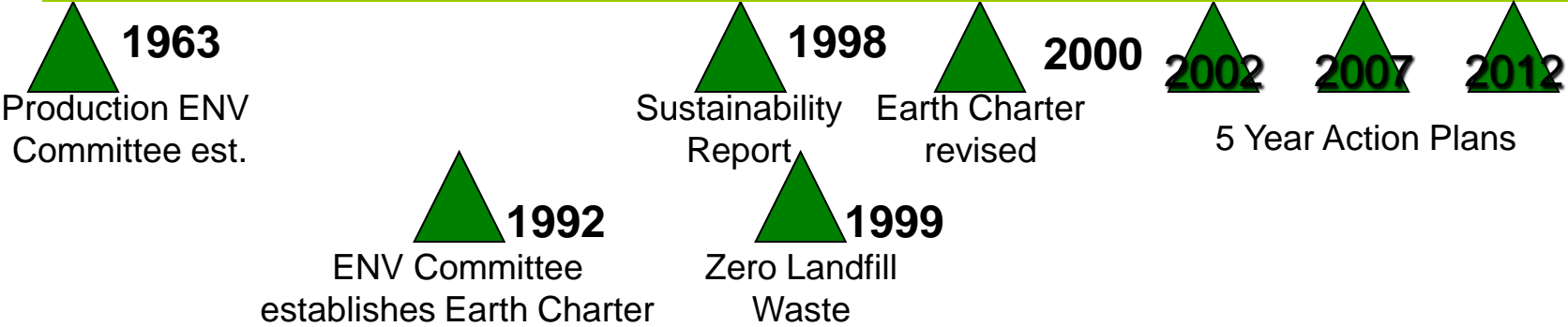
“To become the most admired and respected automobile manufacturer by demonstrating continuous environmental performance improvements resulting in environmental leadership and sustainability.”



Toyota Environmental Milestones



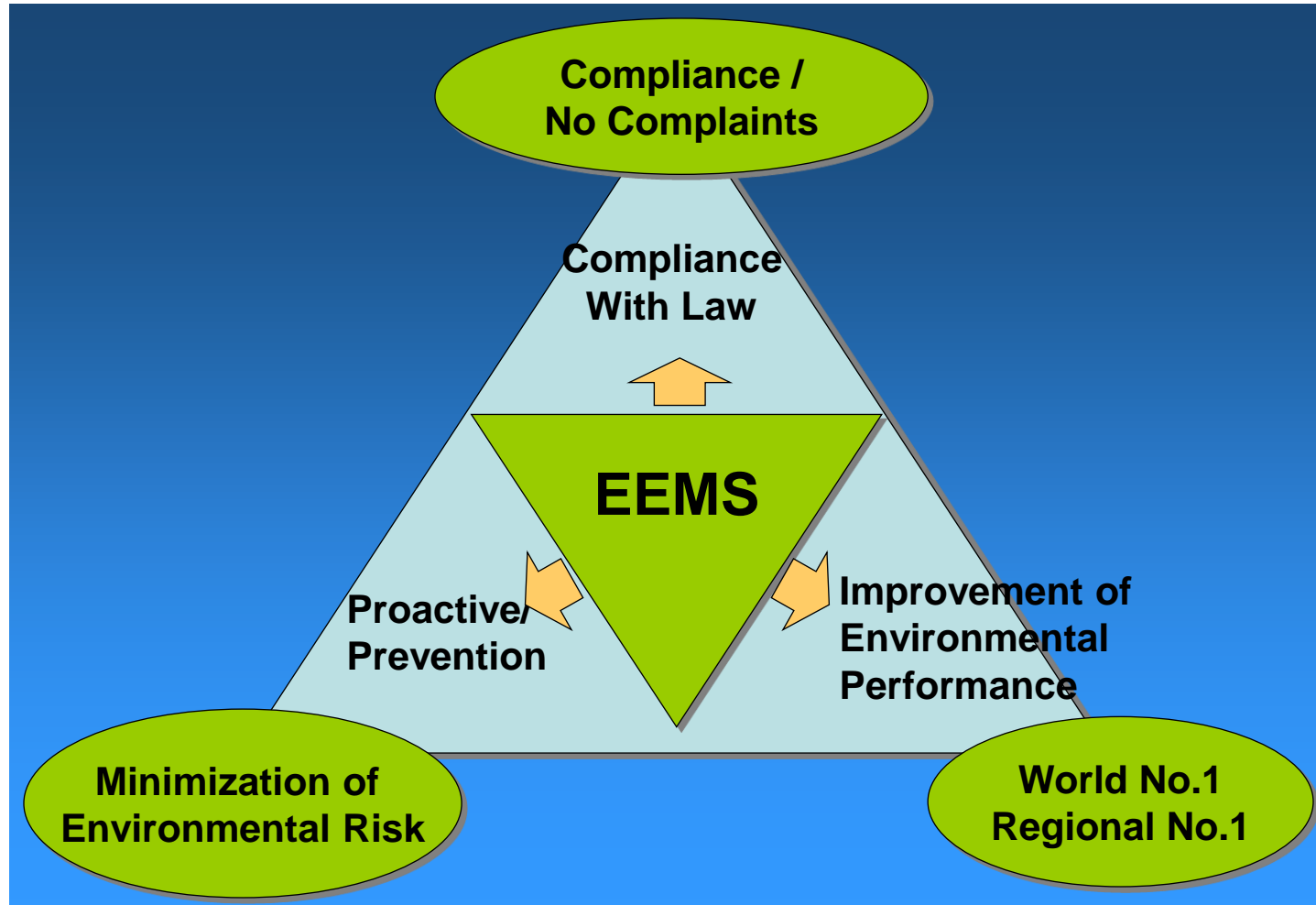
Continued Environmental Activities to Reduce Energy, Water, VOC and Waste



Environmental Activities That Improves Lean Manufacturing

- ECO Plant Design
- 5-yr. Action Plans
- Enhanced Environmental Management Plans
- Kaizens/Yokoten

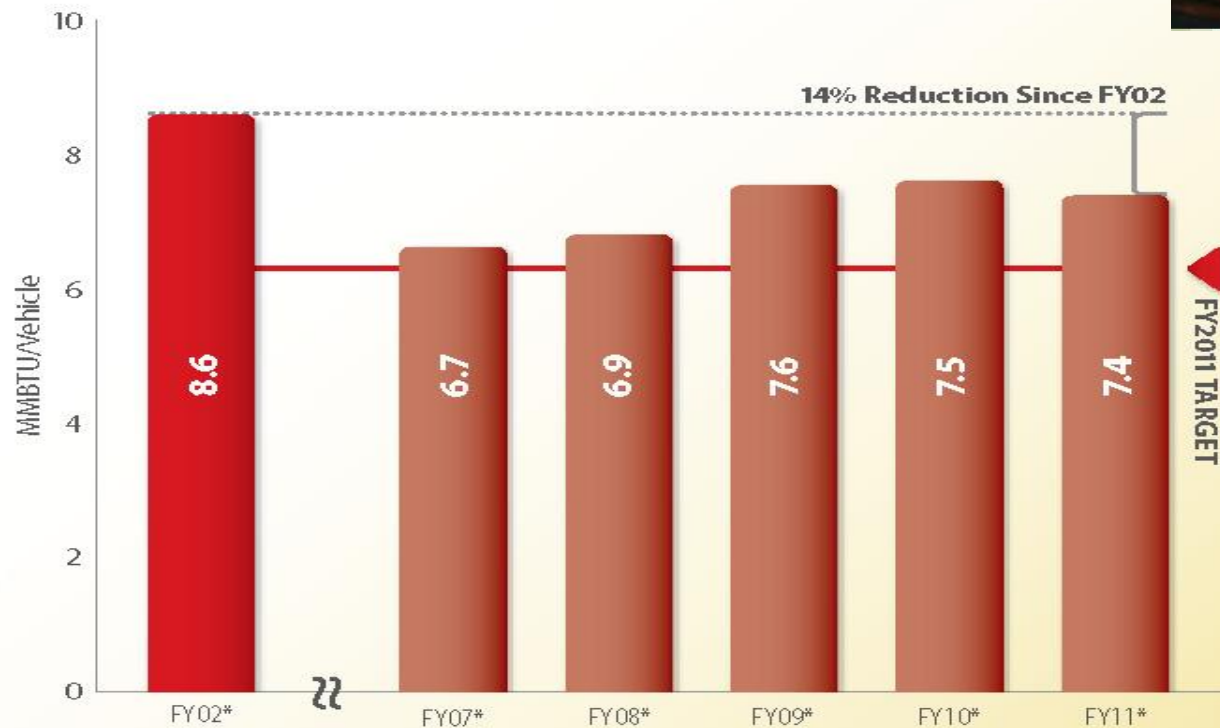
Goals of Enhanced Environmental Management Systems (EEMS)



Energy Consumption



Energy Consumed per Vehicle Produced in North America

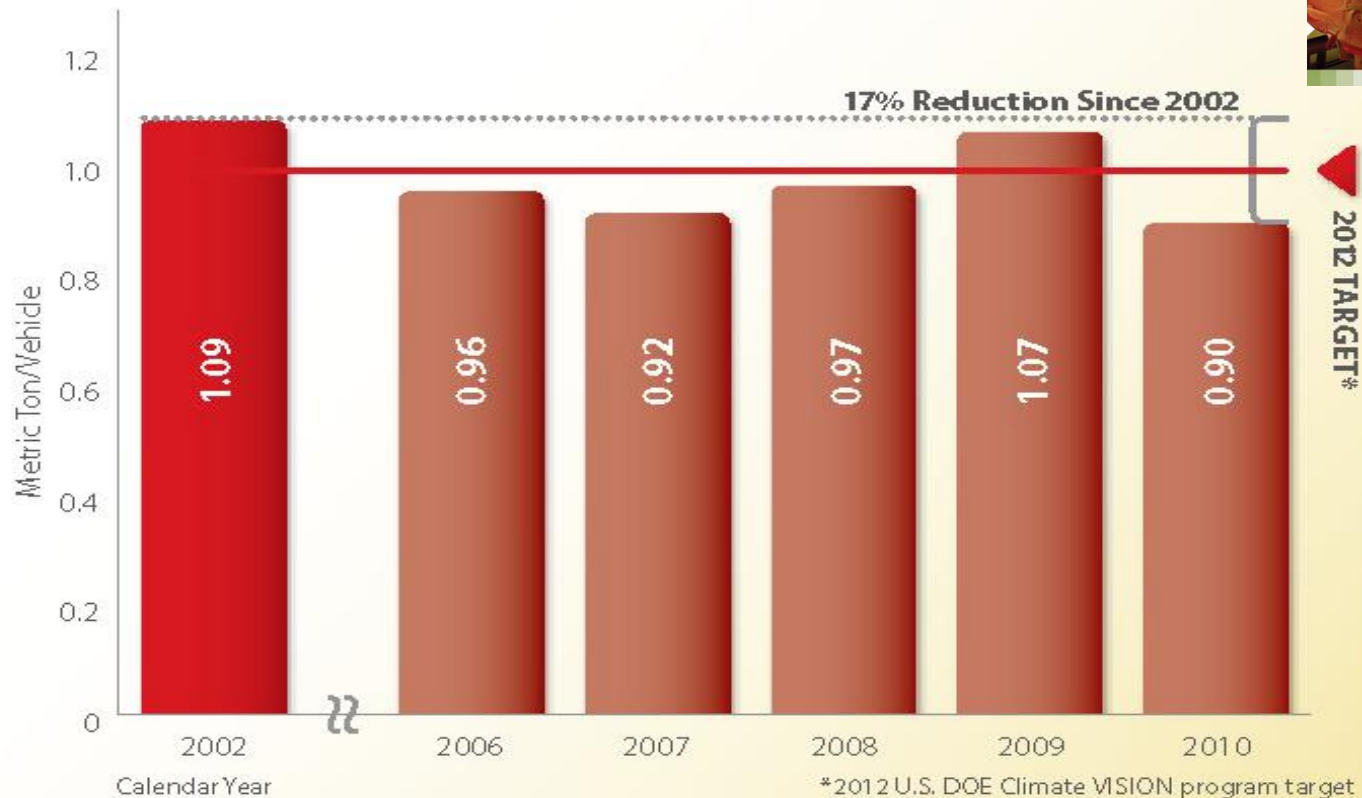


*Fiscal Year (FY): Runs April-March

CO2 Reductions



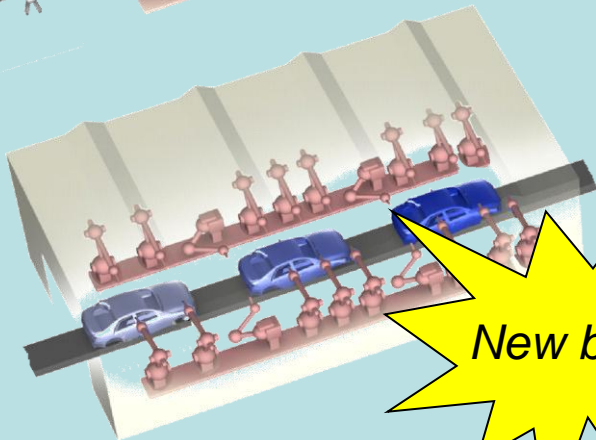
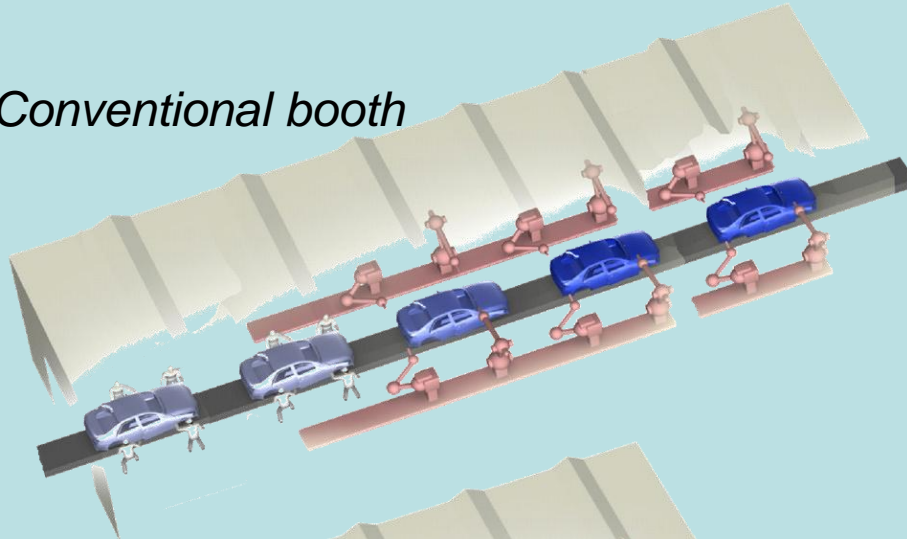
CO₂ per Vehicle Produced in U.S.



Example of Reducing CO2 Emissions and Lean Manufacturing

REDUCE BOOTH LENGTH

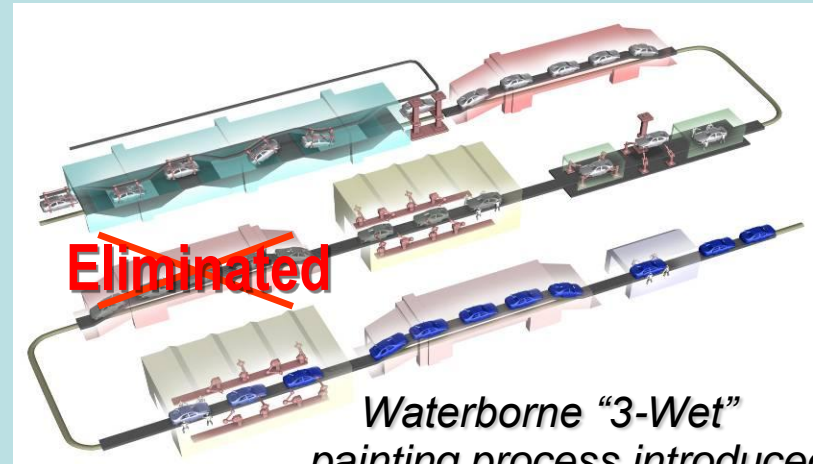
Conventional booth



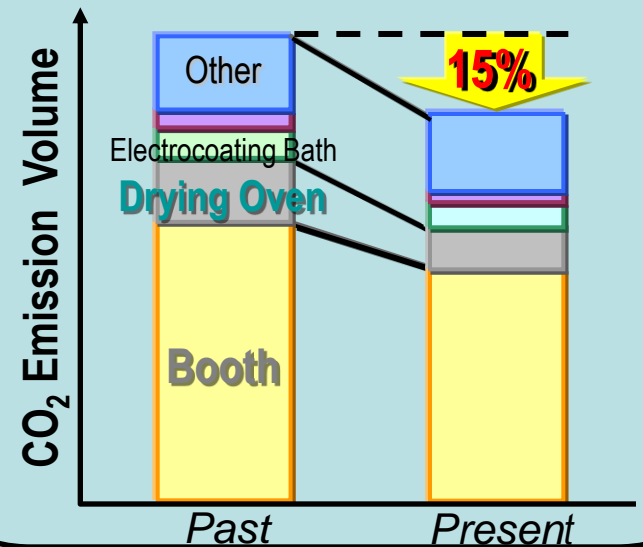
New booth

Development and introduction of slim robots
"simple slim"

ELIMINATE PRIMER DRYING OVEN



Waterborne "3-Wet" painting process introduced



ENERGY STAR Sustained Excellence

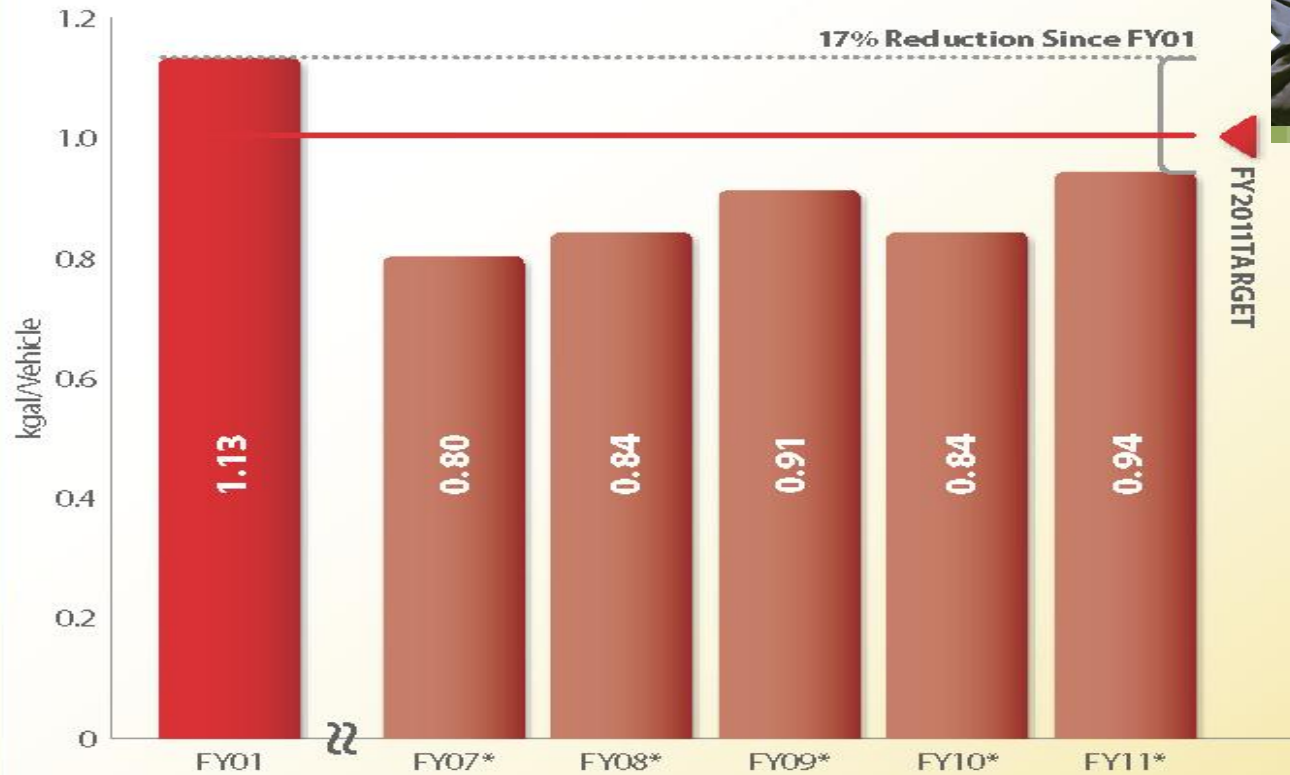
- Seven-time recipient
- Energy use ↓ 14 percent
- CO2 emissions ↓ 17 percent
- Equal to 17,000 U.S. homes
- Annual savings of \$26 million



Recycling & Improved Resource Use

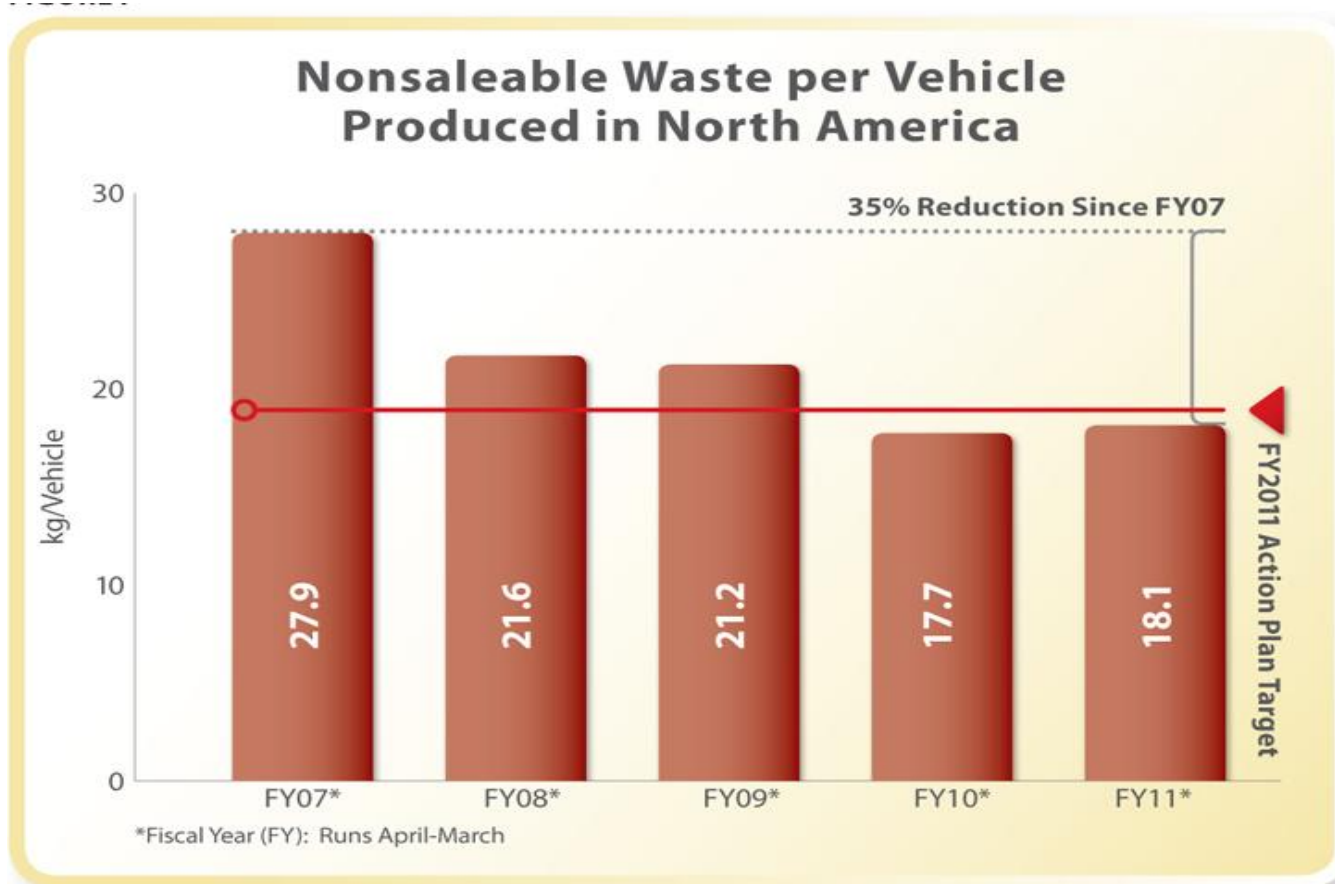


Water Used per Vehicle Produced in North America



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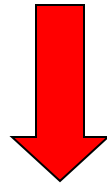
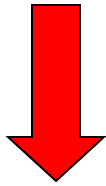
Recycling & Improved Resource Use



Zero Landfill Achievement

“The 5 Rs”

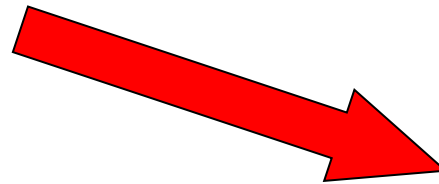
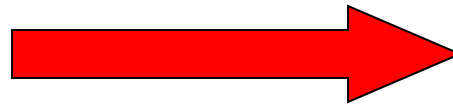
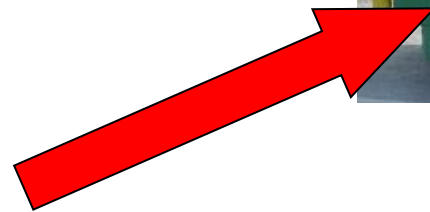
Refine, Reduce, Reuse, Recycle and Recover



North American plants achieved zero landfill



Line-side Waste Segregation



Environmental Kaizen Story



BEFORE *TMMWV used to throw out plastic pipe caps*

NOW *Recycle 100%*
Equal to more than three tons, the weight of a Tundra

BEFORE *Various plastics were either recycled or disposed*

NOW *All plastics – 140 tons or 280,000 pounds annually – from TMMWV is given to a local disabled center who sells the plastic to a local recycling center*



EQUAL TO 65 Siennas



Environmental Kaizen Story



Sustainable Plant Activities

TMMMS: One of Toyota's four Global Sustainable Plants

Geothermal, reforestation, 50 kilowatt solar energy, and solar lighting

TMMAL: Also leading the way in North America

Install 5 kilowatt solar panel


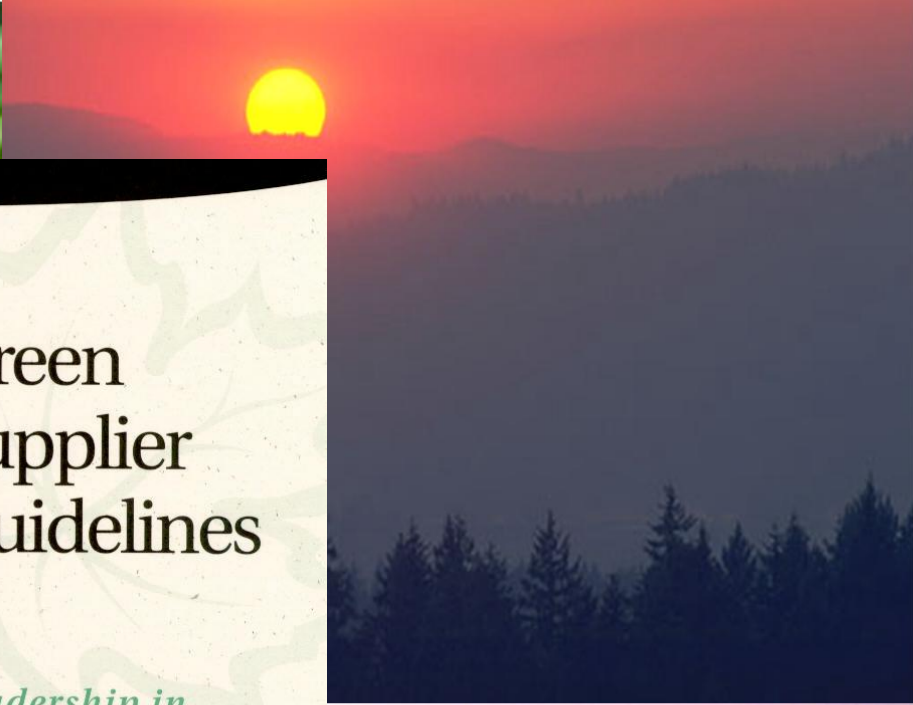
Perform reforestation and improvement activities



Toyota Motor Manufacturing, Mississippi (TMMMS)




Toyota Motor Manufacturing, Alabama (TMMAL)



Green Supplier Guidelines

*Leadership in
Environmental
Performance*



Toyota Motor Manufacturing North America, Inc.

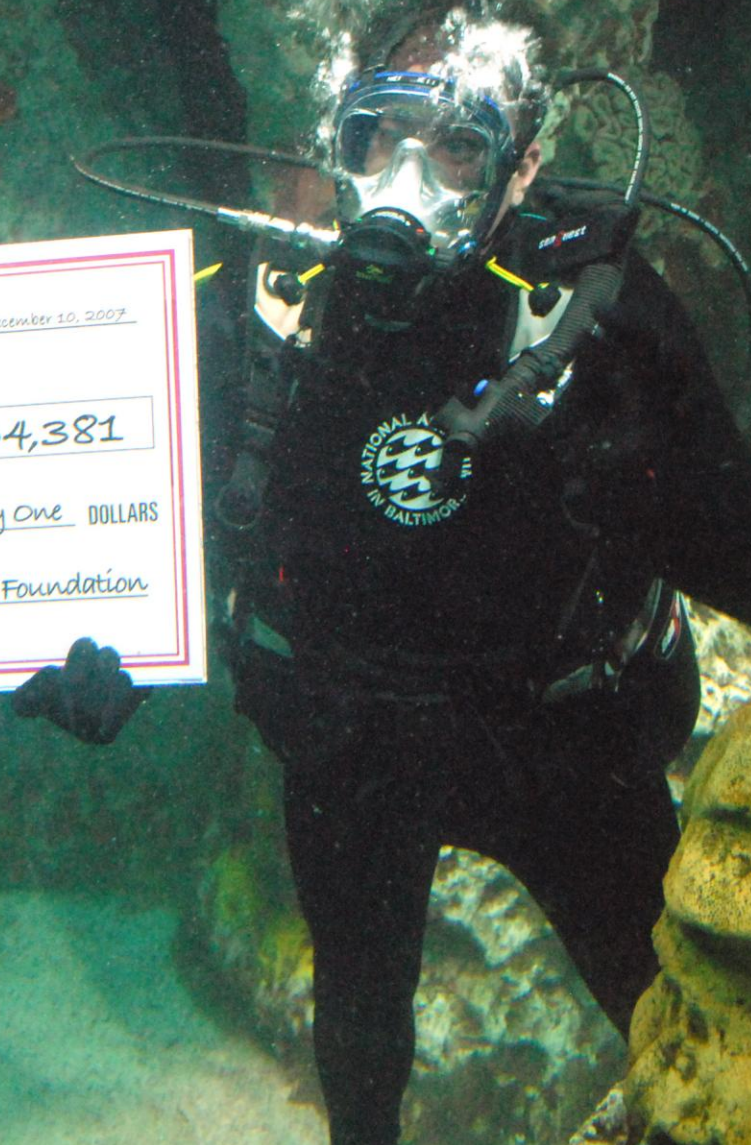
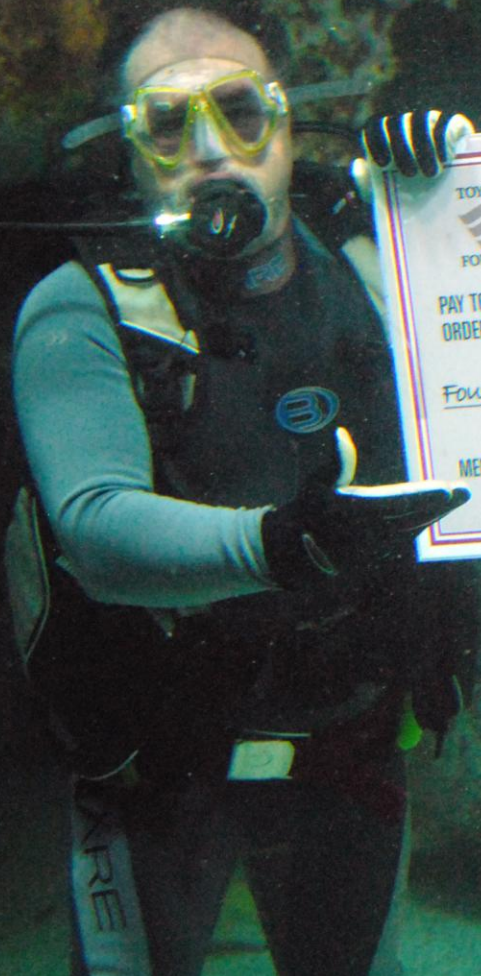


Supplier Treasure Hunt Examples

No cost and low cost reductions - Operational Improvements







TOYOTA USA
FOUNDATION

Date December 10, 2007

PAY TO THE ORDER OF National Aquarium in Baltimore \$ 464,381

Four Hundred Sixty Four Thousand Three Hundred Eighty One DOLLARS

MEMO AquaPartners Toyota USA Foundation

Empowering Team Members



Encourage team members to take ideas home



TOYOTA

Thank you

Kevin M. Butt

General Manager/Chief Environmental Officer

Toyota Motor Engineering & Manufacturing North America