

HONDA

The Power of Dreams

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Vice President

Honda Manufacturing of Alabama, LLC

U.S. designed, developed and produced



4th-generation Odyssey – 3rd to be produced in Lincoln, Alabama



- **35** years of R&D in America
- **31** years of building products in America
- **15** million automobiles made in America
- **10** years of production in Alabama (*Nov 2011*)

2011 Honda Odyssey

- Enhanced Family Utility
- Class-leading fuel Efficiency (19/28 mpg)
- Performance – best handling minivan
- Dynamic styling – inside and out
- Top level safety – *NCAP 5-star and IIHS Top Safety Pick



3rd Gen Odyssey (2005-2010)

- Best-selling minivan (2008-2009)
- Dynamic performance
- Top level safety

* Honda development target

Major objectives:

- **Add new value for Odyssey customers**
 - Quality level that exceeds expectations
 - Flexibility to ensure stability
 - Achieve cost targets
- **Improve manufacturing processes for the associates who build it**

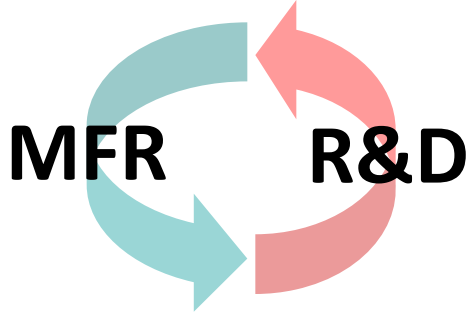
A product that is easier for associates to build = greater potential for a truly superior product for our customers



Good collaboration between manufacturing and R&D is the pathway to creating products that...

Our **customers** want to own!!

Our **associates** want to build!!





Maintaining focus in a time of crisis ...

- Associates were very concerned
- Expectations of layoffs
- We managed our business very carefully – with a strategic focus on both our customers *and* associates

FLEXIBLE MANUFACTURING

- Global production layout
- Programmable weld robots
 - “Re-teach, not re-tool”

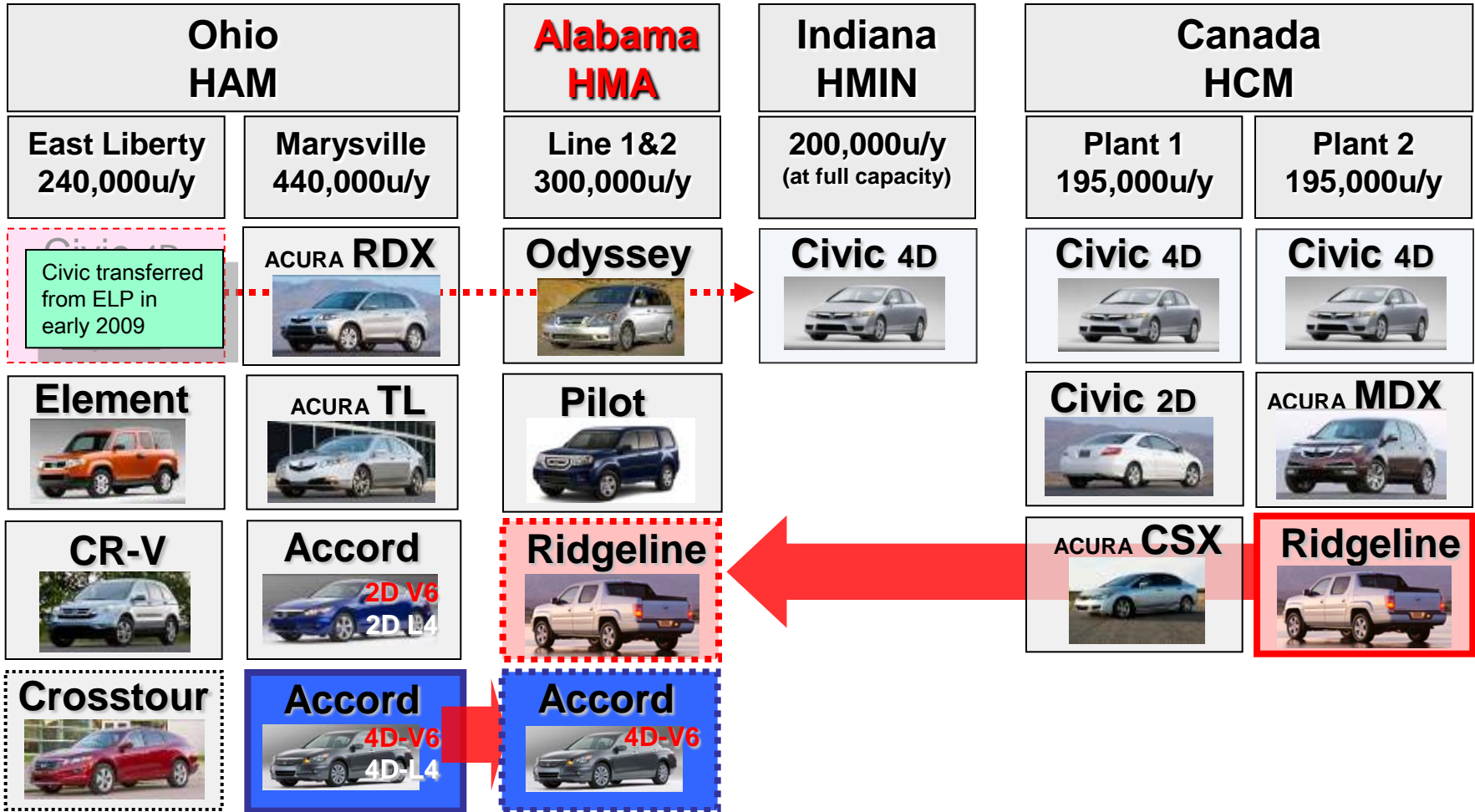


- Creates the ability to quickly and efficiently adapt to rapidly changing market conditions.
- While maintaining a stable working environment



Stability in Times of Crisis

- Transferred Ridgeline production from Canada Plant 2 to Alabama
- Added production of Accord V6 Sedan in Alabama



- More than 65 non-production days
- Mostly Fridays and adjacent to holidays
- Associates had the option of:
 - Paid time off
 - Time off without pay
 - Come to work as scheduled

Used downtime to ...

- strengthen our organization

- prepare for the future

- 2011 Odyssey was a completely new kind of challenge...

- *First Odyssey adopted from Canada*
- *Second Odyssey extremely successful but not optimal manufacturability*
- *Pilot SUV adopted from Canada*

2011 Odyssey



Accord V6
(Early 2010)



Ridgeline truck
(2009)



2nd-gen Pilot
(2005)



3rd-gen Odyssey
(Fall 2004)



Line 2 and
Pilot SUV (Spring 2004)



2nd-gen Odyssey
from Canada Plant 2 (Nov 2001)



- Embedded Alabama associates at Honda R&D in Ohio a full year before first drawings were issued
- Manufacturing could understand and give input on the basic product concept

Honda Alabama
Manufacturing
Engineers



- Engineers on both sides recognized the strategic value of cooperative development in making a better Odyssey for the customer

- Associate (wearing orange vest) logged every concern during trial builds
- At the spot feedback from associates doing the process
- Reflecting associate voice in the new-model build process



- Key focus: Making processes ergonomically-friendly for associates



- A product that is easier to build allows for a greater focus on quality
- Two basic approaches
 - *Product design changes*
 - *Equipment process changes*

Old Process



- New technology used to generate hard data that engineers could act upon
 - *Special glove equipped with sensors measures associate's push force*
 - *Brought engineers to the spot – they immediately recognized the need for some countermeasure*

Rear Quarter Glass (NEW)

- New clip design
- Reduced push force
- No more hammer
- Audible “click” to confirm proper fit



Headliner (Previous)

- Large, complex part
- Multiple wiring harness connections, clips and grommets
- Lots of overhead work
- Less than optimal shipping density (horizontal stacking)

How can we make it better?

2010 Odyssey



Inside Vehicle View



Hidden View

Headliner (NEW)

- Shorter headliner with larger rear garnish
- Installation through the windshield opening
- Wiring harness install moved to supplier for subassembly
- Shipped vertically to reduce shipping costs
- Lift assist device is utilized

2011 Odyssey



Arrives from supplier with wiring, tubing pre-installed (greatly reduced overhead work)

Technology is important ...

***.. but communication is the most
critical tool***

***Our people ... **Honda associates** ... are the
key to meeting the needs of our customers***

- ***Teamwork***
- ***Challenging spirit***
- ***Shared sense of purpose***
- ***Clear and focused vision for the customer***



ODYSSEY



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