

OLIVER WYMAN

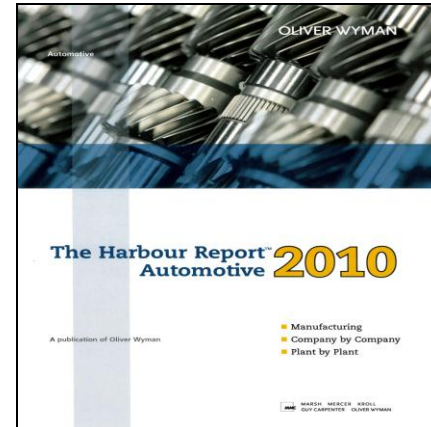


August 1, 2011

Automotive Manufacturing Transition

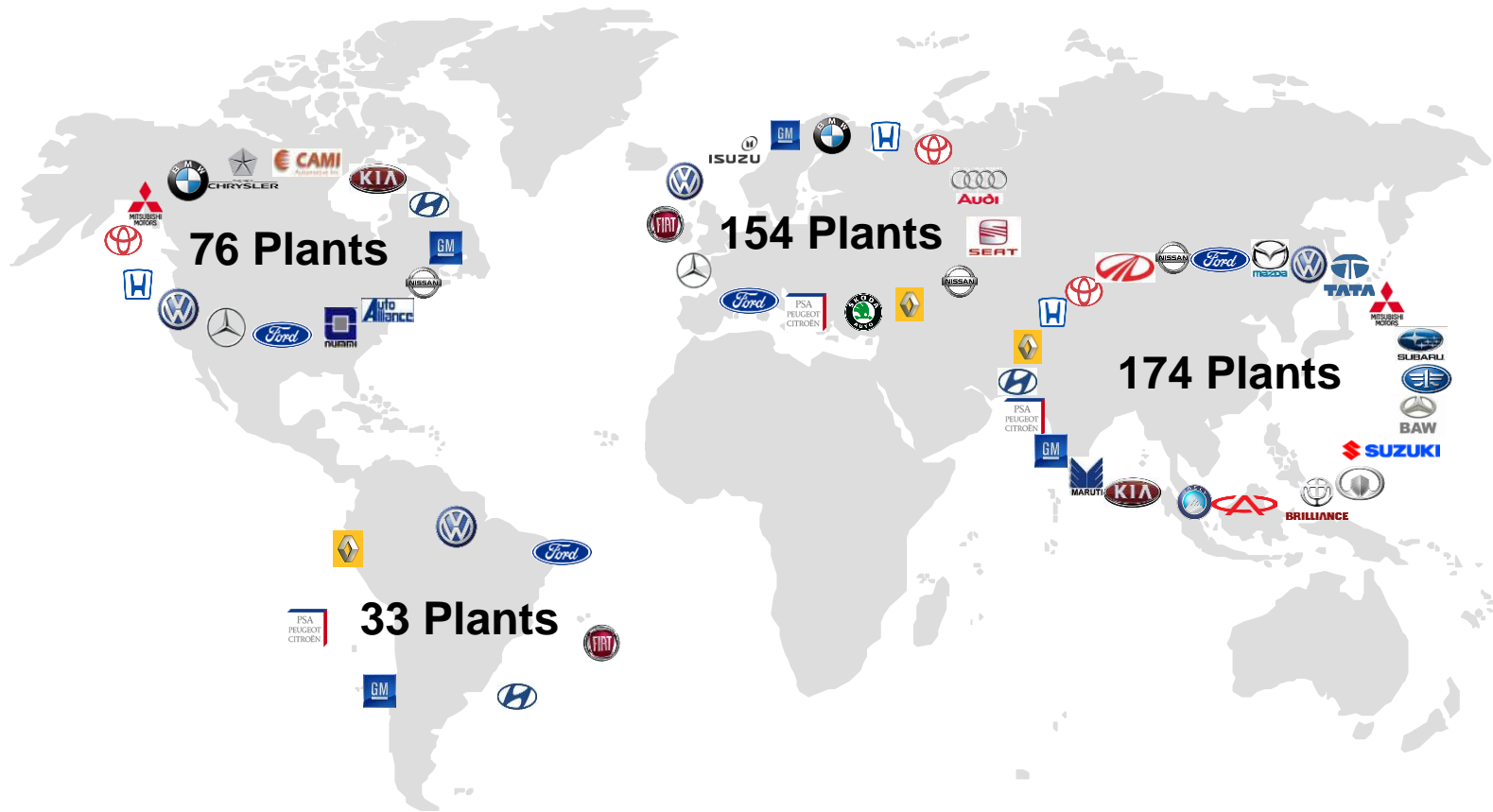
Ron Harbour
Managing Partner
Global Automotive Manufacturing

- Based in Detroit, Munich, Paris
- Acquired Harbour Consulting 2007
- Consulting Services
 - Factory Improvement
 - Manufacturing Due Diligence
 - Supplier Restructuring
 - Benchmarking
- Harbour Report™ continues globally:
 - North America (1989)
 - South America (2006)
 - Europe (1996)
 - Asia (new)
 - Trucks (2011)










Automotive Industry

Vehicle Assembly Facility Visits / Assessments



Lean Production in the Auto Industry- Examples

TPS	Toyota Production System	
GMS	Global Manufacturing System	
FPS	Ford Production System	
WCM	World Class Manufacturing	 
VPS	Volkswagen Production System	
WPS	Value Added Production System	
MPS	Mercedes Production System	

The Drive Towards a Leaner Production Model

- A 30 Year plus journey in Western automotive production
- Auto industry led, now broadly applied across many industries
- Genesis at the Ford Rouge Plant in the early 1900's- waste free process
- Judging the results
 - The pinnacle is never reached
 - Few have achieved high levels of performance
 - More failures than successes
 - Significant start-stop-start again
 - Often lose credibility with the workforce
- What are the attributes of success?
- What errors led to failure?

Lean Implementation Curve™ Operating Systems



Phase I Organizational Development

Phase II Discipline Building

Phase III Lean Tools For Quality, Delivery and Cost Improvement

Phase IV Continuous Improvement and Collaboration

- Vision, Mission, Values
- Policy deployment / Business planning
- Roles and responsibilities, Team structure
- Core competencies linked to performance
- Shopfloor management system
- 5S / workplace organization
- Feedback and communication system
- Standardized work / job instruction training
- Visual management
- Problem Solving
- Empowered workforce
- Value stream mapping
- TPM (Total Productive Maintenance)
- In station process control
- Error proofing
- QCO (Quick Change Over)
- Level production
- Kanban
- Andon
- One piece flow
- JIT (Just in time)
- Quality circles
- Flexible workforce
- Continuous improvement / waste elimination
- PD linkage via DFA/DFM and QFD
- Supplier development

PDCA

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